# Análisis multiescalar de los recursos vegetales medicinales en los bosques montanos del noroeste de Perú

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Tesis Doctoral

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**Universidad Autónoma de Madrid**
**Facultad de Ciencias, Departamento de Biología**

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*En fin, Serafín,*
*más corre el galgo que el mastín,*
*pero si el camino es largo,*
*más corre el mastín que el galgo;*
*no obstante,*
*ambos corren bastante.*

*Para Julia, mi persona favorita,*

*Para Oscar y Ras, mis amigos,*

*Para Ana y Juan, mis ídolos.*

# Índice

# Agradecimientos

Estoy tan hasta arriba de escribir, que afronto esta sección con la placentera sensación de que la voy a redactar a mi manera, sin revisiones propias ni ajenas, sin explayarme mucho (cinco *hojazas*) y tratando de hacerlo de una tacada (aunque también es cierto que tengo apuntados algunos nombres).

Ya no me acuerdo ni cuándo empecé la tesis. Lo que sí recuerdo es que lo hice con alegría y muchas ganas, las cuales he tratado de mantener a lo largo del proceso, con más o menos éxito. Y es que puedo dividir esta tesis en dos claros períodos: El primero, se corresponde con mi vida en Perú, donde llegué el año 2013; y el segundo, con mi vuelta a España, en el año 2018. La primera parte fue fascinante, mientras que la segunda ha sido, digamos, distinta. Menos fascinante.

Durante la primera fase sabía lo que hacía y por qué lo hacía. En la segunda solamente me guiaba por la luz de mi director de tesis. En Perú me ilusioné con este mundo. En España perdí el camino. Perú, sueño. España, espejismo. Pinta desastroso, pero no lo es. La perspectiva que me da el tiempo dibuja esta larga etapa con colores brillantes, sobre todo el rosa.

Buscando razones, al primero que miro es a mí mismo. No valgo *pa* esto. Para aportar de manera eficaz en este mundo, para llegar a hacerte un hueco en tu disciplina, es necesario un sacrificio que influye en todas las facetas de tu vida. Este mundo te hace diminuto, con lo sencillo y conveniente que es ser uno más. Desde lo estrictamente académico, trato de reflexionar qué me ha aportado este periodo que me haga más capaz, y supongo que con el tiempo, algo descubriré. De momento, no más de lo que me hubieran ayudado unos cuantos cursos online.

Pero bueno, sin dejar de concluir que, en lo personal, ha sido una etapa muy gratificante, y full entretenimiento, comenzaré el reparto de agradecimientos con el diccionario de sinónimos a mi vera.

Primero, y antes que nada, mi agradecimiento a todos los informantes, a sus familias y a los gobiernos de las localidades visitadas. Muchos de ellos me abrieron sus casas, y me alimentaron el estómago y el cerebro con sus viandas y su cultura. Pero, sobre todo, me dedicaron su tiempo, en sus hogares y en los bosques. Creo que nunca me he reído tanto sin saber de qué, y mientras se reían "amigablemente" de mí. Independientemente de para lo que pueda servirles este trabajo, estoy seguro que dos o tres se acuerdan de mí con la misma sonrisa que yo de ellos. Gracias Horacio y Lenin. Gracias Enita.

Por seguir un orden cronológico en el tiempo, comenzaré por las dos personas que me facilitaron comenzarla. Manolo y Oscar. Cada uno desde su posición, y entre los dos me proporcionaron los recursos materiales e inmateriales necesarios para dar el paso con confianza.

Manolo ha sabido encontrar siempre un hueco en su agenda digital donde colocarme. Esto lo digo teniendo en cuenta los muchos proyectos en los que participa. Entiendo las fechas de entrega, la coordinación de viajes, la docencia, y, sobre todo, la familia. Toca estar a tope. Ah, y el pádel. Aun con todo, ahí has estado. Me has tratado como siempre desde que nos conocimos en Flora Ibérica allá por el año 2008. Tú me metiste el gusanillo de la etnobotánica que se practica. Y gracias a ello, después he tenido el enorme placer de poder compartir contigo mis vivencias en Sudamérica, sabiendo que estas pasaban por tu paladar como una cucharada de recuerdos felices. E incluso hemos terminado trabajando juntos. Hay que ser serio. Si te dedicas a esto tienes que ser responsable. Esto me lo llevo. Y Oscar. Lo ha sido todo para mi durante mi etapa en Perú. Y todavía aún sigo comportándome como una esponja a su lado. Con la confianza total de que todo lo que absorba me va a hacer mejor. Son muchos los viajes, salidas de campo, clases recibidas, paseos… Pero me quedo con los domingos (y sábados, y cualquier día). Me quedo con tu familia. Gracias por introducirnos en ella. Rocío, Andrea, Rosita, Amarylis, la Maia. ¡Qué buenos momentos en el jardín! La vida son esos ratitos, ¿no? Deseo que nos volvamos a encontrar todos.

Como antes he dicho, esta Tesis ha tenido dos partes geográficamente localizadas. Y siguiendo el orden, empiezo por Perú. Mezclando lo laboral y lo personal se me aparecen en la cabeza Jorge, Héctor, William, Jhony, Barrena, Milla, Katty, Cesibel, Dam, Jhesi, Elías, Rolo, Oliva, Ilse, Milo, Romel, Orlandito, Adelita… Estoy seguro que se me olvidan algunos. Gracias por todos los ratos, los buenos y los no tan buenos. Gracias por hacer del lugar de trabajo un hermoso jardín y del trabajo un aperitivo. Gracias Wigo por los papeles. Elgar, alumno, profesor y excelente trabajador. El mejor que he conocido en la UNTRM. Sigue así, no tienes techo. Esos mapas buenos.

Royler, Jackson, Jenin y Sheila. Seguramente, si me quedé fue por vosotros. Es imposible acordarme de todo este tiempo sin que aparezcáis en mi cabeza. Mi sonrisa, pero sobre todo mi admiración. Royler, *vivasso*, un cerebro tan grande como su tripa. Jackson, hermano mayor, con sus hermanos y conmigo. Jenin, ternura. Sheila, de todo. MIS AMIGOS. Y cuando pienso en amigos, no me puedo olvidar de otras personas que sin haber tenido nada que ver con esta tesis, también han ayudado a que siguiera adelante. Julio, mi amor secreto, un héroe, un sabio. Me llenaste el surtidor de confianza. Que erótico-festivo suena y cuantas ganas de abrazarte. Menudos *jartones* a reír con Dolo, y qué conversaciones más absurdo-existenciales. Y para completar las patas de la mesa, Esteve, ese loco corazón, que siempre lo vuelve a intentar. Parece imposible, pero no lo es. Me lo has demostrado. ARTE CRECER SA.

Siguiendo con Perú, no me olvido, ni me olvidaré de Carmencita, de Martín y de Lola. Han sido mis tíos, es decir, han formado en mi cabeza otra parte de una familia que siempre he necesitado, y más teniendo la mía tan lejos. Martín, siempre te deberé una llamada. Mi primer Chachapoyano. ¡Qué tío más transparente, qué tío más bueno, más paciente, y más humano (en lo de equivocarse)! Carmencita, la más fácil, la más abierta, la más amorosa. Y Lola, cuántos ratos hemos *echao* moviendo el bigote. ¡Y qué croquetas!

Especial agradecimiento se merece Jesús Rascón Barrios. Ras, mi amigo Rascuis. Qué bueno que vinieras. Qué bien lo hemos pasado macho. Cuántas risas, conversaciones, series, viajes, familias. Y también cuántos dolores de cabeza, discusiones, enfados, frustraciones. Cuánto te quiero hermano. Y lo seguiré haciendo, no tengo ninguna intención de dejar de tocarte la moral, ni de aprender cosas que tú ya sabes, ni de mirarte con cara de tonto o como si tú lo fueras. Qué apoyo más grande, y nunca mejor dicho.

No me quiero olvidar de Trujillo. Durante mis estancias en el Herbarium Truxillense de la Universidad Nacional de Trujillo conocí al Dr. José Mostacero León. Un botánico peruano top. Pero sería mejor quitar la palabra botánico. Muy buenos ratos. Nunca olvidaré el viaje que hice con el Mostacho y Freddy Mejía por costa, sierra y selva peruanas. Y nunca olvidaré los ceviches en La Marinera. Gracias Lucho Taramona, próximo presidente del Perú.

Por último, tengo que decir estos nombres porque si no exploto, y porque también me rondan la cabeza, aunque estén lejos de este trabajo. Stefan, qué *pesao* más listo. Aunque *pa* listo Juanlu. Juampi, qué bien hablas, y qué difícil me pareció siempre que terminaras encajando en Chacha, a pesar de tu estatura (intelectual).

La verdad es que ahora que me pongo a pensar a quien tendría que incluir aquí de España, al hacerlo parecen pocas las personas que directamente tienen relación con la tesis. Pero, al igual que he hecho con algunas personas de Perú, son muchas con las cuales he compartido los buenos ratos de esta andadura. Evidentemente, empiezo por mi familia. Tan lejos y tan cerca (vinieron una vez y yo loco de contento). Con ellos todo es muy fácil. **ANA MARÍA DE LA FUENTE** es mi referente, yo quiero ser como ella. Juan Isidoro mi guía, y el lugar al que siempre vuelvo cuando tengo que consultar lo que sea. Irene (Álvaro), mi hermanísima. Podría decir que fue irme y unirnos más. ¿Por qué será? Lo bueno es que la unión continúa tan o más fuerte. María, Matilde, Pablo, Ramón, Inés, Juanra, Fepe, Berna, Jimena, Beltrán y Pablete. Siempre estoy deseando que nos juntemos. De cada uno saco y disfruto algo. Con todos tengo excusa para echar un buen rato. A todos os miro de manera especial. Juampi, eres el mejor, y lo sabes. Mi abuela se murió en medio de la tesis, y siento un escalofrío al escribirlo. Pero es de placer.

Y cómo me voy a olvidar de mi otra familia española. Me comen. Y no me importaría, aunque se quedarían con hambre porque son demasiados. De las cosas que más me enorgullecen en mi relación con Julia es haber llegado a querer a todos y cada uno de los integrantes de su familia casi de la misma manera que ella los quiere. Y la mayor suerte es que ha sido muy fácil. La mayor parte de la culpa la tienen ellos. Si existieran más Arturos, más Bebés y más Iñakis (padre e hijo), el mundo sería mejor. Si existieran más Ratones, más Andreses y más Pilares (madre y tía), sería más divertido. Si existieran más Anas, más Lolis y más Nachos sería más cómodo. Y si existieran más Quitos, más Migueles, y más Laras sería más completo. No nombro a los demás para que luego tengamos algo de qué hablar. Enrique.

De amigos ya he hablado de todos los que me han acompañado en esta tesis, y sería alargarme hablar de los que he tenido siempre, y que la mayoría siguen aquí. Les pasaré la tesis y como mucho solamente leerán esto, así que dejaré algunos nombres aquí escritos para que les haga ilusión: Paler (MJ y Aitor), Jose, Alber, Chuchi, Puchos, Pika, Sara, Pepe, Pili, Dani, Pozi, Rodri, Torri, JLV… Venga, ya.

A nivel académico, y como de Manolo ya he hablado, me queda acordarme de otras personas relacionadas con la UAM. La verdad es que la tesis en España la he hecho exclusivamente con Manolo así que, solo se me vienen a la cabeza otros compis de la universidad que me han hecho más llevadero el día a día de esta segunda y tediosa etapa. Gracias Bea y Fátima. Vaya dos. Si no fuera por esos ratitos de comidas en el departamento… Cuando estudiaba la carrera siempre pensé que trabajar en la facultad sería lo máximo (valverde). Y, ¡qué va! Bueno, tampoco es que sea un funeral, y en parte también es culpa de gente como Manuel Pardo (eterna sonrisa). Por cierto, no me olvido de Gorka ¡qué tío! Beti zurekin. Pensando estrictamente en la tesis, y a pesar de que, o no le he conocido (Rodrigo Cámara) o la he conocido poco (Narel Paniagua), me gustaría agradecerles a estos dos *pedazo* de investigadores que me hayan servido de ejemplo próximo, por área del conocimiento y por cercanía en el tiempo. Creo que podría escribir vuestras tesis y artículos con los ojos cerrados de tanto leerlos. Y sin salirme de la UAM, quiero agradecer a Pepe Sánchez Ollero, por ser mi tío y mi amigo. Gracias por esos buenos cafés y comidas (te debo muchas), por los consejos, y por los miles de favores desde que llegué. Y como de consejos va la cosa, sale a la palestra Juan Carlos Montero, un tío *mu* grande de Carabanchel. Más que Rosendo. Él no te da consejos, él te cuenta una historia, y tú la interpretas. Lo más cojonudo es que mis interpretaciones suelen coincidir al 100% con las suyas. Cuando miro a Juan Carlos, tengo claro la persona que quiero ser dentro de 20 años.

Y por último (los últimos serán los primeros), muchas gracias Julia. GRACIAS por haberme acompañado en todos y cada uno de los momentos de este trabajo. Incluso al campo. Ha sido

una delicia haberte conocido más y más durante estos años. Sin duda que lo mejor de este trabajo es que mientras lo hacía estaba contigo. GRACIAS por estar conmigo. Tú no te das cuenta, pero yo te miro a veces y pienso, ¡está conmigo! Me tiro de tu boca y sé que vuelo.

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- Universidad Autónoma de Madrid (UAM), Madrid, España.

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# Resumen

Muchas poblaciones humanas que viven en áreas rurales de Sudamérica dependen de la medicina tradicional para el cuidado de su salud. Para ello, han desarrollado un gran conocimiento tradicional sobre el uso y manejo de centenares de especies medicinales a lo largo de su historia. El objetivo principal de esta Tesis Doctoral es analizar los patrones de utilización de las plantas medicinales en los bosques montanos del noreste de Perú, en función de diversas variables socioeconómicas y a distintas escalas. El estudio se compone de datos de campo recopilados entre los años 2016-2018, en cuatro provincias de la región Amazonas de Perú, situadas en dos ecorregiones: bosques pluviales montanos entre 2500-3500 m (tierras altas) y bosques muy húmedos montanos entre 1500-2500 m (tierras bajas). Dentro de cada provincia se trabajó en tres localidades (12 en el total del estudio), entrevistando 50 informantes por localidad (600 participantes en total). La población local es mestiza y comparte una cultura ancestral común. Se encontraron 416 especies de plantas medicinales, pertenecientes a 107 familias y 13.898 registros de uso en ambas ecorregiones. Asimismo, para otro estudio complementario, se trabajó paralelamente con 450 informantes entrevistados en tres sectores de la ciudad de Chachapoyas, la más importante de la región de estudio. En este caso se encontraron 299 especies de plantas medicinales, agrupadas en 92 familias y 5787 registros de uso. En el conjunto del estudio se entrevistaron a 1050 personas.

En el **capítulo 1** se presenta una Introducción general a la situación etnomedicinal de las sociedades rurales andinas, así como se destaca la importancia que tienen estos recursos naturales en la vida de sus pobladores. En el **capítulo 2** que aúna la Metodología, se presenta el área de estudio, el protocolo general utilizado para la toma de los datos etnobotánicos de especies medicinales y de los factores socioeconómicos de los informantes y se comenta sucintamente el análisis de datos realizado en general. El objetivo principal del **capítulo 3**, es el de comparar el uso de plantas medicinales a lo largo de un gradiente altitudinal. Asímismo, se pretende comprender el conocimiento tradicional a nivel de género y analizar la transmisión del conocimiento tradicional entre cinco generaciones. Las localidades de las tierras altas, con menor desarrollo socioeconómico, tuvieron mayor conocimiento tradicional en plantas medicinales que las localidades de las tierras bajas. Por otra parte, las mujeres fueron las principales depositarias de la medicina tradicional, mientras que las generaciones de mayor edad tuvieron la mayor parte del CT en las tierras altas, pero en las tierras bajas estuvo más repartido entre diferentes generaciones. El **capítulo 4** analiza el impacto de factores socioeconómicos a nivel individual, familiar y comunitario para comprender los patrones del

conocimiento tradicional sobre plantas medicinales en distintas áreas de los Andes del norte del Perú. Los participantes que tuvieron un mayor conocimiento tradicional sobre plantas medicinales tuvieron unos niveles más bajos de educación y cualificación laboral, así como una menor capacidad adquisitiva en bienes materiales, vivían en localidades más aisladas, con escasa infraestructura y acceso reducido a servicios regionales. El **capítulo 5** busca analizar las diferencias en el conocimiento tradicional sobre plantas medicinales en la ciudad de Chachapoyas. Para ello, dividimos la ciudad en tres sectores (centro, área intermedia y periferia) según las características socioeconómicas de sus habitantes. Se realizaron 450 entrevistas semiestructuradas. Los participantes de la periferia tuvieron un mayor conocimiento tradicional sobre plantas medicinales que los participantes del área intermedia y los del centro de la ciudad. Los participantes de los tres sectores utilizan ampliamente las mismas plantas medicinales y con propósitos similares, lo que seguramente se basa en una cultura común que aglutina su conocimiento tradicional. El **capítulo 6** se enfoca en entender algunas cuestiones metodológicas ante la urgente necesidad de rescatar el conocimiento tradicional sobre plantas medicinales. Para ello se evalúa la eficiencia de diferentes métodos en la selección del tipo de informante y del tipo de entrevista a realizar, teniendo en cuenta el tiempo y el presupuesto asociado al estudio. Si se trabaja solo con informantes expertos se gana eficiencia respecto al trabajo con los informantes generales. Sin embargo, no tenemos una recomendación clara sobre el método de entrevista, ya que dependerá de los objetivos específicos de cada estudio y del presupuesto disponible. Finalmente, el **capítulo 7** incluye una Discusión conjunta y el **capítulo 8** las Conclusiones generales de la memoria de Tesis Doctoral.

Capítulo

# 1

# Introducción general

# Introducción

## Etnobotánica y conocimiento tradicional

La etnobotánica se define a grandes rasgos, como el estudio de las relaciones que existen entre el ser humano y su ambiente vegetal (Schultes, 1960; Bennett, 2002). Al igual que ocurre con otras ciencias interdisciplinales, resulta de la confluencia de varias materias, principalmente la botánica y la antropología. A pesar de existir numerosas referencias históricas sobre los usos de determinadas plantas en distintas culturas (Egipto, China, India, Grecia, Imperio Romano, etc.), los primeros trabajos monográficos que utilizaron este término eran descriptivos, ya que consistían en listados de plantas y sus respectivos usos (Cotton, 1996). A lo largo del siglo XX, comienza a constituirse como una disciplina de investigación y se incluyen aspectos etnográficos y simbólicos, considerando, por ejemplo, los conocimientos heredados (Da Silva et al., 2014) y obtiene conocimientos que pueden ser aplicados en áreas de sociología, ecología, agricultura, lingüística, entre otras (Swarnkar & Katewa, 2008; Sohani & Dwivedi, 2019). Desde la década de los 80 del siglo pasado, su evolución ha alcanzado nuevos horizontes tanto en su método como en su definición, más comúnmente entendido como el comienzo de la etnobotánica propiamente académica (Barrett et al., 1999; Anderson et al., 2011). Esta nueva etapa propone como objetivo fundamental de la etnobotánica el de integrar el conocimiento tradicional con el conocimiento científico a distintas escalas y disciplinas (Luna-Morales, 2002). Y es que, a pesar de que las compilaciones cualitativas de plantas útiles son fundamentales a nivel científico, el objetivo principal que se ha iniciado desde entonces es el de la cuantificación de dicho conocimiento (Phillips & Gentry, 1993; Höft et al., 1999). Este objetivo responde a la necesidad de crear herramientas que permitan hacer análisis de la evaluación del conocimiento tradicional de manera más objetiva y comparativa entre distintas regiones y grupos humanos, así como disponer del valor de uso real de las especies vegetales documentadas y sus hábitats (Kvist et al., 2001; Campos & Ehringhaus, 2003; Martin, 2004). Al mismo tiempo, algunas de estas prácticas etnobotánicas ampliamente difundidas, se han revalorizado en la actualidad, al representar alternativas razonables de progreso dentro de una sociedad globalizada (Pieroni & Giusti, 2009; Casas et al., 2016). El alcance de estas prácticas engloba los conocimientos propios de su uso, como alimentario, tecnológico, agrosilvopastoral, simbólico, ornamental y/o medicinal (Heinrich, 2000; Khan et al., 2014). En tal sentido, la etnobotánica puede aportar un valor añadido en cuestiones de desarrollo local, de relación justa y sostenible entre los grupos humanos y la biodiversidad (Kraipeerapun y Thongthew, 2007; Liu et al., 2014).

**Medicina tradicional**

El uso de la medicina tradicional es un reflejo de la historia cultural de la población en distintas regiones del planeta y una de las facetas más significativas de los estudios de etnobotánica (Mostacero et al., 2011). Son muchos los estudios que muestran que la mayoría de las especies útiles pertenecen a la categoría de uso medicinal (p.ej. Bennett & Prance, 2000; Balick & Lee, 2001; De la Torre et al., 2008; Bano et al., 2014). Este conocimiento tradicional se ha mantenido a lo largo de los siglos, especialmente en áreas rurales remotas y entre las minorías étnicas de la sociedad moderna, como una necesidad para personas con pocos recursos económicos o con dificultades de acceso a la asistencia médica convencional (Albuquerque et al., 2005; Macía et al., 2005; Lyon & Hardesty, 2012; Wan et al., 2014).

Éste es el caso de Perú y específicamente de la región andina, que ocupa una extensa área con bosques montanos tropicales donde viven comunidades mestizas bajo diferentes condiciones ambientales y factores socioeconómicos, que, en última instancia, determinan sus hábitos de vida y también el uso de plantas medicinales de su entorno (Monigatti et al., 2013) (Figura 1.1). Hoy en día, estos usos siguen siendo cruciales en la forma de vida y supervivencia de la población peruana, especialmente en su ámbito rural. De esta manera, y a pesar del desarrollo de nuevos fármacos, muchas comunidades continúan encontrando en las plantas medicinales una opción (en algunos casos la única) para el tratamiento y la prevención de las principales dolencias y enfermedades que les afligen (Rozzi et al., 2008; Cámara-Leret et al., 2014a; Horák et al., 2015).


**Figura 1.1.** Algunas de las especies medicinales registradas en las entrevistas realizadas en los Andes nororientales del Perú: A) *Salvia macrophylla* Benth.; B) *Oreocallis grandiflora* (Lam.) R.Br.*;* C) *Castilleja scorzonerifolia* Kunth; D) *Alonsoa meridionalis* (L. f.) Kuntze*;* E) *Nasa cuatrecasasii* Weigend; F) *Carica papaya* L.; G) *Momordica charantia* L.; H) *Passiflora ligularis* Juss.; I) *Jatropha macrantha* Müll. Arg.

En concreto, los pobladores del norte de los Andes peruanos mantienen una cultura relativamente común, la cual comparten desde época ancestral integrada en el pasado de una cultura prehispánica, que fue documentada por los cronistas españoles como una cultura famosa por sus hechiceros y curanderos (Schjellerup, 2005) (Fig. 1.2). La denominada "cultura Chachapoya" se localizó en la zona de contacto entre el bosque nuboso de los Andes peruanos nororientales y la cuenca alta del Amazonas (Church & Von Hagen, 2008; Valqui & Ziemendorff, 2016; Ziemendorff, 2019). Estos bosques exhiben evidencias arqueológicas de poblaciones prehispánicas y espectaculares sitios arqueológicos monumentales que datan del siglo XI (Nystrom, 2006) (Fig. 1.3).


**Fig. 1.2.** Algunos de los informantes expertos entrevistados en este estudio: A) Nilda, B) Horacio y C) Manuel en la ciudad de Chachapoyas; D) Cayetano, E) Juan Antonio y F) Enita en la provincia de Luya; G) Hilder, H) Basilia y I) Víctor en la provincia de Chachapoyas; J) Ludezmila, K) Ubén, L) Nancy y Rosita en la provincia de Bongará; y M) Blanca, N) Leandro y O) Magaly en la provincia de Rodríguez de Mendoza.

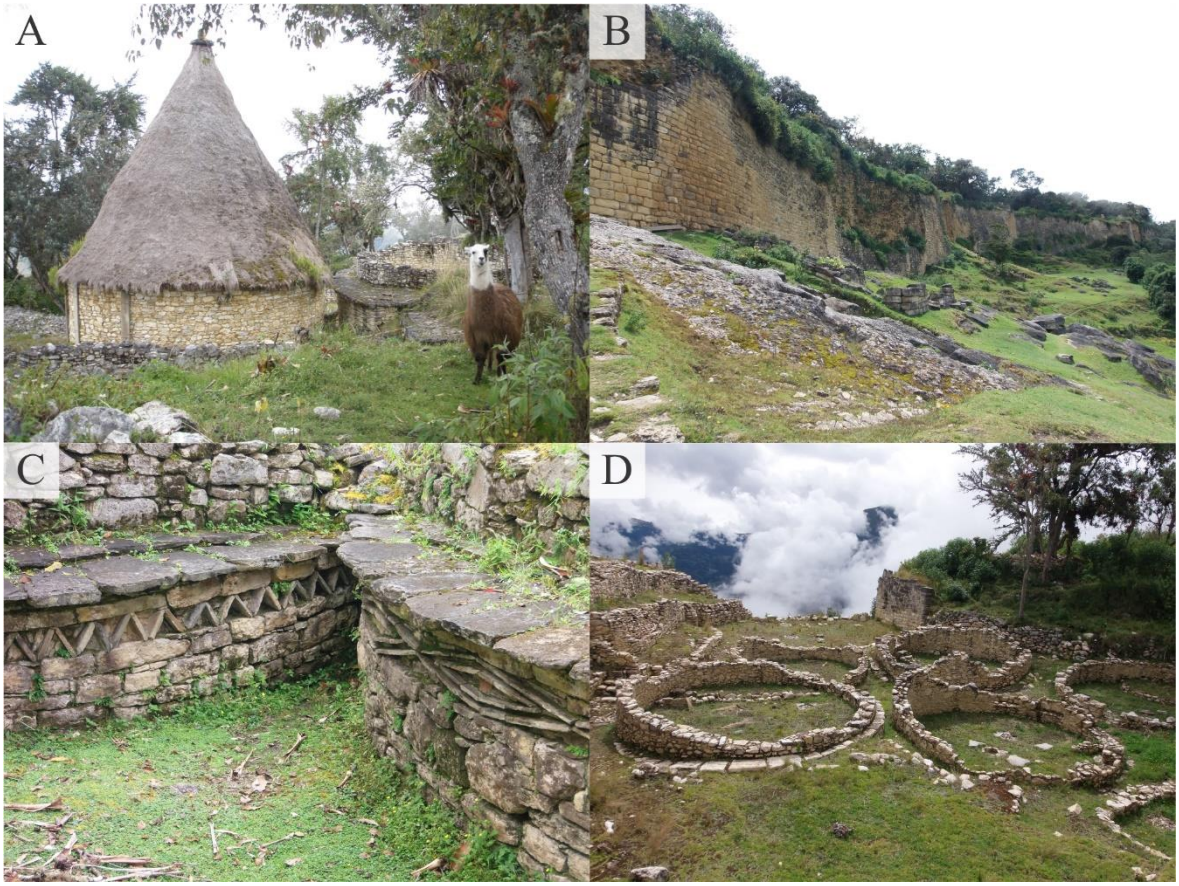


**Fig. 1.3.** Diferentes imágenes del sitio arqueológico preinca Kuelap, ubicado en los Andes nororientales del Perú y próximo a las localidades estudiadas de María y Longuita (provincia de Luya): A) Reconstrucción de una típica casa circular de la cultura "Chachapoya", B) Muralla que delimita la fortaleza; C) Patrones de diseño distintivo de la cultura Chachapoya usado en las construcciones; D) Bases de viviendas en el segundo nivel de la fortaleza.

## Distribución del conocimiento tradicional entre grupos humanos

Las variables más influyentes sobre el mantenimiento o pérdida de los conocimientos tradicionales medicinales están relacionadas con factores socioeconómicos, políticos, tecnológicos, naturales y culturales en las distintas regiones (Hersperger & Bürgi, 2009). Éstas son particularmente significativas en países en desarrollo que conservan más vívidamente tradiciones basadas en recursos naturales (Elisabetskty, 1991; Almeida et al., 2010). Son numerosos los estudios desarrollados en los últimos años que relacionan los factores socioeconómicos y el mantenimiento del conocimiento tradicional sobre el uso de plantas (p. ej. Byg & Balslev, 2007; Mandeel & Al-Laith, 2007; González-Pérez et al., 2013; Vijayakumar et al., 2015). Algunos de estos estudios concluyeron que el conocimiento tradicional sobre plantas medicinales se podría predecir a partir de factores socioeconómicos de la población, haciéndose necesario por tanto un registro detallado de los mismos (Byg et al., 2007; De la

Torre et al., 2012). Por ello en las últimas décadas, el marco socioeconómico ha ido cambiando la vida de las personas en estos países en desarrollo de tal forma que, cuando la situación socioeconómica mejora tanto a escala personal como comunitaria, el resultado suele estar ligado a un mayor riesgo de pérdida de conocimiento tradicional en general y de plantas medicinales en particular (p. ej. Andriamparany et al., 2014).

Las plantas medicinales tienen una relevancia especial en la economía personal de las familias y en la conservación de su cultura, ya que mantienen la salud y son un sustento básico para su supervivencia (Dhar et al., 2002; Reyes-García et al., 2006; Pandey & Shukla, 2008). Al mismo tiempo, la utilización de las plantas medicinales está más próximo a sus tradiciones y su uso y consumo es más barato que el de la medicina occidental alopática (Macía et al., 2005; Pardo-de-Santayana & Macía, 2015). Existe un extenso número de variables socioeconómicas que han sido relacionadas con cambios en el conocimiento tradicional y el conocimiento etnomedicinal, ya que permiten establecer buenos modelos para comprender los patrones de utilización que tienen las sociedades con amplio uso de plantas medicinales y que dependen de sus situaciones socioeconómicas y culturales (Maffi, 2005; Reyes-García et al., 2008). El género, la edad, el nivel educativo o laboral de los pobladores locales, así como la migración y la movilidad laboral, son variables significativas a nivel individual. Son muchos los estudios que señalan a mujeres y grupos de mayor edad como los consignatarios de este conocimiento tradicional sobre plantas medicinales (p. ej. Singhal, 2005; Sher et al., 2015; Koster et al., 2016). Sin embargo, ésta no es la única tendencia observada, ya que también existen trabajos que señalan al género masculino o a grupos de edad intermedia como los mejores conocedores de este conocimiento tradicional (Paniagua-Zambrana et al., 2015; Gómez-Baggethun & Reyes-García, 2013). Además, entre los principales factores socioeconómicos que se han registrado en la pérdida de la utilización de plantas están la sustitución de la educación tradicional por la educación formal (Srithi et al., 2009) y la erosión de las prácticas culturales y de las lenguas locales (Benz et al., 2000). Al mismo tiempo, la educación está en estrecha relación con la ocupación personal, ya que en general, las personas muestran un menor nivel de conocimiento tradicional sobre plantas medicinales en profesiones altamente especializadas (Saynes-Vásquez et al., 2013). Por último, cabe destacar la migración y la movilidad laboral por su incidencia en el mantenimiento del conocimiento tradicional sobre plantas medicinales, principalmente en aquellos informantes que nacieron y vivieron en la misma región durante muchos años (Rudel et al., 2002; Gray et al., 2008). Un claro ejemplo es la persistente migración de la población rural a las ciudades, ocasionada por factores como la falta de empleo y oportunidades o el limitado acceso a infraestructuras básicas, que en definitiva y de modo similar, genera cambios

socioculturales en estas poblaciones (Van Andel & Westers, 2010; Davoren et al., 2016; Kujawska et al., 2017). Sin embargo, estas adaptaciones al nuevo entorno, no cambian el hecho de que los migrantes continúan posicionados en un peldaño socioeconómico inferior con respecto al resto de la población receptora, ubicándose en asentamientos informales periféricos de las urbes (Gilbert & De Jong, 2015). En tal sentido, la nueva situación, a pesar de la nueva cercanía a infraestructuras educativas o sanitarias, obliga a mantener determinadas estrategias de supervivencia, como la utilización de recursos naturales medicinales. Por el contrario, el centro de las ciudades está reservado para familias con mayores capacidades económicas. El precio de estas propiedades en el centro de la ciudad ha aumentado a medida que se implementaron servicios que simbolizan la economía global en este sector central, como bloques de oficinas, centros comerciales, bancos, hoteles, restaurantes gourmet o museos, entre otros (Musterd et al., 2017).

Por otra parte, a nivel de hogar, los factores que tienen influencia a la hora de posicionarse en un escalón socioeconómico más o menos alto son el tamaño de la familia y las posesiones de que disponen, ya sean bienes materiales o productos agropecuarios (Byg & Balslev, 2004; Traoré et al., 2020). El acceso a distintos servicios públicos como la electricidad y los medios de comunicación, el tipo de materiales con el que se construyen las viviendas y su estado de conservación, son factores que dan una idea fiable de la situación socioeconómica del informante (Kinzig et al., 2005; Yackulic et al., 2011). A la postre, el menor acceso a servicios básicos como carreteras pavimentadas, hospitales y grandes mercados facilita el aislamiento de las localidades y, por consiguiente, la conservación de sus sistemas de subsistencia (Zarger & Stepp, 2004) (Fig. 1.4).


**Fig. 1.4.** Puntos de venta de plantas medicinales en las provincias estudiadas: A) Mercado de Yerbabuena (Luya); B) Herbolario en la ciudad de Chachapoyas; C) Mercado Central de la ciudad de Chachapoyas; D) Mercado de Asunción Goncha (Chachapoyas); E) Herbolario en la ciudad de Pedro Ruíz (Bongará); F) Mercado Central de la ciudad de San Nicolás (Rodríguez de Mendoza).

## Significancia del conocimiento tradicional y estrategias de recolección de datos

La indiscutible pérdida del conocimiento tradicional sobre plantas medicinales a nivel global, requiere de las sociedades post-industriales un esfuerzo para su recuperación y documentación con prontitud (Baldauf & Dos Santos, 2013). Además de los factores

socioeconómicos descritos anteriormente, hay otras variables a tener en cuenta en la conservación del conocimiento tradicional. Por una parte, los factores derivados de las políticas y programas nacionales de desarrollo, que tienen una gran influencia en las sociedades rurales (Ramirez, 2007; Negi et al., 2017) y, por otra parte, la continuada destrucción de los distintos tipos de bosque y sus plantas medicinales asociadas (Lizarralde, 2004; Toledo et al., 2010).

El conocimiento tradicional forma el núcleo de la identidad, la herencia cultural y los medios de subsistencia de los pueblos (Pei et al., 2009; Ribeiro et al., 2010). Su transmisión intergeneracional resulta fundamental en la protección de las culturas e identidades, tanto de los pueblos indígenas como de los mestizos. Estos conocimientos son esenciales en la sostenibilidad de sus medios de subsistencia, su resiliencia a las catástrofes naturales y antrópicas (Pieroni et al., 2014; Reyes-García et al., 2014). Además, con estos conocimientos tradicionales se promueve una economía "cultural" más apropiada, justa y sustentable, que ayuda a la conservación de las identidades y la diversidad cultural en el mundo (Singh et al., 2010).

Una labor básica de la etnobotánica es la integración de este conocimiento tradicional con el científico (Ford, 1978). Así, a través de esta disciplina se ha demostrado que el conocimiento tradicional sobre los recursos vegetales locales ayuda a resistir los períodos de escasez y facilita la conservación de la biodiversidad (Pardo-de-Santayana & Macía, 2015). De igual manera, la etnobotánica contribuye directamente al diseño de estrategias de preservación y manejo de los recursos naturales, a través del registro de prácticas y saberes de distintos grupos étnicos (Kala, 2007; Molares & Ladio, 2009; Kandari et al., 2012; Rodríguez et al., 2018).

Existen numerosas estrategias de recolección del conocimiento tradicional, dependientes de los objetivos y preguntas de investigación del estudio planteado, así como de la población a la que se dirija el estudio (Sieber et al., 2014). Las entrevistas son la principal herramienta usada por los investigadores para extraer información de los pobladores (Albuquerque et al., 2014a) (Fig. 1.5). Sin embargo, el tipo de entrevista, así como el tipo de informante, son factores relevantes a la hora de documentar la sabiduría mantenida en las comunidades de una manera eficaz y acorde a las circunstancias temporales y financieras del estudio en cuestión.


**Fig. 1.5.** Trabajo de campo y entrevistas en las provincias estudiadas: A) Trapiche tradicional moliendo caña de azúcar (Bongará); B) Reconocimiento de especies en campo (Luya); C) Colecta de plantas con tijeras telescópicas (Chachapoyas); D) Herborizado de plantas medicinales (Chachapoyas); E) Entrevista con un informante experto (Bongará); F) Pesca con atarraya (Rodríguez de Mendoza).

## Estructura, objetivos e hipótesis del estudio

Esta memoria de Tesis Doctoral es un compendio de cuatro manuscritos, escritos a modo de artículos científicos, de los cuales uno está publicado, otro está aceptado para su publicación y otros dos permanecen como manuscritos pendientes de enviarse a revistas internacionales. Esta Tesis busca responder diferentes preguntas de investigación sobre etnobotánica de plantas medicinales en diferentes contextos socioeconómicos de los bosques montanos del norte del Perú. Los objetivos generales se describen en esta Introducción y los objetivos específicos en cada uno de los capítulos, respectivamente. El conjunto de la Tesis se estructura en los siguientes siete capítulos:

**Capítulo 1.** Introducción general de la memoria de Tesis Doctoral.

**Capítulo 2.** Metodología general del trabajo, incluyendo la descripción del área de estudio, la toma de datos de campo y el análisis de los mismos. El área de estudio general se describe en este capítulo, salvo detalles particulares que se describirán en los capítulos respectivos para su mejor comprensión. Este mismo criterio se sigue para los apartados de Toma de datos y Análisis de datos.

**Capítulo 3.** *Different patterns in medicinal plant use along an elevational gradient in northern Peruvian Andes.* El objetivo general de este trabajo es comparar los patrones de utilización de las plantas medicinales entre dos regiones florísticas distintas a lo largo de un gradiente altitudinal. Las hipótesis asociadas a este trabajo serían: (i) Las personas con menos recursos económicos tendrán un mayor conocimiento tradicional, que en nuestro estudio se corresponden con los pobladores de las localidades en las tierras altas; (ii) Las mujeres tendrán un conocimiento tradicional sobre plantas medicinales mayor que los hombres, debido a la división del trabajo, ya que las mujeres se dedican principalmente al cuidado de la salud familiar mientras los hombres realizan fundamentalmente labores agrícolas y ganaderas, o trabajan fuera sus localidades; y (iii) Las personas de mayor edad tienen un mayor conocimiento tradicional que los jóvenes debido a su acumulación progresiva de conocimiento a lo largo de sus vidas. Este capítulo se ha publicado en una revista internacional: Fernando Corroto, Óscar A. Gamarra Torres & Manuel J. Macía (2019). *Journal of Ethnopharmacology*, 239: 111924. DOI: https://doi.org/10.1016/j.jep.2019.111924.

**Capítulo 4.** *Understanding the role of socioeconomic variables on medicinal plant knowledge in the Peruvian Andes*. El objetivo general de este trabajo es determinar los patrones de transmisión cultural del conocimiento tradicional usando las plantas medicinales como grupo modelo de estudio. Las hipótesis asociadas a este trabajo serían: (i) Las personas con mayor

nivel educativo, trabajos especializados, tiempos de residencia más cortos en las localidades donde actualmente viven, tendrán un conocimiento tradicional sobre plantas medicinales menor; (ii) Las personas con más recursos económicos, ya sea en forma de medios de transporte y herramientas modernas, acceso a servicios tecnológicos, posesiones ganaderas y tamaño de sus fincas, tendrán un menor conocimiento tradicional en plantas medicinales y sus usos asociados; y (iii) Las personas que viven en localidades más cercanas a lugares turísticos, carreteras pavimentadas, hospitales, grandes mercados y con instalaciones para el tratamiento agua de consumo, tendrán un menor conocimiento tradicional sobre plantas medicinales. Este capítulo es un manuscrito preparado por Fernando Corroto, Óscar A. Gamarra Torres & Manuel J. Macía pendiente de enviar a una revista internacional.

**Capítulo 5.** *Medicinal plants for rich people vs. medicinal plants for poor people: a case study from the Peruvian Andes.* El objetivo general de este trabajo es analizar los factores que determinan la distribución del conocimiento tradicional en el uso de las plantas medicinales desde una perspectiva socioeconómica e histórica en la ciudad de Chachapoyas. Las hipótesis asociadas a este trabajo serían: (i) Las personas con escasos recursos económicos, que corresponde principalmente a los habitantes de la periferia de la ciudad, tendrán un mayor conocimiento tradicional sobre plantas medicinales; (ii) La mayoría de las especies e indicaciones médicas serán similares en todos los sectores, porque la población de la ciudad de Chachapoyas comparte una cultura similar en origen; y (iii) Las personas con más recursos económicos, que corresponde principalmente a los habitantes del centro de la ciudad, comprarán mayoritariamente las plantas medicinales, mientras que las personas con menos recursos económicos las recolectarán de la naturaleza o las cultivarán de diferentes maneras. Este trabajo es un manuscrito que fue preparado por Fernando Corroto, Jesús Rascón, Elgar Barboza & Manuel J. Macía y está pendiente de enviarse a una revista internacional.

**Capítulo 6.** *What is the most efficient methodology for gathering ethnobotanical data and for participant selection? Medicinal plants as a case study in the Peruvian Andes*. El objetivo general de este trabajo es evaluar la eficacia en la toma de datos etnobotánicos usando diferentes tipos de informantes y metodologías de entrevista a los mismos participantes. Las hipótesis asociadas a este trabajo serían: (i) Trabajando solo con informantes expertos, obtendremos la mayor parte del conocimiento tradicional sobre plantas medicinales y sus usos de una localidad o región, y además emplearemos menos tiempo para documentarlo; y (ii) El uso de entrevistas estructuradas permitirá obtener más información etnomedicinal de una localidad o región que a partir de entrevistas semiestructuradas. No obstante, las entrevistas estructuradas requieren más tiempo para la obtención de la información que las entrevistas semiestructuradas. Este

capítulo ha sido aceptado para su publicación en una revista internacional: Fernando Corroto & Manuel J. Macía. *Economic Botany* (31 Diciembre 2020).

**Capítulo 7.** Discusión global

**Capítulo 8.** Conclusiones generales.

# Declaración ética

Esta Tesis Doctoral se realizó de acuerdo con las normas internacionales, nacionales e institucionales de respeto a la biodiversidad y a los derechos humanos. Para ello se siguieron las pautas marcadas por el Convenio de Diversidad Biológica, teniendo en cuenta las directrices de Bonn y el Protocolo de Nagoya (SCBD, 2002, 2011). Se obtuvo un permiso por escrito de los líderes y dirigentes de cada localidad, así como del Gobierno Regional del Departamento de Amazonas y de la Universidad Nacional Toribio Rodríguez de Mendoza de Amazonas en Perú para poder ejecutar el presente trabajo. Asimismo, el consentimiento informado fue solicitado a cada uno de los participantes entrevistados, informándoles de que (1) podrían detener la entrevista en cualquier momento, y (2) el procesamiento de datos sería anónimo. El comité de ética de la Universidad Autónoma de Madrid aprobó esta declaración (CEI 73-1327 a Manuel J. Macía).

Capítulo

# 2

# Metodología general

En esta sección se describen los aspectos generales de la metodología utilizada en los cuatro capítulos que conforman la Tesis Doctoral. Las particularidades del área de estudio en algunos casos, al igual que las metodologías específicas en la toma de datos, así como en el análisis de los mismos se incluyen en las respectivas secciones de "Material y métodos" en cada uno de los capítulos siguientes.

## Área de estudio

El trabajo de campo se llevó a cabo en los bosques montanos tropicales del noreste de los Andes de Perú, en el Departamento de Amazonas (Fig. 2.1). Los bosques tropicales montanos, debido a su riqueza de especies son ecosistemas muy complejos estructuralmente (Hemp, 2006). Los patrones de distribución y dominancia de las especies que conforman estos bosques y las causas de su reemplazo entre regiones o a lo largo de gradientes ambientales no son todavía bien conocidos (Vormisto et al., 2004; Pitman et al., 2013). No obstante, es bien sabido que el gradiente altitudinal tiene un papel clave, debido a que la diversidad de especies disminuye con la altitud, especialmente a partir de unos 1500 m, ya que las variaciones climáticas se hacen más marcadas (Gentry, 1988).

En nuestra región de estudio de los Andes, existen claras diferencias florísticas que se relacionan con la diversidad de recursos florísticos medicinales existentes en ambas regiones: bosque pluvial montano, ubicado entre 2500 y 3500 m y bosque muy húmedo montano, entre 1500 y 2500 m (nomenclatura según León et al., 2006). Para nuestro estudio, la región geográfica se definió en dos ecorregiones bien diferenciadas: tierras altas (entre 2500 y 3500 m) y tierras bajas (entre 1500 y 2500 m). En cada ecorregión, estudiamos dos áreas y tres localidades por área. En las tierras altas fueron: (1) la cuenca alta del río Utcubamba en la provincia de Luya y las localidades de Longuita, María y Yomblón; y (2) la cuenca alta del río Imaza en la provincia de Chachapoyas y las localidades de Granada, Olleros y Quinjalca (Fig. 2.1). Esta ecorregión se caracteriza principalmente por una vegetación arbustiva y extensos pastizales en una topografía escarpada. El estado de conservación es mejor que en las tierras bajas, pero comúnmente alterado por pastos para la ganadería y actividades agrícolas de pequeño tamaño (Young y León, 1988; Encarnación y Zárate, 2010). En las tierras bajas, las dos áreas y tres localidades estudiaddas por área fueron: (1) la cuenca media del río Leiva en la provincia de Rodríguez de Mendoza y las localidades de Totora, Santa Rosa y Huambo; y (2) la cuenca media del río Utcubamba en la provincia de Bongará y localidades de Valera, Cuispes y San Carlos. El estado de conservación de esta ecorregión es discontinuo, con pequeños

parches de bosque bien conservado, pero la mayoría de las áreas están deforestadas y en la actualidad son pastos para uso ganadero y agrícola (Schjellerup et al., 2009).

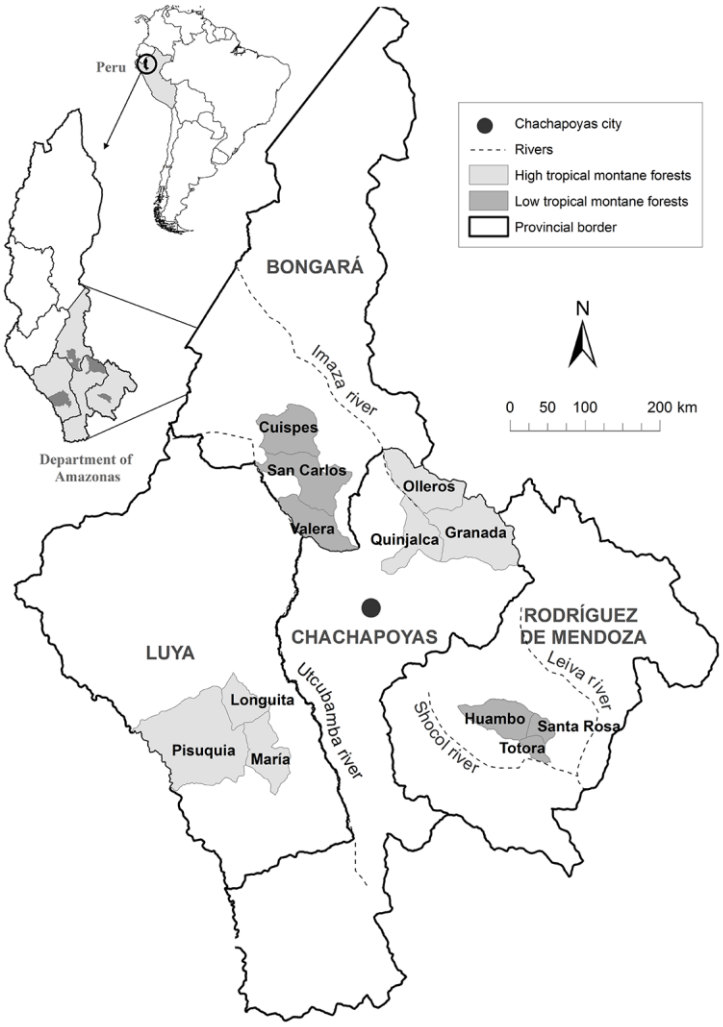


**Fig. 2.1.** Mapa del área de estudio en los Andes del norte del Perú que muestra las dos ecorregiones (bosques montanos tropicales altos y bajos), las cuatro áreas y las 12 localidades donde se recopilaron usos de plantas medicinales en 600 entrevistas (Publicado en Corroto et al., 2019; ver Anexo A).

Todas y cada una de estas localidades se eligieron en relación a sus características geográficas y al desarrollo económico regional. Además, se siguieron los siguientes criterios: (1) la población en cada localidad no excede de los 1000 habitantes, (2) las localidades están habitadas por poblaciones mestizas, culturalmente similares entre sí y dedicadas principalmente a la agricultura y la ganadería. En ambas ecorregiones existe un clima estacional que alterna una estación húmeda entre noviembre y mayo, con una estación seca los meses restantes del

año. Los promedios anuales de precipitación y temperatura son algo más bajos en las tierras altas, 780 mm y 14 ºC, con respecto a las tierras bajas, 900 mm y 19 ºC (SENAMHI, 2019).

La principal fuente de ingresos de la población de las tierras altas, la obtienen a partir de la ganadería de vacuno y se complementa con cultivos de hortalizas a pequeña escala, como maíz, judías y patatas. Tienen difícil acceso a infraestructuras de comunicación adecuadas, acceso limitado a los servicios básicos de salud y al suministro de agua potable. El hospital más cercano está ubicado en la ciudad de Chachapoyas y se tarda en llegar de tres 3 a 5 horas dependiendo de las condiciones del camino. Por el contrario, la población de las tierras bajas se dedica principalmente a los cultivos intensivos de café, maíz y caña de azúcar, que a veces se complementa con la tenencia de ganado diverso, incluyendo vacas, cerdos y ovejas. Tienen la posibilidad de pescar en ríos y lagos y comercializar los recursos extraídos en mercados regionales. En general, tienen mejores infraestructuras de comunicación, con servicios de salud y hospitales cercanos, plantas de tratamiento de agua potable y en general, los pobladores tienen condiciones económicas más prósperas que la población de las tierras altas. Los habitantes de las seis localidades de las tierras altas se estiman en 3025 habitantes, mientras que los de las seis localidades de las tierras bajas se estiman en 5865 habitantes (INEI, 2015).

## Toma de datos

Se realizaron 50 entrevistas semi-estructuradas en cada una de las 12 localidades descritas, lo que supuso un total de 600 entrevistas, desde julio de 2016 hasta mayo de 2017. Para recoger esta información etnobotánica de plantas medicinales, dividimos a los participantes en dos grupos: (1) informantes expertos (n = 77 informantes), que fueron seleccionados por las autoridades de cada localidad como aquellos reconocidos por los propios habitantes de cada localidad como los depositarios de los conocimientos tradicionales sobre plantas medicinales; y (2) informantes generales (n = 523), que fueron el resto de la población de cada localidad, con los que trabajamos en sus hogares, entrevistando a un miembro de la mayor parte de las diferentes familias (casas) de cada sitio, para reunir tanta información distinta como fuera posible y para cubrir una mayor parte de la población local. En cada localidad, primero se entrevistaron a los informantes expertos mediante la metodología “walk in the woods interviews”, para reunir información etnomedicinal en el campo dedicando entre 1 y 3 días con cada informante, y anotando nombres comunes locales, indicaciones medicinales y colectando las plantas en sus hábitats. Cuando terminamos el trabajo con los informantes expertos en cada localidad, enumeramos todas las plantas medicinales, nombres comunes y enfermedades y dolencias mencionadas. Al hacerlo, obteníamos una imagen completa de la diversidad vegetal

y usos medicinales de la localidad en cuestión. A continuación, se entrevistaron los informantes generales en sus propios hogares. Dentro de cada localidad, buscamos un equilibrio en cuanto a género y edad. Los informantes fueron divididos en cinco grupos de edad: 18-30, 31-40, 41-50, 51-60 y >60 años. En la localidad de Granada solo pudimos entrevistar a un informante >60 años. Esta metodología se utilizó en los capítulos 3, 4 y en la primera parte del capítulo 6.

Posteriormente, esta misma metodología de entrevistas semi-estructuradas fue usada en el estudio llevado a cabo en la ciudad de Chachapoyas (Capítulo 5). En este caso se entrevistaron 150 informantes generales en tres sectores de la ciudad, por lo que se completaron otras 450 entrevistas semi-estructuradas. Estas entrevistas se realizaron después de las efectuadas en las 12 localidades previas y debido a que la ciudad de Chachapoyas se encuentra en la misma región ya descrita, se compartieron muchas especies de plantas medicinales, y por tanto no se realizó un estudio previo con informantes expertos.

Además de las entrevistas de los capítulos 3, 4 y 6 realizadas para obtener información de plantas medicinales, se realizaron otras entrevistas a todos los participantes para obtener información socioeconómica a nivel individual, familiar y de la propia localidad, obtenidendo información de 21 factores socioeconómicos. A nivel individual incluimos género, edad, educación, ocupación, situación migratoria y tiempo de residencia en la región. A nivel de familia estudiamos el tamaño de la familia, medios de transporte, posesión de herramientas, acceso a servicios tecnológicos, número y tamaño de la granja y calidad de la casa. Finalmente, a nivel de localidad, analizamos la proximidad a carreteras pavimentadas, hospitales, grandes mercados, lugares turísticos y tratamiento de aguas para consumo humano. De manera similar, estas entrevistas se realizaron en la ciudad de Chachapoyas (Capítulo 5).

Todas las especies colectadas durante las salidas de campo en las localidades visitadas, junto con las especies adquiridas en herbolarios, mercados y huertos particulares de la ciudad de Chachapoyas fueron identificadas y están depositadas en el Herbarium Truxillense (HUT), perteneciente a la Universidad Nacional de Trujillo (Perú). Un duplicado de todas estas colecciones fue depositado en el Herbario de la Universidad Nacional Toribio Rodríguez de Mendoza de Amazonas en la ciudad de Chachapoyas.

Los nombres científicos siguieron The Plant List (The Plant List, 2018) y para la clasificación taxonómica de familias se siguió la del Angiosperm Phylogeny Group IV (Byng et al., 2016).

## Análisis de datos

Todos los usos medicinales reportados durante las entrevistas se clasificaron en 18 categorías medicinales siguiendo estándares internacionales (WONCA, 2005), y adaptándolo a zonas tropicales siguiendo las categorías derivadas de enfermedades culturales, rituales o mágicas propuestas por Macía et al. (2011) y Gruca et al. (2014).

Para evaluar el conocimiento tradicional de las plantas medicinales en las 12 localidades estudiadas utilizamos cuatro indicadores etnomedicinales: 1) el número de especies de plantas medicinales (NSP); 2) el número de usos de plantas medicinales (NMU), que se define como el uso de una parte de la planta de una especie asociada a una categoría medicinal y a una indicación médica específica; 3) el número de registros de uso de plantas medicinales (NUR), que corresponde a la suma de todos los usos medicinales definidos previamente para cada informante; y (4) número promedio de usos por especie. Estos indicadores fueron usados en los capítulos 3, 4 y 6 de la presente Tesis Doctoral.

Con el objetivo de evaluar posibles diferencias significativas entre algunos de los factores analizados, por ejemplo, entre las tierras altas y las tierras bajas, y entre hombres y mujeres en el capítulo 3 y entre los dos tipos de entrevista (semi-estructurada y estructurada) en el capítulo 6, se utilizaron modelos lineales mixtos generales y su correspondiente prueba post hoc LSD Fisher de comparaciones múltiples ($p < 0.05$). Se realizaron modelos lineales generalizados con distribución binominal negativa para buscar una posible relación entre diferentes variables socioeconómicas de diferentes niveles utilizando los criterios expuestos en Paniagua-Zambrana et al. (2014). Pero los detalles específicos del análisis de datos para cada capítulo, se detallen en cada uno de ellos, respectivamente.

Capítulo

# 3

# Different patterns in medicinal plant use along an elevational gradient in northern Peruvian Andes

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# Abstract

Through the study of mestizo people that share a common culture in a large geographic region and where traditional knowledge (TK) is still poorly documented, we compared medicinal plant use in the northern Andes of Peru. The aims of the study were: (1) To compare patterns of the distribution of TK for a human group living between two ecoregions: high tropical montane forests vs. low tropical montane forests; (2) to understand the TK at the gender level; and (3) to analyse TK transmission over five generations. The study was conducted in two ecoregions, four areas and 12 localities. We gathered information with 600 participants through semi-structured interviews. We worked with 3–7 expert informants per locality using the "walk in the woods" methodology for gathering ethnomedicinal information in the field. We annotated local vernacular names, medicinal indications, and collected the plants in their habitats. Then we interviewed the rest of the participants in their homes. To evaluate significant differences between highlands and lowlands, we use general mixed linear models test and its corresponding post hoc LSD Fisher test of multiple comparisons ($p < 0.05$) at ecoregion, gender and generation level. A total of 416 species belonging to 107 plant families and 13898 use-reports were found in both ecoregions. Overall, significant differences indicated that people in the highlands had higher TK than people in the lowlands for most of the medicinal categories. Women showed higher knowledge on medicinal plants in all medicinal categories and areas in both ecoregions. However, transmission of TK showed different patterns between ecoregions. In the highlands, the TK increased from the youngest to the senior group (51–60 years), with a slight decreasing for those over 60 years, whereas in the lowlands the findings were less clear and generations with highest TK were divergent across localities. TK on medicinal plants is still widely applied in the tropical montane forests of northern Peru. The localities with less prosperous socioeconomic development (highlands) were the areas with higher TK on medicinal plants. Women are mainly the depositories of the traditional medicine. The older generations maintain most of the TK in the highlands, whereas in the lowlands the TK is more widespread across generations. Future conservation programs on medicinal plants should understand who are the generations depositaries of the TK before dedicate any effort.

# Introduction

The traditional medicine based on plants has been maintained through history, especially in remote rural areas and among ethnic minorities of modern society, as a necessity for people with few economic resources or inaccessible medical assistance (Macía et al., 2005; Heinrich et al., 2006; Leonti & Casu, 2013). Nowadays, there are clear evidences of the fading of traditional knowledge (TK in the following) indicating that the chain of oral transmission between generations is breaking (Reyes-García et al., 2013a; Paniagua-Zambrana et al., 2016). In response, the World Health Organization has among its objectives for the 2014–2023 decade, the recovery of popular knowledge about medicinal plants as an alternative for primary health care, mainly in the poorest regions of developing countries (WHO, 2013).

This is the case of Peru, with at least 3000 species of medicinal plants documented (Mostacero et al., 2011). In the last decade the number of studies on medicinal plants has significantly increased in the country, and specifically in the Andean region (e.g. De la Cruz et al., 2007; Bussmann & Glenn, 2010; Mathez-Stiefel et al., 2012; Gonzales et al., 2014), although the eastern flank of the northern Andes is still scarcely studied (Bussmann & Sharon, 2006; Schjellerup et al., 2009).

In the tropical montane forests of northern Peru are living mestizo communities under different environmental conditions and socio-economic factors, which determine their life habits and also the use of medicinal plants in their surroundings. Along more than 2000 m in elevation, people have a culture relatively common that shares common human ancestors integrated into the territory of the prehispanic culture (Monigatti et al., 2013).

Generally, gender and age are key factors which determine the distribution of TK (Lambaré et al., 2011; Sousa Júnior et al., 2013). Women are the main vehicle for transmitting this knowledge in rural societies because they usually assume the main responsibilities of child and elders care (McDade et al., 2007; Wayland & Walker, 2014) although men showed a greater TK in some cases (e.g. Albuquerque et al., 2011; Paniagua-Zambrana et al., 2014). On the other hand, elder people are commonly the depositaries of ethnobotanical wisdoms and customs due to their accumulation of knowledge over time (Upadhyay et al., 2010). However, this knowledge can be evenly distributed among several age groups, even showing higher records in younger age groups by vertical, horizontal or oblique TK transmission (Idolo et al., 2010; Almeida et al., 2015).

In this work we have three objectives: (i) to compare the use of medicinal plants for a human group with a similar culture and living between two ecoregions: high tropical montane forests

vs. Low tropical montane forests. We hypothesize that people with less economic resources and possibilities of resource exploitation will have greater traditional knowledge, which corresponds to the communities living in the highlands (Vandebroek, 2010); (ii) to analyze the distribution of TK on medicinal plants and gender equality between the two ecoregions. We expect women have a greater TK than men, due to the division of labour, where women mainly dedicate to the family health care whereas men mainly carry out agricultural and livestock work, or work outside their localities (Pfeiffer & Butz, 2005; Sher et al., 2015); and (iii) to understand the TK transmission over generations: 18–30, 31–40, 41–50, 51–60,>60 years old between ecoregions. We expect elders have a greater TK than youngers due to their progressive accumulation of knowledge along their lives (Koster et al., 2016).

# Material and methods

## Study area

*The study area has been previously described in Chapter 2 (Methodology), which includes the location map (Fig. 2.1).*

## Data collection

*The full description of the data collection methods was included in the Chapter 2: Metodología general, Toma de datos section.*

## Data analysis

All the medicinal indications were classified into 18 categories following international standards (Cook, 1995) with additional modifications to adapt them to tropical regions and to include properly cultural diseases (Macía et al., 2011; Gruca et al., 2014) (Appendix 3.1). To evaluate TK on medicinal plants across localities, we used four ethnomedicinal indicators: total number of useful plant species, medicinal uses, medicinal use-reports, and average number of uses per species. We define (1) a "medicinal use" as the use of a plant part of a species that is associated with a medicinal category for a particular disease or ailment (Paniagua-Zambrana et al., 2014); and (2) a "medicinal use-report" as the medicinal use defined previously and associated to an informant. To evaluate possible significant differences between highlands and lowlands, we use the 15 medicinal categories with the highest number of use-reports (200 or more) using general mixed linear models and its corresponding post hoc LSD Fisher test of multiple comparisons ($p < 0.05$). Similarly, we run analyses to compare TK between women

and men. Finally, to analyze TK transmission between age groups, we used the average percentages of use-reports per generation in mixed general linear models across localities. All analyses were performed in R 3.4.0. (R Development Core Team, 2020).

# Results

## Distribution of TK along the elevational gradient

A total of 13898 use-reports, 3720 medicinal uses and 416 species belonging to 107 families were found in 600 interviews conducted in four areas, and 12 localities of two different ecoregions in the montane forests of northern Peru. Medicinal plants and uses are shown in the Appendix 3.2. Comparatively, 354 species and 8628 use-reports were mentioned in the highlands and 326 species and 5270 use-reports in the lowlands (Table 3.1). The most representative families in the highlands were Compositae (12.3% of total use-reports), Lamiaceae (10.7%) and Solanaceae (6.3%), whereas in the lowlands were Lamiaceae (13.5%), Compositae (9.8%) and Rutaceae (7.3%). The most cited species in the highlands were *Minthostachys mollis* (Benth.) Griseb. (3.7% of total use-reports), *Matricaria recutita* L. (3.6%) and *Citrus limon* (L.) Osbeck (2.8%), whereas in the lowlands were *Minthostachys mollis* (6.2%), *Citrus limon* (3.3%) and *Ruta chalepensis* L. (2.4%). On the other hand, the most versatile species in the highlands were *Citrus limon*, cited for uses in 15 medicinal categories, followed by *Erythroxylum coca* Lam. and *Ruta chalepensis*, both cited in 14 medicinal categories. Similarly, in the lowlands the most versatile species were *Citrus limon*, cited for uses in 14 medicinal categories, followed by *Matricaria recutita* and *Ruta chalepensis*, both cited in 11 medicinal categories. The species *Sambucus peruviana* Kunth, *Ullucus tuberosus* Caldas, and *Physalis peruviana* L. were highly used in the highlands and just marginally used in the lowlands, whereas Bixa orellana L., *Passiflora edulis* Sims and *Ocimum basilicum* L. were highly used in the lowlands and rarely in the highlands.

In general terms, people in the highlands had higher TK than in the lowlands, according to the four ethnomedicinal indicators used (Table 3.1). Rodríguez de Mendoza (lowlands) was the area that showed the lowest numbers of TK. In Bongará (lowlands), we found a higher number of plant species than in Chachapoyas (highlands), but the other three ethnomedicinal indicators were lower. Within the highlands, Luya scored higher in three out of the four indicators, only surpassed by Chachapoyas in the number of use-reports.

In the highlands, 12 out of 18 medicinal categories showed higher number of use-reports than in the lowlands with *Digestive*, *General ailments*, *Nervous* and *Respiratory systems* cited

more than double (Figs. 3.1.A, 3.1-E, 3.1-F and 3.1-H). The remaining six medicinal categories scored higher in the lowlands, but most of them were among the categories with the lowest number of use-reports. *Cultural diseases and disorders* (Fig. 3.1-B) and *Ritual and magic uses* (data not shown) showed slightly higher values in the lowlands. The two areas in the highlands showed similar values of use-reports: Chachapoyas scored higher in nine categories whereas Luya did so in the other nine categories. However, in the lowlands, Bongará showed higher values of use-reports in all categories compared to Rodríguez de Mendoza.

**Table 3.1.** Ethnomedicinal data gathered in two ecoregions, four areas, and 12 localities of the tropical montane forests of northern Peru

| Ecoregion | Areas | Localities | No. plant species | No. medicinal uses | No. use-reports | Average (± SD) number of uses per species | No. men interviewed | No. women interviewed |
|---|---|---|---|---|---|---|---|---|
| High tropical montane forests (2500-3500 m) | All | All | 354 | 2636 | 8628 | 5.9 (±2.3) | 152 | 148 |
| | Chachapoyas | All | 254 | 1192 | 4806 | 4.0 (± 2.4) | 75 | 75 |
| | | Granada | 145 | 457 | 1459 | 2.9 (± 2.6) | 25 | 25 |
| | | Olleros | 190 | 598 | 1613 | 2.8 (± 2.6) | 27 | 23 |
| | | Quinjalca | 189 | 598 | 1734 | 2.7 (± 2.2) | 23 | 27 |
| | Luya | All | 301 | 1673 | 3822 | 4.7 (± 2.5) | 77 | 73 |
| | | María | 190 | 648 | 1244 | 3.0 (± 2.6) | 27 | 23 |
| | | Longuita | 221 | 707 | 1246 | 2.8 (± 2.4) | 24 | 26 |
| | | Yomblón | 210 | 729 | 1332 | 3.0 (± 2.9) | 26 | 24 |
| Low tropical montane forests (1500-2500 m) | All | All | 326 | 1638 | 5270 | 4.2 (± 2.2) | 149 | 151 |
| | Bongará | All | 273 | 1187 | 3306 | 3.7 (± 2.1) | 75 | 75 |
| | | Cuispes | 183 | 557 | 1258 | 2.6 (± 2.4) | 25 | 25 |
| | | San Carlos | 175 | 476 | 1307 | 2.4 (± 2.0) | 25 | 25 |
| | | Valera | 192 | 491 | 741 | 2.4 (± 2.2) | 25 | 25 |
| | Rodríguez de Mendoza | All | 223 | 689 | 1964 | 2.7 (± 1.5) | 74 | 76 |
| | | Santa Rosa | 145 | 282 | 613 | 1.7 (± 1.3) | 26 | 24 |
| | | Totora | 146 | 332 | 995 | 2.0 (± 1.6) | 23 | 27 |
| | | Huambo | 121 | 242 | 356 | 1.9 (± 1.3) | 25 | 25 |

Significant statistically differences were found in seven out the 15 most cited categories along the elevational gradient: *Digestive system*, *General ailments*, *Muscular-skeletal system*, *Nervous system*, *Respiratory system*, *Sensory system* and *Skin and subcutaneous tissue* (Figs. 3.1-A, 3.1-D, 3.1-E, 3.1-F, 3.1-H, 3.1-K and 3.1-L). All these categories scored higher in the highlands. Among the eight categories that did not have significant statistically differences between ecoregions, three of them showed higher percentages of use-reports in the lowlands (*Blood and cardio-vascular system*, *Cultural diseases and disorders*, and *Dental health*) (Figs. 3.1-B, 3.1-M and 3.1-N), and five categories in the highlands (*Infections and infestations*, *Pregnancy birth and puerperium*, *Reproductive system and reproductive health*, *Urinary system* and *Other uses*) (Figs. 3.1-C, 3.1-G, 3.1-I, 3.1-J and 3.1-O).

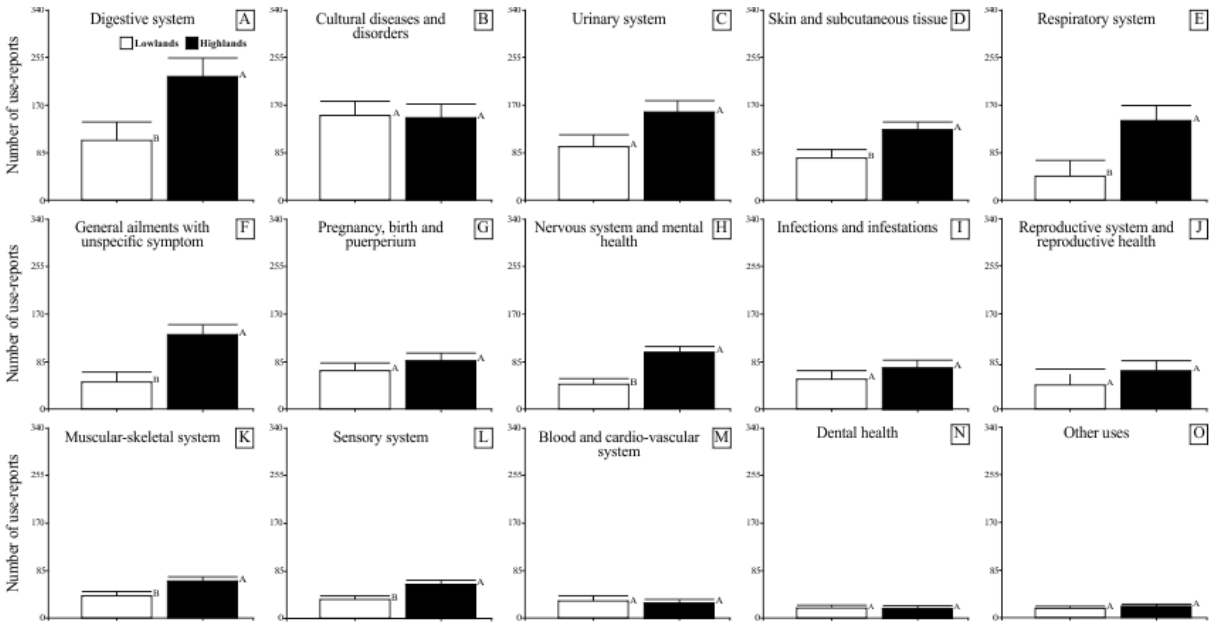


**Fig. 3.1.** Mean percentage of medicinal plants use-reports found comparatively in low tropical montane forests and high tropical montane forests based on 600 interviews in northern Peru. Letters (A, B) indicate significant differences based on general mixed lineal models and its corresponding post hoc LSD Fisher test ($p < 0.05$).

## Gender distribution of TK on medicinal plants

Overall, women showed a higher percentages of use-reports in all medicinal categories and areas in both ecoregions with the exception of *Cultural diseases and disorders* in Luya province (Fig. 3.2-B), and *Muscularskeletal system* and *Urinary system* in Luya and Rodríguez de Mendoza (Fig. 3.2-C). We found significant statistically differences in the distribution of TK between men and women in all medicinal categories except in *Cultural diseases and disorders*, *Dental health* and *Muscular-skeletal system* (Figs. 3.2-B, 3.2-N and 3.2-K). Women cited more

than double use-reports than men in the categories of *Blood and Cardio-vascular system*, *Pregnancy, childbirth and puerperium* and *Reproductive system*, with the exception of Luya province (Figs. 3.2-G, 3.2-J and 3.2-M). This was also the case in *Metabolic system* and

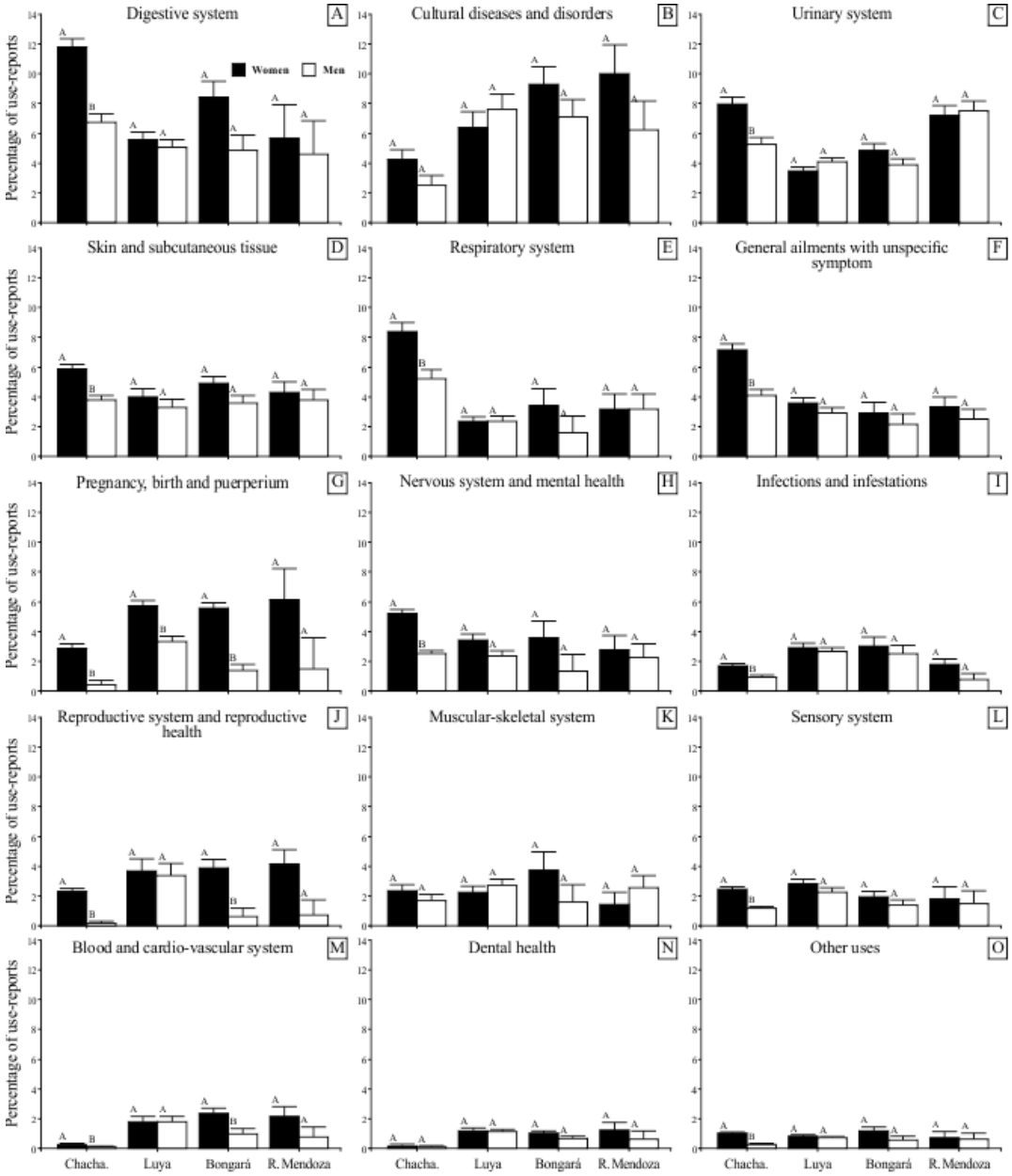


**Fig. 3.2.** Mean percentage of medicinal plants use-reports analyzed between women and men for four areas and the 12 localities in northern Peruvian Andes. Letters (A, B) indicate significant differences based on general mixed lineal models and its corresponding post hoc LSD Fisher test ($p < 0.05$).

*Ritual and magical uses* (data not shown). Basically, women and men used the same most versatile medicinal species. The most used species by women were *Minthostachys mollis* (2.5%

of total use-reports), *Matricaria recutita* (1.9%), *Citrus limon* (1.6%) and *Ruta chalepensis* (1.6%), whereas by men were similar: *Minthostachys mollis* (2.1% of total use-reports), *Citrus limon* (1.4%), *Matricaria recutita* (1.2%) and *Plantago major* L. (1.2%).

### TK transmission across age groups

In the highlands, the TK of medicinal plants increased from the youngest (18–30 years) to the senior group (51–60 years), with a slight decreasing for those over 60 years in all localities (Figs. 3.3-A–F) where statistically significant differences were found across groups. In the lowlands, the findings were less clear. In the Totora and Huambo localities, the pattern was similar to the highlands (Figs. 3.3-K–L), but was not statistically significant. However, in two other localities (Cuispes and San Carlos), the highest TK was recorded in the elders age group (Figs. 3.3-G and 3.3-H), whereas in Valera and Santa Rosa, the highest TK was reported in the middle age groups (Figs. 3.3-I and 3.3-J), although only in two of these cases were statistically significant (Figs. 3.3-H and 3.3-I). It is surprising the high percentage of use-reports found in Valera for the senior group (51–60 years), which represented more than double than the other four groups (Figs. 3.3-I). *Minthostachys mollis*, *Matricaria recutita* and *Citrus limon* were the three species most highly used across generations. *Plantago major* was very used for the three younger age groups, whereas *Melissa officinalis* L. was so for the 31–50 years generation, and *Erythroxylum coca* and *Sambucus peruviana* for the 41–60 age groups.

## Discussion

### Elevational gradient

Traditional medicine is still widely practiced in the tropical montane forests of northern Peru. We found a higher number of medicinal species and medical indications than previuos studies in other Andean regions of the country (Hammond et al., 1998; De la Cruz et al., 2007; Huamantupa et al., 2011; Monigatti et al., 2013; Gonzales et al., 2014). Several factors can explain these results including the large area covered in our study, the stratified sampling across different age groups, the gender balance of the interviewers, the high number of informants, and the special focus posed on the expert informants.

The TK on medicinal plants was higher in the highlands than in the lowlands, which accept our first hypothesis. This can be explained by at least four variables. First, the socio-economic factors differentiate clearly the population in the ecoregions, being the lowlands more prosperous with permanent crops, land suitable for forestry production, fishing areas

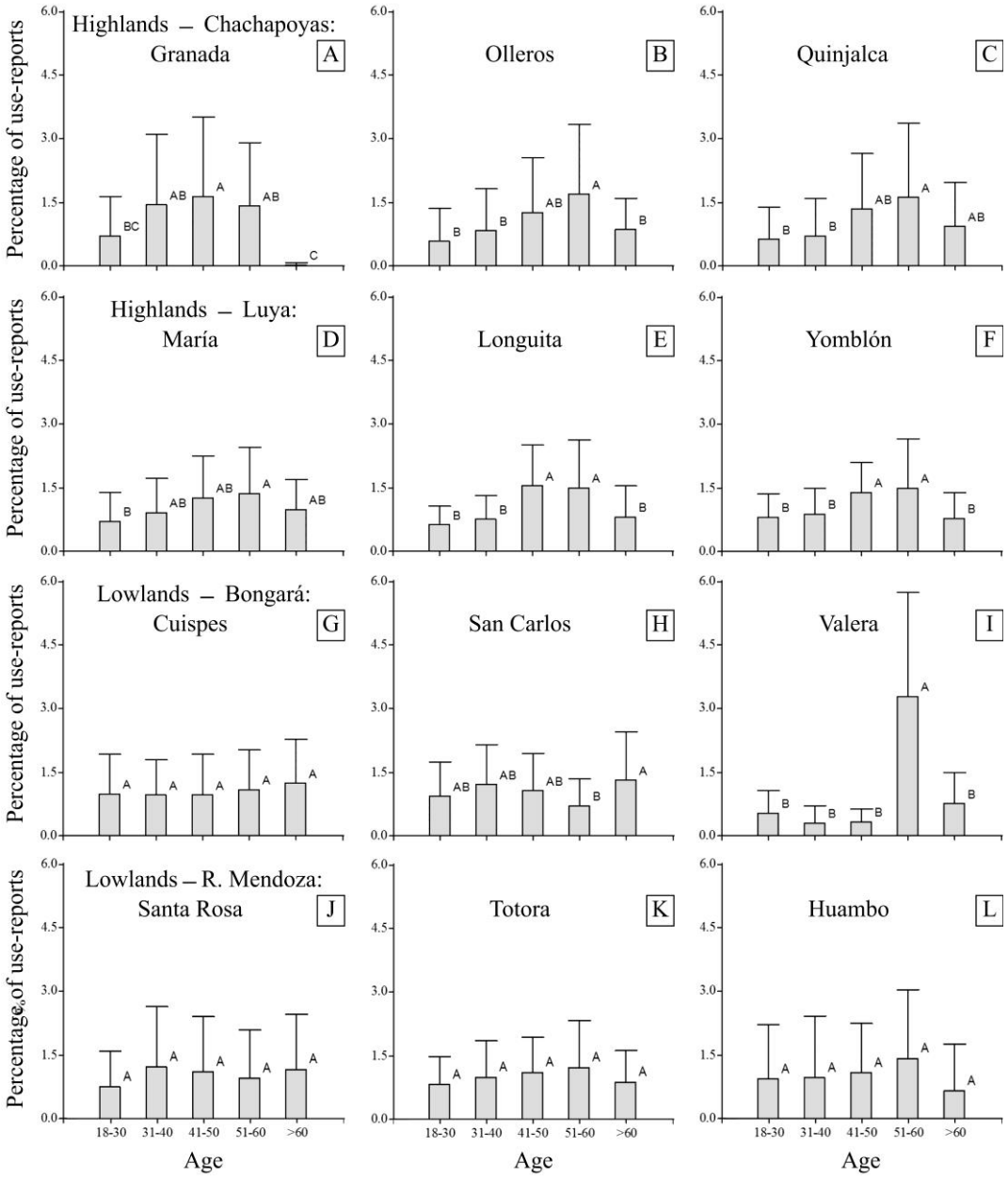


**Fig. 3.3.** Mean percentage of medicinal plants use-reports broken down by five age cohorts in six localities in the highlands (A–F) and six localities in the lowlands (G–L) in the northern Andes of Peru. Letters (A, B, C) indicate significant differences based on general mixed lineal models and its corresponding post hoc LSD Fisher test ($p < 0.05$).

and greater economic income coming from tourism (Almeida et al., 2010). On the contrary, the economic resources in the highlands are more scarce, with predominance of subsistence crops or based on milk production of extensive beef cattle farming. So, areas with greater socio-economic development tend to be areas with lower TK on medicinal plants, such as the case of Rodríguez de Mendoza, that also have been reported in other studies (Kunwar & Bussmann, 2008; Lira et al., 2009; Vandebroek, 2010). Second, migration processes to urban areas. In the lowlands it took place mainly from the 90s, whereas in the highlands occurred only from the

last decade (INEI, 2008, 2009). Migration use to cause rapid cultural and socio-economic changes that usually produce the loss of TK from one generation to the next (Takasaki et al., 2001; Reyes-García et al., 2013b), which surely occurred in the lowlands by a reduction in the use of medicinal plants. Third, the isolation of the localities in the highlands and the lack of health services and infrastructures resulted in a more prominent use of the traditional medicine as previously have been reported in other studies (Benz et al., 2000; Byg et al., 2007; Leonard et al., 2015). Fourth, the environmental conditions of the two ecoregions. In the highlands, the population is living in a more adverse and extreme climatic conditions than the population in the lowlands, and probably have produced more ailments and disorders of the *Respiratory system* (De la Cruz et al., 2007), and General diseases, such as fever and headache (D'Arcy, 2004). At the same time, remedies for disorders and diseases of the *Digestive* and *Urinary systems* were mainly found in the highlands. This can be explained because they have not implemented water treatment for human consumption that surely affect more assiduously to their gastrointestinal and urinary problems (Collins et al., 2006; Pareek and Kumar, 2013). Concerning *Cultural diseases and disorders*, TK was widely shared in both ecoregions with slightly higher values in the lowlands. This medicinal category includes diseases like *susto*, *gentil*, *tacsho*, *tijte*, *pulsario*, *shucaque*, *shadow* or *dispela* that came from traditional Andean medicine and are not treatable with the conventional medicine. However, traditional medicine treats them with medicinal plants (e.g. Macía et al., 2005; Mathez-Stiefel et al., 2012; Gonzales et al., 2014).

In contrast with the results found in the provinces of Rodríguez de Mendoza and Chachapoyas, the localities of Bongará (lowlands) showed a similar TK than the localities of Luya (highlands). This can be explained by geographic, touristic and commercial factors. First, the road communication between the localities in Bongará and the localities in Luya (with the exception of Yomblón), has been recently paved and then has enabled the communication of people between both areas, generating a flow of information that also facilitates the exchange of TK. Second, both areas have the two most visited tourist sights in the Department of Amazonas: Kuélap prehispanic archaeological complex in Luya and the Gocta waterfall (771 m) in Bongará. These two tourist attractions have produced an increase in the number of visitors in these two provinces, which have increased the services offered and therefore have produced better economic development among its inhabitants, respectively. Third, one of the most important street markets in the ecoregion is weekly organized between the two areas, and regularly attracts merchants and buyers from the six locations, which again facilitate the transfer

of knowledge and could have conformed a major similarity in TK between the areas (Gazzaneo et al., 2005).

The most cited plant families in our study are included among the most important in other Andean medicinal plants works, being Compositae as the family with the highest number of medicinal species, and Lamiaceae, Solanaceae and Leguminosae among the most important families (e.g. Fernandez et al., 2003; Tene et al., 2007). The same applies for the most used species in both ecoregions. *Minthostachys mollis*, *Matricaria recutita*, *Ruta chalepensis*, *Citrus limon*, *Plantago major* and *Erythroxylum coca* are commonly cited in any Andean ethnomedicinal work for similar uses (e.g. Bussmann & Sharon, 2006; Armijos et al., 2014; Gonzales et al., 2014). On the other hand, species more suitable in the highlands such as *Sambucus peruviana*, *Ullucus tuberosus* and *Physalis peruviana* or species prevalently found in the lowlands such as *Bixa orellana*, *Passiflora edulis* and *Ocimum basilicum* showed great use differences between ecoregions. These differences can be explained by the easier availability of these species in one of the ecoregions and the prevalence of diseases associated to each ecoregion (Monigatti et al., 2013).

## Gender and TK

Women are the keepers of the traditional medicinal knowledge in northern Peruvian Andes and therefore our hypothesis is accepted. This can be explained because women workplace is usually linked to their home, taking care of children and the elders, and to their homegardens and orchards (Coelho-Ferreira, 2009; Baliano et al., 2015). Often these homegardens are reservoirs of medicinal plants that women use as a family medicinal resource in most Andean societies (Finerman & Sackett, 2003). Many earlier studies conducted in the Andean regions are in line with our hypothesis, indicating that women are the main connoisseurs and transmitters of this TK in these countries (e.g. Perry & Gesler, 2000; Arango, 2004; Gonzales et al., 2014; Zambrano et al., 2015). The role of women is almost exclusive in the application of medicinal plants in some domains, such as *Pregnancy, birth and puerperium* and *Reproductive system* (Vandebroek et al., 2010; Malan & Neuba, 2011; Barreto & Schultze-Kraft, 2014). This knowledge is only limited to expert men informants in our study. However, there are other works in which men showed a greater TK on medicinal plants which resulted from the division of responsibilities (Paniagua-Zambrana et al., 2014) or due to their greater participation in agriculture or livestock activities (Vandebroek et al., 2004b; Albuquerque et al., 2011). So future conservation programs should mainly focus on women to preserve the traditional medicine in this Andean ecoregions.

## Age and transmission of TK on medicinal plants

In the highlands and some localities of the lowlands, the TK on medicinal plants increased from the youngest to the seniors and then decreasing progressively to the elders, so our hypothesis that elders have a greater TK than youngers is only partially accepted. This general pattern is also found in other studies throughout the world where older people are less affected by external influences, and therefore maintain their beliefs and TK acquired in the past (Byg & Balslev, 2004; Zabihullah et al., 2006; Srithi et al., 2009; Menendez-Baceta et al., 2014; Paniagua-Zambrana et al., 2016). Nevertheless, there is a lack of consensus on the relationship between age and TK on medicinal plants (Almeida et al., 2015). Some factors that explain this diacronic TK are related to the loss of interest from younger generations in traditional medicine (Eyssartier et al., 2008) and the more common use of medicaments that produce more rapid effects to alleviate diseases or ailments (Giday et al., 2003).

During the last 20 years, basic medical posts have been implemented in each of the studied localities in both ecoregions. It can be an explanation for the loss of knowledge among younger groups, because they had an easier access to the conventional medicine services which may entail to not use TK on medicinal plants (Ayantunde et al., 2008; Ladio & Lozada, 2009; McMillen, 2012). This pattern is clear in all the studied localities in the highlands but only happen in some localities of the lowlands. The other localities of the lowlands are suffering the abandonment of their TK on medicinal plants in a clearer way, and this loss seems to be identified in most of the age groups. Furthermore, in these lowlands localities the socioeconomic conditions are better than in the highlands localities, and people have the opportunity to choose between conventional medical treatment or traditional medicine based on medicinal plants.

Concerning the great difference of TK in Valera for people between 51 and 60 years old and the other age groups, it is simply because the majority of the experts interviewed in this locality fall in this generation.

The great use that is made in the five age groups of *Minthostachys mollis*, *Matricaria recutita* and *Citrus limon* can be explained because these species were frequently reported in two of the most cited categories across generations, *Digestive system* and *Cultural diseases and disorders*, where they are widely used species. It is also remarkable, the medicinal use of *Erythroxylum coca* which is increasing with age based surely on its great cultural importance from ancient times (Martin, 1970). However, the use for generations over 60 years is

considerably reduced, and probably is due to their alienation from the hard work of livestock and agricultural activities (Maina, 2012).

Finally, future national or international programs dedicated to the conservation of TK on medicinal plants should understand first, who are the depositaries generations that mostly retain the TK before dedicate any economic effort and support. And please, do not assume that elders are always the only depositaries of the TK across areas and regions.

**Appendix 3.1**. Total number of use-reports (minimum, maximum) of the medicinal plants documented in two ecoregions, four areas, and 12 localities of the tropical montane forests in northern Peru. Medicinal uses are classified in 18 medicinal categories according to WONCA (2005), Macía et al (2011) and Gruca et al (2014).

| | High Tropical Montane Forests | | | Low Tropical Montane Forests | | | |
|---|---|---|---|---|---|---|---|
| **Categories / Subcategories** | **Chachapoyas** | **Luya** | **All** | **Bongará** | **R. Mendoza** | **All** | **Total** |
| **Digestive system** | **888 (266-331)** | **404 (115-151)** | **1292** | **451 (78-189)** | **174 (34-72)** | **625** | **1917** |
| Diarrhoea | 170 (49-67) | 125 (33-50) | 295 | 114 (17-55) | 34 (6-17) | 148 | 443 |
| Stomach pain | 370 (74-155) | 4 (0-4) | 374 | 51 (8-24) | 7 (0-5) | 58 | 432 |
| Liver disorders | 132 (31-56) | 51 (11-24) | 183 | 23 (4-14) | 18 (2-10) | 41 | 224 |
| Stomach cramps | 26 (0-26) | 51 (10-21) | 77 | 68 (5-35) | 41 (4-23) | 109 | 186 |
| Laxative | 43 (11-17) | 56 (13-24) | 99 | 63 (14-28) | 8 (1-4) | 71 | 170 |
| Carminative | 65 (14-31) | 35 (1-18) | 100 | 23 (5-12) | 20 (4-9) | 43 | 143 |
| Stomach infection | 44 (11-17) | 4 (0-4) | 48 | 26 (1-18) | 7 (0-7) | 33 | 81 |
| Gastric ulcers | 9 (2-5) | 21 (5-9) | 30 | 33 (5-16) | 8 (0-8) | 41 | 71 |
| Digestive | 19 (0-1) | 16 (3-9) | 35 | 13 (3-6) | 4 (0-3) | 17 | 52 |
| Hepatitis | 2 (0-1) | 15 (2-8) | 17 | 23 (2-11) | 5 (0-4) | 28 | 45 |
| Constipation | 6 (0-5) | 20 (4-11) | 26 | - | 5 (0-4) | 5 | 31 |
| Indigestion | - | 4 (1-2) | 4 | 8 (0-8) | 11 (0-11) | 19 | 23 |
| Intestinal infection | 1 (0-1) | - | 1 | 5 (0-4) | - | 5 | 6 |
| Gallbladder | - | 2 (0-2) | 2 | - | 2 (0-2) | 2 | 4 |
| Stomach sickness | - | - | - | - | 4 (0-3) | 4 | 4 |
| Acidity | 1 (0-1) | - | 1 | - | - | - | 1 |
| Antiemetic | - | - | - | 1 (0-1) | - | 1 | 1 |
| **Cultural diseases and disorders** | **324 (87-139)** | **538 (158-216)** | **862** | **557 (113-224)** | **330 (37-148)** | **887** | **1749** |
| Susto, espanto | 65 (21-23) | 73 (15-35) | 138 | 101 (14-57) | 204 (16-99) | 305 | 443 |
| Antimonia, gentil, viejo, antiguo | 17 (1-11) | 180 (36-100) | 197 | 145 (37-68) | 33 (0-20) | 178 | 375 |
| Aire, malaire | 186 (55-74) | 71 (13-33) | 257 | 99 (14-44) | 5 (0-3) | 104 | 361 |
| Tacsho | 36 (9-16) | 123 (33-47) | 159 | 115 (31-42) | 42 (6-20) | 157 | 316 |
| Tijte | 7 (1-5) | 51 (10-25) | 58 | 53 (5-27) | 38 (0-20) | 91 | 149 |
| Pulsario | - | 30 (7-12) | 30 | 29 (3-17) | 7 (0-5) | 36 | 66 |
| Negative vibes | 1 (0-1) | 5 (0-5) | 6 | 9 (1-5) | 1 (0-1) | 10 | 16 |
| Shucaque | 5 (0-5) | 5 (0-5) | 10 | 3 (0-2) | - | 3 | 13 |
| Shadow | 5 (0-3) | - | 5 | 3 (0-3) | - | 3 | 8 |
| Dispela | 2 (0-2) | - | 2 | - | - | - | 2 |
| **Urinary system** | **633 (190-238)** | **290 (89-101)** | **923** | **285 (68-121)** | **277 (62-133)** | **562** | **1485** |
| Kidney disorders, emollient, diuretic | 564 (164-214) | 192 (59-67) | 756 | 184 (43-73) | 186 (49-84) | 370 | 1126 |
| Prostate disorders | 33 (9-15) | 83 (16-37) | 116 | 91 (23-45) | 85 (7-46) | 176 | 292 |
| Kidney stones | 36 (10-15) | 15 (4-6) | 51 | 10 (2-5) | 6 (1-3) | 16 | 67 |
| **Skin and subcutaneous tissue** | **460 (138-167)** | **276 (87-101)** | **736** | **284 (58-115)** | **155 (33-81)** | **439** | **1175** |

| Categories / Subcategories | High Tropical Montane Forests | | | Low Tropical Montane Forests | | | |
|---|---|---|---|---|---|---|---|
| | **Chachapoyas** | **Luya** | **All** | **Bongará** | **R. Mendoza** | **All** | **Total** |
| Wounds, healing | 306 (96-105) | 74 (12-32) | 380 | 87 (18-35) | 21 (2-17) | 108 | 488 |
| Chirapa | 26 (2-13) | 97 (26-37) | 123 | 5 (0-5) | 45 (5-22) | 50 | 173 |
| Burns | 2 (0-1) | 67 (20-24) | 69 | 74 (12-31) | 17 (0-15) | 91 | 160 |
| Swelling | 118 (18-53) | 2 (0-2) | 120 | 23 (3-11) | 8 (0-5) | 31 | 151 |
| Itil | - | 12 (0-8) | 12 | 62 (14-25) | 49 (2-32) | 111 | 123 |
| Acne | 1 (0-1) | 15 (1-12) | 16 | 11 (1-5) | 11 (0-10) | 22 | 38 |
| Feet fungus | 1 (0-1) | 8 (0-6) | 9 | 20 (3-11) | 2 (0-1) | 22 | 31 |
| Liver spots | 6 (1-4) | 1 (0-1) | 7 | 1 (0-1) | 2 (0-2) | 3 | 10 |
| Wrinkles | - | - | - | 1 (0-1) | - | 1 | 1 |
| **Respiratory system** | **654 (196-260)** | **178 (48-71)** | **832** | **148 (40-63)** | **110 (25-49)** | **258** | **1090** |
| Cold | 262 (64-111) | 46 (10-20) | 308 | 28 (5-15) | 36 (6-17) | 64 | 372 |
| Flu | 93 (25-40) | 89 (23-40) | 182 | 86 (24-32) | 51 (8-25) | 137 | 319 |
| Cough | 196 (58-75 | 15 (2-7) | 211 | 15 (4-6) | 18 (1-11) | 33 | 244 |
| Tonsillitis | 50 (14-20) | 1 (0-1) | 51 | 8 (1-6) | 2 (0-2) | 10 | 61 |
| Bronchitis | 34 (4-16) | 5 (0-4) | 39 | 4 (0-4) | 2 (0-2) | 6 | 45 |
| Expectorant | 7 (1-4) | 10 (2-6) | 17 | 5 (1-2) | - | 5 | 22 |
| Sinusitis | 3 (0-2) | 10 (2-5) | 13 | - | - | - | 13 |
| Asthma | 9 (1-7) | - | 9 | 1 (0-1) | 1 (0-1) | 2 | 11 |
| Bad breath | - | 1 (0-1) | 1 | 1 (0-1) | - | 1 | 2 |
| Aphonia | - | 1 (0-1) | 1 | - | - | - | 1 |
| **General ailments with unspecific symptoms** | **535 (168-184)** | **248 (76-90)** | **783** | **172 (31-93)** | **111 (21-63)** | **283** | **1066** |
| Fever | 300 (91-108) | 196 (58-75) | 496 | 141 (25-70) | 88 (14-54) | 229 | 725 |
| Headache | 180 (54-67) | 23 (4-11) | 203 | 6 (1-4) | 6 (0-4) | 12 | 215 |
| General malaise | 19 (0-19) | 22 (4-12) | 41 | 20 (0-19) | 12 (0-9) | 32 | 73 |
| Energizing | 36 (9-14) | 7 (2-3) | 43 | 5 (1-3) | 5 (1-2) | 10 | 53 |
| **Pregnancy, birth and puerperium** | **160 (32-71)** | **346 (106-123)** | **506** | **231 (51-91)** | **170 (6-87)** | **401** | **907** |
| Birth | 73 (17-31) | 116 (32-44) | 189 | 85 (20-37) | 54 (4-28) | 139 | 328 |
| Breastfeeding | 53 (8-27) | 107 (33-38) | 160 | 63 (10-27) | 61 (2-42) | 124 | 284 |
| Postpartum | 23 (3-13) | 95 (22-39) | 118 | 72 (17-31) | 53 (0-30) | 125 | 243 |
| Abortive | 11 (1-6) | 28 (4-13) | 39 | 11 (3-4) | 2 (0-2) | 13 | 52 |
| **Nervous system and mental health** | **372 (115-131)** | **222 (59-92)** | **594** | **154 (44-63)** | **107 (14-66)** | **261** | **855** |
| Insomnia | 158 (45-58) | 73 (16-30) | 231 | 55 (5-27) | 29 (3-21) | 84 | 315 |
| Sadness | 106 (32-37) | 86 (20-34) | 192 | 31 (6-14) | 45 (4-27) | 76 | 268 |
| Stress | 93 (29-34) | 50 (8-23) | 143 | 49 (5-22) | 32 (6-18) | 81 | 224 |
| Mental stimulant | 15 (4-6) | 7 (1-4) | 22 | 11 (0-9) | 1 (0-1) | 12 | 34 |
| Epilepsy | - | 6 (1-3) | 6 | 8 (0-4) | - | 8 | 14 |
| **Infections and infestations** | **129 (34-48)** | **300 (81-123)** | **429** | **237 (52-103)** | **79 (7-52)** | **316** | **745** |
| Intestinal parasites | 116 (32-43) | 73 (21-27) | 189 | 94 (12-47) | 44 (1-28) | 138 | 327 |
| Chickenpox | - | 82 (18-42) | 82 | 40 (8-19) | 2 (0-1) | 42 | 124 |
| Fleas | - | 54 (12-23) | 54 | 20 (1-14) | 20 (0-18) | 40 | 94 |
| UTA, leishmaniasis | 4 (0-3) | 14 (1-9) | 18 | 40 (6-20) | 2 (0-1) | 42 | 60 |
| Malaria | 1 (0-1) | 38 (4-20) | 39 | 6 (0-5) | 1 (0-1) | 7 | 46 |
| Insect bite | - | 15 (3-8) | 15 | 13 (2-8) | 5 (0-4) | 18 | 33 |
| Tick bite | 1 (0-1) | 14 (3-6) | 15 | 18 (1-13) | - | 18 | 33 |
| Yellow fever | 7 (1-4) | 5 (0-3) | 12 | 4 (0-4) | 1 (0-1) | 5 | 17 |
| Lice | - | 2 (0-2) | 2 | 1 (0-1) | 1 (0-1) | 2 | 4 |

| Categories / Subcategories | High Tropical Montane Forests | | | Low Tropical Montane Forests | | | |
|---|---|---|---|---|---|---|---|
| | **Chachapoyas** | **Luya** | **All** | **Bongará** | **R. Mendoza** | **All** | **Total** |
| Herpes | - | - | - | - | 3 (0-3) | 3 | 3 |
| Smallpox | - | 3 (0-3) | 3 | - | - | - | 3 |
| Tuberculosis | - | - | - | 1 (0-1) | - | 1 | 1 |
| **Reproductive system and reproductive health** | **117 (30-46)** | **272 (60-121)** | **389** | **144 (41-61)** | **93 (13-47)** | **237** | **626** |
| Menstruation disorders | 101 (26-38) | 177 (35-97) | 278 | 105 (31-43) | 85 (11-42) | 190 | 468 |
| Menopause | - | 36 (7-16) | 36 | 20 (5-12) | 1 (0-1) | 21 | 57 |
| Fertility | - | 26 (4-15) | 26 | 7 (1-4) | 6 (0-5) | 13 | 39 |
| Impotence | - | 21 (4-13) | 21 | 2 (0-1) | 1 (0-1) | 3 | 24 |
| Vaginal infection | 16 (3-9) | 3 (0-3) | 19 | 4 (0-4) | - | 4 | 23 |
| Contraceptive | - | 6 (1-3) | 6 | 5 (0-5) | - | 5 | 11 |
| Aphrodisiac | - | 3 (0-3) | 3 | - | - | - | 3 |
| Sexual infections | - | - | - | 1 (0-1) | - | 1 | 1 |
| **Muscular-skeletal system** | **197 (36-88)** | **188 (53-80)** | **385** | **161 (45-59)** | **72 (19-33)** | **233** | **618** |
| Broken bones | 80 (20-36) | 89 (23-41) | 169 | 62 (16-27) | 43 (5-27) | 105 | 274 |
| Rheumatism | 86 (11-38) | 82 (25-32) | 168 | 63 (18-24) | 23 (7-10) | 86 | 254 |
| Joint sprains | 13 (2-9) | 6 (1-4) | 19 | 11 (3-4) | 1 (0-1) | 12 | 31 |
| Bones hardening | 11 (1-7) | 1 (0-1) | 12 | 13 (0-12) | - | 13 | 25 |
| Hernia | 1 (0-1) | 10 (1-6) | 11 | 12 (1-9) | - | 12 | 23 |
| Muscle cramps | 6 (2-2) | - | 6 | - | - | - | 6 |
| Lumbago | - | - | - | - | 5 (0-5) | 5 | 5 |
| **Sensory system** | **174 (56-61)** | **193 (57-74)** | **367** | **116 (15-53)** | **82 (1-59)** | **198** | **565** |
| Visual disorders | 154 (50-52) | 118 (35-44) | 272 | 64 (7-29) | 38 (0-27) | 102 | 374 |
| Hearing disorders | 20 (5-9) | 75 (22-30) | 95 | 52 (8-25) | 44 (1-32) | 96 | 191 |
| **Blood and cardio-vascular system** | **19 (6-7)** | **135 (37-52)** | **154** | **114 (19-53)** | **65 (5-39)** | **179** | **333** |
| High pressure | 10 (1-7) | 35 (7-20) | 45 | 45 (2-24) | 29 (2-16) | 74 | 119 |
| Anemia | 1 (0-1) | 55 (16-21) | 56 | 30 (2-15) | 17 (1-14) | 47 | 103 |
| Low pressure | - | 22 (7-8) | 22 | 15 (3-11) | 10 (0-5) | 25 | 47 |
| Hemorrhoids | 2 (0-1) | 10 (1-6) | 12 | 16 (3-9) | 6 (1-4) | 22 | 34 |
| Blood infection | 3 (0-3) | 6 (0-6) | 9 | 6 (1-3) | - | 6 | 15 |
| Varicose veins | - | 7 (0-4) | 7 | 2 (0-2) | 3 (0-2) | 5 | 12 |
| Blood purifying | 3 (0-3) | - | 3 | - | - | - | 3 |
| **Dental health** | **12 (2-7)** | **87 (20-36)** | **99** | **58 (9-27)** | **43 (0-22)** | **101** | **200** |
| Toothache | 1 (0-1) | 87 (20-36) | 88 | 57 (8-27) | 43 (0-22) | 100 | 188 |
| Cavity | 8 (0-5) | - | 8 | 1 (0-1) | - | 1 | 9 |
| Gingivitis | 2 (0-2) | - | 2 | - | - | - | 2 |
| Oral sores | 1 (0-1) | - | 1 | - | - | - | 1 |
| **Metabolic system and nutrition** | **22 (1-15)** | **56 (7-31)** | **78** | **54 (16-20)** | **48 (7-30)** | **102** | **180** |
| Weight loss | 11 (0-7) | 56 (7-31) | 67 | 49 (13-20) | 48 (7-30) | 97 | 164 |
| Whet | 11 (1-8) | - | 11 | 5 (0-5) | - | 5 | 16 |
| **Ritual and magic uses** | **43 (10-17)** | **2 (0-2)** | **45** | **50 (6-23)** | **9 (0-8)** | **59** | **104** |

| Categories / Subcategories | | High Tropical Montane Forests | | | Low Tropical Montane Forests | | | |
|---|---|---|---|---|---|---|---|---|
| | | **Chachapoyas** | **Luya** | **All** | **Bongará** | **R. Mendoza** | **All** | **Total** |
| | Remove envy | 30 (8-13) | 2 (0-2) | 32 | 2 (0-1) | 8 (0-8) | 10 | 42 |
| | Curse | 3 (0-3) | - | 3 | 26 (5-11) | 0 (0-0) | 26 | 29 |
| | Bring good luck | - | - | 0 | 22 (0-11) | 1 (0-1) | 23 | 23 |
| | Witchcraft | 9 (0-9) | - | 9 | 0 (0-0) | 0 (0-0) | 0 | 9 |
| | Hallucinogen | 1 (0-1) | - | 1 | 0 (0-0) | 0 (0-0) | 0 | 1 |
| **Endocrine system** | | **4 (0-2)** | **28 (5-16)** | **32** | **29 (4-16)** | **5 (1-3)** | **34** | **66** |
| | Diabetes | 4 (0-2) | 28 (5-16) | 32 | 28 (3-16) | 5 (1-3) | 33 | 65 |
| | Goiter | - | - | - | 1 (0-1) | 0 (0-0) | 1 | 1 |
| **Other uses** | | **63 (16-25** | **59 (17-23)** | **122** | **61 (10-28)** | **34 (3-28)** | **95** | **217** |
| | Hair loss | 48 (12-21) | 32 (8-13) | 80 | 35 (6-18) | 9 (0-8) | 44 | 124 |
| | Cancer | 7 (1-4) | 21 (4-11) | 28 | 25 (3-12) | 24 (2-19) | 49 | 77 |
| | Hangover | 2 (0-2) | 6 (0-5) | 8 | 1 (0-1) | 1 (0-1) | 2 | 10 |
| | Deodorant | 3 (0-3) | - | 3 | - | - | - | 3 |
| | Altitude sickness | 2 (0-2) | - | 2 | - | - | - | 2 |
| | Anesthesia | 1 (0-1) | - | 1 | - | - | - | 1 |

**Appendix 3.2.** Medicinal plants cited in tropical montane forests of northern Peru.

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| **Acanthaceae** | | | | | | | | |
| *Aphelandra cirsioides* Lindau (FC625) | Puccha | Wild | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Lf | Dc | Bt | 1 |
| | | | Digestive system | Diarrhoea | Ap, Lf, St | If, Jc | Or | 5 |
| | | | | Indigestive | Ap, Ep | If | Or | 2 |
| | | | General ailments with unspecific symptoms | Fever | Lf | Fs, If | Kn, Pl | 2 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Lf | If | Or | 1 |
| **Adoxaceae** | | | | | | | | |
| *Sambucus peruviana* Kunth (FC536) | Saúco | Wild | Cultural diseases and disorders | Aire, malaire | Ap, Lf | Fs, If | Bt, Pl, Or | 5 |
| | | | | Antimonia, gentil, viejo, antiguo | Lf | Fs, If | Bt, Kn | 5 |
| | | | | Susto, espanto | Lf | Dc, If | Bt, Kn | 5 |
| | | | | Tijte | Fr | Fs | Pl | 1 |
| | | | Digestive system | Stomach pain | Ap, Lf | If | Or | 3 |
| | | | | Diarrhoea | Lf | If | Or | 1 |
| | | | | Stomach cramps | Bd | If | Or | 1 |
| | | | | Constipation | Lf | If | Or | 1 |
| | | | | Intestinal infection | Ap | If | Or | 1 |
| | | | | Laxative | Ap, Bd, Bk, Fr, Lf, Sd, St | Fs, Dc, If | Or | 32 |
| | | | General ailments with unspecific symptoms | Headache | Lf | Fs, If, Ml | Or, Pl | 68 |
| | | | | Fever | Ap, Bd, Lf, St | Fs, If | Bt, Or | 9 |
| | | | | General malaise | Lf | Dc, If | Bt | 2 |
| | | | Infections and infestations | Intestinal parasites | Lf | If | Or | 2 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | | Chickenpox | Fl, Lf | Fs, If | Bt, Pl | 2 |
| | | | | Fleas | Lf | Fs | Kn | 1 |
| | | | Muscular-skeletal system | Rheumatism | Lf | Fs | Pl | 1 |
| | | | Nervous system and mental health | Mental stimulant | Ap | If | Or | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Lf | Wm | Pl | 1 |
| | | | | Postpartum | Lf | Dc | Bt | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Fr | Dc | Or | 1 |
| | | | Respiratory system | Cold | Fl, Lf | If | Bt, Or | 4 |
| | | | | Cough | Bd, Fl | If | Or | 2 |
| | | | | Bronchitis | Fl | If | Or | 1 |
| | | | | Expectorant | Lf | Ml | Pl | 1 |
| | | | Ritual and magic uses | Curse | Lf | Fs | Kn | 1 |
| | | | Sensory system | Visual disorders | Lf | Fs | Ew | 1 |
| | | | Skin and subcutaneous tissue | Chirapa | Bd, Lf | Dc, Fs, If, Wm | Bt, Kn, Pl | 18 |
| | | | | Wounds, healing | Ap, Lf | Dc, Fs, If | Bt, Pl | 9 |
| | | | | Acne | Lf | Dc, Fs, If | Bt, Kn | 3 |
| | | | | Feet fungus | Bk, Lf | Fs, Wm | Kn, Pl | 3 |
| | | | | Burns | St | If | Bt | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Fl, Lf | If, Ml | Or | 3 |
| | | | | Prostate disorders | Bd | If | Or | 1 |
| *Viburnum triphyllum* Benth. (FC277) | Yushque | Wild | Blood and cardio-vascular system | Hemorrhoids | Ap | If | Bt | 1 |
| | | | Dental health | Toothache | Lf | Fs | Pl | 1 |
| | | | | Oral sores | Ap | If | Bt | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Fr | Wm | Pl | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| **Amaranthaceae** | | | | | | | | |
| *Alternanthera macbridei* Standley (FC278) | Hierba del toro | Wild | Cultural diseases and disorders | Aire, malaire | Lf | Fs | Kn | 2 |
| | | | Digestive system | Diarrhoea | Ap | Ml | Or | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Ap | If | Or | 1 |
| *Alternanthera mexicana* Moq. (FC568) | Lancetilla de huerta | Cultivated | Blood and cardio-vascular system | Hemorrhoids | Lf | Dc, If | Bt, Or | 2 |
| | | | | Anemia | Lf | Jc | Or | 1 |
| | | | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Lf | If | Or | 1 |
| | | | Digestive system | Stomach infection | Ap, Lf | Dc, If | Bt, Or | 13 |
| | | | | Liver disorders | Ap, Lf | If | Or | 5 |
| | | | | Laxative | Ap | If | Or | 2 |
| | | | | Stomach cramps | Lf | If | Or | 1 |
| | | | | Hepatitis | Lf | If | Or | 1 |
| | | | General ailments with unspecific symptoms | Fever | Ap, Lf | Dc, Fs, If, Ml | Bt, Kn, Or, Pl | 19 |
| | | | | General malaise | Ap, Lf | If | Bt, Or | 5 |
| | | | Infections and infestations | Chickenpox | Ap, Lf | Fs, If | Bt, Kn, Or, Pl | 20 |
| | | | | Yellow fever | Ap | If | Vp | 1 |
| | | | | Intestinal parasites | Lf | If | Bt | 1 |
| | | | | Fleas | Lf | Fs | Pl | 1 |
| | | | Muscular-skeletal system | Broken bones | Lf | Dc | Bt | 1 |
| | | | Pregnancy, birth and puerperium | Postpartum | Ap, Lf | Dc, If | Bt, Or, Pl | 5 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Ap, Lf | If | Or | 12 |
| | | | | Menopause | Ap | Ml | Or | 1 |
| | | | Respiratory system | Bronchitis | Lf | Fs | Pl | 1 |
| | | | | Cold | Lf | Fs | Pl | 1 |
| | | | | Cough | Lf | Dc | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Sensory system | Visual disorders | Lf | Dc, If | Ew | 4 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Ap, Lf | Dc, Fs, If | Bt, Or, Pl | 44 |
| | | | | Chirapa | Ap, Lf | Dc, Fs, If | Bt, Kn, Or | 12 |
| | | | | Swellings | Ap, Ep | Fs, If | Bt, Or, Pl, Vp | 11 |
| | | | | Burns | Ap | If | Or | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Ap, Lf | Dc, Fs, If | Bt, Or, Pl, Vp | 57 |
| | | | | Kidney stones | Ap, Lf | If | Bt, Or | 3 |
| *Alternanthera porrigens* (Jacq.) Kuntze (FC556) | Lancetilla de campo | Wild | Digestive system | Stomach infection | Ap | If | Or | 1 |
| | | | Infections and infestations | Chickenpox | Lf | If | Bt | 1 |
| | | | Pregnancy, birth and puerperium | Postpartum | Ap | If | Or | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Ap, Lf | If | Or | 2 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Ap, Lf | If | Bt, Or | 3 |
| | | | Urinary system | Kidney stones | Ap | If | Or | 3 |
| *Beta vulgaris* L. var. *cicla* L. (FC310) | Acelga | Cultivated | Blood and cardio-vascular system | Anemia | Lf | Dc, Ml | Or | 3 |
| | | | Digestive system | Liver disorders | Lf | If | Or | 1 |
| | | | | Laxative | Ro | mL | Or | 1 |
| | | | General ailments with unspecific symptoms | Fever | Ro | If | Or | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Lf | Ml | Or | 1 |
| | | | Reproductive system and reproductive health | Fertility | Lf | If | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| *Beta vulgaris* L. var. *rapa* Dum. (FC281) | Betarraga | Cultivated | Blood and cardio-vascular system | Anemia | Fr, Lf | Dc, Fs, Jc, Ml | Or | 14 |
| | | | Other uses | Hair loss | Lf | If | Bt | 2 |
| | | | Blood and cardio-vascular system | Blood purifying | Ro | Jc | Or | 1 |
| | | | Reproductive system and reproductive health | Impotence | Ep | Fm | Or | 1 |
| | | | Nervous system and mental health | Insomnia | Ro, Lf | If | Or | 3 |
| | | | Pregnancy, birth and puerperium | Breastfeeding | Lf | Dc | Or | 1 |
| | | | Infections and infestations | Malaria | Fr | Fs | Or | 1 |
| | | | Reproductive system and reproductive health | Menopause | Fr | Dc | Or | 2 |
| | | | Pregnancy, birth and puerperium | Birth | Fr | Fs | Or | 1 |
| | | | Metabolic system and nutrition | Weight loss | Fr | Fs | Or | 1 |
| | | | Pregnancy, birth and puerperium | Postpartum | Fr | Dc | Or | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Lf | If | Or | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Lf | If | Or | 1 |
| | | | Sensory system | Visual disorders | Lf | If | Or | 1 |
| *Chenopodium ambrosioides* L. (FC334) | Paico | Wild | Cultural diseases and disorders | Aire, malaire | Ap | If | Or | 2 |
| | | | | Antimonia, gentil, viejo, antiguo | Ap, Lf | Dc, Fs | Bt | 2 |
| | | | | Susto, espanto | Ap | Fs | Kn | 1 |
| | | | Digestive system | Intestinal parasites | Ap, Ep, Lf, | Dc, Fs, If, | Bt, Kn, Or | 101 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | | | Ro, Sd | Jc, Ml | | |
| | | | | Carminative | Lf | Dc, If | Or | 8 |
| | | | | Stomach cramps | Lf | If | Or | 1 |
| | | | | Diarrhoea | Lf | If | Or | 1 |
| | | | | Liver disorders | Ap | If | Or | 1 |
| | | | | Stomach infection | Lf | If | Or | 1 |
| | | | | Laxative | Lf | Dc | Or | 1 |
| | | | | Gastric ulcers | Ap | If | Or | 1 |
| | | | Infections and infestations | Insect bite | Lf | Fs, If | Kn, Or | 2 |
| | | | | Fleas | Ap, Lf | If, Wm | Bt, Or | 2 |
| | | | Metabolic system and nutrition | Whet | Ap | If | Or | 1 |
| | | | Nervous system and mental health | Mental stimulant | Ap, Lf | If | Or | 8 |
| | | | | Insomnia | Bd | If | Or | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Lf | Dc, If | Or | 6 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Lf | Dc | Or | 1 |
| | | | | Menopause | Lf | Dc | Or | 1 |
| | | | Ritual and magic uses | Witchcraft | Lf | If | Or | 1 |
| | | | Sensory system | Visual disorders | Lf | Fs | Ew | 1 |
| | | | Skin and subcutaneous tissue | Chirapa | Ap, Lf | Dc, Fs, If, Ml | Bt, Kn, Or, Pl | 32 |
| | | | | Wounds, healing | Lf | Dc | Bt | 2 |
| | | | | Feet fungus | Lf | Fs | Bt | 1 |
| *Chenopodium murale* L. (FC335) | Shucapaico | Wild | Infections and infestations | Fleas | Lf | Dc | Pl | 1 |
| | | | Nervous system and mental health | Epilepsy | Lf | If | Pl | 1 |
| | | | | Stress | Ap | If | Bt | 1 |
| | | | Skin and subcutaneous tissue | Chirapa | Ap, Ep | Fs, If | Bt, Kn | 3 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| *Chenopodium quinoa* Willd. (FC670) | Quinua | Cultivated | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Sd | Dc, Fm, Ml | Or | 2 |
| | | | Digestive system | Laxative | Sd | If | Or | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Fr | If | Or | 1 |
| *Iresine herbstii* Hook (FC279) | Pashquete | Wild | Cultural diseases and disorders | Dispela | Ap | If | Bt | 2 |
| | | | | Aire, malaire | Lf | If | Or | 1 |
| | | | Digestive system | Liver disorders | Ap, Lf | If | Or | 3 |
| | | | General ailments with unspecific symptoms | Fever | Ap, Lf | Dc, Fs, If | Bt, Kn, Or, Pl | 9 |
| | | | Infections and infestations | Chickenpox | Ap, Lf | Fs, If | Bt, Kn, Pl | 11 |
| | | | | Smallpox | Lf | Dc, Fs | Bt, Kn | 2 |
| | | | Pregnancy, birth and puerperium | Postpartum | Ap, Lf | Fs, If, Ml | Bt, Kn, Or, Pl | 21 |
| | | | Reproductive system and reproductive health | Menopause | Ap | Ml | Pl | 1 |
| | | | Sensory system | Visual disorders | Lf | If | Ew | 1 |
| | | | Skin and subcutaneous tissue | Chirapa | Lf | Fs, If, Ml | Bt, Pl | 12 |
| | | | | Wounds, healing | Ap, Lf | If | Bt | 4 |
| | | | | Itil | Ap | If | Or | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Ap, Lf | If, Wm | Or, Pl | 4 |
| **Amaryllidaceae** | | | | | | | | |
| *Allium cepa* L. (FC551) | Cebolla blanca | Cultivated | Cultural diseases and disorders | Tijte | Ro | Fs, Jc | Pl | 2 |
| | | | Digestive system | Stomach pain | Ro | Wm | In, Or | 2 |
| | | | Nervous system and mental health | Mental stimulant | Ro | Dc | Or | 2 |
| | | | | Stress | Ro | Ml | Or | 1 |
| | | | Other uses | Hair loss | Ro | Ml | Pl | 2 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | | Cancer | Ro | Fs | Or | 1 |
| | | | Sensory system | Hearing disorders | Ro | Wm | Ew | 1 |
| | | | Skin and subcutaneous tissue | Burns | Ro | If | Kn, Pl | 4 |
| | | | Respiratory system | Asthma | Ro | Dc, Jc | Or | 2 |
| | | | | Cough | Ro | Dc | Or | 1 |
| | | | Ritual and magic uses | Curse | Ro | If | Bt | 1 |
| *Allium fistulosum* L. (FC296) | Cebolla china | Cultivated | Cultural diseases and disorders | Aire, malaire | Ro | If | Vp | 1 |
| | | | Digestive system | Stomach pain | Ro | If | Or | 1 |
| | | | Pregnancy, birth and puerperium | Breastfeeding | Ro | Dc | Or | 1 |
| | | | Respiratory system | Cough | Ro | Dc | Or | 1 |
| | | | | Tonsillitis | Ro | Jc | Gg | 1 |
| | | | Skin and subcutaneous tissue | Burns | Ro | Dc, Fs | Bt, Kn, Pl | 5 |
| | | | | Wounds, healing | Ro | Dc | Vp | 1 |
| *Allium sativum* L. (FC287) | Ajo | Cultivated | Blood and cardio-vascular system | High pressure | Ro | Dc | Or | 1 |
| | | | | Anemia | Ro | Dc | Or | 1 |
| | | | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Ro | Fs, Ml | Bt, Nn, Pl | 6 |
| | | | | Tijte | Ro | Ml | Kn | 1 |
| | | | Dental health | Toothache | Ro | Dc, Fs, Ml | Or, Pl | 15 |
| | | | Dental health | Cavity | Ro | Dc | Pl | 1 |
| | | | Digestive system | Liver disorders | Ro | Dc, Fs | Or | 2 |
| | | | | Intestinal parasites | Ro | Dc, Ml | Or | 2 |
| | | | | Diarrhoea | Ro | Dc | Or | 1 |
| | | | Endocrine system | Diabetes | Ro | Dc | Bt | 1 |
| | | | Infections and infestations | Insect bite | Ro | Ml | Pl | 1 |
| | | | | Fleas | Ro | Wm | Bt | 1 |
| | | | | UTA, leishmaniasis | Ro | Ml | Pl | 1 |
| | | | | Chickenpox | Ro | Ml | Pl | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Metabolic system and nutrition | Weight loss | Ro | Fs | Or | 1 |
| | | | Muscular-skeletal system | Rheumatism | Ro | Fm, If, Ml | Bt, Kn, Pl | 4 |
| | | | | Lumbago | Ro | Fm | Kn | 1 |
| | | | Nervous system and mental health | Mental stimulant | Ro | Dc | Or | 2 |
| | | | Pregnancy, birth and puerperium | Postpartum | Ro | Fs | Pl | 1 |
| | | | Reproductive system and reproductive health | Fertility | Ro | Ml | Or | 1 |
| | | | Respiratory system | Cough | Ro | Dc, Fs, If | Or | 8 |
| | | | | Asthma | Ro | Dc, Jc | Or | 3 |
| | | | | Flu | Ro | If | Or | 1 |
| | | | Ritual and magic uses | Curse | Ro | Dc | Kn | 1 |
| | | | Sensory system | Hearing disorders | Ro | Fs | Ew | 1 |
| | | | Skin and subcutaneous tissue | Chirapa | Ro | If, Ml | Bt, Or, Pl | 5 |
| | | | | Wounds, healing | Ro | Ml | Or | 1 |
| **Anacardiaceae** | | | | | | | | |
| *Loxopterygium huasango* Spruce ex Engl. (no voucher specimen) | Hualtaco | Wild | Cultural diseases and disorders | Tijte | Fr, Lf, Lx | Fs, If | Bt, Kn, Pl | 6 |
| | | | General ailments with unspecific symptoms | Headache | Lf | Fs | Pl | 1 |
| | | | Pregnancy, birth and puerperium | Breastfeeding | Fr | Fs, Ml | Or | 2 |
| | | | | Birth | Fl | If | Or | 1 |
| | | | Respiratory system | Cold | Bk | If | Or | 1 |
| *Mangifera indica* L. (FC662) | Mango | Cultivated | Blood and cardio-vascular system | Anemia | Fr | Fs | Or | 1 |
| | | | Respiratory system | Cough | Lf | If | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| *Schinus molle* L. (FC611) | Molle | Wild | Cultural diseases and disorders | Susto, espanto | Lf | If | Bt | 1 |
| | | | Muscular-skeletal system | Rheumatism | Lf | Dc, If, Ml | Bt, Kn, Or, Pl | 5 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Fr | If | Or | 1 |
| *Spondias purpurea* L. (FC661) | Ciruela | Cultivated | Digestive system | Diarrhoea | Bk | If | Or | 1 |
| *Toxicodendron striatum* (Ruiz & Pav.) Kuntze (FC646) | Itil | Wild | Dental health | Toothache | Lf | Ml | Or | 1 |
| | | | Skin and subcutaneous tissue | Itil | Lf | Fs, If | Kn, Or | 2 |
| **Annonaceae** | | | | | | | | |
| *Annona cherimola* Mill. (FC280) | Chirimolla | Cultivated | Cultural diseases and disorders | Aire, malaire | Lf | Fs, If | Bt, Pl | 2 |
| | | | Digestive system | Intestinal parasites | Lf | If | Or | 1 |
| | | | General ailments with unspecific symptoms | Headache | Lf | Fs | Pl | 4 |
| | | | Muscular-skeletal system | Broken bones | Lf | Ml, Wm | Bt, Pl | 2 |
| | | | | Rheumatism | Lf | Wm | Pl | 1 |
| | | | Respiratory system | Expectorant | Lf | Ml | Pl | 1 |
| | | | Urinary system | Prostate disorders | Lf | If | Or | 1 |
| *Annona muricata* L. (FC282) | Guanábana | Cultivated | Blood and cardio-vascular system | High pressure | Lf | If | Or | 1 |
| | | | Other uses | Cancer | Bd, Fr, Lf | If | Or | 7 |
| | | | Urinary system | Prostate disorders | Bd, Lf | If | Or | 15 |
| | | | | Kidney disorders, emollient, diuretic | Bd, Lf | If | Or | 3 |
| *Annona parviflora* Ruiz & Pav. (FC629) | Chirimolla del abuelo, tucílago | Wild | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Lf | Ml | Pl | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| **Apiaceae** | | | | | | | | |
| *Apium graveolens* L. (FC564) | Apio | Cultivated | Cultural diseases and disorders | Pulsario | Lf | If | Or | 1 |
| | | | Digestive system | Stomach pain | Ap, Lf | If | Or | 17 |
| | | | | Diarrhoea | Ap, Lf | If | Or | 8 |
| | | | | Carminative | Ap, Lf | Dc, If | Or | 5 |
| | | | | Laxative | Lf, St | If | Or | 5 |
| | | | | Stomach cramps | Lf, St | If | Or | 5 |
| | | | | Constipation | Lf | If | Or | 1 |
| | | | | Intestinal parasites | St | If | Or | 1 |
| | | | Metabolic system and nutrition | Weight loss | Ap, Lf, St | Dc, If | Or | 5 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Ap, Lf, St | If | Or | 18 |
| | | | | Menopause | Lf | Dc | Or | 1 |
| | | | Sensory system | Hearing disorders | Ap | Dc | Ew | 1 |
| *Arracacia elata* H. Wolff. (FC511) | Racacha del abuelo | Wild | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Ap, Fr, Lf, Ro | Dc, Fs, If, Ml, Wm | Bt, Kn, Pl | 34 |
| | | | | Tacsho | Ro | Fs | Kn | 1 |
| | | | Other uses | Cancer | Fr | Dc | Or | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Lf | Wm | Pl | 2 |
| | | | Skin and subcutaneous tissue | Itil | Lf, Ro | Fs, If, Wm | Bt, Kn | 14 |
| *Arracacia peruviana* (H. Wolff) Constance (FC283) | Zanahoria del gentil | Wild | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Ro | Dc, Fm, Fs, If, Ml | Bt, Or, Pl | 22 |
| | | | | Susto, espanto | Ro | Dc | Bt | 1 |
| | | | Skin and subcutaneous tissue | Chirapa | Ro | Dc, Fs, If | Bt, Kn, Pl | 3 |
| | | | | Feet fungus | Ro | Wm | Kn | 1 |
| *Arracacia xanthorriza* Bancr. (FC549) | Arrachacha blanca | Cultivated | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Lf | If | Bt | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Digestive system | Stomach cramps | Lf | If, Wm | Kn, Or | 2 |
| | | | Skin and subcutaneous tissue | Itil | Fl, Fr, Lf | Fs, If, Ml, Wm | Bt, Kn, Or, Pl | 48 |
| | | | | Chirapa | Lf | Dc | Bt | 1 |
| | | | | Wounds, healing | Lf | If | Or | 1 |
| | | | Urinary system | Prostate disorders | Lf | If | Or | 1 |
| *Coriandrum sativum* L. (FC285) | Culantro | Cultivated | Digestive system | Intestinal parasites | Ap | If | Or | 1 |
| | | | General ailments with unspecific symptoms | Headache | Ap, Lf | Fs, Jc | Or, Pl | 2 |
| | | | Pregnancy, birth and puerperium | Abortive | Lf | Dc | Or | 1 |
| | | | | Birth | Lf | If | Or | 1 |
| *Cuminum cyminum* L. (FC303) | Comino | Cultivated | Dental health | Toothache | Sd | Ml | Bt | 1 |
| | | | Digestive system | Stomach pain | Sd | If | Or | 1 |
| *Daucus carota* L. (FC312) | Zanahoria, zanahoria española | Cultivated | Blood and cardio-vascular system | Anemia | Fr | Dc, Fs | Or | 12 |
| | | | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Fr | If | Pl | 1 |
| | | | Digestive system | Diarrhoea | Fr, Ro | Dc, If | Or | 3 |
| | | | | Constipation | Ro | Dc | Or | 1 |
| | | | General ailments with unspecific symptoms | Headache | Fr | Fs | Pl | 1 |
| | | | Infections and infestations | Malaria | Fr | Fs | Or | 1 |
| | | | Muscular-skeletal system | Broken bones | Ro | Fs | Pl | 1 |
| | | | Nervous system and mental health | Insomnia | Fr, Ro | If | Or | 2 |
| | | | | Mental stimulant | Ro | If | Or | 2 |
| | | | Other uses | Hair loss | Fr | Ml | Bt | 1 |
| | | | Pregnancy, birth and puerperium | Postpartum | Fr, Ro | Dc, If | Or | 3 |
| | | | | Birth | Fr, Lf | Fs, If | Or | 2 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Reproductive system and reproductive health | Menopause | Fr | Dc, Jc | Or | 4 |
| | | | | Menstruation disorders | Fr | Dc | Or | 3 |
| | | | Sensory system | Visual disorders | Fr, Ro | Dc, Fs, If, Jc, Ml | Ew | 76 |
| | | | Skin and subcutaneous tissue | Itil | Lf | Fs, Ml, Wm | Bt, Kn | 8 |
| | | | | Chirapa | Ro | If | Bt | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Ro | Dc | Or | 1 |
| *Daucus montanus* Humb. & Bonpl. ex Schult. (FC286) | Culantrillo, hierba del cuí | Wild | Cultural diseases and disorders | Pulsario | Lf | Fs, If | Or, Pl | 3 |
| | | | | Susto, espanto | Lf | if | Pl | 1 |
| | | | Digestive system | Diarrhoea | Ap | If | Or | 1 |
| | | | Muscular-skeletal system | Broken bones | Lf | Fs | Pl | 1 |
| *Foeniculum vulgare* Mill. (FC582) | Hinojo | Wild | Digestive system | Stomach pain | Ap | If | Or | 17 |
| | | | | Laxative | Ap, Ep, Fl, Lf | If | Or | 16 |
| | | | | Stomach cramps | Lf | If | Or | 4 |
| | | | | Diarrhoea | Lf | If | Or | 2 |
| | | | | Indigestive | Ap | If | Or | 2 |
| | | | | Constipation | Lf | If | Or | 1 |
| | | | Nervous system and mental health | Stress | Lf | If | Or | 2 |
| | | | | Insomnia | Lf | If | Or | 1 |
| | | | Pregnancy, birth and puerperium | Breastfeeding | Lf | If | Or | 8 |
| | | | Pregnancy, birth and puerperium | Birth | Lf | If | Or | 3 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Lf | If | Or | 2 |
| | | | Respiratory system | Cold | Ap, Lf | If | Or | 4 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| *Petroselinum crispus* (Mill.) Fuss (FC288) | Perejil | Cultivated | Blood and cardio-vascular system | High pressure | Ap, Lf, Ro | If, Ml | Or | 17 |
| | | | | Anemia | Lf, Ro | Dc, If | Or | 4 |
| | | | | Blood infection | Ro | If | Or | 1 |
| | | | Cultural diseases and disorders | Aire, malaire | Ap | If | Or | 1 |
| | | | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Ro | If | Or | 1 |
| | | | Cultural diseases and disorders | Shucaque | Ap | If | Bt | 1 |
| | | | Digestive system | Hepatitis | Ro | If | Or | 1 |
| | | | | Laxative | Ro | Ml | Or | 1 |
| | | | General ailments with unspecific symptoms | Headache | Ro | If | Or | 2 |
| | | | General ailments with unspecific symptoms | Fever | Ro | If | Or | 1 |
| | | | Metabolic system and nutrition | Weight loss | Lf, Ro | Dc, If | Or | 2 |
| | | | Nervous system and mental health | Stress | Lf, Ro | If | Or | 2 |
| | | | Nervous system and mental health | Mental stimulant | Ap | If | Or | 1 |
| | | | Other uses | Hangover | Lf | Dc | Or | 1 |
| | | | Pregnancy, birth and puerperium | Postpartum | Ap, Ro | If | Or | 9 |
| | | | | Birth | Lf, Ro | Dc, If, Jc | Or | 8 |
| | | | | Abortive | Ro | Ml | Or | 1 |
| | | | | Breastfeeding | Ro | If | Or | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Ap, Ep, Lf, Ro | Dc, If, Ml | Or | 47 |
| | | | | Menopause | Lf, Ro | Dc, If | Or | 3 |
| | | | | Aphrodisiac | Ap | Fm | Or | 1 |
| | | | Respiratory system | Bronchitis | Lf | If | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Sensory system | Visual disorders | Ap | If | Ew | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Ap, Ro | If | Or | 3 |
| *Peucedanum ostruthium* (L.) W.D.J. Koch (no voucher specimen) | Santa Catalina | Wild | Cultural diseases and disorders | Susto, espanto | Lf | If | Bt, Or | 9 |
| | | | | Tacsho | Lf | Fs | Kn | 1 |
| **Apocynaceae** | | | | | | | | |
| *Asclepias curassavica* L. (FC642) | Venenillo | Wild | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Lf | If | Bt | 2 |
| | | | Cultural diseases and disorders | Tijte | Lx | Fs | Pl | 1 |
| | | | General ailments with unspecific symptoms | Fever | Lf | Dc | Or | 1 |
| | | | Infections and infestations | Insect bite | Lf, Lx | Fs | Pl | 2 |
| | | | Infections and infestations | Lice | Lf | Fs | Pl | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Lf | If | Or | 1 |
| *Metastelma quitense* (K. Schum.) Liede (FC289) | Diegolope | Wild | Cultural diseases and disorders | Susto, espanto | Lf | If | Pl | 1 |
| | | | Muscular-skeletal system | Broken bones | Ap, Lf | Fs, If, Ml | Bt, Pl | 4 |
| **Aquifoliaceae** | | | | | | | | |
| *Ilex guayusa* Loes. (FC359) | Huayusa, guayusa | Cultivated | Cultural diseases and disorders | Susto, espanto | Lf | If | Or | 1 |
| | | | Digestive system | Stomach cramps | Lf | If | Or | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Lf | If | Or | 1 |
| **Araceae** | | | | | | | | |
| *Anthurium coripatense* N.E. Br. ex Engl. (FC657) | Oreja de elefante | Wild | Sensory system | Hearing disorders | Lf | Dc, Jc | Ew | 3 |
| *Anthurium pulchrum* N.E.Br. (FC678) | Bejuncín, moronga | Wild | Cultural diseases and disorders | Pulsario | St | Ml | Pl | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Pregnancy, birth and puerperium | Birth | Bk | If | Or | 1 |
| *Colocasia esculenta* (L.) Schott (FC676) | Bituca | | Pregnancy, birth and puerperium | Breastfeeding | Ro | Sp | Or | 3 |
| *Lemna minor* L. (FC679) | Lenteja de agua | Wild | Blood and cardio-vascular system | Hemorrhoids | Lf | If | Bt | 1 |
| | | | Cultural diseases and disorders | Susto, espanto | Lf | Fs, If | Bt, Or | 18 |
| | | | Infections and infestations | Malaria | Sd | Dc | Or | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Ap | Ml | Pl | 1 |
| *Philodendron kroemeri* Croat. (FC467) | Corpamaque | Wild | Muscular-skeletal system | Broken bones | Lf | Fs, Ml | Pl | 5 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Fr | If | Or | 1 |
| *Philodendron ruizii* Schott (FC468) | Saragondia | Wild | Pregnancy, birth and puerperium | Birth | Ro | If | Bt | 1 |
| *Zantedeschia aethiopica* (L.) Spreng. (FC317) | Cartucho | Cultivated | Respiratory system | Bronchitis | Lf | If | Or | 1 |
| **Arecaceae** | | | | | | | | |
| *Ceroxylon peruvianum* Galeano, Sanín & K. Mejía (FC680) | Chonta | Wild | Reproductive system and reproductive health | Impotence | Bk | Fm | Or | 1 |
| | | | Skin and subcutaneous tissue | Itil | Lf | Fs | Pl | 1 |
| | | | | Wounds, healing | Lx | Fs | Pl | 1 |
| *Mauritia flexuosa* L.f. (FC653) | Aguaje | Wild | Skin and subcutaneous tissue | Wounds, healing | Fr | Jc | Or | 1 |
| **Asparagaceae** | | | | | | | | |
| *Agave americana* L. (FC675) | Penca azul | Wild | Blood and cardio-vascular system | Blood purifying | St | If | Or | 1 |
| | | | Cultural diseases and disorders | Tijte | Fr, Lf, Sd | Fs, Jc, Wm | Kn, Nn, Pl | 19 |
| | | | | Aire, malaire | Lp | Ml | Kn | 1 |
| | | | | Tacsho | Bk | Fs | Pl | 1 |
| | | | Infections and infestations | Fleas | Lf | Ml | Bt | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Pregnancy, birth and puerperium | Birth | Fl, Sd | Fs, If | Or | 2 |
| *Furcraea andina* Trel. (FC669) | Penca blanca, penca verde de Castilla | Wild | Cultural diseases and disorders | Tijte | Lf | If | Pl | 1 |
| | | | Nervous system and mental health | Insomnia | Ap | Fs, If | Nn, Or | 2 |
| **Balanophoraceae** | | | | | | | | |
| *Corynaea crassa* Hook. f. (FC672) | Para para | Wild | Reproductive system and reproductive health | Aphrodisiac | Ap | Fm | Or | 1 |
| | | | | Impotence | Bk | Fm | Or | 1 |
| **Basellaceae** | | | | | | | | |
| *Ullucus tuberosus* Caldas (FC567) | Oyuco | Cultivated | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Ro | Dc, Fm, Fs | Bt, Kn | 4 |
| | | | General ailments with unspecific symptoms | Headache | Ro | Fs | Pl | 3 |
| | | | Pregnancy, birth and puerperium | Birth | Ro | Dc, If, Jc, Ml | Bt, Or | 70 |
| | | | Reproductive system and reproductive health | Fertility | Ro | If, Ml | Or | 2 |
| | | | Sensory system | Visual disorders | Ro | Fs | Ew | 1 |
| **Berberidaceae** | | | | | | | | |
| *Berberis jelskiana* C.K. Schneid. (FC638) | Oltro, palo amarillo | Wild | Infections and infestations | Chickenpox | Lf | Dc | Bt | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Ro | If | Or | 1 |
| **Betulaceae** | | | | | | | | |
| *Alnus acuminata* Kunth (FC576) | Aliso | Wild | Cultural diseases and disorders | Susto, espanto | Bk, Lf, Sd | Dc, Fs, If | Bt, Kn, Or, Pl | 8 |
| | | | | Pulsario | Lf | Ml | Pl | 4 |
| | | | | Antimonia, gentil, viejo, antiguo | Bk, Lf | Fs, If | Bt, Or | 3 |
| | | | Digestive system | Stomach pain | Lf | Fs | Pl | 3 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | | Diarrhoea | Fl, Lf | If | Or | 2 |
| | | | | Stomach infection | Lf | If | Or | 2 |
| | | | | Stomach cramps | Lf | If | Or | 1 |
| | | | General ailments with unspecific symptoms | Headache | Fl, Lf | Fs | Pl | 16 |
| | | | | Fever | Lf | Fs, If | Or, Pl | 4 |
| | | | | General malaise | Lf | Fs | Bt, Pl | 4 |
| | | | Metabolic system and nutrition | Weight loss | Lf | Dc | Vp | 1 |
| | | | Muscular-skeletal system | Broken bones | Bk, Lf | Fs, If, Ml | Bt, Pl | 9 |
| | | | | Rheumatism | Bk, Lf | Dc, Fs, If, Wm | Bt, Or, Pl | 7 |
| | | | | Hernia | Lf, Lx | If, Ml | Or, Pl | 2 |
| | | | | Bones hardening | Lf | Dc | Vp | 1 |
| | | | Reproductive system and reproductive health | Contraceptive | Bk | Fm | Or | 1 |
| | | | | Menstruation disorders | Fl | If | Or | 1 |
| | | | Respiratory system | Cold | Ap, Lf | Fs, If, Wm | Or, Pl | 8 |
| | | | Respiratory system | Tonsillitis | St | If | Gg | 1 |
| | | | Skin and subcutaneous tissue | Swellings | Bk, Lf | Fs, If, Ml | Bt, Pl | 40 |
| | | | | Wounds, healing | Lf | Fs, If | Bt, Pl | 3 |
| | | | | Burns | Lf | Ml | Pl | 2 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Lf | Fs | Pl | 4 |
| | | | | Kidney stones | Lf | Fs | Pl | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| **Bignoniaceae** | | | | | | | | |
| *Tabebuia impetiginosa* (Mart. ex DC.) Standl. (FC570) | Lapacho | Cultivated | Sensory system | Hearing disorders | Lf | Jc | Ew | 1 |
| *Tecoma stans* (L.) Juss. ex Kunth (FC323) | Putquero, pichunche, putquero amarillo | Wild | Cultural diseases and disorders | Susto, espanto | Lf | Dc | Kn | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Ap, Fl, Lf | If | Bt, Or | 7 |
| | | | | Breastfeeding | Lf | If | Or | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Bk | Dc | Or | 1 |
| | | | Respiratory system | Flu | Fl | If | Or | 1 |
| *Tecoma stans* (L.) Juss. ex Kunth var. *sambucifolia* (Kunth) J.R.I.Wood (FC322) | Ciza | Wild | Digestive system | Hepatitis | Lf | If | Or | 1 |
| **Bixaceae** | | | | | | | | |
| *Bixa orellana* L. (FC325) | Achiote | Wild | Nervous system and mental health | Mental stimulant | Ap | If | Or | 1 |
| | | | Other uses | Cancer | Lf | If | Or | 1 |
| | | | Skin and subcutaneous tissue | Burns | Fr, Sd | Dc, If | Bt, Pl | 2 |
| | | | Urinary system | Prostate disorders | Ap, Bd, Fl, Lf | Dc, Fs, If | Or | 45 |
| | | | | Kidney disorders, emollient, diuretic | Ap, Bd, Lf, St | If | Or | 30 |
| | | | | Kidney stones | Ap, Lf | If | Or | 3 |
| **Boraginaceae** | | | | | | | | |
| *Borago officinalis* L. (FC326) | Borraja | Cultivated | Infections and infestations | Chickenpox | Lf | If | Or | 1 |
| | | | Respiratory system | Cough | Ap, Ep, Fl, Lf | If | Or | 21 |
| | | | | Bronchitis | Lf | If | Or | 1 |
| | | | | Cold | Lf | If | Or | 1 |
| **Brassicaceae** | | | | | | | | |
| *Brassica oleracea* L. var. *acephala* DC. (FC320) | Col, repollo | Cultivated | Blood and cardio-vascular system | Anemia | Lf, Sd | Dc, If, Ml | Or | 4 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Cultural diseases and disorders | Pulsario | Lf | Fs | Pl | 1 |
| | | | Digestive system | Diarrhoea | Ap, Lf | Dc, Fs | Or | 3 |
| | | | | Constipation | Lf | Fs | Pl | 1 |
| | | | | Indigestive | Lf | Ml | Pl | 1 |
| | | | | Laxative | Lf | If | Or | 1 |
| | | | | Liver disorders | Ap | If | Or | 1 |
| | | | | Stomach pain | Lf | If | Or | 1 |
| | | | Endocrine system | Diabetes | Lf | If | Or | 1 |
| | | | General ailments with unspecific symptoms | Fever | Lf | If | Or, Pl | 2 |
| | | | Metabolic system and nutrition | Weight loss | Ap | Fs | Or | 1 |
| | | | Nervous system and mental health | Insomnia | Fr | If | Or | 1 |
| | | | Other uses | Hair loss | Lf | If, Jc | Bt, Or | 2 |
| | | | Pregnancy, birth and puerperium | Breastfeeding | Ap, Fr, Lf, St | Dc, Fs, If, Ml | Or | 102 |
| | | | | Postpartum | Lf | Dc, Fs, If | Kn, Or | 3 |
| | | | | Birth | Lf | Dc | Or | 1 |
| | | | Sensory system | Visual disorders | Lf | Fs, If | Ew | 13 |
| | | | | Hearing disorders | Lf | Jc | Ew | 3 |
| | | | Skin and subcutaneous tissue | Burns | Lf, St | Fs, Ml | Pl | 4 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Lf | Fs, If | Or, Pl | 3 |
| *Brassica oleracea* L. var. *italica* Plenck. (FC650) | Brócoli | Cultivated | Blood and cardio-vascular system | Anemia | Ap, Lf | Dc, Ml | Or | 2 |
| | | | Pregnancy, birth and puerperium | Birth | Ap | Wm | Or | 1 |
| *Brassica rapa* L. (FC605) | Mostaza | Wild | Digestive system | Diarrhoea | Fl | If | Or | 1 |
| | | | General ailments with | Fever | Lf, St | If | Bt, Kn | 2 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | unspecific symptoms | | | | | |
| | | | | Headache | Lf | Fs | Pl | 2 |
| | | | Infections and infestations | Fleas | Sd | If | Bt | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Ap | If | Or | 1 |
| *Capsella bursa-pastoris* (L.) Medik. (FC321) | Bolsa del pastor | Wild | Cultural diseases and disorders | Aire, malaire | Ap | Fs | In | 1 |
| | | | Digestive system | Diarrhoea | Ap | If | Or | 2 |
| | | | | Gastric ulcers | Lf | If | Or | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Ap | If | Or | 2 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Ap | If | Or | 2 |
| *Lepidium meyenii* Walp. (FC563) | Maca | Cultivated | Nervous system and mental health | Insomnia | Fr | Dc | Or | 2 |
| | | | Reproductive system and reproductive health | Fertility | Fr | Dd, Fm, If | Or | 5 |
| *Raphanus sativus* L. (FC664) | Rabanito | Cultivated | Blood and cardio-vascular system | High pressure | Fr | Fs | Or | 1 |
| | | | Digestive system | Stomach pain | Fr | Fs | Or | 1 |
| | | | Endocrine system | Diabetes | Fr | Dc | Or | 1 |
| | | | Metabolic system and nutrition | Weight loss | Ap, Fr | Fs, If | Or | 3 |
| *Rorippa nasturtium-aquaticum* (L.) Hayek (FC598) | Berros, verso, versillo | Wild | Blood and cardio-vascular system | Anemia | Lf | If | Or | 1 |
| | | | Dental health | Toothache | Bd | If | Or | 2 |
| | | | Digestive system | Liver disorders | Ap, Ep, Lf | Dc, Fs, If, Jc | Or | 35 |
| | | | | Diarrhoea | Ap | Dc, Fs | Or | 2 |
| | | | | Carminative | Lf | Jc | Or | 1 |
| | | | General ailments with | Fever | Ap, Lf | Dc, Fs | Bt, Kn, Or | 12 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | unspecific symptoms | | | | | |
| | | | Nervous system and mental health | Insomnia | Ap | Dc, If | Or | 2 |
| | | | Other uses | Hair loss | Lf | If, Ml | Bt | 2 |
| | | | Sensory system | Hearing disorders | Ap | If | Ew | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Ap, Lf | Dc, If | Or | 7 |
| | | | | Kidney stones | Ap, Lf | Dc, If | Or | 3 |
| | | | | Prostate disorders | Lf | If | Or | 1 |
| **Bromeliaceae** | | | | | | | | |
| *Ananas comosus* (L.) Merr. (FC509) | Piña | Cultivated | Blood and cardio-vascular system | High pressure | Fr | Ml | Or | 1 |
| | | | Digestive system | Gastric ulcers | Fr | Fs | Or | 3 |
| | | | Metabolic system and nutrition | Weight loss | Bk, Fr, Lf | Dc, If, Jc, Ml | Or | 26 |
| | | | Nervous system and mental health | Insomnia | Fr | If | Or | 1 |
| | | | | Stress | Fr | Dc | Or | 1 |
| | | | Pregnancy, birth and puerperium | Abortive | Fr | Dc | Or | 1 |
| | | | Respiratory system | Cough | Lf | If | Gg | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Bk, Ec, Fr | Dc, If | Or | 13 |
| | | | | Kidney stones | Fr | Fs | Or | 1 |
| *Puya ferruginea* (Ruiz & Pav.) L.B. Sm. (FC327) | Achupa | Wild | Cultural diseases and disorders | Tacsho | Ap | If | Bt, Or | 2 |
| | | | | Pulsario | Lf | Fs | Pl | 1 |
| | | | Muscular-skeletal system | Broken bones | Lf | Fs, If | Pl | 3 |
| | | | Respiratory system | Bronchitis | Lf | Wm | Or | 1 |
| | | | Ritual and magic uses | Remove envy | Ap | Fs | Nn | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| **Burseraceae** | | | | | | | | |
| *Boswellia carteri* Birdw. (no voucher specimen) | Incienso | Cultivated | Cultural diseases and disorders | Aire, malaire | Lf | Wm | Pl | 1 |
| *Bursera graveolens* (Kunth) Triana & Planch. (FC577) | Palo santo | Cultivated | Cultural diseases and disorders | Aire, malaire | Lf | Wm | Pl | 1 |
| | | | | Antimonia, gentil, viejo, antiguo | Lf | Fm | Bt | 1 |
| | | | | Susto, espanto | Bk | If | Vp | 1 |
| | | | Reproductive system and reproductive health | Fertility | Bk | Fm | Or | 1 |
| **Cactaceae** | | | | | | | | |
| *Echinopsis pachanoi* (Britton & Rose) Friedrich & G. D. Rowley (FC342) | San Pedro | Cultivated | Cultural diseases and disorders | Pulsario | Lf | If, Ml | Or, Pl | 2 |
| | | | General ailments with unspecific symptoms | General malaise | Lf | If | Or | 1 |
| | | | Reproductive system and reproductive health | Aphrodisiac | Fl | If | Bt | 1 |
| | | | Ritual and magic uses | Curse | St | If | Or | 2 |
| | | | | Witchcraft | St | If | Or | 1 |
| *Monvillea jaenensis* Rauh & Backeb. (FC671) | Tununo | Wild | Digestive system | Laxative | Lp | Dc | Or | 1 |
| *Opuntia ficus-indica* (L.) Mill. (FC673) | Tuna | Cultivated | Digestive system | Stomach cramps | Lp | If | Or | 1 |
| | | | Endocrine system | Diabetes | Lp | If | Or | 1 |
| | | | Muscular-skeletal system | Rheumatism | Lp | If | Or | 2 |
| | | | Other uses | Cancer | Lp | Dc, If | Bt, Or | 2 |
| | | | Pregnancy, birth and puerperium | Birth | Lp | Fs, If | Or | 4 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Lp | Fs, If | Or | 3 |
| *Stenocereus queretaroensis* (F.A.C. Weber ex Mathes.) Buxb. (FC677) | Pitajaya | Cultivated | Digestive system | Laxative | Fr, Sd | Fs, Ml | Or | 5 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Pregnancy, birth and puerperium | Birth | Fr | Ml | Or | 1 |
| **Calceolariaceae** | | | | | | | | |
| *Calceolaria ballotifolia* Kraenzl. (FC443) | Zapatitos, poleo zapatitos | Wild | Skin and subcutaneous tissue | Liver spots | Ap | Fs | Kn | 2 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Ap | Fs | Kn | 2 |
| *Calceolaria deflexa* Ruiz & Pav. subsp. *deflexa* Ruiz & Pav. (FC444) | Caraña | Wild | Muscular-skeletal system | Joint sprains | Ap | Fs | Pl | 4 |
| *Calceolaria nivalis* Kunth subsp. *cerasifolia* (Benth.) Molau (FC574) | Ucururu, globitos | Wild | Digestive system | Hepatitis | Ap, Lf | If, Jc | Or | 2 |
| | | | | Diarrhoea | Lf | If | Or | 1 |
| | | | General ailments with unspecific symptoms | Fever | Ap, Lf, St | Dc, If, Jc, Ml | Bt, Or | 6 |
| | | | | Headache | Fl | Fs | Pl | 2 |
| | | | Infections and infestations | Yellow fever | Ep, Lf | Dc, If | Or | 2 |
| **Campanulaceae** | | | | | | | | |
| *Centropogon argutus* E. Wimm. (FC636) | Muñoño | Wild | Infections and infestations | Chickenpox | Fl | If | Bt | 1 |
| **Cannaceae** | | | | | | | | |
| *Canna indica* L. (FC328) | Achira | Cultivated | Digestive system | Liver disorders | Ap | If | Or | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Bd, Ro | If, Jc | Or | 2 |
| | | | Skin and subcutaneous tissue | Burns | Lx | Fs | Pl | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Lf | If | Or | 1 |
| **Caprifoliaceae** | | | | | | | | |
| *Astrephia chaerophylloides* (Sm.) DC. (FC471) | Crach-crach | Wild | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Ap | Fs | Kn | 2 |
| | | | Infections and infestations | Insect bite | Ap | Fs | Pl | 1 |
| | | | | Lice | Ap | Fs | Kn | 1 |
| | | | Metabolic system and nutrition | Weight loss | Lf | Dc | Vp | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Skin and subcutaneous tissue | Itil | Lf | Ml | Kn | 1 |
| | | | | Wounds, healing | Ap | Fs | Pl | 1 |
| *Valeriana adscendens* Turcz. (FC329) | Valeriana | Wild | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Ro | Dc | Bt | 1 |
| | | | General ailments with unspecific symptoms | Headache | Ro | If | Or | 1 |
| | | | Nervous system and mental health | Insomnia | Ro | Dc, Fs, If | Nn, Or | 82 |
| | | | | Stress | Ro | Dc, If | Or | 5 |
| | | | Other uses | Cancer | Ro | If | Or | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Ro | If | Or | 1 |
| | | | | Postpartum | Ro | If | Or | 1 |
| | | | Reproductive system and reproductive health | Menopause | Ro | If | Or | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Ro | If | Or | 2 |
| **Caricaceae** | | | | | | | | |
| *Carica crassipetala* V.M.Badillo (FC472) | Shambor | Wild | Digestive system | Laxative | Fr | Ml | Or | 1 |
| | | | Infections and infestations | UTA, leishmaniasis | Lx | Fs | Pl | 1 |
| | | | Pregnancy, birth and puerperium | Postpartum | Lf | Fs | Kn, Or | 4 |
| *Carica papaya* L. (FC330) | Papaya | Cultivated | Blood and cardio-vascular system | Anemia | Fr | Fs, Jc | Or | 2 |
| | | | Cultural diseases and disorders | Tijte | Fr, Lx | Fs | Pl | 3 |
| | | | Digestive system | Intestinal parasites | Sd | If, Ml | Or | 13 |
| | | | | Liver disorders | Fr, Sd | If, Jc, Ml | Or | 7 |
| | | | | Hepatitis | Fr, Sd | If, Jc, Ml | Or | 6 |
| | | | | Constipation | Fr, Sd | Fs, Jc | Or | 4 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | | Laxative | Sd | If, Ml | Or | 4 |
| | | | | Diarrhoea | Fr, Sd | Fs, Jc, Ml | Or | 3 |
| | | | | Indigestive | Fr | Fs | Or | 3 |
| | | | | Gastric ulcers | Fr | Fs, Jc | Or | 2 |
| | | | | Stomach pain | Lx | If | Or | 2 |
| | | | Endocrine system | Diabetes | Fr | If | Or | 1 |
| | | | Infections and infestations | UTA, leishmaniasis | Lf, Lx, Sd | Dc, Fs, Ml | Bt, Pl | 3 |
| | | | | Fleas | Lx | Fs | Bt | 2 |
| | | | | Malaria | Sd | Ml | Or | 1 |
| | | | Metabolic system and nutrition | Weight loss | Fr | Dc, Jc | Or | 3 |
| | | | Nervous system and mental health | Stress | Lx | If | Or | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Fr | Jc | Or | 1 |
| *Carica x heilbornii* V.M. Badillo (FC540) | Papaya de sierra, papayita de huerta | Wild | Cultural diseases and disorders | Tijte | Lx | Fs | Pl | 1 |
| | | | Digestive system | Stomach pain | Fr, St | Fs, If | Or | 2 |
| | | | | Indigestive | Fr | If | Or | 1 |
| | | | General ailments with unspecific symptoms | Headache | St | Fs | Or | 1 |
| | | | Nervous system and mental health | Stress | Fr | If | Or | 1 |
| | | | Pregnancy, birth and puerperium | Breastfeeding | Fr | If | Or | 1 |
| | | | Respiratory system | Cough | Fr | If | Or | 1 |
| *Vasconcellea microcarpa* (Jacq.) A. DC. (FC331) | Maushán | Cultivated | Digestive system | Stomach pain | Fl, Fr, Lf | If | Or | 3 |
| | | | Pregnancy, birth and puerperium | Abortive | Lx | If | Or | 1 |
| | | | Respiratory system | Flu | Fr | If | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| **Caryophyllaceae** | | | | | | | | |
| *Dianthus caryophyllus* L. (FC651) | Clavel | Cultivated | Blood and cardio-vascular system | High pressure | Fl | If, Ml | Or | 2 |
| | | | General ailments with unspecific symptoms | Fever | Ap | If | Or | 1 |
| | | | Nervous system and mental health | Sadness | Fl, Lf | If | Or | 15 |
| **Celastraceae** | | | | | | | | |
| *Maytenus macrocarpa* (Ruiz & Pav.) Briq. (FC350) | Chuchuasi | Cultivated | Cultural diseases and disorders | Tijte | Bk | If | Or | 1 |
| | | | Infections and infestations | Malaria | Bk | If | Or | 1 |
| | | | Muscular-skeletal system | Hernia | Bk | If | Pl | 1 |
| | | | | Muscle cramps | Ap | Fm | Or | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Bk | If | Or | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Bk, St | Fm, If | Or | 3 |
| | | | | Fertility | Bk | Fm | Or | 1 |
| | | | | Impotence | Bk | Fm | Or | 1 |
| | | | Respiratory system | Cold | Ap | If | Or | 3 |
| | | | | Flu | Bk | Fm | Or | 1 |
| | | | Urinary system | Prostate disorders | Bk | Fm | Or | 2 |
| **Chloranthaceae** | | | | | | | | |
| *Hedyosmum racemosum* (Ruiz & Pav.) G. Don (FC668) | Pacurrapra, moche | Wild | General ailments with unspecific symptoms | Fever | Lf | Dc | Pl | 1 |
| *Hedyosmum scabrum* (Ruiz & Pav.) Solms (FC626) | Pirgay, pitillo, huacamuyo | Wild | Blood and cardio-vascular system | High pressure | Lf | If | Or | 1 |
| | | | Cultural diseases and disorders | Susto, espanto | Lf | Dc | Or, Pl | 2 |
| | | | Digestive system | Laxative | St | If | Or | 1 |
| | | | Muscular-skeletal system | Rheumatism | Lf | Wm | Pl | 1 |
| | | | Pregnancy, birth and puerperium | Breastfeeding | Fr, Lf | Dc, If, Ml | Or | 26 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | | Birth | Lf | Dc | Or | 1 |
| | | | | Postpartum | Ro | Dc | Bt | 1 |
| **Clusiaceae** | | | | | | | | |
| *Clusia pavonii* Planch. & Triana (FC332) | Tola del picaflor | Wild | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Lf | If | Bt | 1 |
| **Commelinaceae** | | | | | | | | |
| *Commelina fasciculata* Ruiz & Pav. (FC336) | Cuelinga | Wild | Cultural diseases and disorders | Pulsario | Lf | If | Or | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Lf | If | Or | 2 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Ap | If | Or | 1 |
| **Compositae** | | | | | | | | |
| *Acanthoxanthium spinosum* (L.) Fourr. (FC290) | Juan Alonso | Wild | Muscular-skeletal system | Joint sprains | Lf | If | Bt | 1 |
| *Achyrocline alata* (Kunth) DC. (FC294) | Huira huira, vira vira, postersatra, fostersacha | Wild | Cultural diseases and disorders | Pulsario | Lf | Ml | Pl | 1 |
| | | | Digestive system | Liver disorders | Ap | If | Or | 3 |
| | | | Muscular-skeletal system | Broken bones | Ap | Ml | Pl | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Lf | If | Or | 1 |
| | | | Respiratory system | Cough | Lf | If | Or | 2 |
| | | | | Asthma | Lf | If | Or | 1 |
| | | | | Bronchitis | Lf | If | Or | 1 |
| | | | Skin and subcutaneous tissue | Swelling | Ap, Lf | Fs, If | Bt, Or, Pl | 4 |
| | | | | Burns | Lf | Ml | Pl | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Ap, Lf | If | Or | 8 |
| | | | | Prostate disorders | Ap | If | Or | 1 |
| *Achyrocline satureioides* (Lam.) DC. (FC516) | Llamaniú | Wild | Urinary system | Kidney disorders, emollient, diuretic | Ap | If | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| *Acmella oppositifolia* (Lam.) R. K. Jansen (FC291) | Botoncillo negro | Wild | Skin and subcutaneous tissue | Chirapa | Lf | If | Kn | 1 |
| *Ageratina exsertovenosa* (Klatt) R.M. King & H. Rob. (FC469) | Cruzsacha | Wild | Cultural diseases and disorders | Susto, espanto | Ap, Lf | Fs, If | Bt, Kn | 5 |
| | | | | Shadow | Ap | Fs | Kn | 1 |
| | | | Dental health | Toothache | Lf | Fs | Or | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Lf, Ro | If | Or | 2 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Lf | If | Or | 1 |
| | | | Ritual and magic uses | Remove envy | Lf | Dc | Bt | 2 |
| *Ageratina glechonophylla* (Less.) R.M. King & H.Rob. (FC293) | Guarme guarme | Wild | Cultural diseases and disorders | Pulsario | Fl, Lf | Fs, If | Bt, Or | 6 |
| | | | | Aire, malaire | Lf | If | Or | 1 |
| | | | Digestive system | Diarrhoea | Lf | If | Or | 2 |
| | | | | Indigestive | Ap | If | Or | 1 |
| | | | | Stomach infection | Ap | If | Or | 1 |
| | | | Muscular-skeletal system | Rheumatism | Ap | Fs | Kn | 1 |
| | | | Pregnancy, birth and puerperium | Abortive | Lf | If | Or | 1 |
| | | | | Birth | Lf | If | Or | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Lf | If | Or | 1 |
| | | | Skin and subcutaneous tissue | Itil | Lf | Fs | Kn | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Ap | If | Or | 1 |
| *Ageratum conyzoides* (L.) L. (FC292) | Subsacha blanca | Wild | Digestive system | Diarrhoea | Ap, Lf | If | Or | 2 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Lf | Ml | Pl | 2 |
| *Ambrosia arborescens* Mill. (FC295) | Marco grande | Wild | General ailments with | Fever | Ap | If | Bt | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | unspecific symptoms | | | | | |
| | | | Infections and infestations | Chickenpox | Lf | Fs | Kn | 1 |
| | | | | Tick bite | Lf | Ml | Nn | 1 |
| | | | Respiratory system | Cold | Ap | Wm | Pl | 1 |
| | | | Skin and subcutaneous tissue | Feet fungus | Ep, Lf | Dc | Bt | 1 |
| *Ambrosia peruviana* Willd. (FC297) | Marco | Wild | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Lf | Fs | Kn | 4 |
| | | | | Susto, espanto | Lf | Dc | Bt | 3 |
| | | | | Pulsario | Lf | Fs | Bt | 1 |
| | | | | Tacsho | Lf | Fs | Pl | 1 |
| | | | Digestive system | Intestinal parasites | Ap | Fs | Or | 1 |
| | | | General ailments with unspecific symptoms | Fever | Lf | If | Bt | 1 |
| | | | | General malaise | Lf | Dc | Bt | 1 |
| | | | Infections and infestations | Tick bite | Ap, Ep, Lf, St | Dc, Fs, If, Jc, Ml | Bt, Kn, Nn, Pl | 30 |
| | | | | Malaria | Lf, Sd | Fs, If | Kn, Or | 5 |
| | | | | Insect bite | Lf | Dc, Fs | Bt, Kn | 3 |
| | | | Muscular-skeletal system | Rheumatism | Lf | Dc, Fs, If, Jc, Wm | Bt, Kn, Pl | 8 |
| | | | Pregnancy, birth and puerperium | Abortive | Ap, Lf | Dc, If | Or | 4 |
| | | | | Postpartum | Lf | Fs | Pl | 1 |
| | | | Ritual and magic uses | Curse | Lf | Fs | Kn | 1 |
| | | | | Remove envy | Lf | If | Bt | 1 |
| *Artemisia absinthium* L. (FC298) | Ajenjo | Wild | Blood and cardio-vascular system | Blood infection | Lf | Fs | Or | 1 |
| | | | Cultural diseases and disorders | Aire, malaire | Lf | If | Kn | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | | Antimonia, gentil, viejo, antiguo | Ep | Ml | Pl | 1 |
| | | | | Susto, espanto | Lf | If | Bt | 1 |
| | | | Dental health | Toothache | Lf | Fs, If, Ml | Bt, Or | 3 |
| | | | Digestive system | Stomach cramps | Ap, Lf | If | Or | 7 |
| | | | | Liver disorders | Ap, Lf | If | Or | 4 |
| | | | | Hepatitis | Lf | If | Or | 2 |
| | | | | Intestinal parasites | Lf | If, Jc | Or | 2 |
| | | | | Carminative | Lf | If | Or | 1 |
| | | | | Diarrhoea | Ep | If | Or | 1 |
| | | | | Stomach pain | Lf | If | Or | 1 |
| | | | General ailments with unspecific symptoms | Fever | Ap | If | Bt | 1 |
| | | | Infections and infestations | Malaria | Lf | If | Or | 2 |
| | | | Pregnancy, birth and puerperium | Birth | Ap, Bd, Lf | If | Or | 3 |
| | | | | Postpartum | Lf | If | Vp | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Ap, Ep, Lf | If | Or | 9 |
| | | | | Menopause | Ap | Ml | Pl | 1 |
| | | | Respiratory system | Cold | Ap, Lf | If | Or | 8 |
| | | | | Flu | Ap, Lf | If | Or | 2 |
| *Austroeupatorium inulaefolium* (Kunth) R.M. King & H. Rob (FC299) | Curmicuna, curomicuna, llashaquirpana | Wild | Cultural diseases and disorders | Susto, espanto | Ap, Lf | Fs, If | Bt, Kn, Or | 6 |
| | | | Digestive system | Stomach pain | Lf | If | Or | 2 |
| | | | Infections and infestations | UTA, leishmaniasis | Lx | Fs | Bt | 1 |
| | | | Muscular-skeletal system | Broken bones | Lf | Ml | Pl | 1 |
| | | | Respiratory system | Cold | Ap | If | Bt | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Ap | Fs, If | Bt, Kn, Pl | 4 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | | Chirapa | Lf | If | Bt | 1 |
| *Baccharis auriculigera* Hieron. (FC666) | Tayango | Wild | Cultural diseases and disorders | Susto, espanto | Lf | Dc | Kn | 1 |
| | | | Infections and infestations | UTA, leishmaniasis | Bk, Lf | Fm, Wm | Kn, Pl | 2 |
| | | | | Insect bite | Lf | If | Or | 1 |
| | | | Muscular-skeletal system | Rheumatism | Lf | Wm | Bt, Kn | 2 |
| | | | Muscular-skeletal system | Broken bones | Lf | If | Bt | 1 |
| *Baccharis genistelloides* (Lam.) Pers. (FC538) | Carqueja, tres esquinas | Wild | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Lf | Dc, Fs, If | Bt, Kn | 3 |
| | | | | Susto, espanto | Lf | If | Bt, Or | 3 |
| | | | Digestive system | Liver disorders | Ap, Ep, Lf | If | Or | 18 |
| | | | | Diarrhoea | Ap, Lf | If | Or | 3 |
| | | | | Hepatitis | Lf | If | Or | 3 |
| | | | | Gastric ulcers | Ap, Lf | If | Or | 2 |
| | | | | Laxative | Lf | If | Or | 1 |
| | | | Endocrine system | Diabetes | Sd | If | Or | 1 |
| | | | General ailments with unspecific symptoms | Fever | Ap | If | Bt | 1 |
| | | | Infections and infestations | Yellow fever | Ap, Ep | If | Bt, Or | 2 |
| | | | | Malaria | Lf | If | Or | 1 |
| | | | | UTA, leishmaniasis | Lf | In | Bt | 1 |
| | | | Other uses | Cancer | Lf | If | Or | 1 |
| | | | Reproductive system and reproductive health | Fertility | Lf | If | Or | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Ap | Dc | Bt | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Ap, Lf | If | Or | 8 |
| | | | | Kidney stones | Ap | If | Or | |
| | | | | Prostate disorders | Bd | If | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| *Baccharis latifolia* (Ruiz & Pav.) Pers. (FC284) | Chillca, camcam | Wild | Cultural diseases and disorders | Susto, espanto | Lf | If | Bt | 3 |
| | | | | Aire, malaire | Lf | Fs | Pl | 1 |
| | | | | Pulsario | Lf | Wm | Pl | 1 |
| | | | Digestive system | Stomach pain | Ap, Lf, St | Fs, If, Ml | Or, Pl | 10 |
| | | | | Diarrhoea | Bd, Lf | Fs, If | Or, Pl | 5 |
| | | | | Stomach cramps | Lf | Dc, If | Or | 2 |
| | | | | Indigestive | Lf | If | Or | 1 |
| | | | | Laxative | Lf | If | Or | 1 |
| | | | General ailments with unspecific symptoms | General malaise | Lf | Fs | Pl | 8 |
| | | | General ailments with unspecific symptoms | Headache | Lf | Fs | Pl | 1 |
| | | | Infections and infestations | Lice | Lf | Fs, If | Bt, Pl | 2 |
| | | | | Insect bite | Lf | Wm | Kn | 1 |
| | | | | Malaria | Lf | If | Bt, Or, Pl | 1 |
| | | | Muscular-skeletal system | Rheumatism | Lf | Dc, Fs, If, Ml, Wm | Bt, Pl, Vp | 24 |
| | | | Muscular-skeletal system | Broken bones | Lf | Fs, Ml | Kn, Or, Pl | 5 |
| | | | Pregnancy, birth and puerperium | Postpartum | Lf | Dc, Fs, If | Bt, Or | 3 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Lf | Dc, If | Or | 2 |
| | | | | Menopause | Ro | If | Or | 1 |
| | | | Respiratory system | Cold | Ap, Lf | Fs, If, Ml, Wm | Bt, Kn, Or, Pl | 30 |
| | | | | Flu | Ap, Lf | Fs, If | Bt, Or, Pl | 8 |
| | | | Sensory system | Hearing disorders | Lf | Fs, If, Ml | Ew | 4 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Skin and subcutaneous tissue | Swelling | Lf | Fs, Ml | Pl | 5 |
| | | | | Feet fungus | Lf | If | Pl | 1 |
| | | | | Wounds, healing | Lf | Fs | Pl | 1 |
| | | | Urinary system | Kidney stones | Lf | If | Or | 1 |
| *Baccharis salicifolia* (Ruiz & Pav.) Pers. (FC665) | Santo Domingo | Wild | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Lf | Ml | Pl | 1 |
| *Barnadesia dombeyana* Less. (FC620) | Cashacusma | Wild | Urinary system | Prostate disorders | Lf | If | Or | 1 |
| *Bidens andicola* Kunth (FC639) | Cadillo del abuelo | Wild | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Ap, Lf | If, Ml | Or, Pl | 3 |
| *Bidens pilosa* L. (FC533) | Cadillo | Wild | Digestive system | Diarrhoea | Ap | If | Or | 3 |
| | | | | Liver disorders | Ap | If | Bt | 1 |
| | | | | Stomach cramps | Lf | If | Or | 1 |
| | | | General ailments with unspecific symptoms | General malaise | Lf | If | Or | 1 |
| | | | Other uses | Hair loss | Ap, Ro | Dc, If | Bt | 3 |
| | | | Pregnancy, birth and puerperium | Birth | Fr, Lf | Dc, If | Or | 2 |
| | | | | Postpartum | Lf | Fs, Wm | Bt, Or | 2 |
| | | | Reproductive system and reproductive health | Fertility | Lf | If | Or | 1 |
| | | | | Menstruation disorders | Ap | If | Or | 1 |
| | | | | Vaginal infection | Lf | If | Bt | 1 |
| | | | Sensory system | Visual disorders | Lf | Fs | Ew | 2 |
| | | | Skin and subcutaneous tissue | Chirapa | Ep | Fs | Or | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Ap, Ep, Fr, Lf, Ro, St | If | Bt, Or | 44 |
| | | | | Kidney stones | Ap, Lf | If | Or | 4 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | | Prostate disorders | Ap, Lf | If | Or | 4 |
| *Calendula officinalis* L. (FC300) | Flor del sol | Cultivated | Cultural diseases and disorders | Aire, malaire | Ap | If | Or | 1 |
| | | | General ailments with unspecific symptoms | Headache | Ap | If | Or | 1 |
| | | | Nervous system and mental health | Mental stimulant | Fl | Fs | Pl | 1 |
| | | | | Stress | Ap | If | Or | 1 |
| *Cichorium intybus* L. (FC301) | Achicoria | Wild | Blood and cardio-vascular system | Anemia | Lf | Dc, If | Or | 2 |
| | | | | Hemorrhoids | Ap | Dc | En | 2 |
| | | | | High pressure | Ro | If | Or | 1 |
| | | | Digestive system | Liver disorders | Ap, Lf, Ro | Dc, Fs, If, Jc | Or | 55 |
| | | | | Hepatitis | Lf, Ro | If, Jc | Or | 5 |
| | | | | Gastric ulcers | Lf | Dc, Fs | Or | 2 |
| | | | | Intestinal parasites | Ap | If | Or | 2 |
| | | | | Diarrhoea | Lf | If | Or | 1 |
| | | | | Indigestive | Lf | If | Or | 1 |
| | | | | Stomach pain | Ro | If | Or | 1 |
| | | | General ailments with unspecific symptoms | Fever | Ap, Ep, Lf, Ro, St | Dc, If, Jc, Ml | Or | 27 |
| | | | | Headache | Ro | If | Or | 1 |
| | | | Infections and infestations | Malaria | Ap, Lf | Dc, If, Ml | Or | 4 |
| | | | | Chickenpox | Ro | Dc | Bt | 1 |
| | | | | Fleas | Lf | Dc | Bt | 1 |
| | | | | Yellow fever | Ro | If | Or | 1 |
| | | | Metabolic system and nutrition | Weight loss | Lf | Fs | Or | 1 |
| | | | Nervous system and mental health | Insomnia | Lf | If | Or | 1 |
| | | | Reproductive system and reproductive health | Fertility | Bk | Fm | Or | 1 |
| | | | | Menopause | Ap | Ml | Pl | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Respiratory system | Cold | Ap, Ro | If | Or | 3 |
| | | | Skin and subcutaneous tissue | Swelling | Lf, Ro | Fs, If | Or, Pl | 2 |
| | | | | Chirapa | Ro | If | Bt | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Lf, Ro | Dc, If, Ml | Or | 6 |
| | | | | Kidney stones | Ap, Lf | Dc, If | Or | 2 |
| *Conyza bonariensis* (L.) Cronquist (FC624) | Lluilanza | Wild | Cultural diseases and disorders | Pulsario | Lf | Fs, If | Or, Pl | 4 |
| | | | | Susto, espanto | Lf | If | Pl | 1 |
| | | | Muscular-skeletal system | Broken bones | Lf | Ml | Pl | 2 |
| | | | | Hernia | Lf | Ml | Pl | 1 |
| | | | Nervous system and mental health | Stress | Fl | If | Or | 1 |
| | | | Pregnancy, birth and puerperium | Postpartum | Lf | Fs | Pl | 1 |
| *Cynara scolymus* L. (FC674) | Alcachofa | Cultivated | Digestive system | Liver disorders | Ap, Fr, Lf | If | Or | 4 |
| | | | | Gallbladder | Lf | If | Or | 1 |
| | | | Endocrine system | Diabetes | Fr, Lf | If | Or | 1 |
| | | | Infections and infestations | Malaria | Lf | Jc | Or | 1 |
| | | | Skin and subcutaneous tissue | Liver spots | Lf | If | Or | 1 |
| *Dendrophorbium usgorense* (Cuatrec.) C. Jeffrey (FC537) | Chamca | Wild | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Lf | If | Pl | 1 |
| | | | Other uses | Cancer | Lf | Dc | Or | 1 |
| | | | Respiratory system | Cold | Lf | Fs | In | 1 |
| *Dorobaea* sp. (FC618) | Contoya | Wild | Cultural diseases and disorders | Tijte | Lx | Fs | Pl | 1 |
| | | | Infections and infestations | UTA, leishmaniasis | St | If | Pl | 1 |
| | | | Sensory system | Hearing disorders | Fl | If | Ew | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Lf | Fs | Pl | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| *Erigeron leptorhizon* DC. (FC302) | Guar guar | Wild | Nervous system and mental health | Stress | Ap | If | Or | 1 |
| *Gamochaeta americana* (Mill.) Wedd. (FC304) | Lechuguilla | Wild | Infections and infestations | Fleas | Lf | Fs | Pl | 3 |
| | | | Other uses | Cancer | Lf | Jc | Or | 1 |
| | | | Sensory system | Visual disorders | Ap, Lf | Fs | Ew | 10 |
| | | | Skin and subcutaneous tissue | Burns | Lf | Fs | Pl | 1 |
| *Gnaphalium spicatum* Mill. (FC305) | Sachafósforo | Wild | Digestive system | Diarrhoea | Lf | If | Or | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Lf | If | Bt | 1 |
| *Gynoxys pillahuatensis* Cuatrec. (FC617) | Jacumo | Wild | Infections and infestations | Chickenpox | Ap | If | Bt | 1 |
| *Helianthus annuus* L. (FC306) | Girasol | Cultivated | Cultural diseases and disorders | Susto, espanto | Lf | If | Bt | 1 |
| | | | Respiratory system | Cold | Sd | Wm | Or | 2 |
| *Lactuca sativa* L. (FC324) | Lechuga | Cultivated | Blood and cardio-vascular system | High pressure | Fr, Lf | Fs | Or | 1 |
| | | | Infections and infestations | Fleas | Ap | Jc | Pl | 1 |
| | | | Metabolic system and nutrition | Weight loss | Fr, Lf | Fs | Or | 3 |
| | | | Muscular-skeletal system | Broken bones | Lf | If | Bt | 1 |
| | | | Nervous system and mental health | Insomnia | Lf, Ro, St | Fs, If | Or | 10 |
| | | | Pregnancy, birth and puerperium | Breastfeeding | Ap, Lf | Dc, Jc | Or | 3 |
| | | | Reproductive system and reproductive health | Menopause | Ep | Ml | Pl | 1 |
| | | | Skin and subcutaneous tissue | Burns | Ep | Jc | Pl | 1 |
| | | | | Wounds, healing | Ap | Jc | Or | 1 |
| | | | Urinary system | Prostate disorders | Ap | Ml | Pl | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| *Liabum* sp. (FC307) | Cizo | Wild | Blood and cardio-vascular system | Blood infection | Lf | Dc | Bt | 1 |
| | | | Pregnancy, birth and puerperium | Breastfeeding | Ap | If | Or | 1 |
| | | | Skin and subcutaneous tissue | Chirapa | Lf | If | Bt, Or | 2 |
| *Matricaria recutita* L. (FC569) | Manzanilla | Cultivated | Blood and cardio-vascular system | High pressure | Ep | If | Or | 1 |
| | | | | Low pressure | Lf | Dc | Bt | 1 |
| | | | Cultural diseases and disorders | Susto, espanto | Ap, Lf | Dc, Fs, If | Bt, Or | 5 |
| | | | | Aire, malaire | Ap | If | Or | 1 |
| | | | | Pulsario | Fl | If | Or | 1 |
| | | | Digestive system | Stomach pain | Ap, Ep | If | Or | 101 |
| | | | | Stomach cramps | Ap, Lf | If | Or | 30 |
| | | | | Indigestive | Ap | If | Or | 8 |
| | | | | Carminative | Ap, Lf | Dc, If | Or | 6 |
| | | | | Diarrhoea | Ap, Lf | Dc, If | Or | 6 |
| | | | | Acidity | Ap | If | Or | 1 |
| | | | | Constipation | Lf | If | Or | 1 |
| | | | General ailments with unspecific symptoms | Fever | Ap, Lf | If | Or | 3 |
| | | | | Headache | Ap | If | Or | 1 |
| | | | Muscular-skeletal system | Broken bones | Lf | Dc | Bt | 1 |
| | | | Nervous system and mental health | Insomnia | Ap, Fl, Lf | Fs, If | Bt, Nn, Or | 30 |
| | | | Nervous system and mental health | Stress | Ap, Fl | Fs, If | Bt, Nn, Or | 6 |
| | | | Other uses | Hair loss | Lf | Dc | Bt | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Ap, Lf | Dc, If | Or | 17 |
| | | | Pregnancy, birth and puerperium | Postpartum | Lf | If | Or | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Ap, Lf | Dc, If | Or | 4 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | | Impotence | Lf | If | Or | 1 |
| | | | | Vaginal infection | Ap | If | Bt | 1 |
| | | | Respiratory system | Cold | Ap | If | Or | 9 |
| | | | Respiratory system | Flu | Ap, Lf | Fs, If | Or | 6 |
| | | | Ritual and magic uses | Bring good luck | Fl | If | Bt | 1 |
| | | | Sensory system | Visual disorders | Ap, Ep, Fl, Lf | Dc, If | Ew | 165 |
| | | | Sensory system | Hearing disorders | Ap | If | Ew | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Ap | If | Bt, Or | 11 |
| | | | | Acne | Ap, Lf | Dc, If | Bt, Or, Vp | 6 |
| | | | | Swelling | Ap | If | Bt | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Lf | If | Bt | 1 |
| *Monactis jelskii* Hieron. (FC627) | Nispasiana | Wild | Digestive system | Diarrhoea | Lf | If | Or | 1 |
| | | | Endocrine system | Diabetes | Bd | If | Or | 1 |
| | | | General ailments with unspecific symptoms | Headache | Lf | Fs | Pl | 1 |
| | | | Muscular-skeletal system | Broken bones | Lf | Fs | Pl | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Lf | Fs | Pl | 1 |
| *Munnozia senecionidis* Benth. (FC610) | Hicaco | Wild | Cultural diseases and disorders | Aire, malaire | Lf | If | Or | 1 |
| | | | Nervous system and mental health | Stress | Ap, Lf | If | Or | 2 |
| | | | Skin and subcutaneous tissue | Chirapa | Lf | Dc, If | Bt, Pl | 5 |
| *Ophryosporus peruvianus* R.M. King & H. Rob (FC308) | Rumusauana | Wild | Cultural diseases and disorders | Susto, espanto | Ap | If | Or | 1 |
| | | | Muscular-skeletal system | Broken bones | Ap | If | Bt | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Nervous system and mental health | Stress | Ap | If | Or | 1 |
| *Philoglossa peruviana* DC. (FC470) | Callirrosa | Wild | Cultural diseases and disorders | Tacsho | Lf | Fs | Kn, Pl | 3 |
| | | | | Shadow | Ap | Fs | Kn | 1 |
| | | | | Susto, espanto | Lf | If | Bt | 1 |
| | | | General ailments with unspecific symptoms | Fever | Ep | If | Or | 1 |
| | | | Muscular-skeletal system | Rheumatism | Ap | Dc | Vp | 1 |
| *Porophyllum ruderale* (Jacq.) Cass. (FC309) | Hierba del gallinazo, shucarruda | Wild | Cultural diseases and disorders | Aire, malaire | Ap, Lf | If | Bt, Or | 5 |
| | | | | Antimonia, gentil, viejo, antiguo | Ap, Lf | Dc, Fm | Bt | 2 |
| | | | | Negative vibes | Lf | Fs | Kn | 1 |
| | | | Nervous system and mental health | Epilepsy | Lf | If, Ml | Or | 2 |
| | | | Reproductive system and reproductive health | Contraceptive | Lf | If | Or | 1 |
| | | | Ritual and magic uses | Curse | Lf | If | Bt | 1 |
| *Smallanthus glabratus* (DC). H. Rob. (FC521) | Yacónsacha | Wild | Cultural diseases and disorders | Pulsario | Lf | Fs, If, Ml | Pl | 5 |
| | | | Muscular-skeletal system | Broken bones | Lf | Fs | Pl | 1 |
| | | | Skin and subcutaneous tissue | Swelling | Lf | Fs | Pl | 1 |
| *Smallanthus sonchifolius* (Poepp.) H. Rob. (FC311) | Yacón | Cultivated | Blood and cardio-vascular system | High pressure | Ro | Jc | Or | 1 |
| | | | | Varicose veins | Ro | Jc | Pl | 1 |
| | | | Cultural diseases and disorders | Susto, espanto | Ro | If | Bt | 1 |
| | | | Digestive system | Constipation | Ro | Fs | Or | 1 |
| | | | Endocrine system | Diabetes | Ro | Dc, Fs, If, Jc | Or | 32 |
| | | | General ailments with | Fever | Ro | If | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | unspecific symptoms | | | | | |
| | | | Metabolic system and nutrition | Weight loss | Ro | Dc, Fs | Or | 6 |
| | | | Nervous system and mental health | Stress | Ro | Dc | Or | 1 |
| | | | Other uses | Cancer | Ro | Dc, Fs, If | Or | 5 |
| | | | Pregnancy, birth and puerperium | Breastfeeding | Ro | If | Or | 1 |
| | | | Reproductive system and reproductive health | Menopause | Ro | Ml | Pl | 1 |
| | | | Skin and subcutaneous tissue | Burns | Ro | Ml | Pl | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Ro | If | Or | 2 |
| | | | Urinary system | Prostate disorders | Ro | Dc, Fs | Or | 2 |
| *Sonchus asper* (L.) Hill (FC313) | Cashacerraja | Wild | General ailments with unspecific symptoms | General malaise | Ro | If | Or | 1 |
| | | | Respiratory system | Cold | Ap | If | Or | 1 |
| | | | Respiratory system | Cough | Ap | If | Or | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Lx | Fs | Pl | 1 |
| *Sonchus oleraceus* (L.) L. (FC592) | Cerraja | Wild | Digestive system | Liver disorders | Ap | Jc | Or | 2 |
| | | | Digestive system | Diarrhoea | Ap | If | Or | 1 |
| | | | General ailments with unspecific symptoms | Fever | Ap | If | Bt | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Lf | If | Or | 1 |
| | | | Respiratory system | Cough | Ap, Lf | If | Or | 11 |
| | | | Respiratory system | Cold | Ap, Lf | If | Or | 2 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| *Stevia rebaudiana* (Bertoni) Bertoni (no voucher specimen) | Estevia | Cultivated | Endocrine system | Diabetes | Lf | If | Or | 4 |
| *Tagetes elliptica* Sm. (FC314) | Marisaccha, maríasacha | Cultivated | Blood and cardio-vascular system | Varicose veins | Lf | Fm | Kn | 1 |
| | | | Cultural diseases and disorders | Aire, malaire | Ap, Lf | Fs, If | Bt, In, Kn, Or, Pl | 13 |
| | | | | Susto, espanto | Lf | Dc, Fs, If | Bt, Kn, Or | 8 |
| | | | | Tacsho | Lf | Fs | Bt, Kn, Or, Pl | 8 |
| | | | | Antimonia, gentil, viejo, antiguo | Lf | Dc, Fm, Fs, If, Ml | Bt, Kn, Nn, Or, Pl | 7 |
| | | | | Shadow | Ap | If | Bt | 1 |
| | | | | Shucaque | Lf | Fs | Kn | 1 |
| | | | Digestive system | Carminative | Ap | If | Or | 4 |
| | | | General ailments with unspecific symptoms | Fever | Ap | If | Bt | 1 |
| | | | Metabolic system and nutrition | Whet | Ap | If | Or | 3 |
| | | | Nervous system and mental health | Mental stimulant | Lf | If | Or | 1 |
| | | | Pregnancy, birth and puerperium | Postpartum | Lf | Fs, If | Kn, Or, Pl | 6 |
| | | | | Birth | Ap | If | Bt, Or | 2 |
| | | | Ritual and magic uses | Remove envy | Ap, Lf | Fs, Ml | Bt, Nn | 6 |
| | | | | Bring good luck | Bd | If | Or | 1 |
| | | | Sensory system | Hearing disorders | Lf | Fs | Ew | 1 |
| | | | Skin and subcutaneous tissue | Chirapa | Lf | Dc, If, Ml | Bt, Kn, Or, Pl | 10 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Skin and subcutaneous tissue | Swelling | Ap | Fs | Kn | 2 |
| *Tagetes erecta* L. (FC315) | Ayarrosa, rosa de los muertos | Wild | Cultural diseases and disorders | Susto, espanto | Ep, Fl, Lf | Dc, Fs, If | Bt, Or | 29 |
| | | | | Tacsho | Ap, Fl | Fs, If | Kn, Or | 4 |
| | | | | Antimonia, gentil, viejo, antiguo | Lf | Fs | Kn | 1 |
| | | | General ailments with unspecific symptoms | Fever | Ap | If | Bt | 2 |
| | | | Respiratory system | Expectorant | Fl | Dc | Vp | 1 |
| | | | Sensory system | Visual disorders | Fl | If | Ew | 2 |
| *Tagetes filifolia* Lag. (FC599) | Anís de sierra | Wild | Blood and cardio-vascular system | Low pressure | Ap | If | Or | 1 |
| | | | Dental health | Toothache | Ap, Lf | Fs, Ml | Or | 2 |
| | | | Digestive system | Carminative | Ap, Ep, Lf | If | Or | 37 |
| | | | | Stomach pain | Ap | if | Or | 28 |
| | | | | Stomach cramps | Ap, Lf | If | Or | 13 |
| | | | | Diarrhoea | Ap, Lf | If | Or | 2 |
| | | | | Indigestive | Ap | If | Or | 1 |
| | | | | Stomach infection | Ap | If | Or | 1 |
| | | | General ailments with unspecific symptoms | Fever | Lf | If | Or | 1 |
| | | | | Headache | Ap | If | Or | 1 |
| | | | Nervous system and mental health | Insomnia | Ap, Lf | If | Or | 2 |
| | | | | Stress | Lf | If | Or | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Ap, Lf | If | Or | 4 |
| | | | | Breastfeeding | Lf | If | Or | 1 |
| | | | | Postpartum | Lf | If | Or | 1 |
| | | | Respiratory system | Cold | Ap | If | Or | 6 |
| *Tagetes minuta* L. (FC316) | Huacatay | Cultivated | Cultural diseases and disorders | Aire, malaire | Ap, Lf | Fs, If | Bt, In | 3 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Digestive system | Gallbladder | Lf | If | Or | 1 |
| | | | Metabolic system and nutrition | Whet | Ap | If | Or | 5 |
| | | | Muscular-skeletal system | Rheumatism | Ap | Dc | Vp | 1 |
| *Tanacetum parthenium* (L.) Sch. Bip. (FC573) | Callimanzanilla | Wild | Cultural diseases and disorders | Susto, espanto | Lf | Dc, If | Bt, Or | 3 |
| | | | | Antimonia, gentil, viejo, antiguo | Lf | Fm | Bt | 1 |
| | | | General ailments with unspecific symptoms | Fever | Ap, Lf | Fs, If, Wm | Bt, Kn, Or, Pl | 32 |
| | | | General ailments with unspecific symptoms | Headache | Ap | Fs, If | In, Or | 2 |
| | | | Respiratory system | Flu | Ap, Lf, St | Dc, Fm, Fs, If | Bt, In, Or, Vp | 23 |
| | | | | Cold | Ap, Lf | Dc, Fm, Fs, If, Ml | Bt, In, Kn, Or, Vp | 13 |
| | | | | Cough | Ap, Fl | Fs, If | Or, Pl | 3 |
| | | | Ritual and magic uses | Curse | Ap, Lf | Dc, If | Bt, Vp | 3 |
| *Taraxacum officinale* (L.) Weber ex F.H. Wigg (FC595) | Diente de león, amargón | Wild | Digestive system | Liver disorders | Ap, Ro | If | Or | 6 |
| | | | Digestive system | Diarrhoea | Ro | If | Or | 1 |
| | | | Endocrine system | Diabetes | Lf | Dc, If | Or | 2 |
| | | | General ailments with unspecific symptoms | Fever | Lf | If | Or | 1 |
| | | | General ailments with unspecific symptoms | Headache | Ap | If | Or | 1 |
| | | | Infections and infestations | Herpes | Ap | Ml | Bt, Or | 2 |
| | | | Urinary system | Kidney disorders, | Ap | If | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | | emollient, diuretic | | | | |
| | | | Urinary system | Kidney stones | Ap | If | Or | 1 |
| *Tessaria integrifolia* Ruiz & Pav. (FC534) | Pájaro bobo | Wild | Pregnancy, birth and puerperium | Birth | Lf | If | Or | 1 |
| | | | Pregnancy, birth and puerperium | Postpartum | Lf | If | Or | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Ap, Bk, Lf | Dc, If | Or | 11 |
| | | | Urinary system | Prostate disorders | Ap | If | Or | 1 |
| *Vernonanthura patens* (Kunth) H. Rob. (FC318) | Cosomo, cosmo | Wild | Cultural diseases and disorders | Susto, espanto | Lf | Fs | Pl | 2 |
| | | | General ailments with unspecific symptoms | Headache | Lf | Fs | Bt | 1 |
| | | | Respiratory system | Cold | Ap | Fs | Kn | 1 |
| *Vernonia scorpioides* (Lam.) Pers. (FC319) | Gulgul | Wild | Cultural diseases and disorders | Susto, espanto | Ap | Fs, If | Kn | 2 |
| | | | Skin and subcutaneous tissue | Itil | Lf | Fs | Kn | 1 |
| *Zinnia peruviana* (L.) L (no voucher specimen) | Chinita y cholito | Cultivated | Digestive system | Indigestive | Ap, Bk, Lf, Sd | Fm, If | Or | 5 |
| | | | Reproductive system and reproductive health | Fertility | Lf | If | Or | 2 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Lf | If | Or | 1 |
| **Convolvulaceae** | | | | | | | | |
| *Ipomoea alba* L. (FC337) | Acniuca blanca | Wild | Respiratory system | Cold | Fl | If | Bt | 1 |
| *Ipomoea batatas* (L.) Lam. (FC338) | Camote | Cultivated | Cultural diseases and disorders | Tijte | Ro | Wm | Pl | 1 |
| | | | Other uses | Cancer | Ro | If | Or | 1 |
| | | | Other uses | Hair loss | Ro | Dc | Or | 1 |
| | | | Pregnancy, birth and puerperium | Breastfeeding | Ro | Dc, Fs, If | Or | 18 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Pregnancy, birth and puerperium | Postpartum | Ro | If | Bt | 1 |
| | | | Sensory system | Visual disorders | Ro | Dc | Ew | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Ro | If | Bt | 1 |
| *Ipomoea purpurea* (L.) Roth (FC339) | Acniuca morada | Wild | Cultural diseases and disorders | Pulsario | Lf | Fs | Kn | 1 |
| **Crassulaceae** | | | | | | | | |
| *Echeveria peruviana* Meyen (FC475) | Orejón grande | Wild | Sensory system | Visual disorders | Lf | Wm | Ew | 1 |
| *Echeveria utcubambensis* Hutchison ex Kimnach (FC476) | Orejón pequeño | Wild | Digestive system | Indigestive | Ap | If | Or | 1 |
| *Echeveria wurdackii* Hutchison ex Kimnach (FC345) | Oreja de perro | Wild | Ritual and magic uses | Curse | Ap | If | Bt | 1 |
| | | | Sensory system | Hearing disorders | Lf | Jc, Wm | Ew | 2 |
| *Kalanchoe pinnata* (Lam.) Pers. (FC535) | Hoja del aire, pimpinela | Wild | Cultural diseases and disorders | Susto, espanto | Lf | Dc | Kn | 1 |
| **Cucurbitaceae** | | | | | | | | |
| *Cucumis sativus* L. (FC658) | Pepinillo | Cultivated | Blood and cardio-vascular system | High pressure | Fr | Dc | Or | 4 |
| | | | | Anemia | Fr | Dc | Or | 1 |
| | | | | Blood infection | Ap | Dc | Or | 1 |
| | | | | Low pressure | Fr | Dc | Or | 1 |
| | | | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Fr, Lf | Fs, If | Bt, Pl | 2 |
| | | | | Tijte | Lf | Wm | Pl | 1 |
| | | | Digestive system | Diarrhoea | Fr | Dc | Or | 2 |
| | | | Endocrine system | Diabetes | Fr | Dc, Fs | Or | 3 |
| | | | Infections and infestations | UTA, leishmaniasis | Lf | Fs | Or | 1 |
| | | | Metabolic system and nutrition | Weight loss | Ap, Fr, Lf | Dc, Fs, If, Jc | Or | 22 |
| | | | Other uses | Hangover | Fr | Jc, Wm | Or | 1 |
| | | | Sensory system | Visual disorders | Fr | Fs | Ew | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Skin and subcutaneous tissue | Acne | Fr | Fs | Pl | 1 |
| | | | | Burns | Fr | Ml | Pl | 1 |
| *Cucurbita ficifolia* Bouché (FC340) | Chiclayo, calabaza | Cultivated | Cultural diseases and disorders | Tijte | Bd, Fr, Lf | Dc, If, Wm | Bt, Kn, Pl | 8 |
| | | | | Antimonia, gentil, viejo, antiguo | Lf, Sd | Ml | Bt, Pl | 2 |
| | | | | Pulsario | Lf | Fs | Pl | 1 |
| | | | | Susto, espanto | Sd | If | Pl | 1 |
| | | | Digestive system | Stomach pain | Lf | If | Bt, Or | 6 |
| | | | | Hepatitis | Bd, Lf | If | Or | 1 |
| | | | | Intestinal parasites | Sd | If | Or | 1 |
| | | | | Laxative | Sd | Dc | Or | 1 |
| | | | General ailments with unspecific symptoms | Fever | Ap, Bd, Fr, Lf | Dc, Fs, If, Jc, Ml | Bt, Kn, Or, Pl | 24 |
| | | | | General malaise | Lf | Fs, If | Bt | 5 |
| | | | Muscular-skeletal system | Rheumatism | Lf | If | Pl | 1 |
| | | | Nervous system and mental health | Stress | Bd, Lf | If, Ml | Or | 2 |
| | | | Pregnancy, birth and puerperium | Postpartum | Bd, Lf | Fs | Kn | 1 |
| | | | Respiratory system | Flu | Bd, Lf | If | Bt, Or | 3 |
| | | | Skin and subcutaneous tissue | Burns | Bd, Fr, Lf | Dc, Fs, Ml | Pl | 4 |
| | | | | Wounds, healing | Fr, St | Fs, Jc | Or, Pl | 4 |
| *Cucurbita maxima* Duchesne (FC341) | Zapallo, zapayo | Cultivated | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Lf, Sd | Ml | Bt, Pl | 2 |
| | | | | Susto, espanto | Fl | If | Or | 1 |
| | | | Digestive system | Intestinal parasites | Ap, Sd | Dc, If, Ml, Wm | Or | 31 |
| | | | Digestive system | Laxative | Sd | Dc | Or | 1 |
| | | | Other uses | Hair loss | Lf | Dc | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Pregnancy, birth and puerperium | Birth | Bd, St | If, Ml | Or | 4 |
| *Cyclanthera pedata* (L.) Schard. (FC343) | Caigua, cayua | Cultivated | Blood and cardio-vascular system | High pressure | Fr | Dc | Or | 1 |
| | | | Cultural diseases and disorders | Pulsario | Bd | Ml | Pl | 1 |
| | | | Metabolic system and nutrition | Weight loss | Ap, Fr | Dc, Fs, If, Jc | Or | 13 |
| | | | Nervous system and mental health | Stress | Lf | If | Or | 1 |
| | | | Sensory system | Hearing disorders | Fr, Lf | Dc, Fs, If, Jc, Wm | Ew | 99 |
| | | | Skin and subcutaneous tissue | Swelling | Fr | Jc | Bt | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Fr | Fs | Or | 2 |
| *Sicyos baderoa* Hook. & Arn. (FC466) | Pachalenga | Wild | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Ap, Lf | Fs, If | Or | 2 |
| | | | | Susto, espanto | Ap | Fs | Kn | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Ap | if | Or | 1 |
| **Cupressaceae** | | | | | | | | |
| *Cupressus sempervirens* L. (FC344) | Ciprés | Cultivated | Dental health | Toothache | Lx | Fs | Or | 2 |
| | | | Muscular-skeletal system | Rheumatism | Lf | Dc | Pl | 1 |
| | | | Respiratory system | Tonsillitis | Lf | If | Gg, Or | 3 |
| | | | | Cold | Lf | If | Or | 1 |
| | | | | Cough | Ap | If | Gg, Or | 1 |
| | | | Skin and subcutaneous tissue | Burns | Ap | if | Or | 2 |
| | | | | Wounds, healing | Ap | if | Or | 1 |
| | | | Urinary system | Prostate disorders | Lf | If | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| **Cyperaceae** | | | | | | | | |
| *Rhynchospora macrochaeta* Steud. ex Boeckeler (FC603) | Cortadera chica | Wild | Reproductive system and reproductive health | Menstruation disorders | Ap, Ro | If | Or | 2 |
| **Dioscoreaceae** | | | | | | | | |
| *Dioscorea schunkei* Ayala & T. Clayton (FC633) | Papa Wild | Wild | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Ap | Fs | Kn | 2 |
| | | | Digestive system | Diarrhoea | Lf | If | Or | 1 |
| | | | General ailments with unspecific symptoms | Fever | Fr | Dc | Bt | 1 |
| | | | Urinary system | Prostate disorders | Fr | Dc, If | Or | 2 |
| **Ephedraceae** | | | | | | | | |
| *Ephedra americana* Humb. & Bonpl. ex Willd. (FC346) | Diegolope | Wild | Dental health | Toothache | Lf | Jc | Bt | 1 |
| | | | Muscular-skeletal system | Broken bones | Ap, Lf | Fs, Jc | Bt, Pl | 3 |
| | | | Reproductive system and reproductive health | Contraceptive | Lf | If | Or | 2 |
| | | | | Fertility | Bk | If | Or | 1 |
| | | | Sensory system | Hearing disorders | Lf | Dc, Fs, Jc, Wm | Ew | 7 |
| **Equisetaceae** | | | | | | | | |
| *Equisetum bogotense* Kunth (FC523) | Cola caballo pequeña | Wild | Blood and cardio-vascular system | Anemia | Lf | Dc | Or | 1 |
| | | | | Hemorrhoids | Lf | If | Vp | 1 |
| | | | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Lf | Ml | Pl | 1 |
| | | | Digestive system | Liver disorders | Ap, Lf | Dc, If | Or | 7 |
| | | | | Stomach infection | Ap, Lf | If | Or | 2 |
| | | | | Intestinal parasites | Ap | If | Or | 1 |
| | | | General ailments with unspecific symptoms | General malaise | Ap, Lf | If | Or | 2 |
| | | | | Fever | Lf | If | Or | 1 |
| | | | Muscular-skeletal system | Broken bones | Lf | Ml | Pl | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Nervous system and mental health | Stress | Ap | If, Ml | Or | 2 |
| | | | Other uses | Hair loss | Ap | If | Bt | 2 |
| | | | Pregnancy, birth and puerperium | Postpartum | Ap | if | Bt | 2 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Ap, Lf | If | Or | 2 |
| | | | Respiratory system | Flu | Lf | If | Or | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Ap, Lf | If | Bt, Or | 11 |
| | | | | Swelling | Ap | If | Or | 2 |
| | | | | Acne | Lf | If | Bt | 1 |
| | | | | Burns | Lf | If | Pl | 1 |
| | | | | Chirapa | Lf | Dc | Pl | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Ap, Ep, Lf, Sd, St | Dc, If | Or, Vp | 178 |
| | | | | Prostate disorders | Ap, Lf, St | Fs, If | Or | 14 |
| | | | | Kidney stones | Ap, Lf | If | Or | 10 |
| *Equisetum giganteum* L. (FC347) | Cola caballo, tembladera | Wild | Reproductive system and reproductive health | Menstruation disorders | Lf | If | Or | 1 |
| | | | Respiratory system | Cold | St | If | Or | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Ap, Lf, St | Dc, If | Or, Vp | 56 |
| | | | | Kidney stones | Ap, Lf | Dc, If | Or | 3 |
| | | | | Prostate disorders | Lf | If | Or | 2 |
| **Ericaceae** | | | | | | | | |
| *Bejaria infundibula* Clemants (FC348) | Mupa rosada | Wild | Urinary system | Kidney disorders, emollient, diuretic | Fl | If | Or | 2 |
| *Bejaria oblonga* (Ruiz & Pav.) Pers. (FC349) | Mupa blanca, mupa blancorosada | Wild | Digestive system | Stomach pain | Ap | If | Bt, Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Urinary system | Kidney disorders, emollient, diuretic | Fl | If | Or | 4 |
| | | | | Kidney stones | Ap | If | Or | 1 |
| | | | | Prostate disorders | Ap | If | Or | 1 |
| *Cavendishia bracteata* (Ruiz & Pav. ex J. St. Hil.) Hoerold (FC351) | Olchoj | Wild | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Lf | Dc, Fm | Bt | 3 |
| | | | Digestive system | Liver disorders | Fr | Fs | Or | 1 |
| | | | Skin and subcutaneous tissue | Chirapa | Lf | Fs | Kn | 1 |
| | | | Urinary system | Prostate disorders | Lf | If | Or | 1 |
| **Erythroxylaceae** | | | | | | | | |
| *Erythroxylum coca* Lam. (FC377) | Coca | Cultivated | Blood and cardio-vascular system | Low pressure | Lf | If | Or | 1 |
| | | | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Ap, Fr, Lf | Dd, Dy, Fm, Fs, If, Ml | Bt, Kn, Or, Pl | 59 |
| | | | | Susto, espanto | Lf | Fs, If | Bt, Kn, Pl | 7 |
| | | | | Tacsho | Lf | Fs | Pl | 3 |
| | | | | Pulsario | Lf | If | Or | 1 |
| | | | | Shadow | Lf | Fs | Nn | 1 |
| | | | Dental health | Toothache | Lf | Dd, Fs, If, Ml | Bt, Or | 21 |
| | | | | Cavity | Lf | Fs, If | Or | 2 |
| | | | Digestive system | Stomach pain | Ap, Lf | If | Or | 30 |
| | | | | Stomach cramps | Ap, Lf | If | Or | 12 |
| | | | | Diarrhoea | Lf | If | Or | 8 |
| | | | | Carminative | Lf | Dc, If | Or | 3 |
| | | | | Indigestive | Lf | Fs | Or | 1 |
| | | | Endocrine system | Diabetes | Lf | Fs, If | Or | 2 |
| | | | General ailments with unspecific symptoms | Energizing | Lf | Fs, If | Or | 3 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | | General malaise | Lf | If | Or | 1 |
| | | | Infections and infestations | Fleas | Lf | Fs, If | Bt | 3 |
| | | | Muscular-skeletal system | Bones hardening | Lf | Fs, If | Kn, Or, Pl | 52 |
| | | | | Rheumatism | Lf | Dc, Fm, If | Bt, Or, Pl, Vp | 7 |
| | | | Nervous system and mental health | Stress | Lf | If | Or | 3 |
| | | | Nervous system and mental health | Mental stimulant | Lf | If | Or | 1 |
| | | | Other uses | Altitude sickness | Lf | Fs | Or | 1 |
| | | | Other uses | Cancer | Lf | If | Or | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Lf | If | Bt, Or | 21 |
| | | | | Postpartum | Lf | Dc, If | Or | 2 |
| | | | | Abortive | Ap | If | Or | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Lf | If | Or | 9 |
| | | | Respiratory system | Cold | Ap, Lf | If | Or | 5 |
| | | | | Tonsillitis | Lf | If | Gg, Or | 3 |
| | | | | Cough | Lf | If | Or | 1 |
| | | | | Flu | Lf | Dd | Pl | 1 |
| | | | Ritual and magic uses | Witchcraft | Lf | If | Or | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Lf | If | Or | 2 |
| | | | | Chirapa | Lf | If | Kn | 1 |
| | | | Urinary system | Prostate disorders | Lf | If | Or | 1 |
| **Escalloniaceae** | | | | | | | | |
| *Escallonia pendula* (Ruiz & Pav.) Pers. (FC502) | Chillca brava | Wild | Cultural diseases and disorders | Susto, espanto | Lf | If | Pl | 1 |
| | | | Dental health | Toothache | Lf | If | Or | 1 |
| | | | Digestive system | Diarrhoea | Lf | If | Or | 1 |
| | | | Muscular-skeletal system | Rheumatism | Lf | Fs | Kn | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Nervous system and mental health | Stress | Ap | Fs | Pl | 1 |
| | | | Respiratory system | Cold | Lf | If | Or, Pl | 2 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Lf | If, Ml | Bt, Pl | 2 |
| | | | | Swelling | Lf | Fs | Pl | 1 |
| **Euphorbiaceae** | | | | | | | | |
| *Croton abutiloides* Kunth (FC352) | Shila | Wild | Cultural diseases and disorders | Susto, espanto | Ap, Lf | Fs, If | Kn, Or | 5 |
| | | | Digestive system | Stomach pain | Lf | If | Or | 1 |
| | | | Respiratory system | Cough | Lf | If | Or | 1 |
| *Croton bryophorus* Croizat (FC501) | Loca salvia | Wild | Muscular-skeletal system | Bones hardening | Lf | Ml | Vp | 1 |
| *Croton perspeciosus* Croizat (FC353) | Sangre de grado | Wild | Cultural diseases and disorders | Tijte | Lx | Fs | Pl | 1 |
| | | | Dental health | Toothache | Lx | Fs | Or | 4 |
| | | | | Cavity | Lx | Fs | Pl | 1 |
| | | | Digestive system | Gastric ulcers | Lx | Dc, Fs, If | Or | 12 |
| | | | | Diarrhoea | Lx | Fm, Fs, If | Or | 11 |
| | | | | Liver disorders | Lx | If | Or | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Lx | If | Or | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Lx | Fs, If | Or, Pl | 10 |
| | | | | Contraceptive | Lx | Dc | Or | 1 |
| | | | | Fertility | Lx | Fs | Or | 1 |
| | | | | Vaginal infection | Lx | If | Bt | 1 |
| | | | Respiratory system | Cold | Lx | Fm | Or | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Lx | Dc, Fs, If | Bt, Pl | 21 |
| | | | | Burns | Lx | Fs | Pl | 1 |
| | | | Urinary system | Prostate disorders | Lx | If | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| *Euphorbia hypericifolia* L. (FC641) | Acoglla | Wild | Sensory system | Hearing disorders | Fr | Jc | Ew | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Ap | If | Or | 1 |
| *Euphorbia laurifolia* Juss. ex Lam. (FC571) | Lechecaspi, nunumia | Wild | Cultural diseases and disorders | Tijte | Lx | Fs | Kn | 1 |
| | | | Pregnancy, birth and puerperium | Breastfeeding | Lx | Dc, Fs, If | Bt, Kn, Or, Pl, Wh | 9 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Lx | Fs | Pl | 2 |
| *Jatropha curcas* L. (FC354) | Piñón, piñones | Wild | Digestive system | Laxative | Fr, Lf, Sd | Dc, If, Ml | Or | 8 |
| *Jatropha macrantha* Müll. Arg. (FC682) | Huanarpo macho | Wild | Reproductive system and reproductive health | Impotence | Bk, Fr, Lf, St | Dc, Fm, If | Or | 8 |
| | | | Urinary system | Prostate disorders | Fr | Fm | Or | 1 |
| *Manihot esculenta* Crantz (FC355) | Yuca | Cultivated | Blood and cardio-vascular system | Hemorrhoids | Ro | If | Bt | 1 |
| | | | Cultural diseases and disorders | Tijte | Ro | Fs, Wm | Kn, Pl | 12 |
| | | | General ailments with unspecific symptoms | Fever | Ro | Dc, Fs | Kn, Or | 2 |
| | | | Infections and infestations | Fleas | Ro | Fs, Wm | Bt, Pl | 2 |
| | | | Infections and infestations | UTA, leishmaniasis | Ro | Wm | Pl | 1 |
| | | | Respiratory system | Expectorant | Ro | Wm | Vp | 1 |
| | | | Respiratory system | Flu | Ro | Dc | Or | 1 |
| | | | Skin and subcutaneous tissue | Burns | Ro | If | Pl | 1 |
| | | | | Itil | Ro | Wm | Kn | 1 |
| *Ricinus communis* L. (FC591) | Higuerilla | Wild | Digestive system | Laxative | Fr, Lf, Sd | Dc, Fs, If, Ml, | Or | 29 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | | | | Oi, Wm | | |
| | | | | Stomach pain | Lf | Fs | Pl | 2 |
| | | | | Constipation | Sd | If | Or | 1 |
| | | | | Intestinal parasites | Lf | If | Or | 1 |
| | | | | Stomach infection | Lf | Fs | Pl | 1 |
| | | | General ailments with unspecific symptoms | Fever | Lf | Fs | Pl | 3 |
| | | | | General malaise | Lf | Fs | Pl | 1 |
| | | | Muscular-skeletal system | Rheumatism | Sd | Wm | Pl | 1 |
| | | | Respiratory system | Cold | Lf | Wm | Pl | 1 |
| | | | Skin and subcutaneous tissue | Burns | Fr, Lf, Sd | Dc, Fs, If, Oi, Wm | Kn, Pl | 8 |
| | | | | Swelling | Lf | Fs | Pl | 1 |
| | | | | Wounds, healing | Lf | Fs | Kn | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Lf | Fs, If, Ml | Bt, Pl | 6 |
| **Gentianaceae** | | | | | | | | |
| *Macrocarpaea revoluta* Gilg (FC357) | Tola | Wild | Cultural diseases and disorders | Tijte | Fr, Lf, Lx | Fs, If, Wm | Bt, Kn, Pl | 8 |
| | | | Infections and infestations | UTA, leishmaniasis | Fr | Ml | Pl | 1 |
| | | | Muscular-skeletal system | Rheumatism | Lf | Fs | Pl | 1 |
| | | | Nervous system and mental health | Stress | Fl | If | Or | 2 |
| *Zeltnera quitensis* (Kunth) G.Mans. (FC356) | Canchalagua rosa | Wild | Blood and cardio-vascular system | Blood infection | Ap | Dc, If | Or | 3 |
| | | | Infections and infestations | Malaria | Ap | Ml | Or | 1 |
| **Geraniaceae** | | | | | | | | |
| *Erodium cicutarium* (L) L`Hér. (FC477) | Aguja | Wild | Cultural diseases and disorders | Tacsho | Ap | Fs | Kn | 3 |
| | | | | Susto, espanto | Ap, Lf | Dc | Bt, Pl | 2 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| *Geranium stuebelii* Hieron. (FC358) | Andacushma, tibshilla | Wild | Digestive system | Diarrhoea | Ep | If | Or | 1 |
| | | | Infections and infestations | UTA, leishmaniasis | Bk | Wm | Pl | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Ap | If | Or | 1 |
| | | | Respiratory system | Cold | Ap | If | Or | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Ap | If | Or | 2 |
| *Pelargonium roseum* Willd. (FC583) | Geranio | Cultivated | Cultural diseases and disorders | Susto, espanto | Lf | If | Bt | 1 |
| | | | Respiratory system | Tonsillitis | Lf | If | Gg | 6 |
| | | | | Cough | Lf | If | Or | 2 |
| | | | | Flu | Lf | If | Or | 2 |
| **Hypericaceae** | | | | | | | | |
| *Hypericum laricifolium* Juss. (FC554) | Chinchango | Wild | Cultural diseases and disorders | Shucaque | Ap | If | Bt | 1 |
| | | | Sensory system | Visual disorders | Ap | If | Ew | 2 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Ap | Fs, If | Bt, Wh | 3 |
| | | | | Acne | Lf | If | Bt | 1 |
| *Hypericum perforatum* L. (no voucher specimen) | San Juanito | Wild | Blood and cardio-vascular system | Hemorrhoids | Ap, Lx | If | Bt, Or | 2 |
| | | | Digestive system | Liver disorders | Lx | If | Or | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Ap | if | Bt | 1 |
| **Iridaceae** | | | | | | | | |
| *Ennealophus foliosus* (Kunth) Ravenna (FC369) | Panshal | Wild | Nervous system and mental health | Stress | Ap | If | Or | 1 |
| | | | Urinary system | Prostate disorders | Lf | If | Or | 1 |
| *Sisyrinchium palustre* Diels (FC474) | Tres coronas | Wild | Cultural diseases and disorders | Susto, espanto | Lf | If | Bt | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Fl, Lf | If | Or | 4 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Reproductive system and reproductive health | Fertility | Ap | If | Or | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Fr | If | Or | 1 |
| **Juglandaceae** | | | | | | | | |
| *Juglans neotropica* Diels (FC544) | Nogal | Wild | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Lf | Fs | Bt | 2 |
| | | | | Susto, espanto | Lf | If | Bt | 2 |
| | | | | Aire, malaire | Ap | Fs | In | 1 |
| | | | Digestive system | Diarrhoea | Lf | Dc | Or | 1 |
| | | | General ailments with unspecific symptoms | Fever | Ap | If | Or | 1 |
| | | | Infections and infestations | Chickenpox | Fr, Lf | Fs, If | Bt, Or, Kn | 8 |
| | | | | Malaria | Lf | If | Or | 1 |
| | | | Muscular-skeletal system | Rheumatism | Lf | If | Vp | 7 |
| | | | | Bones hardening | Lf | If | Vp | 4 |
| | | | | Broken bones | Lf | Fs | Pl | 1 |
| | | | Pregnancy, birth and puerperium | Postpartum | Lf | Dc | Or | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Lf | Fs, If | Bt | 2 |
| **Lamiaceae** | | | | | | | | |
| *Clinopodium sericeum* (C. Presl ex Benth) Govaerts (FC504) | Romero de monte, romerillo | Wild | Cultural diseases and disorders | Aire, malaire | Ap, Lf | Dc, Fs, If, Ml, Wm | Bt, Kn, Or, Pl | 9 |
| | | | | Antimonia, gentil, viejo, antiguo | Lf | Fm, If | Bt | 3 |
| | | | | Susto, espanto | Lf | Dc, If | Bt, Or, Pl | 3 |
| | | | Muscular-skeletal system | Rheumatism | Ap, Lf | If | Bt, Pl | 2 |
| | | | Muscular-skeletal system | Bones hardening | Ap | If | Vp | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Nervous system and mental health | Insomnia | Ap, Lf | If | Or | 2 |
| | | | Nervous system and mental health | Stress | Ap | If | Or | 1 |
| | | | Other uses | Hair loss | Ap, Lf | Dc, If | Bt, Kn, Or | 2 |
| | | | Pregnancy, birth and puerperium | Postpartum | Ap, Lf | Dc, If | Bt, Or, Vp | 7 |
| | | | Pregnancy, birth and puerperium | Birth | Ap, Lf | Dc, If | Or, Pl | 5 |
| | | | Reproductive system and reproductive health | Menopause | Lf | If | Or | 3 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Lf | If | Or | 2 |
| | | | Reproductive system and reproductive health | Vaginal infection | Ap | if | Bt | 1 |
| | | | Respiratory system | Bronchitis | Ap | If | Or | 1 |
| | | | Respiratory system | Cold | Lf | If | Or | 1 |
| *Hedeoma mandoniana* Wedd. (FC480) | Menta pequeña | Wild | Digestive system | Carminative | Lf | Dc | Or | 1 |
| *Hyptis eriocephala* Benth. (FC370) | Orégano de campo | Wild | Digestive system | Diarrhoea | Lf | If | Or | 1 |
| | | | Digestive system | Stomach pain | Lf | If | Or | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Lf | If | Or | 3 |
| | | | Respiratory system | Cold | Ap | If | Or | 1 |
| *Leonotis nepetifolia* (L.) R. Br. (FC644) | Cardón | Wild | Digestive system | Laxative | Lf | If | Or | 1 |
| *Lepechinia conferta* (Benth.) Epling (FC601) | Tiña blanca | Wild | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Lf | Fs | Kn | 1 |
| *Lepechinia meyenii* (Walp.) Epling (FC371) | Salvia blanca | Wild | Cultural diseases and disorders | Aire, malaire | Ap | Fs | In | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Digestive system | Antiemetic | Ap | If | Or | 1 |
| | | | General ailments with unspecific symptoms | Headache | Lf | Fs, If | Bt, Pl | 4 |
| | | | Muscular-skeletal system | Rheumatism | Lf | Fs | Pl | 1 |
| | | | Nervous system and mental health | Epilepsy | Lf | If | Or | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Ap | If | Or | 1 |
| *Lepechinia radula* (Benth.) Epling (FC481) | Tiña | Wild | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Lf | Fs | Kn | 1 |
| *Manettia peruviana* Standl. (FC372) | Mutcara | Wild | Cultural diseases and disorders | Susto, espanto | Lf | Fs | Kn | 1 |
| *Melissa officinalis* L. (FC580) | Toronjil | Cultivated | Blood and cardio-vascular system | High pressure | Ap, Lf | If | Or | 6 |
| | | | Cultural diseases and disorders | Pulsario | Lf | If | Or | 1 |
| | | | | Susto, espanto | Lf | If | Or | 1 |
| | | | Digestive system | Stomach pain | Ap | If | Or | 5 |
| | | | | Stomach cramps | Lf | If | Or | 2 |
| | | | | Diarrhoea | Ap | If | Or | 1 |
| | | | Nervous system and mental health | Sadness | Ap, Ep, Lf, Ro | Dc, If | Or | 139 |
| | | | Nervous system and mental health | Insomnia | Ap | if | Or | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Ap, Lf | If | Or | 5 |
| | | | Reproductive system and reproductive health | Impotence | Lf | If | Or | 1 |
| | | | Respiratory system | Bronchitis | Lf | If | Or | 1 |
| | | | Respiratory system | Cold | Lf | If | Or | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Ro | If | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| *Mentha piperita* L. (FC566) | Menta | Cultivated | Blood and cardio-vascular system | Low pressure | Lf | If | Or | 1 |
| | | | Dental health | Toothache | Lf | Fs, Ml | Or | 4 |
| | | | Digestive system | Stomach pain | Ap, Lf | If | Or | 35 |
| | | | | Stomach cramps | Ap, Lf | If | Or | 16 |
| | | | | Carminative | Ap, Lf | Dc, If | Or | 6 |
| | | | | Intestinal parasites | Ap, Lf | If | Or | 4 |
| | | | | Stomach infection | Ap | If | Or | 4 |
| | | | | Diarrhoea | Ap, Lf | If | Or | 2 |
| | | | | Gastric ulcers | Lf | If | Or | 1 |
| | | | | Indigestive | Ap | If | Or | 1 |
| | | | | Laxative | Ap | If | Or | 1 |
| | | | Infections and infestations | Insect bite | Lf | Ml | Pl | 1 |
| | | | Nervous system and mental health | Stress | Ap, Lf | If, Jc | Or | 6 |
| | | | | Insomnia | Lf | If | Or | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Lf | If | Or | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Ap, Lf | If | Or | 7 |
| | | | Respiratory system | Cold | Ap, Ep, Lf | If | Or | 9 |
| | | | | Bad breath | Lf | If | Or | 1 |
| | | | | Flu | Ap | If | Or | 1 |
| | | | Sensory system | Hearing disorders | Lf | Fs | Ew | 1 |
| | | | Sensory system | Visual disorders | Ap | If | Ew | 1 |
| | | | Skin and subcutaneous tissue | Burns | Lf | Fs | Pl | 1 |
| *Mentha spicata* L. (FC596) | Hierbabuena | Cultivated | Dental health | Gingivitis | Ap | If | Or | 2 |
| | | | Digestive system | Intestinal parasites | Ap, Lf | Dc, Fs, If, Jc, Ml | Bt, Or | 138 |
| | | | | Stomach pain | Ap | If | Or | 7 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | | Laxative | Ap, Lf | If, Ml | Or | 4 |
| | | | | Carminative | Ap | If | Or | 1 |
| | | | | Stomach cramps | Lf | If | Or | 1 |
| | | | Infections and infestations | UTA, leishmaniasis | Lf | Dc, Fs, If, Ml, Wm | Bt, Kn, Pl | 8 |
| | | | | Insect bite | Lf | Fs, Wm | Bt, Kn, Pl | 4 |
| | | | Muscular-skeletal system | Broken bones | Ap | Fs | Pl | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Ap, Lf | Dc, If | Bt, Or | 5 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Ap | If | Or | 2 |
| | | | Reproductive system and reproductive health | Menopause | Lf | Dc | Or | 1 |
| | | | Respiratory system | Cold | Ap | If | Or | 1 |
| | | | Skin and subcutaneous tissue | Swelling | Ap, Ep, Lf | If, Ml | Bt, Pl | 6 |
| | | | | Burns | Lf | Fs | Bt | 1 |
| | | | | Chirapa | Lf | Fs | Pl | 1 |
| | | | | Wounds, healing | Lf | Ml | Pl | 1 |
| *Minthostachys mollis* (Benth.) Griseb. (FC606) | Poleo, ayamanchana, muña | Wild | Blood and cardio-vascular system | Hemorrhoids | Ap | If | Kn | 1 |
| | | | Cultural diseases and disorders | Tacsho | Ap, Bd, Ep, Fr, Lf | Fm, Fs, If, Ml, Wm | Bt, In, Kn, Or, Pl | 248 |
| | | | | Susto, espanto | Ap, Ep, Fl, Lf | Dc, Fs, If | Bt, In, Kn, Or, Pl | 95 |
| | | | | Aire, malaire | Ap, Ep, Lf | Fs, If | Bt, In, Kn, Or, Pl | 67 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | | Antimonia, gentil, viejo, antiguo | Ap, Bd, Lf | Fm, Fs, If, Ml | Bt, Kn, Or, Pl | 8 |
| | | | | Shadow | Ap | Fs | Kn | 2 |
| | | | | Shucaque | Lf | If | Bt, Pl | 2 |
| | | | | Pulsario | Lf | Fs | Bt | 1 |
| | | | Dental health | Toothache | Lf | Fs | Or | 2 |
| | | | Digestive system | Diarrhoea | Ap, Lf | If | Or | 116 |
| | | | | Stomach cramps | Lf | If | Or | 9 |
| | | | | Carminative | Ap, Ep, Lf | Dc, If | Or | 7 |
| | | | | Intestinal parasites | Ap, Lf | Dc, If | Or | 7 |
| | | | | Stomach pain | Ap, Lf | Fs, If | Kn, Or | 5 |
| | | | | Gastric ulcers | Lf | If | Or | 3 |
| | | | | Indigestive | Ap, Lf | If | Or | 3 |
| | | | | Liver spots | Ap | If | Bt | 1 |
| | | | | Whet | Ap | If | Or | 1 |
| | | | General ailments with unspecific symptoms | Fever | Ap | If | Or | 1 |
| | | | | General malaise | Lf | If | Or | 1 |
| | | | | Headache | Lf | Fs | Pl | 1 |
| | | | Muscular-skeletal system | Rheumatism | Ap, Lf | Fs, Fm, If, Ml | Kn, Pl | 11 |
| | | | | Bones hardening | Ep | Fs | Kn | 1 |
| | | | Other uses | Cancer | Ap | If | Or | 1 |
| | | | Other uses | Deodorant | Ap | Fs | Kn | 1 |
| | | | Pregnancy, birth and puerperium | Postpartum | Lf | Fs | Pl | 2 |
| | | | | Birth | Lf | If | Or | 1 |
| | | | | Breastfeeding | Lf | If | Or | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Ap, Lf | If | Or | 5 |
| | | | Reproductive system and reproductive health | Menopause | Ap | Ml | Pl | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Respiratory system | Cold | Ap, Lf | Fs, If | Kn, Or | 6 |
| | | | | Cough | Ap | If | Or | 2 |
| | | | | Flu | Ap, Lf | Dc, If | Or | 2 |
| | | | | Asthma | Ap | Fs | In | 1 |
| | | | Sensory system | Hearing disorders | Lf | Jc | Ew | 1 |
| | | | Skin and subcutaneous tissue | Chirapa | Lf | Fs, If | Bt, Kn | 4 |
| | | | | Acne | Ap | Fs | Pl | 1 |
| | | | | Feet fungus | Lf | Fs | Bt | 1 |
| *Ocimum basilicum* L. (FC565) | Albahaca | Cultivated | Digestive system | Carminative | Lf | Dc | Or | 1 |
| | | | Infections and infestations | Insect bite | Ap | Fs | Kn | 1 |
| | | | Muscular-skeletal system | Rheumatism | Lf | Dc | Bt | 1 |
| | | | Nervous system and mental health | Insomnia | Ap | If | Or | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Lf | Dc, If, Ml | Or | 22 |
| | | | | Abortive | Lf | Dc | Or | 1 |
| | | | Reproductive system and reproductive health | Fertility | Lf | If | Or | 1 |
| | | | | Menstruation disorders | Ap | Dc | Bt | 1 |
| | | | Sensory system | Visual disorders | Ap | If | Ew | 1 |
| *Origanum vulgare* L. (FC373) | Orégano | Cultivated | Cultural diseases and disorders | Susto, espanto | Ap | If | Bt | 1 |
| | | | Dental health | Cavity | Ep | If | Or | 1 |
| | | | Digestive system | Stomach cramps | Ap, Lf | If | Or | 12 |
| | | | | Stomach pain | Ap | If | Or | 7 |
| | | | | Carminative | Ap | If | Or | 2 |
| | | | Muscular-skeletal system | Rheumatism | Ap | If | Bt, Or | 2 |
| | | | Pregnancy, birth and puerperium | Birth | Ap, Lf | If | Or | 13 |
| | | | Pregnancy, birth and puerperium | Abortive | Ap, Lf | Dc, If | Or | 5 |
| | | | Pregnancy, birth and puerperium | Postpartum | Lf | If | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Reproductive system and reproductive health | Menstruation disorders | Ap, Bd, Ep, Lf | Dc, If | Or | 186 |
| | | | | Fertility | Lf | If | Or | 2 |
| | | | | Contraceptive | Lf | If | Or | 1 |
| | | | | Menopause | Lf | Dc | Or | 1 |
| | | | Respiratory system | Cold | Ap | If | Or | 2 |
| *Plectranthus scutellarioides* (L.) R.Br (FC634) | 7 colores | Cultivated | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Ap | Fs | Kn | 1 |
| | | | Digestive system | Laxative | Lf | If | Or | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Lf | If | Or | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Lx | Fs | Pl | 1 |
| *Rosmarinus officinalis* L. (FC581) | Romero de Castilla | Cultivated | Cultural diseases and disorders | Susto, espanto | Lf | If | Bt, Or | 3 |
| | | | | Aire, malaire | Ap | Fm, If | Bt, In | 2 |
| | | | Dental health | Toothache | Lf | If | Or | 4 |
| | | | Digestive system | Diarrhoea | Lf | If | Or | 1 |
| | | | General ailments with unspecific symptoms | Fever | Lf | If | Or | 1 |
| | | | Muscular-skeletal system | Rheumatism | Lf | Fm, If | Bt, Kn | 3 |
| | | | | Bones hardening | Ap | If | Bt | 1 |
| | | | | Lumbago | Lf | Fm | Kn | 1 |
| | | | Nervous system and mental health | Insomnia | Ap, Lf | If | Or | 2 |
| | | | | Stress | Lf | If | Bt | 1 |
| | | | Other uses | Hair loss | Ap, Lf | Dc, If | Bt, Kn, Pl | 13 |
| | | | Pregnancy, birth and puerperium | Birth | Lf | If | Or | 1 |
| | | | | Postpartum | Lf | Fs | Kn | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Lf | If | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Respiratory system | Flu | Ap, Lf | If | Or | 3 |
| | | | | Cold | Ap | If | Or | 1 |
| | | | Skin and subcutaneous tissue | Acne | Lf | If | Vp | 2 |
| | | | Skin and subcutaneous tissue | Chirapa | Ap, Lf | Fm | Or | 2 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Lf | If | Or | 1 |
| *Salvia corrugata* Vahl (FC526) | Arrugada | Wild | Digestive system | Carminative | Lf | If | Or | 1 |
| *Salvia hispanica* L. (FC432) | Chía | Cultivated | Metabolic system and nutrition | Weight loss | Sd | If | Or | 3 |
| *Salvia macrophylla* Benth. (FC375) | Salvia azul | Wild | Cultural diseases and disorders | Aire, malaire | Ep | Fs | In, Kn | 3 |
| | | | | Susto, espanto | Ap | If | Or | 2 |
| | | | General ailments with unspecific symptoms | Headache | Lf | If | Or | 1 |
| | | | Respiratory system | Cough | Ap | If | Or | 2 |
| | | | | Flu | Ap | If | Or | 2 |
| *Salvia nutans* L. (FC482) | Tiñambo | Wild | Cultural diseases and disorders | Tijte | Ap, Lf | Fs, If | Or, Pl | 2 |
| | | | | Antimonia, gentil, viejo, antiguo | Lf | Fs | Kn | 1 |
| | | | Digestive system | Diarrhoea | Lf | If | Or | 2 |
| | | | | Indigestive | Lf | If | Or | 1 |
| | | | | Stomach pain | Lf | If | Or | 1 |
| | | | General ailments with unspecific symptoms | General malaise | Lf | If | Or | 1 |
| | | | Muscular-skeletal system | Rheumatism | Ap | Fs, If | Kn, Or | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Ap | If | Bt | 2 |
| *Salvia oppositiflora* Ruiz & Pav. (FC374) | Flor del picaflor, chupajeringa, | Wild | General ailments with unspecific symptoms | Headache | Fl, Lf | Fs | Or, Pl | 2 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | quineshucuna | | | | | | | |
| *Salvia tubiflora* Sm. (FC628) | Chochocón | Wild | Blood and cardio-vascular system | High pressure | Ap | If | Or | 1 |
| | | | Digestive system | Carminative | Ap | If | Or | 1 |
| | | | | Diarrhoea | Lf | If | Or | 1 |
| | | | Nervous system and mental health | Stress | Ap | If | Or | 1 |
| *Stachys arvensis* (L.) L. (FC376) | Subsacha | Cultivated | Digestive system | Diarrhoea | Ap, Lf | Dc, If | Or | 31 |
| | | | | Carminative | Ap, Lf | Dc, If | Or | 24 |
| | | | | Stomach cramps | Ap, Ep, Lf | If | Or, Pl | 23 |
| | | | | Stomach pain | Ap | If | Or | 11 |
| | | | | Laxative | Lf | Fs, If | Or | 2 |
| | | | | Stomach infection | Lf | If | Or | 2 |
| | | | | Constipation | Lf | If | Or | 1 |
| | | | | Indigestive | Lf | If | Or | 1 |
| | | | | Intestinal parasites | Ap | If | Or | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Ap, Lf | If | Or | 2 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Ap, Lf | If | Or | 6 |
| | | | Respiratory system | Cold | Ap | If | Or | 5 |
| **Lauraceae** | | | | | | | | |
| *Cinnamomum verum* J. Presl (FC405) | Canela | Cultivated | Dental health | Toothache | Bk, St | If, Ml | Or | 5 |
| | | | Pregnancy, birth and puerperium | Birth | Bk | If | Or | 1 |
| | | | Reproductive system and reproductive health | Menopause | Bk | If | Or | 1 |
| | | | | Menstruation disorders | St | If | Or | 1 |
| *Nectandra discolor* (Kunth) Nees (FC654) | Ishpingo, roble | Wild | Cultural diseases and disorders | Susto, espanto | Lf | If | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Muscular-skeletal system | Broken bones | Bk | If | Pl | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Bk | Fm | Or | 1 |
| *Persea americana* Mill. (FC543) | Palta | Cultivated | Blood and cardio-vascular system | Anemia | Sd | If | Or | 1 |
| | | | Digestive system | Diarrhoea | Ap, Bk, Lf, Sd | Dc, If | Or | 22 |
| | | | | Stomach infection | Sd | Dc, If | Or | 13 |
| | | | | Liver disorders | Lf, Sd | If | Or | 2 |
| | | | | Stomach pain | Sd | If | Or | 2 |
| | | | | Intestinal infection | Sd | Dc | Or | 1 |
| | | | | Intestinal parasites | Sd | If | Or | 1 |
| | | | | Laxative | Sd | If | Or | 1 |
| | | | | Stomach cramps | Sd | If | Or | 1 |
| | | | General ailments with unspecific symptoms | Fever | Ap, Sd | If | Or | 10 |
| | | | | General malaise | Lf | Fs | Bt | 1 |
| | | | | Headache | Sd | Dc | Or | 1 |
| | | | Metabolic system and nutrition | Weight loss | Fr, Sd | Fs | Or | 1 |
| | | | Muscular-skeletal system | Hernia | Lf | Ml | Pl | 3 |
| | | | | Rheumatism | Lf, Sd | Dc, If | Bt, Or | 3 |
| | | | | Broken bones | Lf, Sd | Fs, Ml | Kn, Pl | 2 |
| | | | | Bones hardening | Lf | Dc | Vp | 1 |
| | | | Other uses | Hair loss | Fr, Sd | Rt | Bt | 23 |
| | | | Pregnancy, birth and puerperium | Abortive | Fr, Sd | Dc, If, Jc | Or | 3 |
| | | | | Birth | Sd | Dc | Or | 1 |
| | | | | Postpartum | Lf | If | Or | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Ap, Lf, Sd | Dc, If | Or | 10 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | | Vaginal infection | Lf, Sd | Dc, If | Bt, Or | 4 |
| | | | Respiratory system | Cold | Sd | If | Or | 1 |
| | | | | Cough | Sd | If | Or | 1 |
| | | | Skin and subcutaneous tissue | Swelling | Lf, Sd | Dc, Fs, If, Ml | Bt, Or, Pl | 10 |
| | | | | Wounds, healing | Sd | Dc, Fs, If | Or, Pl | 4 |
| | | | | Burns | Sd | Dc | Pl | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Fr, Lf, Sd | Dc, Fs, If, Rt | Bt, Or, Pl | 9 |
| | | | Urinary system | Prostate disorders | Sd | If | Or | 1 |
| *Persea caerulea* (Ruiz & Pav.) Mez (FC621) | Paltacaspe | Wild | Cultural diseases and disorders | Tacsho | Bk | Ml | Pl | 1 |
| | | | Respiratory system | Cold | Ap | If | Or | 1 |
| | | | Skin and subcutaneous tissue | Swelling | Lf | If | Bt | 1 |
| *Persea subcordata* (Ruiz & Pav.) Nees (FC378) | Junjul, junjulí, paccacuna | Wild | Digestive system | Diarrhoea | Bk | If | Or | 1 |
| | | | | Liver disorders | Bk | If | Or | 1 |
| | | | | Stomach cramps | Bk | If | Or | 1 |
| | | | | Stomach pain | Bk | If | Or | 1 |
| | | | Muscular-skeletal system | Broken bones | Ap, Bk, Fr, Lf | Fs, If, Ml, Wm | Bt, Or, Pl | 26 |
| | | | | Joint sprains | Ap, Bk, Lf | Fm, Fs, If, Ml, Wm | Kn, Pl | 11 |
| | | | | Hernia | Bk, Lf | Fs, Ml | Kn, Pl | 4 |
| | | | | Rheumatism | Bk | Dc | Pl | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Lf | Fm | Or | 1 |
| | | | Skin and subcutaneous tissue | Swelling | Bk | Fs | Pl | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Urinary system | Kidney disorders, emollient, diuretic | Bk | If | Or | 1 |
| **Leguminosae** | | | | | | | | |
| *Arachis hypogaea* L. (FC655) | Maní | Cultivated | General ailments with unspecific symptoms | Energizing | Fr | Fs | Or | 1 |
| | | | Nervous system and mental health | Insomnia | Lf | Fs | Nn | 1 |
| | | | Pregnancy, birth and puerperium | Breastfeeding | Fr | Dc, Fs | Or | 14 |
| | | | | Birth | Fr | Dc | Or | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Lf | Wm | Pl | 1 |
| *Caesalpinia spinosa* (Molina) Kuntze (FC590) | Tara, taya | Wild | Blood and cardio-vascular system | Hemorrhoids | Fr | If | Vp | 1 |
| | | | Dental health | Toothache | Sd | Ml | Bt | 1 |
| | | | Digestive system | Diarrhoea | Fr | If | Or | 1 |
| | | | Infections and infestations | UTA, leishmaniasis | Sd | Ml | Pl | 1 |
| | | | Nervous system and mental health | Insomnia | Lf | Fs | Nn | 1 |
| | | | Other uses | Cancer | Lf, Sd | Dc, If | Or | 2 |
| | | | | Deodorant | Sd | If | Or | 1 |
| | | | Respiratory system | Tonsillitis | Fr, Lf, Sd | If | Gg, Or | 38 |
| | | | | Cold | Lf | If | Gg | 1 |
| | | | | Flu | Sd | Dc | Or | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Sd | Fs | Pl | 12 |
| | | | | Feet fungus | Sd | If | Or | 1 |
| *Chamaecrista desvauxii* (Collad.) Killip (no voucher specimen) | Matapasto | Wild | Skin and subcutaneous tissue | Wounds, healing | Ap | If | Bt | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Ap, Ep, Lf | If | Or | 9 |
| | | | | Kidney stones | Lf | If | Or | 1 |
| *Dalea coerulea* (L. f.) Schinz & Thell. (FC531) | Dalia | Wild | General ailments with | General malaise | Ap | If | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | unspecific symptoms | | | | | |
| | | | Nervous system and mental health | Stress | Fl | If | Or | 1 |
| *Desmodium molliculum* (Kunth) DC. (FC503) | Pie de perro | Wild | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Lf | Ml | Pl | 1 |
| | | | | Tijte | Lf | Wm | Pl | 1 |
| | | | Digestive system | Diarrhoea | Lf | If | Or | 2 |
| | | | Digestive system | Liver disorders | Ap, Bd | If | Or | 2 |
| | | | Infections and infestations | Fleas | Lf | If | Bt | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Ap | Dc, If | Or | 2 |
| | | | Reproductive system and reproductive health | Menopause | Fr | If | Or | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Ap, Lf | Dc, If | Bt | 6 |
| | | | | Acne | Lf | If | Bt | 1 |
| | | | | Burns | Lf | Fs | Pl | 1 |
| | | | | Chirapa | Lf | If | Or | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Ap, Ep, Lf, St | Dc, If | Or, Vp | 107 |
| | | | | Kidney stones | Ap, Lf | Dc, If | Or | 5 |
| | | | | Prostate disorders | Ap, Lf | Fd, If, Ml | Or, Pl | 5 |
| *Erythrina edulis* Micheli (FC360) | Pajuro | Cultivated | Blood and cardio-vascular system | Varicose veins | Bk | If | Or | 1 |
| | | | Cultural diseases and disorders | Aire, malaire | Lf | Fs, If | Or, Pl | 2 |
| | | | General ailments with unspecific symptoms | Headache | Lf | Fs | Pl | 2 |
| | | | Muscular-skeletal system | Broken bones | Lf | Fs | Kn, Pl | 1 |
| | | | Muscular-skeletal system | Hernia | Lf | Ml | Kn, Pl | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Reproductive system and reproductive health | Fertility | Lf | If | Or | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Bd, Bk, Lf | If | Or | 4 |
| *Erythrina schimpfii* Diels (FC510) | Pajuro del abuelo | Wild | Cultural diseases and disorders | Pulsario | Lf | Ml | Pl | 1 |
| | | | Skin and subcutaneous tissue | Itil | Fl | If | Or | 1 |
| *Glycine max* (L.) Merr. (FC558) | Soya | Cultivated | Pregnancy, birth and puerperium | Breastfeeding | Fr, Sd | Dc | Or | 5 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Fr | Jc | Or | 1 |
| *Inga ingoides* (Rich.) Willd. (FC559) | Guaba | Wild | Digestive system | Intestinal parasites | Sd | If | Or | 1 |
| | | | Nervous system and mental health | Insomnia | Fl | If | Or | 1 |
| | | | Pregnancy, birth and puerperium | Abortive | Sd | Ml | Or | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Ap | Fs | Pl | 1 |
| *Lupinus exochus* C.P. Sm. (FC361) | Chocho de antimonía, chocho del abuelo | Wild | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Ap, Bd, Lf | Dc, Fm, Fs, If | Bt, Kn, Or, Pl | 10 |
| | | | | Susto, espanto | Lf | Fs, If | Bt, Or | 2 |
| | | | Digestive system | Intestinal parasites | Sd | Dc | Or | 1 |
| | | | Infections and infestations | Chickenpox | Fr | If | Or | 1 |
| | | | | Fleas | Fr | Dc | Bt | 1 |
| | | | | Malaria | Fr | Dc | Or | 1 |
| | | | Muscular-skeletal system | Rheumatism | Fr | Dc | Kn | 1 |
| | | | Sensory system | Hearing disorders | Fl | If | Ew | 1 |
| *Medicago sativa* L. (FC362) | Alfalfa | Cultivated | Blood and cardio-vascular system | Anemia | Ap, Fr, Lf | Dc, Ml | Or | 26 |
| | | | Digestive system | Liver disorders | Lf | If | Or | 2 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Muscular-skeletal system | Rheumatism | Ap | Dc | Bt | 1 |
| | | | Nervous system and mental health | Insomnia | Ap, Lf | Dc, If | Or | 4 |
| | | | | Mental stimulant | Ap | If | Or | 3 |
| | | | Pregnancy, birth and puerperium | Postpartum | Ap, Fr, Lf | Dc, If | Or | 4 |
| | | | Pregnancy, birth and puerperium | Breastfeeding | Lf | Dc | Or | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Ap, Fr, Lf | Dc, Jc | Or | 4 |
| | | | | Menopause | Lf | Dc, Ml | Or | 2 |
| | | | | Impotence | Lf, Ro | Dc | Or | 1 |
| | | | Respiratory system | Expectorant | Lf | Dc | Vp | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Lf | Jc | Or | 1 |
| | | | Urinary system | Prostate disorders | Lf | Dc | Or | 1 |
| *Melilotus albus* Medik. (FC363) | Alfalfilla, trébol grande | Wild | Digestive system | Intestinal parasites | Ep | Dc | Or | 2 |
| *Mimosa pellita* Willd. (FC660) | Cierraculito | Wild | Digestive system | Diarrhoea | Lf | If | Or | 1 |
| | | | Reproductive system and reproductive health | Contraceptive | Lf, Ro | Fm, If | Or | 3 |
| | | | Reproductive system and reproductive health | Menopause | Ro | If | Or | 1 |
| *Myroxylon balsamum* (L.) Harms. (no voucher specimen) | Huamburo, bálsamo | | Muscular-skeletal system | Broken bones | Lf | If, Ml | Pl | 2 |
| *Otholobium glandulosum* (L.) J.W. Grimes (FC613) | Culén, culén grande | Wild | Digestive system | Diarrhoea | Bk, Fr, Lf | If | Or | 4 |
| | | | | Carminative | Ap, Lf | If | Or | 3 |
| | | | | Stomach cramps | Lf | If | Or | 3 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | | Stomach pain | Ap, Lf | If | Or | 3 |
| | | | | Liver disorders | Lf | If | Or | 2 |
| | | | | Indigestive | Lf | If | Or | 1 |
| *Otholobium mexicanum* (L.f.) J.W. Grimes (FC589) | Culén chico | Wild | Cultural diseases and disorders | Susto, espanto | Ap | If | Or | 1 |
| | | | Digestive system | Diarrhoea | Lf | If | Or | 10 |
| | | | | Stomach pain | Ap, Lf | Fs, If | Or | 7 |
| | | | | Carminative | Lf | If | Or | 2 |
| | | | | Stomach cramps | Ap, Lf | If | Or, Pl | 2 |
| | | | | Indigestive | Ap | If | Or | 1 |
| | | | | Intestinal parasites | Lf | If | Or | 1 |
| | | | Endocrine system | Diabetes | Ap | If | Or | 1 |
| | | | Nervous system and mental health | Insomnia | Lf | If | Or | 1 |
| | | | | Stress | Lf | If | Or | 1 |
| | | | Respiratory system | Cold | Ap, Lf | If | Or | 3 |
| | | | Respiratory system | Flu | Ap | If | Or | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Lf | If | Or | 1 |
| | | | Urinary system | Prostate disorders | Lf | If | Or | 1 |
| *Phaseolus pachyrrhizoides* Harms (FC478) | Habilla | Cultivated | Blood and cardio-vascular system | Anemia | Fr, Sd | Dc, If, Wm | Or | 3 |
| | | | Pregnancy, birth and puerperium | Birth | Fl | If | Or | 2 |
| | | | | Breastfeeding | Fr | Dc | Or | 1 |
| | | | Sensory system | Hearing disorders | Lf | Fs, Jc | Ew | 2 |
| | | | Sensory system | Visual disorders | Lf | Jc | Ew | 1 |
| | | | Skin and subcutaneous tissue | Burns | Fr, Lf | Fs, If, Ml | Bt, Kn, Or, Pl | 11 |
| *Phaseolus vulgaris* L. (FC667) | Frejol | Cultivated | Blood and cardio-vascular system | Anemia | Fr | Dc | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Cultural diseases and disorders | Tijte | Fr | Fs, Rt | Kn, Pl | 9 |
| | | | Endocrine system | Diabetes | Bk | Dc | Or | 1 |
| *Prosopis pallida* (Willd.) Kunth (FC614) | Huarango, algarrobo | Wild | Blood and cardio-vascular system | Anemia | Lx | Fs | Or | 1 |
| | | | Metabolic system and nutrition | Weight loss | Bk | If | Or | 1 |
| | | | Muscular-skeletal system | Bones hardening | Ap | If | Vp | 1 |
| | | | Pregnancy, birth and puerperium | Postpartum | Ap | If | Bt | 1 |
| | | | Reproductive system and reproductive health | Menopause | Fr | Jc | Or | 1 |
| *Robinia pseudoacacia* L. (no voucher specimen) | Flor blanca | Cultivated | Blood and cardio-vascular system | High pressure | Fl | If | Or | 3 |
| | | | Cultural diseases and disorders | Negative vibes | Ap | If | Bt | 1 |
| | | | Digestive system | Indigestive | Fl | If | Or | 1 |
| | | | Digestive system | Stomach pain | Fl | If | Or | 1 |
| | | | Nervous system and mental health | Sadness | Ap, Fl | Fm, If, Jc | Or | 17 |
| | | | Nervous system and mental health | Insomnia | Fl | If | Or | 2 |
| | | | Reproductive system and reproductive health | Menopause | Fl | If | Or | 1 |
| *Senna bicapsularis* (L.) Roxb. (FC364) | Sen, mutuy | Wild | Digestive system | Laxative | Lf | If | Or | 3 |
| *Senna multiglandulosa* (Jacq.) H.S. Irwin & Barneby (FC365) | Mutuy, muteo Wild | Wild | Cultural diseases and disorders | Susto, espanto | Ap, Fl, Lf | Dc, Fs, If | Bt, Kn, Or | 9 |
| | | | Digestive system | Laxative | Lf | Dc, If | Or | 3 |
| | | | | Constipation | Lf | If | Or | 1 |
| | | | | Intestinal parasites | Lf | If | Or | 1 |
| *Spartium junceum* L. (FC366) | Retama | Wild | Blood and cardio-vascular system | Anemia | Lf | If | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Digestive system | Hepatitis | Fl, Lf, Ro | If, Ml | Bt, Or | 12 |
| | | | General ailments with unspecific symptoms | Fever | Fl | If | Or | 1 |
| | | | Infections and infestations | Yellow fever | Fl | If | Or | 7 |
| | | | | Malaria | Ap, Lf | Dc, If | Or | 2 |
| | | | Muscular-skeletal system | Rheumatism | Ap | Dc | Vp | 1 |
| | | | Other uses | Hair loss | Fl | If | Bt | 1 |
| | | | Pregnancy, birth and puerperium | Breastfeeding | Lf | If | Or | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Fl | If | Or | 2 |
| | | | Respiratory system | Expectorant | Fl | If | Vp | 1 |
| *Tephrosia sinapou* (Buc`hoz) A. Chev. (FC631) | Bardasco | Wild | Infections and infestations | Fleas | Bk, Lf, Ro, St | Dc, Fm, Fs, If, Ml | Bt, Kn, Pl | 20 |
| | | | | Insect bite | Lf | Dc | Bt | 1 |
| *Trifolium repens* L. (FC367) | Trébol | Wild | Blood and cardio-vascular system | Blood purifying | Lf | If | Or | 1 |
| | | | Cultural diseases and disorders | Aire, malaire | Ap | If | Bt | 1 |
| | | | | Susto, espanto | Lf | If | Bt | 1 |
| | | | | Tijte | Lf | Ml | Pl | 1 |
| | | | Digestive system | Diarrhoea | Lf | If | Or | 1 |
| | | | Respiratory system | Expectorant | Fl | Dc | Vp | 1 |
| | | | Sensory system | Visual disorders | Lf | If | Ew | 2 |
| *Vicia andicola* Kunth (FC520) | Arveja del abuelo | Wild | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Ap | Fs | Kn | 2 |
| | | | | Tijte | Fr | Dc | Bt | 1 |
| | | | Infections and infestations | Chickenpox | Fl, Fr, Se | If, Ml | Bt, Kn, Pl | 23 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Fr | If | Bt | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| **Liliaceae** | | | | | | | | |
| *Lilium longiflorum* Thunb. (FC379) | Azucena, azucena Cultivated | Cultivated | Blood and cardio-vascular system | High pressure | Ro | If | Or | 1 |
| | | | Nervous system and mental health | Sadness | Ap, Fl, Fr, Lf, Ro | If, Jc | Or | 21 |
| | | | Pregnancy, birth and puerperium | Birth | Fr | If | Or | 1 |
| **Linaceae** | | | | | | | | |
| *Linum usitatissimum* L. (FC607) | Linaza | Cultivated | Blood and cardio-vascular system | Hemorrhoids | Sd | Dc | Or | 1 |
| | | | Digestive system | Constipation | Fr, Sd | If | Or | 2 |
| | | | Digestive system | Laxative | Ap, Sd | Dc | Or | 2 |
| | | | General ailments with unspecific symptoms | General malaise | Sd | If | Or | 1 |
| | | | Metabolic system and nutrition | Weight loss | Fr | Dc | Or | 1 |
| | | | Nervous system and mental health | Kidney stones | Lf, Sd | If | Or | 2 |
| | | | Pregnancy, birth and puerperium | Breastfeeding | Fr | Dc | Or | 1 |
| | | | Skin and subcutaneous tissue | Swelling | Sd | If | Or | 1 |
| | | | Urinary system | Prostate disorders | Ap, Sd | Dc, If | Or | 3 |
| | | | | Kidney disorders, emollient, diuretic | Ap, Fr, Lf, Sd | Dc, If | Bt, Or, Vp | 47 |
| **Loasaceae** | | | | | | | | |
| *Nasa cuatrecasasii* Weigend (FC586) | Ortiga blanca | Wild | Digestive system | Gastric ulcers | Lf | If | Or | 1 |
| | | | Muscular-skeletal system | Rheumatism | Ap, Lf | Fs | Wh | 6 |
| | | | | Muscle cramps | Ap | Fs | Wh | 2 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Ro | If | Or | 1 |
| **Lythraceae** | | | | | | | | |
| *Cuphea ciliata* Ruiz & Pav. (FC381) | Chinchimal | Wild | Digestive system | Diarrhoea | Ap | If | Or | 2 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Respiratory system | Cold | Ap | If | Or | 1 |
| | | | Skin and subcutaneous tissue | Chirapa | Ap | Fs | Kn | 1 |
| *Cuphea strigulosa* Kunth (FC382) | Hierbamora de Sonche, moradilla | Wild | Cultural diseases and disorders | Susto, espanto | Lf | If | Or | 1 |
| | | | Dental health | Toothache | Fr | Ml | Or | 1 |
| | | | Digestive system | Diarrhoea | Fl | If | Or | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Fl | If | Or | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Lf | If | Or | 1 |
| **Malpighiaceae** | | | | | | | | |
| *Banisteriopsis caapi* (Spruce ex Griseb.) Morton (FC389) | Ayahuasca | Wild | Cultural diseases and disorders | Negative vibes | St | Ml | Or | 1 |
| | | | Digestive system | Laxative | Lf | Dc | Or | 1 |
| | | | Other uses | Cancer | St | Dc | Or | 1 |
| **Malvaceae** | | | | | | | | |
| *Ceiba trischistandra* (A. Gray) Bakh. (FC528) | Tomsho | Wild | Cultural diseases and disorders | Pulsario | Lf | If | Or | 1 |
| | | | Sensory system | Visual disorders | Lf | If | Ew | 1 |
| *Fuertesimalva leptocalyx* (Krapov.) Fryxell (FC383) | Malva Wild | Wild | Digestive system | Laxative | Lf | If | Or | 1 |
| | | | | Stomach infection | Lf | If | Or | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Ap, Lf | If | Or | 4 |
| *Gossypium hirsutum* L. (FC384) | Algodón | Cultivated | Blood and cardio-vascular system | Hemorrhoids | Lf | Fs | En | 1 |
| | | | Cultural diseases and disorders | Tacsho | Fl, Fr | Fs | Kn, Pl | 7 |
| | | | Cultural diseases and disorders | Susto, espanto | Fl, Fr | Fs | Kn, Pl | 3 |
| | | | Digestive system | Indigestive | Fr | Fs | Or | 2 |
| | | | | Hepatitis | Fl | If | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Infections and infestations | Fleas | Fl, Fr | Fs | Kn | 2 |
| | | | | Insect bite | Fl, Fr | Wm | Bt, Pl | 2 |
| | | | | Malaria | Sd | If | Or | 1 |
| | | | | UTA, leishmaniasis | Fr | If | Pl | 1 |
| | | | Sensory system | Hearing disorders | Fr, Lf, St | If, Jc, Wm | Ew | 6 |
| | | | Skin and subcutaneous tissue | Itil | Fl | If | Bt | 1 |
| *Heliocarpus americanus* L. (FC483) | Yansabalsa, yansakiri | Wild | Pregnancy, birth and puerperium | Birth | Bk, Lf | If | Or | 3 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Lx, St | Fs | Bt, Pl | 5 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Bk | If | Or | 2 |
| *Malva arborea* (L.) Webb & Berthel. (FC600) | Malva Cultivated | Cultivated | Blood and cardio-vascular system | Hemorrhoids | Lf | Dc | En, Or | 3 |
| | | | | Blood infection | Lf | Dc | Bt | 1 |
| | | | | High pressure | Lf | If | Or | 1 |
| | | | Dental health | Toothache | Lf | Wm | Pl | 1 |
| | | | Digestive system | Laxative | Ap, Bd, Lf | Dc, If | Or | 21 |
| | | | | Stomach infection | Ap, Lf | Dc, Fs, If, Ml | Bt, En, Or | 18 |
| | | | | Constipation | Ap, Lf | If | Or | 5 |
| | | | | Diarrhoea | Lf | If | Or | 2 |
| | | | | Indigestive | Ap, Lf | Dc | Or | 2 |
| | | | | Stomach cramps | Ap | If | Or | 2 |
| | | | | Stomach pain | Ap, Lf | If | Or | 2 |
| | | | | Carminative | Lf | If | Or | 1 |
| | | | | Intestinal infection | Ap | If | Or | 1 |
| | | | | Liver disorders | Lf | If | Or | 1 |
| | | | General ailments with | Fever | Ap, Lf | Dc, Fs, | Bt, Or, Pl | 8 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | unspecific symptoms | | | If, Ml | | |
| | | | | General malaise | Lf | Dc, If | Bt, Or | 3 |
| | | | Muscular-skeletal system | Rheumatism | Lf | Ml | Pl | 1 |
| | | | Nervous system and mental health | Stress | Ap, Fl, Lf | If | Or | 3 |
| | | | Pregnancy, birth and puerperium | Birth | Ap | Jc | Or | 1 |
| | | | Pregnancy, birth and puerperium | Postpartum | Ap | If | Bt | 1 |
| | | | Reproductive system and reproductive health | Vaginal infection | Lf | If | Or | 1 |
| | | | Respiratory system | Tonsillitis | Lf | Dc | Gg | 1 |
| | | | Sensory system | Hearing disorders | Lf | If, Wm | Ew | 2 |
| | | | Sensory system | Visual disorders | Lf | Jc | Ew | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Ap, Lf | Dc, Fs, If | Bt, Or, Pl | 7 |
| | | | | Swelling | Lf | Fs, If | Or, Pl | 2 |
| | | | | Burns | Lf | Fs | Pl | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Ap, Lf | Dc, Fs, If | Bt, Or, Pl | 45 |
| | | | Urinary system | Kidney stones | Lf | If | Or | 1 |
| | | | Urinary system | Prostate disorders | Ap | Ml | Pl | 1 |
| *Malvastrum tomentosum* (L.) S.R. Hill (FC575) | Angusacha, ancosacha, lancosacha, yator | Wild | Blood and cardio-vascular system | Blood infection | Lf | Dc | Bt | 1 |
| | | | Cultural diseases and disorders | Susto, espanto | Lf | If | Bt | 1 |
| | | | Dental health | Toothache | Lf | Fs | Or | 1 |
| | | | Digestive system | Diarrhoea | Ap | If | Or | 2 |
| | | | | Gastric ulcers | Ap | If | Or | 1 |
| | | | | Stomach pain | Lf | If | Or | 1 |
| | | | General ailments with | Fever | Ap | If | Or | 2 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | unspecific symptoms | | | | | |
| | | | General ailments with unspecific symptoms | General malaise | Lf | Dc | Pl | 1 |
| | | | Infections and infestations | Insect bite | Lf | Fs | Pl | 1 |
| | | | Infections and infestations | UTA, leishmaniasis | Lf | Fs | Pl | 1 |
| | | | Other uses | Hair loss | Ap, Lf | If | Bt | 7 |
| | | | Pregnancy, birth and puerperium | Breastfeeding | Lf | If | Or | 1 |
| | | | Reproductive system and reproductive health | Vaginal infection | Ap | If | Bt | 1 |
| | | | Sensory system | Hearing disorders | Lf | Fs | Ew | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Ap, Ep, Lf | Fs, If, Ml | Bt, Or, Pl | 11 |
| | | | | Burns | Ap, Lf | If, Ml | Bt, Or, Pl | 4 |
| | | | | Swelling | Lf | If | Bt | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Ap, Lf | If | Or | 4 |
| *Ochroma pyramidale* (Cav. ex Lam.) Urb. (FC648) | Balsa, palma de mano, palo balsa | Wild | Cultural diseases and disorders | Tacsho | St | Fs | Pl | 2 |
| | | | | Negative vibes | Lf | If | Pl | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Ec, Lx | Dc, Fs | Bt, Pl | 4 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Bk | If | Or | 2 |
| | | | | Kidney stones | St | If | Or | 1 |
| | | | | Prostate disorders | Bk | If | Or | 1 |
| *Pseudobombax millei* (Standl.) A. Robyns (FC484) | Beldaco | Wild | Muscular-skeletal system | Broken bones | Ap, Lf | If | Bt, Or | 2 |
| | | | | Hernia | Lf | If | Bt, Or | 2 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| *Theobroma cacao* L. (FC448) | Cacao | Cultivated | Cultural diseases and disorders | Tacsho | Sd | Dc | Or | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Fr, Lf, Sd | Dc, If | Or | 11 |
| | | | | Breastfeeding | Fr, Lf, Sd | Dc, Ml | Or | 8 |
| | | | Reproductive system and reproductive health | Menopause | Sd | Dc | Or | 1 |
| *Tilia platyphyllos* Scop. (no voucher specimen) | Tilo | Cultivated | Digestive system | Diarrhoea | Lf | If | Or | 1 |
| | | | | Stomach cramps | Lf | If | Or | 1 |
| *Triumfetta semitriloba* Jacq. (FC333) | Cabayusa | Wild | Nervous system and mental health | Epilepsy | Sd | Dc | Or | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Lf | If | Or | 1 |
| | | | | Postpartum | Lf | Fs, If | Bt, Or | 1 |
| **Melastomataceae** | | | | | | | | |
| *Aciotis rubricaulis* (Mart. ex DC.) Triana (FC485) | Zarcilleja, flores rosas | Wild | Nervous system and mental health | Stress | Fl | If | Or | 1 |
| | | | Pregnancy, birth and puerperium | Postpartum | Ap | If | Bt | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Bd, Fl, Lf | If | Or | 3 |
| | | | | Menopause | Lf | Dc, If | Or | 2 |
| *Miconia* sp. (FC423) | Shambo | Wild | Cultural diseases and disorders | Susto, espanto | Lf | Fs | Kn | 2 |
| | | | General ailments with unspecific symptoms | Fever | Ap | If | Bt | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Ap | If | Or | 1 |
| | | | | Postpartum | Ap | If | Or | 1 |
| *Tibouchina weberbaueri* Cogn. (FC486) | Duenduaite | Wild | Blood and cardio-vascular system | Varicose veins | Bd, Fr, Lf, Ro | Dc, Fm, Fs, Ml | Kn, Or, Pl | 5 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Cultural diseases and disorders | Pulsario | Lf | If | Or, Pl | 2 |
| | | | Infections and infestations | Chickenpox | Lf | If | Kn | 1 |
| | | | Muscular-skeletal system | Rheumatism | Lf | Dc | Pl | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Fl | If | Or | 2 |
| **Meliaceae** | | | | | | | | |
| *Cedrela angustifolia* DC. (FC385) | Cedro | Wild | Digestive system | Diarrhoea | Bk | If | Or | 1 |
| | | | | Intestinal parasites | Ap | If | Or | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Bk | If | Bt | 1 |
| | | | Sensory system | Hearing disorders | Bk | If | Ew | 2 |
| *Melia azedarach* L. (FC517) | Árbol del paraiso | Cultivated | Digestive system | Indigestive | Fl | If | Or | 1 |
| **Monimiaceae** | | | | | | | | |
| *Peumus boldus* Molina (FC440) | Boldo | Wild | Digestive system | Liver disorders | Ap, Lf | If | Or | 2 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Ap | If | Or | 1 |
| **Moraceae** | | | | | | | | |
| *Artocarpus altilis* (Parkinson ex F.A. Zorn) Fosberg (FC663) | Pan de árbol | Wild | Blood and cardio-vascular system | Varicose veins | Sd | Ml | Kn | 1 |
| | | | Muscular-skeletal system | Broken bones | Bk | Fs | Pl | 1 |
| *Ficus carica* L. (FC386) | Higos, higo | Cultivated | Blood and cardio-vascular system | High pressure | Lf | If | Or | 1 |
| | | | Cultural diseases and disorders | Pulsario | Lf | Fs, Ml, Wm | Bt, Pl | 7 |
| | | | | Tijte | Lx | Fs | Bt | 1 |
| | | | Dental health | Toothache | Lf | If | Bt, Or | 2 |
| | | | General ailments with unspecific symptoms | General malaise | Lf | If | Pl | 1 |
| | | | Nervous system and mental health | Stress | Lf | If | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Other uses | Hangover | Fr, Lf, Sd | If | Or | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Lf | If | Or | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Lf | If | Or | 1 |
| | | | Sensory system | Hearing disorders | Fr, Lf, Sd | Wm | Ew | 1 |
| *Ficus insipida* Willd. (FC449) | Higuerón, ojé | Wild | Cultural diseases and disorders | Negative vibes | Ap | Fs | Nn | 1 |
| | | | Digestive system | Carminative | Lf | If | Or | 1 |
| | | | Muscular-skeletal system | Hernia | Bk, Ec, Fr, Lx | Fs, Ml, Wm | Pl | 5 |
| | | | Other uses | Cancer | Bd | If | Or | 1 |
| | | | Ritual and magic uses | Curse | Lf | Dc | Kn | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Lf | Ml | Pl | 1 |
| *Ficus maxima* Mill. (FC499) | Morero | Wild | Cultural diseases and disorders | Susto, espanto | Lf | Dc, Ml | Or | 2 |
| | | | Dental health | Toothache | Bk, Lx | Fs | Kn, Or, Pl | 4 |
| | | | Endocrine system | Diabetes | Lf | If | Or | 1 |
| | | | Muscular-skeletal system | Hernia | Lx | If | Or | 1 |
| **Musaceae** | | | | | | | | |
| *Musa acuminata* Colla (FC387) | Plátano | Cultivated | Blood and cardio-vascular system | Hemorrhoids | Fr | Fs | Or | 2 |
| | | | Cultural diseases and disorders | Tijte | Bk, Ec, Fr, Lx | Dc, Fs, If, Jc, Wm | Bt, Kn, Pl | 26 |
| | | | Dental health | Toothache | Fr | Ml | Pl | 1 |
| | | | Digestive system | Constipation | Fr | Fs | Or | 2 |
| | | | | Diarrhoea | Bk, Fr | Dc, Fs | Or | 2 |
| | | | | Hepatitis | Fr | Jc | Or | 1 |
| | | | | Indigestive | Fr | Fs | Or | 1 |
| | | | | Liver disorders | Fr | Fs | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Endocrine system | Diabetes | Fr | Ml | Or | 2 |
| | | | General ailments with unspecific symptoms | Fever | Lx | Fs | Or | 1 |
| | | | Infections and infestations | Fleas | Bk | Fs | Kn | 1 |
| | | | | Malaria | Fr | Dc | Or | 1 |
| | | | | Tuberculosis | Lx | Fs | Or | 1 |
| | | | | UTA, leishmaniasis | Lx | Fs | Pl | 1 |
| | | | Muscular-skeletal system | Broken bones | Fr, Lf | Fs, Ml, Wm | Pl | 3 |
| | | | | Rheumatism | Fr, Lf | If, Ml | Or, Pl | 2 |
| | | | Nervous system and mental health | Insomnia | Fr | If | Or | 1 |
| | | | Other uses | Hangover | Fr | Fs | Or | 1 |
| | | | Pregnancy, birth and puerperium | Breastfeeding | Fr | Dc, If, Ml | Or | 8 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Fr, Lx, St | Fs, If, Jc | Or | 2 |
| | | | Sensory system | Hearing disorders | Fr, St | Fs, Wm | Ew | 3 |
| | | | Skin and subcutaneous tissue | Itil | Bk, Fr, Lf, St | Dd, Fs, If, Wm | Bt, Nn, Pl | 37 |
| | | | | Wounds, healing | Lx | Fs, If, Ml | Bt, Pl | 5 |
| | | | | Acne | Fr | Fs, Wm | Pl | 2 |
| | | | | Feet fungus | Fr | If | Bt | 2 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Fr | If | Or | 2 |
| *Musa x paradisiaca* L. (FC461) | Guineo | Cultivated | Blood and cardio-vascular system | High pressure | Fr | Ml | Or | 2 |
| | | | Digestive system | Liver disorders | Lx, St | Fs, If, Jc | Or | 7 |
| | | | | Gastric ulcers | St | Dc, Jc | Or | 2 |
| | | | | Indigestive | Fr, St | Fs | Or | 2 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | | Intestinal parasites | St | Fs | Or | 2 |
| | | | | Stomach infection | St | Fs | Or | 2 |
| | | | | Stomach pain | Fr, St | Fs, If | Or | 2 |
| | | | | Diarrhoea | St | Jc | Or | 1 |
| | | | | Laxative | St | Fs | Or | 1 |
| | | | General ailments with unspecific symptoms | Fever | Lx, St | Fs, If | Or | 11 |
| | | | Infections and infestations | Insect bite | Fr | If | Pl | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | St | If, Jc | Or | 2 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Lx, St | Fs | Kn, Or, Pl | 9 |
| | | | | Itil | Fr | If | Or | 1 |
| | | | Urinary system | Prostate disorders | St | Fs | Pl | 1 |
| **Myricaceae** | | | | | | | | |
| *Morella pubescens* (Humb. & Bonpl. ex Willd.) Wilbur (FC597) | Laurel | Wild | Cultural diseases and disorders | Susto, espanto | Ap, Lf | Dc, Fs, If | Bt, Kn, Or | 26 |
| | | | | Antimonia, gentil, viejo, antiguo | Ap | If | Or | 1 |
| **Myrtaceae** | | | | | | | | |
| *Eucalyptus globulus* Labill. (FC562) | Eucalipto | Cultivated | Blood and cardio-vascular system | Low pressure | Lf | If | Or | 2 |
| | | | Cultural diseases and disorders | Aire, malaire | Lf | If | Kn | 1 |
| | | | Cultural diseases and disorders | Susto, espanto | Ap | If | Bt | 1 |
| | | | Dental health | Toothache | Lx | Fs | Pl | 1 |
| | | | Digestive system | Indigestive | Lf | If | Pl | 1 |
| | | | | Intestinal parasites | Lf | If | Or | 1 |
| | | | | Stomach pain | Lf | If | Or | 1 |
| | | | General ailments with unspecific symptoms | Fever | Lf | If | Pl, Vp | 2 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | General ailments with unspecific symptoms | General malaise | Lf | Dc, Fs | Bt, Pl | 2 |
| | | | Infections and infestations | Fleas | Lf | Dc, Fs, If | Bt, Or, Pl | 3 |
| | | | Muscular-skeletal system | Rheumatism | Ap, Lf | Dc, Fs, If, Ml | Bt, Kn, Or, Pl, Wh | 24 |
| | | | Pregnancy, birth and puerperium | Abortive | Lf | If | Or | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Lf | If | Or | 1 |
| | | | Respiratory system | Cold | Ap, Lf | Fs, If, Ml | Bt, Or, Pl, Vp | 63 |
| | | | | Flu | Lf | If, Wm | In, Or, Pl, Vp | 56 |
| | | | | Cough | Lf | Fs, If | Bt, Or, Pl, Vp | 43 |
| | | | | Expectorant | Ap, Lf | Dc, If | Pl, Vp | 12 |
| | | | | Bronchitis | Lf | If | Bt, Or | 5 |
| | | | | Asthma | Fr | Jc | Or | 1 |
| | | | Skin and subcutaneous tissue | Feet fungus | Lf | Fs | Bt | 1 |
| *Myrcianthes discolor* (Kunth) McVaugh (FC473) | Lamche | Wild | Digestive system | Indigestive | Lf | If | Or | 1 |
| | | | | Stomach pain | Ap | If | Or | 1 |
| | | | General ailments with unspecific symptoms | Fever | Lf | Dc | Pl | 1 |
| | | | Pregnancy, birth and puerperium | Postpartum | Lf | If | Or | 1 |
| | | | Reproductive system and reproductive health | Menopause | Lf | If | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Respiratory system | Cold | Lf | If | Or | 1 |
| | | | Skin and subcutaneous tissue | Burns | Fr, Lf | Fs | Pl | 2 |
| *Myrcianthes fragans* (Sw.) McVaugh (FC388) | Ushún, ushungo | Wild | Pregnancy, birth and puerperium | Birth | Sd | If | Or | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Ap | If | Or | 1 |
| *Psidium acutangulum* Mart. ex DC. (FC487) | Guayabilla | Wild | Dental health | Toothache | Fr | Fs | Or | 2 |
| | | | Digestive system | Diarrhoea | Bd | If | Or | 1 |
| | | | Other uses | Hair loss | Ro | If | Bt | 2 |
| *Psidium fulvum* McVaugh (FC390) | Shaguante, guayaba Wild | Wild | Digestive system | Diarrhoea | Fr | If | Or | 1 |
| | | | | Stomach infection | Fr | If | Or | 1 |
| *Psidium guajava* L. (FC612) | Guayaba | Cultivated | Blood and cardio-vascular system | Anemia | Fr | Ml | Or | 1 |
| | | | Digestive system | Diarrhoea | Ap, Bd, Bk, Fl, Fr, Lf, St | Dc, If | Or | 30 |
| | | | | Indigestive | Lf | If | Or | 1 |
| | | | | Stomach cramps | Bd | If | Or | 1 |
| | | | General ailments with unspecific symptoms | Fever | Lf | Dc, If | Bt, Or | 2 |
| | | | Muscular-skeletal system | Bones hardening | Lf | Dc, If | Vp | 2 |
| | | | Muscular-skeletal system | Rheumatism | Lf | Dc | Bt | 1 |
| | | | Other uses | Hair loss | Lf | If | Bt | 1 |
| | | | Pregnancy, birth and puerperium | Postpartum | Lf | If | Or | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Bd | If | Or | 1 |
| | | | Respiratory system | Cold | Fr, Lf | If | Or | 3 |
| | | | Skin and subcutaneous tissue | Chirapa | Bk | If | Bt | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| *Syzygium aromaticum* (L.) Merr. & L.M. Perry (FC479) | Clavo de olor | Cultivated | Cultural diseases and disorders | Aire, malaire | Lf | If | Or | 1 |
| | | | Dental health | Toothache | Fl | Fs, If, Ml | Bt, Or | 15 |
| **Nyctaginaceae** | | | | | | | | |
| *Colignonia parviflora* (Kunth) Choisy (FC391) | Dos caras, alturna | Wild | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Bd, Lf | Dc, Fm, Fs, If | Bt, Or, Pl | 11 |
| | | | | Susto, espanto | Lf | If | Or | 1 |
| | | | Muscular-skeletal system | Broken bones | Lf | Fs | Pl | 1 |
| | | | Nervous system and mental health | Stress | Ap | If | Or | 1 |
| | | | Other uses | Cancer | Lf | If | Or | 1 |
| | | | Skin and subcutaneous tissue | Chirapa | Lf | Dc, Fs, If | Bt, Kn, Or | 8 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Lf | Dc | Bt | 1 |
| **Oleaceae** | | | | | | | | |
| *Olea europaea* L. (no voucher specimen) | Olivo | Cultivated | Blood and cardio-vascular system | Hemorrhoids | Fr | Oi | Or | 1 |
| | | | Digestive system | Laxative | Fr | Oi | Or | 1 |
| | | | Reproductive system and reproductive health | Menopause | Ap | Oi | Pl | 1 |
| **Onagraceae** | | | | | | | | |
| *Fuchsia rivularis* J.F. Macbr. (FC640) | Santa Lucía | Wild | Pregnancy, birth and puerperium | Birth | Lf | If | Or | 1 |
| *Ludwigia peruviana* (L.) H. Hara (FC488) | Sandoval pequeño | Wild | Infections and infestations | Malaria | Lf | Fs | Kn, Or | 2 |
| | | | | Yellow fever | Ap | If | Or | 2 |
| *Oenothera rosea* L`Hér. ex Aiton (FC608) | Chupasangre | Wild | Digestive system | Indigestive | Lf | Dc, If, Ml | Or | 3 |
| **Orchidaceae** | | | | | | | | |
| *Cranichis calva* (Kraenzl.) Schltr. (FC392) | Cuchishpa, orquídea gallito | Wild | Digestive system | Gastric ulcers | Lf | If | Or | 1 |
| | | | General ailments with unspecific symptoms | General malaise | Fl | If | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Respiratory system | Flu | Fl | If | Or | 1 |
| | | | Skin and subcutaneous tissue | Feet fungus | Ap | If | Bt | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Ap, Fr, Lf, Sd | Dc, If | Or | 7 |
| *Epidendrum laciniitropis* Hágsater (FC393) | Monterrosa | Wild | Nervous system and mental health | Sadness | Ap, Fl | If | Or | 4 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Lf | If | Or | 1 |
| *Epidendrum secundum* Jacq. (FC394) | Inguilito, inguil | Wild | Digestive system | Stomach cramps | Lf | If | Or | 1 |
| | | | Nervous system and mental health | Stress | Ap, Fl, Fr | If | Or | 9 |
| | | | Other uses | Altitude sickness | Fl | If | Or | 1 |
| *Oncidium baueri* Lindl. (FC530) | Bestiusa | Wild | Nervous system and mental health | Stress | Fl | If | Or | 1 |
| | | | Pregnancy, birth and puerperium | Postpartum | Lf | If | Or | 4 |
| **Orobanchaceae** | | | | | | | | |
| *Bartsia flava* Molau (FC395) | Geranio de monte | Wild | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Ap | If | Bt | 1 |
| | | | | Susto, espanto | Ap | Fs | Kn | 1 |
| | | | Nervous system and mental health | Insomnia | Ap | If | Or | 1 |
| *Castilleja scorzonerifolia* Kunth (FC445) | Partera, uchuchllhu ambrillo | Wild | Pregnancy, birth and puerperium | Birth | Ap, Lf | Dc, If | Or | 16 |
| **Oxalidaceae** | | | | | | | | |
| *Oxalis corniculata* L. (FC594) | Chushco, oca macho, chullco | Wild | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Ap | If | Bt | 1 |
| | | | | Susto, espanto | Lf | If | Or | 1 |
| | | | Digestive system | Diarrhoea | Lf, St | Fs, If | Or | 4 |
| | | | Reproductive system and reproductive health | Fertility | Lf | If | Or | 1 |
| | | | Respiratory system | Cough | Ap, Lf | Dc, If | Or | 2 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| *Oxalis dombeyi* A. St.-Hil. (FC508) | Puchquillo | Wild | General ailments with unspecific symptoms | Fever | Ap | Ml | Or | 1 |
| | | | Urinary system | Prostate disorders | Bd, Lf | If | Or | 2 |
| *Oxalis peduncularis* Kunth var. *pilosa* Hieron. (FC396) | Platanito, ucurucu, purpur ratón | Wild | Cultural diseases and disorders | Aire, malaire | Ap | If | Or | 1 |
| | | | General ailments with unspecific symptoms | Fever | Ap | If | Or | 1 |
| *Oxalis tuberosa* Molina (FC397) | Ocas | Cultivated | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Ro | Fs | Kn | 2 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Ro | If | Bt | 2 |
| | | | Urinary system | Prostate disorders | Ro | Dc | Or | 1 |
| **Papaveraceae** | | | | | | | | |
| *Argemone subfusiformis* Ownbey (FC400) | Cardosanto | Wild | Blood and cardio-vascular system | Hemorrhoids | St | If | Or | 1 |
| | | | Cultural diseases and disorders | Tijte | Lx | Fs | Pl | 1 |
| | | | Digestive system | Gastric ulcers | Lf | If | Or | 1 |
| | | | Nervous system and mental health | Insomnia | Lf | Fs | Nn | 1 |
| | | | Other uses | Anesthesia | Sd | If | Or | 1 |
| | | | Reproductive system and reproductive health | Vaginal infection | Lf | If | Bt | 1 |
| | | | Respiratory system | Cold | Lf | If | Bt | 1 |
| | | | | Cough | Ap | If | Or | 1 |
| *Bocconia integrifolia* Bonpl. (FC401) | Huacango, atujtallga, mangapaqui, mangapaque, sandoval | Wild | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Lf | Dc, Fm, If | Bt, Or, Pl | 4 |
| | | | Digestive system | Stomach infection | Ap | If | Or | 1 |
| | | | General ailments with unspecific symptoms | Headache | Lf | Fs | Pl | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Muscular-skeletal system | Broken bones | Lf, St | Ml | Pl | 2 |
| | | | | Rheumatism | Lf | Fs | Pl | 2 |
| **Passifloraceae** | | | | | | | | |
| *Passiflora edulis* Sims. (FC656) | Maracuyá | Cultivated | Blood and cardio-vascular system | High pressure | Fr | If, Jc, Ml | Or | 32 |
| | | | | Low pressure | Fr | If | Or | 1 |
| | | | Digestive system | Stomach pain | Lf | If | Or | 1 |
| | | | Metabolic system and nutrition | Weight loss | Fr | Jc, Ml | Or | 1 |
| | | | Nervous system and mental health | Stress | Lf | If | Or | 1 |
| | | | Reproductive system and reproductive health | Impotence | Fr | Jc, Ml | Or | 2 |
| | | | Respiratory system | Cold | Fr | Fs | Or | 1 |
| *Passiflora ligularis* Juss. (FC398) | Granadilla | Cultivated | Blood and cardio-vascular system | Anemia | Fr | Dc | Or | 1 |
| | | | Cultural diseases and disorders | Pulsario | Lf | Ml | Pl | 1 |
| | | | Digestive system | Laxative | Bd, Fr | Fs, If, Jc, Ml | Or | 7 |
| | | | | Constipation | Fr | Fs | Or | 3 |
| | | | | Diarrhoea | Fr | Dc | Or | 1 |
| | | | | Liver disorders | Lf | If | Or | 1 |
| | | | | Stomach pain | Lf | If | Or | 1 |
| | | | General ailments with unspecific symptoms | Fever | Lf | Dc, Fs, If | Bt, Or, Pl | 11 |
| | | | | Headache | Lf | Fs, If | Bt, Or, Pl | 5 |
| | | | | General malaise | Lf | Fs | Pl | 1 |
| | | | Infections and infestations | Malaria | Lf | If, Wm | Or, Pl | 2 |
| | | | Muscular-skeletal system | Joint sprains | Lf | Wm | Pl | 1 |
| | | | Nervous system and mental health | Insomnia | Lf | If | Or | 2 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Pregnancy, birth and puerperium | Breastfeeding | Lf | Dc | Or | 1 |
| | | | Reproductive system and reproductive health | Menopause | Fr, Lf | Dc, Fs | Or, Pl | 2 |
| | | | | Impotence | Fr | Fs | Or | 1 |
| | | | Skin and subcutaneous tissue | Swelling | Lf | Fs | Pl | 2 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Lf | Fs, If | Bt, Or, Pl | 6 |
| *Passiflora tripartita* (Juss.) Poir. var. *mollisima* (Kunth.) Holm-Niels. & P.M. Jørg. (FC399) | Pur pur | Cultivated | Cultural diseases and disorders | Pulsario | Lf | Fs, If | Or, Pl | 2 |
| | | | | Aire, malaire | Lf | If | Or | 1 |
| | | | | Antimonia, gentil, viejo, antiguo | Lf | Jc | Or | 1 |
| | | | Muscular-skeletal system | Broken bones | Lf | Fs | Pl | 3 |
| | | | | Muscle cramps | Fr | If | Or | 1 |
| | | | Nervous system and mental health | Insomnia | Lf | If | Or | 1 |
| | | | Respiratory system | Cold | Fr, Lf | If | Or | 2 |
| | | | Respiratory system | Flu | Fr | If | Or | 1 |
| | | | Sensory system | Hearing disorders | Lf | Ml | Ew | 2 |
| **Pedaliaceae** | | | | | | | | |
| *Sesamum indicum* L. (FC413) | Ajonjolí | Wild | Digestive system | Laxative | Ap | If | Or | 2 |
| | | | Muscular-skeletal system | Broken bones | Bk, Lf | Fs, Ml, Wm | Pl | 3 |
| | | | Pregnancy, birth and puerperium | Breastfeeding | Fr | Dc | Or | 1 |
| | | | Respiratory system | Cough | Fr | Fm | Or | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Bk, Fr | Dc, Fs | Or, Pl | 2 |
| **Phyllanthaceae** | | | | | | | | |
| *Phyllanthus niruri* L. (FC403) | Chancapiedra | Wild | Digestive system | Diarrhoea | Ap | If | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | | Gastric ulcers | Lf | If | Bt | 1 |
| | | | | Liver disorders | Lf | If | Or | 1 |
| | | | Muscular-skeletal system | Lumbago | Lf | If | Or | 1 |
| | | | Nervous system and mental health | Stress | Ap | If | Or | 1 |
| | | | Reproductive system and reproductive health | Fertility | Bk | Fm | Or | 1 |
| | | | | Menstruation disorders | Ep | If | Or | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Ap | Fs, If | Bt, Pl | 3 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Ap, Ep, Lf | Dc, Fs, If, Ml | Bt, Or | 79 |
| | | | | Kidney stones | Ap, Ep | If | Or | 8 |
| | | | | Prostate disorders | Ap, Lf | If | Or | 7 |
| **Phytolaccaceae** | | | | | | | | |
| *Petiveria alliacea* L. (FC519) | Múcura, mocura | Wild | Cultural diseases and disorders | Susto, espanto | Lf | Dc, If | Bt, Kn, Or | 5 |
| | | | | Antimonia, gentil, viejo, antiguo | Lf | Dc | Kn | 1 |
| *Phytolacca bogotensis* Kunth (FC555) | Airambo | Wild | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Lf | Dc, Fs, If | Bt, Kn | 3 |
| | | | Cultural diseases and disorders | Aire, malaire | Lf | If | Bt | 1 |
| | | | Dental health | Toothache | Lf | Ml | Pl | 2 |
| | | | Infections and infestations | Herpes | Ap | Ml | Bt | 1 |
| | | | Infections and infestations | Insect bite | Fr | If | Bt | 1 |
| | | | Pregnancy, birth and puerperium | Abortive | Ep, Lf | If | Or | 2 |
| | | | Pregnancy, birth and puerperium | Birth | Ro | If | Or | 1 |
| **Pinaceae** | | | | | | | | |
| *Pinus radiata* D. Don (FC542) | Pino | Cultivated | Dental health | Toothache | Lx | Dd, Fs | Bt, Or | 5 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Respiratory system | Bronchitis | Lf | Fs | Nn | 1 |
| | | | Respiratory system | Tonsillitis | Lf | If | Or | 1 |
| **Piperaceae** | | | | | | | | |
| *Peperomia galioides* Kunth (FC407) | Congona Wild | Wild | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Ap, Lf | Dc, If, Ml | Bt, Or, Pl | 3 |
| | | | | Aire, malaire | Ap, Lf | If | Bt, Or | 2 |
| | | | | Shucaque | Lf | If | Or, Pl | 2 |
| | | | | Susto, espanto | Lf | Dc | Pl | 1 |
| *Peperomia microphylla* Kunth (FC408) | Congona Cultivated | Cultivated | Blood and cardio-vascular system | High pressure | Lf | If | Or | 2 |
| | | | Cultural diseases and disorders | Aire, malaire | Ap, Lf | Fs, If | In, Or | 13 |
| | | | | Antimonia, gentil, viejo, antiguo | Lf | Fm, If | Bt, Or | 2 |
| | | | | Pulsario | Lf | If | Bt, Or | 2 |
| | | | | Susto, espanto | Lf | Fs, If | Or, Pl | 2 |
| | | | | Tacsho | Lf | If | Or | 2 |
| | | | Dental health | Toothache | Lf | Dd | Or | 1 |
| | | | Digestive system | Stomach pain | Ap, Ep, Lf | If | Or | 14 |
| | | | | Whet | Ap | If | Or | 5 |
| | | | | Diarrhoea | Lf | If | Or | 2 |
| | | | | Indigestive | Ap | If | Or | 2 |
| | | | | Liver disorders | Lf | If | Or | 1 |
| | | | General ailments with unspecific symptoms | General malaise | Lf | If | Or | 3 |
| | | | Infections and infestations | Fleas | Lf | Fs | Pl | 1 |
| | | | Nervous system and mental health | Stress | Ap, Ep, Lf | If | Or | 76 |
| | | | | Insomnia | Ap | If | Or | 2 |
| | | | | Epilepsy | Lf | If | Or | 1 |
| | | | Other uses | Cancer | Lf | If | Or | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Lf | If | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Reproductive system and reproductive health | Menopause | Lf | If | Or | 1 |
| | | | Respiratory system | Cold | Ap | If | Or | 1 |
| | | | | Flu | Ap | If | Or | 1 |
| | | | Sensory system | Hearing disorders | Lf | Dc, Fs, Jc | Ew | 18 |
| *Peperomia nummularioides* Griseb. (FC489) | Congona de campo | Wild | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Lf | If, Ml | Or, Pl | 2 |
| | | | | Pulsario | Lf | If | Or | 1 |
| | | | | Tacsho | Lf | If | Or | 1 |
| | | | Digestive system | Stomach pain | Ap | If | Or | 1 |
| | | | Nervous system and mental health | Stress | Lf | If | Or | 1 |
| *Piper acutifolium* Ruiz & Pav. (FC515) | Matico de huerta | Cultivated | Infections and infestations | Fleas | Lf | Fs | Bt | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Ap | If | Or | 1 |
| | | | Respiratory system | Cough | Ap | If | Or | 1 |
| | | | Respiratory system | Flu | Lf | If | Or | 1 |
| *Piper aduncum* L. (FC404) | Cordoncillo | Wild | Blood and cardio-vascular system | Blood infection | Lf | If | Or | 1 |
| | | | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Bd, Lf | Dc, Fm, Fs, If | Bt, Kn, Or | 5 |
| | | | | Aire, malaire | Lf | If | Or | 2 |
| | | | | Susto, espanto | Lf | If | Kn | 1 |
| | | | Digestive system | Stomach pain | Ap, Lf | If | Or | 28 |
| | | | | Indigestive | Lf | If | Or | 8 |
| | | | | Diarrhoea | Lf | If | Or | 2 |
| | | | | Stomach cramps | Lf | If | Or | 2 |
| | | | | Stomach infection | Lf | If | Or | 2 |
| | | | | Carminative | Lf | If | Or | 1 |
| | | | General ailments with unspecific symptoms | General malaise | Lf | If | Bt | 1 |
| | | | Infections and infestations | Chickenpox | Lf | If | Bt | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | | Fleas | Lf | Dc | Bt | 1 |
| | | | | Insect bite | Lf | If | Or | 1 |
| | | | | Malaria | Lf | If | Or | 1 |
| | | | Muscular-skeletal system | Rheumatism | Lf | If | Bt | 22 |
| | | | Muscular-skeletal system | Broken bones | Lf | Ml | Pl | 1 |
| | | | Nervous system and mental health | Insomnia | Lf | If | Or | 1 |
| | | | Pregnancy, birth and puerperium | Postpartum | Lf | If | Vp | 1 |
| | | | Reproductive system and reproductive health | Vaginal infection | Lf, Lx | If | Bt, Or | 8 |
| | | | | Menopause | Lf | Dc, If | Or | 2 |
| | | | | Menstruation disorders | Ap, Lf | If | Or | 2 |
| | | | | Fertility | Bk | Fm | Or | 1 |
| | | | Respiratory system | Cough | Ap, Lf | Dc, If | Or | 73 |
| | | | | Cold | Lf | If | Or | 24 |
| | | | | Flu | Lf | Dc, If | Or | 22 |
| | | | | Bronchitis | Lf | If | Or | 4 |
| | | | | Asthma | Lf | If | Or | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Ap, Lf | Dc, Fs, If, Wm | Bt, Or, Pl | 26 |
| | | | Skin and subcutaneous tissue | Swelling | Lf | Fs | Pl | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Ap, Lf | Dc, If | Bt, Or | 22 |
| | | | Urinary system | Prostate disorders | Ap, Lf | Dc, If, Ml | Or, Pl | 4 |
| *Piper aequale* Vahl. (FC604) | Cordoncillo pequeño | Wild | Blood and cardio-vascular system | Low pressure | Lf | If | Or | 1 |
| | | | Cultural diseases and disorders | Aire, malaire | Lf | Fs | Pl | 1 |
| | | | | Antimonia, gentil, viejo, antiguo | Lf | Dc | Bt | 1 |
| | | | | Pulsario | Lf | If | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | | Susto, espanto | Lf | Fs, If | Bt | 2 |
| | | | Digestive system | Carminative | Lf | If | Or | 1 |
| | | | Digestive system | Indigestive | Lf | If | Or | 1 |
| | | | Nervous system and mental health | Stress | Ap, Lf | If | Or | 2 |
| | | | Nervous system and mental health | Epilepsy | Lf | Fs | Or | 1 |
| | | | Other uses | Cancer | Lf | If | Or | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Ap, Lf | If | Or | 2 |
| | | | Reproductive system and reproductive health | Menopause | Lf | If | Or | 1 |
| | | | Respiratory system | Flu | Lf | If | Or | 2 |
| | | | Respiratory system | Cold | Lf | If | Or | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Lf | Ml | Pl | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Lf | If | Or | 2 |
| | | | | Prostate disorders | Lf | If | Or | 2 |
| | | | | Kidney stones | Lf | Dc | Or | 1 |
| *Piper lhotzkyanum* Kunth (FC406) | Mij mij | Wild | Digestive system | Stomach pain | Ap, Lf | If | Or | 2 |
| | | | | Diarrhoea | Lf | If | Or | 1 |
| | | | Urinary system | Kidney stones | Ap | if | Or | 1 |
| *Piper perareolatum* C. DC. (FC409) | Matico grande | Wild | Cultural diseases and disorders | Susto, espanto | Lf | If | Bt | 2 |
| **Plantaginaceae** | | | | | | | | |
| *Plantago australis* Lam. (FC560) | Llantén Wild | Wild | Skin and subcutaneous tissue | Wounds, healing | Ap, Lf | Fs, If | Bt, Pl | 4 |
| *Plantago lanceolata* L. (FC402) | Llantén menor | Wild | Digestive system | Liver disorders | Ap | If | Or | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Ap | Fs, If | Bt, Pl | 2 |
| | | | | Swelling | Ap | If | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Urinary system | Kidney disorders, emollient, diuretic | Ap | If | Or | 1 |
| | | | | Kidney stones | Ap | If | Or | 1 |
| *Plantago major* L. (FC584) | Llantén | Cultivated | Blood and cardio-vascular system | Hemorrhoids | Lf | If | Or, Vp | 4 |
| | | | | Blood infection | Lf | If | Vp | 1 |
| | | | | Varicose veins | Lf | If | Vp | 1 |
| | | | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Lf | Ml | Pl | 1 |
| | | | Dental health | Toothache | Lf | Fs, If | Bt, Or, Pl | 4 |
| | | | Digestive system | Stomach pain | Ap, Lf | Fs, If | Or, Pl | 4 |
| | | | | Liver disorders | Ap, Lf | If | Bt, Or | 3 |
| | | | | Stomach cramps | Ap, Lf | If | Or | 2 |
| | | | | Stomach infection | Ep, Lf | If | Or | 2 |
| | | | | Diarrhoea | Lf | If | Or | 1 |
| | | | | Laxative | Ap | If | Or | 1 |
| | | | General ailments with unspecific symptoms | Fever | Ap, Lf | Fs, If | Kn, Or, Pl | 8 |
| | | | Infections and infestations | Fleas | Lf | Fs | Pl | 3 |
| | | | | Chickenpox | Lf | If | Bt | 1 |
| | | | | Insect bite | Lf | If | Bt | 1 |
| | | | | UTA, leishmaniasis | Ap | Ml | Pl | 1 |
| | | | Muscular-skeletal system | Broken bones | Lf | Fs, If, Ml | Bt, Pl | 5 |
| | | | Nervous system and mental health | Stress | Ap | If | Bt | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Lf | Dc | Bt | 1 |
| | | | Pregnancy, birth and puerperium | Postpartum | Lf | Fs | Pl | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Ap, Lf | Dc, If | Or, Pl | 3 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Sensory system | Visual disorders | Ap, Lf | Dc, If | Ew | 7 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Ap, Ep, Lf | Dc, Fs, If, Ml, Wm | Bt, Or, Pl, Wh, Vp | 136 |
| | | | | Swelling | Ap, Ep, Lf | Fs, If | Bt, Or, Pl | 39 |
| | | | | Burns | Lf | Dc, Fs, Ml | Bt, Or, Pl | 17 |
| | | | | Acne | Lf | Dc | Bt | 1 |
| | | | | Chirapa | Lf | Fs | Bt | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Ap, Lf, St | Dc, Fs, If | Bt, Or, Pl | 79 |
| | | | | Prostate disorders | Ap, Lf | Fs, If, Ml | Or, Pl | 7 |
| | | | | Kidney stones | Ap | If | Or | 1 |
| *Stemodia suffruticosa* Kunth (FC446) | Ruibarbo, ruibarba | Wild | Cultural diseases and disorders | Susto, espanto | Ap, Lf | Fs, If | Bt, Kn | 10 |
| | | | | Antimonia, gentil, viejo, antiguo | Ap | Fs | Kn | 2 |
| | | | Infections and infestations | Fleas | Ap | Fs | Kn | 1 |
| | | | Metabolic system and nutrition | Weight loss | Lf | Dc | Vp | 1 |
| | | | Muscular-skeletal system | Broken bones | Ap | If | Or | 2 |
| | | | Pregnancy, birth and puerperium | Birth | Ep | Fs | Kn | 1 |
| | | | Skin and subcutaneous tissue | Chirapa | Ap, Lf | Fs, If | Bt, Kn | 2 |
| **Poaceae** | | | | | | | | |
| *Avena sativa* L. (FC368) | Avena | Cultivated | Blood and cardio-vascular system | Blood infection | Ap | If | Or | 1 |
| | | | Cultural diseases and disorders | Pulsario | Lf | Fs | Pl | 1 |
| | | | Metabolic system and nutrition | Weight loss | Fr | Dc | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Nervous system and mental health | Insomnia | Sd | If | Or | 1 |
| | | | Pregnancy, birth and puerperium | Breastfeeding | Fr, Sd | Dc | Or | 4 |
| *Chusquea serrulata* Pilg. (FC623) | Chos, chozillo | Wild | Reproductive system and reproductive health | Menstruation disorders | Ap, Lf | If | Or | 2 |
| | | | Respiratory system | Cough | Ap | If | Or | 1 |
| | | | Skin and subcutaneous tissue | Acne | Bd | Dc | Bt | 1 |
| *Cortaderia jubata* (Lemoine ex Carrière) Stapf. (FC546) | Cortadera | Wild | Digestive system | Diarrhoea | Fl | If | Or | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Ro | Ml | Or | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Ap, Ro | If | Or | 8 |
| | | | | Menopause | Ro | If | Or | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Ro, St | If | Or | 2 |
| *Cymbopogon citratus* (DC.) Stapf (FC550) | Hierbaluisa | Cultivated | Blood and cardio-vascular system | Low pressure | Lf | If | Or | 2 |
| | | | | High pressure | Lf | If | Or | 1 |
| | | | Digestive system | Stomach pain | Ap, Lf | If | Or | 15 |
| | | | | Indigestive | Ap, Lf | If | Or | 4 |
| | | | | Stomach cramps | Lf | If | Or | 4 |
| | | | | Carminative | Ap, Lf | If | Or | 2 |
| | | | | Stomach infection | Lf | If | Or | 1 |
| | | | Nervous system and mental health | Stress | Ap, Lf | If | Or | 2 |
| | | | Pregnancy, birth and puerperium | Birth | Lf | If | Or | 1 |
| | | | Pregnancy, birth and puerperium | Breastfeeding | Lf | If | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Reproductive system and reproductive health | Menstruation disorders | Lf | If | Or | 3 |
| | | | Respiratory system | Cold | Ap, Lf | If | Or | 2 |
| | | | Respiratory system | Flu | Lf | If | Or | 1 |
| *Cynodon dactylon* (L.) Pers. (FC609) | Grama dulce | Wild | Cultural diseases and disorders | Aire, malaire | St | Dc | Or | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Ap | If | Or | 1 |
| | | | | Stress | Lf | If | Or | 1 |
| *Gynerium sagittatum* (Aubl.) P. Beauv. (FC647) | Caña brava | Wild | Digestive system | Hepatitis | St | Ml | Or | 1 |
| | | | Muscular-skeletal system | Joint sprains | Ap | If | Or | 1 |
| | | | Pregnancy, birth and puerperium | Postpartum | Ap | If | Or | 1 |
| *Hordeum vulgare* L. (FC410) | Cebada | Cultivated | Blood and cardio-vascular system | High pressure | Sd | If | Or | 2 |
| | | | Cultural diseases and disorders | Pulsario | Fr | Fs | Kn | 1 |
| | | | Digestive system | Hepatitis | Sd | If | Or | 1 |
| | | | Infections and infestations | Chickenpox | Sd | If | Bt | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Sd | Dc | Or | 1 |
| | | | | Breastfeeding | Sd | Ml | Or | 1 |
| | | | Skin and subcutaneous tissue | Burns | Fr | Fs | Pl | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Fr, Sd | Dc, If, Wm | Or | 52 |
| | | | | Kidney stones | Ap, Fr, Sd | Dc, If | Or | 4 |
| | | | | Prostate disorders | Ap, Sd | If | Or | 2 |
| *Oryza sativa* L. (FC412) | Arroz | Cultivated | Digestive system | Diarrhoea | Fr, Sd | Dc | Or | 2 |
| | | | Sensory system | Visual disorders | Sd | If | Ew | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Skin and subcutaneous tissue | Acne | Fr, Sd | Dc | Bt, Kn, Pl | 3 |
| *Pennisetum* sp. (FC411) | Huacacho, huacache, grama dulce | Wild | Digestive system | Liver disorders | Ap | If | Or | 1 |
| | | | Digestive system | Stomach pain | Ap | If | Or | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Ap, Ro | If | Or | 3 |
| *Phragmites australis* (Cav.) Trin. ex Stend (FC637) | Carricillo, carrizo, timbuche | Wild | Endocrine system | Goiter | Ap | Fs | Wh | 1 |
| | | | Muscular-skeletal system | Bones hardening | Lf | If | Vp | 1 |
| | | | | Rheumatism | Lf | If | Bt | 2 |
| | | | Other uses | Hair loss | Lf | Fs, If | Bt | 2 |
| | | | Pregnancy, birth and puerperium | Postpartum | Lf | If | Bt | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Ro | If | Or | 1 |
| | | | Respiratory system | Cold | Fr | Dc, If | Or | 2 |
| | | | | Expectorant | Bd | Dc, If | Vp | 2 |
| | | | | Flu | Bd | If | Bt, Or | 2 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Ap | If | Or | 1 |
| *Saccharum officinarum* L. (FC548) | Caña de azúcar | Cultivated | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | St | Fm, If, Jc | Bt, Kn | 7 |
| | | | Digestive system | Diarrhoea | St | If | Or | 1 |
| | | | General ailments with unspecific symptoms | Fever | Fr, Lf, St | Fm, If, Jc | Or | 3 |
| | | | Infections and infestations | Chickenpox | Fr, St | Fm, Jc | Bt, Kn, Pl | 5 |
| | | | Metabolic system and nutrition | Weight loss | St | Dc | Or | 1 |
| | | | Other uses | Hangover | St | Jc | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Pregnancy, birth and puerperium | Postpartum | St | Jc | Or | 2 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Fr | Fs | Pl | 1 |
| | | | Skin and subcutaneous tissue | Itil | Fr | Fm | Bt | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | St | Dc, Fm | Or | 2 |
| | | | Urinary system | Prostate disorders | Fr, St | Fm | Or | 6 |
| *Triticum sativum* Lam. (FC547) | Trigo | Cultivated | Cultural diseases and disorders | Tijte | Fr | If | Bt | 1 |
| | | | Digestive system | Hepatitis | Sd | If | Or | 1 |
| | | | General ailments with unspecific symptoms | General malaise | Sd | If | Bt | 1 |
| | | | Pregnancy, birth and puerperium | Breastfeeding | Sd | Ml | Or | 1 |
| | | | Pregnancy, birth and puerperium | Postpartum | Sd | If | Or | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Fr | If | Or | 1 |
| *Zea mays* L. (FC552) | Maíz | Cultivated | Blood and cardio-vascular system | High pressure | Fr | Dc | Or | 1 |
| | | | Blood and cardio-vascular system | Low pressure | Fr | If | Or | 1 |
| | | | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Ap, Fr, Lf, Sd | Fs, Ml | Bt, Kn, Or, Pl | 6 |
| | | | Cultural diseases and disorders | Susto, espanto | Fr | Fs | Pl | 1 |
| | | | Digestive system | Carminative | Fr | Dc | Or | 1 |
| | | | | Diarrhoea | Ss | If | Or | 1 |
| | | | | Intestinal parasites | Ss | If | Or | 1 |
| | | | | Laxative | Sd | Dc | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | | Liver disorders | Ap | If | Or | 1 |
| | | | | Stomach pain | Fr | Dc | Or | 1 |
| | | | Infections and infestations | Chickenpox | Ap, Fr, Sd | Dc, Fs, If, Ml | Bt, Kn, Pl | 23 |
| | | | | Fleas | Ap | If | Kn | 1 |
| | | | | Smallpox | Fr | If | Bt | 1 |
| | | | Pregnancy, birth and puerperium | Breastfeeding | Fr, Sd | Dc, Fs, If, Ml, Wm | Or | 21 |
| | | | Pregnancy, birth and puerperium | Birth | Fr | Dc | Or | 1 |
| | | | Pregnancy, birth and puerperium | Postpartum | Lf | Fs | Bt | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Fr | If | Or | 2 |
| | | | Sensory system | Hearing disorders | Fr | Fs | Ew | 1 |
| | | | Skin and subcutaneous tissue | Chirapa | Ap, Sd | Dd, Fs, If | Pl | 3 |
| | | | | Acne | Sd | If | Bt | 1 |
| | | | | Burns | Fr | Ml | Pl | 1 |
| | | | | Swelling | Fr | If | Or | 1 |
| | | | | Wounds, healing | Ap | Jc | Or | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Ap, Fr, Ss, St | Dc, If | Or | 44 |
| | | | Urinary system | Kidney stones | Ss | If | Or | 1 |
| **Polygalaceae** | | | | | | | | |
| *Asemeia ovata* (Poir.) J.F.B. Pastore & J.R. Abbott (FC490) | Dormilón | Wild | Nervous system and mental health | Insomnia | Ap | If | Or | 1 |
| *Polygala paniculata* L. (FC491) | Canchalagua | Wild | Blood and cardio-vascular system | Anemia | Lf | If | Or | 1 |
| | | | Blood and cardio-vascular system | Blood infection | Ap | If | Or | 1 |
| | | | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Lf | If | Or | 2 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Cultural diseases and disorders | Tijte | Bk | If | Or | 1 |
| | | | Digestive system | Liver disorders | Ap, Lf | Fm, If | Or | 4 |
| | | | Digestive system | Stomach infection | Ap | If | Or | 2 |
| | | | Infections and infestations | Malaria | Bk | If | Or | 1 |
| | | | Metabolic system and nutrition | Weight loss | Ap | If | Or | 2 |
| | | | Other uses | Deodorant | Ap | If | Or | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Lf | If | Or | 2 |
| | | | | Fertility | Bk | Fm | Or | 1 |
| | | | | Impotence | Bk | Fm | Or | 1 |
| | | | Skin and subcutaneous tissue | Acne | Ap | If | Pl | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Ap, Lf | If | Or | 2 |
| | | | Urinary system | Prostate disorders | Lf | If | Or | 1 |
| **Polygonaceae** | | | | | | | | |
| *Muehlenbeckia tamnifolia* (Kunth) Meisn. (FC414) | Torobergan | Wild | Other uses | Cancer | Lf | If | Or | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Fl | If | Or | 2 |
| | | | Reproductive system and reproductive health | Vaginal infection | Ap | If | Bt | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Ap | Fs | Pl | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Ap, Fl | If | Or | 6 |
| | | | Urinary system | Kidney stones | Fl | If | Or | 1 |
| *Polygonum hydropiperoides* Michx. (FC415) | Shiñachirapa | Wild | Skin and subcutaneous tissue | Chirapa | Ap, Lf | Fs, If | Bt, Kn | 4 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| *Rumex obtusifolius* L. (FC579) | Malayerba, hierbamaría | Wild | Digestive system | Laxative | Ro | Fs, If, Ml | Or | 9 |
| | | | | Stomach infection | Ro | If | Or | 2 |
| | | | | Diarrhoea | Ro | Dc | Or | 1 |
| | | | | Intestinal infection | Ro | Ml | Or | 1 |
| | | | General ailments with unspecific symptoms | Fever | Ro | Dc, Fs, If, Ml, Wm | Bt, Kn, Or, Pl | 48 |
| | | | General ailments with unspecific symptoms | Headache | Ro | Fs, If, Ml | Bt, Pl | 12 |
| | | | Infections and infestations | Malaria | Ro | If, Ml | Or | 3 |
| | | | Muscular-skeletal system | Broken bones | Ro | Fs | Kn | 1 |
| | | | Other uses | Cancer | Ro | If | Or | 1 |
| | | | Respiratory system | Flu | Ro | Dc, If | Or | 3 |
| | | | Respiratory system | Cold | Ro | If | Bt | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Ro | Fs, If | Or, Pl | 4 |
| *Rumex peruanus* Rech. f. (FC602) | Canchil, unduluj, undulón | Wild | Blood and cardio-vascular system | High pressure | Lf | Jc | Or | 1 |
| | | | Digestive system | Gastric ulcers | Lf | Fs | Or | 1 |
| | | | | Liver disorders | Lf | Fs | Or | 1 |
| | | | | Stomach pain | Lf | Fs | Or | 1 |
| | | | Endocrine system | Diabetes | Lf | Jc | Or | 1 |
| | | | General ailments with unspecific symptoms | Fever | Ro, St | If, Jc | Or | 3 |
| | | | Nervous system and mental health | Stress | Lf | Fs | Or | 1 |
| | | | Other uses | Cancer | Lf | Fs, If | Or | 3 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Lf | If | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Skin and subcutaneous tissue | Burns | Lf | Fs | Bt | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Lf | If | Or | 1 |
| **Primulaceae** | | | | | | | | |
| *Anagallis arvensis* L. (FC416) | Sultansán, perlita | Wild | Cultural diseases and disorders | Shadow | Fl | If | Bt | 1 |
| *Clavija euerganea* J.F.Macbr. (FC619) | Cujaca | Wild | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Lf | Dc | Bt | 1 |
| | | | Pregnancy, birth and puerperium | Abortive | Ap, Lf | Dc, If | Or | 4 |
| *Myrsine oligophylla* Zahlbr. (FC417) | Morocho, shinguil, laurel | Wild | Cultural diseases and disorders | Susto, espanto | Ap, Lf | Dc, Fs, If | Bt, Kn, Or, Pl | 37 |
| | | | | Antimonia, gentil, viejo, antiguo | Ap, Bd, Lf | Dc, Fm, Fs, If | Bt, Kn, Or, Pl | 15 |
| | | | | Tijte | Sd | Fs | Kn | 1 |
| | | | Digestive system | Gallbladder | Lf | If | Or | 1 |
| | | | Infections and infestations | UTA, leishmaniasis | Lx | Fs | Pl | 1 |
| | | | Muscular-skeletal system | Bones hardening | Ap, Lf | Dc, If | Vp | 2 |
| | | | | Rheumatism | Lf | Dc, If | Bt, Pl | 2 |
| | | | | Broken bones | Lf | Ml | Pl | 1 |
| | | | Pregnancy, birth and puerperium | Postpartum | Ap | Dc, If | Bt | 2 |
| | | | Reproductive system and reproductive health | Contraceptive | Ap | Dc | Or | 1 |
| | | | Skin and subcutaneous tissue | Chirapa | Lf | Dc | Bt | 1 |
| **Proteaceae** | | | | | | | | |
| *Oreocallis grandiflora* (Lam.) R.Br. (FC578) | Saltaperico, palpal, avincho, rumilanche | Wild | Blood and cardio-vascular system | Blood infection | Lf | Dc | Bt | 1 |
| | | | Dental health | Toothache | Fl, Fr, Lf, Sd | Dc, Fs, Ml | Or | 9 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Digestive system | Diarrhoea | Bd | Ml | Or | 1 |
| | | | Other uses | Hair loss | Fl | Dc | Bt | 1 |
| | | | Pregnancy, birth and puerperium | Postpartum | Lf | If | Or, Pl | 2 |
| | | | Reproductive system and reproductive health | Contraceptive | Bk | Fm | Or | 1 |
| | | | Respiratory system | Aphonia | Lf | If | Or | 1 |
| | | | Skin and subcutaneous tissue | Burns | Lf | Ml | Pl | 1 |
| | | | Urinary system | Prostate disorders | Ap, Fl, Lf | If | Or | 3 |
| | | | | Kidney disorders, emollient, diuretic | Lf | If | Or | 1 |
| **Pteridaceae** | | | | | | | | |
| *Adiantum capillus-veneris* L. (FC418) | Culantrillo, culantrillo del pozo | Wild | Cultural diseases and disorders | Aire, malaire | Lf | If | Bt | 1 |
| | | | Digestive system | Laxative | Ap | If | Or | 1 |
| | | | | Liver disorders | Ap | If | Or | 1 |
| | | | Nervous system and mental health | Epilepsy | Lf | Ml | Or | 1 |
| | | | Other uses | Hair loss | Ap, Ep | If | Bt | 2 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Ap | If | Or | 1 |
| *Pityrogramma trifoliata* (L.) R.M. Tryon (FC532) | Tuje, helecho río | Wild | Cultural diseases and disorders | Tijte | Lf | Ml, Wm | Kn, Pl | 5 |
| | | | | Tacsho | Ap | If | Bt | 1 |
| **Ranunculaceae** | | | | | | | | |
| *Clematis haenkeana* C. Presl (FC419) | Pumashaire, sajshauar | Wild | Infections and infestations | UTA, leishmaniasis | Ap, Lf | Fs, Ml | Pl | 3 |
| *Ranunculus praemorsus* Kunth ex DC. (FC420) | Solmansacha, solmán | Wild | Cultural diseases and disorders | Tijte | Lf | Ml | Pl | 1 |
| | | | Infections and infestations | UTA, leishmaniasis | Ap, Fl | Dc, Fs, Jc, Ml, Wm | Bt, Or, Pl | 9 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | | Fleas | Lf | Fs | Bt | 1 |
| | | | Ritual and magic uses | Witchcraft | Ap | If | Bt, Or | 2 |
| | | | Ritual and magic uses | Remove envy | Ap | Fs | Kn | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Ap, Lf | Fs | Kn, Pl | 5 |
| *Thalictrum longistylum* DC. (FC622) | Urpetupe | Wild | Cultural diseases and disorders | Tijte | Sp | Fs | Pl | 1 |
| **Rosaceae** | | | | | | | | |
| *Acaena argentea* Ruiz & Pav. (FC421) | Valeriana | Wild | Urinary system | Insomnia | Fl | If | Or | 5 |
| *Cydonia oblonga* Mill. (FC422) | Membrillo | | Urinary system | Insomnia | Fr | Dc, If | Or | 2 |
| *Lachemilla vulcanica* (Schltdl. & Cham.) Rydb. (FC424) | Suyapar | Wild | Skin and subcutaneous tissue | Chirapa | Ap | Fs | Pl | 1 |
| *Malus domestica* Borkh. (FC425) | Manzana serrana, manazanita de huerta | Cultivated | Blood and cardio-vascular system | Anemia | Fr | Dc | Or | 2 |
| | | | Blood and cardio-vascular system | High pressure | Fr | If | Or | 1 |
| | | | Digestive system | Constipation | Fr | Dc | Or | 1 |
| | | | Digestive system | Indigestive | Fr | Fs | Or | 1 |
| | | | General ailments with unspecific symptoms | Fever | Ro | If | Or | 1 |
| | | | General ailments with unspecific symptoms | Headache | Fr, Lf, St | Fs, If | Or, Pl | 2 |
| | | | Nervous system and mental health | Insomnia | Ap, Fr, Lf | Dc, If | Bt, Or | 122 |
| | | | | Stress | Fr | Dc, If | Or | 5 |
| | | | | Mental stimulant | Fr | Dc | Or | 2 |
| | | | Other uses | Hair loss | Fr | Ml | Bt | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Ap, Fr | If, Jc | Or | 2 |
| | | | Pregnancy, birth and puerperium | Postpartum | Fr | Dc | Or | 2 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Reproductive system and reproductive health | Menstruation disorders | Ap | Jc | Or | 1 |
| | | | Sensory system | Visual disorders | Fl, Fr | Dc, If, Ml | Ew | 3 |
| *Polylepis incana* Kunth (FC426) | Quinua | Cultivated | Cultural diseases and disorders | Aire, malaire | Ap | Fs | In | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Bk | Fs | Or, Pl | 3 |
| *Prunus dulcis* (Mill.) D.A. Webb (no voucher specimen) | Almendra | Cultivated | Pregnancy, birth and puerperium | Breastfeeding | Fr, Sd | Dc | Or | 2 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Fr | Dc | Or | 1 |
| *Prunus persica* (L.) Batsch (FC427) | Durazno | Cultivated | Cultural diseases and disorders | Aire, malaire | Fl, Lf | Fs, If | Bt, In, Kn, Or, Pl | 26 |
| | | | | Antimonia, gentil, viejo, antiguo | Lf | Fs | Kn | 1 |
| | | | | Shucaque | Lf | If | Pl | 1 |
| | | | Digestive system | Constipation | Fr | Fs | Or | 1 |
| | | | | Diarrhoea | Bd | If | Or | 1 |
| | | | | Intestinal parasites | Lf | If | Or | 1 |
| | | | | Stomach pain | Lf | If | Bt | 1 |
| | | | General ailments with unspecific symptoms | Fever | Lf | Fs, If | Bt, Kn | 6 |
| | | | General ailments with unspecific symptoms | Headache | Fl | Fs | Pl | 1 |
| | | | Muscular-skeletal system | Rheumatism | Lf | Dc | Vp | 1 |
| | | | Pregnancy, birth and puerperium | Postpartum | Bd, Lf | Fs | Kn, Or | 4 |
| | | | Respiratory system | Flu | Lf | If | Or | 1 |
| *Prunus serotina* Ehrh. (no voucher specimen) | Capulí | Wild | General ailments with unspecific symptoms | General malaise | Lf | If | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| *Rosa centifolia* L. (FC429) | Rosa, rosa blanca | Cultivated | Blood and cardio-vascular system | High pressure | Fl | Fm, If, Ml | Or | 3 |
| | | | Cultural diseases and disorders | Pulsario | Fl | if | Or | 4 |
| | | | Cultural diseases and disorders | Negative vibes | Fl | If | Bt | 1 |
| | | | General ailments with unspecific symptoms | Fever | Fl | If | Or | 2 |
| | | | Infections and infestations | Chickenpox | Fl | Fs | Bt | 1 |
| | | | Nervous system and mental health | Sadness | Fl | If | Or | 31 |
| | | | Pregnancy, birth and puerperium | Birth | Fl | if | Or | 2 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Fl | If | Bt | 1 |
| | | | Respiratory system | Expectorant | Fl | Dc | Vp | 1 |
| | | | Ritual and magic uses | Bring good luck | Fl | If | Bt, Or | 2 |
| | | | Sensory system | Visual disorders | Fl | If | Bt | 5 |
| *Rubus megalococcus* Focke (FC428) | Mora | Wild | Blood and cardio-vascular system | High pressure | Lf | If | Or | 1 |
| | | | General ailments with unspecific symptoms | Headache | Fl, Lf | Fs | Pl | 9 |
| | | | General ailments with unspecific symptoms | Fever | Fl, Lf | If | Or | 3 |
| | | | Nervous system and mental health | Stress | Lf | If | Bt | 1 |
| | | | Reproductive system and reproductive health | Fertility | St | If | Bt | 1 |
| | | | Reproductive system and reproductive health | Menopause | Lf | If | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Respiratory system | Cough | Ap, Fl, Fr, Sd | Fs, If | Or | 34 |
| | | | | Flu | Fl, Fr | Dc, Fm, Fs, If | Or | 6 |
| | | | | Cold | Fr | Fs, If | Or | 5 |
| | | | | Bronchitis | Fl, Fr | If | Or | 2 |
| | | | | Asthma | Fr | If | Or | 1 |
| *Rubus robustus* P.J.Müll. (FC512) | Mora pequeña, mora chica | Wild | Cultural diseases and disorders | Aire, malaire | Fl | Fs | In | 1 |
| | | | Endocrine system | Diabetes | Bd | If | Or | 1 |
| | | | General ailments with unspecific symptoms | Headache | Fl | Fs | Pl | 1 |
| | | | Respiratory system | Bronchitis | Fl | If | Or | 1 |
| | | | | Cold | Fr | If | Or | 1 |
| | | | | Cough | Fl, Fr | If | Or | 2 |
| | | | Sensory system | Visual disorders | Fl | Dc | Ew | 1 |
| *Rubus roseus* Poir. (FC513) | Mora áspera | Wild | Cultural diseases and disorders | Tijte | Sp | Fs | Pl | 1 |
| | | | Digestive system | Laxative | Fr | If | Or | 1 |
| | | | Respiratory system | Cough | Fl, Fr | If | Or | 3 |
| **Rubiaceae** | | | | | | | | |
| *Chimarrhis hookeri* K.Schum. (FC681) | Chicharrilla | Wild | Digestive system | Diarrhoea | Lf | If | Or | 1 |
| | | | | Gastric ulcers | Lf | If | Or | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Lf | If, Wm | Bt, Pl | 1 |
| *Cinchona krauseana* L. Andersson (FC632) | Tafitán | Wild | Cultural diseases and disorders | Susto, espanto | Lf | If | Or | 1 |
| *Cinchona officinalis* L. (FC430) | Cascarilla, quina | Wild | Cultural diseases and disorders | Aire, malaire | Bk | Fm | Or | 1 |
| | | | | Antimonia, gentil, viejo, antiguo | Bk | Fm | Or | 1 |
| | | | | Tijte | Bk | If | Or | 1 |
| | | | Digestive system | Carminative | Bk | If | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Digestive system | Constipation | Bk | If | Or | 1 |
| | | | General ailments with unspecific symptoms | Fever | Bk | If | Bt, Or | 4 |
| | | | Infections and infestations | Malaria | Bk | Dc, Fm, If | Or | 6 |
| | | | Reproductive system and reproductive health | Fertility | Bk | Fm | Or | 1 |
| | | | | Impotence | Bk | Fm | Or | 1 |
| | | | | Menstruation disorders | Bk | Fm | Or | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Bk | Fs | Pl | 1 |
| *Coffea arabica* L. (FC431) | Café | Cultivated | Blood and cardio-vascular system | Low pressure | Fr, Lf, Sd | Dc, If, Ml | Or | 26 |
| | | | Blood and cardio-vascular system | High pressure | Fl | Ml | Or | 1 |
| | | | Digestive system | Carminative | Fr | If | Or | 2 |
| | | | | Indigestive | Lf | If | Or | 2 |
| | | | | Stomach pain | Fr, Lf | If | Or | 2 |
| | | | | Intestinal infection | Lf | If | Or | 1 |
| | | | General ailments with unspecific symptoms | Fever | Lf | If | Bt, Or | 3 |
| | | | General ailments with unspecific symptoms | General malaise | Lf | If | Or | 1 |
| | | | Nervous system and mental health | Stress | Fl | If | Or | 9 |
| | | | | Mental stimulant | Fr, Sd | Dc, If | Or | 5 |
| | | | | Insomnia | Fr | Dc | Or | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Fl | If | Or | 1 |
| | | | Respiratory system | Cold | Fr, Sd | Dc, If | Or | 8 |
| | | | Respiratory system | Flu | Fr, Sd | Dc, If | Or | 7 |
| | | | Respiratory system | Bronchitis | Fr | If | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Skin and subcutaneous tissue | Burns | Lf | Ml | Bt | 1 |
| | | | Skin and subcutaneous tissue | Itil | Fr | If | Pl | 1 |
| *Morinda citrifolia* L. (FC433) | Noni | Cultivated | Metabolic system and nutrition | Weight loss | Fr | If | Or | 1 |
| | | | Other uses | Cancer | Fr | Dc, Fs, If, Jc | Or | 8 |
| | | | Reproductive system and reproductive health | Fertility | Fr | If | Or | 1 |
| | | | | Menopause | Fr | Dc | Or | 1 |
| | | | Skin and subcutaneous tissue | Burns | Lf | Fs | Pl | 1 |
| | | | Urinary system | Prostate disorders | Lf | If | Or | 1 |
| *Richardia scabra* L. (FC434) | Carapasacha | Wild | Muscular-skeletal system | Broken bones | Ap, Lf | Fs | Pl | 2 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Fr | Fs | Or | 1 |
| *Uncaria tomentosa* (Willd. ex Schult.) DC. (FC492) | Uña de gato | Wild | Cultural diseases and disorders | Tijte | Sd | Ml | Pl | 2 |
| | | | Digestive system | Gastric ulcers | St | Dc | Or | 1 |
| | | | Digestive system | Liver disorders | Ap | If | Or | 1 |
| | | | Muscular-skeletal system | Rheumatism | Bk | If | Pl | 1 |
| | | | Nervous system and mental health | Insomnia | Lf | Fs | Nn | 1 |
| | | | Other uses | Cancer | Ap, Bk, Ep, Lx | If | Or | 5 |
| | | | Pregnancy, birth and puerperium | Birth | Bk | If | Or | 1 |
| | | | Respiratory system | Cold | Bk | Fm | Or | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Lx | Fs | Pl | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Urinary system | Kidney disorders, emollient, diuretic | Ap, Bk, Lf, Lx | Dc, If | Or | 6 |
| | | | Urinary system | Prostate disorders | Bk, Lf | If | Or | 2 |
| **Rutaceae** | | | | | | | | |
| *Citrus aurantium* L. var. *amara* L. (FC435) | Naranjo | Cultivated | Blood and cardio-vascular system | High pressure | Fr | Jc | Or | 1 |
| | | | Digestive system | Carminative | Fr | Jc | Or | 2 |
| | | | Metabolic system and nutrition | Weight loss | Fr | Fs | Or | 1 |
| | | | Nervous system and mental health | Sadness | Fl | If | Or | 2 |
| | | | Nervous system and mental health | Insomnia | Fr | Jc | Or | 1 |
| | | | Respiratory system | Cough | Fr | Jc | Or | 2 |
| | | | Respiratory system | Cold | Fr | If | Or | 1 |
| *Citrus aurantium* L. var. *sinensis* L. (FC437) | Naranja | Cultivated | Blood and cardio-vascular system | Anemia | Fr | Dc, Jc | Or | 9 |
| | | | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Fl | Fs | Kn | 1 |
| | | | Digestive system | Laxative | Fr | Fs, Jc | Or | 4 |
| | | | | Constipation | Fr | Dc | Or | 2 |
| | | | | Diarrhoea | Lf | If | Or | 1 |
| | | | | Stomach cramps | Fr | Jc | Or | 1 |
| | | | General ailments with unspecific symptoms | Fever | Lf | If | Pl | 1 |
| | | | | Headache | Fr | If | Or | 1 |
| | | | Metabolic system and nutrition | Weight loss | Fr | Jc | Or | 2 |
| | | | Muscular-skeletal system | Rheumatism | Fr | If | Bt | 1 |
| | | | Nervous system and mental health | Sadness | Ap, Fl, Lf | If | Or | 9 |
| | | | | Insomnia | Ap, Fr, Lf | If, Jc | Or | 7 |
| | | | | Epilepsy | Fr | Jc | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Other uses | Hair loss | Fr | Jc | Bt | 1 |
| | | | Pregnancy, birth and puerperium | Postpartum | Fr, Lf | Dc, If | Or | 2 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Fr | If, Jc | Or | 2 |
| | | | Respiratory system | Cold | Fr | Fs, Jc | Or | 4 |
| | | | | Flu | Fr | Dc, Jc | Or | 4 |
| | | | | Cough | Fr | If, Jc | Or | 2 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Lf | If | Bt | 1 |
| *Citrus limetta* Risso (FC438) | Lima | Cultivated | Blood and cardio-vascular system | High pressure | Ap, Fr | Fs, If, Jc | Or | 9 |
| | | | Blood and cardio-vascular system | Low pressure | Fl, Lf | If | Or | 2 |
| | | | Dental health | Toothache | Sd | Ml | Bt, Or | 3 |
| | | | Digestive system | Hepatitis | Fr | Jc | Or | 1 |
| | | | Digestive system | Stomach cramps | Fr | If | Or | 1 |
| | | | General ailments with unspecific symptoms | Fever | Fr | Jc | Or | 1 |
| | | | Nervous system and mental health | Sadness | Ap, Fl, Fr, Lf | Fs, If, Jc | Or | 23 |
| | | | Nervous system and mental health | Insomnia | Lf | If | Or | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Fl, Lf | If, Jc | Bt, Or | 3 |
| | | | Sensory system | Visual disorders | Ap, Ep, Fr | Fs, If, Jc | Ew | 51 |
| | | | Sensory system | Hearing disorders | Fr | Jc | Ew | 2 |
| *Citrus limon* (L.) Osbeck (FC436) | Limón, limón ácido | Cultivated | Blood and cardio-vascular system | Low pressure | Fr, Lf | Fs, If, Jc | Or | 4 |
| | | | | Hemorrhoids | Fr | Dc, Jc | Bt, En | 3 |
| | | | | Anemia | Sd | Wm | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | | High pressure | Fr | If | Or | 1 |
| | | | Cultural diseases and disorders | Tijte | Fr | Jc, Wm | Bt, Pl | 4 |
| | | | Dental health | Toothache | Fr, Sd | If, Jc, Ml, Wm | Bt, Gg, Or, Pl | 51 |
| | | | Dental health | Cavity | Sd | Fs | Pl | 1 |
| | | | Digestive system | Diarrhoea | Fl, Fr | If, Jc | Or | 22 |
| | | | | Stomach cramps | Fr | If, Jc | Or | 10 |
| | | | | Indigestive | Fr | If, Jc | Or | 5 |
| | | | | Gastric ulcers | Fr | Jc | Or | 2 |
| | | | | Hepatitis | Fr | If, Jc | Or | 2 |
| | | | | Liver disorders | Fr | Jc | Or | 1 |
| | | | General ailments with unspecific symptoms | Fever | Fr, Lf | Fs, If, Jc, Ml | Bt, En, Or, Pl | 33 |
| | | | | General malaise | Fr | Dc, Jc | Or | 3 |
| | | | | Headache | Fr | If, Jc | Or | 3 |
| | | | Infections and infestations | Fleas | Fr | Jc, Wm | Bt, Or, Pl | 15 |
| | | | | Insect bite | Fr | Fs, Jc, Wm | Bt, Kn, Pl | 5 |
| | | | | UTA, leishmaniasis | Fr, Lf | Ml, Wm | Bt, Pl | 2 |
| | | | | Yellow fever | Fr | Jc | Or | 1 |
| | | | Metabolic system and nutrition | Weight loss | Fr | Dc, Fs, If, Jc | Or | 14 |
| | | | Muscular-skeletal system | Rheumatism | Fr | Fm | Or | 1 |
| | | | Nervous system and mental health | Stress | Fl, Fr | Fs, If, Jc | Or | 7 |
| | | | Nervous system and mental health | Mental stimulant | Fr | Dc | Or | 2 |
| | | | Other uses | Cancer | Fr | Jc | Or | 1 |
| | | | Other uses | Hair loss | Fr | Fs | Bt | 1 |
| | | | Other uses | Hangover | Fr | If | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Pregnancy, birth and puerperium | Abortive | Fr | Dc, Jc | Or | 3 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Fr | Jc | Bt, Or | 2 |
| | | | Respiratory system | Flu | Fr | Dc, Fm, Fs, If, Jc | Bt, Gg, Or | 115 |
| | | | | Cold | Fr | If, Jc | Gg, Or | 15 |
| | | | | Tonsillitis | Fr | Fs, Jc | Gg | 5 |
| | | | | Cough | Fr | Fs, If | Gg, Or | 4 |
| | | | | Asthma | Fr | Jc | Or | 1 |
| | | | | Bronchitis | Fr | If | Or | 1 |
| | | | Sensory system | Hearing disorders | Fr | Jc, Wm | Ew | 2 |
| | | | Sensory system | Visual disorders | Fr | Jc | Ew | 1 |
| | | | Skin and subcutaneous tissue | Feet fungus | Fr | Fs, Jc | Bt, Pl | 12 |
| | | | | Wounds, healing | Fr | Jc | Bt, Pl | 3 |
| | | | | Acne | Fr | Jc | Or | 1 |
| | | | | Burns | Fr | Jc | Bt | 1 |
| | | | | Itil | Fr | Jc | Bt | 1 |
| | | | | Swelling | Fr | If | Or | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Fr | If | Or | 1 |
| *Ruta chalepensis* L. (FC561) | Ruda | Cultivated | Blood and cardio-vascular system | Varicose veins | Lf | Fm | Kn | 1 |
| | | | Cultural diseases and disorders | Aire, malaire | Ap, Ep, Lf | Dc, Fs, If, Ml, Wm | Bt, In, Kn, Or, Pl | 163 |
| | | | | Susto, espanto | Ap, Lf | Dc, Fs, If, Ml | Bt, Or, Pl | 20 |
| | | | | Tacsho | Ap, Lf | Fs, If | Bt, Kn, Or, Pl | 8 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | | Negative vibes | Ap, Lf | Fs, If | Bt, Nn | 3 |
| | | | | Antimonia, gentil, viejo, antiguo | Ap, Lf | Fs | Kn | 2 |
| | | | | Shucaque | Lf | If | Bt | 1 |
| | | | Dental health | Toothache | Fr, Lf, Sd | If, Ml | Bt, Or | 6 |
| | | | Digestive system | Stomach pain | Ap | If | Or | 2 |
| | | | | Intestinal parasites | Ap | If | Or | 1 |
| | | | | Laxative | Lf | If | Or | 1 |
| | | | | Whet | Ap | If | Or | 1 |
| | | | General ailments with unspecific symptoms | Headache | Ap | Fs, If | Or, Pl | 2 |
| | | | Infections and infestations | UTA, leishmaniasis | Ap | Ml | Pl | 1 |
| | | | Muscular-skeletal system | Broken bones | Lf | If | Pl | 2 |
| | | | Nervous system and mental health | Stress | Ap, Lf | Fs, If | In, Or | 5 |
| | | | | Epilepsy | Lf | Fs, If | Bt, Or, Pl | 4 |
| | | | | Insomnia | Ap | If | Or | 1 |
| | | | Other uses | Hangover | Ap, Lf | If | Or | 3 |
| | | | Pregnancy, birth and puerperium | Abortive | Ap, Ep, Lf | Dc, Fs, If | Or | 19 |
| | | | Pregnancy, birth and puerperium | Postpartum | Ap, Lf | Fs, If, Ml | Kn, Or, Pl | 7 |
| | | | Pregnancy, birth and puerperium | Birth | Ap, Lf | Dc, If | Or | 5 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Ap, Ep, Lf | If | Or | 7 |
| | | | Reproductive system and reproductive health | Menopause | Ap, Lf | Fs, If, Ml | In, Or, Pl | 3 |
| | | | Reproductive system and reproductive health | Impotence | Bk | Fm | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Respiratory system | Flu | Lf | If | Or | 1 |
| | | | Ritual and magic uses | Remove envy | Ap, Lf | Dc, Fs, If | Bt, In, Kn, Nn, Or | 24 |
| | | | Ritual and magic uses | Bring good luck | Ap, Lf | Fs, If | Bt, Kn, Nn, Or | 18 |
| | | | Ritual and magic uses | Curse | Ap, Lf | Fs | Kn, Nn | 6 |
| | | | Sensory system | Hearing disorders | Lf | If, Wm | Ew | 3 |
| | | | | Visual disorders | Ap | If | Ew | 1 |
| | | | Skin and subcutaneous tissue | Chirapa | Lf | If, Ml | Bt, Kn, Pl | 4 |
| | | | Skin and subcutaneous tissue | Acne | Lf | If | Bt | 1 |
| | | | Urinary system | Prostate disorders | Lf | If | Bt, Or | 2 |
| **Salicaceae** | | | | | | | | |
| *Salix humboldtiana* Willd. (FC593) | Saúce, álamo | Wild | Muscular-skeletal system | Broken bones | Lf | Fs | Pl | 1 |
| | | | Other uses | Hair loss | Lf | If | Bt, Or, Pl | 14 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Bk | If | Bt | 1 |
| **Santalaceae** | | | | | | | | |
| *Phoradendron nervosum* Oliv. (FC380) | Suelda consuelda | Wild | Cultural diseases and disorders | Tijte | Lf | Ml | Bt | 2 |
| | | | | Antimonia, gentil, viejo, antiguo | Lf | Dc | Bt | 1 |
| | | | | Susto, espanto | Ap | If | Bt | 1 |
| | | | Muscular-skeletal system | Broken bones | Ap, Bk, Ep, Lf, St | Fs, If, Ml | Bt, Kn, Or, Pl | 115 |
| | | | | Hernia | Lf | If, Ml | Bt, Pl | 2 |
| | | | | Rheumatism | Ap | Ml | Pl | 1 |
| | | | Metabolic system and nutrition | Weight loss | Lf | Dc | Vp | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Nervous system and mental health | Stress | Ap | Fs | Pl | 1 |
| | | | Pregnancy, birth and puerperium | Postpartum | Lf | Fs | Pl | 1 |
| | | | Urinary system | Prostate disorders | Lf | If | Or | 1 |
| **Sapindaceae** | | | | | | | | |
| *Allophylus punctatus* (Poepp.) Radlk. (FC495) | Yujiucaspe | Wild | Cultural diseases and disorders | Susto, espanto | Lf | Dc, Fs, If | Bt | 3 |
| | | | | Tacsho | Lf | Fs | Kn | 1 |
| *Dodonaea viscosa* (L.) Jacq. (FC506) | Chamana | Wild | Cultural diseases and disorders | Tijte | Ap | Fs, If | Or, Pl | 2 |
| | | | Digestive system | Laxative | Fr | Dc | Or | 1 |
| | | | Muscular-skeletal system | Bones hardening | Ap, Lf | Dc, If | Bt, Vp | 8 |
| | | | | Rheumatism | Ap, Lf | Fs, If | Bt, Pl | 3 |
| | | | | Broken bones | Lf | Ml | Pl | 1 |
| | | | Other uses | Hair loss | Lf | Dc, If | Bt, Kn | 5 |
| | | | Pregnancy, birth and puerperium | Postpartum | Ap, Ep | Dc, If | Bt | 2 |
| | | | Reproductive system and reproductive health | Fertility | Bk, Lf | Fm, If, Ml | Or | 2 |
| | | | Respiratory system | Cold | Ap, Lf | Fs, If | Bt, Kn | 10 |
| | | | | Flu | Ap | If | Bt | 2 |
| | | | Skin and subcutaneous tissue | Feet fungus | Lf | If | Bt | 1 |
| *Sapindus saponaria* L. (FC529) | Choloque | Wild | Infections and infestations | Fleas | Fr | If | Bt, Pl | 4 |
| | | | Other uses | Hair loss | Fr | If | Bt | 1 |
| **Sapotaceae** | | | | | | | | |
| *Pouteria lucuma* (Ruiz & Pav.) Kuntze (FC439) | Lúcuma | Wild | Pregnancy, birth and puerperium | Breastfeeding | Ap, Bd, Bk, Fl, Fr, Lf | Dc, Fs, If, Ml | Or | 20 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Lf | Fs | Pl | 1 |
| **Scrophulariaceae** | | | | | | | | |
| *Alonsoa meridionalis* (L. f.) Kuntze (FC545) | Duraznillo | Wild | Infections and infestations | Fleas | Lf | Dc | Kn | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Muscular-skeletal system | Hernia | Lf | Dc | Or | 1 |
| | | | Skin and subcutaneous tissue | Chirapa | Ap, Lf | Fs, If | Kn, Pl | 4 |
| | | | Skin and subcutaneous tissue | Feet fungus | Lf | If, Ml | Bt, Pl | 2 |
| *Buddleja blattaria* J.F.Macbr. (FC441) | Utcusacha, flor blanca | Wild | General ailments with unspecific symptoms | Fever | Ap, Lf | If | Bt, Or | 3 |
| | | | Infections and infestations | UTA, leishmaniasis | Bk, Lf | Ml, Wm | Pl | 12 |
| | | | Respiratory system | Cold | Lf | If | Bt | 1 |
| *Buddleja bullata* Kunth (FC442) | Quishual | Wild | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Bd, Lf | If | Or, Pl | 2 |
| | | | Cultural diseases and disorders | Susto, espanto | Ap, Lf | If | Bt | 2 |
| | | | Skin and subcutaneous tissue | Chirapa | Lf | Fs | Kn | 1 |
| **Selaginellaceae** | | | | | | | | |
| *Selaginella* sp. (FC447) | Hierba del Cóndor, trencilla | Wild | Cultural diseases and disorders | Aire, malaire | Lf | If | Pl | 1 |
| | | | Cultural diseases and disorders | Shadow | Ap | If | Bt | 1 |
| **Siparunaceae** | | | | | | | | |
| *Siparuna aspera* (Ruiz & Pav.) A. DC. (FC493) | Payón grande | Wild | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Lf | Fm, If | Bt, Kn | 2 |
| | | | Cultural diseases and disorders | Susto, espanto | Lf | If | Pl | 1 |
| *Siparuna muricata* (Ruiz & Pav.) A. DC. (FC494) | Payón, paigamo, poshmete, añasquero | Wild | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Ap, Lf | Dc, Fm, Fs, If, Ml | Bt, Kn, Or, Pl | 9 |
| | | | Cultural diseases and disorders | Susto, espanto | Ap, Lf | Dc, Fs, If | Bt, Kn, Or, Pl | 8 |
| | | | Digestive system | Stomach pain | Lf | If | Or | 1 |
| | | | General ailments with unspecific symptoms | Headache | Lf | If | Pl | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Infections and infestations | Insect bite | Lf | If | Bt | 1 |
| | | | Muscular-skeletal system | Rheumatism | Lf | If | Pl | 2 |
| | | | Pregnancy, birth and puerperium | Abortive | Lf | If | Or | 1 |
| | | | Reproductive system and reproductive health | Impotence | Bk | Fm | Or | 1 |
| | | | Reproductive system and reproductive health | Menopause | Ap | Ml | Pl | 1 |
| | | | Ritual and magic uses | Remove envy | Lf | Ml | Bt | 1 |
| | | | Sensory system | Hearing disorders | Lf | If | Ew | 1 |
| | | | Skin and subcutaneous tissue | Chirapa | Lf | If | Kn | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Ap | Dc | Bt | 1 |
| **Solanaceae** | | | | | | | | |
| *Browallia americana* L. (FC645) | Ajuspe azul | Wild | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Ap | Fm | Bt | 1 |
| | | | Digestive system | Stomach cramps | Lf | If | Or | 1 |
| *Brugmansia arborea* (L.) Steud. (FC450) | Campanilla blanca, floripondio banco | Cultivated | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Ap, Lf | Fs, If, Ml | Bt, Kn, Nn, Or | 5 |
| | | | Infections and infestations | Fleas | Ap | If | Kn | 1 |
| | | | Ritual and magic uses | Curse | Ap | Dc | Bt | 1 |
| | | | Skin and subcutaneous tissue | Chirapa | Ap, Lf | If | Bt, Pl | 5 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Lf | Fs | Pl | 1 |
| *Brugmansia sanguinea* (Ruiz & Pav.) D. Don (FC588) | Campanilla roja | Cultivated | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Ap | Fm | Bt | 1 |
| | | | Cultural diseases and disorders | Susto, espanto | Lf | If | Bt | 1 |
| | | | Muscular-skeletal system | Rheumatism | Fl | If | Bt | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Nervous system and mental health | Stress | Lf | If | Or | 1 |
| | | | Ritual and magic uses | Remove envy | Ap, Lf | Fs, If | Nn, Or | 4 |
| | | | | Witchcraft | Ap, Lf | Fs, If | Kn, Or | 2 |
| | | | | Curse | Ap, Ep | Dc, Fs | Bt, Nn | 1 |
| | | | | Hallucinogen | Ap | If | Or | 1 |
| | | | Skin and subcutaneous tissue | Chirapa | Lf | Dc, If | Bt, Or, Pl | 3 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Ap | Fs | Kn | 1 |
| *Capsicum pubescens* Ruiz & Pav. (FC451) | Ají, ají rocoto | Cultivated | Blood and cardio-vascular system | High pressure | Fr | Jc, Ml | Or | 3 |
| | | | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Fr, Lf | Fs | Kn, Pl | 4 |
| | | | Dental health | Toothache | Sd | Fs, Ml | Or | 4 |
| | | | Dental health | Cavity | Sd | Fs | Pl | 2 |
| | | | General ailments with unspecific symptoms | Fever | Lf | Fs, If | Bt, Kn | 3 |
| | | | Infections and infestations | Fleas | Fr | If | Nn | 1 |
| | | | Infections and infestations | UTA, leishmaniasis | Fr | Ml | Pl | 1 |
| | | | Pregnancy, birth and puerperium | Postpartum | Ap, Fl, Lf | Fs, If, Ml, Wm | Bt, Kn, Or, Pl | 101 |
| | | | Pregnancy, birth and puerperium | Breastfeeding | Fl, Lf | If | Or | 6 |
| | | | Respiratory system | Cold | Lf | If | Bt | 1 |
| | | | Respiratory system | Flu | Fr | If | Or | 1 |
| | | | Sensory system | Hearing disorders | Lf | Jc | Ew | 1 |
| | | | Skin and subcutaneous tissue | Burns | Fr | Ml | Bt, Pl | 2 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Lf | If | Bt, Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| *Cestrum auriculatum* L`Hér (FC557) | Hierbasanta | Wild | Blood and cardio-vascular system | High pressure | Lf | If, Jc | Or | 3 |
| | | | | Hemorrhoids | Lf | Dc | Or | 1 |
| | | | | Low pressure | Lf | If | Pl | 1 |
| | | | Digestive system | Stomach pain | Ap, Lf | Fs, If | Or | 8 |
| | | | | Diarrhoea | Ap, Lf | If | Or | 3 |
| | | | | Indigestive | Lf | If | Or | 1 |
| | | | | Laxative | Lf | If | Or | 1 |
| | | | | Stomach cramps | Lf | If | Or | 1 |
| | | | | Stomach infection | Ap | If | Or | 1 |
| | | | General ailments with unspecific symptoms | Fever | Ap, Lf, St | Dc, Fs, If, Jc, Ml | Bt, Kn, Or, Pl | 100 |
| | | | | General malaise | Lf | If | Bt, Pl | 3 |
| | | | | Headache | Ap, Lf | Fs, If | Bt, Or, Pl | 3 |
| | | | Infections and infestations | Chickenpox | Lf | If | Bt | 1 |
| | | | Infections and infestations | Malaria | Lf | If | Bt | 1 |
| | | | Reproductive system and reproductive health | Cold | Lf | Fs, If | Bt, Or | 2 |
| | | | | Fertility | Lf | Dc | Or | 1 |
| | | | | Menopause | Lf | If | Or | 1 |
| | | | | Menstruation disorders | Lf | If | Or | 1 |
| | | | Respiratory system | Flu | Lf | Dc, Fm, Fs | Kn, Pl | 3 |
| | | | | Cough | Ap | If | Gg | 1 |
| | | | | Tonsillitis | Ap | If | Gg | 1 |
| | | | Sensory system | Visual disorders | Ap | If | Ew | 4 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Ap | If | Bt | 2 |
| | | | Skin and subcutaneous tissue | Chirapa | Lf | Ml | Bt | 1 |
| *Cestrum tomentosum* L. f. (FC453) | Huaspasacha de la jalca | Wild | Muscular-skeletal system | Broken bones | Ap, Lf | Fs, Ml | Pl | 7 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Reproductive system and reproductive health | Menstruation disorders | Lf | Fm | Or | 1 |
| *Cyphomandra betacea* Cav. (FC454) | Tomate de árbol, pepino de árbol, berenjena de árbol | Cultivated | Blood and cardio-vascular system | High pressure | Fr | Fs, If | Or | 2 |
| | | | | Anemia | Lf | If | Or | 1 |
| | | | Digestive system | Gastric ulcers | Lf | If | Or | 2 |
| | | | | Liver disorders | Bd, Fr | If | Or | 2 |
| | | | | Stomach pain | Ap, Ep | If | Or | 2 |
| | | | | Diarrhoea | Fr | If | Or | 1 |
| | | | Endocrine system | Diabetes | Bd, Fr, Lf | Dc, If | Or | 4 |
| | | | Infections and infestations | UTA, leishmaniasis | Lf | Fs | Kn | 1 |
| | | | Metabolic system and nutrition | Weight loss | Bk, Fr, Sd | Dc, Fs, If, Jc, Ml | Or | 30 |
| | | | Nervous system and mental health | Stress | Fl, Fr | If | Or | 2 |
| | | | Other uses | Cancer | Lf | If | Or | 1 |
| | | | Respiratory system | Cold | Fr, Lf | Fs, If | Bt, Or | 2 |
| | | | Respiratory system | Flu | Fr | Fm, If | Or | 2 |
| | | | Sensory system | Hearing disorders | Fr | If | Ew | 1 |
| | | | Skin and subcutaneous tissue | Burns | Fr | If | Kn | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Fr | If | Or | 1 |
| *Datura stramonium* L. (FC455) | Chamico, datura | Wild | General ailments with unspecific symptoms | Fever | Ap | If | Or | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Lf | If | Bt | 1 |
| | | | Ritual and magic uses | Curse | Ap, Lf | Dc, Fs | Bt, Kn | 5 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Skin and subcutaneous tissue | Wounds, healing | Ap | Ml | Pl | 1 |
| *Nicandra physalodes* (L.) Gaertn. (FC522) | Saramacho, saramama | Wild | Cultural diseases and disorders | Pulsario | Lf | If, Wm | Or, Pl | 2 |
| | | | Cultural diseases and disorders | Susto, espanto | Lf | Fs, If | Bt, Pl | 2 |
| | | | Digestive system | Indigestive | Lf | Fs | Pl | 1 |
| | | | General ailments with unspecific symptoms | Fever | Ap, Lf | Fs, If | Kn, Pl | 2 |
| | | | Pregnancy, birth and puerperium | Birth | Lf | If | Or | 1 |
| | | | Ritual and magic uses | Remove envy | Lf | Dc | Bt | 1 |
| *Nicotiana setchellii* Goodsp. (FC457) | Tabaco | Cultivated | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Ap, Lf | Fs, If, Ml | Bt, Kn, Pl | 18 |
| | | | | Susto, espanto | Ap, Ep | Fs | Kn | 3 |
| | | | | Tacsho | Lf | Fs | Pl | 3 |
| | | | General ailments with unspecific symptoms | Fever | Ap | Fs | Kn | 2 |
| | | | Infections and infestations | Fleas | Ap, Lf | Dd, Fs, Ml, Wm | Kn, Pl | 7 |
| | | | Infections and infestations | UTA, leishmaniasis | Lf | Fs | Kn | 1 |
| | | | Sensory system | Hearing disorders | Lf | Fs | Ew | 1 |
| | | | Skin and subcutaneous tissue | Chirapa | Lf | If, Ml, Wm | Bt, Kn, Pl | 3 |
| | | | Skin and subcutaneous tissue | Itil | Lf | Ml | Pl | 1 |
| *Physalis peruviana* L. (FC456) | Aguaymanto, tomatillo | Wild | Cultural diseases and disorders | Aire, malaire | Lf | If | Bt | 1 |
| | | | General ailments with unspecific symptoms | Fever | Ap, Fr, Lf, St | Fs, If, Ml | Bt, Kn, Or | 28 |
| | | | General ailments with | General malaise | Lf | Fs | Bt | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | unspecific symptoms | | | | | |
| | | | Pregnancy, birth and puerperium | Birth | Lf | If | Or | 1 |
| | | | Pregnancy, birth and puerperium | Postpartum | Lf | Fs | Kn | 1 |
| | | | Respiratory system | Cold | Fr, Lf | Fs, If | Bt, Or | 5 |
| | | | | Flu | Lf | If | Bt | 1 |
| | | | | Cough | Fr | If | Or | 1 |
| | | | Skin and subcutaneous tissue | Chirapa | Lf | If | Bt | 1 |
| | | | Skin and subcutaneous tissue | Wrinkles | Fr | Fs | Or | 1 |
| *Salpichroa glandulosa* (Hook.) Miers (FC635) | Alturna | Wild | Reproductive system and reproductive health | Menstruation disorders | Ap, Fl | If | Or | 3 |
| *Solanum albidum* Dunal (FC649) | Shurin | Wild | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Lf | If | Bt | 1 |
| *Solanum americanum* Mill. (FC459) | Hierbamora, cuash | Wild | Blood and cardio-vascular system | Hemorrhoids | Lf | Fs | Kn | 2 |
| | | | Cultural diseases and disorders | Tijte | Fr | Wm | Pl | 5 |
| | | | | Susto, espanto | Ap, Lf | Dc, Fs, If | Bt, Kn, Or | 4 |
| | | | | Shucaque | Fr | If | Pl | 1 |
| | | | Dental health | Toothache | Fl, Sd | Fs | Kn, Or | 2 |
| | | | Digestive system | Stomach pain | Ap | If | Bt | 1 |
| | | | General ailments with unspecific symptoms | Fever | Ap, Fr, Lf | Dc, Fm, Fs, If, Ml | Bt, In, Kn, Or, Pl | 43 |
| | | | General ailments with unspecific symptoms | Headache | Lf | Fs | Pl | 1 |
| | | | Infections and infestations | Chickenpox | Lf | If | Bt | 1 |
| | | | Infections and infestations | Insect bite | Ap | Fs | Pl | 1 |
| | | | Infections and infestations | UTA, leishmaniasis | Fr | Wm | Pl | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Muscular-skeletal system | Rheumatism | Ap, Lf | Fs, If | Bt, Kn, Pl | 3 |
| | | | Respiratory system | Sinusitis | Fr, Sd | Fs, If, Ml | In, Vp | 13 |
| | | | Respiratory system | Flu | Ap, Fr, Lf, St | Dc, Fs, If, Jc | In, Kn, Or, Pl | 7 |
| | | | Respiratory system | Cold | Ap, Fr, Lf | Dc, Fs, If, Jc | Bt, In | 5 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Ap, Fr, Lf | Fs | Bt, Or, Pl | 6 |
| | | | Skin and subcutaneous tissue | Chirapa | Ap, Fr, Lf | Fs, If | Bt, Kn, Or, Pl | 5 |
| | | | Skin and subcutaneous tissue | Burns | Lf | Wm | Pl | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Lf | If | Or | 1 |
| *Solanum asperolanatum* Ruiz & Pav. (FC615) | Oseguín | Wild | Cultural diseases and disorders | Tijte | Lf | Fs | Pl | 1 |
| *Solanum contumazaense* Ochoa (FC630) | Papa del abuelo, papa del gentil | Wild | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Lf | Dc, Fm, Fs, If | Bt, Or | 8 |
| | | | Pregnancy, birth and puerperium | Birth | Fr | If | Or | 1 |
| | | | Urinary system | Prostate disorders | Fr | If | Or | 1 |
| *Solanum interandinum* Bitter (FC553) | Mushañao | Wild | Cultural diseases and disorders | Aire, malaire | Lf | Fs | Kn | 2 |
| | | | Cultural diseases and disorders | Susto, espanto | Lf | Dc, If | Bt, Or | 2 |
| | | | General ailments with unspecific symptoms | Fever | Ap, Lf, St | Dc, If, Wm | Bt, Kn, Pl | 12 |
| | | | Pregnancy, birth and puerperium | Postpartum | Lf | Fs | Kn | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Respiratory system | Cold | Lf | If | Bt | 2 |
| *Solanum lycopersicum* L. (FC659) | Tomate | Cultivated | Cultural diseases and disorders | Tijte | Fr | Wm | Pl | 1 |
| | | | Digestive system | Stomach pain | Lf | If | Bt, Or | 7 |
| | | | General ailments with unspecific symptoms | Fever | Ap, Lf | Fs, If, Jc, Wm | Bt, Kn, Pl | 11 |
| | | | General ailments with unspecific symptoms | General malaise | Lf | Fs, If | Bt | 2 |
| | | | Infections and infestations | Fleas | Fr | Fs | Pl | 1 |
| | | | Muscular-skeletal system | Rheumatism | Lf | If, Wm | Pl | 2 |
| | | | Pregnancy, birth and puerperium | Postpartum | Lf | Fs | Kn | 1 |
| | | | Skin and subcutaneous tissue | Burns | Fr, Lf | Dc, Fs, Ml | Bt, Kn, Pl | 43 |
| | | | Skin and subcutaneous tissue | Acne | Fr | Ml | Pl | 1 |
| *Solanum pseudosycophanta* Farruggia (FC460) | San Pablo | Wild | Cultural diseases and disorders | Susto, espanto | Ap, Lf | Fs, If | Bt, Kn | 4 |
| | | | | Shucaque | Lf | Fs, If | Bt, Kn | 2 |
| | | | | Antimonia, gentil, viejo, antiguo | Lf | Ml | Pl | 1 |
| | | | Dental health | Cavity | Lf | Fs | Pl | 1 |
| | | | General ailments with unspecific symptoms | Headache | Lf | Fs, If | Or, Pl | 5 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Lf | If | Or | 1 |
| *Solanum quitoense* Lam. (FC496) | Chila | Cultivated | Blood and cardio-vascular system | High pressure | Fr | Dc, Jc | Or | 4 |
| | | | Cultural diseases and disorders | Susto, espanto | Lf | Dc | Pl | 1 |
| | | | Metabolic system and nutrition | Weight loss | Fr | Dc | Or | 2 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| *Solanum tuberosum* L. (FC458) | Papa | Cultivated | Blood and cardio-vascular system | Anemia | Ro | Dc | Or | 1 |
| | | | Cultural diseases and disorders | Negative vibes | Ro | Dd | Or | 1 |
| | | | | Shucaque | Ro | Fs | Pl | 1 |
| | | | Digestive system | Gastric ulcers | Ro | Dc, Fs, If | Or | 21 |
| | | | | Diarrhoea | Ro | Dc, Dd, Fm, If, Jc | Or | 20 |
| | | | | Liver disorders | Ro | If | Or | 2 |
| | | | | Stomach cramps | Ro | Dc | Or | 1 |
| | | | | Stomach pain | Ro | Dd | Or | 1 |
| | | | Endocrine system | Diabetes | Ro | Rt | Or | 1 |
| | | | General ailments with unspecific symptoms | Headache | Ro | Fs, If, Ml | Or, Pl | 34 |
| | | | Infections and infestations | Chickenpox | Ro | If | Bt | 5 |
| | | | Infections and infestations | Yellow fever | Ro | Dd | Or | 1 |
| | | | Other uses | Hangover | Ro | Dc | Or | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Ro | Dc | Or | 4 |
| | | | Reproductive system and reproductive health | Menopause | Ro | Fs | Pl | 1 |
| | | | Skin and subcutaneous tissue | Burns | Ro | Dd, If | Bt, Or | 2 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Ro | Dc, If, Jc | Or | 25 |
| | | | | Kidney stones | Ro | Jc | Or | 1 |
| | | | | Prostate disorders | Ro | Wm | Or | 1 |
| **Thelypteridaceae** | | | | | | | | |
| *Macrothelypteris torresiana* (Gaudich.) Ching (FC525) | Helechillo | Wild | Reproductive system and reproductive health | Menstruation disorders | Ap | If | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| **Tropaeolaceae** | | | | | | | | |
| *Tropaeolum majus* L. (FC505) | Capuchina | Cultivated | Infections and infestations | Fleas | Fl, Sd | Ml | Kn | 1 |
| | | | Muscular-skeletal system | Rheumatism | Ap | If | Or | 1 |
| | | | Respiratory system | Cold | Ap | If | Or | 1 |
| | | | | Flu | Ap | If | Or | 1 |
| *Tropaeolum tuberosum* Ruiz & Pav. (FC462) | Mashua | Cultivated | Digestive system | Diarrhoea | Ro | If | Or | 1 |
| | | | | Stomach pain | Ro | If | Or | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Ro | Dc, If | Or | 6 |
| | | | Urinary system | Prostate disorders | Ro | Dc, If, Ml | Or, Pl | 14 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Ro | Dc | Or | 1 |
| **Urticaceae** | | | | | | | | |
| *Phenax laevigatus* Wedd. (FC643) | Caluyán | Wild | Cultural diseases and disorders | Tijte | Ap | Fs | Kn | 3 |
| *Pilea microphylla* (L.) Liebm. (FC463) | Contrayerba, rumusol, quishquirrinrri | Wild | Cultural diseases and disorders | Pulsario | Lf | If | Or | 1 |
| | | | Cultural diseases and disorders | Susto, espanto | Lf | If | Bt | 1 |
| | | | Digestive system | Stomach infection | Ap | If | Or | 2 |
| | | | | Diarrhoea | Lf | Fs | Or | 1 |
| | | | | Laxative | Lf | Dc | Or | 1 |
| | | | General ailments with unspecific symptoms | Fever | Ap, Lf | Dc, If | Bt, Or | 17 |
| | | | General ailments with unspecific symptoms | Headache | Lf | If | Bt | 1 |
| | | | Infections and infestations | Fleas | Lf | Ml | Pl | 1 |
| | | | Nervous system and mental health | Stress | Ap, Fl | If | Bt, Or | 9 |
| | | | Reproductive system and reproductive health | Fertility | Lf, St | If | Or | 3 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Reproductive system and reproductive health | Menstruation disorders | Lf | If | Or | 1 |
| | | | Sensory system | Hearing disorders | Ap, Fr, Lf | Dc, If, Jc, Wm | Ew | 9 |
| | | | Sensory system | Visual disorders | Lf | If | Ew | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Ap | If | Or | 2 |
| | | | Urinary system | Prostate disorders | Ap | If | Or | 1 |
| *Urtica magellanica* Juss. ex Poir. (FC587) | Ortiga brava | Wild | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Ro | If | Or | 1 |
| | | | Muscular-skeletal system | Rheumatism | Ap, Lf, St | Fs, If | Kn, Wh | 8 |
| | | | Muscular-skeletal system | Muscle cramps | Ap | Fs | Wh | 1 |
| | | | Pregnancy, birth and puerperium | Postpartum | Ap | Dc | Or | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Ap | If | Or | 1 |
| | | | Skin and subcutaneous tissue | Swelling | Ap | Fs | Wh | 1 |
| *Urtica urens* L. (FC464) | Ortiga, ortiga negra, ishanga negra | Wild | Blood and cardio-vascular system | Anemia | Ro | If | Or | 1 |
| | | | Digestive system | Diarrhoea | Ro | Dc | Or | 1 |
| | | | | Intestinal infection | Ap | If | Or | 1 |
| | | | | Stomach infection | Ap | If | Or | 1 |
| | | | General ailments with unspecific symptoms | Headache | Ap | Fs | Pl | 1 |
| | | | Muscular-skeletal system | Rheumatism | Ap, Ep, Fl, Lf, St | Dc, Fm, Fs, If, Jc, Ml | Bt, Kn, Or, Pl, Wh | 74 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Muscular-skeletal system | Lumbago | Lf | Fm | Kn | 1 |
| | | | Muscular-skeletal system | Muscle cramps | Ap | Fs | Wh | 1 |
| | | | Nervous system and mental health | Stress | Ap | Fs, If | Or, Pl | 2 |
| | | | Other uses | Hair loss | Ap, Lf | If, Jc | Bt | 4 |
| | | | Pregnancy, birth and puerperium | Postpartum | Ro | If | Or | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Ap, Lf, Ro | If, Ml | Or | 6 |
| | | | Reproductive system and reproductive health | Menopause | Ap, Ro | If, Ml | Or, Pl | 3 |
| | | | Reproductive system and reproductive health | Vaginal infection | Ro | If | Or | 2 |
| | | | Respiratory system | Bronchitis | Ap, Ro | If | Or | 21 |
| | | | Respiratory system | Cough | Ap, Ro | If | Or | 6 |
| | | | Respiratory system | Cold | Fl, Sd | If | Or | 1 |
| | | | Ritual and magic uses | Witchcraft | Ap | If | Or | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Ap, Lf, Ro | Dc, If, Jc | Bt, Or | 15 |
| | | | Skin and subcutaneous tissue | Swelling | Ap | Fs, If | Bt, Pl | 2 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Ap, Ro | If | Or | 3 |
| | | | Urinary system | Prostate disorders | Ro | Dc | Or | 1 |
| **Verbenaceae** | | | | | | | | |
| *Aloysia citriodora* Palau (FC572) | Cedrón | Cultivated | Blood and cardio-vascular system | Anemia | Sd | If | Or | 1 |
| | | | Digestive system | Stomach pain | Ap | If | Or | 3 |
| | | | | Diarrhoea | Lf | Dc | Or | 1 |
| | | | | Hepatitis | Lf | If | Or | 1 |
| | | | | Indigestive | Lf | If | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | | Stomach cramps | Lf | If | Or | 1 |
| | | | Infections and infestations | Malaria | Bk | If | Or | 1 |
| | | | Nervous system and mental health | Insomnia | Lf | If | Or | 1 |
| | | | Nervous system and mental health | Stress | Lf | If | Or | 1 |
| | | | Respiratory system | Cold | Lf | If | Or | 1 |
| *Lantana haughtii* Moldenke (FC518) | Sachaorégano | Wild | Reproductive system and reproductive health | Menstruation disorders | Lf | If | Or | 2 |
| *Lantana moritziana* Otto & A. Dietr (FC616) | Cuñabal | Wild | Cultural diseases and disorders | Susto, espanto | Ap, Lf | Fs, If | Kn | 3 |
| | | | Cultural diseases and disorders | Tijte | Ap, Lf | Dc, If | Bt | 2 |
| *Lantana reptans* Hayek (FC500) | Shispasacha | Wild | Cultural diseases and disorders | Susto, espanto | Lf | If | Bt | 1 |
| | | | Digestive system | Carminative | Ap | If | Or | 1 |
| | | | | Diarrhoea | Lf | If | Or | 1 |
| | | | | Stomach cramps | Lf | If | Or | 1 |
| *Lippia* sp. (FC465) | Falso orégano | Wild | Digestive system | Stomach pain | Ap | If | Or | 1 |
| | | | Nervous system and mental health | Stress | Fl, Sd | If | Or | 2 |
| | | | Nervous system and mental health | Epilepsy | Lf | If | Or | 1 |
| *Stachytarpheta cayennensis* (Rich.) Vahl (FC507) | Verbena negra | Wild | Digestive system | Liver disorders | Ap, Lf | Dc, If | Or | 8 |
| | | | General ailments with unspecific symptoms | Fever | Lf | Fs | Or | 2 |
| | | | General ailments with unspecific symptoms | Headache | Lf | If | Or | 1 |
| | | | Infections and infestations | Malaria | Lf | If | Or | 1 |
| | | | Nervous system and mental health | Stress | Ap | If | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Other uses | Cancer | Ap | If | Or | 1 |
| | | | Reproductive system and reproductive health | Menopause | Lf | Fs | Or | 1 |
| *Verbena litoralis* Kunth (FC585) | Verbena | Wild | Blood and cardio-vascular system | Anemia | Lf | Dc | Or | 1 |
| | | | | High pressure | Lf | If | Or | 1 |
| | | | | Low pressure | Fl | If | Or | 1 |
| | | | Dental health | Toothache | Fl | Ml | Or | 1 |
| | | | Digestive system | Stomach cramps | Ap, Lf | Fs, If | Or | 4 |
| | | | | Diarrhoea | Lf | If | Or | 2 |
| | | | | Hepatitis | Ap, Lf | Dc, Jc | Or | 2 |
| | | | | Liver disorders | Ap, Lf | If | Or | 2 |
| | | | | Stomach pain | Ap | If | Or | 1 |
| | | | | Gallbladder | Lf | If | Or | 1 |
| | | | General ailments with unspecific symptoms | Fever | Ap, Ep, Fl, Lf, St | Dc, Fs, If, Jc | Bt, Kn, Or, Pl | 111 |
| | | | General ailments with unspecific symptoms | Headache | Ap, Lf | Dc, If, Ml | Bt, Or, Pl | 5 |
| | | | General ailments with unspecific symptoms | General malaise | Ap, Lf | Dc, If | Bt | 2 |
| | | | Infections and infestations | Fleas | Ap, Fl, Lf | If, Ml | Kn, Pl | 2 |
| | | | Infections and infestations | Malaria | Lf | Dc, Ml | Or | 2 |
| | | | Infections and infestations | Insect bite | Lf | Dc | Bt | 1 |
| | | | Nervous system and mental health | Stress | Ap, Fl, Lf | Dc, If, Ml | Or | 19 |
| | | | Nervous system and mental health | Insomnia | Ap, Ro | If | Or | 2 |
| | | | Pregnancy, birth and puerperium | Abortive | Ap | Jc | Or | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Bd | If | Or | 1 |
| | | | Reproductive system and | Menopause | Fl | If | Bt | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | reproductive health | | | | | |
| | | | Reproductive system and reproductive health | Menstruation disorders | Lf | If | Or | 2 |
| | | | Respiratory system | Flu | Fl, Lf | Dc, If, Ml | Bt, Or | 6 |
| | | | Respiratory system | Cold | Ap | If | Or | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Ap, Lf | Dc, Fs | Bt, Kn, Or, Pl | 5 |
| | | | | Chirapa | Ap, Lf | If, Ml | Bt, Or | 2 |
| | | | | Feet fungus | Lf | If | Bt | 1 |
| | | | | Swelling | Ap | If | Or | 1 |
| **Violaceae** | | | | | | | | |
| *Viola odorata* L. (FC497) | Violeta | Cultivated | Respiratory system | Cough | Ap | If | Or | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Ap | if | Bt | 1 |
| **Vitaceae** | | | | | | | | |
| *Vitis vinifera* L. (FC514) | Uva | Cultivated | Digestive system | Indigestive | Fr | Jc | Or | 2 |
| **Xanthorrhoeaceae** | | | | | | | | |
| *Aloe vera* (L.) Burm. f. (FC527) | Pencasábila, sábila, aloe | Cultivated | Blood and cardio-vascular system | Hemorrhoids | Lp | Fs, If | Bt, En, Or | 4 |
| | | | | Varicose veins | Lp | Fs, If | Pl | 2 |
| | | | | Blood infection | Lp | If | Or | 1 |
| | | | Cultural diseases and disorders | Negative vibes | Ap, Lp | Fm, Fs | Nn | 5 |
| | | | | Tijte | Lp | Fs | Pl | 4 |
| | | | Dental health | Toothache | Lp | Fs | Pl | 1 |
| | | | Digestive system | Diarrhoea | Lp | Fs, If | Or | 31 |
| | | | | Liver disorders | Lp | Fs, If | Or | 12 |
| | | | | Gastric ulcers | Lp | Dc, Fs, If | Or | 9 |
| | | | | Stomach infection | Lp | Fs, If | Or | 2 |
| | | | | Stomach pain | Lp | If | Or | 1 |
| | | | Infections and infestations | UTA, leishmaniasis | Lp | Fs | Pl | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Muscular-skeletal system | Rheumatism | Lp | Fs | Pl | 1 |
| | | | Other uses | Hair loss | Lp | Fs | Bt | 24 |
| | | | Other uses | Cancer | Lp | Dc, Fm, Fs, If, Ml | Or | 17 |
| | | | Reproductive system and reproductive health | Sexual infections | Lp | If | Bt | 1 |
| | | | Reproductive system and reproductive health | Vaginal infection | Lp | Fs | En | 1 |
| | | | Respiratory system | Bad breath | Lp | Fs | Or | 1 |
| | | | Respiratory system | Cold | Lp | If | Or | 1 |
| | | | Ritual and magic uses | Curse | Lp | Fs | Nn | 3 |
| | | | | Bring good luck | Lp | Fs | Nn | 1 |
| | | | | Witchcraft | Lp | Fs | Pl | 1 |
| | | | Sensory system | Visual disorders | Lp | If, Jc | Ew | 8 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Lp | Fs, If | Bt, Or, Pl | 22 |
| | | | | Acne | Lp | Fs, If | Bt, Or, Pl | 10 |
| | | | | Swelling | Lp | Fs, If, Ml | Bt, Nn, Or, Pl | 8 |
| | | | | Liver spots | Lp | Fs, If | Or, Pl | 6 |
| | | | | Burns | Lp | Dc, Fs, If | Bt, Pl | 5 |
| | | | | Feet fungus | Lp | Fs | Bt, Kn | 2 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Lp | Dc, Fs, If | Or, Pl | 30 |
| | | | | Kidney stones | Lp | If | Or | 3 |
| | | | | Prostate disorders | Lp | Fs | Pl | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| **Zingiberaceae** | | | | | | | | |
| *Hedychium coronarium* J. Koenig (FC524) | Azafrán | Wild | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Ap | Fs | Kn | 2 |
| | | | Metabolic system and nutrition | Weight loss | Fr | Dc | Or | 2 |
| | | | Other uses | Cancer | Fr | Dc | Or | 5 |
| | | | Skin and subcutaneous tissue | Burns | Fr, Ro | Dc, Ml | Bt, Or, Pl | 18 |
| | | | Urinary system | Prostate disorders | Fr | Dc, If | Or | 9 |
| Renealmia sp. (FC498) | Caña agria | Wild | Digestive system | Liver disorders | Ap | If | Or | 1 |
| | | | Endocrine system | Diabetes | St | Jc | Or | 1 |
| | | | General ailments with unspecific symptoms | Fever | Ap, St | If, Jc | Or | 7 |
| | | | Metabolic system and nutrition | Weight loss | St | Jc | Or | 2 |
| | | | Muscular-skeletal system | Rheumatism | Lx | If | Kn | 1 |
| | | | Reproductive system and reproductive health | Impotence | St | Fm | Or | 1 |
| | | | Urinary system | Prostate disorders | Lf, St | If, Jc | Or | 2 |
| | | | Urinary system | Kidney stones | Ap | If | Or | 1 |
| *Zingiber officinale* Roscoe (FC541) | Kión | Cultivated | Endocrine system | Diabetes | Ro | If | Or | 1 |
| | | | Metabolic system and nutrition | Weight loss | Ro | Dc | Or | 1 |
| | | | Muscular-skeletal system | Rheumatism | Ro | Fm | Kn | 2 |
| | | | Muscular-skeletal system | Lumbago | Ro | Fm | Kn | 1 |
| | | | Respiratory system | Flu | Ro | If | Or | 2 |
| | | | Respiratory system | Tonsillitis | Ro | If | Gg | 1 |

Plant parts
*Ap* Aerial part, *Bd* Bud, *Bk* Bark, *Ec* Exocarp, *Ep* Entire plant, *Fl* Flower, *Fr* Fruit, *Lf* Leaf, *Lp* Leaf pulp, *Lx* Látex, *Ro* Root, *Sd* Seed, *Sp* Spine, *Ss* Stigmas and styles, *St* Stem
Preparation form
*Bt* Baths, *En* Enema, *Ew* Eyewash, *Gg* Gargle, *In* Inhaled, *Kn* Kneaded, *Oi* Oil, *Or* Oral, *Pl* Plaster, *Vp* Vapours, *Wh* Whip, *Wm* Warmed
Mode of administration
*Dc* Decoction, *Dd* Dried, *Fm* Fermented, *Fs* Fresh, *If* Infusion, *Jc* Juice, *Ml* Molten, *Nn* None, *Rt* Rotten
All voucher specimens were collected by Corroto and by Rascón

**Casa tradicional en la localidad de Granada (Chachapoyas)**

Foto: Fernando Corroto de la Fuente

Capítulo

# 4

# Understanding the role of socioeconomic variables on medicinal plant knowledge in the Peruvian Andes

**Este capítulo es un manuscrito pendiente de enviar a una revista internacional. Fue preparado por:** Fernando Corroto, Óscar A. Gamarra Torres, Manuel J. Macía

# Abstract

A total of 18 socioeconomic factors at individual, family and locality level were analyzed to understand their significance on the medicinal plant knowledge (MPK) in the northern Andes of Peru. We interviewed 600 participants from lowlands and highlands ecoregions. At the individual level, we found that informants with higher MPK were women, elders, people with lower levels of education and job qualification, non-migrants, and participants who lived for a longer period in the same region. At the family level, we showed that informants with low economic wealth and material goods, analyzed under different modes of transportation, tools possession, access to technology, farm size, number of farm animals, and house quality were those with higher MPK. At the locality level, we found that people living in more isolated areas and with scarce regional services, such as access to paved roads, hospitals, big markets, tourist development, and chlorination of drinking water were the participants with higher MPK. In sum, people with less access to modern services and low economic resources are the main depositaries of the MPK. Policy and decision makers should take into account the significance of MPK in Andean regions as an essential factor of rural livelihoods.

# Introduction

Socioeconomic and cultural changes have different implications on the medicinal plant knowledge (MPK hereafter) of the different human populations at global scale, but it is particularly significant in developing countries that are closer to the rural life and that conserve more vividly traditions based on nature (Almeida et al., 2010; Mafimisebi et al., 2012). In the last decades, the socioeconomic framework has changed rapidly along the life of persons across these countries (Albuquerque et al., 2019). Usually, when the socioeconomic situation improves at both personal and regional scales, it has been related to the loss of MPK and cultural identity for local people (Botha et al., 2004).

One way to analyze these changes is through the ethnobotanical studies, since they are good models to understand patterns of change across the societies focusing on the use of plants by people, that clearly depend on their socioeconomic and cultural situations (Phillips et al., 1994; Reyes-García et al., 2008). In this sense, medicinal plants have a special relevance in the economy and the conservation of culture, since maintain the health and suppose a basic sustenance for their livelihoods, being at the same time closer to their traditions and cheaper than western medicine (Macía et al., 2005; Pardo-de-Santayana & Macía, 2015).

The socioeconomic variables can be classified in three different levels for a human group living in a rural environment: individual, family and locality (Salpeteur et al., 2016). All these three group of factors have been reported to influence the MPK at different degrees. First, at the individual level, many earlier papers document that women and older age groups are the most important custodians of this MPK (Voeks, 2007; Mathez-Stielef & Vandebroek, 2012). Additionally, there are other variables that have influenced their MPK at this scale, such as the higher level of studies, which seems to take away the traditional culture, knowledge and skills of the youngest (Reyes-García et al., 2013b), and at the same time is in close relation to personal occupation, since generally people shows a worse level of MPK in highly specialized jobs (Muthu et al., 2006). The migratory status and the residence time in a particular area are also related to the MPK, having more knowledge the residents who were birth and lived in a region for a long time (Pirker et al., 2012; Abreu et al., 2015).

Second, at the family level, distinct variables have been also used to analyze different levels of economic wealth in relation to MPK, such as means of transport, access to technological services, and ownership of tools, cattle and farmland. In all these cases, having more possessions have been related to a lower MPK (Kunwar & Bussmann, 2008). The good state of

conservation of the house can be related to a greater economic facility to mend any damage, and therefore a lower MPK for these families (Benz et al., 2000).

Finally, at the locality level, the low access to regional services such as paved roads, hospitals and big markets facilitates the isolation of the localities for the preservation of their MPK (Rai & Lalramnghinglova, 2010; Vandebroek, 2010). The implementation of water treatment with chlorination system for human consumption reduces the incidence of diarrheal diseases and other infectious diseases transmitted by water (WHO, 2017), which may be related to the low transmission of MPK [Personal observations]. Likewise, areas with tourist attractions will facilitate direct economic resources to the closer inhabitants, which suppose an advantage for its economic development and consequently a disadvantage for the maintenance of their traditional knowledge (Wearing & McDonald, 2002).

In Peru some works have focused on the rescue of MPK at the personal level (De la Cruz et al., 2007; Sanz-Biset et al., 2009; Monigatti et al., 2013; Gonzales et al., 2014) but to our knowledge, this is the first study that deals with this issue at individual, family and locality levels for a region. In this study, we analyze the impact of socioeconomic factors on the use of medicinal plants for rural populations in the Peruvian Andes. Our first hypothesis, related to the influence of socioeconomic factors at individual level, considers that people with higher educational level, specialized jobs, shorter residence times, and migrants will have lower MPK. The second hypothesis, related to the impact of socioeconomic variables at family level, holds that people with more wealth resources, either in the form of modern means of transport and tools, access to technological services, livestock possessions, and farm size will know less medicinal plants and their associated uses. Finally, our last hypothesis at the locality level, maintains that people living in localities that are closer to tourist places, paved roads, hospitals, big markets, and have treated water services will have lower MPK.

# Material and methods

## Study area

*The study area has been previously described in Chapter 2 (Methodology), which includes the location map (Fig. 2.1).*

## Data collection

To gather information about the uses of medicinal plants by local people, we carried out 50 semistructured interviews in each of the 12 localities of the Peruvian montane forests, totalling

600 interviews. Full details of data collection are described in Chapter 2: Metodología general, Toma de datos section. Please find below some details about the socioeconomic data gathering.

The selection of the localities was based on different geographical characteristics and socioeconomic development. In general terms, the population of the lowlands had more economic resources and better infrastructures than the inhabitants of the highlands (Table 4.1). The localities of Rodríguez de Mendoza province (lowlands) were the only ones that have productive coffee monoculture and intensive livestock, whereas the three other provinces had subsistence agriculture (Bongará) or more diverse productive agriculture (highlands). There are touristic attractions in both Bongará (lowlands) and Luya (highlands), with the exception of Yomblón. Localities in Rodríguez de Mendoza and Luya provinces had paved roads (not for Yomblón). The only localities with a hospital were in Rodríguez de Mendoza. The localities of Chachapoyas province were the only ones with no access to big markets nor water chlorination system. The lowlands localities showed higher population density than the highlands localities, being Chachapoyas by far, the province with the lowest population (SENAMHI, 2019).

**Table 4.1.** Socioeconomic characteristics of the two studied ecoregions in the tropical montane areas of northern Peruvian Andes. The population data were obtained from INEI (INEI, 2015).

| Attributes | Bongará Lowlands | R. Mendoza Lowlands | Chachapoyas Highlands | Luya Highlands |
|---|---|---|---|---|
| Agriculture | Subsistence agriculture (corn, fruit trees and pasture) | Predominance of productive coffee | Predominance of productive Andean tubers, corn and pasture | Predominance of productive Andean tubers, corn and pasture |
| Livestock | Extensive subsistence cattle | Intensive bovine cattle and swine | Extensive subsistence cattle | Extensive subsistence cattle |
| Fishery | Small-scale trout farms | Fishing in rivers | Small-scale trout farms | Small-scale trout farms |
| Tourist attractions | Yes | No | No | Yes |
| Paved roads | No | Yes | No | Yes |
| Hospitals | No | Yes | No | No |
| Big markets | Yes | Yes | No | Yes |
| Water chlorination | Yes | Yes | No | Yes |
| Population | 2588 | 3277 | 1034 | 1991 |

We conducted closed interviews with all the participants to gather socioeconomic information from 18 variables that were classified into three levels: individual, family and locality (Table 4.2). At the individual level, we included gender, age, education, occupation, migratory status, and residence time in the region. At the family level we studied family size, means of transport, tool possessions, access to technological services, number of animal farm,

farm size, and house quality. Finally, at the locality level, we analyzed the proximity to paved roads, hospitals, big markets, tourist places, and water treatment for human consumption.

**Table 4.2.** Description of the 18 socioeconomic variables for which data were obtained from 600 interviews in 12 localities of northern Peruvian Andes.

| Independent variable name | Variable scale | Variable type | Variable classification |
|---|---|---|---|
| Gender | Individual | Nominal | (0) Men; (1) Women |
| Age (years) | Individual | Continuous | Between 18 and 91 |
| Education | Individual | Ordinal | (0) No education; (1) Primary education; (2) High education |
| Occupation | Individual | Ordinal | (0) Basic qualification; (1) Medium/High qualifiation |
| Migratory status | Individual | Ordinal | (0) Non-migrant; (1) Migrant |
| Time in residence | Individual | Ordinal | (0) Between 0–15 years; (1) Between 16–30 years; (2) More than 30 years |
| Family size | Familiar | Continuous | Between 0–11 children |
| Means of transport | Familiar | Ordinal | (0) No transport; (1) Animal and bicycle; (2) Motorbike, car or similar |
| Tools | Familiar | Ordinal | (0) No tools; (1) Basic tools; (2) Semi-automatic tools |
| Technological services | Familiar | Ordinal | (0) Radio, mobile phone, TV; (1) Cable TV; (2) Internet |
| Farm animals | Familiar | Ordinal | (0) No animals; (1) 1–15 animals; (2) > 15 animals |
| Farm size | Familiar | Ordinal | (0) 0–1 ha; (1) 1–5 ha; (2) > 5 ha |
| House quality | Familiar | Ordinal | (0) With some defects; (1) Good quality, no defects |
| Proximity to tourist places | Locality | Ordinal | (0) Less than 1 hour; (1) 1–2 hours; (2) More than 2 hours |
| Proximity to paved roads | Locality | Ordinal | (0) Less than 1 hour; (1) 1–2 hours; (2) More than 2 hours |
| Proximity to hospitals | Locality | Ordinal | (0) Less than 1 hour; (1) 1–2 hours; (2) More than 2 hours |
| Proximity to big markets | Locality | Ordinal | (0) Less than 1 hour; (1) 1–2 hours; (2) More than 2 hours |
| Water quality | Locality | Ordinal | (0) Drinking water with chlorination system; (1) Unguarded, without chlorination system |

## Data analysis

We classified the 18 socioeconomic factors in three types of variables: nominal (gender, locality), ordinal (education, occupation, migration status, time in residence, transport, tools, access to technological services, farm animals, farm size, house quality, proximity to paved roads, to hospitals, to big markets, and to places of tourist interest, and water quality), and continuous (age, family size) (Table 4.2).

Two ethnobotanical indicators were analyzed: (1) medicinal plants use-reports, which is the sum of all medicinal uses reported by one informant for all species known, and (2) useful medicinal plant species, which corresponds to the sum of all documented species by each

informant. We found strong correlations between the two ethnobotanical indicators for all localities (highlands r = 0.66–0.84; lowlands r = 0.62–0.82), and therefore we decided to use only the medicinal plants use-reports as the dependent variable in all the subsequent analyses.

We run generalized linear models with negative binominal distribution to seek possible relationship among different socioeconomic variables from different levels. In this analysis, the average of medicinal plants use-reports were the dependent variables, whereas the socioeconomic factors were the independent variables, following Paniagua-Zambrana et al. (2014):

$$Yij = y00 + (\beta Xi\ldots.) + (\tau X'i\ldots.) + r0j + \sigma L + eij$$

where Yij is an independent variable; y00 is the common intercept; β and τ are the respective coefficients of the continuous variables Xi and categorical X´i; r0j has a normal distribution with median 0; standard deviation σL represents the variability of the 12 localities; and eij is the error or residual for each of the interviewees. Based on this analysis, we excluded those categorical variables that did not show significant differences ($r < 0.05$) in any locality.

To visualize if the provinces and localities are spatially grouped according to the socioeconomic levels, we performed NMDS analyses with all socioeconomic variables for the eight most cited medicinal categories (>800 use-reports). All the analyses were performed with Infostat Analytical Software for Windows (Di Rienzo et al., 2011).

# Results

## The influence of socioeconomic factors on the MPK

Overall, localities in the highlands showed both higher number of medicinal plants and higher number of use-reports compared to the localities in the lowlands, particularly in the province of Chachapoyas (Table 4.3). In relation to both the age of the participants and the famly size, the results showed a positive relationship with MPK in all localities, although its significance was different across them.

**Table 4.3.** Mean (± standard deviation) values of medicinal plants and data for the two continuous socioeconomic variables in 12 localities of the Peruvian Andes.

| Ecoregion - Province | Locality | # Medicinal species | # Medicinal use-reports | Age | Family size |
|---|---|---|---|---|---|
| Lowlands – Bongará | Cuispes | 19.4 ± 6.4 | 22.2 ± 7.1 | 0.08 | 0.14 |
| | San Carlos | 22.0 ± 5.8 | 24.6 ± 7.9 | 0.17 | 0.03 |
| | Valera | 9.6 ± 3.6 | 10.8 ± 4.5 | 0.14 | 0.28 |
| Lowlands – R. Mendoza | Huambo | 10.6 ± 3.9 | 12.3 ± 4.1 | 0.24 | 0.04 |
| | Santa Rosa | 13.1 ± 4.0 | 13.8 ± 4.2 | 0.15 | 0.19 |
| | Totora | 18.5 ± 4.4 | 20.8 ± 5.2 | 0.09 | 0.14 |
| Highlands – Chachapoyas | Granada | 26.9 ± 7.8 | 34.8 ± 8.9 | 0.23 | 0.28 |
| | Olleros | 27.2 ± 7.3 | 35.1 ± 7.8 | 0.29 | 0.09 |
| | Quinjalca | 26.8 ± 7.5 | 31.8 ± 7.6 | 0.06 | 0.11 |
| Highlands – Luya | Longuita | 22.4 ± 6.6 | 26.2 ± 7.1 | 0.12 | 0.13 |
| | María | 19.0 ± 5.9 | 22.3 ± 6.6 | 0.12 | 0.25 |
| | Yomblón | 20.1 ± 6.0 | 23.1 ± 6.8 | 0.19 | 0.18 |

At the individual level, results for the different socioeconomic factors were as follows (Fig. 4.1): (1) Women cited a higher number of use-reports than men in the four provinces, although in the locality of Longuita the results were reversed (Fig. 4.1-A); (2) Overall, education had a negative effect, indicating that MPK decreased as formal education increased in all localities, with the exceptions of Valera and Totora (Fig. 4.1-B); (3) Occupation indicated that people with specialized jobs showed lower MPK than people with basic occupations, with the exception of Cuispes (Fig. 4.1-C); (4) Migratory status showed that non-migrants provided a higher number of use-reports than migrants, with the exceptions of Huambo and Longuita (Fig. 4.1-D); and (5) The time in residence showed that those participants who had been living in the area for more years had a higher MPK, with the exceptions of Huambo and Longuita (Fig. 4.1-E).

At the family level, we found the following results (Fig. 4.2): (1) Participants that possessed no transport or basic transports showed higher MPK than those with motor vehicles (Fig. 4.2-A); (2) Informants who did not possess any tools or just basic tools had higher MPK than informants with semi-automatic tools, with the exception of Longuita (Fig. 4.2-B); (3) The access to technological services showed different patterns between the ecoregions: localities in the lowlands with higher MPK had access to cable TV or internet with the exception of Cuispes, whereas localities in the highlands with higher MPK had no technological access, with the exception of Longuita (Fig. 4.2-C); (4) The participants who did not possess farm animals or a low number of them had higher MPK than participants who possessed farm animals for trade, with the exceptions of Santa Rosa and Longuita (Fig. 4.2-D); (5) Families with a farm size of less than five hectares maintained higher MPK with the exception of San Carlos and Huambo in the lowlands and Quinjalca and Longuita in the highlands (Fig. 4.2-E); (6) Families whose

houses had some construction defects showed higher MPK than those with good quality houses, with the exception of Cuispes, Huambo and Santa Rosa in the lowlands (Fig. 4.2-F).

At the locality level, we found that participants living in localities without access to paved roads, hospitals, big markets and tourist places showed higher MPK than participants living in localities with access to these services (Table 4.4). Finally, localities that had no chlorination system of drinking water showed higher MPK than localities that have this service.

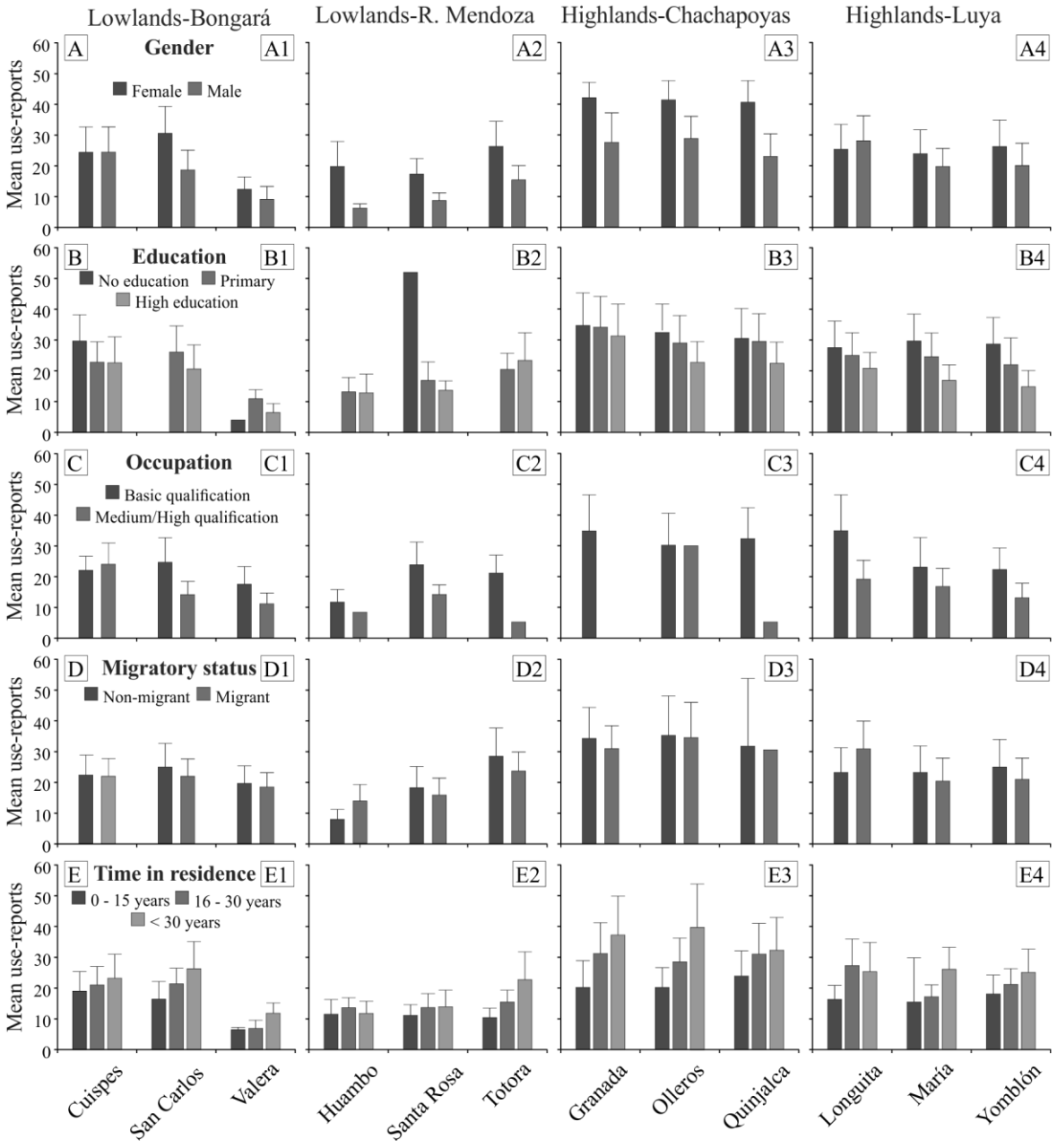


**Fig. 4.1.** Influence of socioeconomic factors at the individual level on the MPK (mean medicinal use-reports) in 12 localities of northern Peruvian Andes.

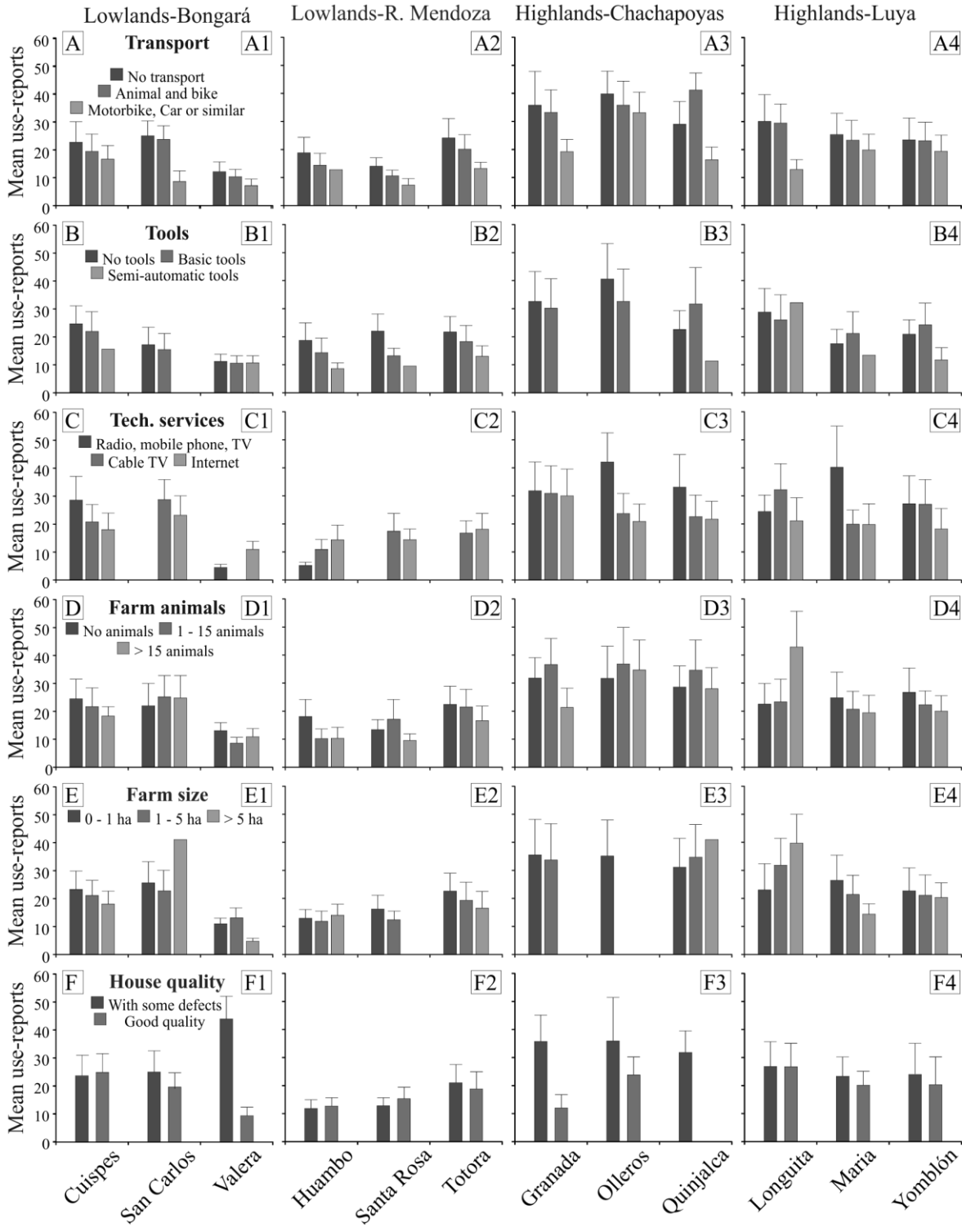


**Fig 4.2.** Influence of socioeconomic factors at the family level on the MPK (mean medicinal use-reports) in 12 localities of northern Peruvian Andes.

**Table 4.4.** Influence of socioeconomic factors at the locality level on the MPK (mean medicinal use-reports) in 12 localities of northern Peruvian Andes.

| Attributes | High | Medium | Low |
|---|---|---|---|
| Proximity of tourist places | 19.7 ± 6.4 | 23.4 ± 7.2 | 30.1 ± 8.4 |
| Proximity to paved roads | 19.1 ± 6.7 | 19.2 ± 6.4 | 31.2 ± 8.2 |
| Proximity to hospitals | 15.6 ± 5.4 | 21.2 ± 6.8 | 31.2 ± 8.2 |
| Proximity to big markets | 17.4 ± 5.6 | 24.2 ± 7.5 | 31.2 ± 8.2 |
| Chlorination of drinking water | 18.9 ± 6.1 | – | 29.1 ± 8.0 |

## Mixed-model effects of socioeconomic factors on the MPK

We found that nine out of 18 socioeconomic factors were statistically significant with MPK in 11 of the 12 localities with the exception of María (highlands), and those localities showed significant association with 1-3 socioeconomic factors (Table 4.5). At the individual level, (1) gender had a statistically significant negative association in three localities of the lowlands (San Carlos, Valera and Totora) and one in the highlands (Quinjalca); (2) Education showed a negative statistically significance influence in the MPK in three localities of the lowlands (San Carlos, Santa Rosa and Totora) and one of the highlands (Yomblón); (3) Occupation had a negative association with MPK in two localities of the lowlands (San Carlos and Santa Rosa); (4) Migration had only statistically significant negative relation with MPK in Longuita; (5) Time in residence showed significant association with MPK in two localities of the highlands (Longuita and Yomblón). At the family level, (1) family size had a statistically significant positive association in three localities of the highlands (Granada, Olleros, Yomblón); (2) Transport showed statistically negative associations with the maintenance of MPK only in Totora; (3) Tools had negative association with MPK in two localities of both highlands (Granada and Olleros) and lowlands (Cuispes and Valera); and (4) Access to technological services showed negative significant associations in the lowlands (Huambo and Santa Rosa) and in the highlands (Granada).

**Table 4.5.** Mixed-model effects of 18 socioeconomic factors on the MPK in 12 localities of northern Peruvian Andes.

| Attributes | Lowlands - Bongará | | | Lowlands - Mendoza | | | Highlands - Chachapoyas | | | Highlands - Luya | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cuispes | San Carlos | Valera | Huambo | Santa Rosa | Totora | Granada | Olleros | Quinjalca | Longuita | María | Yomblón |
| Intercept | 45.462 | 24.553 | 35.234** | 11.791 | 23.797 | 34.316* | 37.979 | 24.263 | 11.641 | 19.558 | 42.486 | 23.159 |
| Women[1] | 1.245 | 3.244** | 2.506* | 0.821 | 1.109 | 2.068* | 1.110 | 1.080 | 2.471* | 0.809 | 0.908 | 0.859 |
| Education | 1.077 | -3.618* | 0.714 | -1.752 | -4.291** | -2.662* | -0.580 | 0.490 | 0.520 | -1.532 | -0.400 | -3.246* |
| Occupation | 1.012 | -4.783** | -1.527 | 0.206 | -4.935** | -1.672 | nd | 0.919 | -0.353 | -1.992 | -0.506 | 0.065 |
| Migratory status[2] | -0.373 | -0.348 | -0.161 | 0.508 | 0.422 | 0.534 | -0.161 | -1.029 | -0.015 | -3.347* | -1.656 | -0.107 |
| Time in residence | 0.927 | 0.791 | 0.734 | 0.839 | 0.248 | 1.449 | 0.811 | 1.599 | -0.143 | 2.471* | 1.711 | 2.124* |
| Family size | 0.697 | 0.409 | 0.218 | 0.703 | 1.405 | 0.616 | 2.072* | 2.782* | 0.979 | 1.405 | 0.779 | 3.271* |
| Transport | 0.863 | 0.919 | -0.969 | -0.389 | -0.835 | -2.138* | 0.753 | -0.536 | 0.767 | -1.596 | -0.901 | -1.528 |
| Tools | -3.927* | -1.207 | -4.768* | -0.361 | -0.738 | -0.424 | -4.284* | -8.122** | 0.326 | 0.951 | 1.298 | -0.966 |
| Technologic access | -0.406 | -0.073 | -1.589 | -1.771* | -2.741** | 0.053 | -2.195* | -0.252 | -1.055 | 0.857 | -0.238 | -0.548 |
| Locality | 8.682 | 5.466 | 6.022 | 4.440 | 8.212 | 6.799 | 6.245 | 3.599 | 2.421 | 3.328 | 7.056 | 5.592 |
| Interviewed residuals | 6.324 | 3.026 | 4.073 | 1.893 | 5.889 | 3.802 | 3.935 | 1.447 | 0.971 | 1.722 | 4.800 | 3.232 |

Levels of significance: *$p < 0.05$; **$p < 0.01$; nd: no data. Reference categories are (1) Men; (2) Non migrant.

### Relationship between socioeconomic factors and medicinal categories

Overall, localities in both highlands and lowlands tended to be grouped separately for the different medicinal categories. In the highlands, the three localities of the Chachapoyas province showed a clear group across the different medicinal categories. Within the localities of the Luya province (highlands), Yomblón tended to be closer to the localities of the Chachapoyas province, whereas Longuita and María were grouped across all the medicinal categories. In the lowlands, the three localities of Rodríguez de Mendoza province were grouped for most of the categories (Figs. 4.3-A, 4.3-C, 4.3-E–G), although Huambo was clearly separated in the cases of *Skin and subcutaneous tissue* and *Nervous system and mental health* categories (Figs. 4.3-D and 4.3-H, respectively). Finally, the localities of the Bongará province were grouped for most medicinal categories (Figs. 4.3-A–E, 4.3-H), but Valera showed a distinct pattern for *General ailments and unspecific symptoms*, and *Pregnancy, birth and puerperium* categories (Figs. 4.3-F–G, respectively).

## Discussion

### Influence of socioeconomic factors on the MPK at the individual level

The results for the socioeconomic factors at the personal level supported our first hypothesis: higher educational level, higher job qualification and shorter residence time in the region, including the migratory status was negatively related to the maintenance of MPK. It can be explained because current conventional education removes youngers from their natural environment and consequently reduces their possibilities to learn the traditional knowledge from their predecessors (Sylvester et al., 2016; Arruda et al., 2019). Education has a close relationship with future occupation, because achieving a higher level of education is related to have a specialized job, which are usually found in cities with a certain concentration of business and/or public institutions, and therefore, tend to have lower traditional knowledge (Case et al., 2005; McMillen, 2012). The migratory status showed a negative relationship with the MPK and is consistent with the commonly reported phenomenon that migration and globalization are related to the loss of MPK (Vandebroek & Balick, 2012). The time in residence showed a similar pattern to the migratory status, indicating that longer residence time for people in a region generates more direct contact with their environment, andtherefore, is related to a higher MPK (Almeida et al., 2010; Miguéis et al., 2019), although some other studies found the opposite pattern (Byg & Balslev, 2001; Abreu et al., 2015).

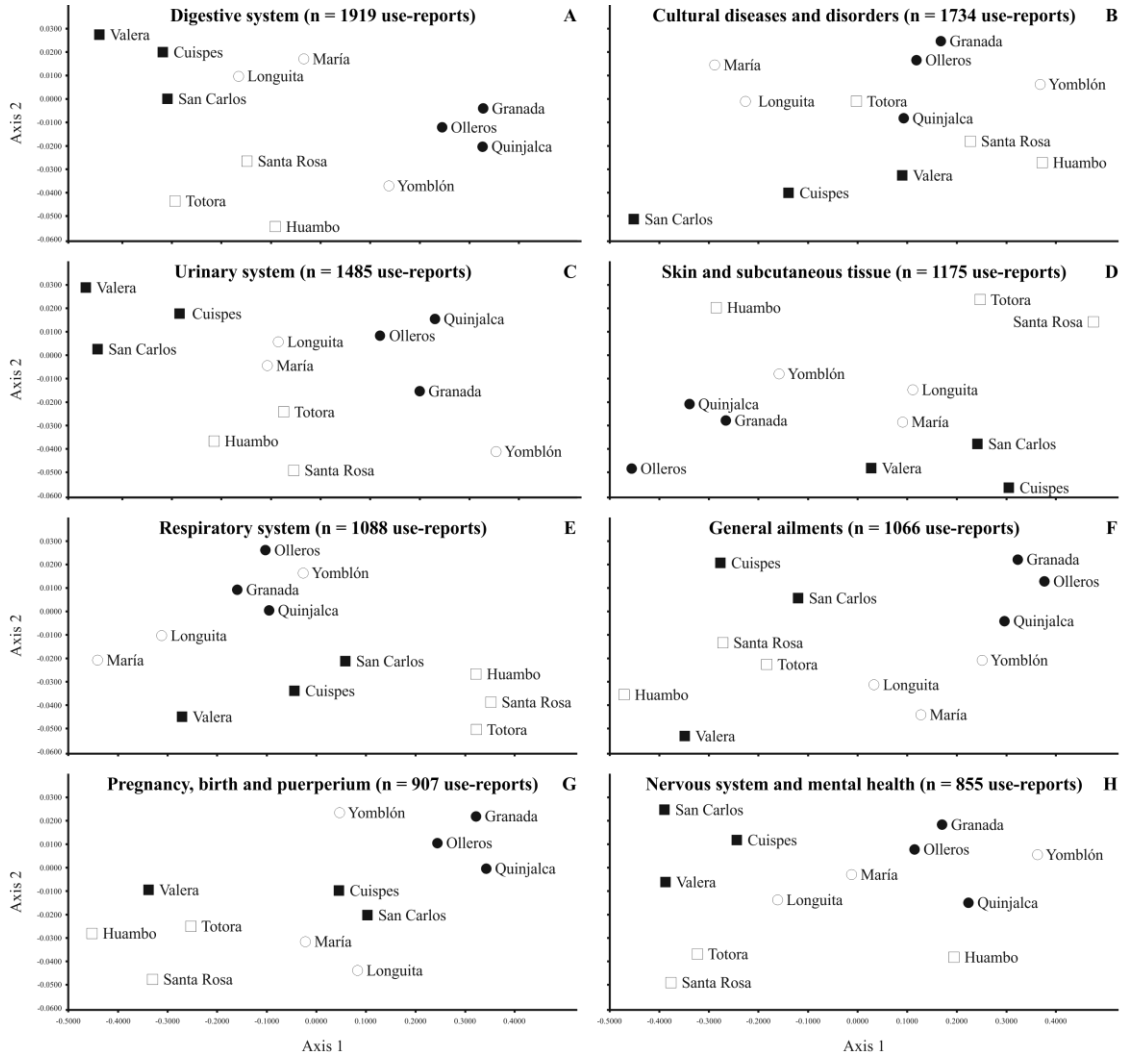


**Fig. 4.3.** NMDS showing the influence of 18 socioeconomic factors on the MPK (mean medicinal use-reports) for the eight most cited medicinal categories in 12 localities of northern Peruvian Andes. Symbols indicate the different provinces as follows. Lowlands: Bongará (■) and Rodríguez de Mendoza (□). Highlands: Chachapoyas (●) and Luya (○)

Women had higher MPK than men, which is consistent with most earlier works in the Andes, based on their role taking care of their children and their elders (Singhal, 2005; Mathez-Stiefel & Vandebroek, 2012). Overall, the elders showed most MPK since they had the opportunity to accumulate TK in past times, as many other papers have already documented (Sanz-Biset et al., 2009; Signorini et al., 2009).

## Influence of socioeconomic factors on the MPK at the family level

Our second hypothesis established that the possession of more material goods (modern means of transport and tools, access to technological services, livestock possessions, and farm size) would be related to a lower MPK, and our results support it in most localities. The

possession of more assets depends on the availability of economic resources to buy them, and use to be in close relation to agricultural and livestock practices more focused on trade, that consequently may require the use of more technical tools, better means of transports and eventually access to technological services (Nolan & Robbin, 1999; Menendez-Baceta et al., 2017). This is also related to the number of children per family that had a positive association with the maintenance of MPK in both ecoregions. It can be explained because families with a larger number of members tend to have lower economic possibilities and more economic difficulties in accessing to health services, as already have been reported in other similar studies (Andriamparany et al., 2014; Paniagua-Zambrana et al., 2014). In general terms, families living in houses needing some repair showed higher MPK than families with houses in good quality, which again depends on their economic resources (Corroto et al., Personal observations).

## Influence of socioeconomic factors on the MPK at the locality level

Our results give support to the third hypothesis, confirming that participants living in localities closer to tourist places, paved roads, hospitals, big markets, and having water chlorination system showed a lower MPK. Thus, highlands localities had less regional services than lowlands localities, and this supposed isolation was an advantage for the conservation of medicinal traditional knowledge (Mauro & Hardison, 2000; Vandebroek, 2010). On the contrary, the lowlands localities are characterized by better levels of regional economic development, such as paved roads in good conditions, commercial urban centers and health services which have been related to a lesser maintenance of the MPK (Bellia & Pieroni, 2015). Additionally, localities close to hospitals tend to place their trust in allopathic medicine, unlike those distant localities which still trust in medicinal traditional healers, as the case of the highlands in our study (Vandebroek et al., 2004b; Sandlos & Keeling, 2015). The localities closer to tourist attractions have medical centers and posts, which has been related to the progressive abandonment of traditional medicine (Johnston, 2000). Finally, all localities in the lowlands unlike some of the highlands, have a chlorination water supply for human consumption, which is an indicator of progress in developing countries since its implementation avoids health problems (Cotruvo, 2017) and therefore, the localities of Chachapoyas with no water chlorination system showed higher MPK.

## Spatial configuration of socioeconomic factors, localities and medicinal categories

Based on their socioeconomic factors, the different ecoregions and localities showed a relatively similar pattern of spatial ordination for the different medicinal categories. The separation into two groups of the highlands localities is related to differential socioeconomic factors between them. For most medicinal categories, the three localities of the Chachapoyas province are grouped together with the locality of Yomblón (Luya province) because they share a geographical isolation and limited access to regional services, including paved roads. This isolation and limited access to contemporary health care favors the preservation of similar traditional medical practices reflected in the different medicinal categories (Pieroni & Quave, 2005). In the case of lowlands, again localities are mainly grouped within the same province but with two exceptions in divergent medicinal categories, Valera (Bongará province) that is closer to the localities of the Rodríguez de Mendoza province and Huambo (Rodríguez de Mendoza province) that is closer to the localities of Chachapoyas province. This can be explained because these localities are grouped because have analogous socioeconomic factors and geographical situations within the regional context. Finally, one of the factors that probably most affect the maintenance of MPK is the proximity to a hospital, which may explain that the localities of Rodríguez de Mendoza province have suffered a greater loss of MPK, as similarly has been recorded in other studies (Eyssartier et al., 2008).

**Catarata de Gocta desde la localidad de San Pablo de Valera (Bongará)**

Foto: Fernando Corroto de la Fuente

Capítulo

# 5

# Medicinal plants for rich people vs. medicinal plants for poor people: a case study from the Peruvian Andes

**Este capítulo es un manuscrito pendiente de enviar a una revista internacional. Fue preparado por:** Fernando Corroto, Jesús Rascón, Elgar Barboza, Manuel J. Macía

# Abstract

Understanding the traditional knowledge (TK) on medicinal plants of a city across the different socioeconomic sectors of their inhabitants is poorly studied. We studied the small city of Chachapoyas (~34,000 inhabitants) in the northern Peruvian Andes. We divide the city into three sectors according to the socioeconomic characteristics of their inhabitants: city center (high), intermediate area (medium), and city periphery (low). We gathered information with 450 participants through semi-structured interviews. Participants of the city periphery showed higher TK on medicinal plants than participants of the intermediate area, and these last informants showed higher TK than participants in the city center. The acquisition of medicinal plants was mainly through their purchase in markets, but was particularly relevant in the city center (94%). Participants of all socioeconomic levels widely used the same medicinal plants for similar purpouses in Chachapoyas, which surely is based on a common culture that unites their TK. However, participants with the lowest socioeconomic level knew and used more plants for different medicinal uses, indicating the necessity for their livelihoods. City markets with specialized stores that commercialize medicinal plants are key to preserve good health for poor and rich people living in Andean cities.

# Introduction

Migrations usually consist in movements of persons or populations from rural to urban areas (Wekesa et al., 2011). This exodus exists since cities began to be built hundreds of years ago. During the Industrial Revolution period, which occurred at different times worldwide, this process was accelerated by the construction of urban centers surrounded by industrial and productive areas, which resulted in the progressive abandonment of rural areas in the nearby (Williamson, 1995; Konteh, 2009).

Today, Latin American population continues migrating to the cities and rural areas are slowly depopulating (Perz, 2006; Parry et al., 2010). Migrants arrive to the cities in a situation of extreme social vulnerability and without economic resources or support networks. Usually, they are installed in the peripheral areas of the cities that economically are more feasible (Sakay et al., 2011). On the contrary, the city center is occupied for families with greater economic capacities. The price of these downtown properties has increased as business services, financial centers and official institutions have been implemented (Grau & Aide, 2007; Li et al., 2013). Thus, the rapid growth of the cities in recent decades has changed past peripheral areas to intermediate sectors, that have restructured the space progressively with the creation of new peripheric areas (Muñoz-Carrera, 2014; Grabkowska & Frankowsky, 2016).

Nowadays, Peruvian cities have become areas with very different social strata, related in most cases to the sector of the city where people live, from the city center to the peripheral areas (Aguilar & Ward, 2003). The different socioeconomic realities that shape the cities show the distinct ways of life of its inhabitants and differences still persist in access to the necessary health services between the poor and the rich people (Hidalgo, 2015). In this sense, the economic difficulties of the most vulnerable social groups lead them to resort in traditional knowledge (TK, in the following) about medicinal plants to protect their health and illnesses (Pardo-de-Santayana & Macía, 2015). Thus, the use of medicinal plants is essential in the cities for economic and social reasons (Hamilton, 2004; Neulinger et al., 2013; Gaoue et al., 2017), making migrants and inhabitants from rural origin feel closer to their traditional culture (Ceuterick et al., 2008; Vandebroek & Balick, 2012; Ladio & Acosta, 2019).

Generally, people with lower socioeconomic level have higher TK on medicinal plants, because these medicinal resources are crucial for their livelihoods (Vandebroek, 2010; Corroto et al., 2019). And this has a direct relationship with the way of gathering these resources from rural areas to the cities, where the transformation of the environment and the smaller size of the homegardens makes difficult to access the plants. In this sense, the installation of markets and

specialized stores for the sale of medicinal plants is common in Peruvian cities as an indicator of product demand (Bussmann et al., 2007; Bussman et al., 2013).

There are some Latin American studies with medicinal plants focused on cities, either to gather information on medicinal species sold in urban markets (Macía et al., 2005; Quintero et al., 2015; Tinitana et al., 2016), or to collect medicinal knowledge from urban populations (Giraldo et al., 2009; Gómez-Estrada et al., 2011; Hurrelll et al., 2015). There are also works on medicinal plants used by migrants in different cities worldwide (e.g. Balick et al., 2000; Van Andel & Westers, 2010; Ellena et al., 2012) and studies that have compared different population groups based on their socioeconomic characteristics (e.g. Shackleton & Shackleton, 2006; Cocks et al., 2008; Andriamparany et al., 2014). But to our knowledge, this is the first study that specifically compare the use of medicinal plants, based on the socioeconomic resources of the local population, across different sectors of the same city.

In this study, we have three objectives: (i) to analyze the use of medicinal plants for people with a similar culture and different socioeconomic characteristics, that are living in three sectors of the city of Chachapoyas, in the northern Peruvian Andes: city center, intermediate area, and city periphery. We hypothesize that people with low economic resources would have greater TK on medicinal plants, which would mainly correspond to the inhabitants of the city periphery (Case et al., 2005; Almeida et al., 2010; Arruda et al., 2019); (ii) to compare the most important medicinal plant species used and their medical indications across the three sectors of the city. Our hypothesis is that most species and medical indications would be similar across the sectors, because the population comes from a common culture (Inta et al., 2008; Martínez & Luján, 2011); and (iii) to compare the mode of acquisition of the medicinal plant species across the three sectors of the city: collected from the wild, cultivated in homegardens, family farms and homes, or purchased in the city markets. We hypothesize that people with higher economic resources would mainly purchase the medicinal plants, whereas people with lower economic resources would mainly collect plants from the wild or cultivate them in different ways (Hossan et al., 2010; Lyon & Hardesty, 2012; Ramet et al., 2018).

# Material and methods

## Study area and city sectors

The city of Chachapoyas (6º13´45.84” S; 77º52´20.47” W) is the capital of the Amazonas Department. It is located in the northeastern Peruvian Andes, at 2483 m elevation, and more than 1200 km apart from Lima (Fig. 5.1). The average annual temperature is 16 ºC, the average

annual precipitation is around 800 mm, with an average relative humidity of 74%. It has a marked climatic seasonality, which alternates a rainy season from November to April, with a dry season from May to October (SENAMHI, 2017; Rascón et al., 2020).

Chachapoyas city has grown rapidly in the last four decades, increasing from 11,853 inhabitants in the year 1981 to 33,293 inhabitants in 2017 (INEI, 2017). This growth has occurred through non-uniform population settlements, mainly established to the north and southeast of the city (Fig. 5.1). The last urban plan of the city classified Chachapoyas in three large sectors: city center (~6000 inhabitants), intermediate area (~14,000), and city periphery (~14,000) (MPCh, 2013). In this study we follow this classification. In the city center are established the most important political and economic official 127 institutions, together with the most significant social and cultural attractions. The city periphery encompasses all the last population settlements started in 2004 during a large migratory period. Finally, the delimitation of the intermediate area is based on the decrease in Peru's internal migration rate in the Amazonas Department between the years 2002 and 2007, which correspond to the area between the two other city sectors (Sánchez-Aguilar, 2015).

## Data collection

We have identified the population of the three sectors with different socioeconomic levels based on their place of residence, respectively. Overall, we hypothesized that residents of the city center would be the participants with the highest socioeconomic level, the inhabitants of the city periphery would be those with the lowest socioeconomic level, whereas the population living in the intermediate area would be those with a medium socioeconomic level.

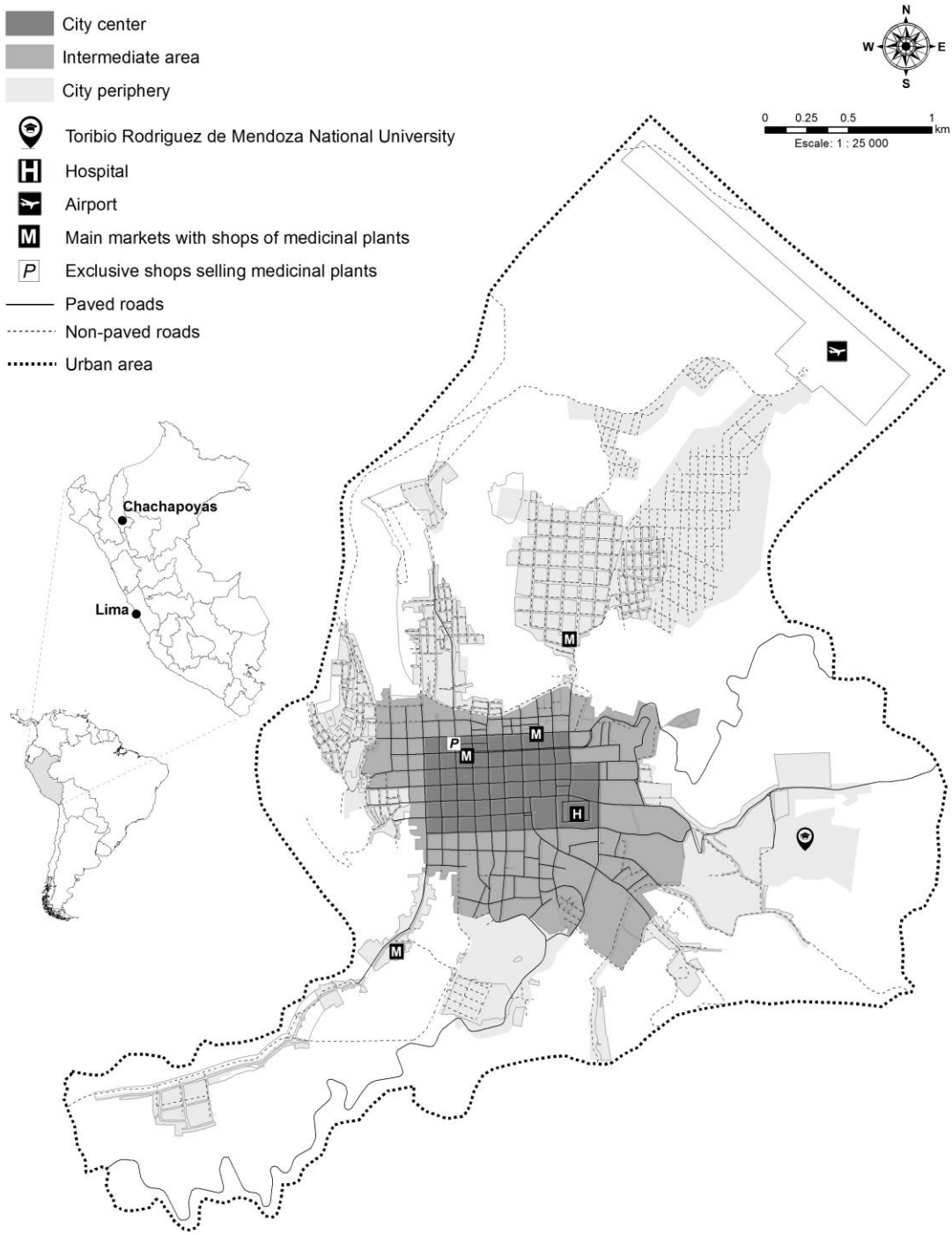


**Fig. 5.1.** Map of the city of Chachapoyas in the northern Peruvian Andes showing the three sectors (city center, intermediate area, and city periphery), where medicinal plants uses were gathered from 450 participants.

To gather information on the uses of medicinal plants in Chachapoyas city, we conducted semi-structured interviews in each of the three sectors, totalling 450 participants. We seek a balance in terms of gender and age, dividing the interviews equally between men and women, as well as into five age groups: 18–30, 31–40, 41–50, 51–60 and over 60 years. The interviews

with each participant consisted of two different parts: (i) a semi-structured interview to gather information of medicinal plants associated to medical indications, and (ii) a structured interview from 21 socioeconomic factors to obtain personal objective information of all participants (Table 5.1). Interviews were conducted between September 2017 and May 2018, through visits in their different homes in the three sectors.

**Table 5.1.** Values assignment for the personal socio-economic factors asked during interviews with 450 informants in the city of Chachapoyas, Peruvian Andes.

| Socio-economic factors | Variable classification |
|---|---|
| Ownership | (1) Own; (2) Rented |
| Property quality characteristics | (1) Well maintained; (2) With some defects |
| Construction materials of the property | (1) Only modern materials; (2) Modern and traditional materials |
| Water chlorination system | (1) Yes; (2) No |
| Sewage system | (1) Yes; (2) No |
| Mobile phone | (1) Yes; (2) No |
| Radio | (1) Yes; (2) No |
| Television | (1) Yes; (2) No |
| Pay-TV channels | (1) Yes; (2) No |
| Internet access | (1) Yes; (2) No |
| Computer | (1) Yes; (2) No |
| Printer | (1) Yes; (2) No |
| Washing machine | (1) Yes; (2) No |
| Refrigerator | (1) Yes; (2) No |
| Microwave or oven | (1) Yes; (2) No |
| Water heater | (1) Yes; (2) No |
| Off road vehicle | (1) Yes; (2) No |
| Conventional car | (1) Yes; (2) No |
| Motorbike | (1) Yes; (2) No |
| Bycicle | (1) Yes; (2) No |
| Cooking fuel | (1) Gas; (2) Wood |

Specimens of the medicinal species were collected in the field, in the homegardens of nine participants, and purchased in the city markets. All vouchers were deposited at the Truxillense Herbarium (HUT) and at the Universidad Nacional Toribio Rodríguez de Mendoza (Peru).

## Data analysis

Three ethnobotanical indicators were used for each informant: 1) the number of medicinal plant species (NSP) reported; 2) the number of medicinal plant uses (NMU), corresponding to the use of a plant part of a given species that is associated with a medicinal category and a specific medical indication; and 3) the number of medicinal plants use-reports (NUR), corresponding to the sum of all different medicinal uses reported for the total number of known

species. To evaluate possible differences between the three sectors, we use the 15 medicinal categories with the highest number of use-reports (100 or more).

To visualize the relative affinity of the informants to the three city sectors, we carried out a non-metric multidimensional scaling analyses with all the informants and including the 21 socioeconomic factors. This analysis was performed in R 3.6.3 (R Development Core Team, 2020).

To analyse the significance of the medicinal plant species in each of the three sectors of Chachapoyas city, we calculated the Cultural Importance Index (CI), following Tardío and Pardo-de-Santayana (2008). CI results from the summation of the use-reports in every medicinal category (URui) mentioned for a species in a sector divided by number of participants (N) in that sector, according to the following formula, where u is the number of medicinal categories for which a species has been cited, and i is the number of informants who have cited it:

$$CI_S = \sum_{u=u_1}^{uNC} \sum_{i=i_1}^{iN} UR_{ui}/_N$$

We obtained a value for each of the species in the whole city, and a value for each of the medicinal species in the three city sectors, respectively.

To compare the most important medicinal uses across the three sectors of the city, we count all medicinal use-reports per medical indication, respectively. Finally, the mode of acquisition of the medicinal plants (cultivated, wild and purchased) was compared across the three sectors based on the number of use-reports cited for each case.

# Results

## Distribution of the TK on medicinal plants across city sectors

The participants of the city of Chachapoyas cited a total of 299 medicinal plant species, belonging to 246 genera and 92 families. They also mentioned 2184 medicinal uses and 5787 use-reports. Medicinal plants and uses are shown in Appendix 5.1. Specifically, in the city center were cited 175 species, 328 medicinal uses and 1108 use-reports, in the intermediate area 216 species, 744 medicinal uses and 1924 use-reports, and in the city periphery 233 species, 1076 medicinal uses and 2755 use-reports. Participants living in the city center and city periphery were clearly separated according to their socioeconomic personal factors, whereas

participants living in the intermediate area occupied an intermediate position in this spatial ordination (Fig. 5.2).

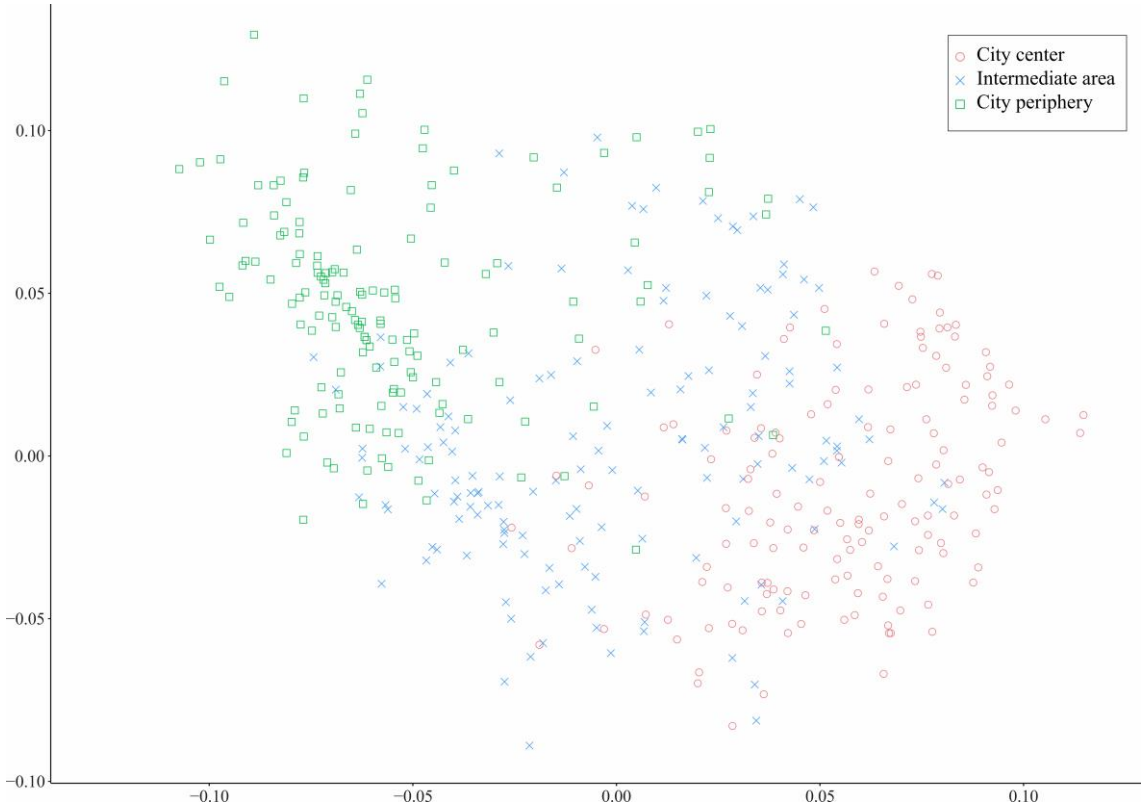


**Fig. 5.2.** NMDS ordination for the 450 participants based on their 21 socioeconomic personal factors across the three sectors (city center, intermediate, and periphery) in the city of Chachapoyas, Peruvian Andes.

Overall, city periphery participants showed higher TK on medicinal plants than participants in the two other city sectors, based on the three ethnobotanical indicators analysed for all the medicinal categories (Fig. 5.3). Concerning the NSP indicator, the city periphery informants cited a higher number of species than the participants of the intermediate area, and these informants knew more medicinal species than the city center informants for all the medicinal categories, with just two exceptions: (i) in the Infections and infestations category, the city periphery participants ranked first, then the city center participants, and finally the intermediate informants; and (ii) in the Respiratory system category, the intermediate participants ranked first, then the informants of the city periphery and finally the city center participants (Fig. 5.3-A). For the two other ethnobotanical indicators, NMU and NUR, the pattern was the same across the inhabitants of the three city sectors: the participants of the city periphery clearly knew more medicinal uses and reported more use-reports than the intermediate area informants, and these participants showed higher TK on medicinal plants 230 than the city center participants,

with just two exceptions: (i) in the Reproductive system category, the participants of the city center ranked first, then the informants of the city periphery, and finally the intermediate area participants; and (ii) in the Nervous system category, the intermediate participants ranked first, then the informants of the city periphery and finally the city center participants (Figs. 5.3-B; 5.3-C).

## Comparison of the most used medicinal species and medical indications across city sectors

The 30 most important medicinal plant species used in the three city sectors represented 67.4% of the total number of use-reports, totalling 42 species (Table 5.2). A 42.8% of these species were reported in all three sectors, whereas 30.9% were only found in a single sector: six species in the city center, four in the intermediate area, and three in the city periphery. Among the five species that ranked higher from the Cultural index in each of the city sectors, two of them (*Minthostachys mollis* and *Matricaria recutita*) were so in all three sectors, whereas three species (*Citrus limon*, *Origanum vulgare* and *Plantago major*) ranked higher in two sectors, and four species (*Equisetum bogotense*, *Malus domestica*, *Bixa orellana* and *Zea mays*) were so in just one city sector.

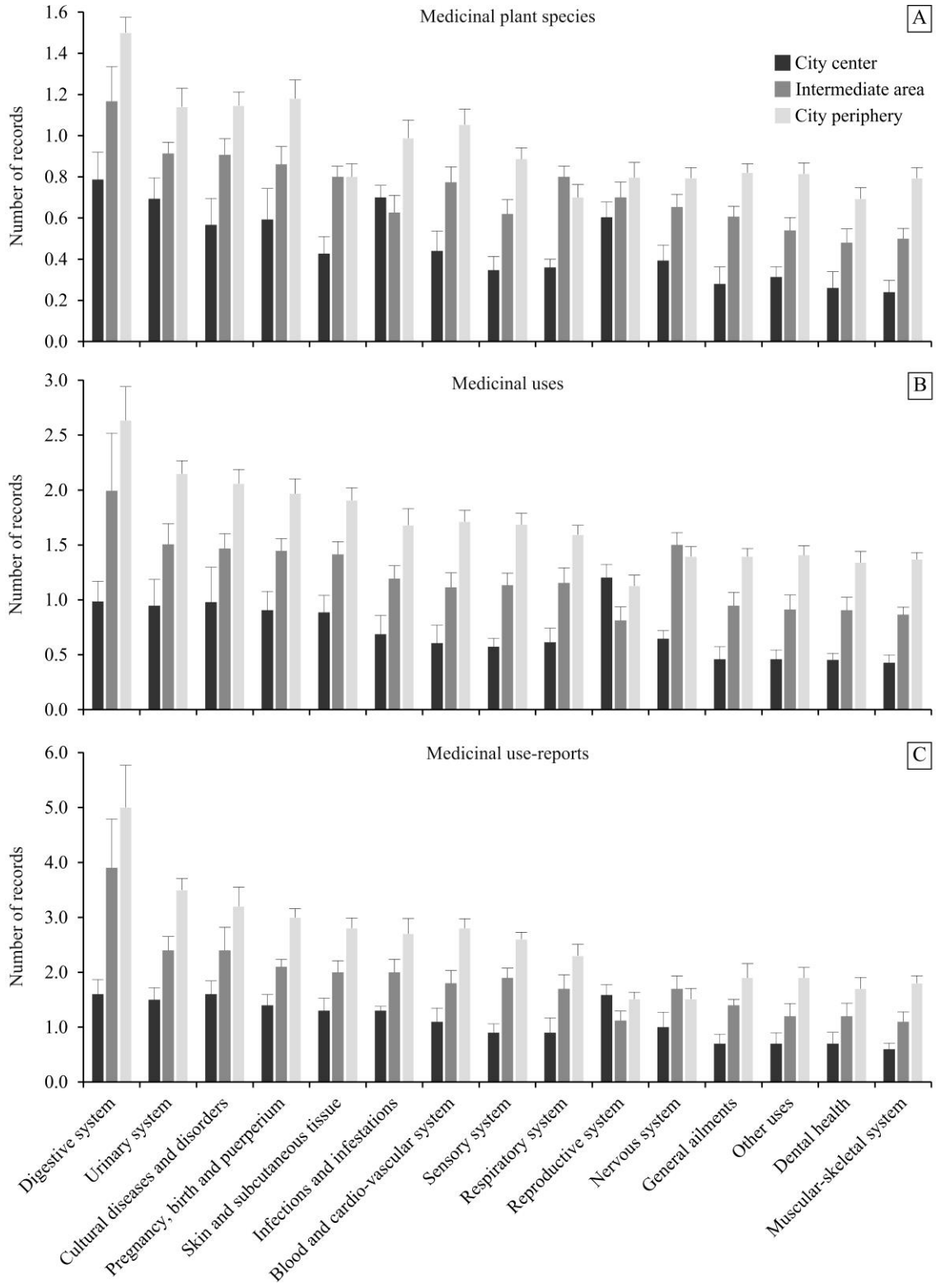


**Fig. 5.3.** Number of useful species (NSP), number of medicinal uses (NMU), and number of use-reports (NUR) by medicinal categories gathered in 450 interviews with participants from three sectors (city center, intermediate area, and city periphery) in the city of Chachapoyas in northern Peruvian Andes.

Regarding the status of the most important medicinal plant species, a total of 57.1% were cultivated, whereas 33.3% were native, and 9.5% were naturalized species (Table 5.2).

**Table 5.2.** Comparison of the 30 most important medicinal plant species based on the Cultural Importance Index (in bold) and broken down across the three sectors in the city of Chachapoyas (Peruvian Andes)

| Species | Status | City center | Intermediate | City periphery | Whole city |
|---|---|---|---|---|---|
| *Minthostachys mollis* (Benth.) Griseb. | Native | **0.40** | **0.75** | **0.92** | 0.69 |
| *Matricaria recutita* L. | Cultivated | **0.33** | **0.80** | **0.89** | 0.67 |
| *Citrus limon* (L.) Osbeck | Cultivated | **0.35** | **0.27** | **0.47** | 0.36 |
| *Origanum vulgare* L. | Cultivated | **0.27** | **0.30** | **0.50** | 0.36 |
| *Plantago major* L. | Naturalized | **0.19** | **0.39** | **0.46** | 0.35 |
| *Equisetum bogotense* Kunth | Native | **0.10** | **0.32** | **0.46** | 0.29 |
| *Malus domestica* Borkh. | Cultivated | **0.11** | **0.44** | **0.27** | 0.27 |
| *Bixa orellana* L. | Native | **0.24** | **0.23** | **0.30** | 0.26 |
| *Ruta chalepensis* L. | Cultivated | **0.22** | **0.17** | **0.35** | 0.25 |
| *Zea mays* L. | Cultivated | **0.07** | **0.35** | **0.31** | 0.24 |
| *Mentha spicata* L. | Cultivated | **0.17** | **0.22** | **0.32** | 0.24 |
| *Aloe vera* (L.) Burm. f. | Cultivated | **0.14** | **0.14** | **0.39** | 0.22 |
| *Chenopodium ambrosioides* L. | Naturalized | **0.13** | **0.24** | **0.29** | 0.22 |
| *Piper acutifolium* Ruiz & Pav. | Native | **0.09** | **0.24** | **0.33** | 0.22 |
| *Erythroxylum coca* Lam. | Cultivated | **0.18** | **0.14** | **0.28** | 0.20 |
| *Solanum lycopersicum* L. | Cultivated | **0.11** | **0.14** | **0.27** | 0.17 |
| *Capsicum pubescens* Ruiz & Pav. | Cultivated | **0.07** | **0.21** | **0.23** | 0.17 |
| *Brassica oleracea* L. var. *acephala* DC. | Cultivated | **0.15** | **0.18** | 0.16 | 0.16 |
| *Eucalyptus globulus* Labill. | Cultivated | 0.06 | **0.16** | **0.27** | 0.16 |
| *Tagetes filifolia* Lag. | Native | **0.13** | **0.16** | **0.20** | 0.16 |
| *Petroselinum crispus* (Mill.) Fuss | Cultivated | **0.13** | 0.11 | **0.24** | 0.16 |
| *Desmodium molliculum* (Kunth) DC. | Native | 0.03 | **0.19** | **0.25** | 0.16 |
| *Syzygium aromaticum* (L.) Merr. & L.M. Perry | Cultivated | 0.05 | **0.20** | **0.21** | 0.15 |
| *Carica papaya* L. | Cultivated | 0.06 | **0.26** | 0.12 | 0.15 |
| *Musa acuminata* Colla | Cultivated | 0.04 | **0.27** | 0.13 | 0.15 |
| *Cyclanthera pedata* (L.) Schard. | Native | 0.01 | **0.16** | **0.25** | 0.14 |
| *Citrus limetta* Risso | Cultivated | 0.04 | **0.14** | **0.22** | 0.13 |
| *Apium graveolens* L. | Cultivated | **0.07** | 0.12 | **0.20** | 0.13 |
| *Daucus carota* L. | Cultivated | **0.09** | 0.11 | **0.19** | 0.13 |
| *Ullucus tuberosus* Caldas | Native | **0.08** | **0.15** | 0.15 | 0.13 |
| *Alternanthera mexicana* Moq. | Native | **0.11** | **0.13** | 0.13 | 0.12 |
| *Citrus aurantium* L. var. *sinensis* L. | Cultivated | 0.06 | **0.19** | 0.11 | 0.12 |
| *Spartium junceum* L. | Naturalized | 0.03 | 0.09 | **0.23** | 0.12 |
| *Medicago sativa* L. | Cultivated | **0.11** | 0.06 | 0.17 | 0.11 |
| *Passiflora edulis* Sims. | Cultivated | **0.09** | 0.12 | 0.13 | 0.11 |
| *Phyllanthus niruri* L. | Native | **0.08** | 0.09 | 0.15 | 0.11 |
| *Stachys arvensis* (L.) L. | Native | 0.03 | **0.13** | 0.16 | 0.11 |
| *Solanum tuberosum* L. | Naturalized | 0.05 | 0.06 | **0.20** | 0.10 |
| *Valeriana adscendens* Turcz. | Native | **0.07** | 0.07 | 0.16 | 0.10 |
| *Cucurbita maxima* Duchesne | Cultivated | 0.03 | 0.06 | **0.19** | 0.09 |
| *Verbena litoralis* Kunth | Native | **0.07** | 0.10 | 0.11 | 0.09 |
| *Croton perspeciosus* Croizat | Native | **0.09** | 0.03 | 0.13 | 0.08 |

The 10 most important medical indications used in the three city sectors represented 58.2% of the total number of use-reports, totalling 15 medical indications (Table 5.3). A 46.7% of

these medical indications were reported in the three sectors, whereas 40.0% were only reported in a single sector: three medical indications in the city center (*Prostate disorders*, *Menstruation disorders*, and *Breastfeeding*), two in the intermediate area (*Wounds, healing*, and *Fever*), and one in the city periphery (*Burns*). Among the 10 most cited medical indications, seven of them ranked higher for all city sectors: *Kidney disorders and diuretic*, *Diarrhoea*, *Flu*, *Intestinal parasites*, *Tacsho*, *Insomnia* and *Birth*.

**Table 5.3.** Comparison of the 10 most important medicinal uses (in bold) and broken down across the three sectors in the city of Chachapoyas (Peruvian Andes).

| Medicinal uses | City center | Intermediate | City periphery | Whole city |
|---|---|---|---|---|
| *Stomach cramps* | 31 | **161** | **205** | 397 |
| *Kidney disorder and, diuretic* | **49** | **132** | **211** | 392 |
| *Diarrhoea* | **46** | **81** | **158** | 285 |
| *Flu* | **47** | **95** | **107** | 249 |
| *Intestinal parasites* | **55** | **77** | **111** | 243 |
| *Tacsho* | **43** | **89** | **106** | 238 |
| *Visual disorders* | 26 | **85** | **121** | 232 |
| *Insomnia* | **37** | **77** | **81** | 195 |
| *Birth* | **47** | **59** | **84** | 190 |
| *Prostate disorders* | **60** | 50 | 73 | 183 |
| *Menstruation disorders* | **82** | 23 | 56 | 161 |
| *Wounds, healing* | 33 | **61** | 62 | 156 |
| *Fever* | 23 | **59** | 72 | 154 |
| *Burns* | 27 | 49 | **76** | 152 |
| *Breastfeeding* | **37** | 48 | 55 | 140 |

## Acquisition of medicinal plant species across city sectors

The most common way of medicinal plants acquisition was through their purchase in the markets and specialized stores for all three sectors of Chachapoyas city (Fig. 5.4). It was particularly relevant for the inhabitants of the city center that represented 94%, whereas for both intermediate area and city periphery participants represented 56%. The other medicinal plant acquisition ways were similar for the intemediate area and city periphery sectors: 23-24% were harvested from the wild, and 20-21% were 279 cultivated in homegardens, family farms or homes.

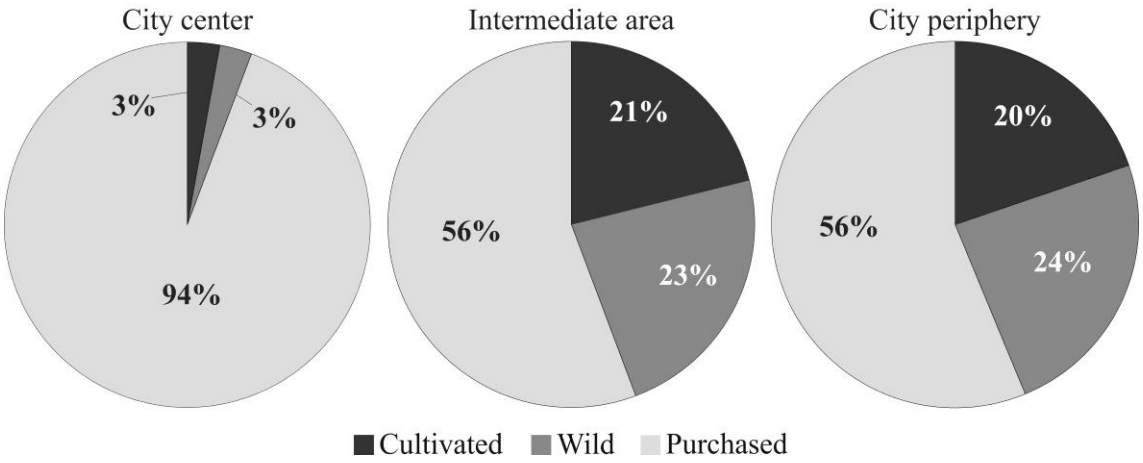


**Fig. 5.4.** Percentages of medicinal plants acquisition across the three sectors of Chachapoyas city from 450 interviews to the local population.

# Discussion

## Distribution of the TK on medicinal plants in Chachapoyas

The participants of the city periphery clearly showed higher TK on medicinal plants than those of both the intermediate area and the city center, so our first hypothesis was accepted. These findings can be explained by economic and cultural factors. First, the high economic cost to access health services and the purchase of medicines limit its use for poor people living mainly in the city periphery (Macía et al., 2005; Vandebroek, 2013). Second, residents in the peripheral areas are closer to a known natural environment that better reminds them of their traditional culture and facilitates the use and harvest of medicinal plants in the city nearby (Rai & Lalramnghinglova 2010; Almeida-Campos et al., 2019).

The most important medical indications for which people use plants to cure and alleviate health problems in the three sectors are similar to those found in other studies in Latin American cities, with high values in medical categories such as *Digestive system* or *Urinary system* (Brown, 2016; Tinitana et al., 2016). The two medicinal categories, *Reproductive system* and *Nervous system*, for which the participants of the intermediate area and city center had higher TK than the city periphery informants can be explained from an economic point of view. Some of the most cited medicinal species for the *Reproductive system* (*Jatropha macrantha*) and *Nervous system* (*Valeriana adscendens*) are only sold in the specialized stores and city markets with disproportionate prices, and therefore hardly available to the population of the city periphery. The category *Cultural diseases and disorders* was highly cited in all three sectors indicating the great importance that these ailments and diseases have in this Andean urban societies (Macía et al., 2005; Vandebroek, 2013). Thus, there is a strong association between

certain medicinal species and their medical indications, such as *Minthostachys mollis* to cure *Tacsho*, and *Ruta chalepensis* to alleviate *Malaire*, as reported in past Andean studies (Hammond et al., 1998; De la Cruz et al., 2007; Tello-Cerón et al., 2019).

## Cultural significance of medicinal plants in Chachapoyas

Near 43% of the species with the highest cultural importance were shared across the three sectors of Chachapoyas city, and they accounted for more than 67% of the use-reports, which also verified our second hypothesis at the species level. A significant part of these species are not native from Peru, but are widely used because they are easily cultivated in homegardens or in pots at home, and cheap to be purchased in the markets (Bussmann et al., 2007). This was the case with *Matricaria recutita*, *Citrus limon*, *Origanum vulgare*, *Malus domestica* and *Ruta graveolens*, to name just a few examples. Similarly, many wild species that showed a higher cultural importance, such as *Minthostachys mollis*, *Equisetum bogotense*, *Bixa orellana* and *Piper acutifolium* were easily available. So our study confirm that many medicinal plants are widely used and have high cultural importance largely depending on their availability and accessibility (Signorini et al., 2009; Carrió & Vallès, 2012; Brandt et al., 2013).

Some species are habitually used for different uses, not exclusively medicinal. Many of them are edible species of common consumption such as *Zea mays*, *Solanum lycopersicum*, *Capsicum pubescens* or *Brassica oleracea* var. *acephala* which increases their cultural importance through the integration of medicinal and nutritional use (González et al., 2010; Urso et al., 2016; Bulut et al., 2017). Some other species, such as *Erythroxylum coca* and *Aloe vera*, are among the most important species across the three sectors due to their versatility to treat ailments and disorders of many medicinal categories. These plants are also among the most cited species in many Andean works, highlighting their medicinal versatility, largely because they are used for indications of cultural diseases, and ritual and/or magical indications (e.g. Macía et al., 2005; Gonzales et al., 2014).

On the other hand, we found 13 medicinal species of great cultural importance that stood out in only one of the three sectors. For example, in the city center, some species (*Phyllanthus niruri*, *Valeriana adscendens* and *Croton perspeciosus*) are bought in herbalist stores with typical formats that resemble conventional medicine. This type of establishment offers (natural) medicinal remedies at higher prices compared to the same species sold in the markets (Mahishi et al., 2005; Van Andel et al., 2012; Castillo-Vera et al., 2017). The opposite also occurs in the city periphery with some species (*Spartium junceum*) that are only collected from the wild and

mainly used for participants in the city periphery. Finally, some other species (e.g. *Carica papaya*, *Musa acuminata* and *Citrus aurantium* var. *sinensis*) cannot be cultivated close to the city of Chachapoyas due to the harsh environmental conditions, and they must be imported from other provinces of the Department of Amazonas, increasing their costs in the market which makes it less available to participants with fewer economic resources.

Concerning the medical indications, we found that participants use medicinal plants for similar purposes regardless the city sector in which they live, so our hypothesis was also accepted at the medical indication level. These results confirm that culture unites the TK on medicinal plants in the city of Chachapoyas. The most frequently cited medical indications in all three sectors include diseases and ailments derived from the *Digestive system* and the *Urinary system*, which are also widely common in earlier Andean studies (Bussmann & Sharon, 2006; Thomas et al., 2008; Oblitas et al., 2013). Participants in all three sectors used widely medicinal plants to deal with *Tacsho*, an idiosyncratic medical indication of Andean cosmology and indicative of shared cultural past in this society (Cavender & Albán, 2009; Luziatelli et al., 2010).

## Different modes of acquisition of the medicinal plants

The participants of the city center bought 94% of the medicinal plants in the city markets, but participants both in the city periphery and intermediate area also bought a significant 56% of the plants used. This indicates that puchase is the first option for all participants and the most advantage solution to use medicinal plants, as has been also reported in past studies (Bussmann et al., 2007; Brandão et al., 2013). In addition, the remoteness of the rural environment from the city center, as well as the ecological characteristics of the environment itself, prevent city center participants from easily access to these resources in their habitats (Furlan et al., 2016).

**Appendix 5.1.** Medicinal flora cited in the city of Chachapoyas, Amazonas (Peru)

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| **Adoxaceae** | | | | | | | | |
| *Sambucus peruviana* Kunth (FC682) | Saúco | Cultivated, wild | Cultural diseases and disorders | Susto, espanto | Lf | Dc | Or | 1 |
| | | | | Tijte | Bd, Lf | Fs, Ml | Bt, Kn | 4 |
| | | | Digestive system | Diarrhoea | Lf, Sd | If | Or | 2 |
| | | | | Laxative | Bd, Lf, St | If | Or | 5 |
| | | | General ailments with unspecific symptoms | Fever | Lf | Fs | Kn | 2 |
| | | | | General malaise | Lf | Wm | Pl | 1 |
| | | | Reproductive system and reproductive health | Menopause | Fr | Fs | Or | 1 |
| | | | Skin and subcutaneous tissue | Acne | Lf | Wm | Pl | 1 |
| | | | | Itil | Lf | Fs | Kn | 1 |
| | | | Urinary system | Prostate disorders | Lf | If | Or | 1 |
| | | | Metabolic system and nutrition | Weight loss | Lf | If | Or | 1 |
| **Amaranthaceae** | | | | | | | | |
| *Alternanthera mexicana* Moq. (FC684) | Lancetilla de huerta | Cultivated | Blood and cardio-vascular system | Hemorrhoids | Lf | Dc | Bt | 1 |
| | | | Digestive system | Diarrhoea | Lf | Ml | Or | 1 |
| | | | General ailments with unspecific symptoms | Fever | Ep, Lf | If | Bt, Or | 13 |
| | | | | Headache | Lf | If | Bt | 1 |
| | | | Infections and infestations | Chickenpox | Ep, Lf | If | Bt, Or | 8 |
| | | | | Insect bite | Lf | Dc | Bt | 1 |
| | | | Dental health | Toothache | Lf | Dc | Gg | 1 |
| | | | Sensory system | Visual disorders | Lf | Dc | Bt | 2 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Skin and subcutaneous tissue | Wounds, healing | Lf | Dc, Fs, If, Ml | Bt, Kn, Or, Pl | 14 |
| | | | | Burns | Lf | Dc | Bt | 2 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Fr, Lf | Dc, If, Ml | Or, Pl | 10 |
| | | | | Prostate disorders | Lf | Dc, If | Or | 2 |
| *Amaranthus caudatus* L. (no voucher specimen) | Kiwicha | Cultivated | Reproductive system and reproductive health | Menopause | Sd | Ml | Or | 1 |
| *Beta vulgaris* L. var. *rapa* Dum. (FC683) | Betarraga | Cultivated | Blood and cardio-vascular system | Anemia | Fr | Dc, Ffs, Ml | Or | 37 |
| | | | Reproductive system and reproductive health | Menopause | Fr | Ml | Or | 1 |
| *Chenopodium ambrosioides* L. (FC685) | Paico | Cultivated, wild | General ailments with unspecific symptoms | Headache | Lf | Dc | Bt | 1 |
| | | | Digestive system | Stomach cramps | Ep, Lf | If | Or | 2 |
| | | | | Diarrhoea | Lf | If | Or | 1 |
| | | | | Laxative | Lf | If, Ml | Or | 3 |
| | | | | Intestinal parasites | Lf | Dc, Fs, If, Ml | Bt, Or | 90 |
| | | | Pregnancy, birth and puerperium | Breastfeeding | Lf | Dc | Or | 1 |
| *Chenopodium murale* L. (FC688) | Shucapaico | Wild | Digestive system | Diarrhoea | Lf | If | Or | 1 |
| *Chenopodium quinoa* Willd. (FC687) | Quinua | Cultivated | Reproductive system and reproductive health | Fertility | Sd | Jc | Or | 1 |
| *Iresine herbstii* Hook (FC686) | Pashquete | Cultivated, wild | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Lf | Fs | Bt | 1 |
| | | | | Aire, malaire | Lf | If | Or | 1 |
| | | | General ailments with unspecific symptoms | Fever | Lf | Dc, Fs, If | Bt | 4 |
| | | | Infections and infestations | Chickenpox | Lf | Dc, If | Bt, Or | 4 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Pregnancy, birth and puerperium | Postpartum | Lf | Dc, Fs, If | Bt, Or | 11 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Lf | Dc | Bt | 1 |
| *Spinacia oleracea* L. (FC682) | Espinaca | Cultivated | Blood and cardio-vascular system | Anemia | Lf | Dc, Fs, Ml | Or | 9 |
| **Amaryllidaceae** | | | | | | | | |
| *Allium cepa* L. (FC690) | Cebolla blanca | Cultivated | Blood and cardio-vascular system | Anemia | Ro | Ml | Or | 1 |
| | | | Reproductive system and reproductive health | Aphrodisiac | Ro | Dc | Or | 1 |
| | | | Other uses | Hair loss | Ro | If, Ml | Bt, Pl | 2 |
| | | | Sensory system | Hearing disorders | Ro | Ml | Bt | 1 |
| | | | Skin and subcutaneous tissue | Burns | Ro | Fs, If | Bt, Or, Pl | 9 |
| | | | Respiratory system | Flu | Ro | If | Or | 1 |
| | | | Infections and infestations | Chickenpest | Ro | Ml | Or | 1 |
| | | | | Insect bite | Ro | Ml | Or | 1 |
| | | | | Fleas | Ro | Ml, Wm | Kn, Pl | 2 |
| *Allium fistulosum* L. (FC691) | Cebolla china | Cultivated | Blood and cardio-vascular system | Anemia | Ro | Fs | Or | 1 |
| *Allium sativum* L. (FC689) | Ajo | Cultivated | Blood and cardio-vascular system | High pressure | Ro | Dc, Fs | Or | 2 |
| | | | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Ro | If | Bt | 1 |
| | | | | Tijte | Ro | Ml | Kn | 1 |
| | | | | Susto, espanto | Lf | Dc | Bt | 1 |
| | | | Dental health | Toothache | Ro | Dc, Fs, Ml | Bt, Kn, Or | 10 |
| | | | Digestive system | Diarrhoea | Ro | Fs | Or | 1 |
| | | | General ailments with unspecific symptoms | Fever | Ro | Ml | Bt | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Infections and infestations | Insect bite | Ro | Ml | Kn | 1 |
| | | | | Fleas | Ro | Wm | Kn | 1 |
| | | | | UTA, leishmaniasis | Ro | Ml | Kn | 1 |
| | | | | Chickenpest | Ro | Ml | Or | 1 |
| | | | | Chickenpox | Ro | If | Kn | 1 |
| | | | Skin and subcutaneous tissue | Acne | Ro | Fs, If | Bt, Pl | 2 |
| | | | | Wounds, healing | Ro | Ml | Kn | 1 |
| | | | | Burns | Ro | Dc | Bt | 1 |
| | | | | Feet fungus | Ro | Dc | Bt | 1 |
| **Anacardiaceae** | | | | | | | | |
| *Mangifera indica* L. (FC694) | Mango | Cultivated | Digestive system | Diarrhoea | Bk, Fr | If | Or | 2 |
| | | | | Indigestive | Fr | Fs | Or | 1 |
| | | | Other uses | Cancer | Fr | Fs | Or | 1 |
| | | | Endocrine system | Diabetes | Lf | If | Or | 2 |
| *Mauria heterophylla* Kunth (no voucher specimen) | Shimir | Cultivated | Cultural diseases and disorders | Susto, espanto | Lf | Dc | Or | 1 |
| *Schinus molle* L. (FC695) | Molle | Cultivated, wild | Respiratory system | Flu | Lf | If | Or | 1 |
| | | | Muscular-skeletal system | Rheumatism | Ap, Lf | Fm, Fs, Ml | Bt, Kn, Or, Pl | 6 |
| | | | | Joint sprains | Lf | Fm, Wm | Bt, Kn | 2 |
| | | | Infections and infestations | Insect bite | Lf | If | Bt | 1 |
| *Spondias purpurea* L. (FC692) | Ciruela | Cultivated | Digestive system | Laxative | Fr | Fs | Or | 2 |
| *Toxicodendron striatum* (Ruiz & Pav.) Kuntze (FC693) | Itil | Wild | Other uses | Cancer | Bd | Dc | Or | 1 |
| | | | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Lf | If | Bt | 1 |
| | | | Skin and subcutaneous tissue | Itil | Ep, Lf | Fs | Wh | 3 |
| **Annonaceae** | | | | | | | | |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| *Annona cherimola* Mill. (FC696) | Chirimolla | Cultivated | Cultural diseases and disorders | Susto, espanto | Lf | If | Bt | 1 |
| | | | Blood and cardio-vascular system | Anemia | Fr | Fs | Or | 2 |
| | | | Other uses | Cancer | Lf | If | Or | 1 |
| | | | | Hair loss | Fr | Fs | Pl | 1 |
| | | | Infections and infestations | Fleas | Sd | Ml | Bt | 2 |
| | | | Muscular-skeletal system | Joint sprains | Lf | If, Wm | Bt, Pl | 2 |
| *Annona muricata* L. (FC697) | Guanábana | Cultivated | Endocrine system | Diabetes | Fr, Lf | Dc, If | Or | 2 |
| | | | Other uses | Cancer | Bd, Bk, Ep, Fr, Lf | Dc, If | Or | 21 |
| | | | Reproductive system and reproductive health | Fertility | Lf | If | Or | 1 |
| | | | Urinary system | Prostate disorders | Bd, Fr, Lf | Dc, Fs, If | Or | 11 |
| | | | | Kidney disorders, emollient, diuretic | Lf | If | Or | 1 |
| **Apiaceae** | | | | | | | | |
| *Apium graveolens* L. (FC698) | Apio | Cultivated | Cultural diseases and disorders | Aire, malaire | St | If | Or | 1 |
| | | | Digestive system | Stomach pain | Ep | If | Or | 1 |
| | | | | Diarrhoea | Ep. Lf, St | Dc, If, Ml | Or | 12 |
| | | | | Stomach infection | Lf | If | Or | 1 |
| | | | | Laxative | Lf, St | Dc, If | Or | 4 |
| | | | | Stomach cramps | Ep. Lf, St | Dc, If | Or | 21 |
| | | | | Intestinal parasites | Lf, St | If | Or | 3 |
| | | | Pregnancy, birth and puerperium | Birth | Ep, Lf, St | Dc, If | Or | 4 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Metabolic system and nutrition | Weight loss | Ep. Lf, St | Ddc, If, Ml | Or | 8 |
| | | | Muscular-skeletal system | Joint sprains | Lf | If | Or | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Lf, St | If | Or | 3 |
| | | | | Menopause | Lf | Dc | Or | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Lf, St | Fs, If | Or | 2 |
| | | | | Hearing disorders | Ap | Dc | Ew | 1 |
| *Arracacia peruviana* (H. Wolff) Constance (FC705) | Zanahoria del gentil | Wild | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Lf | Dc, Wm | Bt, Kn | 2 |
| *Arracacia xanthorriza* Bancr. (FC702) | Arrachacha blanca | Cultivated | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Ro | If | Bt | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Fr, Lf | Dc, If | Or | 2 |
| | | | | Postpartum | Fr | If | Or | 1 |
| | | | Reproductive system and reproductive health | Fertility | Lf | If | Or | 1 |
| | | | Skin and subcutaneous tissue | Itil | Lf | Fs | Bt | 1 |
| *Coriandrum sativum* L. (FC699) | Culantro | Cultivated | Pregnancy, birth and puerperium | Birth | Lf, Sd | If, Ml | Or | 2 |
| *Daucus carota* L. (FC704) | Zanahoria, zanahoria española | Cultivated | Blood and cardio-vascular system | Anemia | Ro | If, Ml | Or | 14 |
| | | | Nervous system and mental health | Insomnia | Ro | Dc | Or | 1 |
| | | | Pregnancy, birth and puerperium | Postpartum | Fr | If | Or | 1 |
| | | | | Birth | Fr, Lf | Dc, If | Or | 2 |
| | | | Sensory system | Visual disorders | Lf, Ro | Dc, If, Jc, Ml | Ew | 39 |
| | | | Skin and subcutaneous tissue | Burns | Ro | Ml | Kn | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| *Daucus montanus* Humb. & Bonpl. ex Schult. (FC703) | Culantrillo, hierba del cuí | Wild | Cultural diseases and disorders | Susto, espanto | Lf | Fs | Bt | 1 |
| | | | Digestive system | Stomach cramps | Lf | If | Or | 1 |
| *Foeniculum vulgare* Mill. (FC700) | Hinojo | Wild | Digestive system | Stomach pain | Lf | If | Or | 1 |
| | | | | Stomach cramps | Lf | If | Or | 3 |
| | | | | Diarrhoea | Lf | If | Or | 2 |
| | | | Pregnancy, birth and puerperium | Breastfeeding | Lf, Sd | Fs, If | Or | 2 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Ep | Dc | Or | 1 |
| | | | Sensory system | Visual disorders | Lf | Dc | Bt | 1 |
| *Petroselinum crispus* (Mill.) Fuss (FC701) | Perejil | Cultivated | Blood and cardio-vascular system | High pressure | Ep, Lf, Ro | Dc, Fs, If, Jc, Ml | Or | 18 |
| | | | | Anemia | Ep, Fr, Lf | Dc, Ml | Or | 3 |
| | | | Digestive system | Stomach cramps | Lf | If | Or | 2 |
| | | | | Intestinal parasites | Lf | Dc | Or | 2 |
| | | | | Diarrhoea | Lf | Dc | Or | 1 |
| | | | General ailments with unspecific symptoms | Headache | Ro | Ml | Or | 1 |
| | | | Dental health | Toothache | Lf | Fs | Or | 1 |
| | | | Metabolic system and nutrition | Weight loss | Lf | If, Ml | Or | 2 |
| | | | Nervous system and mental health | Insomnia | Ep | If | Or | 1 |
| | | | Other uses | Hair loss | Ro | Ml | Bt | 1 |
| | | | Pregnancy, birth and puerperium | Postpartum | Ep | Ml | Or | 1 |
| | | | | Birth | Lf | Dc, If | Or | 4 |
| | | | | Abortive | Ro | Dc | Or | 2 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Reproductive system and reproductive health | Menstruation disorders | Ep, Lf, Ro | Dc, If, Ml | Or | 28 |
| | | | | Menopause | Ep, Lf, Ro | If, Ml | Or | 7 |
| | | | Urinary system | Prostate disorders | Ep, Lf | If | Or | 2 |
| **Apocynaceae** | | | | | | | | |
| *Catharanthus roseus* (L.) G.Don (no voucher specimen) | Planta chuela | Wild | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Lf | Dc | Bt | 1 |
| *Metastelma quitense* (K. Schum.) Liede (FC706) | Diegolope | Wild | Reproductive system and reproductive health | Menopause | Lf | If | Or | 2 |
| | | | Digestive system | Diarrhoea | Bk | Ml | Or | 1 |
| | | | Sensory system | Hearing disorders | Lf | Dc, Ml, Wm | Bt, Kn | 5 |
| | | | Muscular-skeletal system | Joint sprains | Lf | If | Bt | 1 |
| **Aquifoliaceae** | | | | | | | | |
| *Ilex guayusa* Loes. (FC707) | Huayusa, guayusa | Cultivated | Metabolic system and nutrition | Weight loss | Lf | Dc | Or | 1 |
| **Arecaceae** | | | | | | | | |
| *Cocos nucifera* L. (FC709) | Coco | Cultivated | Digestive system | Diarrhoea | Fr | Fs, Ml | Or | 2 |
| | | | Endocrine system | Diabetes | Fr | Fs | Or | 1 |
| *Mauritia flexuosa* L.f. (FC708) | Aguaje | Cultivated | Reproductive system and reproductive health | Menopause | Fr | Jc | Or | 2 |
| | | | | Aphrodisiac | Fr | Fs | Or | 1 |
| **Asparagaceae** | | | | | | | | |
| *Agave americana* L. (FC710) | Penca azul | Wild | Cultural diseases and disorders | Tijte | Lp | Fs, If, Wm | Kn, Or, Pl | 6 |
| | | | Reproductive system and reproductive health | Fertility | Lp | If | Or | 1 |
| *Furcraea andina* Trel. (FC711) | Penca blanca, penca verde de Castilla | Wild | Digestive system | Diarrhoea | Bk | Dc | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| **Balanophoraceae** | | | | | | | | |
| *Corynaea crassa* Hook. f. (FC712) | Para para | Wild | Reproductive system and reproductive health | Fertility | Ep | Fm | Or | 1 |
| *Ullucus tuberosus* Caldas (FC713) | Oyuco | Cultivated | Urinary system | Kidney disorders, emollient, diuretic | Ro | If | Or | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Ro | Dc, Fs, If, Jc, Ml | Or | 53 |
| | | | | Postpartum | Ro | Dc | Or | 1 |
| | | | Blood and cardio-vascular system | High pressure | Ro | Dc | Or | 2 |
| **Betulaceae** | | | | | | | | |
| *Alnus acuminata* Kunth (FC714) | Aliso | Wild | Cultural diseases and disorders | Susto, espanto | Lf | Dc | Or | 1 |
| | | | | Pulsario | Lf | Fs | Pl | 1 |
| | | | | Tacsho | Lf | Fs | Bt | 1 |
| | | | General ailments with unspecific symptoms | General malaise | Lf | Fs, If | Bt, Pl | 2 |
| | | | | Fever | Lf | Fs, If | Or, Pl | 2 |
| | | | Muscular-skeletal system | Joint sprains | Lf | Fs | Pl | 2 |
| | | | | Rheumatism | Lf | Dc, Ml | Bt, Kn, Or | 3 |
| | | | | Hernia | Lf | Ml | Pl | 2 |
| | | | Respiratory system | Flu | Lf | If | Or | 1 |
| **Bignoniaceae** | | | | | | | | |
| *Handroanthus serratifolius* (Vahl) S.O.Grose (no voucher specimen) | Tahuarí | Wild | Infections and infestations | UTA, leishmaniasis | Ep | Ml | Pl | 1 |
| *Tecoma stans* (L.) Juss. ex Kunth (FC716) | Putquero, pichunche, putquero amarillo | Wild | Cultural diseases and disorders | Pulsario | Lf | Fs | Pl | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Fl, Lf | If | Or | 4 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| *Tecoma stans* (L.) Juss. ex Kunth var. *sambucifolia* (Kunth) J.R.I.Wood (FC715) | Ciza | Wild | Digestive system | Laxative | St | Ml | Or | 1 |
| **Bixaceae** | | | | | | | | |
| *Bixa orellana* L. (FC717) | Achiote | Wild | Digestive system | Intestinal parasites | Sd | If | Or | 1 |
| | | | | Hepatitis | Sd | Fs | Or | 1 |
| | | | General ailments with unspecific symptoms | Headache | Lf | If | Or | 1 |
| | | | Skin and subcutaneous tissue | Burns | Fr | Ml | Pl | 1 |
| | | | Urinary system | Prostate disorders | Ep, Lf | Dc, If, Ml | Or | 108 |
| | | | | Kidney disorders, emollient, diuretic | Lf | If | Or | 4 |
| **Boraginaceae** | | | | | | | | |
| *Borago officinalis* L. (FC718) | Borraja | Cultivated | Reproductive system and reproductive health | Menopause | Fl | If | Or | 1 |
| | | | Digestive system | Stomach cramps | Lf | If | Or | 1 |
| | | | Respiratory system | Cough | Ep, Fl, Lf | Dc, If | Or | 9 |
| | | | | Flu | Lf | Dc, Fs, If | Or | 6 |
| *Cordia lutea* Lam (no voucher specimen). | Flor de overo | Wild | Digestive system | Hepatitis | Fl | Dc | Or | 1 |
| *Tiquilia paronychioides* (Phil.) A.T. Richardson | Flor de arena | Cultivated | Metabolic system and nutrition | Weight loss | Sd | If | Or | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Fl | If | Or | 1 |
| **Brassicaceae** | | | | | | | | |
| *Brassica oleracea* L. var. *acephala* DC. (FC720) | Col, repollo | Cultivated | Blood and cardio-vascular system | Anemia | Lf | Dc | Or | 3 |
| | | | Pregnancy, birth and puerperium | Breastfeeding | Lf | Dc, Fs, If | Or | 46 |
| | | | | Birth | Lf | Dc | Or | 1 |
| | | | Sensory system | Visual disorders | Lf | If, Ml | Bt, Ew | 3 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| *Brassica oleracea* L. var. *italica* Plenck. (FC7190) | Brócoli | Cultivated | Blood and cardio-vascular system | Anemia | Fr | Fs | Or | 1 |
| | | | Other uses | Cancer | Fr | If | Or | 1 |
| *Erysimum* × *cheiri* (L.) Crantz (no voucher specimen) | Alhelí | Cultivated | Infections and infestations | Chickenpox | Fl | If | Kn | 1 |
| *Lepidium meyenii* Walp. (FC563) | Maca | Cultivated | Blood and cardio-vascular system | Anemia | Fr | Dd, Ml | Or | 2 |
| | | | Pregnancy, birth and puerperium | Birth | Fr | Ml | Or | 1 |
| | | | Reproductive system and reproductive health | Aphrodisiac | Fr, Ro | Dc, If | Or | 3 |
| | | | | Menopause | Fr | Dd, Ml | Or | 2 |
| *Raphanus sativus* L. (FC721) | Rabanito | Cultivated | Blood and cardio-vascular system | Anemia | Fr | Fs | Or | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Fr | Ml | Or | 1 |
| *Rorippa nasturtium-aquaticum* (L.) Hayek (FC722) | Berros, verso, versillo | Wild | Blood and cardio-vascular system | Anemia | Lf | Fs | Or | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Lf | Dc | Bt | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Lf | If | Or | 1 |
| | | | | Prostate disorders | Lf | If | Or | 1 |
| **Bromeliaceae** | | | | | | | | |
| *Ananas comosus* (L.) Merr. (FC723) | Piña | Cultivated | Blood and cardio-vascular system | High pressure | Ec | Fs, Jc, Ml | Or | 6 |
| | | | | Hemorrhoids | Ec | Jc | Or | 1 |
| | | | Digestive system | Diarrhoea | Ec | Fs | Or | 1 |
| | | | | Stomach pain | Ec | Fs | Or | 1 |
| | | | | Indigestive | Ec | Fs | Or | 2 |
| | | | Metabolic system and nutrition | Weight loss | Ec | Fs, Jc, Ml | Or | 8 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Urinary system | Kidney disorders, emollient, diuretic | Ec | Dc, Fs, Jc | Or | 13 |
| | | | | Prostate disorders | Ec | Dc, Fs, Jc | Or | 3 |
| **Burseraceae** | | | | | | | | |
| *Bursera graveolens* (Kunth) Triana & Planch. (FC577) | Palo santo | Cultivated | Cultural diseases and disorders | Susto, espanto | Lf | If | Bt | 1 |
| | | | Infections and infestations | Insect bite | Lf | Ml | Pl | 1 |
| **Cactaceae** | | | | | | | | |
| *Opuntia ficus-indica* (L.) Mill. (FC725) | Tuna | Cultivated | Digestive system | Diarrhoea | Lp | Fs, Ml | Or | 7 |
| | | | | Gastric ulcers | Lp | Fs, Ml | Or | 2 |
| | | | Endocrine system | Diabetes | Lp | Ml | Or | 4 |
| | | | Other uses | Cancer | Lp | Fs, Ml | Bt, Or | 5 |
| | | | Reproductive system and reproductive health | Menopause | Lp | Fs, Ml | Bt, Or | 2 |
| | | | Blood and cardio-vascular system | High pressure | Lp | Ml | Or | 1 |
| *Stenocereus queretaroensis* (F.A.C. Weber ex Mathes.) Buxb. (FC725) | Pitajaya | Cultivated | Digestive system | Laxative | Fr | Fs, If, Ml | Or | 19 |
| **Cannaceae** | | | | | | | | |
| *Canna indica* L. (FC726) | Achira | Cultivated | Digestive system | Laxative | Lf | If | Or | 1 |
| **Capparaceae** | | | | | | | | |
| *Cappariocordis crotonoides* (Kunth) Iltis & Cornejo (no voucher specimen) | Simuro | Wild | General ailments with unspecific symptoms | Headache | Lf | Wm | Pl | 1 |
| **Caprifoliaceae** | | | | | | | | |
| *Valeriana adscendens* Turcz. (FC727) | Valeriana | Wild | Blood and cardio-vascular system | High pressure | Ro | Dc | Or | 1 |
| | | | Nervous system and mental health | Insomnia | Ep, Lf, Ro | Dc, If | Or | 43 |
| | | | Reproductive system and reproductive health | Menopause | Lf | If | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| **Caricaceae** | | | | | | | | |
| *Carica papaya* L. (FC729) | Papaya | Cultivated | Blood and cardio-vascular system | Hemorrhoids | Fr | Fs | Or | 1 |
| | | | Cultural diseases and disorders | Tijte | Bk, Lf, Lx, Sd | Fs, Ml, Wm | Bt, Kn, Pl | 7 |
| | | | Digestive system | Intestinal parasites | Sd | Ml | Or | 6 |
| | | | | Liver disorders | Fr | Fs | Or | 4 |
| | | | | Stomach cramps | Lx | Fs | Or | 1 |
| | | | | Laxative | Fr, Sd | Fs, If, Jc, Ml | Or | 20 |
| | | | | Diarrhoea | Fr | Fs, Jc | Or | 5 |
| | | | | Indigestive | Fr | Fs | Or | 18 |
| | | | | Stomach pain | Fr | Fs | Or | 4 |
| | | | Infections and infestations | UTA, leishmaniasis | Lx | Fs | Bt | 1 |
| | | | | Fleas | Sd | Ml | Bt | 1 |
| | | | Metabolic system and nutrition | Weight loss | Fr | Jc | Or | 1 |
| | | | Nervous system and mental health | Stress | Fr | Fs | Or | 1 |
| | | | | Mental stimulant | Fr | Fs | Or | 1 |
| | | | Sensory system | Visual disorders | Fr | Fs | Or | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Fr | Fs | Or | 1 |
| *Vasconcellea microcarpa* (Jacq.) A. DC. (FC331) | Maushán | Cultivated | Reproductive system and reproductive health | Vaginal infection | Fr | If | Or | 1 |
| **Caryophyllaceae** | | | | | | | | |
| *Dianthus caryophyllus* L. (FC730) | Clavel | Cultivated | Nervous system and mental health | Sadness | Fl | If | Or | 1 |
| **Celastraceae** | | | | | | | | |
| *Maytenus macrocarpa* (Ruiz & Pav.) Briq. (FC731) | Chuchuasi | Cultivated | Skin and subcutaneous tissue | Acne | Bk | Fm | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Digestive system | Stomach cramps | Bk | Fm | Or | 1 |
| **Chloranthaceae** | | | | | | | | |
| *Hedyosmum scabrum* (Ruiz & Pav.) Solms (FC732) | Pirgay, pitillo, huacamuyo | Wild | Pregnancy, birth and puerperium | Breastfeeding | Lf | Dc | Or | 1 |
| | | | Digestive system | Diarrhoea | Lf | Fs | Or | 1 |
| **Compositae** | | | | | | | | |
| *Acanthoxanthium spinosum* (L.) Fourr. (FC748) | Juan Alonso | Wild | Reproductive system and reproductive health | Menstruation disorders | Lf | If | Or | 1 |
| *Achyrocline alata* (Kunth) DC. (FC759) | Huira huira, vira vira, postersatra, fostersacha | Wild | Urinary system | Kidney disorders, emollient, diuretic | Lf | Dc | Or | 1 |
| *Ageratina exsertovenosa* (Klatt) R.M. King & H. Rob. (FC743) | Cruzsacha | Wild | Digestive system | Stomach cramps | Lf | If | Or | 1 |
| *Ageratina glechonophylla* (Less.) R.M. King & H.Rob. (FC746) | Guarme guarme | Wild | Urinary system | Prostate disorders | Lf | If | Or | 1 |
| | | | | Kidney disorders, emollient, diuretic | Lf | Dc | Bt, Or | 2 |
| | | | Muscular-skeletal system | Joint sprains | Lf | Wm | Bt | 1 |
| *Ambrosia peruviana* Willd. (FC753) | Marco | Wild | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Lf | If | Pl | 1 |
| | | | | Aire, malaire | Lf | If | Bt | 1 |
| | | | | Tijte | Lf | If | Or | 1 |
| | | | General ailments with unspecific symptoms | Headache | Lf | If | Bt | 1 |
| | | | Infections and infestations | Lice | Ep | Ml | Kn | 1 |
| | | | | Tick bites | Lf | Fs | Pl | 1 |
| | | | | Fleas | Lf | Dc, Fs, If, Ml | Bt, Kn | 8 |
| | | | Skin and subcutaneous tissue | Feet fungus | Lf | Dc | Or | 1 |
| | | | | Wounds, healing | Lf | Dc | Bt | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Pregnancy, birth and puerperium | Abortive | Lf | If | Or | 1 |
| | | | Muscular-skeletal system | Rheumatism | Lf | Dc, If | Bt, Pl | 2 |
| *Artemisia absinthium* L. (FC734) | Ajenjo | Wild | Muscular-skeletal system | Rheumatism | Lf | Fm, If | Bt, Kn | 2 |
| | | | | Joint sprains | Lf | Fm | Kn | 1 |
| | | | Cultural diseases and disorders | Tacsho | Lf | Fs | Bt | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Lf | Dc | Bt | 1 |
| | | | Digestive system | Stomach cramps | Lf | If | Or | 4 |
| | | | | Diarrhoea | Lf | If | Or | 2 |
| | | | | Stomach infection | Lf | If | Or | 1 |
| | | | Infections and infestations | Fleas | Lf | Dc, If | Bt | 2 |
| | | | | Chickenpox | Lf | Dc | Bt | 1 |
| | | | Pregnancy, birth and puerperium | Abortive | Lf | If | Or | 1 |
| | | | | Postpartum | Ep | Dc | Or | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Ep, Lf | Dc | Or | 2 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Lf | If | Or | 1 |
| *Austroeupatorium inulaefolium* (Kunth) R.M. King & H. Rob (FC299) | Curmicuna, curomicuna, llashaquirpana | Wild | Cultural diseases and disorders | Susto, espanto | Lf | If | Bt, Or | 3 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Lf | Ml | Bt | 1 |
| | | | | Itil | Lf | If | Bt | 1 |
| | | | Digestive system | Stomach cramps | Lf | Dc | Or | 1 |
| *Baccharis buxifolia* (Lam) Pers. (FC761) | Tayanca | Wild | Dental health | Toothache | Lf | Ml | Kn | 1 |
| *Baccharis genistelloides* (Lam.) Pers. (FC762) | Carqueja, tres esquinas | Wild | Cultural diseases and disorders | Susto, espanto | Ep, Lf | Dc, If | Bt, Or | 4 |

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|---|---|---|---|---|---|---|---|---|
| | | | Digestive system | Diarrhoea | Lf | Dc | Or | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Lf | Dc | Or | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Bd | If | Or | 1 |
| *Baccharis latifolia* (Ruiz & Pav.) Pers. (FC741) | Chillca, camcam | Wild | Cultural diseases and disorders | Susto, espanto | Lf | Ml | Bt | 1 |
| | | | | Aire, malaire | Lf | If | Bt | 1 |
| | | | | Pulsario | Lf | Fs | Pl | 2 |
| | | | | Tacsho | Lf | Fs | Bt | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Lf | Dc, If | Bt, Or | 4 |
| | | | Digestive system | Stomach cramps | Bd, Lf | If | Or | 2 |
| | | | General ailments with unspecific symptoms | Diarrhoea | Lf | If, Wm | Or, Pl | 3 |
| | | | Sensory system | Hearing disorders | Bd, Lf | Fs, Wm | Bt, Pl | 3 |
| | | | Ritual and magic uses | Curse | Lf | If | Bt | 1 |
| | | | Muscular-skeletal system | Rheumatism | Lf | Fs, Wm | Pl | 2 |
| | | | Muscular-skeletal system | Joint sprains | Lf | Fs, If, Wm | Bt, Pl | 9 |
| | | | Other uses | Hair loss | Lf | Dc | Bt | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Lf | Wm | Kn | 1 |
| | | | Respiratory system | Cough | Lf | If | Pl | 1 |
| | | | | Flu | Lf | If | Or | 1 |
| | | | Dental health | Toothache | Lf | Dc, If | Bt, Gg | 2 |
| | | | Skin and subcutaneous tissue | Acne | Lf | If | Bt | 1 |
| | | | | Burns | Lf | Fs | Pl | 1 |

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|---|---|---|---|---|---|---|---|---|
| *Bidens pilosa* L. (FC737) | Cadillo | Wild | Digestive system | Diarrhoea | Ep | If | Bt | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Lf | Dc | Bt | 1 |
| | | | Other uses | Hair loss | Ep, Lf | Dc, Ml | Bt, Pl | 2 |
| | | | Endocrine system | Diabetes | Bk | Dc | Or | 1 |
| | | | Urinary system | Prostate disorders | Bk, Ep, Lf | Dc, If | Or | 6 |
| | | | | Kidney disorders, emollient, diuretic | Ep, Lf | Dc, If | Or | 5 |
| *Calendula officinalis* L. (FC300) | Flor del sol | Cultivated | Cultural diseases and disorders | Tijte | Fr | Wm | Pl | 1 |
| *Cichorium intybus* L. (FC733) | Achicoria | Wild | General ailments with unspecific symptoms | Fever | Lf, Ro | Dc, Fs, If, Ml | Bt, Or | 5 |
| | | | Infections and infestations | Chickenpox | Lf | Dc | Bt | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Lf | Dc, If | Bt, Pl | 2 |
| | | | Digestive system | Diarrhoea | Lf | If | Or | 2 |
| | | | | Hepatitis | Lf, Ro | If | Or | 4 |
| | | | | Liver disorders | Ro | If | Or | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Lf, Ro | Dc, If | Or | 2 |
| *Conyza bonariensis* (L.) Cronquist (FC751) | Lluilanza | Wild | Cultural diseases and disorders | Susto, espanto | Lf | If | Bt | 1 |
| *Cynara scolymus* L. (FC735) | Alcachofa | Cultivated | Blood and cardio-vascular system | Anemia | Fr | Dc | Or | 1 |
| *Erysimum* × *cheiri* (L.) Crantz (no voucher specimen) | Lalanqui | Wild | Sensory system | Visual disorders | Lf | Dc | Bt | |
| *Gamochaeta americana* (Mill.) Wedd. (FC749) | Lechuguilla | Wild | Digestive system | Hepatitis | Lf | Fs | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Nervous system and mental health | Insomnia | St | If | Or | 1 |
| | | | Sensory system | Visual disorders | Lf | Fs, If | Pl | 2 |
| *Lactuca sativa* L. (FC324) | Lechuga | Cultivated | Pregnancy, birth and puerperium | Breastfeeding | Lf | Dc, If | Or | 2 |
| | | | Skin and subcutaneous tissue | Burns | Lf | If | Pl | 1 |
| | | | Blood and cardio-vascular system | High pressure | Lf | Fs | Or | 2 |
| | | | Endocrine system | Diabetes | Bd | If | Or | 1 |
| | | | Metabolic system and nutrition | Weight loss | Lf | Fs | Or | 1 |
| | | | Pregnancy, birth and puerperium | Breastfeeding | Ap, Lf | Dc, Jc | Or | 3 |
| | | | Nervous system and mental health | Insomnia | Bd, Lf, St | Dc, If | Or | 11 |
| *Matricaria recutita* L. (FC752) | Manzanilla | Cultivated | Blood and cardio-vascular system | High pressure | Lf | If | Or | 2 |
| | | | Digestive system | Stomach pain | Ep | Dc, If | Or | 5 |
| | | | | Stomach cramps | Ep, Lf | Dc, If | Or | 79 |
| | | | | Laxative | Lf | If | Or | 1 |
| | | | | Diarrhoea | Ep, Lf | Dc, If | Or | 7 |
| | | | | Stomach infection | Ep, Lf | Dc, If | Or | 5 |
| | | | General ailments with unspecific symptoms | Fever | Ep, Lf | If | Or | 3 |
| | | | Nervous system and mental health | Insomnia | Ep, Lf | Dc, If | Or | 19 |
| | | | Nervous system and mental health | Sadness | Ep | If | Or | 1 |
| | | | Other uses | Cancer | Ep | Dc | Or | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Ep, Lf | If | Or | 20 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Reproductive system and reproductive health | Menstruation disorders | Ep, Lf | If | Or | 4 |
| | | | | Menopause | Ep, Lf | If | Or | 2 |
| | | | Respiratory system | Flu | Ep, Lf | Dc, If | Or | 5 |
| | | | Sensory system | Visual disorders | Ep, Fl, Lf | Dc, Fs, If | Bt, Ew, Kn | 124 |
| | | | Sensory system | Hearing disorders | Fl | Dc | Bt | 1 |
| | | | Skin and subcutaneous tissue | Acne | Ep, Lf | Dc, Fs, If | Bt, Kn, Or, Vp | 28 |
| | | | | Wounds, healing | Lf | Dc | Bt | 3 |
| | | | Urinary system | Prostate disorders | Ep | Dc | Or | 1 |
| *Monactis jelskii* Hieron. (FC755) | Nispasiana | Wild | Cultural diseases and disorders | Susto, espanto | Lf | Fs | Bt | 1 |
| *Ophryosporus peruvianus* R.M. King & H. Rob (FC758) | Rumusauana | Wild | Reproductive system and reproductive health | Menopause | Lf | If | Or | 1 |
| | | | Nervous system and mental health | Sadness | Lf | Ml | Or | 1 |
| *Pluchea sagittalis* Less. (no voucher specimen) | Cuatro esquinas | Cultivated | Skin and subcutaneous tissue | Feet fungus | Lf | Dc | Bt | 1 |
| *Porophyllum ruderale* (Jacq.) Cass. (FC760) | Hierba del gallinazo, shucarruda | Wild | Cultural diseases and disorders | Aire, malaire | Lf | Fs, If | Bt | 3 |
| | | | | Susto, espanto | Lf | If | Bt | 3 |
| | | | Nervous system and mental health | Epilepsy | Lf | If | Or | 1 |
| *Schizotrichia jelskii* (Hieron.) "Strother ex Loockerman, B.L.Turner & R.K.Jansen" (no voucher specimen) | Añasquero | Wild | Cultural diseases and disorders | Aire, malaire | Lf | If | Kn | 1 |
| *Smallanthus glabratus* (DC). H. Rob. (FC764) | Yacónsacha | Wild | Cultural diseases and disorders | Pulsario | Lf | If | Or | 2 |
| | | | | Susto, espanto | Ep, Lf | If | Or, Pl | 2 |

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|---|---|---|---|---|---|---|---|---|
| *Smallanthus sonchifolius* (Poepp.) H. Rob. (FC763) | Yacón | Cultivated | Blood and cardio-vascular system | High pressure | Ro | If | Or | 1 |
| | | | Reproductive system and reproductive health | Fertility | Ro | If | Or | 1 |
| | | | Endocrine system | Diabetes | Ro | Dc, Fs, If, Jc | Or | 20 |
| *Sonchus asper* (L.) Hill (FC739) | Cashacerraja | Wild | Pregnancy, birth and puerperium | Breastfeeding | Ep | Fs | Wh | 1 |
| | | | Respiratory system | Cough | Lf | If | Or | 1 |
| *Sonchus oleraceus* (L.) L. (FC740) | Cerraja | Wild | Reproductive system and reproductive health | Menstruation disorders | Lf | If, Ml | Or | 2 |
| | | | Pregnancy, birth and puerperium | Postpartum | Lf | If | Bt | 1 |
| | | | General ailments with unspecific symptoms | Fever | Lf | If | Bt, Or | 2 |
| *Stevia rebaudiana* (Bertoni) Bertoni (no voucher specimen) | Estevia | Cultivated | Endocrine system | Diabetes | Lf | Dc, If | Or | 16 |
| | | | Digestive system | Stomach cramps | Lf | If | Or | 1 |
| *Tagetes elliptica* Sm. (FC754) | Marisaccha, maríasacha | Cultivated | Cultural diseases and disorders | Aire, malaire | Lf | If | Bt | 2 |
| | | | | Susto, espanto | Lf | If | Bt | 1 |
| | | | | Tacsho | Lf | Fs | Bt | 1 |
| | | | | Pulsario | Lf | Ml | Pl | 1 |
| | | | General ailments with unspecific symptoms | Fever | Lf | Fm | Kn | 1 |
| | | | Pregnancy, birth and puerperium | Postpartum | Lf | If | Or | 1 |
| | | | Ritual and magic uses | Negative vibes | Lf | If | Bt | 1 |
| | | | | Curse | Lf | Ml | Bt | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | | Bring good luck | Lf | Dc | Bt | 1 |
| | | | Sensory system | Visual disorders | Lf | If | Bt | 1 |
| *Tagetes erecta* L. (FC757) | Ayarrosa, rosa de los muertos | Wild | Cultural diseases and disorders | Susto, espanto | Fl, Lf | Dc, Fs, If | Bt, Kn | 3 |
| | | | | Tacsho | Ep, Fl, Lf | Fs, If | Bt | 4 |
| | | | Infections and infestations | UTA, leishmaniasis | Lf | Ml | Pl | 1 |
| | | | Digestive system | Hepatitis | Fl | If | Or | 1 |
| | | | Ritual and magic uses | Bring good luck | Fl | Fs | Bt | 1 |
| *Tagetes filifolia* Lag. (FC736) | Anís de sierra | Wild | Pregnancy, birth and puerperium | Birth | Ep, Lf | If | Or | 13 |
| | | | Dental health | Toothache | Lf, Sd | Fs, If | Bt, Or | 2 |
| | | | Blood and cardio-vascular system | High pressure | Ep, Lf | If | Or | 2 |
| | | | Digestive system | Stomach cramps | Ep, Lf | Dc, If | Or | 44 |
| | | | | Diarrhoea | Lf | If | Or | 4 |
| | | | | Stomach pain | Ep, Lf | If | Or | 5 |
| | | | | Hepatitis | Ep | Dc | Or | 1 |
| | | | | Stomach infection | Ep, Lf | Dc, If | Or | 2 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Lf | If | Or | 1 |
| | | | Sensory system | Visual disorders | Lf | Dc | Or | 1 |
| *Tanacetum parthenium* (L.) Sch. Bip. (FC738) | Callimanzanilla | Wild | Pregnancy, birth and puerperium | Postpartum | Lf | If | Bt | 1 |
| | | | General ailments with unspecific symptoms | Fever | Lf | Dc, If | Bt | 9 |
| | | | General ailments with unspecific symptoms | General malaise | Ep | If | Bt | 1 |
| | | | Respiratory system | Flu | Ep, Lf | Dc, Fm, If | Bt, Kn, Or | 11 |
| | | | | Cough | Lf | Fm | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Digestive system | Hepatitis | Lf | If | Or | 1 |
| *Taraxacum officinale* (L.) Weber ex F.H. Wigg (FC745) | Diente de león, amargón | Wild | Pregnancy, birth and puerperium | Abortive | Lf | Dc | Or | 1 |
| | | | Other uses | Hair loss | Lf | If | Bt | 1 |
| | | | General ailments with unspecific symptoms | Fever | Ep | Dc | Or | 2 |
| | | | Digestive system | Gastric ulcers | Lf | If | Or | 2 |
| *Tessaria integrifolia* Ruiz & Pav. (FC756) | Pájaro bobo | Wild | General ailments with unspecific symptoms | General malaise | Lf | Fs | Bt | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Lf | Dc | Or | 1 |
| *Vernonanthura patens* (Kunth) H. Rob. (FC742) | Cosomo, cosmo | Wild | Digestive system | Diarrhoea | Lf | If | Or | 1 |
| *Vernonia scorpioides* (Lam.) Pers. (FC747) | Gulgul | Wild | Muscular-skeletal system | Joint sprains | Bk | Fs | Kn | 1 |
| | | | Skin and subcutaneous tissue | UTA, leishmaniasis | Lf | Fs | Pl | 1 |
| *Zinnia peruviana* (L.) L (no voucher specimen) | Chinita y cholito | Cultivated | Reproductive system and reproductive health | Fertility | Fr, Lf | If | Or | 4 |
| **Convolvulaceae** | | | | | | | | |
| *Ipomoea alba* L. (FC765) | Acniuca blanca | Wild | Sensory system | Visual disorders | Ap | Dc | Bt | 1 |
| *Ipomoea batatas* (L.) Lam. (FC766) | Camote | Cultivated | Pregnancy, birth and puerperium | Breastfeeding | Bd, Lf, Lx. Ro | Dc, Fs, If | Or, Pl | 9 |
| | | | Skin and subcutaneous tissue | Feet fungus | Ro | Dc | Bt | 1 |
| **Crassulaceae** | | | | | | | | |
| *Kalanchoe pinnata* (Lam.) Pers. (FC767) | Hoja del aire, pimpinela | Wild | Infections and infestations | Malaria | Lf | If | Or | 1 |
| **Cucurbitaceae** | | | | | | | | |
| *Citrullus lanatus* (Thunb.) Matsum. & Nakai (FC772) | Sandía | Cultivated | Urinary system | Kidney disorders, emollient, diuretic | Fr | Fs | Or | 2 |
| | | | General ailments with | Headache | Fr | Fs | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | unspecific symptoms | | | | | |
| *Cucumis melo* L. (FC770) | Melón | Cultivated | Urinary system | Kidney disorders, emollient, diuretic | Fr | Fs | Or | 1 |
| *Cucumis sativus* L. (FC771) | Pepinillo | Cultivated | Blood and cardio-vascular system | High pressure | Fr | Fs, Ml | Or | 3 |
| | | | | Hemorrhoids | Fr | Fs, Ml | Kn, Or | 2 |
| | | | Skin and subcutaneous tissue | Acne | Fr | Fs | Bt, Kn, Or, Pl | 5 |
| | | | | Burns | Fr | Fs | Bt, Pl | 3 |
| | | | Digestive system | Diarrhoea | Fr | Fs, If | Or | 3 |
| | | | Pregnancy, birth and puerperium | Birth | Fr | Fs | Or | 1 |
| | | | Endocrine system | Diabetes | Fr | Fs | Or | 1 |
| | | | Metabolic system and nutrition | Weight loss | Fr | Fs, If, Ml | Or | 6 |
| | | | Sensory system | Visual disorders | Fr | Fs | Ew | 1 |
| *Cucurbita ficifolia* Bouché (FC769) | Chiclayo, calabaza | Cultivated | Cultural diseases and disorders | Tijte | Lf | Wm | Bt | 1 |
| | | | | Antimonia, gentil, viejo, antiguo | Sd | Fs | Bt | 1 |
| | | | Digestive system | Intestinal parasites | Sd | Dc, Ml | Or | 2 |
| | | | | Laxative | Sd | Wm | Or | 1 |
| | | | General ailments with unspecific symptoms | Fever | Lf | Dc, Fs, If | Bt | 4 |
| | | | Reproductive system and reproductive health | Fertility | Lf | If | Or | 1 |
| | | | Urinary system | Prostate disorders | Bd | If | Or | 1 |
| | | | Pregnancy, birth and puerperium | Postpartum | Lf | If | Bt | 1 |
| | | | | Breastfeeding | Sd | Wm | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| *Cucurbita maxima* Duchesne (FC773) | Zapallo, zapayo | Cultivated | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Sd | Fs | Bt | 1 |
| | | | Reproductive system and reproductive health | Fertility | Sd | If | Or | 1 |
| | | | | Menstruation disorders | Lf | If | Or | 1 |
| | | | Digestive system | Intestinal parasites | Sd, Lf | Dc, Fs, If, Ml, Wm | Or | 32 |
| | | | Digestive system | Laxative | Sd | If, Ml | Or, Pl | 5 |
| | | | Nervous system and mental health | Insomnia | Fr | Fs | Or | 1 |
| | | | Endocrine system | Diabetes | Lf | Dc | Or | 1 |
| | | | Pregnancy, birth and puerperium | Abortive | Fr | Dc | Or | 1 |
| *Cyclanthera pedata* (L.) Schard. (FC768) | Caigua, cayua | Cultivated | Blood and cardio-vascular system | High pressure | Fr | Jc | Or | 1 |
| | | | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Sd | Fs | Bt | 1 |
| | | | Endocrine system | Diabetes | Fr | Ml | Bt, Or, Pl | 1 |
| | | | Sensory system | Hearing disorders | Lf | Jc, Ml, Wm | Or | 57 |
| | | | | Visual disorders | Fr, Lf | Fs, Ml | Bt, Ew, Or | 5 |
| *Sicana odorifera* (Vell.) Naudin (no voucher specimen) | Secana | Cultivated, wild | Reproductive system and reproductive health | Menstruation disorders | Fr | Dc | Or | 1 |
| | | | | Menopause | Fr, Lf | If | Or | 2 |
| **Cupressaceae** | | | | | | | | |
| *Cupressus sempervirens* L. (FC774) | Ciprés | Cultivated | Respiratory system | Flu | Lf | If | Or | 1 |
| **Equisetaceae** | | | | | | | | |
| *Equisetum bogotense* Kunth (FC775) | Cola de caballo | Wild | Digestive system | Stomach cramps | Lf, Ro | Dc | Or | 2 |
| | | | | Diarrhoea | Lf | Dc | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Dental health | Toothache | Ep | Dc | Gg | 1 |
| | | | Other uses | Cancer | Ep | Dc | Or | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Lf | If | Or | 1 |
| | | | | Vaginal infection | Ep | If | Or | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Ep | Dc, If | Bt | 3 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Ep, Lf | Dc, If | Or | 117 |
| | | | | Prostate disorders | Ep, Lf | Dc, If | Or | 9 |
| **Erythroxylaceae** | | | | | | | | |
| *Erythroxylum coca* Lam. (FC776) | Coca | Cultivated | Blood and cardio-vascular system | Low pressure | Lf | If | Or | 2 |
| | | | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Lf, Sd | Dc, Dd, Fs, If, Ml | Bt, Kn, Or | 10 |
| | | | | Susto, espanto | Lf | Dc, Fs, If, Ml | Bt, Or, Pl | 11 |
| | | | | Tacsho | Lf | Fs, If | Bt, Or | 2 |
| | | | | Pulsario | Lf | If | Or | 1 |
| | | | Dental health | Toothache | Lf | Dc, Fs, f, Ml | Bt, Or, Kn | 14 |
| | | | Digestive system | Stomach cramps | Lf | Dc, If | Or | 22 |
| | | | | Diarrhoea | Lf | Fs, If | Or | 4 |
| | | | | Stomach pain | Lf | If | Or | 2 |
| | | | Endocrine system | Diabetes | Lf | If | Or | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Lf | Dd | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Infections and infestations | UTA, leishmaniasis | Lf | If | Bt | 1 |
| | | | | Malaria | Lf | If | Or | 1 |
| | | | Muscular-skeletal system | Rheumatism | Lf | Ml | Pl | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Lf | Dc, Dd, If | Or | 19 |
| | | | | Postpartum | Lf | If | Bt | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Lf | If | Or | 2 |
| **Euphorbiaceae** | | | | | | | | |
| *Aleurites moluccanus* (L.) Willd. (no voucher specimen) | Nuez de la India | Cultivated | Metabolic system and nutrition | Weight loss | Sd | Ddc | Or | 1 |
| *Croton perspeciosus* Croizat (no voucher specimen) | Sangre de grado | Wild | Other uses | Cancer | Bk, Lx | Fs, Jc | Or | 2 |
| | | | Digestive system | Gastric ulcers | Lx | Fs, If | Or, Pl | 16 |
| | | | | Diarrhoea | Lx | Fs, If | Or | 5 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Lx | Ffs | Or, Kn | 6 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Lx | Fs | Bt, Pl | 6 |
| | | | | Burns | Lx | Fs | Bt | 2 |
| | | | Urinary system | Prostate disorders | Lx | Fs | Or | 1 |
| *Euphorbia laurifolia* Juss. ex Lam. (FC779) | Lechecaspi, nunumia | Wild | Infections and infestations | Chickenpox | Lx | Fs | Kn | 1 |
| | | | | UTA, leishmaniasis | Ep | Ml | Bt | 1 |
| | | | Pregnancy, birth and puerperium | Breastfeeding | Lf, Lx | Fs | Pl, Wh | 4 |
| *Euphorbia umbellata* (Pax) Bruyns (no voucher specimen) | Planta de la vida | Cultivated | Other uses | Cancer | Lx | If | Or | 1 |
| | | | Digestive system | Hepatitis | Lx | If | Or | 1 |
| *Euphorbia pulcherrima* Willd. ex Klotzsch (no voucher specimen) | Flor de pascua | Cultivated | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Lf | Fs | Bt | 1 |
| *Jatropha curcas* L. (FC780) | Piñón, piñones | Wild | Digestive system | Laxative | Sd | Fs, If, Ml | Or | 3 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| *Jatropha macrantha* Müll. Arg. (FC777) | Huanarpo macho | Wild | Reproductive system and reproductive health | Aphrodisiac | Ep, Fr, Lf, Ro | Dc, Fm, If | Or | 6 |
| | | | | Fertility | | | | |
| *Manihot esculenta* Crantz (FC781) | Yuca | Cultivated | Cultural diseases and disorders | Tijte | Lx | Fs | Bt | 1 |
| | | | Digestive system | Intestinal parasites | Lf | Dc | Or | 1 |
| | | | | Diarrhoea | Ro | Dc, If, Ml | Or | 4 |
| *Plukenetia volubilis* L. (no voucher specimen) | Sacha inchi | Cultivated | Digestive system | Laxative | Sd | Fs | Or | 1 |
| *Ricinus communis* L. (FC778) | Higuerilla | Wild | Digestive system | Stomach cramps | Sd | Oi | Or | 1 |
| | | | | Liver disorders | Sd | Oi | Pl | 1 |
| | | | | Laxative | Sd | Oi | Or, Pl | 13 |
| | | | Skin and subcutaneous tissue | Burns | Sd | Oi | Pl | 1 |
| **Gentianaceae** | | | | | | | | |
| *Macrocarpaea revoluta* Gilg (FC782) | Tola | Wild | Cultural diseases and disorders | Tijte | Lx | Fs | Pl | 1 |
| | | | Infections and infestations | UTA, leishmaniasis | Sd | Fs | Pl | 1 |
| | | | Digestive system | Diarrhoea | Fr | Fs | Or | 1 |
| **Geraniaceae** | | | | | | | | |
| *Geranium stuebelii* Hieron. (FC783) | Andacushma, tibshilla | Wild | Infections and infestations | UTA, leishmaniasis | Lf | If | Pl | 1 |
| *Pelargonium roseum* Willd. (FC784) | Geranio | Cultivated | Respiratory system | Cough | Lf | If | Gg | 1 |
| | | | Digestive system | Diarrhoea | Lf | If | Or | 1 |
| | | | Skin and subcutaneous tissue | Feet fungus | Lf | Ml | Pl | 1 |
| **Hypericaceae** | | | | | | | | |
| *Hypericum laricifolium* Juss. (FC785) | Chinchango | Wild | Cultural diseases and disorders | Tijte | Ep | If | Bt | 1 |
| **Juglandaceae** | | | | | | | | |
| *Juglans neotropica* Diels (FC786) | Nogal | Wild | Respiratory system | Flu | Lf | If | Or | 1 |
| | | | Urinary system | Prostate disorders | Lf | If | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Other uses | Hair loss | Bd, Fr, Lf | Dc, Fm, Fs, If | Bt, Kn | 11 |
| | | | Pregnancy, birth and puerperium | Postpartum | Lf | Dc | Or | 1 |
| | | | | Abortive | Lf | If | Bt | 1 |
| | | | Endocrine system | Diabetes | Lf | If | Or | 3 |
| **Lamiaceae** | | | | | | | | |
| *Clinopodium sericeum* (C. Presl ex Benth) Govaerts (FC793) | Romero de monte, romerillo | Wild | Other uses | Hair loss | Ep | If | Bt | 1 |
| *Lepechinia meyenii* (Walp.) Epling (FC795) | Salvia blanca | Wild | Respiratory system | Flu | Fl, Lf | Dc, If | Or | 3 |
| | | | Nervous system and mental health | Insomnia | Lf | If | Or | 1 |
| *Melissa officinalis* L. (FC797) | Toronjil | Cultivated | Blood and cardio-vascular system | High pressure | Ep, Lf | If | Or | 5 |
| | | | Cultural diseases and disorders | Susto, espanto | Lf | If | Or | 1 |
| | | | Digestive system | Stomach cramps | Lf | If | Or | 2 |
| | | | Nervous system and mental health | Sadness | Lf | If | Or | 10 |
| | | | Pregnancy, birth and puerperium | Birth | Lf | If | Or | 7 |
| | | | Reproductive system and reproductive health | Menopause | Lf | If | Or | 1 |
| *Mentha piperita* L. (FC789) | Menta | Cultivated | Blood and cardio-vascular system | Low pressure | Lf | If | Or | 2 |
| | | | Dental health | Toothache | Lf | Fs | Or | 2 |
| | | | Digestive system | Intestinal parasites | Lf | Fs | Or | 1 |
| | | | | Stomach cramps | Lf | If | Or | 18 |
| | | | | Stomach pain | Lf | If | Or | 1 |
| | | | | Diarrhoea | Lf | If | Or | 1 |
| | | | Infections and infestations | Insect bite | Lf | Fs | Kn | 1 |
| | | | Nervous system and mental health | Insomnia | Lf | If | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Pregnancy, birth and puerperium | Birth | Lf | If | Or | 2 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Lf | If | Or | 5 |
| | | | | Menopause | Lf | If | Or | 1 |
| | | | Respiratory system | Flu | Lf | Dc, If | Or | 6 |
| *Mentha spicata* L. (FC788) | Hierbabuena | Cultivated | Dental health | Toothache | Lf | Dc | Gg | 1 |
| | | | Digestive system | Intestinal parasites | Ep, Lf | Dc, Fs, If, Ml | Or, Vp | 90 |
| | | | | Stomach cramps | Lf | If | Or | 2 |
| | | | | Diarrhoea | Lf | If | Or | 1 |
| | | | | Stomach infection | Lf | If | Or | 1 |
| | | | | Laxative | Lf | Dc, If | Or | 2 |
| | | | General ailments with unspecific symptoms | Fever | Lf | If | Or | 1 |
| | | | | Headache | Lf | Dc | Or | 1 |
| | | | Infections and infestations | Insect bite | Ep, Lf | If, Ml | Kn, Or, Pl | 4 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Lf | Ml | Kn | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Lf | Ml | Pl | 1 |
| | | | Reproductive system and reproductive health | Swelling | Lf | Dc | Or | 1 |
| *Minthostachys mollis* (Benth.) Griseb. (FC791) | Poleo, ayamanchana, muña | Wild | Dental health | Toothache | Lf | Ml | Or | 1 |
| | | | Cultural diseases and disorders | Tacsho | Ep, Lf | Dc, Fs, If, Ml | Bt, Kn, Or, Vp | 218 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | | Susto, espanto | Lf | Dc, If | Bt, Or, Pl | 25 |
| | | | | Aire, malaire | Ep, Lf | Fs, If, Ml | Bt, Or | 18 |
| | | | | Antimonia, gentil, viejo, antiguo | Lf | Fs | Bt | 1 |
| | | | Infections and infestations | Lice | Ep | Ml | Bt | 1 |
| | | | | Insect bite | Lf | Fs, Ml | Kn, Pl | 2 |
| | | | | Fleas | Lf | Ml | Or | 1 |
| | | | Blood and cardio-vascular system | Hemorrhoids | Lf | If | Or | 1 |
| | | | Other uses | Cancer | Lf | If | Or | 2 |
| | | | Ritual and magic uses | Curse | Lf | If | Bt | 1 |
| | | | Muscular-skeletal system | Rheumatism | Lf | Fm, Fs, If, Ml, Wm | Bt, Kn | 4 |
| | | | Respiratory system | Flu | Lf | If | Or | 4 |
| | | | Urinary system | Prostate disorders | Lf | If | Or | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Lf | If | Or | 1 |
| | | | Nervous system and mental health | Insomnia | Lf | If | Or | 1 |
| | | | Endocrine system | Diabetes | Lf | Dc, If | Or | 2 |
| *Ocimum basilicum* L. (FC787) | Albahaca | Cultivated | Cultural diseases and disorders | Susto, espanto | Lf | If | Or | 1 |
| | | | Blood and cardio-vascular system | Anemia | Fr, Lf | Fs, Ml | Or | 3 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Lf | If | Or | 2 |
| | | | Ritual and magic uses | Negative vibes | Lf | If | Bt | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Pregnancy, birth and puerperium | Birth | Lf | If | Or | 6 |
| | | | | Abortive | Ep | If | Or | 1 |
| | | | Digestive system | Intestinal parasites | Lf | Fs, If | Or | 2 |
| | | | | Stomach cramps | Lf | If | Or | 3 |
| *Origanum vulgare* L. (FC790) | Orégano | Cultivated | Reproductive system and reproductive health | Menstruation disorders | Ep, Lf | Dc, If | Bt, Kn, Or | 40 |
| | | | Digestive system | Stomach cramps | Ep, Lf | If | Or | 100 |
| | | | | Stomach pain | Lf | If | Or | 8 |
| | | | Pregnancy, birth and puerperium | Abortive | Ep, Lf | Dc, Fm, If, Ml | Or | 6 |
| | | | Pregnancy, birth and puerperium | Birth | Lf, Ro | If | Or | 6 |
| *Rosmarinus officinalis* L. (FC792) | Romero de Castilla | Cultivated | Cultural diseases and disorders | Aire, malaire | Eep, Lf | Fm, If | Bt, Kn, Vp | 3 |
| | | | | Susto, espanto | Lf | Fm | Bt | 1 |
| | | | | Tacsho | Lf | Fm | Pl | 1 |
| | | | Blood and cardio-vascular system | Hemorrhoids | Lf | Fm | Pl | 1 |
| | | | Digestive system | Stomach cramps | Lf | Fm | Or | 1 |
| | | | Ritual and magic uses | Negative vibes | Lf | Fm | Bt | 1 |
| | | | Muscular-skeletal system | Rheumatism | Lf | Fm | Bt | 1 |
| | | | Other uses | Hair loss | Ep, Lf | Fm, If | Bt | 9 |
| | | | Reproductive system and reproductive health | Fertility | Fr | Fm | Or | 1 |
| | | | Skin and subcutaneous tissue | Feet fungus | Lf | Fm | Bt | 1 |
| *Salvia hispanica* L. (FC432) | Chía | Cultivated | Metabolic system and nutrition | Weight loss | Sd | Dc, If, Jc | Or | 5 |
| | | | Other uses | Cancer | Sd | Jc | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Blood and cardio-vascular system | Hemorrhoids | Sd | Dc | Or | 1 |
| *Salvia macrophylla* Benth. (FC794) | Salvia azul | Wild | Digestive system | Diarrhoea | Lf | If | Or | 1 |
| *Stachys arvensis* (L.) L. (FC796) | Subsacha | Cultivated | Digestive system | Stomach cramps | Ep, Lf | Dc, If | Or | 28 |
| | | | | Diarrhoea | Ep, Lf | Dc, If | Or | 15 |
| | | | | Stomach pain | Lf | If | Or | 1 |
| | | | | Stomach infection | Lf | If | Or | 2 |
| | | | | Laxative | Lf | If | Or | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Lf | If | Or | 2 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Lf | If | Or | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Lf | If | Or | 1 |
| *Thymus* sp. (no voucher specimen) | Tomillo | Cultivated | Digestive system | Diarrhoea | Lf | If | Or | 1 |
| | | | | Stomach cramps | Lf | If | Or | 1 |
| **Lauraceae** | | | | | | | | |
| *Cinnamomum verum* J. Presl (FC798) | Canela | Cultivated | Dental health | Toothache | Bk | Ml | Pl | 2 |
| | | | Pregnancy, birth and puerperium | Abortive | Bk | If | Or | 2 |
| | | | Metabolic system and nutrition | Weight loss | Bk | Dc, If | Or | 2 |
| | | | Blood and cardio-vascular system | Low pressure | Bk | If | Or | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Bk | If | Or | 2 |
| | | | Digestive system | Diarrhoea | Bk | If | Or | 1 |
| *Nectandra discolor* (Kunth) Nees (FC799) | Ishpingo, roble | Wild | Respiratory system | Flu | Lf | If | Or | 1 |
| | | | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Lf | Dc | Or | 1 |
| *Persea americana* Mill. (FC801) | Palta | Cultivated | Cultural diseases and disorders | Aire, malaire | Lf | If | Kn | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Digestive system | Diarrhoea | Sd | Dc, If | Or | 7 |
| | | | | Stomach cramps | Sd | If | Or | 1 |
| | | | | Liver disorders | Sd | If | Or | 1 |
| | | | Other uses | Hair loss | Fr, Sd | Rt | Bt, Kn, Pl | 14 |
| | | | | Cancer | Sd | If | Or | 1 |
| | | | Dental health | Toothache | Lf | Fs | Bt | 1 |
| | | | Muscular-skeletal system | Joint sprains | Lf | Fs | Pl | 1 |
| | | | Blood and cardio-vascular system | Hemorrhoids | Sd | If | Or | 2 |
| | | | Pregnancy, birth and puerperium | Abortive | Sd | If | Or | 1 |
| | | | Reproductive system and reproductive health | Aphrodisiac | Fr | Fs | Or | 1 |
| | | | Sensory system | Visual disorders | Lf | If | Pl | 1 |
| | | | Skin and subcutaneous tissue | Feet fungus | Sd | Dc | Or | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Sd | If | Or | 1 |
| *Persea subcordata* (Ruiz & Pav.) Nees (FC800) | Junjul, junjulí, paccacuna | Wild | Muscular-skeletal system | Joint sprains | Bk, Lf | Fs, Ml, Wm | Bt, Kn, Pl | 12 |
| | | | | Rheumatism | Bk | Ml | Pl | 1 |
| **Leguminosae** | | | | | | | | |
| *Arachis hypogaea* L. (FC812) | Maní | Cultivated | Reproductive system and reproductive health | Aphrodisiac | Fr | Fs | Or | 1 |
| *Caesalpinia spinosa* (Molina) Kuntze (FC818) | Tara, taya | Wild | Cultural diseases and disorders | Tijte | Lx | Fs | Bt | 1 |
| | | | Infections and infestations | UTA, leishmaniasis | Fr | Dc, Dd, Ml | Bt, Kn, Pl | 4 |
| | | | Digestive system | Diarrhoea | Fr | If | Or | 1 |
| | | | Dental health | Toothache | Ffr | Dc | Gg | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Skin and subcutaneous tissue | Feet fungus | Fr | Dc, Ml | Bt, Kn | 3 |
| | | | | Wounds, healing | Fr | Ml | Kn | 1 |
| | | | Respiratory system | Tonsillitis | Fr, Lf, Sd | If | Gg, Or | 38 |
| | | | | Cold | Lf | If | Gg | 1 |
| | | | | Flu | Sd | Dc | Or | 1 |
| *Campsiandra angustifolia* Benth. (no voucher specimen) | Huacapurana | Cultivated | Digestive system | Intestinal parasites | Lf | If | Or | 1 |
| *Cicer arietinum* L. (no voucher specimen) | Garbanzo | Cultivated | Blood and cardio-vascular system | Anemia | Fr | Dc | Or | 1 |
| *Copaifera langsdorffii* Desf. (no voucher specimen) | Copaiba | Cultivated, Wild | Other uses | Cancer | Fr | Oi | Or | 1 |
| | | | Digestive system | Diarrhoea | Bk | Oi | Or | 1 |
| *Crotalaria retusa* L. (no voucher specimen) | Espanta muertos | Wild | Cultural diseases and disorders | Tacsho | Lf | Fs | Bt | 1 |
| *Desmodium molliculum* (Kunth) DC. (FC815) | Pie de perro | Wild | Reproductive system and reproductive health | Menstruation disorders | Lf | Dc | Or | 1 |
| | | | Digestive system | Gastric ulcers | Lf | Ml | Or | 1 |
| | | | General ailments with unspecific symptoms | General malaise | Lf | If | Or | 1 |
| | | | Other uses | Cancer | Ep | Dc | Or | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Lf | Dc | Bt | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Ep, Lf | Dc, If | Or | 65 |
| *Erythrina edulis* Micheli (FC814) | Pajuro | Cultivated | Blood and cardio-vascular system | Anemia | Fr | Dc | Or | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Lf | If | Or | 1 |
| | | | | Postpartum | Lf | If | Bt | 1 |
| | | | Cultural diseases and disorders | Pulsario | Bd, Lf | Fs | Bt | 2 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Muscular-skeletal system | Aire, malaire | Lf | Fs | Bt | 1 |
| *Glycine max* (L.) Merr. (FC558) | Soya | Cultivated | Pregnancy, birth and puerperium | Breastfeeding | Fr | Dc, Jc | Or | 2 |
| | | | | Birth | Fr | Dc | Or | 1 |
| | | | Reproductive system and reproductive health | Menopause | Fr | Dc, Jc, Ml | Or | 10 |
| *Glycyrrhiza glabra* L (no voucher specimen). | Regaliz | Wild | Skin and subcutaneous tissue | Feet fungus | Ep | Ml | Kn | |
| *Inga ingoides* (Rich.) Willd. (FC809) | Guaba | Wild | Endocrine system | Diabetes | Fr | Fs | Or | 2 |
| *Lens culinaris* Medik. (no voucher specimen) | Lenteja | Cultivated | Cultural diseases and disorders | Susto, espanto | Lf | Dc | Or | 1 |
| | | | Blood and cardio-vascular system | Anemia | Fr | Dc | Or | 3 |
| *Lupinus exochus* C.P. Sm. (FC806) | Chocho de antimonía, chocho del abuelo | Wild | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Fr, Lf | Dc, If | Bt | 2 |
| | | | | Susto, espanto | Fr | If | Bt | 1 |
| *Lupinus mutabilis* Sweet. (FC805) | Chocho | Cultivated | Infections and infestations | Chickenpox | Fr | Dc, Ml | Bt | 2 |
| | | | | Chicken pest | Fr | Dc | Or | 1 |
| | | | | Fleas | Fr | Dc | Bt | 1 |
| | | | General ailments with unspecific symptoms | Fever | Sd | Ml | Pl | 1 |
| *Medicago sativa* L. (FC802) | Alfalfa | Cultivated | Blood and cardio-vascular system | Anemia | Ep, Fr, Lf | If, Jc, Ml | Or | 40 |
| | | | Respiratory system | Flu | Lf | Ml | Or | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Lf, Rro | Dc, If, Ml | Or | 6 |
| | | | Urinary system | Prostate disorders | Lf | Ml | Or | 1 |
| | | | Pregnancy, birth and puerperium | Breastfeeding | Lf | If | Or | 2 |
| *Ormosia coccinea* (Aubl.)Jacks. (no voucher specimen) | Huayruro | Wild | Ritual and magic uses | Bring good luck | Sd | Fs | Nn | 2 |
| | | | | Negative vibes | Sd | Fs | Nn | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| *Otholobium mexicanum* (L.f.) J.W. Grimes (FC807) | Culén chico | Wild | Cultural diseases and disorders | Tacsho | Lf | Fs | Bt | 1 |
| | | | Digestive system | Stomach cramps | Lf | If | Or | 3 |
| | | | | Diarrhoea | Lf | If | Or | 13 |
| | | | General ailments with unspecific symptoms | Fever | Lf | If | Or | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Lf | If | Or | 1 |
| *Phaseolus lunatus* L. (no voucher specimen) | Pallar | Cultivated | Skin and subcutaneous tissue | Burns | Lf | Fs | Kn | 1 |
| *Phaseolus pachyrrhizoides* Harms (FC810) | Habilla | Cultivated | General ailments with unspecific symptoms | Fever | Lf | If | Bt | 1 |
| | | | Digestive system | Laxative | Lf | Ml | Or | 1 |
| | | | Sensory system | Hearing disorders | Lf | Ml | Bt | 1 |
| | | | Sensory system | Visual disorders | Lf | Ml | Ew | 1 |
| | | | Skin and subcutaneous tissue | Burns | Lf | Fs, Ml | Kn, Pl | 2 |
| *Phaseolus vulgaris* L. (FC808) | Frejol | Cultivated | Pregnancy, birth and puerperium | Birth | Bd, Lf | If | Or | 1 |
| | | | Infections and infestations | Chickenpox | Fr | Ml | Pl | 1 |
| | | | Blood and cardio-vascular system | Anemia | Fr | Dc | Or | 2 |
| | | | Endocrine system | Diabetes | Bk, Fr | Dc | Or | 3 |
| | | | Muscular-skeletal system | Joint sprains | Bk | Dc | Pl | 1 |
| *Pisum sativum* L. (FC803) | Arveja | Cultivated | Infections and infestations | Chickenpox | Fr | Dc, Ml | Bt, Pl | 2 |
| *Prosopis pallida* (Willd.) Kunth (FC811) | Huarango, algarrobo | Wild | Other uses | Hair loss | St | Dc | Bt | 1 |
| *Robinia pseudoacacia* L. (no voucher specimen) | Flor blanca | Cultivated | Cultural diseases and disorders | Susto, espanto | Lf | Dc | Bt | 1 |
| | | | Infections and infestations | Chickenpox | Fl | Fs | Bt | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Blood and cardio-vascular system | High pressure | Fl | Ml | Or | 1 |
| | | | Reproductive system and reproductive health | Menopause | Fl | If | Or | 4 |
| *Senna bicapsularis* (L.) Roxb. (FC364) | Sen, mutuy | Wild | Digestive system | Laxative | Lf | Dc, If | Or | 12 |
| | | | | Intestinal parasites | Lf | If | Or | 2 |
| *Senna multiglandulosa* (Jacq.) H.S. Irwin & Barneby (FC813) | Mutuy, muteo Wild | Wild | Cultural diseases and disorders | Susto, espanto | Bd, Lf | If | Bt, Or | 2 |
| *Spartium junceum* L. (FC816) | Retama | Wild | Digestive system | Hepatitis | Fl, Lf | Dc, If | Bt, Or | 50 |
| | | | Infections and infestations | Chickenpox | Fl, Lf | Dc, If | Bt, Or | 2 |
| | | | | Malaria | Ep | Dc | Bt | 1 |
| *Tamarindus indica* L. (FC817) | Tamarindo | Cultivated | Digestive system | Laxative | Fr | Jc | Or | 1 |
| | | | | Intestinal parasites | Ffr | Jc | Or | 1 |
| | | | Endocrine system | Diabetes | Fr | Ml | Or | 1 |
| *Tephrosia sinapou* (Buc`hoz) A. Chev. (FC804) | Bardasco | Wild | Infections and infestations | Lice | Lf | Ml | Kn | 1 |
| *Trifolium repens* L. (FC819) | Trébol | Wild | Ritual and magic uses | Bring good luck | Lf | Fs | Nn | 1 |
| **Liliaceae** | | | | | | | | |
| *Lilium longiflorum* Thunb. (FC820) | Azucena, azucena Cultivated | Cultivated | General ailments with unspecific symptoms | Headache | Fr | Fs | Kn | 1 |
| | | | Nervous system and mental health | Sadness | Fl | If | Or | 2 |
| | | | Reproductive system and reproductive health | Fertility | Fr | If | Or | 1 |
| **Linaceae** | | | | | | | | |
| *Linum usitatissimum* L. (FC821) | Linaza | Cultivated | Metabolic system and nutrition | Weight loss | Sd | Dc, If | Or | 2 |
| | | | Digestive system | Diarrhoea | Sd | Dc, Jc | Or | 3 |
| | | | Pregnancy, birth and puerperium | Birth | Sd | Dc | Or | 3 |
| | | | Urinary system | Kidney disorders, | Ssd | Dc, If | Or | 22 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | | emollient, diuretic | | | | |
| **Loasaceae** | | | | | | | | |
| *Nasa cuatrecasasii* Weigend (FC822) | Ortiga blanca | Wild | Reproductive system and reproductive health | Menstruation disorders | Sd | Ml | Or | 1 |
| **Lythraceae** | | | | | | | | |
| *Cuphea ciliata* Ruiz & Pav. (FC823) | Chinchimal | Wild | Urinary system | Kidney disorders, emollient, diuretic | Lf | Dc | Or | 1 |
| *Punica granatum* L. (FC824) | Granada | Cultivated | Digestive system | Diarrhoea | Lf | Dc | Or | 1 |
| **Malpighiaceae** | | | | | | | | |
| *Bunchosia armeniaca* (Cav.) DC. (no voucher specimen) | Cansaboca | Cultivated | Pregnancy, birth and puerperium | Postpartum | Lf | Dc | Or | 1 |
| **Malvaceae** | | | | | | | | |
| *Fuertesimalva leptocalyx* (Krapov.) Fryxell (FC831) | Malva Wild | Wild | Infections and infestations | Malaria | Lf | If | Or | 1 |
| *Gossypium hirsutum* L. (FC825) | Algodón | Cultivated | Infections and infestations | UTA, leishmaniasis | Sd | Wm | Pl | 1 |
| | | | Sensory system | Hearing disorders | Sd | Fs | Bt | 1 |
| | | | Cultural diseases and disorders | Aire, malaire | Sd | Fs | Bt, Pl | 3 |
| | | | | Antimonia, gentil, viejo, antiguo | Sd | Fs | Bt | 1 |
| | | | | Tacsho | Sd | If | Or | 1 |
| *Heliocarpus americanus* L. (FC832) | Yansabalsa, yansakiri | Wild | Pregnancy, birth and puerperium | Birth | Bk | If | Or | 1 |
| | | | Digestive system | Diarrhoea | Bk | If | Or | 1 |
| *Malva arborea* (L.) Webb & Berthel. (FC830) | Malva Cultivated | Cultivated | Blood and cardio-vascular system | Hemorrhoids | Lf | Dc | Vp | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Lf | If | Or | 1 |
| | | | Digestive system | Stomach cramps | Lf | If | Or | 1 |
| | | | | Diarrhoea | Lf | If | Or | 1 |
| | | | | Laxative | Lf | Dc, If | Or | 6 |
| | | | General ailments with | Fever | Lf | Dc | Bt | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | unspecific symptoms | | | | | |
| | | | Sensory system | Visual disorders | Lf | Dc, If | Bt | 2 |
| | | | Urinary system | Prostate disorders | Lf | If | Or | 1 |
| | | | Pregnancy, birth and puerperium | Kidney disorders, emollient, diuretic | Ep, Lf | Dc, If | Or | 2 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Lf | Dc | Bt | 3 |
| *Malvastrum tomentosum* (L.) S.R. Hill (FC826) | Angusacha, ancosacha, lancosacha, yator | Wild | Pregnancy, birth and puerperium | Postpartum | Lf | If | Bt | 1 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Lf | Dc, If | Bt, Or | 2 |
| | | | Digestive system | Hepatitis | Lf | Dc | Or | 1 |
| | | | Cultural diseases and disorders | Tijte | Sp | Fs | Wh | 1 |
| | | | General ailments with unspecific symptoms | Pulsario | Lf | Fs | Pl | 1 |
| | | | Other uses | Cancer | Ep | If | Or | 1 |
| | | | Infections and infestations | Hair loss | Ep, Lf | Dc | Bt | 4 |
| | | | Muscular-skeletal system | Hernia | Bk | Dc | Pl | 1 |
| | | | Respiratory system | Flu | Lf | If | Or | 1 |
| | | | Sensory system | Visual disorders | Lf | If | Pl | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Lf | If | Or | 1 |
| *Ochroma pyramidale* (Cav. ex Lam.) Urb. (FC827) | Balsa, palma de mano, palo balsa | Wild | Urinary system | Kidney disorders, emollient, diuretic | Bk | Dc | Or | 1 |
| *Theobroma cacao* L. (FC829) | Cacao | Cultivated | Pregnancy, birth and puerperium | Breastfeeding | Fr | Ml | Or | 5 |
| | | | | Birth | Fr | Dc, Ml | Or | 6 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| *Triumfetta semitriloba* Jacq. (FC828) | Cabayusa | Wild | Infections and infestations | Malaria | Fr | Fm | Kn | 1 |
| **Melastomataceae** | | | | | | | | |
| Miconia sp. (FC833) | Shambo | Wild | Infections and infestations | Chickenpox | Lf | If | Bt | 1 |
| **Monimiaceae** | | | | | | | | |
| *Peumus boldus* Molina (FC834) | Boldo | Wild | Nervous system and mental health | Insomnia | Lf | If | Or | 1 |
| | | | Digestive system | Diarrhoea | Lf | Dc | Or | 1 |
| **Moraceae** | | | | | | | | |
| *Ficus carica* L. (FC835) | Higos, higo | Cultivated | Sensory system | Visual disorders | Lf | If | Pl | 1 |
| | | | Cultural diseases and disorders | Tijte | Lx | Fs | Pl | 1 |
| | | | | Pulsario | Lf | Dc | Or | 1 |
| | | | Skin and subcutaneous tissue | Burns | Lx | Fs | Pl | 1 |
| | | | | Feet fungus | Lx | Fs | Bt | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Lf | If | Or | 1 |
| | | | | Breastfeeding | Fr, Lf, Lx | Fs, If | Or, Pl | 3 |
| | | | Other uses | Hair loss | Lf | If | Or | 1 |
| *Ficus insipida* Willd. (FC836) | Higuerón, ojé | Wild | Infections and infestations | UTA, leishmaniasis | Lf | Dc | Bt | 1 |
| | | | Muscular-skeletal system | Joint sprains | Lf | Ml | Pl | 1 |
| *Ficus maxima* Mill. (FC837) | Morero | Wild | Cultural diseases and disorders | Tijte | Ep | Fs | Kn | 1 |
| | | | Dental health | Toothache | Lx, Sd | Fs, Ml | Bt, Kn | 2 |
| **Moringaceae** | | | | | | | | |
| *Moringa oleifera* Lam. (no voucher specimen) | Moringa | Cultivated, wild | Other uses | Cancer | Lf | If | Or | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Lf | If | Or | 1 |
| **Musaceae** | | | | | | | | |
| *Musa acuminata* Colla (FC839) | Plátano | Cultivated | Blood and cardio-vascular system | Anemia | Fr, Lx, St | If, Ml | Or | 2 |
| | | | Cultural diseases and disorders | Tijte | Bk, Lx | Dc, Fs, Wm | Bt, Kn, Pl | 6 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Skin and subcutaneous tissue | Feet fungus | Bk | Dc | Bt, Or | 2 |
| | | | Digestive system | Diarrhoea | Bk, Fr, Lf, Lx | Dc, Fs, If, Ml, Wm | Or | 7 |
| | | | | Stomach pain | Fr | Fs | Or | 3 |
| | | | | Indigestive | Fr | Fs | Or | 20 |
| | | | | Laxative | Fr | Ml | Or | 1 |
| | | | | Gastric ulcers | Lx | If, Wm | Or | 2 |
| | | | General ailments with unspecific symptoms | Headache | Fr | Fs | Or | 5 |
| | | | Infections and infestations | Insect bite | Bk | If | Bt | 1 |
| | | | | UTA, leishmaniasis | St | Fs | Pl | 1 |
| | | | Muscular-skeletal system | Joint sprains | Bk | Dc | Pl | 1 |
| | | | | Muscle cramps | Fr | Fs | Or | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Lx | Fs | Bt | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Ffr, Lf | Fs | Or, Pl | 2 |
| | | | Pregnancy, birth and puerperium | Breastfeeding | Fr | Fs, If, Ml | Or | 5 |
| | | | Metabolic system and nutrition | Weight loss | Fr | Fs | Or | 2 |
| | | | Skin and subcutaneous tissue | Itil | Bk | Fs | Bt, Pl, Wh | 4 |
| | | | | Wounds, healing | Lx | Fs | Bt | 1 |
| | | | | Acne | Bk | Fs | Or | 1 |
| | | | | Feet fungus | Bk | Dc | Bt | 1 |
| *Musa x paradisiaca* L. (FC838) | Guineo | Cultivated | Cultural diseases and disorders | Tijte | Lx | Fs | Pl | 1 |
| | | | Infections and infestations | Insect bite | Lf | Ml | Kn | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Skin and subcutaneous tissue | Itil | Bk | Fs | Pl | 1 |
| | | | Blood and cardio-vascular system | Hemorrhoids | Lx | Fs | Bt | 1 |
| | | | Digestive system | Diarrhoea | St | Fs | Or | 1 |
| | | | | Hepatitis | St | Ml | Or | 1 |
| **Myricaceae** | | | | | | | | |
| *Morella pubescens* (Humb. & Bonpl. ex Willd.) Wilbur (FC840) | Laurel | Wild | Cultural diseases and disorders | Susto, espanto | Lf | Ml | Pl | 1 |
| | | | Infections and infestations | UTA, leishmaniasis | Lf | Dc, Fs, If | Bt, Or, Pl | 8 |
| **Myrtaceae** | | | | | | | | |
| *Eucalyptus globulus* Labill. (FC842) | Eucalipto | Cultivated | Nervous system and mental health | Insomnia | Lf | If | Or | 1 |
| | | | Respiratory system | Flu | Lf | Dc, If | Bt, Or, Vp | 49 |
| | | | Cultural diseases and disorders | Cough | Bd, Lf | Dc, If, Wm | Or, Pl | 5 |
| | | | General ailments with unspecific symptoms | Fever | Lf | Dc, If | Or | 2 |
| | | | General ailments with unspecific symptoms | General malaise | Lf | Dc | Bt | 1 |
| | | | Infections and infestations | Insect bite | Lf | Fs, Ml, Wm | Bt, Kn, Or, Pl, Vp | 10 |
| | | | Muscular-skeletal system | Rheumatism | Lf | Dc, Fm, If, Ml | Bt, Kn | 7 |
| | | | Pregnancy, birth and puerperium | Joint sprains | Lf | Fm, Fs | Kn, Pl | 2 |
| *Myrcianthes fragans* (Sw.) McVaugh (FC844) | Ushún, ushungo | Wild | Cultural diseases and disorders | Tijte | Lx | Fs | Bt | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Lf | Fm, If | Or | 6 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| *Psidium guajava* L. (FC843) | Guayaba | Cultivated | Blood and cardio-vascular system | Anemia | Fr | Dc, Fs | Or | 2 |
| | | | Digestive system | Diarrhoea | Bd, Bk, Fr, Lf | Dc, Fs, If | Or | 13 |
| | | | | Laxative | Sd | Ml | Or | 1 |
| | | | Muscular-skeletal system | Bones hardening | Fr | Fs | Or | 1 |
| | | | Other uses | Hair loss | Lf | Dc | Bt | 2 |
| | | | Pregnancy, birth and puerperium | Birth | Lf | If | Or | 1 |
| | | | Nervous system and mental health | Mental stimulant | Fr | Fs | Or | 1 |
| | | | Urinary system | Prostate disorders | Lf | If | Or | 1 |
| *Syzygium aromaticum* (L.) Merr. & L.M. Perry (FC841) | Clavo de olor | Cultivated | Digestive system | Diarrhoea | Fl | If | Or | 1 |
| | | | Dental health | Cavity | Fl | Fs, Ml | Bt, Or, Pl | 8 |
| | | | | Toothache | Fl, Fr, Sd, St | Fs, Ml | Bt, Or, Pl | 61 |
| **Oleaceae** | | | | | | | | |
| *Olea europaea* L. (FC845) | Olivo | Cultivated | Other uses | Hair loss | Fr | Oi | Bt | 1 |
| | | | Digestive system | Laxative | Fr | Oi | Or | 1 |
| **Onagraceae** | | | | | | | | |
| *Fuchsia rivularis* J.F. Macbr. (no voucher specimen) | Santa Lucía | Wild | Skin and subcutaneous tissue | Wounds, healing | Lf | Fs | Kn | 1 |
| *Oenothera rosea* L`Hér. ex Aiton (FC846) | Chupasangre | Wild | Reproductive system and reproductive health | Menstruation disorders | Ep | Ml | Kn | 1 |
| **Orchidaceae** | | | | | | | | |
| *Epidendrum laciniitropis* Hágsater (FC848) | Monterrosa | Wild | Cultural diseases and disorders | Pulsario | Fl | If | Or | 1 |
| *Epidendrum secundum* Jacq. (FC847) | Inguilito, inguil | Wild | Nervous system and mental health | Sadness | Fl | Dc | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| **Oxalidaceae** | | | | | | | | |
| *Averrhoa carambola* L. (FC849) | Carambola | Cultivated | Blood and cardio-vascular system | High pressure | Fr | Jc, Mml | Or | 5 |
| | | | Pregnancy, birth and puerperium | Birth | Fr | Jc | Or | 1 |
| *Oxalis tuberosa* Molina (FC850) | Ocas | Cultivated | Other uses | Cancer | Ro | Ml | Or | 1 |
| | | | Urinary system | Prostate disorders | Ro | Ml | Or | 1 |
| **Papaveraceae** | | | | | | | | |
| *Bocconia integrifolia* Bonpl. (FC851) | Huacango, atujtallga, mangapaqui, mangapaque, sandoval | Wild | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Lf | If | Bt | 1 |
| **Passifloraceae** | | | | | | | | |
| *Passiflora edulis* Sims. (FC853) | Maracuyá | Cultivated | Blood and cardio-vascular system | High pressure | Fr, Sd | Fs, If, Jc, Ml | Or | 46 |
| | | | General ailments with unspecific symptoms | Headache | Fr | If | Or | 1 |
| | | | Digestive system | Intestinal parasites | Fr | Jc | Or | 1 |
| | | | | Laxative | Fr | Jc | Or | 1 |
| | | | Reproductive system and reproductive health | Menopause | Ffr, Lf | Jc, Ml | Or | 2 |
| | | | Respiratory system | Cold | Fr | Fs | Or | 1 |
| *Passiflora ligularis* Juss. (FC852) | Granadilla | Cultivated | General ailments with unspecific symptoms | Fever | Lf | If | Or | 1 |
| | | | Digestive system | Indigestive | Fr | Fs | Or | 1 |
| | | | | Constipation | Fr | Fs | Or | 4 |
| | | | | Intestinal infection | Fr | Fs | Or | 1 |
| | | | | Liver disorders | Fr | Fs | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | | Laxative | Fr, Lf, Sd | Fs, If, Jc | Or | 15 |
| | | | Urinary system | Prostate disorders | Fr | Fs | Or | 1 |
| | | | | Kidney disorders, emollient, diuretic | Fr, Lf | Fs, If, Wm | Or, Pl | 6 |
| *Passiflora tripartita* (Juss.) Poir. var. *mollisima* (Kunth.) Holm-Niels. & P.M. Jørg. (FC854) | Pur pur | Cultivated | Cultural diseases and disorders | Pulsario | Lf | Fs | Pl | 1 |
| | | | | Susto, espanto | Lf, Sd | Dc, If | Bt, Or | 3 |
| | | | Muscular-skeletal system | Rheumatism | Fr | If | Or | 1 |
| | | | | Joint sprains | Fr, Lf | Fs, If, Ml, Wm | Or, Pl | 5 |
| | | | Pregnancy, birth and puerperium | Birth | Fr, Lf | Dc, Fs | Or | 3 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Lf | Dc | Or | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Fr | Dc | Or | 1 |
| **Pedaliaceae** | | | | | | | | |
| *Sesamum indicum* L. (FC855) | Ajonjolí | Wild | Reproductive system and reproductive health | Menopause | Fr | Ml | Or | 1 |
| | | | Digestive system | Diarrhoea | Bk | If | Or | 1 |
| | | | Muscular-skeletal system | Hernia | Bk | Dc | Or | 1 |
| **Phyllanthaceae** | | | | | | | | |
| *Phyllanthus niruri* L. (FC856) | Chancapiedra | Wild | Urinary system | Prostate disorders | Ep, Lf | If | Or | 8 |
| | | | | Kidney disorders, emollient, diuretic | Ap, Ep, Lf | Dc, If | Or | 38 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Lf | If | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Skin and subcutaneous tissue | Wounds, healing | Ep | If | Or | 1 |
| **Phytolaccaceae** | | | | | | | | |
| *Phytolacca bogotensis* Kunth (FC857) | Airambo | Wild | Cultural diseases and disorders | Susto, espanto | Ep | If | Bt | 1 |
| | | | Infections and infestations | Fleas | Ep, Ssd | Dc, If | Bt, Or | 3 |
| **Pinaceae** | | | | | | | | |
| *Pinus radiata* D. Don (FC858) | Pino | Cultivated | Dental health | Toothache | Lx | Fs | Pl | 1 |
| **Piperaceae** | | | | | | | | |
| *Peperomia microphylla* Kunth (FC859) | Congona Cultivated | Cultivated | Cultural diseases and disorders | Susto, espanto | Lf | If | Bt, Or | 2 |
| | | | Cultural diseases and disorders | Sadness | Lf | If | Or | 9 |
| | | | | Insomnia | Ap, Lf | If | Or | 2 |
| | | | Blood and cardio-vascular system | High pressure | Lf | If | Or | 1 |
| | | | Digestive system | Stomach cramps | Lf | If | Or | 2 |
| | | | Reproductive system and reproductive health | Menopause | Lf | If | Or | 1 |
| *Piper acutifolium* Ruiz & Pav. (FC860) | Matico de huerta | Cultivated | Infections and infestations | UTA, leishmaniasis | Lf | Dc | Bt | 1 |
| | | | | Chickenpox | Lf | If | Bt | 1 |
| | | | Muscular-skeletal system | Joint sprains | Lf | Fs | Pl | 1 |
| | | | Other uses | Cancer | Lf | If | Or | 2 |
| | | | Respiratory system | Hair loss | Lf | Dc | Bt | 1 |
| | | | Reproductive system and reproductive health | Vaginal infection | Lf | If | Or | 1 |
| | | | Skin and subcutaneous tissue | Acne | Lf | Ml | Pl | 1 |
| | | | | Wounds, healing | Lf | Dc, If, Ml | Bt, Kn, Or | 10 |
| | | | | Burns | Lf | Dd, Ml | Bt, Kn | 3 |
| | | | Digestive system | Stomach cramps | Lf | Dc, If | Or | 5 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | | Diarrhoea | Lf | If | Or | 2 |
| | | | | Gastric ulcers | Lf | Dc, If | Or | 2 |
| | | | Blood and cardio-vascular system | Hemorrhoids | Lf | Dc | Vp | 1 |
| | | | | High pressure | Lf | If | Or | 1 |
| | | | Respiratory system | Flu | Lf | If | Bt | 46 |
| | | | Muscular-skeletal system | Cough | Lf | Dc, If | Or | 15 |
| | | | Urinary system | Prostate disorders | Lf | If | Or | 2 |
| | | | | Kidney disorders, emollient, diuretic | Lf | If | Or | 3 |
| *Piper aequale* Vahl. (no voucher specimen) | Cordoncillo pequeño | Wild | Cultural diseases and disorders | Susto, espanto | Lf | If | Bt | 1 |
| *Piper nigrum* L. (no voucher specimen) | Pimienta | Cultivated | Dental health | Toothache | Fr | Fs | Pl | 1 |
| **Plantaginaceae** | | | | | | | | |
| *Globularia alypum* L. (no voucher specimen) | Coronilla | Cultivated | Pregnancy, birth and puerperium | Birth | Lf | If | Or | 1 |
| *Plantago major* L. (FC861) | Llantén | Cultivated | Skin and subcutaneous tissue | Wounds, healing | Lf | Dc, Fs, If, Ml, Wm | Bt, Kn, Or, Pl | 93 |
| | | | | Feet fungus | Lf | Dc | Bt | 1 |
| | | | | Burns | Lf | Dc, Fs, If, Ml, Wm | Bt, Or, Pl | 10 |
| | | | Other uses | Hair loss | Lf | Dc, If | Bt | 2 |
| | | | Dental health | Toothache | Lf | Dc, If, Wm | Bt, Gg, Pl | 5 |
| | | | Digestive system | Stomach cramps | Lf | If | Or | 1 |
| | | | General ailments with unspecific symptoms | Fever | Lf | Dc, Fs, If | Bt, Or | 3 |
| | | | Infections and infestations | Insect bite | Lf | Dc, Ml | Bt, Kn | 3 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | | Chickenpox | Lf | Dc | Bt | 1 |
| | | | Blood and cardio-vascular system | Hemorrhoids | Lf | Dc, If | Bt, Vp | 5 |
| | | | Pregnancy, birth and puerperium | Postpartum | Lf | If | Bt | 1 |
| | | | Muscular-skeletal system | Joint sprains | Lf | Fs | Kn | 1 |
| | | | Pregnancy, birth and puerperium | Rheumatism | Lf | Fs | Pl | 1 |
| | | | Nervous system and mental health | Insomnia | Lf | If | Or | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Lf | If, Ml | Bt, Or, Pl | 4 |
| | | | Sensory system | Visual disorders | Lf | Dc, If | Bt, Or | 6 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Lf | Ddc, Fs, If, Ml | Or, Pl | 21 |
| | | | | Prostate disorders | Lf | If | Or | 1 |
| **Poaceae** | | | | | | | | |
| *Avena sativa* L. (no voucher specimen) | Avena | Cultivated | Pregnancy, birth and puerperium | Breastfeeding | Sd | Dc, Ml | Or | 3 |
| | | | Skin and subcutaneous tissue | Acne | Sd | Dc | Bt | 1 |
| *Cortaderia jubata* (Lemoine ex Carrière) Stapf. (FC867) | Cortadera | Wild | Reproductive system and reproductive health | Menopause | Ro | Dc | Or | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Ro | Ddc, Fs, If, Ml | Or | 1 |
| *Cymbopogon citratus* (DC.) Stapf (FC869) | Hierbaluisa | Cultivated | Pregnancy, birth and puerperium | Birth | Lf | If | Or | 1 |
| | | | Digestive system | Stomach cramps | Lf | If | Or | 1 |
| | | | | Diarrhoea | Lf | Or | Or | 1 |
| | | | | Laxative | Lf | If | Or | 1 |
| | | | General ailments with | Fever | Lf | If | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | unspecific symptoms | | | | | |
| | | | Blood and cardio-vascular system | High pressure | Lf | If | Or | 2 |
| | | | Nervous system and mental health | Insomnia | Lf | If | Or | 2 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Lf | If | Or | 2 |
| | | | Respiratory system | Menopause | Ep | If | Or | 1 |
| | | | Respiratory system | Flu | Lf | If | Or | 1 |
| | | | | Couh | Lf | If | Or | 1 |
| *Cynodon dactylon* (L.) Pers. (FC868) | Grama dulce | Wild | Blood and cardio-vascular system | Hemorrhoids | Lf | Ffs | Bt | 1 |
| *Gynerium sagittatum* (Aubl.) P. Beauv. (FC863) | Caña brava | Wild | Urinary system | Prostate disorders | Lf | If | Or | 1 |
| *Hordeum vulgare* L. (FC866) | Cebada | Cultivated | Metabolic system and nutrition | Weight loss | Sd | Dc | Or | 1 |
| | | | Urinary system | Prostate disorders | Sd | Dc | Or | 1 |
| | | | | Kidney disorders, emollient, diuretic | Lf, Sd | Dc, If | Or | 28 |
| *Oryza sativa* L. (FC862) | Arroz | Cultivated | Digestive system | Diarrhoea | Fr | Dc, If, Wm | Or | 5 |
| | | | Other uses | Hair loss | Sd | Fs | Pl | 1 |
| *Phragmites australis* (Cav.) Trin. ex Stend (FC865) | Carricillo, carrizo, timbuche | Wild | Other uses | Hair loss | Bd, Lf, St | Ddc, Fs, If, Ml | Bt, Or | 3 |
| | | | Urinary system | Prostate disorders | Bk | Dc | Or | 1 |
| | | | Endocrine system | Diabetes | Bk | Dc | Or | 1 |
| *Saccharum officinarum* L. (FC864) | Caña de azúcar | Cultivated | Respiratory system | Flu | St | Fm | Pl | 1 |
| | | | Infections and infestations | Insect bite | Fr | Fm | Or | 1 |
| | | | | UTA, leishmaniasis | St | Fm | Bt | 1 |
| *Zea mays* L. (FC870) | Maíz | Cultivated | Infections and infestations | Chickenpox | Fr | Dc, Fs, | Bt, Kn, | 69 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | | | | If, Ml | Or, Pl | |
| | | | Pregnancy, birth and puerperium | Breastfeeding | Fr | Dc, If, Ml, Wm | Bt, Or | 8 |
| | | | Digestive system | Intestinal parasites | Fr | Ml | Pl | 1 |
| | | | | Stomach cramps | Ss | If | Or | 1 |
| | | | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Fr | Ddc, Fs, If, Ml | Bt, Pl | 5 |
| | | | | Susto, espanto | Fr | Dd, Ml | Bt, Kn, Or, Pl | 6 |
| | | | | Tijte | Ss | Wm | Bt | 1 |
| | | | Blood and cardio-vascular system | High pressure | Fr | Dc, Ml | Or | 7 |
| | | | Pregnancy, birth and puerperium | Anemia | Fr | Ml | Or | 1 |
| | | | Skin and subcutaneous tissue | Burns | Fr | If | Or | 1 |
| | | | Reproductive system and reproductive health | Menopause | Fr | Dc | Or | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Ss | Ddc, Fs, If, Ml | Or | 7 |
| | | | Urinary system | Prostate disorders | Ss | If | Or | 1 |
| **Polygalaceae** | | | | | | | | |
| *Polygala paniculata* L. (FC871) | Canchalagua | Wild | Digestive system | Stomach cramps | Lf | If | Or | 2 |
| | | | Skin and subcutaneous tissue | Acne | Lf | Dc | Or | 1 |
| **Polygonaceae** | | | | | | | | |
| *Polygonum hydropiperoides* Michx. (FC873) | Shiñachirapa | Wild | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Lf | If | Bt | 1 |
| *Rumex obtusifolius* L. (FC872) | Malayerba, hierbamaría | Wild | General ailments with unspecific symptoms | Fever | Lf, Ro | Dc, If | Or | 2 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Infections and infestations | Insect bite | Lf | Ml | Kn | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Lf | If | Or | 1 |
| | | | Digestive system | Intestinal parasites | Ro | Ml | Or | 1 |
| | | | | Hepatitis | Lf, Ro | If, Ml | Or | 2 |
| | | | Respiratory system | Laxative | Lf, Ro | If | Or | 4 |
| *Rumex peruanus* Rech. f. (FC874) | Canchil, unduluj, undulón | Wild | Skin and subcutaneous tissue | Burns | Ro | Fs | Pl | 1 |
| | | | Other uses | Cancer | St | If | Pl | 1 |
| **Portulacaceae** | | | | | | | | |
| *Portulaca oleraceae* L. (no voucher specimen) | Verdolaga | Wild | Sensory system | Hearing disorders | Lf | Fs | Pl | 1 |
| **Proteaceae** | | | | | | | | |
| *Oreocallis grandiflora* (Lam.) R.Br. (FC875) | Saltaperico, palpal, avincho, rumilanche | Wild | Other uses | Cancer | Fl | Dc | Or | 1 |
| | | | Dental health | Toothache | Sd | Ml | Or | 1 |
| | | | Blood and cardio-vascular system | Hemorrhoids | Fl, Lf | Dc | Or | 2 |
| | | | Digestive system | Stomach cramps | Lf | If | Or | 1 |
| | | | Urinary system | Prostate disorders | Lf | If | Or | 2 |
| | | | | Kidney disorders, emollient, diuretic | Fl, Lf | Dc, If | Or | 7 |
| **Ranunculaceae** | | | | | | | | |
| *Clematis haenkeana* C. Presl (FC876) | Pumashaire, sajshauar | Wild | Infections and infestations | UTA, leishmaniasis | Lf | Ml, Wm | Pl | 2 |
| **Rosaceae** | | | | | | | | |
| *Cydonia oblonga* Mill. (FC879) | Membrillo | Cultivated | Digestive system | Diarrhoea | Fr | If | Or | 1 |
| | | | Endocrine system | Diabetes | Fr | Dc | Or | 1 |
| *Filipendula ulmaria* (L.) Maxim. (no voucher specimen) | Reina Isabel | Wild | Infections and infestations | UTA, leishmaniasis | Fl, Lf | Fs, If | Or, Pl | 2 |
| *Fragaria × ananassa* (Weston) Duchesne (no voucher specimen) | Fresa | Wild | Urinary system | Kidney disorders, emollient, diuretic | Fr | Fs | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| *Malus domestica* Borkh. (FC878) | Manzana serrana, manazanita de huerta | Cultivated | Blood and cardio-vascular system | Anemia | Fr | Ml | Or | 5 |
| | | | Digestive system | Diarrhoea | Fr | Dc, If | Or | 3 |
| | | | | Stomach pain | Fr | Fs | Or | 1 |
| | | | | Indigestive | Fr | Fs | Or | 7 |
| | | | Digestive system | Bad breath | Fr | Fs | Or | 1 |
| | | | Endocrine system | Diabetes | Fr | Fs | Or | 1 |
| | | | Nervous system and mental health | Mental stimulant | Fr | Fs | Or | 2 |
| | | | | Stress | Fr | If | Or | 2 |
| | | | | Insomnia | Fr, Lf | Dc, If | Or | 96 |
| | | | | Sadness | Fr | Dc | Or | 1 |
| | | | Skin and subcutaneous tissue | Acne | Fr | Fs | Or | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Fr | Dc | Or | 1 |
| | | | Dental health | Toothache | Fr | Fs | Or | 2 |
| | | | Metabolic system and nutrition | Weight loss | Fr | Dc | Or | 1 |
| *Potentilla anserina* L. (no voucher specimen) | Potentila | Wild | Nervous system and mental health | Epilepsy | Eep | Dc | Or | 1 |
| *Prunus dulcis* (Mill.) D.A. Webb (no voucher specimen) | Almendra | Cultivated | Blood and cardio-vascular system | Anemia | Fr | Fs | Or | 1 |
| *Prunus persica* (L.) Batsch (FC877) | Durazno | Cultivated | Cultural diseases and disorders | Aire, malaire | Lf | Dc, Fs, If | Bt, Or | 11 |
| | | | | Susto, espanto | Lf | Fs | Bt | 2 |
| | | | Digestive system | Diarrhoea | Lf | If | Or | 2 |
| | | | General ailments with unspecific symptoms | Fever | Lf | Dc, Fs, If | Bt | 5 |
| | | | Nervous system and mental health | Insomnia | Lf | If | Or | 1 |
| | | | | Sadness | Lf | If | Or | 1 |
| | | | | Mental stimulant | Fr | Fs | Or | 2 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Pregnancy, birth and puerperium | Postpartum | Lf | Ddc, If | Bt, Pl | 8 |
| | | | | Birth | Lf | If | Bt | 1 |
| *Prunus serotina* Ehrh. (no voucher specimen) | Capulí | Wild | Infections and infestations | UTA, leishmaniasis | Lf | Fs | Pl | 1 |
| | | | Reproductive system and reproductive health | Menopause | St | If | Or | 1 |
| *Pyrus* sp. (no voucher specimen) | Pera | Cultivated | Digestive system | Indigestive | Fr | Fs | Or | 1 |
| *Rosa centifolia* L. (FC881) | Rosa, rosa blanca | Cultivated | Nervous system and mental health | Sadness | Fl | If | Or | 1 |
| | | | Sensory system | Visual disorders | Fl | Fs, Ml | Bt, Kn | 3 |
| *Rubus megalococcus* Focke (FC880) | Mora | Wild | Sensory system | Visual disorders | Fl | If | Bbt, Or | 2 |
| | | | Endocrine system | Diabetes | Lf | If | Or | 2 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Fr | Dc | Or | 1 |
| | | | Respiratory system | Flu | Fl, Lf | Dc, If | Or | 3 |
| | | | | Cough | Fl | If | Or | 2 |
| **Rubiaceae** | | | | | | | | |
| *Cinchona krauseana* L. Andersson (FC885) | Tafitán | Wild | Muscular-skeletal system | Joint sprains | Lf | Fs | Pl | 1 |
| *Cinchona officinalis* L. (FC884) | Cascarilla, quina | Wild | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Lf | Fm | Or | 1 |
| | | | Infections and infestations | Malaria | Bk, Lf | Dc, Fm, If | Or | 3 |
| *Coffea arabica* L. (FC882) | Café | Cultivated | Blood and cardio-vascular system | Low pressure | Fr, Sd | Dc, If | Or | 34 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Lf | Dc | Or | 1 |
| | | | Metabolic system and nutrition | Weight loss | Fr | If | Or | 1 |
| | | | Muscular-skeletal system | Rheumatism | Lf | Fm | Kn | 1 |
| | | | Pregnancy, birth and puerperium | Breastfeeding | Bd | If | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Respiratory system | Cough | Ffr | If | Or | 1 |
| *Morinda citrifolia* L. (FC883) | Noni | Cultivated | Other uses | Cancer | Fr | Fs, Jc, Ml | Or | 5 |
| | | | Digestive system | Diarrhoea | Fr | Ml | Or | 2 |
| | | | Urinary system | Prostate disorders | Fr | Jc | Or | 1 |
| | | | | Kidney disorders, emollient, diuretic | Lf | If | Or | 1 |
| *Uncaria tomentosa* (Willd. ex Schult.) DC. (FC886) | Uña de gato | Wild | Other uses | Cancer | Lf, St | Dc, If | Or | 3 |
| | | | Digestive system | Diarrhoea | Bk | Dc | Or | 1 |
| | | | Reproductive system and reproductive health | Fertility | Ep | Fm | Or | 1 |
| | | | | Aphrodisiac | Bk | If | Or | 1 |
| | | | Skin and subcutaneous tissue | Feet fungus | Bk | Dc | Bt | 1 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Ep, Lf | Dc | Or | 3 |
| | | | Urinary system | Prostate disorders | Bk | Dc, Fm | Or | 2 |
| **Rutaceae** | | | | | | | | |
| *Citrus aurantium* L. var. *amara* L. (FC891) | Naranjo | Cultivated | Pregnancy, birth and puerperium | Birth | Lf | If | Or | 1 |
| | | | Nervous system and mental health | Insomnia | Bd, Lf | If | Or | 2 |
| | | | Reproductive system and reproductive health | Menopause | Lf | If | Or | 1 |
| *Citrus aurantium* L. var. *sinensis* L. (FC890) | Naranja | Cultivated | General ailments with unspecific symptoms | Fever | Lf | Fm | Kn | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Ec, Fr | Fs, If | Or | 2 |
| | | | Digestive system | Intestinal parasites | Fr | Jc | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | | Laxative | Fr, Sd | Dc, Jc, Ml | Or | 5 |
| | | | | Diarrhoea | Ffr | Fs, Jc | Or | 2 |
| | | | Blood and cardio-vascular system | High pressure | Fr | Dc, Fs, If | Or | 4 |
| | | | | Anemia | Fr | Ml | Or | 1 |
| | | | Respiratory system | Flu | Fr | Dc, Fs, If, Jc | Or | 32 |
| | | | Muscular-skeletal system | Muscle cramps | Fr | Fs | Or | 1 |
| | | | Nervous system and mental health | Insomnia | Fr, Lf | Fs, If, Jc | Or | 3 |
| | | | | Mental stimulant | Fr | Fs | Or | 3 |
| | | | | Sadness | Lf | If | Or | 1 |
| *Citrus limetta* Risso (FC887) | Lima | Cultivated | Blood and cardio-vascular system | High pressure | Fl, Ffr | Fs, If, Jc, Ml | Or | 23 |
| | | | Cultural diseases and disorders | Susto, espanto | Ffr | Jc | Or | 1 |
| | | | Digestive system | Hepatitis | Fl, Ffr | Fs, If | Or | 2 |
| | | | General ailments with unspecific symptoms | Fever | Fr, Lf | Dc, Jc | Bt, Or | 2 |
| | | | Respiratory system | Flu | Fr | Fs | Or | 1 |
| | | | Nervous system and mental health | Sadness | Fr | Fs | Or | 1 |
| | | | Nervous system and mental health | Mental stimulant | Fr | Fs | Or | 1 |
| | | | Endocrine system | Diabetes | Fr | Fs | Or | 1 |
| | | | Skin and subcutaneous tissue | Burns | Fr | Ml | Bt | 1 |
| | | | Sensory system | Visual disorders | Fr | Fs, Jc, Ml | Bt, Ew, Kn, Or, Pl | 26 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| *Citrus limon* (L.) Osbeck (FC888) | Limón, limón ácido | Cultivated | Skin and subcutaneous tissue | Feet fungus | Fr | Fs, Jc, Ml, Wm | Bt, Kn, Or, Pl | 13 |
| | | | | Wounds, healing | Fr | Fs, Jc | Bt | 3 |
| | | | | Acne | Fr | Fs, If, Jc | Bt, Or | 5 |
| | | | | Burns | Ec, Fr | Fs, If | Bt, Kn, Or, Pl | 5 |
| | | | Endocrine system | Diabetes | Fr | Fs | Or | 1 |
| | | | Nervous system and mental health | Insomnia | Ffr | If | Or | 1 |
| | | | Digestive system | Intestinal parasites | Ssd | Ml | Or | 1 |
| | | | | Stomach cramps | Fr | If | Or | 1 |
| | | | | Diarrhoea | Fr | If, Jc, Wm | Or | 11 |
| | | | | Stomach pain | Fr | If | Or | 1 |
| | | | | Hepatitis | Fr | Jc | Or | 1 |
| | | | | Laxative | Ssd | Ml | Or | 1 |
| | | | General ailments with unspecific symptoms | Fever | Fr | Dc, Fs, If, Jc, Ml | Bt, Or, Pl | 10 |
| | | | | General malaise | Fr | Jc | Or | 1 |
| | | | Infections and infestations | Insect bite | Fr | Fs, Jc, Ml | Bbt, Or, Pl | 18 |
| | | | | UTA, leishmaniasis | Fr | Fs, Jc | Bt | 2 |
| | | | Metabolic system and nutrition | Weight loss | Fr | If, Jc | Or | 6 |
| | | | Muscular-skeletal system | Rheumatism | Lf | Fm | Kn | 1 |
| | | | Dental health | Cavity | Sd | Fs | Pl | 2 |
| | | | Nervous system and mental health | Toothache | Fr, Sd | Fs, Ml | Bt, Kn, Or, Pl | 13 |
| | | | Pregnancy, birth and puerperium | Postpartum | Fr | If | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Reproductive system and reproductive health | Menstruation disorders | Fr | Fs, If | Bt, Or | 2 |
| | | | Respiratory system | Flu | Fr, Lf | Dc, Fs, If, Jc, Wm | Or | 59 |
| | | | | Cough | Fr | If, Jc | Gg, Or | 4 |
| | | | Sensory system | Visual disorders | Fr | Fs, Ml | Bt, Kn | 2 |
| | | | Ritual and magic uses | Negative vibes | Fr | Fs | Nn | 2 |
| *Citrus paradisi* Macfad. (FC893) | Toronja | Cultivated | Metabolic system and nutrition | Weight loss | Fr | Jc | Or | 2 |
| | | | Blood and cardio-vascular system | High pressure | Fr | Jc | Or | 1 |
| | | | Reproductive system and reproductive health | Fertility | Fr | If, Jc | Or | 1 |
| *Citrus reticulata* Blanco (FC889) | Mandarina | Cultivated | Respiratory system | Flu | Fr | Fs | Or | 2 |
| | | | Nervous system and mental health | Mental stimulant | Fr | Fs | Or | 1 |
| *Ruta chalepensis* L. (FC892) | Ruda | Cultivated | Dental health | Toothache | Lf | Ml | Kn, Or, Pl | 4 |
| | | | Cultural diseases and disorders | Aire, malaire | Lf | Fs, If | Bt, In, Or | 42 |
| | | | | Antimonia, gentil, viejo, antiguo | Lf | Ffs | Bt | 1 |
| | | | | Susto, espanto | Lf | Fs, If | Bt, Or | 10 |
| | | | | Tacsho | Lf | If | Bt, Or | 3 |
| | | | Digestive system | Intestinal parasites | Lf | Ml | Or | 1 |
| | | | | Stomach cramps | Lf | If | Or | 4 |
| | | | Sensory system | Hearing disorders | Lf | Fs, If | Pl | 2 |
| | | | Infections and infestations | Chickenpox | Lf | Dc | Bt | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Muscular-skeletal system | Rheumatism | Lf | Fm, If | Bt | 2 |
| | | | Pregnancy, birth and puerperium | Abortive | Ap, Ep, Lf | Dc, Fm, Fs, If, Ml | Or | 19 |
| | | | | Postpartum | Lf | If | Bt, Or | 2 |
| | | | General ailments with unspecific symptoms | Fever | Lf | Fm | Kn | 1 |
| | | | Pregnancy, birth and puerperium | Headache | Ep | Fs | Bt | 1 |
| | | | Ritual and magic uses | Curse | Lf | Ml | Bt | 1 |
| | | | Ritual and magic uses | Bring good luck | Ap, Ep, Fl, Lf | Ddc, Fs, If, Ml | Bt, Kn, Nn | 14 |
| | | | Ritual and magic uses | Negative vibes | Ep, Lf | Fs, If | Bt, Nn | 6 |
| **Salicaceae** | | | | | | | | |
| *Salix humboldtiana* Willd. (FC894) | Saúce, álamo | Wild | Blood and cardio-vascular system | Low pressure | Lf | If | Or | 1 |
| | | | Other uses | Hair loss | Lf | Dc, Fm, Fs, If | Bt | 13 |
| | | | Muscular-skeletal system | Rheumatism | Lf | Dc | Bt | 1 |
| **Santalaceae** | | | | | | | | |
| *Phoradendron nervosum* Oliv. (FC895) | Suelda consuelda | Wild | Muscular-skeletal system | Hernia | Lf | Ml | Pl | 1 |
| | | | | Rheumatism | Lf | Fs | Bt | 1 |
| | | | | Joint sprains | Lf | Fs, If, Ml, Wm | Bt, Pl | 26 |
| **Sapindaceae** | | | | | | | | |
| *Dodonaea viscosa* (L.) Jacq. (FC896) | Chamana | Wild | Cultural diseases and disorders | Susto, espanto | Lf | If | Bt | 2 |
| | | | Infections and infestations | Chickenpox | Lf | If | Bt | 1 |
| | | | Muscular-skeletal system | Rheumatism | Lf | Dc | Bt | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | | Joint sprains | Lf | Wm | Ppl | 1 |
| | | | Skin and subcutaneous tissue | Burns | Lf | Ml | Pl | 1 |
| *Sapindus saponaria* L. (FC897) | Choloque | Wild | Infections and infestations | Fleas | Sd | Dc | Bt | 1 |
| **Sapotaceae** | | | | | | | | |
| *Pouteria lucuma* (Ruiz & Pav.) Kuntze (FC898) | Lúcuma | Wild | Pregnancy, birth and puerperium | Breastfeeding | Bd, Lf | Dc, If | Or | 7 |
| **Scrophulariaceae** | | | | | | | | |
| *Alonsoa meridionalis* (L. f.) Kuntze (FC899) | Duraznillo | Wild | Infections and infestations | UTA, leishmaniasis | Lx | Fs | Pl | 1 |
| *Buddleja blattaria* J.F.Macbr. (FC900) | Utcusacha, flor blanca | Wild | Pregnancy, birth and puerperium | Bi | Lf | If | Or | 1 |
| | | | Infections and infestations | UTA, leishmaniasis | Lf | Ml | Pl | 2 |
| **Siparunaceae** | | | | | | | | |
| *Siparuna muricata* (Ruiz & Pav.) A. DC. (FC901) | Payón, paigamo, poshmete, añasquero | Wild | Cultural diseases and disorders | Antimonia, gentil, viejo, antiguo | Lf | If | Bt | 1 |
| | | | Cultural diseases and disorders | Susto, espanto | Lf | If | Bt | 2 |
| | | | Pregnancy, birth and puerperium | Postpartum | Lf | If | Bt | 1 |
| **Solanaceae** | | | | | | | | |
| *Capsicum annuum* L (no voucher specimen). | Pimiento rojo | Cultivated | Digestive system | Stomach cramps | Fr | Wm | Or | 1 |
| *Capsicum pubescens* Ruiz & Pav. (FC903) | Ají, ají rocoto | Cultivated | General ailments with unspecific symptoms | Fever | Lf | If | Bt | 2 |
| | | | Pregnancy, birth and puerperium | Postpartum | Lf | Fs, If, Ml | Bt, Kn, Or | 58 |
| | | | Skin and subcutaneous tissue | Burns | Fr, Lf | Fs, If, Mml | Bt, Kn, Or, Pl | 14 |
| | | | Dental health | Feet fungus | Fr | Fs | Kn | 1 |
| *Cestrum auriculatum* L`Hér (FC907) | Hierbasanta | Wild | Cultural diseases and disorders | Susto, espanto | Lf | Dc, If | Bt | 2 |
| | | | Digestive system | Intestinal parasites | Lf | If | Or | 1 |
| | | | | Diarrhoea | Lf | Ml | Or | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | General ailments with unspecific symptoms | Fever | Ep, Lf | Dc, If, Ml | Bt, Or, Pl | 32 |
| | | | | General malaise | Lf | If | Bt | 1 |
| | | | Pregnancy, birth and puerperium | Abortive | Lf | Fm | Or | 1 |
| | | | Infections and infestations | Postpartum | Lf | If | Bt | 1 |
| | | | Infections and infestations | Chickenpox | Lf | If | Bt | 1 |
| | | | | Lice | Lf | Dc | Bt | 1 |
| | | | Urinary system | Prostate disorders | Lf | If | Bt | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Ro | Dc | Or | 2 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Lf | Dc, If | Bt | 2 |
| | | | Skin and subcutaneous tissue | Feet fungus | Lf | Dc | Bt | 1 |
| *Cestrum tomentosum* L. f. (FC908) | Huaspasacha de la jalca | Wild | Digestive system | Stomach cramps | Lf | If | Or | 2 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Lf | If | Or | 1 |
| *Cyphomandra betacea* Cav. (FC913) | Tomate de árbol, pepino de árbol, berenjena de árbol | Cultivated | Blood and cardio-vascular system | High pressure | Fr | Fs, Jc, Ml | Or | 6 |
| | | | | Hemorrhoids | Fr | Ml | Kn | 1 |
| | | | Endocrine system | Diabetes | Fr | Fs, Ml | Or | 4 |
| | | | Metabolic system and nutrition | Weight loss | Fr | Fs, If, Jc, Mml | Or | 13 |
| | | | Infections and infestations | Malaria | Fr | Fs | Or | 1 |
| | | | Digestive system | Diarrhoea | Fr | Fs | Or | 1 |
| *Datura stramonium* L. (FC904) | Chamico, datura | Wild | Cultural diseases and disorders | Susto, espanto | Lf | If | Bt | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Blood and cardio-vascular system | Hemorrhoids | Lf | Ml, Wm | Pl | 2 |
| | | | Ritual and magic uses | Curse | Lf | Dc | Bt | 1 |
| *Nicotiana setchellii* Goodsp. (FC911) | Tabaco | Cultivated | Cultural diseases and disorders | Susto, espanto | Lf | Dd | Bt | 1 |
| | | | | Antimonia, gentil, viejo, antiguo | Lf | Dd | Bt | 1 |
| | | | Infections and infestations | UTA, leishmaniasis | lF | Ml | Pl | 1 |
| | | | Blood and cardio-vascular system | Hemorrhoids | Lf | Wm | Bt | 1 |
| | | | Skin and subcutaneous tissue | Swelling | Lf | Ml | Pl | 1 |
| | | | Sensory system | Hearing disorders | Lf | Ml | Pl | 1 |
| *Physalis peruviana* L. (FC902) | Aguaymanto, tomatillo | Wild | Skin and subcutaneous tissue | Burns | Lf | If | Pl | 1 |
| | | | General ailments with unspecific symptoms | Fever | Lf | Dc, Fs, If | Bt | 4 |
| | | | General ailments with unspecific symptoms | General malaise | Lf | Dc | Bt | 1 |
| | | | Pregnancy, birth and puerperium | Birth | Fr | Jc | Or | 1 |
| | | | Pregnancy, birth and puerperium | Postpartum | Lf | Fs, If | Bt | 2 |
| | | | Digestive system | Diarrhoea | Lf | If | Or | 1 |
| | | | Respiratory system | Flu | Fr | Fm | Or | 1 |
| | | | Endocrine system | Diabetes | Fr | Fs | Or | 1 |
| *Solanum americanum* Mill. (FC906) | Hierbamora, cuash | Wild | General ailments with unspecific symptoms | Fever | Lf | If | Bt | 2 |
| | | | Sensory system | Visual disorders | Lf | Dc | Bt | 1 |
| | | | | Hearing disorders | Lf | Fs | Kn | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Infections and infestations | Fleas | Lf | Dc | Bt | 1 |
| | | | Skin and subcutaneous tissue | Feet fungus | Sd | If | Or | 1 |
| *Solanum interandinum* Bitter (FC909) | Mushañao | Wild | General ailments with unspecific symptoms | Fever | Lf | Fs, If | Bt | 2 |
| | | | Pregnancy, birth and puerperium | Postpartum | Lf | If | Or | 1 |
| *Solanum lycopersicum* L. (FC912) | Tomate | Cultivated | General ailments with unspecific symptoms | Fever | Lf | Fs, If | Bt | 2 |
| | | | Other uses | Cancer | Fr | Jc | Or | 1 |
| | | | Blood and cardio-vascular system | Anemia | Fr | Ml | Or | 1 |
| | | | Sensory system | Visual disorders | Fr | Fs | Pl | 1 |
| | | | Skin and subcutaneous tissue | Burns | Fr, Lf | Fs, If | Bt, Kn, Or, Pl | 71 |
| | | | Skin and subcutaneous tissue | Acne | Fr | Fs | Bt | 1 |
| *Solanum quitoense* Lam. (FC905) | Chila | Cultivated | Blood and cardio-vascular system | High pressure | Fr | If, Jc | Or | 2 |
| *Solanum tuberosum* L. (FC910) | Papa | Cultivated | Cultural diseases and disorders | Susto, espanto | Lf | If | Bt | 1 |
| | | | General ailments with unspecific symptoms | Fever | Ro | Fs | Kn, Pl | 4 |
| | | | | Headache | Ro | Fs | Kn, Pl | 2 |
| | | | Digestive system | Stomach cramps | Ro | If | Or | 2 |
| | | | | Diarrhoea | Ro | If, Jc, Ml | Or | 20 |
| | | | | Gastric ulcers | Ro | If, Ml | Or | 6 |
| | | | Other uses | Diabetes | Ro | Dc, Rt | Or | 2 |
| | | | Infections and infestations | Chickenpox | Ro | Rt | Bt | 1 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Reproductive system and reproductive health | Menopause | Fr | Dc | Or | 1 |
| | | | Sensory system | Hearing disorders | Ro | Fs | Pl | 1 |
| | | | Skin and subcutaneous tissue | Burns | Ro | If | Or, Pl | 2 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Ec, Ro | Dc, If | Or | 6 |
| | | | | Prostate disorders | Ro | Dc | Or | 1 |
| **Theaceae** | | | | | | | | |
| *Camellia sinensis* (L.) Kuntze (no voucher specimen) | Té verde | Cultivated | Metabolic system and nutrition | Weight loss | Lf | If | Or | 4 |
| **Tropaeolaceae** | | | | | | | | |
| *Tropaeolum majus* L. (FC914) | Capuchina | Cultivated | Cultural diseases and disorders | Tacsho | Lf | Wwm | Or | 1 |
| | | | | Aire, malaire | Lf | Wm | Bt | 1 |
| *Tropaeolum tuberosum* Ruiz & Pav. (FC915) | Mashua | Cultivated | Skin and subcutaneous tissue | Feet fungus | Lf | Ml | Pl | 1 |
| | | | Urinary system | Prostate disorders | Fr, Lf | If, Ml | Or | 2 |
| **Typhaceae** | | | | | | | | |
| *Typha angustifolia* L. (no voucher specimen) | Chante | Wild | Digestive system | Intestinal parasites | Lf | Ml | Or | 1 |
| **Urticaceae** | | | | | | | | |
| *Pilea microphylla* (L.) Liebm. (FC916) | Contrayerba, rumusol, quishquirrinrri | Wild | Muscular-skeletal system | Hernia | Lf | Ml | Pl | 1 |
| | | | Nervous system and mental health | Sadness | Lf | Ml | Or | 1 |
| | | | Urinary system | Hearing disorders | Lf | Wm | Pl | 1 |
| | | | Reproductive system and reproductive health | Menopause | Lf | If | Or | 1 |
| *Urtica urens* L. (FC917) | Ortiga, ortiga negra, | Wild | Other uses | Hair loss | Lf | Dc, Ml | Bt, Pl | 3 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | ishanga negra | | | | | | | |
| | | | Blood and cardio-vascular system | High pressure | Lf | Ml | Or | 1 |
| | | | | Hemorrhoids | Lf | Ml | Or | 2 |
| | | | Digestive system | Stomach cramps | Lf | Ml | Or | 1 |
| | | | Muscular-skeletal system | Rheumatism | Lf | Fs, If | Bt, Or, Pl, Wh | 4 |
| | | | Urinary system | Kidney disorders, emollient, diuretic | Lf | Dc | Or | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Ep, Lf, Ro | Dc, If, Mml | Or | 23 |
| | | | Reproductive system and reproductive health | Menopause | Ep | If | Or | 1 |
| **Verbenaceae** | | | | | | | | |
| *Aloysia citriodora* Palau (FC918) | Cedrón | Cultivated | Other uses | Hair loss | Lf | If | Or | 1 |
| | | | Digestive system | Stomach infection | Lf | If | Or | 1 |
| | | | | Stomach cramps | Lf | If | Or | 1 |
| | | | | Diarrhoea | Lf | If | Or | 2 |
| | | | Pregnancy, birth and puerperium | Birth | Lf | If | Or | 1 |
| | | | Reproductive system and reproductive health | Menopause | Lf | If | Or | 1 |
| | | | | Fertility | Sd | If | Or | 1 |
| | | | Nervous system and mental health | Insomnia | Lf | If | Or | 2 |
| | | | Blood and cardio-vascular system | High pressure | Lf | If | Or | 3 |
| *Lantana haughtii* Moldenke (FC919) | Sachaorégano | Wild | Digestive system | Stomach cramps | Lf | Fm | Or | 1 |
| *Verbena litoralis* Kunth (FC920) | Verbena | Wild | General ailments with unspecific symptoms | Fever | Ep, Lf | Dc, If, Ml | Bt, Or, Pl | 25 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | | Headache | Lf | Dc | Bt | 1 |
| | | | Pregnancy, birth and puerperium | Abortive | Lf | Dc | Or | 1 |
| | | | Digestive system | Intestinal parasites | Ep | Ml | Or | 1 |
| | | | | Stomach cramps | Lf | If | Or | 2 |
| | | | | Hepatitis | Lf | Fs, If | Or | 4 |
| | | | | Gastric ulcers | Lf | If | Or | 1 |
| | | | Respiratory system | Flu | Lf | If | Or | 2 |
| | | | Infections and infestations | Fleas | Lf | Dc | Bt | 1 |
| | | | Infections and infestations | Malaria | Lf | Ml | Or | 1 |
| | | | | Insect bite | Lf | Ml | Kn | 1 |
| | | | Infections and infestations | Chickenpox | Lf | Ml | Or | 1 |
| | | | Other uses | Hair loss | Lf | Dc | Bt | 1 |
| | | | Endocrine system | Diabetes | Lf | If | Or | 1 |
| **Violaceae** | | | | | | | | |
| *Viola odorata* L. (FC921) | Violeta | Cultivated | Infections and infestations | UTA, leishmaniasis | Fl | Fs | Pl | 1 |
| **Vitaceae** | | | | | | | | |
| *Vitis vinifera* L. (FC922) | Uva | Cultivated | Digestive system | Indigestive | Fr | Fs | Or | 2 |
| | | | | Laxative | Fr | Ddd | Or | 1 |
| | | | | Intestinal infection | Fr | Fs | Or | 2 |
| | | | Metabolic system and nutrition | Weight loss | Fr | Fs | Or | 1 |
| | | | Nervous system and mental health | Mental stimulant | Fr | Fs | Or | 2 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Fr | If | Or | 1 |
| **Xanthorrhoeaceae** | | | | | | | | |
| *Aloe vera* (L.) Burm. f. (FC923) | Pencasábila, sábila, aloe | Cultivated | Blood and cardio-vascular system | Hemorrhoids | Lp | Fs, Ml | Kn, Or, Pl | 4 |
| | | | Digestive system | Diarrhoea | Lp | Fs, If, Jc, Ml | Or | 28 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | General ailments with unspecific symptoms | Fever | Lp | Ml | Kn | 1 |
| | | | Infections and infestations | Insect bite | Lp | Ml | Kn | 1 |
| | | | Other uses | Hair loss | Lp | Fs, If, Ml | Bt, Kn, Or, Pl | 20 |
| | | | Other uses | Cancer | Lp | If, Ml | Or | 4 |
| | | | Endocrine system | Diabetes | Lp | Ml | Or | 1 |
| | | | Reproductive system and reproductive health | Menstruation disorders | Lp | Ml | Or | 1 |
| | | | Ritual and magic uses | Negative vibes | Lp | Fs | Nn | 2 |
| | | | | Bring good luck | Lp | Fs | Nn | 2 |
| | | | Skin and subcutaneous tissue | Wounds, healing | Lp | Fs | Pl | 1 |
| | | | | Acne | Lp | Fs, Ml | Bt, Kn, Pl | 23 |
| | | | | Feet fungus | Lp | Fs | Pl | 5 |
| | | | | Burns | Lp | Fs, Ml | Kn, Pl | 7 |
| | | | Urinary system | Prostate disorders | Lp | Fs | Or | 1 |
| **Zingiberaceae** | | | | | | | | |
| *Curcuma longa* L. (no voucher specimen) | Cúrcuma | Cultivated | Nervous system and mental health | Insomnia | Fr | Dc | Or | 1 |
| | | | Muscular-skeletal system | Rheumatism | Ep | If | Or | 1 |
| *Hedychium coronarium* J. Koenig (FC924) | Azafrán | Wild | Skin and subcutaneous tissue | Burns | Fr, Lf, Ro | Dc, If, Mml | Bt, Kn, Pl | 8 |
| | | | Other uses | Cancer | Lf | Dc | Or | 1 |
| | | | Urinary system | Prostate disorders | Fr | Dc | Or | 1 |
| *Renealmia* sp. (FC925) | Caña agria | Wild | Urinary system | Prostate disorders | Lf | Ml | Or | 1 |
| *Zingiber officinale* Roscoe (FC926) | Kión | Cultivated | Other uses | Cancer | Ro | Dc | Or | 1 |
| | | | Skin and subcutaneous tissue | Feet fungus | Ro | Dc, Fs | Bt | 2 |

| Scientific name (voucher) | Vernacular name | Status | Category | Subcategory | Plant Part | Preparation | Mode of administration | Informants |
|---|---|---|---|---|---|---|---|---|
| | | | Blood and cardio-vascular system | Hemorrhoids | Ro | Dc | Or | 1 |
| | | | Digestive system | Diarrhoea | Ro | Ml | Or | 3 |
| | | | | Stomach cramps | Ro | If | Or | 1 |
| | | | Metabolic system and nutrition | Weight loss | Ro | Dc, If, Ml | Or | 6 |
| | | | Nervous system and mental health | Insomnia | Ro | If | Or | 1 |
| | | | Respiratory system | Flu | Ro | Dc, Fs, If | Or | 8 |
| | | | | Cough | Ro | Fm, If | Or | 2 |
| | | | Sensory system | Visual disorders | Ro | If | Bt | 1 |
| | | | Urinary system | Prostate disorders | Ro | If | Or | 1 |
| | | | | Kidney disorders, emollient, diuretic | Ro | Fs | Or | 1 |

Plant parts
*Ap* Aerial part, *Bd* Bud, *Bk* Bark, *Ec* Exocarp, *Ep* Entire plant, *Fl* Flower, *Fr* Fruit, *Lf* Leaf, *Lp* Leaf pulp, *Lx* Látex, *Ro* Root, *Sd* Seed, *Sp* Spine, *Ss* Stigmas and styles, *St* Stem
Preparation form
*Dc* Decoction, *Dd* Dried, *Fm* Fermented, *Fs* Fresh, *If* Infusion, *Jc* Juice, *Ml* Molten, *Rt* Rotten, *Wm* Warmed
Mode of administration
*Bt* Baths, *En* Enema, *Ew* Eyewash, *Gg* Gargle, *In* Inhaled, *Kn* Kneaded, *Nn* None, *Oi* Oil, *Or* Oral, *Pl* Plaster, *Vp* Vapours, *Wh* Whip
All voucher specimens were collected by Corroto, Mostacero and Mejía

**Vista del valle del río Utcubamba desde el distrito de Leymebamba (Chachapoyas)**

Foto: Fernando Corroto de la Fuente

Capítulo

# 6

# What Is the Most Efficient Methodology for Gathering Ethnobotanical Data and for Participant Selection? Medicinal Plants as a Case Study in the Peruvian Andes

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# Abstract

The loss of traditional knowledge (TK) invariably continues worldwide and there is an urgent need to document and safeguard it before it vanishes. Researchers need efficient methods to document TK, taking fieldwork time and costs into account. In this study, we focused on medicinal plants to compare (1) the information provided by 600 expert and general participants from 12 localities in northern Peruvian Andes; and (2) the information gathered in semi–structured and structured interviews with 81 informants at two localities in the same area. We found that expert informants reported 91% of medicinal species and 67% of medicinal indications in less than half the time than was required to gather information from general informants. Using structured interviews yielded an increase of 18% of medicinal species and 21% of medicinal indications, but the time spent interviewing was 100% higher than in the semi–structured interviews. Overall, since time and costs are key factors often limiting ethnobotanical research, we suggest focusing on interviews with expert informants to gain efficiency. Regarding the interview method, the most efficient use of structured interviews would be in the cases or areas where (some) ethnobotanical data have been reported previously. If a researcher starts a new project and little or no previous TK data exist for a given area, we would recommend the use of semi–structured interviews. However, the available time and budget will always be key factors to be taken into account in order to select the best methodology of any TK study.

# Introduction

After the incorporation of traditional knowledge (TK) into the Convention on Biological Diversity (CBD 1992) and highlighting its value as a resource that can help to preserve, maintain, and even increase biological diversity (Becker and Ghimire 2003; Reyes–García 2014), other international organizations have followed this example. The Intergovernmental Science–Policy Platform on Biodiversity and Ecosystem Services recognizes TK as a complement to scientific knowledge for the conservation and use of biodiversity (IPBES 2018), and the World Health Organization has over the past two decades been developing strategies for the promotion of TK in complementary medicine in rural areas (WHO 2000, 2013). Under the Nagoya Protocol on Access and Benefit Sharing, local human groups are valued as owners and promoters of these cultural ecosystem services and practices, and the transmission of such knowledge about the use of their resources (UNESCO 2017).

However, at the same time, the loss of TK continues or even accelerates, because the interest in traditions and TK of different populations is globally declining, fueled by multiple changes, including (i) the loss of cultural identity (Houde 2007; Reyes–García et al. 2013a; Vandebroek and Balick 2012); (ii) the expansion of the agricultural and livestock frontier (Assefa and Hans–Rudolf 2015; Gómez–Baggethum and Reyes–García 2013; Sujarwo et al. 2014); (iii) the improvement of regional socioeconomic factors—e.g., access to medical infrastructure, roads, and markets (Almeida–Campos et al. 2019; Bellia and Pieroni 2015; Williams et al. 2012); and (iv) the loss of interest of (some) younger generations in TK (Quinlan and Quinlan 2007; Reyes–García et al. 2013b; Srithi et al. 2009). This progressive loss of TK is occurring on a global scale, both in the most developed countries (Gómez–Baggethum et al. 2010) as well as in developing countries (Baldauf and dos Santos 2012; Voeks and Leony 2004). Overall, there is an urgent need to document and safeguard TK before it vanishes (e.g., Cámara–Leret et al. 2014; FAO 2009).

The study of medicinal plants represents the documentation of one of the most significant components of TK, particularly in rural areas of developing countries (Saslis–Lagoudakis et al. 2014). Plants are an integral component of the healthcare for up to 80% of the world's population (Chen et al. 2010). Interviewing a representative part of different human communities is regarded as the most effective way to gather TK (e.g., Paniagua et al. 2018; Souto and Ticktin 2012; Van Andel and Carvalheiro 2013; Voeks 2007). However, there are two relevant factors to take into account: the type of informants and the type of interviews conducted (Davis and Wagner 2003). Many ethnobotanical studies only conduct interviews of

the general population, while some combine interviews with both expert and general informants (Cámara–Leret et al. 2014; Júnior et al. 2016; Thomas et al. 2009). Expert informants are participants recognized by the rest of the community members for their high TK, and often are regarded as the traditional healers of the community (Mugisha et al. 2014; Tongco 2007). In addition, most ethnobotanical studies focusing on medicinal plants use semi–structured interviews or structured interviews, but rarely combine both methods (Odonne et al. 2013; Pasquini et al. 2018; Zank et al. 2019). In semi–structured interviews, informants are given freedom of response with a flexible but controlled outline, whereas in the case of structured interviews the questions follow a more precise scheme (Alexiades 1996).

In this study, we compared different methods to obtain TK about medicinal plants, focusing on the type of informants and distinct forms of interview, in order to evaluate which methods would be the most efficient for data gathering. First, the medicinal plant knowledge of both expert informants and general informants was compared within the same localities. We hypothesized that most of the TK that general informants hold would also be held by the expert informants, as shown in other studies (Ajibesin et al. 2008; Tsioutsiou et al. 2019). Our hypothesis was that even working with expert informants only, we would obtain the most TK about medicinal plants in the localities, and that interviewing a small number of expert informants would require less time overall than with general informants to document most of the ethnomedicinal information of the community or locality. In other words, interviewing expert informants would take more time than interviewing other members of the community, but this would be compensated by the larger number of species and medicinal uses reported.

Second, we compared two different methods to gather TK of medicinal plants, using both semi–structured and structured interviews with the same participants, during two different time periods. Our hypothesis was that using structured interviews would guide the informants more precisely, and would allow us to document larger numbers of medicinal plant species and uses than using semi–structured interviews (Albuquerque et al. 2014; Vogl et al. 2004). At the same time, we hypothesized that structured interviews would be more time–consuming than semi–structured interviews since we need to ask for all documented species and possible categories of medicinal uses in the first method.

# Material and methods

## Study area

*The study area has been previously described in Chapter 2 (Methodology), which includes the location map (Fig. 2.1).*

To deal with the second objective, we specifically focused in two highland localities: Granada and Olleros. These localities were chosen based on three criteria: (1) geographical isolation from large cities; (2) scarce regional socioeconomic development, since they have no hospitals, large markets, tourist attractions or paved roads; and (3) small population, less than 300 inhabitants per locality (INEI, 2015).

## Data collection

*To test the first hypothesis, we worked with all data (600 interviews, 12 locations) as described in the General Introduction (Chapter 1).*

To test the second hypothesis, one year later, we gathered again ethnobotanical data of medicinal plants from 81 of our 100 previous informants in two localities (Granada and Olleros), using now a structured interview. We were unable to locate 19 out of 100 participants for different causes. We asked again all the medicinal plants already reported during our first study, following our list and asking the species by their common names and using a laptop to show them photographs of the species, in case of any doubt. We assume that leaving the one-year period between the two interviews, the TK reported during the first interview (semi-structured) could be also maintained in the second interview (structured) and at the same time, the informants do not feel uncomfortable taking again so much time to answer our questions. We noted the time it took to conduct the different types of interviews with each of the informants, to later compared them in all the cases.

## Data analysis

We classified all the reported medicinal uses in 18 categories following international standards (ICPC–2 2005) and including modifications for cultural, ritual, or magical diseases as proposed by Macía et al. (2011) and Gruca et al. (2014). Three ethnobotanical indicators were analyzed for each informant: 1) the number of medicinal plant species (NSP) reported in the respective interviews; 2) the number of medicinal plant uses (NMU), corresponding to the use of a plant part of a given species that is associated with a medicinal category and a specific

medical indication; and 3) the number of medicinal plants use–reports (NUR), corresponding to the sum of all different medicinal uses reported for the total number of known species.

To analyze the information gathered from expert informants and general informants, we first compared the mean (±SD) of the three ethnobotanical indicators obtained per type of informant and later averaged for all 12 localities. Second, we used two ethnobotanical indicators (NSP and NUR) because the global patterns of NMU and NUR yielded similar patterns. We compared total percentages that expert and general participants contributed to the NSP and NUR per locality, respectively. And finally, using these two ethnobotanical indicators, we averaged and compared them among the 12 most cited medicinal categories.

To evaluate possible differences between both interview methodologies (semi–structured and structured), we calculated a Mann–Whitney U test to seek statistically significant differences between the two interview methods for each ethnobotanical indicator. Finally, we used a general mixed linear model and its corresponding post hoc LSD Fisher test of multiple comparisons ($p < 0.05$) using only NUR with the 12 medicinal categories that yielded the highest number of records. All the analyses were performed in R 3.4.0. (R Development Core Team 2020).

# Results

## Expert informants vs. General informants

A total of 416 species of medicinal plants belonging to 107 families were registered from the 600 interviews conducted in 12 localities of northern Peruvian Andes. The expert informants represented 12.8% of the total participants interviewed. Overall, the mean of the three ethnobotanical indicators (NSP, NMU, and NUR) at the individual level was almost twice as high for the expert informants than for general informants, whereas the total number of both species and botanical families recorded from each participant group were similar (Table 6.1). The average time spent per interview was 13 times higher with the experts than with the general informants, but overall, 17 days less were spent with the expert informants.

**Table 6.1.** Comparison of three ethnobotanical indicators (NSP, the number of medicinal plant species, NMU, the number of medicinal plant uses, and NUR, the number of medicinal plant use-reports), together with plant species richness, and time spent on interviews for expert informants and general informants in 12 localities of the northern Peruvian Andes.

| Informant type | Ethnobotanical indicators | Mean±SD | Plant families | Medicinal plant species | Exclusive medicinal plant species | Average±SD interview time (min) | Total interview time (days) |
|---|---|---|---|---|---|---|---|
| Expert informants | NSP | 33.2±19.6 | 105 | 379 | 36 | 625±238 | 104 |
| | NMU | 38.1±16.2 | | | | | |
| | NUR | 40.6±22.8 | | | | | |
| General informants | NSP | 17.8±20.9 | 101 | 376 | 39 | 47±55 | 121 |
| | NMU | 18.2±22.4 | | | | | |
| | NUR | 20.8±27.6 | | | | | |

When the NSP and NUR for the two types of informants were compared per locality using the number of records gathered for each case, we found higher values for the general informants for both ethnobotanical indicators in most of the localities (Fig. 6.1). However, in four of them, the number of records of NSP and the NUR showed higher values (Fig. 6.1-B, 6.1-C, and 6.1-I) or equal values (Fig. 6.1-D) for the expert informants. On average, the expert informants contributed 46.1% of the number of records of NSP and 48.4% of the NUR, whereas the contribution of the general informants was 53.9% of the NSP and 51.6% of the NUR (Fig. 6.1).

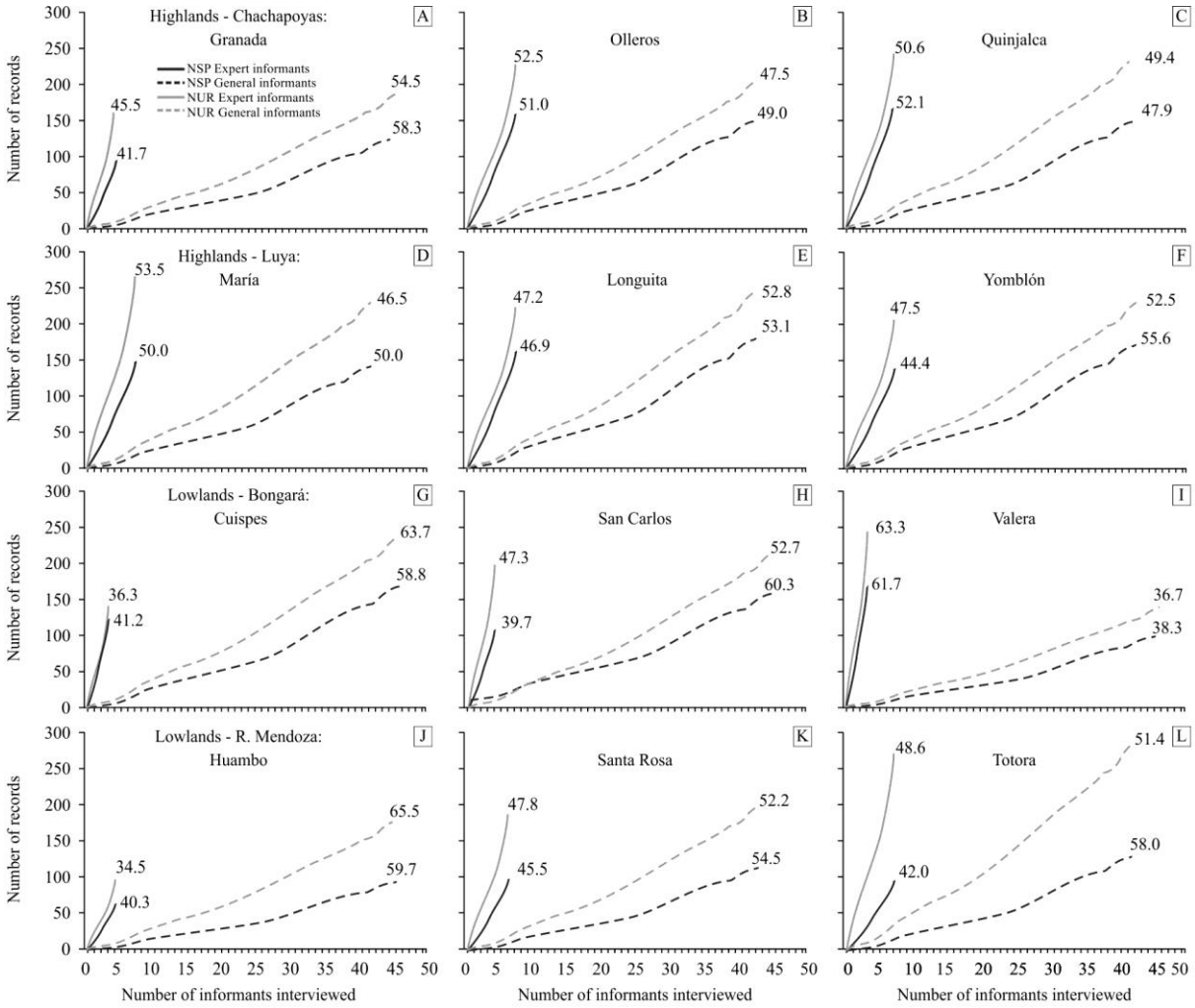


**Fig. 6.1.** Comparison of the number of medicinal plant species (NSP) and the number of medicinal plant use-reports (NUR) gathered from the expert informants and the general informants in two ecoregions and 12 localities of the northern Peruvian Andes. The numbers to the right of the lines indicate the percentages of NSP and NUR obtained within the localities, respectively.

The expert informants clearly showed higher TK of medicinal plants than the general informants in all the medicinal categories, based on the two ethnobotanical indicators tested

(Fig. 6.2). Overall expert informants reported more than twice the NSP than general informants in 6 out of 12 medicinal categories (Figs. 6.2-A, 6.2-E, 6.2-F, 6.2-J, 6.2-K, and 6.2-L). Similarly, experts reported more than twice the NUR than general participants in 5 out of 12 medicinal categories (Figs. 6.2-A, 6.2-E, 6.2-F, 6.2-G, and 6.2-L).

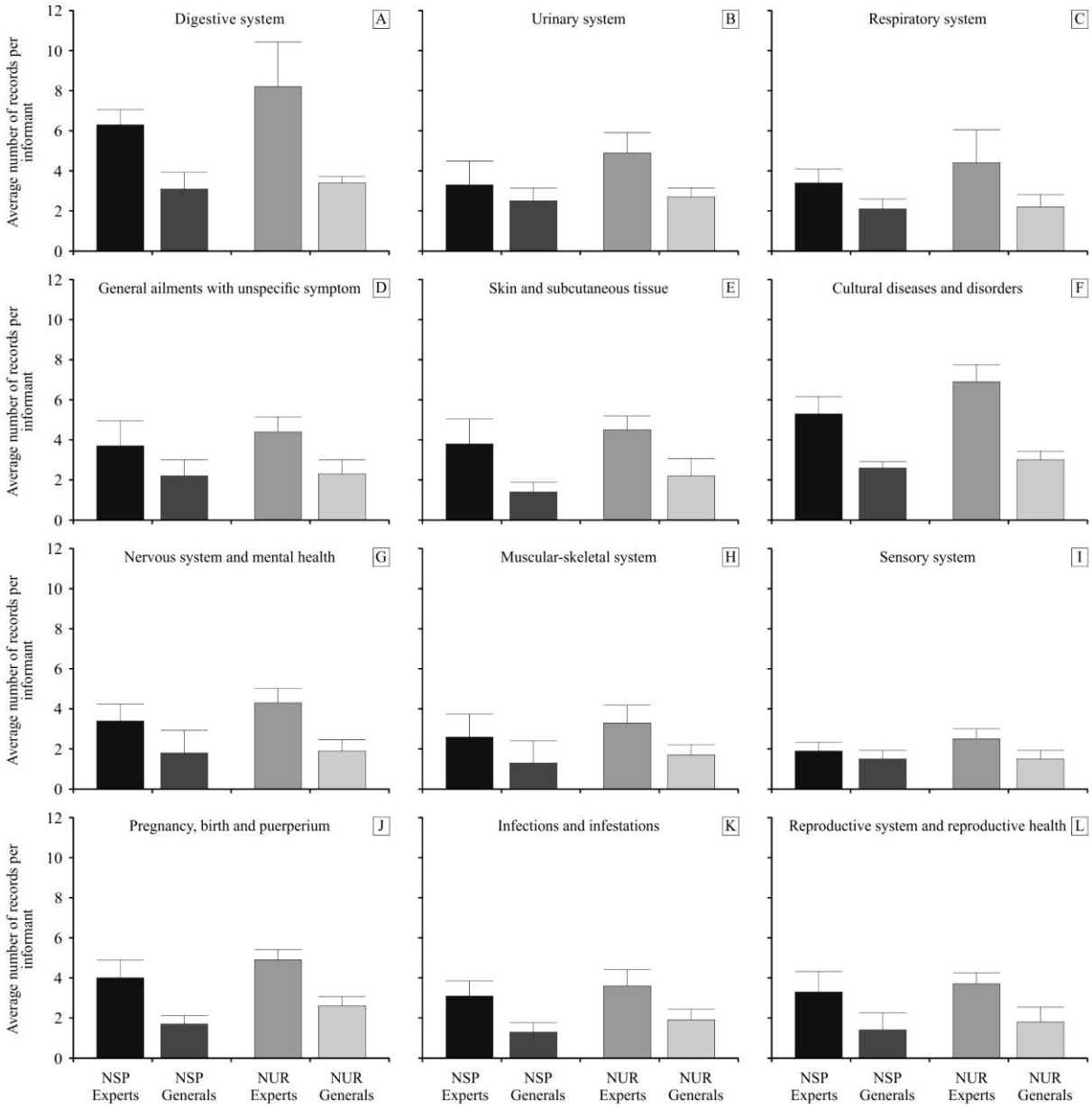


**Fig. 6.2.** Comparison of the averages of the number of medicinal plant species (NSP) and the number of medicinal plants use-reports (NUR) gathered from the expert and the general informants and broken down by the 12 most cited medicinal categories in 12 localities of the northern Peruvian Andes.

## Semi-structured interviews vs. Structured interviews

In the two localities studied twice, we recorded 249 medicinal plant species belonging to 89 plant families from 81 interviews. The information obtained with structured interviews yielded the highest numbers for all three ethnobotanical indicators (NSP, NMU, and NUR). However, the average time spent in the structured interviews was more than double that spent in the semi–structured interviews (Table 6.2). Differences between both interview methodologies were statistically significant.

**Table 6.2.** The average number of medicinal plant species (NSP), the average number of medicinal uses (NMU), and the average number of medicinal plant use-reports (NUR) of the two interview methods used with 81 informants in two localities of northern Peruvian Andes.

| Ethnobotanical indicators | Semi-structured interviews (Mean ± SD) | Structured interviews (Mean ± SD) | Mann-Whitney test between the two methods (p-value) |
|---|---|---|---|
| NSP | 25.9 ± 9.6 | 32.0 ± 16.0 | 0.01** |
| NMU | 30.7 ± 12.2 | 36.8 ± 18.4 | 0.02* |
| NUR | 32.2 ± 12.7 | 38.8 ± 19.2 | 0.02* |
| Average interview time (min) | 70 ± 26 | 150 ± 29 | - |

* indicate significant differences ($p<0.05$), and ** indicate highly significant differences ($p<0.01$)

The structured interviews reported a higher NUR than semi–structured interviews for all medicinal categories, although statistically significant differences were found in 7 out the 12 most cited categories: *Digestive system*; *General ailments*; *Skin and subcutaneous tissue*; *Cultural diseases and disorders*; *Muscular–skeletal system*; *Pregnancy, birth, and puerperium*; and *Infections and infestations* (Figs. 6.3-A, 6.3-D, 6.3-E, 6.3-F, 6.3-H, 6.3-J, 6.3-K and 6.3-O, respectively).

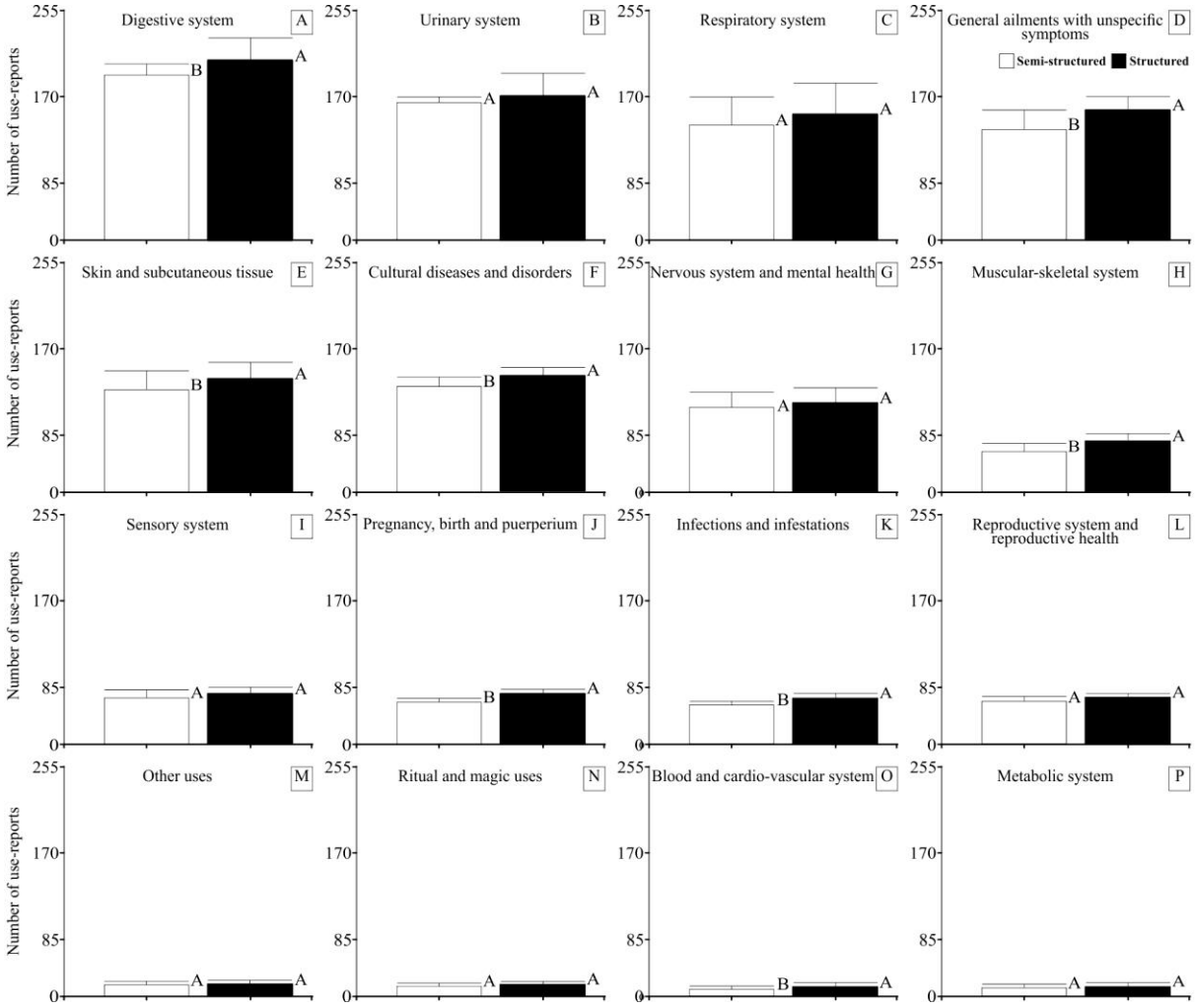


**Fig. 6.3.** Comparison of the average percentage of medicinal plants use-reports between semi-structured interviews and structured interviews based on 81 participants of Granada and Olleros localities in northern Peruvian Andes. Letters (A, B) indicate significant differences based on general mixed lineal models and its corresponding *post hoc* LSD Fisher test ($p < 0.05$).

# Discussion

## Expert informants vs. General informants

Our first hypothesis was accepted because most TK of medicinal plants could indeed be registered by only gathering data with expert informants. This means that working only with 12.8% of the total population interviewed, and spending less than half the overall time, we yielded 91% of the NSP information and 67% of the NMU. This is a very acceptable level of confidence, as also documented in earlier studies (Almeida et al. 2012; Voeks 1996). In this sense, it appears that the general informants in the study area have only a basic TK of medicinal plants, leaving the responsibility of maintaining and using more complex medicinal practices to the expert informants of each locality (Singh et al. 2012; Tongco 2007). Our study is in line

with previous studies that documented higher TK of expert informants compared to other participants (Belayneh et al. 2012; Cartaxo et al. 2010; Demie et al. 2018).

However, in most localities we gathered a higher total number of records with the general informants than with the expert informants, which easily can be explained because the number of general informants interviewed was clearly higher than the number of expert informants interviewed in all 12 localities. Thus, using the walk–in–the–woods method to gather first ethnobotanical information only with the expert participants was relevant to have a whole picture of the majority of the medicinal species used and their associated uses in the study area.

However, the differences between the two types of informants depended on the medicinal category. The TK in the categories Pregnancy, birth and puerperium, and Reproductive system and reproductive health has been documented as specialized and unique knowledge of expert women in northern Peru (Bussmann and Glenn 2010; Monigatti et al. 2013). But in case of the categories, General ailments with unspecific symptoms and Skin and subcutaneous tissue, most informants in the Andean society know plant resources to alleviate and heal such ailments (Bussmann and Sharon 2014; Ceuterick et al. 2011; De Feo 2003).

However, it is also true that TK information of medicinal plants would be incomplete if focusing only on expert informants, without having any clear idea about how such TK is distributed in a locality or region. Depending on the objectives of the studies, researchers may thus need to focus on different types of participants, taking into account, e.g., gender, age, experts, or general informants to gather the TK as complete as possible, and interviews may need to be extended to the general population to obtain more complete and representative information from the whole community (Espinosa et al. 2012; Mugisha et al. 2014).

Time and costs are two key factors that can greatly limit research efforts, and thus need to be considered carefully before conducting any work. Unfortunately, most grants in our discipline provide a limited budget, and to be executed over short periods of time. Both are fundamental variables to be taken into account in two dimensions. Thus, first, in order to collect as much information about TK in a community in the shortest time possible and thus to gain efficiency, we propose focusing interviews on the so–called expert informants (Almeida et al. 2012; Vandebroek et al. 2004). Second, there is evidence that TK transmission is decreasing worldwide and thus, we need to obtain as much information as possible of cultural ecosystem services before they are lost forever (Cámara–Leret et al. 2014; McMillen 2012; Salpeteur et al. 2016), although we also know that TK is dynamic and local populations adapt to learn new knowledge (e.g., Gómez–Baggethum et al. 2010; Reyes–García et al. 2013a), which is fundamental to the understanding of traditional medical systems nowadays.

Finally, gender and age are relevant factors in TK studies, so when possible, it should be incorporated in data collection and analyses (e.g., Corroto et al. 2019; Srithi et al. 2009). In this study, it was not possible since expert informants were very few in number in all localities and selected by local authorities, exclusively.

## Semi-structured interviews vs. Structured interviews

Our second hypothesis was also verified, because the use of structured interviews resulted in the most effective method to obtain TK information on medicinal plants. Conducting structured interviews, we obtained an increase of 18% of NSP, 21% of NMU, and 19% of NUR. Using this method, we made sure the informants had the opportunity to give information on all potential medicinal plant species used in the area (Bernard 2006), and follow past results that documented interviews elicited more TK than freelists (Paniagua et al. 2018). It is very important to gain the confidence of the informants to obtain good results, which depends on an open and collaborative role of the interviewer to succeed (Albuquerque and Hanazaki 2009). Furthermore, through the use of structured interviews, the interviewer has the opportunity to use previous knowledge about medicinal plants, making it easier for the informants to be involved in the interview (Alexiades 1996). However, at the same time, structured interviews need to be prepared more carefully, requiring previous research on the species, and might even include, as in our case, the previous photographic documentation of the species, reducing the time of the interview and minimizing the risk of misidentification (Martins et al. 2012; Nguyen 2003; Thomas et al. 2007).

The time spent in the interviews is a very important factor when conducting a large number of field interviews at different levels. Structured interviews usually take almost twice as long as semi–structured interviews, which could be a limiting factor when deciding on the method to be used in the field (Quinlan 2005). Thus, the implications of doing a pre–study to get names and plant images for the structured interviews is time demanding. This needs to be taken into account when a researcher starts a new project and little or no previous data exist for a given area. In this particular case, structured interviews may not be the most efficient method and therefore we do not recommend it.

Our results identify differences in the two interview methods; that is, semi–structured and structured interviews. However, it needs to be further tested since unidentified bias could be found. Other authors could use our study as a model to investigate potential biases from using semi–structured and/or structured interviews with different human populations elsewhere.

Finally, our results only have quantitatively analyzed TK of medicinal plants, and probably other use categories will follow this same pattern for both the type of informants and interviews, but still we need more studies to confirm that our results can be applied widely to different cultural domains.

**Bosque muy húmedo montano en la localidad de Huambo (Rodríguez de Mendoza)**

Foto: Fernando Corroto de la Fuente

Capítulo

# 7

# Discusión general

## Significancia de las especies de plantas medicinales y categorías de uso en el norte de los Andes de Perú: del campo a la ciudad

Las especies de plantas medicinales más usadas en las 12 localidades estudiadas a escala regional fueron relativamente similares a las especies más utilizadas a escala local en la ciudad de Chachapoyas, lo que permite obtener patrones conjuntos. En primer lugar, las especies con mayor importancia cultural registradas en los tres sectores de la ciudad de Chachapoyas fueron en su mayoría las mismas que las encontradas en cada una de las dos ecorregiones estudiadas (Tabla 7.1). Algunas de estas especies son comúnmente mencionadas en trabajos sobre plantas medicinales usadas en la cordillera andina, como *Minthostachys mollis*, *Matricaria recutita*, *Citrus limon* y *Plantago major*, que se repiten entre las 10 especies más citadas en ambos estudios (ej. Hammond et al., 1998; De la Cruz et al., 2007; Monigatti et al., 2013). Otras especies, como *Ruta chalepensis* u *Origanum vulgare*, se repiten hasta en cuatros de las cinco regiones estudiadas.

Muchas de estas especies no son nativas de los Andes de Perú, sino que fueron introducidas en distintos períodos y fueron cultivadas históricamente en huertos familiares. De este modo se distribuyeron estas plantas medicinales a gran escala, al mismo tiempo que en la actualidad su compra es económicamente asequible en los mercados para toda la población, tanto urbana como rural. Todo ello indica que la importancia local o regional del uso de las plantas medicinales puede depender en gran medida de su fácil disponibilidad y accesibilidad sencilla (Signorini et al., 2009; Carrió & Vallès, 2012; Brandt et al., 2013).

En el caso de *Erythroxylum coca*, se trata de una especie destacada en todas las regiones rurales, sin embargo, no aparece entre las más citadas en los tres sectores de la ciudad de Chachapoyas. Este hecho puede estar asociado al mantenimiento de las tradiciones culturales de consumo de hoja de coca del mundo rural, ya que esta continúa siendo empleada para fines ceremoniales-culturales y para fines tradicionales, más propios en los ambientes rurales andinos del país (DEVIDA, 2020).

Otro factor importante es que una especie se puede utilizar habitualmente para diferentes usos, no exclusivamente medicinales, aumentando su valor de importancia cultural al sumar el interés nutricional (González et al., 2010; Urso et al., 2016; Bulut et al., 2017). Estas especies comestibles y medicinales a la vez, denominadas nutraceúticas, pueden ser consideradas por la población local como más próximas a sus tradiciones (Pochettino et al., 2012).

**Tabla 7.1.** Comparación de las 10 especies de plantas medicinales más citadas entre las dos ecorregiones (tierras altas y tierras bajas) y los tres sectores de la ciudad de Chachapoyas (centro, área intermedia y periferia de la ciudad) estudiados en los Andes del norte de Perú. Las especies se presentan de mayor a menor número de citaciones en cada región.

| **Ecorregiones** | | **Ciudad de Chachapoyas** | | |
|---|---|---|---|---|
| **Tierras altas** | **Tierras bajas** | **Centro** | **Área intermedia** | **Periferia** |
| ***Minthostachys mollis*** | ***Minthostachys mollis*** | ***Minthostachys mollis*** | ***Matricaria recutita*** | ***Minthostachys mollis*** |
| ***Matricaria recutita*** | ***Citrus limon*** | ***Citrus limon*** | ***Minthostachys mollis*** | ***Matricaria recutita*** |
| ***Citrus limon*** | *Ruta chalepensis* | ***Matricaria recutita*** | *Malus domestica* | *Origanum vulgare* |
| ***Plantago major*** | *Bixa orellana* | *Origanum vulgare* | ***Plantago major*** | ***Citrus limon*** |
| *Ruta chalepensis* | ***Matricaria recutita*** | *Bixa orellana* | *Zea mays* | ***Plantago major*** |
| *Piper aduncum* | *Origanum vulgare* | *Ruta chalepensis* | *Equisetum bogotense* | *Equisetum bogotense* |
| *Erythroxylum coca* | ***Plantago major*** | ***Plantago major*** | *Origanum vulgare* | *Aloe vera* |
| *Equisetum bogotense* | *Erythroxylum coca* | *Erythroxylum coca* | ***Citrus limon*** | *Ruta chalepensis* |
| *Eucalyptus globulus* | *Mentha spicata* | *Mentha spicata* | *Musa acuminata* | *Piper aduncum* |
| *Sambucus peruviana* | *Aloe vera* | *Brassica oleracea* var. *acephala* | *Carica papaya* | *Mentha spicata* |

Si se comparan las categorías medicinales entre todas las regiones estudiadas a distintas escalas geográficas, se concluye que las dolencias y desórdenes del *Sistema digestivo*, las del *Sistema urinario* y las derivadas de *Dolencias generales*, son las más comunes y citadas en las cinco áreas analizadas. Estos patrones de utilización en categorías medicinales están relacionados con la relevancia de las especies más usadas, que en algunos casos están señaladas para indicaciones medicinales correspondientes a una única categoría medicinal (Hassan, 2013). No obstante, existen categorías medicinales que son mencionadas en mayor medida en el ámbito rural, a diferencia de las más citadas en los sectores urbanos más céntricos (centro ciudad y área intermedia). Esto aplica a enfermedades de la *Piel y tejidos subcutáneos* o del *Sistema músculo-esquelético*, que a pesar de ser frecuentes en cualquiera de las cinco regiones, se suelen curar en los ambientes rurales (y en la periferia de la ciudad de Chachapoyas) haciendo uso de recursos vegetales (Gedif & Hahn, 2003; De Wet et al., 2013), mientras que en el ámbito más urbano se curan habitualmente con medicina convencional, debido al mejor acceso y posibilidades económicas que suelen tener sus habitantes (Altieri et al., 1999; Ojua et al., 2013).

En términos generales, la mayoría de las especies medicinales se adquieren mediante compra en los mercados locales, en aquellas localidades y sectores en los que existen tiendas o puestos en los mercados para ello. No obstante, los porcentajes de compra de plantas

medicinales en la periferia de Chachapoyas son más bajos que en el centro de la misma ciudad, debido a que el entorno natural circundante facilita el aumento de la adquisición de especies silvestres, mostrando la importancia del contacto directo con el medio para mantener el conocimiento tradicional de plantas medicinales (Furlan et al., 2016). En el centro de la ciudad, las especies medicinales que se han registrado exclusivamente en este sector se compran en tiendas especializadas, como herbolarios, con formatos y precios propios de la medicina convencional (Mahishi et al., 2005; Van Andel et al., 2012; Castillo-Vera et al., 2017). De modo análogo, en la periferia, las especies medicinales exclusivas de este sector se recolectan únicamente del medio en estado silvestre (Wiersum et al., 2006; Pieroni, 2008; Karhagomba et al., 2013). Por tanto, la disponibilidad de tiendas o puestos especializados en la venta de plantas medicinales tienen un papel fundamental en la conservación y distribución del conocimiento tradicional ya que facilitan el acceso de las plantas a distintos sectores de la población y con precios acordes a la capacidad adquisitiva de cada sector y localidad. Y al mismo tiempo, el acceso al medio natural para la cosecha de especies es una garantía para las personas más desfavorecidas.

## Factores que determinan la distribución del conocimiento tradicional de las plantas medicinales en los Andes del norte de Perú

Esta memoria de Tesis Doctoral evidencia una clara asociación entre los factores socioeconómicos de la población local y su conocimiento tradicional de las plantas medicinales. Este patrón ocurre tanto a escala regional, entre las dos ecorregiones de los bosques montanos del norte de Perú, como a escala local, entre los tres sectores en los que se dividió la ciudad de Chachapoyas, la más importante del área de estudio. A continuación, vamos a comentar conjuntamente cada una de las variables estudiadas en relación al uso medicinal tradicional para las distintas escalas de estudio.

***Género*** – Nuestro estudio muestra que las mujeres conservan este conocimiento en mucho mayor medida que los hombres. Esto se explica porque el papel que juegan las mujeres en esta sociedad rural no ha cambiado mucho en las últimas décadas (Coelho-Ferreira, 2009). Además de las actividades de atención del hogar y del cuidado de niños y ancianos, las mujeres de esta zona son las encargadas de decidir, preparar y distribuir los alimentos, siendo las principales garantes del estado nutricional y de salud de sus familias (Kothari, 2003; Voeks, 2007; Torres-Avilez et al., 2016). El papel de la mujer es indiscutible en determinadas categorías medicinales, principalmente en la de *Embarazo, parto y puerperio*. El conocimiento sobre estas dolencias es

casi exclusivo de las mujeres, y este conocimiento se limita únicamente a hombres clasificados como informantes expertos. Así, las especies de plantas utilizadas, dónde recolectarlas, cómo prepararlas y aplicarlas, es un área importante de conocimiento andino que empodera a las mujeres en estas comunidades (De Boer & Lamxay, 2009). También en otras categorías médicas, como *Sistema reproductor y salud reproductora*, y *Sistema nervioso y salud mental*, las mujeres guardan un mayor conocimiento tradicional que los hombres. Por ello, es fundamental desarrollar nuevas investigaciones que aúnen el conocimiento de las plantas utilizadas por las mujeres en este tipo de trastornos y dolencias, como se ha hecho en otros países y realidades (ej. Barreto & Schultze-Kraft, 2014; Malan & Neuba, 2011; Vandebroek et al., 2010). Sin embargo, el conocimiento tradicional entre mujeres y hombres no sigue siempre el mismo patrón, ya que existen variaciones en algunas categorías médicas, en las que los hombres tienen niveles similares de conocimiento que las mujeres (Guimbo et al., 2011; Paniagua-Zambrana et al., 2015). Este es el caso en las categorías medicinales de *Urinary system*, *Respiratory system* y *Muscular-skeletar system*, en las que los hombres muestran patrones similares a los de las mujeres, lo que también muestra la significancia del género masculino en este área del conocimiento. Estos patrones son compartidos tanto a nivel regional como a nivel local en la ciudad de Chachapoyas, con las mismas categorías medicinales destacadas.

***Edad*** – El patrón general encontrado en ambas ecorregiones supone un aumento progresivo desde el grupo de los más jóvenes hasta los 60 años, y a partir de esta edad, el conocimiento tradicional de plantas medicinales va disminuyendo. Esta dinámica se repite en muchos trabajos etnobotánicos realizados en Sudamérica (p. ej. Byg & Balslev, 2004; Reyes-García et al., 2013b; Paniagua-Zambrana et al., 2016). Es significativo que, en algunos casos, son las generaciones intermedias las que muestran un mayor conocimiento tradicional (Reyes-García et al., 2009). Por tanto, para evitar la pérdida de conocimiento tradicional de plantas medicinales preservado por los ancianos en estos bosques montanos del norte del Perú, el conocimiento botánico debería transmitirse a las generaciones futuras antes de que la generación anterior se retire de la actividad diaria (Qureshi et al., 2007; Ayantunde et al., 2008; Kidane et al., 2018). Sin embargo, a pesar de las diferencias significativas encontradas entre los distintos grupos de edad, también se muestra que el conocimiento tradicional se mantiene, aunque en menor medida, entre la población más joven. En muchos casos, la adquisición de este conocimiento puede estar sujeta a la aparición de nuevas responsabilidades entre los grupos más jóvenes, como ser padres y el correspondiente cuidado de la salud de sus hijos (Eddouks et al., 2017). En otros casos, la falta de recursos económicos para acceder a los servicios médicos

convencionales puede ser un motivo para empezar a adquirir este conocimiento tradicional (Sher et al., 2011; Khuankaew et al., 2014).

***Economía familiar*** – Es un componente imprescindible a la hora de mantener el conocimiento tradicional (Godoy et al., 2000). Aquellas variables relacionadas con una mayor prosperidad económica, como ocurre con la tenencia de medios de transporte, herramientas, acceso a servicios tecnológicos, estado de conservación de la vivienda, tamaño de granja, o posesión de animales domésticos para su explotación, entre otras, se relacionan con un menor conocimiento tradicional. En definitiva, una mejor posición económica implica una menor dependencia del conocimiento tradicional, que a su vez se relaciona con una pérdida de interés en estos conocimientos (Shackleton & Shackleton, 2006). Del mismo modo, el hecho de poseer más herramientas y/o mejores medios de transporte, facilita la contratación de más trabajadores, y con ello, mayores ganancias, lo que en ocasiones está ligado al abandono de las actividades tradicionales, más aún cuando este nuevo nivel económico posibilita el acceso a la medicina convencional alopática (Takasaki et al., 2001).

***Desarrollo individual*** – La posesión de un mayor nivel educativo se vincula en términos generales, con un menor conocimiento tradicional. En este sentido, la educación convencional actual aleja a los estudiantes del entorno natural que los rodea y, en consecuencia, reduce las posibilidades de aprender de sus predecesores (Sylvester et al., 2016; Arruda et al., 2019). Estas mismas asociaciones negativas se dan, por lo general, con las variables de ocupación profesional laboral y estatus migratorio. La primera, sigue un patrón mixto entre la educación formal y un mejor nivel económico (Voeks & Leony, 2004). De esta manera, un nivel educativo mayor favorece la consecución de un trabajo de mayor grado, el cual suele estar relacionado con un escalón superior de ingresos y mayores posibilidades de acceso a la medicina convencional. Respecto al estatus migratorio, en este trabajo se ha encontrado un mayor conocimiento tradicional en las personas no migrantes, que han permanecido en sus localidades durante largos períodos de tiempo, respecto a las que han vivido fuera. Sin embargo, en otros estudios se ha documentado el patrón inverso, donde la migración a nuevos ambientes posibilita a algunos inmigrantes ampliar saberes y desarrollar nuevas técnicas surgidas del mestizaje de conocimientos (Pichón, 1997; Atran et al., 2002). Futuros trabajos serán necesarios para clarificar la influencia de este patrón en el conocimiento tradicional de plantas medicinales.

***Desarrollo comunitario a distintas escalas regionales*** – La existencia de mejores condiciones de desarrollo económico y de condiciones de vida en cualquier localidad de las estudiadas se relaciona con un menor conocimiento tradicional sobre plantas medicinales. En términos generales, las localidades pertenecientes a la sierra (tierras altas) tienen en común

peores infraestructuras y mayor dificultad de acceso a centros sanitarios y a mercados regionales o nacionales. Ésto lleva asociado, que sus niveles de desarrollo económico son inversamente proporcionales a los niveles de conocimiento tradicional, como también se ha documentado en otras sociedades rurales (Johnson, 1992; Mauro & Hardison, 2000; Sandlos & Keeling, 2015). Estas características socioeconómicas regionales son una ventaja para ellos cuando se trata de conservar un alto conocimiento tradicional, facilitado por el mayor aislamiento de su comunidad (Pieroni & Quave, 2005; Vandebroek, 2010). No obstante, la distribución del conocimiento tradicional entre las tierras altas y las tierras bajas andinas muestra pocas diferencias en relación a las principales categorías medicinales estudiadas. De hecho, son exclusivamente dos categorías medicinales, las que muestran diferencias significativas: *Enfermedades y trastornos culturales*, que tienen valores más altos en las tierras bajas y *Enfermedades generales con síntomas inespecíficos*, que tienen valores superiores en las tierras altas. Así, las enfermedades pertenecientes a la primera categoría se tratan con plantas medicinales que en muchos casos, su uso depende del valor cognitivo que le dan las personas (Leonti, 2011) y que a su vez puede derivar de sus marcadas propiedades organolépticas (Leonti et al., 2002). Además, estas enfermedades proceden de la cosmovisión tradicional andina, por lo que no son tratables con la medicina convencional, mientras que las segundas sí lo son (Mathez-Stiefel et al., 2012). Por estas razones, parece que la mayor prosperidad económica de los habitantes de los bosques montanos tropicales bajos favorece que no sea tan necesaria la búsqueda de alternativas tradicionales para tratar enfermedades comunes, ya que cuentan con mayores facilidades económicas para acceder a la medicina convencional.

***Desarrollo socioeconómico comparativo entre el medio rural y el medio urbano*** – Las escasas diferencias en el conocimiento tradicional de plantas medicinales entre las tierras altas y las tierras bajas andinas, también se explican a partir de una cultura común compartida entre las distintas localidades del área de estudio. Y estos mismos argumentos se mantienen en el estudio a escala local en la ciudad de Chachapoyas. De este modo, podemos obtener respuestas similares en lo concerniente al mantenimiento del conocimiento tradicional, si por un lado comparamos las tierras altas, con un menor nivel socioeconómico y mayor escasez de infraestructuras, con el sector periférico de la ciudad de Chachapoyas. De manera análoga, existen similitudes entre las tierras bajas andinas, con mayores infraestructuras y accesos a servicios diversos, con el sector del centro de esa misma ciudad, que en ambos casos tienen un menor conocimiento tradicional de plantas medicinales (Rai & Lalramnghinglova 2010; Hurrell & Pochettino, 2014; Almeida-Campos et al., 2019).

## Etnobotánica, servicios ecosistémicos, desarrollo de proyectos y perspectivas de futuro

La conservación de la etnobotánica medicinal y las personas que la practican y aplican con conocimiento de causa, incluye por un lado el estudio de la dinámica de los ecosistemas naturales donde crecen las decenas de especies, junto con la integración del componente social y cultural de las distintas poblaciones de donde surgen estos conocimientos tradicionales (Cámara-Leret et al., 2014b; Afentina et al., 2019; Kusumoto et al., 2020). Documentar y mantener este conocimiento tradicional entre las comunidades locales es de capital importancia para su sustento, supervivencia y para la conservación de la cultura tradicional, especialmente en los países en desarrollo (Kala, 2007; Ribeiro et al., 2010). En general, el conocimiento tradicional que solo poseen los informantes expertos puede representar al resto de los miembros de la comunidad, ya que los valores promedio de los indicadores etnobotánicos utilizados son muy superiores a los del resto de la población, lo que ofrece un nivel de confianza muy aceptable para su potencial documentación (Voeks, 1996; Gazzaneo et al., 2005; Almeida et al., 2012). La existencia de estos informantes expertos, todavía muy común en las zonas rurales del Perú, predomina fundamentalmente en las localidades más necesitadas y aisladas, que no cuentan con un centro de salud de atención primaria o con una posta médica, y donde su vigencia permanece casi inalterada (Maliwichi-Nyirenda & Maliwichi, 2010).

La etnobotánica posibilita el acercamiento a regiones donde existe el conocimiento tradicional sobre plantas medicinales para su estudio y documentación, con intereses básicos y aplicados, tanto para las propias comunidades locales que las utilizan, como para la propia academia, ciencia y resto de la sociedad (Cunningham, 2001). Con este objetivo, se emplean diferentes herramientas para la recuperación de los saberes tradicionales (Blin, 2006). Una de las principales dificultades que afronta un investigador a la hora de comenzar una investigación etnobotánica es decidir qué tipo de entrevistas seleccionar en la recogida de datos con la población local (Alexiades, 1996; Albuquerque et al., 2014a). Esta decisión obedece a los objetivos principales y a las preguntas que la investigación debe contestar, además del tiempo y recursos humanos y financieros disponibles (Berlin & Berlin, 2005). Conociendo estos pormenores, la elección de entrevistas abiertas o cerradas, o una combinación de ellas, será más sencilla (Peters, 1996; Monteiro et al., 2008). En nuestro caso, la metodología de entrevistas estructuradas ofreció valores más altos en cuanto a los indicadores etnobotánicos utilizados, con respecto a la metodología de entrevistas semi-estructuradas. En este sentido, parece lógico concluir que la metodología de entrevistas estructuradas es la más eficaz para extraer la mayor

cantidad de información posible. Y la principal ventaja de las entrevistas estructuradas es que a cada informante se le va a preguntar por cada una de las especies medicinales mencionadas por la comunidad en el estudio preliminar, por lo que nos aseguramos de que no se olvide de contestar sobre algunas de ellas, como puede suceder con la metodología de entrevistas semi-estructuradas (Bernard, 2006). Por el contrario, debemos considerar que el tiempo es un factor muy importante a la hora de realizar entrevistas de campo por diferentes motivos (Silva et al., 2014). Por ejemplo, los habitantes de comunidades pobres y aisladas dependen en mayor medida de sus cultivos para el autoabastecimiento, por lo que el tiempo que tienen disponible para atender a los investigadores suele ser al amanecer o al atardecer, mientras que el resto del día deben dedicarlo a sus quehaceres (Macía et al., 2011). Teniendo en cuenta que la metodología de entrevistas estructuradas suele implicar el empleo de casi el doble de tiempo que el de entrevistas semi-estructuradas por informante, esto debe ser un factor a tener en cuenta a la hora de decidir el método. Otro ejemplo puede ser que el presupuesto destinado a una investigación de este tipo alcance para un determinado período de tiempo (Savo et al., 2011). En este sentido, el investigador deberá valorar qué metodología utilizar, sabiendo que el conocimiento tradicional recogido no será completo al utilizar la metodología de entrevistas semi-estructuradas, pero sin olvidar los recursos económicos disponibles para desarrollar el estudio.

El análisis de los resultados obtenidos de este estudio, manifiesta la necesidad de continuar recolectando información etnobotánica sobre plantas medicinales debido a los grandes vacíos de información existentes en la vasta región andina (Monigatti et al., 2013; Bussmann y Sharon, 2014). Al mismo tiempo, este trabajo muestra que la cultura andina alimenta una identidad cultural común reflejada en patrones similares de la conservación del conocimiento tradicional sobre plantas medicinales (Aldunate et al., 1983; Estomba et al., 2006; Mathez-Stiefel & Vandebroek, 2012). Son las variables socioeconómicas propias de cada ecorregión las que marcan las diferencias. Por todo ello, en futuras investigaciones, pensamos que sería aconsejable comparar ecorregiones más extensas y a ser posible más distantes, con o sin influencias de la actividad turística, sanitaria o comercial, para poder comparar el conocimiento tradicional entre ellas de manera equitativa. Del mismo modo, sería recomendable llevar a cabo estudios similares al realizado en la ciudad de Chachapoyas, en otras ciudades andinas y con tamaños de población distintos, para contrastar la posible diferenciación entre pobladores de distinto poder adquisitivo. El objetivo final de estos estudios sería el de analizar si los patrones encontrados en esta ciudad se repiten en otras ciudades de la sociedad andina. En este sentido, cabe destacar que hasta la fecha la etnobotánica urbana se había enfocado casi exclusivamente

al estudio de mercados de plantas medicinales (ej. Macía et al., 2005; Bussmann et al., 2007; Tinitana et al., 2016), y este trabajo supone una novedad en la disciplina etnobotánica.

Capítulo

# 8

# Conclusiones generales

1. El uso de las plantas medicinales en los Andes del norte de Perú sigue teniendo una gran importancia local, ya que se han registrado 19686 registros de uso, 5904 usos medicinales y 465 especies a partir de las entrevistas realizadas a 1050 informantes.
2. Los factores socioeconómicos tienen una fuerte influencia en el mantenimiento del conocimiento tradicional sobre plantas medicinales a lo largo de los Andes del norte del Perú, de manera que, en función de las características personales, familiares y regionales, se podría predecir cómo sería el conocimiento tradicional de personas y localidades.
3. Las localidades que tienen un menor desarrollo socioeconómico suelen mantener un mayor conocimiento tradicional sobre plantas medicinales, debido a que estos saberes resultan imprescindibles para el mantenimiento de una buena salud y en definitiva para la subsistencia de la población.
4. Las mujeres son depositarias clave del mantenimiento del conocimiento tradicional sobre plantas medicinales en los Andes de Perú, debido a que su lugar de trabajo sigue en gran medida vinculado a su hogar, junto con el cuidado de los niños, de los ancianos y de sus huertos familiares.
5. El conocimiento tradicional se encuentra principalmente alojado en los grupos de mayor edad de la sociedad andina, aunque los mayores de 60 años tienen menos conocimiento tradicional que sus generaciones anteriores, pero todavía más elevados que los menores de 30 años, demostrando que su transmisión es divergente.
6. Los pobladores con mayor conocimiento tradicional son los que suelen tener baja formación educativa, trabajos poco especializados, han vivido en la misma región durante largos períodos de tiempo, tienen familias numerosas, escasa riqueza económica y bienes materiales, y viven en localidades con escasas infraestructuras regionales.
7. Los pobladores que viven en las localidades más aisladas o en los barrios periféricos de las ciudades, mantienen un mayor conocimiento tradicional sobre plantas medicinales que las personas que viven en localidades con mejores infraestructuras o que viven en barrios céntricos de las ciudades.
8. Aunque se han entrevistado a cientos de personas con diferentes niveles socioeconómicos, tanto en localidades a lo largo de un amplio gradiente altitudinal andino como en la ciudad de Chachapoyas, una gran parte de la población comparte el uso de las especies de plantas medicinales más importantes e indicaciones médicas, lo que se explica por la existencia de una cultura común que lo aglutina.

**9.** Los informantes expertos mantienen una gran parte del conocimiento tradicional sobre plantas medicinales del conjunto de la sociedad, por lo que, si se focalizara el estudio de documentación únicamente en ellos, se obtendría una visión bastante completa del conocimiento tradicional de esa sociedad y teniendo que emplear mucho menos tiempo en el trabajo de campo.

**10.** Futuros programas de conservación biocultural podrían integrar este conocimiento tradicional de bajo coste basado en plantas medicinales, en las políticas para mejorar el desarrollo local y la forma de vida de la población rural y de la población urbana más desfavorecida.

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# Anexo

# A

# Different patterns in medicinal plant use along an elevational gradient in northern Peruvian Andes

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# Different patterns in medicinal plant use along an elevational gradient in northern Peruvian Andes

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ABSTRACT

*Ethnopharmacological relevance:* Through the study of mestizo people that share a common culture in a large geographic region and where traditional knowledge (TK) is still poorly documented, we compared medicinal plant use in the northern Andes of Peru.

*Aims of the study*: (1) To compare patterns of the distribution of TK for a human group living between two ecoregions: high tropical montane forests vs. low tropical montane forests; (2) to understand the TK at the gender level; and (3) to analyse TK transmission over five generations.

*Material and methods:* The study was conducted in two ecoregions, four areas and 12 localities. We gathered information with 600 participants through semi-structured interviews. We worked with 3–7 expert informants per locality using the "walk in the woods" methodology for gathering ethnomedicinal information in the field. We annotated local vernacular names, medicinal indications, and collected the plants in their habitats. Then we interviewed the rest of the participants in their homes. To evaluate significant differences between highlands and lowlands, we use general mixed linear models test and its corresponding *post hoc* LSD Fisher test of multiple comparisons ($p < 0.05$) at ecoregion, gender and generation level.

*Results:* A total of 416 species belonging to 107 plant families and 13,898 use-reports were found in both ecoregions. Overall, significant differences indicated that people in the highlands had higher TK than people in the lowlands for most of the medicinal categories. Women showed higher knowledge on medicinal plants in all medicinal categories and areas in both ecoregions. However, transmission of TK showed different patterns between ecoregions. In the highlands, the TK increased from the youngest to the senior group (51–60 years), with a slight decreasing for those over 60 years, whereas in the lowlands the findings were less clear and generations with highest TK were divergent across localities.

*Conclusion:* TK on medicinal plants is still widely applied in the tropical montane forests of northern Peru. The localities with less prosperous socioeconomic development (highlands) were the areas with higher TK on medicinal plants. Women are mainly the depositories of the traditional medicine. The older generations maintain most of the TK in the highlands, whereas in the lowlands the TK is more widespread across generations. Future conservation programs on medicinal plants should understand who are the generations depositaries of the TK before dedicate any effort.

## 1. Introduction

The traditional medicine based on plants has been maintained through history, especially in remote rural areas and among ethnic minorities of modern society, as a necessity for people with few economic resources or inaccessible medical assistance (Macía et al., 2005; Heinrich et al., 2006; Leonti and Casu, 2013). Nowadays, there are clear evidences of the fading of traditional knowledge (TK in the following) indicating that the chain of oral transmission between generations is breaking (Reyes-García et al., 2013; Paniagua-Zambrana et al., 2016). In response, the World Health Organization has among its objectives for the 2014–2023 decade, the recovery of popular knowledge about medicinal plants as an alternative for primary health care, mainly in the poorest regions of developing countries (WHO, 2013).

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This is the case of Peru, with at least 3000 species of medicinal plants documented (Mostacero et al., 2011). In the last decade the number of studies on medicinal plants has significantly increased in the country, and specifically in the Andean region (e.g. De la Cruz et al., 2007; Bussmann and Glenn, 2010; Mathez-Stiefel et al., 2012; Gonzales et al., 2014), although the eastern flank of the northern Andes is still scarcely studied (Bussmann and Sharon, 2006; Schjellerup et al., 2009).

In the tropical montane forests of northern Peru are living mestizo communities under different environmental conditions and socio-economic factors, which determine their life habits and also the use of medicinal plants in their surroundings. Along more than 2000 m in elevation, people have a culture relatively common that shares common human ancestors integrated into the territory of the prehispanic culture (Monigatti et al., 2013).

Generally, gender and age are key factors which determine the distribution of TK (Lambaré et al., 2011; Sousa Júnior et al., 2013). Women are the main vehicle for transmitting this knowledge in rural societies because they usually assume the main responsibilities of child and elders care (McDade et al., 2007; Wayland and Walker, 2014) although men showed a greater TK in some cases (e.g. Albuquerque et al., 2011; Paniagua-Zambrana et al., 2014). On the other hand, elder people are commonly the depositaries of ethnobotanical wisdoms and customs due to their accumulation of knowledge over time (Upadhyay et al., 2010). However, this knowledge can be evenly distributed among several age groups, even showing higher records in younger age groups by vertical, horizontal or oblique TK transmission (Idolo et al., 2010; Almeida et al., 2015).

In this work we have three objectives: (i) to compare the use of medicinal plants for a human group with a similar culture and living between two ecoregions: high tropical montane forests vs. Low tropical montane forests. We hypothesize that people with less economic resources and possibilities of resource exploitation will have greater traditional knowledge, which corresponds to the communities living in the highlands (Vandebroek, 2010); (ii) to analyze the distribution of TK on medicinal plants and gender equality between the two ecoregions. We expect women have a greater TK than men, due to the division of labour, where women mainly dedicate to the family health care whereas men mainly carry out agricultural and livestock work, or work outside their localities (Pfeiffer and Butz, 2005; Sher et al., 2015); and (iii) to understand the TK transmission over generations: 18–30, 31–40, 41–50, 51–60, > 60 years old between ecoregions. We expect elders have a greater TK than youngers due to their progressive accumulation of knowledge along their lives (Koster et al., 2016).

## 2. Methods

### 2.1. Study area

The study was conducted in the tropical montane forests of the Amazonas Department, in the eastern slopes of the northern Andes in Peru (Fig. 1). We worked in two different ecoregions according to their elevation: high tropical montane forests located between 2500 and 3500 m and low tropical montane forests, situated between 1500 and 2500 m. Both ecoregions have a seasonal climate, with a wet season from November to May and a dry season from June to October. In the highlands the annual average temperature is 14 °C and annual average rainfall is 780 mm, whereas in the lowlands is 19 °C and 900 mm, respectively (SENAMHI , 2017).

We studied two different areas per ecoregion and three localities per area (Fig. 1). In the highlands, the areas were: (1) Luya province, in the upper basin of the Utcubamba river and localities of Longuita, María and Yomblón; and (2) Chachapoyas province, in the upper basin of the Imaza river and localities of Granada, Olleros and Quinjalca. This ecoregion is mainly characterized by shrub vegetation and grassland extensions in a steep topography. The state of conservation is better than in the lowlands, but commonly altered by livestock pastures and agricultural activities of limited area (Young and León, 1988; Encarnación and Zárate, 2010). In the lowlands, the studied areas were: (1) Rodríguez de Mendoza province, in the middle basin of the Leiva river and localities of Totora, Santa Rosa and Huambo; and (2) Bongará province, in the middle basin of the Utcubamba river and localities of Valera, Cuispes and San Carlos. The conservation status of this ecoregion is discontinuous, with small patches of well-preserved forest but most areas are occupied by agriculture and livestock pastures (Schjellerup et al., 2009).

The population of both highlands and lowlands is conformed by spanish speaking mestizos. There are healers in every locality in both ecoregions, but they do not devote themselves exclusively to this labour. People respect them and sometimes visit them, particularly in cases of cultural and ritual diseases. Common diseases are usually treated with plants within the family and mainly by the elder females. A health post exists in each locality, without laboratories and with a limited supply of medicines, but fulfill the basic needs of their inhabitants. When more serious health problems happened, they need to go to Chachapoyas's city, where a hospital exists. The limitation arises among the inhabitants with less economic resources, mainly from the localities of Chachapoyas and Luya provinces, which not always are able to move in time to the hospital. The road conditions are highly variable along the year, but it usually takes 3–5 h.

The principal source of income in the highlands is obtained from beef cattle work and complemented with small scale vegetable crops, such as corn, beans and potatoes. They have difficult access to suitable infrastructures and limited access to basic health services, like drinking water supply. The population of the lowlands is mainly dedicated to coffee, corn and sugar cane cultivations, which sometimes is complemented with a diverse livestock of cows, pigs and sheeps. They have the facility to fish in rivers and lakes and commercialize their products. Overall, they have better infrastructure with nearby health services or hospitals, water treatments plants, and more prosperous economic conditions than population in the highlands. The population living in the six localities of the highlands is estimated at 3025 inhabitants, whereas in the six localities of the lowlands at 5865 inhabitants (INEI, 2015).

### 2.2. Data collection

To gather information about the uses of medicinal plants by local people, we carried out 50 semistructured interviews in each of the 12 localities of the Peruvian montane forests, totalling 600 interviews from July 2016 to May 2017. In the localities, we interviewed two types of informants: experts and generalists. The expert informants were those who have a greater knowledge of medicinal plants in their ecoregion and were chosen by the leaders of the respective localities. We interviewed 3–7 expert informants per locality, totalling 77. Experts were mostly women (62%) and older than 40 years (92%). With these informants, we used the “walk in the woods” methodology for gathering ethnomedicinal information in the field dedicating between 1 and 3 days with each person. We annotated local vernacular names, medicinal indications, and collected the plants in their habitats. For some species collected in sterile conditions and that could not be identified to species level, we carried out a second field trip to try to find them fertile.

Once the work with the expert informants was completed in a given locality, we listed all the medicinal plants, popular names, and diseases mentioned by these participants. Doing so, we have a full picture of the plant diversity and medicinal uses of the locality. Later, we worked with the general informants in their homes, interviewing one member of the different families (houses) in the locality, to gather as much distinct information as possible and to cover a larger portion of the local population. Using the list, we can be sure of the identification of the species during the interviews with the general participants. Within each locality, we seek for a balance in terms of gender and age. Informants were divided into five age groups: 18–30, 31–40, 41–50, 51–60

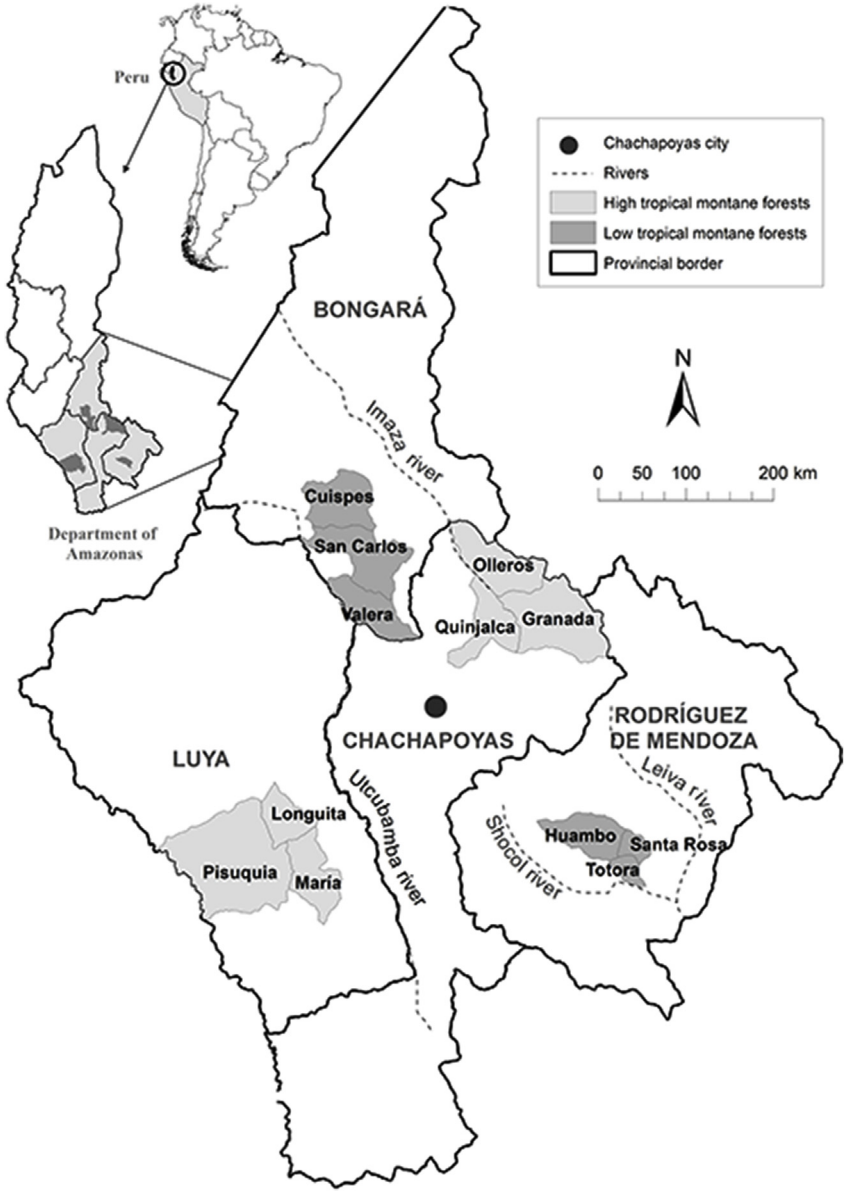


**Fig. 1.** Map of the study area in northern Peruvian Andes showing the two ecoregions (high and low tropical montane forests), the four areas, and the 12 localities where medicinal plants uses were gathered in 600 interviews.

and > 60 years old. In the locality of Granada we could only interviewed to one informant > 60 years.

All collected specimens were deposited in the Herbarium Truxillense (HUT) with duplicates at the Universidad Nacional Toribio Rodríguez de Mendoza de Amazonas (Peru). The scientific names followed *The Plant List* (The Plant List, 2018) and the family taxonomic classification followed the *Angiosperm Phylogeny Group* (Byng et al., 2016).

### 2.3. Ethics statement

Research was carried out according to the Convention of Biological Diversity taking into account the Bonn guidelines and the Nagoya Protocol (SCBD, 2002, 2011). A written permission was obtained from each locality leader. Informed consent was orally obtained from all participants and before conducting interviews. Interviewees could stop responding at any time and were informed that all data provided would be anonymized. The ethics committee of the Autonomous University of Madrid aproved this statement (CEI 73–1327 to M.J. Macía).

### 2.4. Data analysis

All the medicinal indications were classified into 18 categories following international standards (Cook, 1995) with additional modifications to adapt them to tropical regions and to include properly cultural diseases (Macía et al., 2011; Gruca et al., 2014) (Appendix A). To evaluate TK on medicinal plants across localities, we used four ethnomedicinal indicators: total number of useful plant species, medicinal uses, medicinal use-reports, and average number of uses per species. We define (1) a “medicinal use” as the use of a plant part of a species that is associated with a medicinal category for a particular disease or ailment (Paniagua-Zambrana et al., 2014); and (2) a “medicinal use-report” as the medicinal use defined previously and associated to an informant.

To evaluate possible significant differences between highlands and lowlands, we use the 15 medicinal categories with the highest number of use-reports (200 or more) using general mixed linear models and its corresponding *post hoc* LSD Fisher test of multiple comparisons ($p < 0.05$). Similarly, we run analyses to compare TK between women

**Table 1**
Ethnomedicinal data gathered in two ecoregions, four areas, and 12 localities of the tropical montane forests of northern Peru.

| Ecoregion | Areas | Localities | Elevation (m) | No. plant species | No. medicinal uses | No. use-reports | Average ( ± SD) number of uses per species | No. men interviewed | No. women interviewed |
|---|---|---|---|---|---|---|---|---|---|
| High tropical montane forests | All | All | | 354 | 2636 | 8628 | 5.9 ( ± 2.3) | 152 | 148 |
| | Chachapoyas | All | | 254 | 1192 | 4806 | 4.0 ( ± 2.4) | 75 | 75 |
| | | Granada | 3454 | 145 | 457 | 1459 | 2.9 ( ± 2.6) | 25 | 25 |
| | | Olleros | 3442 | 190 | 598 | 1613 | 2.8 ( ± 2.6) | 27 | 23 |
| | | Quinjalca | 3198 | 189 | 598 | 1734 | 2.7 ( ± 2.2) | 23 | 27 |
| | Luya | All | | 301 | 1673 | 3822 | 4.7 ( ± 2.5) | 77 | 73 |
| | | María | 2743 | 190 | 648 | 1244 | 3.0 ( ± 2.6) | 27 | 23 |
| | | Longuita | 2758 | 221 | 707 | 1246 | 2.8 ( ± 2.4) | 24 | 26 |
| | | Yomblón | 2920 | 210 | 729 | 1332 | 3.0 ( ± 2.9) | 26 | 24 |
| Low tropical montane forests | All | All | | 326 | 1638 | 5270 | 4.2 ( ± 2.2) | 149 | 151 |
| | Bongará | All | | 273 | 1187 | 3306 | 3.7 ( ± 2.1) | 75 | 75 |
| | | Cuispes | 1891 | 183 | 557 | 1258 | 2.6 ( ± 2.4) | 25 | 25 |
| | | San Carlos | 2013 | 175 | 476 | 1307 | 2.4 ( ± 2.0) | 25 | 25 |
| | | Valera | 1908 | 192 | 491 | 741 | 2.4 ( ± 2.2) | 25 | 25 |
| | Rodríguez de Mendoza | All | | 223 | 689 | 1964 | 2.7 ( ± 1.5) | 74 | 76 |
| | | Santa Rosa | 1759 | 145 | 282 | 613 | 1.7 ( ± 1.3) | 26 | 24 |
| | | Totora | 1655 | 146 | 332 | 995 | 2.0 ( ± 1.6) | 23 | 27 |
| | | Huambo | 1683 | 121 | 242 | 356 | 1.9 ( ± 1.3) | 25 | 25 |

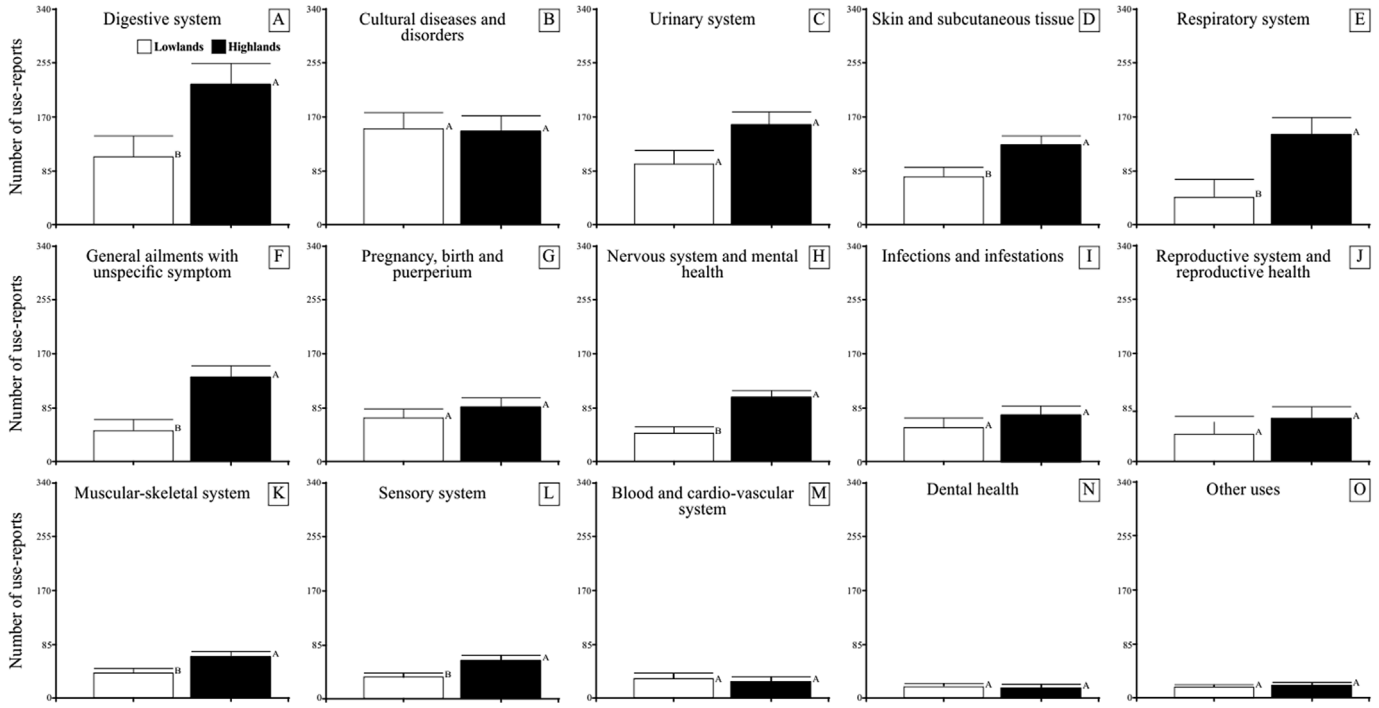


**Fig. 2.** Mean percentage of medicinal plants use-reports found comparatively in low tropical montane forests and high tropical montane forests based on 600 interviews in northern Peru. Letters (A, B) indicate significant differences based on general mixed lineal models and its corresponding *post hoc* LSD Fisher test ($p < 0.05$).

and men. Finally, to analyze TK transmission between age groups, we used the average percentages of use-reports per generation in mixed general linear models across localities. All analyses were performed in R 3.4.0. (R Development Core Team, 2017).

## 3. Results

### 3.1. Distribution of TK along the elevational gradient

A total of 13,898 use-reports, 3720 medicinal uses and 416 species belonging to 107 families were found in 600 interviews conducted in four areas, and 12 localities of two different ecoregions in the montane forests of northern Peru (Table 1). Medicinal plants and uses are shown in the supplementary material. Comparatively, 354 species and 8628 use-reports were mentioned in the highlands and 326 species and 5270 use-reports in the lowlands. The most representative families in the highlands were Compositae (12.3% of total use-reports), Lamiaceae (10.7%) and Solanaceae (6.3%), whereas in the lowlands were Lamiaceae (13.5%), Compositae (9.8%) and Rutaceae (7.3%). The most cited species in the highlands were *Minthostachys mollis* (Benth.) Griseb. (3.7% of total use-reports), *Matricaria recutita* L. (3.6%) and *Citrus limon* (L.) Osbeck (2.8%), whereas in the lowlands were *Minthostachys mollis* (6.2%), *Citrus limon* (3.3%) and *Ruta chalepensis* L. (2.4%). On the other hand, the most versatile species in the highlands were *Citrus limon*, cited for uses in 15 medicinal categories, followed by *Erythroxylum coca* Lam. and *Ruta chalepensis*, both cited in 14 medicinal categories. Similarly, in

the lowlands the most versatile species were *Citrus limon*, cited for uses in 14 medicinal categories, followed by *Matricaria recutita* and *Ruta chalepensis*, both cited in 11 medicinal categories. The species *Sambucus peruviana* Kunth, *Ullucus tuberosus* Caldas, and *Physalis peruviana* L. were highly used in the highlands and just marginally used in the lowlands, whereas *Bixa orellana* L., *Passiflora edulis* Sims and *Ocimum basilicum* L. were highly used in the lowlands and rarely in the highlands.

In general terms, people in the highlands had higher TK than in the lowlands, according to the four ethnomedicinal indicators used (Table 1). Rodríguez de Mendoza (lowlands) was the area that showed the lowest numbers of TK. In Bongará (lowlands), we found a higher number of plant species than in Chachapoyas (highlands), but the other three ethnomedicinal indicators were lower. Within the highlands, Luya scored higher in three out of the four indicators, only surpassed by Chachapoyas in the number of use-reports.

In the highlands, 12 out of 18 medicinal categories showed higher number of use-reports than in the lowlands with *Digestive*, *General ailments, Nervous* and *Respiratory systems* cited more than double (Fig. 2A, 2E, 2F and 2H). The remaining six medicinal categories scored higher in the lowlands, but most of them were among the categories with the lowest number of use-reports. *Cultural diseases and disorders* (Fig. 2B) and *Ritual and magic uses* (data not shown) showed slightly higher values in the lowlands. The two areas in the highlands showed similar values of use-reports: Chachapoyas scored higher in nine categories whereas Luya did so in the other nine categories. However, in the lowlands, Bongará showed higher values of use-reports in all categories compared to Rodríguez de Mendoza.

Significant statistically differences were found in seven out the 15 most cited categories along the elevational gradient: *Digestive system*, *General ailments*, *Muscular-skeletal system, Nervous system*, *Respiratory system*, *Sensory system* and *Skin and subcutaneous tissue* (Fig. 2A, 2D, 2E, 2F, 2H, 2K and 2L). All these categories scored higher in the highlands. Among the eight categories that did not have significant statistically differences between ecoregions, three of them showed higher percentages of use-reports in the lowlands (*Blood and cardio-vascular system, Cultural diseases and disorders*, and *Dental health*) (Fig. 2B, 2M and 2N), and five categories in the highlands (*Infections and infestations, Pregnancy, birth and puerperium*, *Reproductive system and reproductive health, Urinary system* and *Other uses*) (Fig. 2C, 2G, 2I, 2J and 2O).

### 3.2. Gender distribution of TK on medicinal plants

Overall, women showed a higher percentages of use-reports in all medicinal categories and areas in both ecoregions with the exception of *Cultural diseases and disorders* in Luya province (Fig. 3B), and *Muscular-skeletal system* and *Urinary system* in Luya and Rodríguez de Mendoza (Fig. 3C). We found significant statistically differences in the distribution of TK between men and women in all medicinal categories except in *Cultural diseases and disorders*, *Dental health* and *Muscular-skeletal system* (Fig. 3B, 3N and 3K). Women cited more than double use-reports than men in the categories of *Blood and Cardio-vascular system*, *Pregnancy, childbirth and puerperium* and *Reproductive system*, with the exception of Luya province (Fig. 3G, 3J and 3M). This was also the case in *Metabolic system* and *Ritual and magical uses* (data not shown).

Basically, women and men used the same most versatile medicinal species. The most used species by women were *Minthostachys mollis* (2.5% of total use-reports), *Matricaria recutita* (1.9%), *Citrus limon* (1.6%) and *Ruta chalepensis* (1.6%), whereas by men were similar: *Minthostachys mollis* (2.1% of total use-reports), *Citrus limon* (1.4%), *Matricaria recutita* (1.2%) and *Plantago major* L. (1.2%).

### 3.3. TK transmission across age groups

In the highlands, the TK of medicinal plants increased from the youngest (18–30 years) to the senior group (51–60 years), with a slight decreasing for those over 60 years in all localities (Fig. 4A–F) where statistically significant differences were found across groups. In the lowlands, the findings were less clear. In the Totora and Huambo localities, the pattern was similar to the highlands (Fig. 4K–L), but was not statistically significant. However in two other localities (Cuispes and San Carlos), the highest TK was recorded in the elders age group (Fig. 4G and 4H), whereas in Valera and Santa Rosa, the highest TK was reported in the middle age groups (Fig. 4I and 4J), although only in two of these cases were statistically significant (Fig. 4H and 4I). It is surprising the high percentage of use-reports found in Valera for the senior group (51–60 years), which represented more than double than the other four groups (Fig. 4I).

*Minthostachys mollis*, *Matricaria recutita* and *Citrus limon* were the three species most highly used across generations. *Plantago major* was very used for the three younger age groups, whereas *Melissa officinalis* L. was so for the 31–50 years generations, and *Erythroxylum coca* and *Sambucus peruviana* for the 41–60 age groups.

## 4. Discussion

### 4.1. Elevational gradient

Traditional medicine is still widely practiced in the tropical montane forests of northern Peru. We found a higher number of medicinal species and medical indications than previuos studies in other Andean regions of the country (Hammond et al., 1998; De la Cruz et al., 2007; Huamantupa et al., 2011; Monigatti et al., 2013; Gonzales et al., 2014). Several factors can explain these results including the large area covered in our study, the stratified sampling across different age groups, the gender balance of the interviewers, the high number of informants, and the special focus posed on the expert informants.

The TK on medicinal plants was higher in the highlands than in the lowlands, which accept our first hypothesis. This can be explained by at least four variables. First, the socio-economic factors differentiate clearly the population in the ecoregions, being the lowlands more prosperous with permanent crops, land suitable for forestry production, fishing areas and greater economic income coming from tourism (Almeida et al., 2010). On the contrary, the economic resources in the highlands are more scarce, with predominance of subsistence crops or based on milk production of extensive beef cattle farming. So, areas with greater socio-economic development tend to be areas with lower TK on medicinal plants, such as the case of Rodríguez de Mendoza, that also have been reported in other studies (Kunwar and Bussmann, 2008; Lira et al., 2009; Vandebroek, 2010). Second, migration processes to urban areas. In the lowlands it took place mainly from the 90s, whereas in the highlands occurred only from the last decade (INEI, 2008, 2009). Migration use to cause rapid cultural and socio-economic changes that usually produce the loss of TK from one generation to the next (Takasaki et al., 2001; Reyes-García et al., 2013), which surely ocurred in the lowlands by a reduction in the use of medicinal plants. Third, the isolation of the localities in the highlands and the lack of health services and infrastructures resulted in a more prominent use of the traditional medicine as previously have been reported in other studies (Benz et al., 2000; Byg et al., 2007; Leonard et al., 2015). Fourth, the environmental conditions of the two ecoregions. In the highlands, the population is living in a more adverse and extreme climatic conditions than the population in the lowlands, and probably have produced more ailments and disorders of the *Respiratory system* (De la Cruz et al., 2007), and *General diseases*, such as fever and headache (D'Arcy, 2004). At the same time, remedies for disorders and diseases of the *Digestive* and *Urinary systems* were mainly found in the highlands. This can be explained because they have not implemented water treatment for human consumption that surely affect more assiduously to their gastrointestinal and urinary problems (Collins et al., 2006; Pareek and Kumar, 2013). Concerning *Cultural diseases and disorders*, TK was widely shared in both ecoregions with slightly higher values in the lowlands. This medicinal category includes diseases like *susto*, *gentil*, *tacsho*, *tijte, pulsario*,

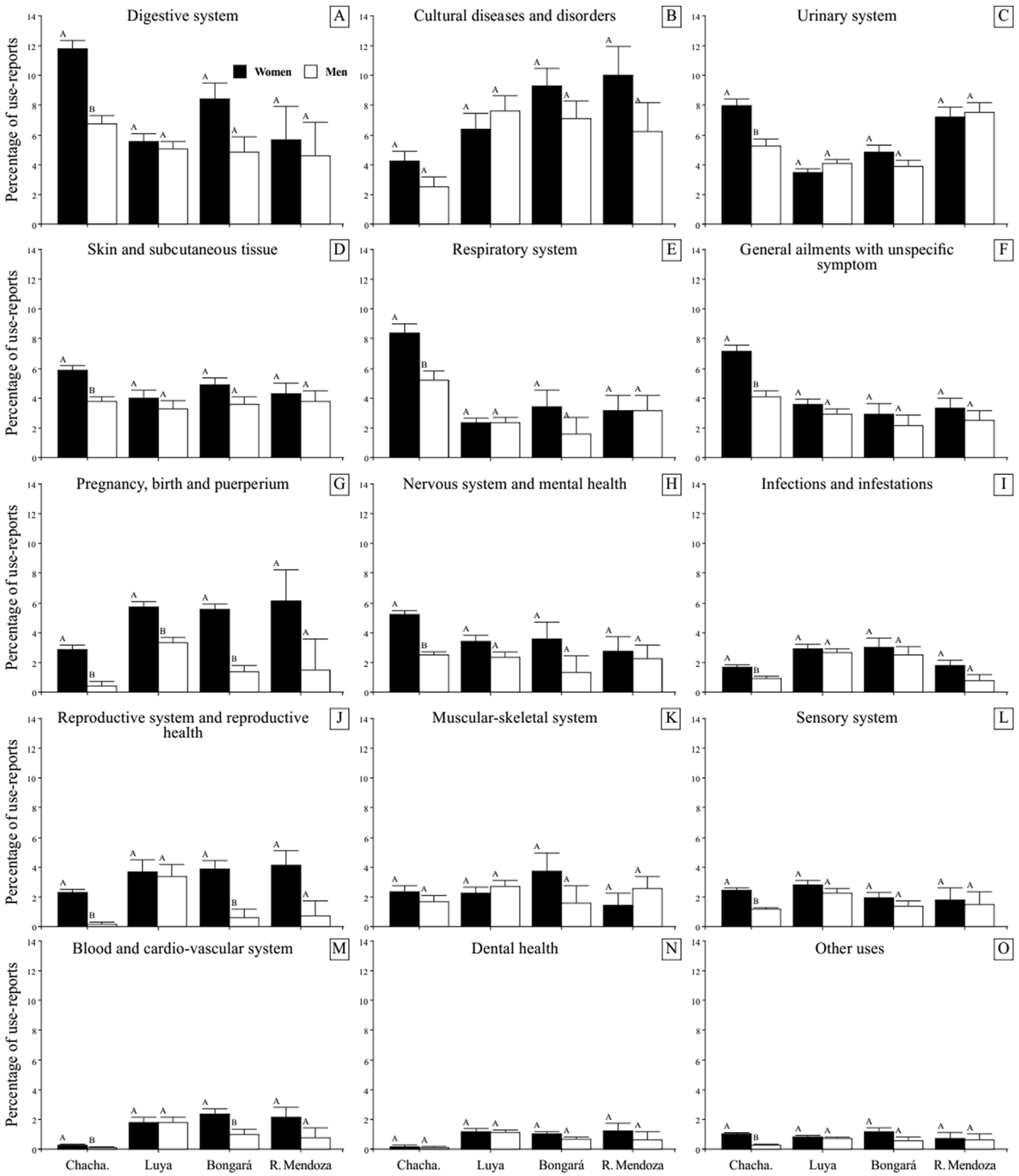


**Fig. 3.** Mean percentage of medicinal plants use-reports analyzed between women and men for four areas and the 12 localities in northern Peruvian Andes. Letters (A, B) indicate significant differences based on general mixed lineal models and its corresponding *post hoc* LSD Fisher test ($p < 0.05$).

*shucaque*, *shadow* or *dispela* that came from traditional Andean medicine and are not treatable with the conventional medicine. However, traditional medicine treat them with medicinal plants (e.g. Macía et al., 2005; Mathez-Stiefel et al., 2012; Gonzales et al., 2014).

In contrast with the results found in the provinces of Rodríguez de Mendoza and Chachapoyas, the localities of Bongará (lowlands) showed a similar TK than the localities of Luya (highlands). This can be explained by geographic, touristic and commercial factors. First, the road communication between the localities in Bongará and the localities in Luya (with the exception of Yomblón), has been recently

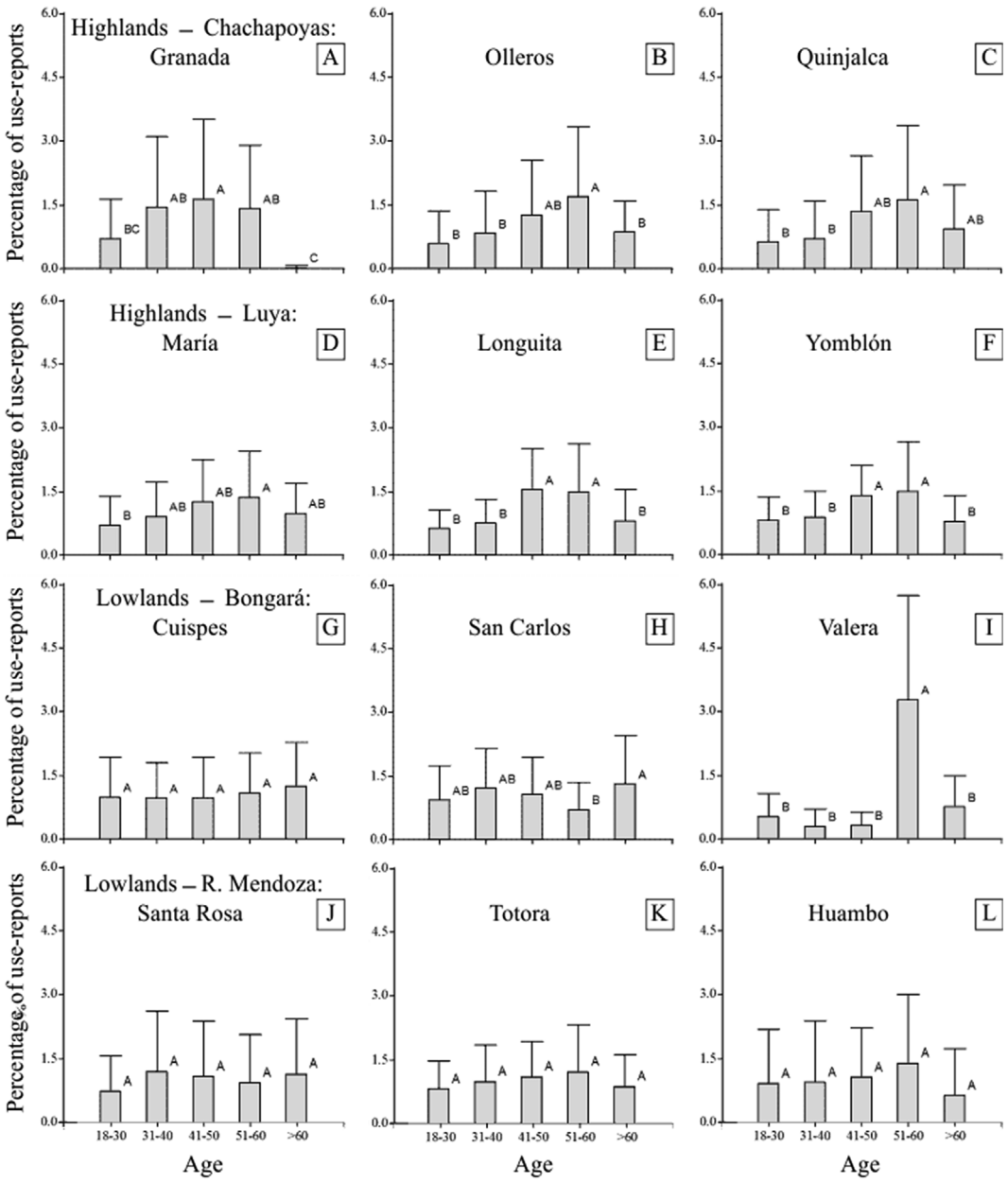


**Fig. 4.** Mean percentage of medicinal plants use-reports broken down by five age cohorts in six localities in the highlands (A–F) and six localities in the lowlands (G–L) in the northern Andes of Peru. Letters (A, B, C) indicate significant differences based on general mixed lineal models and its corresponding *post hoc* LSD Fisher test ($p < 0.05$).

paved and then has enabled the communication of people between both areas, generating a flow of information that also facilitates the exchange of TK. Second, both areas have the two most visited tourist sights in the Department of Amazonas: Kuélap prehispanic archaeological complex in Luya and the Gocta waterfall (771 m) in Bongará. These two tourist attractions have produced an increase in the number of visitors in these two provinces, which have increased the services offered and therefore have produced better economic development among its inhabitants, respectively. Third, one of the most important street markets in the ecoregion is weekly organized between the two areas, and regularly attracts merchants and buyers from the six locations, which again facilitate the transfer of knowledge and could have conformed a major similarity in TK between the areas (Gazzaneo et al., 2005).

The most cited plant families in our study are included among the most important in other Andean medicinal plants works, being Compositae as the family with the highest number of medicinal species, and Lamiaceae, Solanaceae and Leguminosae among the most important families (e.g. Fernandez et al., 2003; Tene et al., 2007). The same applies for the most used species in both ecoregions. *Minthostachys mollis*, *Matricaria recutita*, *Ruta chalepensis*, *Citrus limon*, *Plantago major* and *Erythroxylum coca* are commonly cited in any Andean ethnomedicinal work for similar uses (e.g. Bussmann and Sharon, 2006; Armijos et al., 2014; Gonzales et al., 2014). On the other hand, species more suitable in the highlands such as *Sambucus peruviana*, *Ullucus tuberosus* and *Physalis peruviana* or species prevalently found in the lowlands such as *Bixa orellana*, *Passiflora edulis* and *Ocimum basilicum* showed great use differences between ecoregions. These differences can be explained by the easier availability of these species in one of the ecoregions and the prevalence of diseases associated to each ecoregion (Monigatti et al., 2013).

### 4.2. Gender and TK

Women are the keepers of the traditional medicinal knowledge in northern Peruvian Andes and therefore our hypothesis is accepted. This can be explain because women workplace is usually linked to their home, taking care of children and the elders, and to their homegardens and orchards (Coelho-Ferreira, 2009; Baliano et al., 2015). Often these homegardens are reservoirs of medicinal plants that women use as a family medicinal resource in most Andean societies (Finerman and Sackett, 2003). Many earlier studies conducted in the Andean regions are in line with our hypothesis, indicating that women are the main connoisseurs and transmitters of this TK in these countries (e.g. Perry and Gesler, 2000; Arango, 2004; Gonzales et al., 2014; Zambrano et al., 2015). The role of women is almost exclusive in the application of medicinal plants in some domains, such as *Pregnancy, childbirth and puerperium* and *Reproductive system* (Vandebroek et al., 2010; Malan and Neuba, 2011; Barreto and Schultze-Kraft, 2014).This knowledge is only limited to expert men informants in our study. However, there are other works in which men showed a greater TK on medicinal plants which resulted from the division of responsibilities (Paniagua-Zambrana et al., 2014) or due to their greater participation in agriculture or livestock activities (Vandebroek et al., 2004; Albuquerque et al., 2011). So future conservation programs should mainly focus on women to preserve the traditional medicine in this Andean ecoregions.

### 4.3. Age and transmission of TK on medicinal plants

In the highlands and some localities of the lowlands, the TK on medicinal plants increased from the youngest to the seniors and then decreasing progressively to the elders, so our hypothesis that elders have a greater TK than youngers is only partially accepted. This general pattern is also found in other studies throughout the world where older people are less affected by external influences, and therefore maintain their beliefs and TK acquired in the past (Byg and Balslev, 2004; Zabihullah et al., 2006; Srithi et al., 2009; Menendez-Baceta et al., 2014; Paniagua-Zambrana et al., 2016). Nevertheless, there is a lack of consensus on the relationship between age and TK on medicinal plants (Almeida et al., 2015). Some factors that explain this diacronic TK are related to the loss of interest from younger generations in traditional medicine (Eyssartier et al., 2008) and the more common use of medicaments that produce more rapid effects to alleviate diseases or ailments (Giday et al., 2003).

During the last 20 years, basic medical posts have been implemented in each of the studied localities in both ecoregions. It can be an explanation for the loss of knowledge among younger groups, because they had an easier access to the conventional medicine services which may entail to not use TK on medicinal plants (Ayantunde et al., 2008; Ladio and Lozada, 2009; McMillen, 2012). This pattern is clear in all the studied localities in the highlands but only happen in some localities of the lowlands. The other localities of the lowlands are suffering the abandonment of their TK on medicinal plants in a clearer way, and this loss seems to be identified in most of the age groups. Furthermore, in these lowlands localities the socioeconomic conditions are better than in the highlands localities, and people have the oportunity to choose between conventional medical treatment or traditional medicine based on medicinal plants.

Concerning the great difference of TK in Valera for people between 51 and 60 years old and the other age groups, it is simply because the majority of the experts interviewed in this locality fall in this generation.

The great use that is made in the five age groups of *Minthostachys mollis*, *Matricaria recutita* and *Citrus limon* can be explained because these species were frequently reported in two of the most cited categories across generations, *Digestive system* and *Cultural diseases and disorders*, where they are widely used species. It is also remarkable, the medicinal use of *Erythroxylum coca* which is increasing with age based surely on its great cultural importance from ancient times (Martin, 1970). However, the use for generations over 60 years is considerably reduced, and probably is due to their alienation from the hard work of livestock and agricultural activities (Maina, 2012).

Finally, future national or international programs dedicated to the conservation of TK on medicinal plants should understand first, who are the depositaries generations that mostly retain the TK before dedicate any economic effort and support. And please, do not assume that elders are always the only depositaries of the TK across areas and regions.

## 5. Conclusions

The high number of medicinal species and use-reports showed the importance of TK on medicinal plants in the northern Andes of Peru. Ecoregions with the lowest socioeconomic development are related to a greater TK on medicinal plants, so it is highly relevant for their livelihoods. Women are key custodians of medicinal plants and repositories of TK for the good health of the families. Overall, this knowledge is mainly found in the elders and is not being transmitted to the new generations uniformly. However, this study shows that TK on medicinal plants is still alive and its divergent tranmission is preventing its rapid loss. Future biocultural conservation programmes could integrate this low cost TK based on medicinal plants, for local and regional population development and for the improvement of their ways of life.

## Author contributions

FC and MJM conceived the ideas, FC collected the data, FC, OG and MJM analysed the data and FC and MJM wrote the manuscript. All authors approved the final version of the manuscript.

## Acknowledgments

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## Appendix B. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.jep.2019.111924.

**Appendix A. Total number of use-reports (minimum, maximum) of the medicinal plants documented in two ecoregions, four areas, and 12 localities of the tropical montane forests in northern Peru. Medicinal uses are classified in 18 medicinal categories according to Cook (1995), Macía et al. (2011) and Gruca et al. (2014).**

| | High Tropical Montane Forests | | | Low Tropical Montane Forests | | | |
|---|---|---|---|---|---|---|---|
| Categories/Subcategories | Chachapoyas | Luya | All | Bongará | R. Mendoza | All | Total |
| Digestive system | 888 (266–331) | 404 (115–151) | 1292 | 451 (78–189) | 174 (34–72) | 625 | 1917 |
| Diarrhoea | 170 (49–67) | 125 (33–50) | 295 | 114 (17–55) | 34 (6–17) | 148 | 443 |
| Stomach pain | 370 (74–155) | 4 (0–4) | 374 | 51 (8–24) | 7 (0–5) | 58 | 432 |
| Liver disorders | 132 (31–56) | 51 (11–24) | 183 | 23 (4–14) | 18 (2–10) | 41 | 224 |
| Stomach cramps | 26 (0–26) | 51 (10–21) | 77 | 68 (5–35) | 41 (4–23) | 109 | 186 |
| Laxative | 43 (11–17) | 56 (13–24) | 99 | 63 (14–28) | 8 (1–4) | 71 | 170 |
| Carminative | 65 (14–31) | 35 (1–18) | 100 | 23 (5–12) | 20 (4–9) | 43 | 143 |
| Stomach infection | 44 (11–17) | 4 (0–4) | 48 | 26 (1–18) | 7 (0–7) | 33 | 81 |
| Gastric ulcers | 9 (2–5) | 21 (5–9) | 30 | 33 (5–16) | 8 (0–8) | 41 | 71 |
| Digestive | 19 (0–1) | 16 (3–9) | 35 | 13 (3–6) | 4 (0–3) | 17 | 52 |
| Hepatitis | 2 (0–1) | 15 (2–8) | 17 | 23 (2–11) | 5 (0–4) | 28 | 45 |
| Constipation | 6 (0–5) | 20 (4–11) | 26 | – | 5 (0–4) | 5 | 31 |
| Indigestion | – | 4 (1–2) | 4 | 8 (0–8) | 11 (0–11) | 19 | 23 |
| Intestinal infection | 1 (0–1) | – | 1 | 5 (0–4) | – | 5 | 6 |
| Gallbladder | – | 2 (0–2) | 2 | – | 2 (0–2) | 2 | 4 |
| Stomach sickness | – | – | – | – | 4 (0–3) | 4 | 4 |
| Acidity | 1 (0–1) | – | 1 | – | – | – | 1 |
| Antiemetic | – | – | – | 1 (0–1) | – | 1 | 1 |
| **Cultural diseases and disorders** | **324 (87–139)** | **538 (158–216)** | **862** | **557 (113–224)** | **330 (37–148)** | **887** | **1749** |
| Susto, espanto | 65 (21–23) | 73 (15–35) | 138 | 101 (14–57) | 204 (16–99) | 305 | 443 |
| Antimonia, gentil, viejo, antiguo | 17 (1–11) | 180 (36–100) | 197 | 145 (37–68) | 33 (0–20) | 178 | 375 |
| Aire, malaire | 186 (55–74) | 71 (13–33) | 257 | 99 (14–44) | 5 (0–3) | 104 | 361 |
| Tacsho | 36 (9–16) | 123 (33–47) | 159 | 115 (31–42) | 42 (6–20) | 157 | 316 |
| Tijte | 7 (1–5) | 51 (10–25) | 58 | 53 (5–27) | 38 (0–20) | 91 | 149 |
| Pulsario | – | 30 (7–12) | 30 | 29 (3–17) | 7 (0–5) | 36 | 66 |
| Negative vibes | 1 (0–1) | 5 (0–5) | 6 | 9 (1–5) | 1 (0–1) | 10 | 16 |
| Shucaque | 5 (0–5) | 5 (0–5) | 10 | 3 (0–2) | – | 3 | 13 |
| Shadow | 5 (0–3) | – | 5 | 3 (0–3) | – | 3 | 8 |
| Dispela | 2 (0–2) | – | 2 | – | – | – | 2 |
| **Urinary system** | **633 (190–238)** | **290 (89–101)** | **923** | **285 (68–121)** | **277 (62–133)** | **562** | **1485** |
| Kidney disorders, emollient, diuretic | 564 (164–214) | 192 (59–67) | 756 | 184 (43–73) | 186 (49–84) | 370 | 1126 |
| Prostate disorders | 33 (9–15) | 83 (16–37) | 116 | 91 (23–45) | 85 (7–46) | 176 | 292 |
| Kidney stones | 36 (10–15) | 15 (4–6) | 51 | 10 (2–5) | 6 (1–3) | 16 | 67 |
| **Skin and subcutaneous tissue** | **460 (138–167)** | **276 (87–101)** | **736** | **284 (58–115)** | **155 (33–81)** | **439** | **1175** |
| Wounds, healing | 306 (96–105) | 74 (12–32) | 380 | 87 (18–35) | 21 (2–17) | 108 | 488 |
| Chirapa | 26 (2–13) | 97 (26–37) | 123 | 5 (0–5) | 45 (5–22) | 50 | 173 |
| Burns | 2 (0–1) | 67 (20–24) | 69 | 74 (12–31) | 17 (0–15) | 91 | 160 |
| Swelling | 118 (18–53) | 2 (0–2) | 120 | 23 (3–11) | 8 (0–5) | 31 | 151 |
| Itil | – | 12 (0–8) | 12 | 62 (14–25) | 49 (2–32) | 111 | 123 |
| Acne | 1 (0–1) | 15 (1–12) | 16 | 11 (1–5) | 11 (0–10) | 22 | 38 |
| Feet fungus | 1 (0–1) | 8 (0–6) | 9 | 20 (3–11) | 2 (0–1) | 22 | 31 |
| Liver spots | 6 (1–4) | 1 (0–1) | 7 | 1 (0–1) | 2 (0–2) | 3 | 10 |
| Wrinkles | – | – | – | 1 (0–1) | – | 1 | 1 |
| **Respiratory system** | **654 (196–260)** | **178 (48–71)** | **832** | **148 (40–63)** | **110 (25–49)** | **258** | **1090** |
| Cold | 262 (64–111) | 46 (10–20) | 308 | 28 (5–15) | 36 (6–17) | 64 | 372 |
| Flu | 93 (25–40) | 89 (23–40) | 182 | 86 (24–32) | 51 (8–25) | 137 | 319 |
| Cough | 196 (58-75 | 15 (2–7) | 211 | 15 (4–6) | 18 (1–11) | 33 | 244 |
| Tonsillitis | 50 (14–20) | 1 (0–1) | 51 | 8 (1–6) | 2 (0–2) | 10 | 61 |
| Bronchitis | 34 (4–16) | 5 (0–4) | 39 | 4 (0–4) | 2 (0–2) | 6 | 45 |
| Expectorant | 7 (1–4) | 10 (2–6) | 17 | 5 (1–2) | – | 5 | 22 |
| Sinusitis | 3 (0–2) | 10 (2–5) | 13 | – | – | – | 13 |
| Asthma | 9 (1–7) | – | 9 | 1 (0–1) | 1 (0–1) | 2 | 11 |
| Bad breath | – | 1 (0–1) | 1 | 1 (0–1) | – | 1 | 2 |
| Aphonia | – | 1 (0–1) | 1 | – | – | – | 1 |
| **General ailments with unspecific symptoms** | **535 (168–184)** | **248 (76–90)** | **783** | **172 (31–93)** | **111 (21–63)** | **283** | **1066** |
| Fever | 300 (91–108) | 196 (58–75) | 496 | 141 (25–70) | 88 (14–54) | 229 | 725 |
| Headache | 180 (54–67) | 23 (4–11) | 203 | 6 (1–4) | 6 (0–4) | 12 | 215 |
| General malaise | 19 (0–19) | 22 (4–12) | 41 | 20 (0–19) | 12 (0–9) | 32 | 73 |
| Energizing | 36 (9–14) | 7 (2–3) | 43 | 5 (1–3) | 5 (1–2) | 10 | 53 |
| **Pregnancy, birth and puerperium** | **160 (32–71)** | **346 (106–123)** | **506** | **231 (51–91)** | **170 (6–87)** | **401** | **907** |
| Birth | 73 (17–31) | 116 (32–44) | 189 | 85 (20–37) | 54 (4–28) | 139 | 328 |
| Breastfeeding | 53 (8–27) | 107 (33–38) | 160 | 63 (10–27) | 61 (2–42) | 124 | 284 |
| Postpartum | 23 (3–13) | 95 (22–39) | 118 | 72 (17–31) | 53 (0–30) | 125 | 243 |
| Abortive | 11 (1–6) | 28 (4–13) | 39 | 11 (3–4) | 2 (0–2) | 13 | 52 |
| **Nervous system and mental health** | **372 (115–131)** | **222 (59–92)** | **594** | **154 (44–63)** | **107 (14–66)** | **261** | **855** |
| Insomnia | 158 (45–58) | 73 (16–30) | 231 | 55 (5–27) | 29 (3–21) | 84 | 315 |
| Sadness | 106 (32–37) | 86 (20–34) | 192 | 31 (6–14) | 45 (4–27) | 76 | 268 |
| Stress | 93 (29–34) | 50 (8–23) | 143 | 49 (5–22) | 32 (6–18) | 81 | 224 |
| Mental stimulant | 15 (4–6) | 7 (1–4) | 22 | 11 (0–9) | 1 (0–1) | 12 | 34 |
| Epilepsy | – | 6 (1–3) | 6 | 8 (0–4) | – | 8 | 14 |

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|---|---|---|---|---|---|---|---|
| **Infections and infestations** | **129 (34–48)** | **300 (81–123)** | **429** | **237 (52–103)** | **79 (7–52)** | **316** | **745** |
| Intestinal parasites | 116 (32–43) | 73 (21–27) | 189 | 94 (12–47) | 44 (1–28) | 138 | 327 |
| Chickenpox | – | 82 (18–42) | 82 | 40 (8–19) | 2 (0–1) | 42 | 124 |
| Fleas | – | 54 (12–23) | 54 | 20 (1–14) | 20 (0–18) | 40 | 94 |
| UTA, leishmaniasis | 4 (0–3) | 14 (1–9) | 18 | 40 (6–20) | 2 (0–1) | 42 | 60 |
| Malaria | 1 (0–1) | 38 (4–20) | 39 | 6 (0–5) | 1 (0–1) | 7 | 46 |
| Insect bite | – | 15 (3–8) | 15 | 13 (2–8) | 5 (0–4) | 18 | 33 |
| Tick bite | 1 (0–1) | 14 (3–6) | 15 | 18 (1–13) | – | 18 | 33 |
| Yellow fever | 7 (1–4) | 5 (0–3) | 12 | 4 (0–4) | 1 (0–1) | 5 | 17 |
| Lice | – | 2 (0–2) | 2 | 1 (0–1) | 1 (0–1) | 2 | 4 |
| Herpes | – | – | – | – | 3 (0–3) | 3 | 3 |
| Smallpox | – | 3 (0–3) | 3 | – | – | – | 3 |
| Tuberculosis | – | – | – | 1 (0–1) | – | 1 | 1 |
| **Reproductive system and reproductive health** | **117 (30–46)** | **272 (60–121)** | **389** | **144 (41–61)** | **93 (13–47)** | **237** | **626** |
| Menstruation disorders | 101 (26–38) | 177 (35–97) | 278 | 105 (31–43) | 85 (11–42) | 190 | 468 |
| Menopause | – | 36 (7–16) | 36 | 20 (5–12) | 1 (0–1) | 21 | 57 |
| Fertility | – | 26 (4–15) | 26 | 7 (1–4) | 6 (0–5) | 13 | 39 |
| Impotence | – | 21 (4–13) | 21 | 2 (0–1) | 1 (0–1) | 3 | 24 |
| Vaginal infection | 16 (3–9) | 3 (0–3) | 19 | 4 (0–4) | – | 4 | 23 |
| Contraceptive | – | 6 (1–3) | 6 | 5 (0–5) | – | 5 | 11 |
| Aphrodisiac | – | 3 (0–3) | 3 | – | – | – | 3 |
| Sexual infections | – | – | – | 1 (0–1) | – | 1 | 1 |
| **Muscular-skeletal system** | **197 (36–88)** | **188 (53–80)** | **385** | **161 (45–59)** | **72 (19–33)** | **233** | **618** |
| Broken bones | 80 (20–36) | 89 (23–41) | 169 | 62 (16–27) | 43 (5–27) | 105 | 274 |
| Rheumatism | 86 (11–38) | 82 (25–32) | 168 | 63 (18–24) | 23 (7–10) | 86 | 254 |
| Joint sprains | 13 (2–9) | 6 (1–4) | 19 | 11 (3–4) | 1 (0–1) | 12 | 31 |
| Bones hardening | 11 (1–7) | 1 (0–1) | 12 | 13 (0–12) | – | 13 | 25 |
| Hernia | 1 (0–1) | 10 (1–6) | 11 | 12 (1–9) | – | 12 | 23 |
| Muscle cramps | 6 (2–2) | – | 6 | – | – | – | 6 |
| Lumbago | – | – | – | – | 5 (0–5) | 5 | 5 |
| **Sensory system** | **174 (56–61)** | **193 (57–74)** | **367** | **116 (15–53)** | **82 (1–59)** | **198** | **565** |
| Visual disorders | 154 (50–52) | 118 (35–44) | 272 | 64 (7–29) | 38 (0–27) | 102 | 374 |
| Hearing disorders | 20 (5–9) | 75 (22–30) | 95 | 52 (8–25) | 44 (1–32) | 96 | 191 |
| **Blood and cardio-vascular system** | **19 (6–7)** | **135 (37–52)** | **154** | **114 (19–53)** | **65 (5–39)** | **179** | **333** |
| High pressure | 10 (1–7) | 35 (7–20) | 45 | 45 (2–24) | 29 (2–16) | 74 | 119 |
| Anemia | 1 (0–1) | 55 (16–21) | 56 | 30 (2–15) | 17 (1–14) | 47 | 103 |
| Low pressure | – | 22 (7–8) | 22 | 15 (3–11) | 10 (0–5) | 25 | 47 |
| Hemorrhoids | 2 (0–1) | 10 (1–6) | 12 | 16 (3–9) | 6 (1–4) | 22 | 34 |
| Blood infection | 3 (0–3) | 6 (0–6) | 9 | 6 (1–3) | – | 6 | 15 |
| Varicose veins | – | 7 (0–4) | 7 | 2 (0–2) | 3 (0–2) | 5 | 12 |
| Blood purifying | 3 (0–3) | – | 3 | – | – | – | 3 |
| **Dental health** | **12 (2–7)** | **87 (20–36)** | **99** | **58 (9–27)** | **43 (0–22)** | **101** | **200** |
| Toothache | 1 (0–1) | 87 (20–36) | 88 | 57 (8–27) | 43 (0–22) | 100 | 188 |
| Cavity | 8 (0–5) | – | 8 | 1 (0–1) | – | 1 | 9 |
| Gingivitis | 2 (0–2) | – | 2 | – | – | – | 2 |
| Oral sores | 1 (0–1) | – | 1 | – | – | – | 1 |
| **Metabolic system and nutrition** | **22 (1–15)** | **56 (7–31)** | **78** | **54 (16–20)** | **48 (7–30)** | **102** | **180** |
| Weight loss | 11 (0–7) | 56 (7–31) | 67 | 49 (13–20) | 48 (7–30) | 97 | 164 |
| Whet | 11 (1–8) | – | 11 | 5 (0–5) | – | 5 | 16 |
| **Ritual and magic uses** | **43 (10–17)** | **2 (0–2)** | **45** | **50 (6–23)** | **9 (0–8)** | **59** | **104** |
| Remove envy | 30 (8–13) | 2 (0–2) | 32 | 2 (0–1) | 8 (0–8) | 10 | 42 |
| Curse | 3 (0–3) | – | 3 | 26 (5–11) | 0 (0–0) | 26 | 29 |
| Bring good luck | – | – | 0 | 22 (0–11) | 1 (0–1) | 23 | 23 |
| Witchcraft | 9 (0–9) | – | 9 | 0 (0–0) | 0 (0–0) | 0 | 9 |
| Hallucinogen | 1 (0–1) | – | 1 | 0 (0–0) | 0 (0–0) | 0 | 1 |
| **Endocrine system** | **4 (0–2)** | **28 (5–16)** | **32** | **29 (4–16)** | **5 (1–3)** | **34** | **66** |
| Diabetes | 4 (0–2) | 28 (5–16) | 32 | 28 (3–16) | 5 (1–3) | 33 | 65 |
| Goiter | – | – | – | 1 (0–1) | 0 (0–0) | 1 | 1 |
| **Other uses** | **63 (16–25** | **59 (17–23)** | **122** | **61 (10–28)** | **34 (3–28)** | **95** | **217** |
| Hair loss | 48 (12–21) | 32 (8–13) | 80 | 35 (6–18) | 9 (0–8) | 44 | 124 |
| Cancer | 7 (1–4) | 21 (4–11) | 28 | 25 (3–12) | 24 (2–19) | 49 | 77 |
| Hangover | 2 (0–2) | 6 (0–5) | 8 | 1 (0–1) | 1 (0–1) | 2 | 10 |
| Deodorant | 3 (0–3) | – | 3 | – | – | – | 3 |
| Altitude sickness | 2 (0–2) | – | 2 | – | – | – | 2 |
| Anesthesia | 1 (0–1) | – | 1 | – | – | – | 1 |

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Anexo

# B

# What Is the Most Efficient Methodology for Gathering Ethnobotanical Data and for Participant Selection? Medicinal Plants as a Case Study in the Peruvian Andes

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# What Is the Most Efficient Methodology for Gathering Ethnobotanical Data and for Participant Selection? Medicinal Plants as a Case Study in the Peruvian Andes

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**What Is the Most Efficient Methodology for Gathering Ethnobotanical Data and for Participant Selection? Medicinal Plants as a Case Study in the Peruvian Andes.** The loss of traditional knowledge (TK) invariably continues worldwide and there is an urgent need to document and safeguard it before it vanishes. Researchers need efficient methods to document TK, taking fieldwork time and costs into account. In this study, we focused on medicinal plants to compare (1) the information provided by 600 expert and general participants from 12 localities in northern Peruvian Andes; and (2) the information gathered in semi–structured and structured interviews with 81 informants at two localities in the same area. We found that expert informants reported 91% of medicinal species and 67% of medicinal indications in less than half the time than was required to gather information from general informants. Using structured interviews yielded an increase of 18% of medicinal species and 21% of medicinal indications, but the time spent interviewing was 100% higher than in the semi–structured interviews. Overall, since time and costs are key factors often limiting ethnobotanical research, we suggest focusing on interviews with expert informants to gain efficiency. Regarding the interview method, the most efficient use of structured interviews would be in the cases or areas where (some) ethnobotanical data have been reported previously. If a researcher starts a new project and little or no previous TK data exist for a given area, we would recommend the use of semi–structured interviews. However, the available time and budget will always be key factors to be taken into account in order to select the best methodology of any TK study. **¿Cuál es la metodología más eficiente para recopilar datos etnobotánicos y para la selección de participantes? Las plantas medicinales como un estudio de caso en los Andes peruanos.** La pérdida del conocimiento tradicional (CT) continúa invariablemente en todo el mundo, por lo que hay una necesidad urgente de documentarlo y rescatarlo antes de que desaparezca. Los investigadores necesitan métodos eficientes para documentar el CT, teniendo en cuenta el tiempo y el coste del trabajo de campo. En este estudio, nos enfocamos en plantas medicinales para comparar (1) la información obtenida de 600 participantes expertos y generales en 12 localidades del norte de los Andes peruanos; y (2) la información recopilada de entrevistas semiestructuradas y estructuradas con 81 informantes de dos localidades en la misma área. Documentamos que los informantes expertos conocían el 91% de las especies medicinales y el 67% de las indicaciones medicinales, dedicando menos de la mitad del tiempo que se requirió para documentar la misma información con los informantes generales. Al utilizar entrevistas estructuradas, obtuvimos un aumento

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del 18% de las especies medicinales y del 21% de las indicaciones medicinales, pero el tiempo dedicado fue 100% mayor que con respecto a las entrevistas semiestructuradas. En conjunto, dado que el tiempo y el coste son factores clave que a menudo limitan la investigación etnobotánica, sugerimos enfocar las entrevistas con los informantes expertos para ganar eficiencia. Respecto al método de entrevista, el uso más eficiente de entrevistas estructuradas se daría en los casos o áreas donde se han registrado (algunos) datos etnobotánicos previamente. Si un investigador inicia un nuevo proyecto y existen pocos o ningún dato previo de CT para un área determinada, recomendaríamos el uso de entrevistas semiestructuradas. Sin embargo, el tiempo disponible y el presupuesto siempre serán factores clave a tener en cuenta para seleccionar la mejor metodología de cualquier estudio sobre CT.

**Key Words:** Biocultural conservation, Cultural ecosystem services, Expert informants, Livelihood, Quantitative ethnobotany, Semi–structured vs. structured interviews, Sustainability, Traditional knowledge.

## Introduction

After the incorporation of traditional knowledge (TK) into the Convention on Biological Diversity (CBD (Convention on Biological Diversity) 1992) and highlighting its value as a resource that can help to preserve, maintain, and even increase biological diversity (Becker and Ghimire 2003; Reyes-García 2014), other international organizations have followed this example. The Intergovernmental Science–Policy Platform on Biodiversity and Ecosystem Services recognizes TK as a complement to scientific knowledge for the conservation and use of biodiversity (IPBES 2018), and the World Health Organization has over the past two decades been developing strategies for the promotion of TK in complementary medicine in rural areas (WHO (World Health Organization) 2000, 2013). Under the Nagoya Protocol on Access and Benefit Sharing, local human groups are valued as owners and promoters of these cultural ecosystem services and practices, and the transmission of such knowledge about the use of their resources (UNESCO 2017).

However, at the same time, the loss of TK continues or even accelerates, because the interest in traditions and TK of different populations is globally declining, fueled by multiple changes, including (i) the loss of cultural identity (Houde 2007; Reyes-García et al. 2013a; Vandebroek and Balick 2012); (ii) the expansion of the agricultural and livestock frontier (Assefa and Hans-Rudolf 2015; Gómez-Baggethun and Reyes-García 2013; Sujarwo et al. 2014); (iii) the improvement of regional socioeconomic factors—e.g., access to medical infrastructure, roads, and markets (Almeida–Campos et al. 2019; Bellia and Pieroni 2015; Williams et al. 2012); and (iv) the loss of interest of (some) younger generations in TK (Quinlan and Quinlan 2007; Reyes–García et al. 2013b; Srithi et al. 2009). This progressive loss of TK is occurring on a global scale, both in the most developed countries (Gómez-Baggethun et al. 2010) as well as in developing countries (Baldauf and dos Santos 2012; Voeks and Leony 2004). Overall, there is an urgent need to document and safeguard TK before it vanishes (e.g., Cámara-Leret et al. 2014; FAO 2009).

The study of medicinal plants represents the documentation of one of the most significant components of TK, particularly in rural areas of developing countries (Saslislagoudakis et al. 2014). Plants are an integral component of the healthcare for up to 80% of the world's population (Chen et al. 2010). Interviewing a representative part of different human communities is regarded as the most effective way to gather TK (e.g., Paniagua-Zambrana et al. 2018; Souto and Ticktin 2012; Van Andel and Carvalheiro 2013; Voeks 2007). However, there are two relevant factors to take into account: the type of informants and the type of interviews conducted (Davis and Wagner 2003; Martin 1995). Many ethnobotanical studies only conduct interviews of the general population, while some combine interviews with both expert and general informants (Cámara-Leret et al. 2014; Júnior et al. 2016; Thomas et al. 2009). Expert informants are participants recognized by the rest of the community members for their high TK, and often are regarded as the traditional healers of the community (Mugisha et al. 2014; Tongco 2007). In addition, most ethnobotanical studies focusing on medicinal plants use semi–structured interviews or structured interviews, but rarely combine both methods (Odonne et al. 2013; Pasquini et al. 2018; Zank et al. 2019). In semi–structured interviews, informants are given freedom of response with a flexible but controlled outline, whereas in the case of structured interviews the questions follow a more precise scheme (Alexiades 1996).

In this study, we compared different methods to obtain TK about medicinal plants, focusing on the type of informants and distinct forms of interview, in order to evaluate which methods would be the most efficient for data gathering. First, the medicinal plant knowledge of both expert informants and general informants was compared within the same localities. We hypothesized that most of the TK that general informants hold would also be held by the expert informants, as shown in other studies (Ajibesin et al. 2008; Tsioutsiou et al. 2019). Our hypothesis was that even working with expert informants only, we would obtain the most TK about medicinal plants in the localities, and that interviewing a small number of expert informants would require less time overall than with general informants to document most of the ethnomedicinal information of the community or locality. In other words, interviewing expert informants would take more time than interviewing other members of the community, but this would be compensated by the larger number of species and medicinal uses reported.

Second, we compared two different methods to gather TK of medicinal plants, using both semi–structured and structured interviews with the same participants, during two different time periods. Our hypothesis was that using structured interviews would guide the informants more precisely, and would allow us to document larger numbers of medicinal plant species and uses than using semi–structured interviews (Albuquerque et al. 2014; Vogl et al. 2004). At the same time, we hypothesized that structured interviews would be more time–consuming than semi–structured interviews since we need to ask for all documented species and possible categories of medicinal uses in the first method.

## Methods

### Study Area

The study was carried out in 12 localities (villages) in the northern Peruvian Andes, between 1500 and 3500 m elevation (Table 1). To evaluate the difference in medicinal plant knowledge between expert informants and general informants, we gathered information from all 12 localities with the following criteria: (1) local population does not exceed 1000 inhabitants in any of the localities; (2) they were inhabited by culturally similar mestizo populations dedicated mainly to agriculture and livestock. Both activities have modeled large areas of the landscape. Detailed geographical, climatological, demographic, and ecological information of this ecoregion and localities can be found in Corroto et al. (2019).

To assess the efficacy of structured and semi–structured interviews, we specifically focused on two localities: Granada and Olleros. These localities were chosen based on three criteria: (1) geographical isolation from large cities; (2) limited regional socioeconomic development (no hospitals, large markets, tourist attractions, or paved roads); and (3) small populations with less than 300 inhabitants per locality (INEI 2015).

### Data Collection

To test the first hypothesis, we interviewed two types of informants: expert informants and general informants. Experts were selected by the authorities of each locality, representing participants recognized by the community as the custodians of TK on medicinal plants. We could not select gender or age because they were few expert informants in all different localities. We interviewed all experts selected by the authorities, which resulted in having between three and seven expert participants per locality, totaling 77 expert informants (Table 1).

In a first phase, we used the "walk–in–the–woods" methodology for gathering ethnobotanical information of medicinal plants with expert participants. This method was carried out directly in the field, working with each participant for between one and 3 days, respectively. During these semi–structured interviews, the expert participants were asked about the vernacular names and medicinal indications of each plant. We collected the plant material with the expert participants for correct botanical identification. A full list of medicinal plant species and their associated uses was prepared to be used in a second phase. In the second part, we also conducted semi–structured interviews with 523 general informants at their homes trying to balance both gender and age distribution in each locality (Table 1). All documented medicinal plants with their medicinal indications are available as supplementary material in Corroto et al. (2019).

To test the second hypothesis, we only focused on 2 out of 12 localities: Granada and Olleros. One year later, we returned to these two localities and again gathered ethnobotanical data of medicinal plants from 81 of our 100 informants interviewed the previous year. We were unable to locate 19 out

Table 1. General characteristics and numbers of the participants interviewed in the 12 localities studied in the northern Peruvian Andes

| Localities | Elevation (m) | Geographical coordinates | # Inhabitants | Principal source of income | Experts participants | | General participants | |
|---|---|---|---|---|---|---|---|---|
| | | | | | # Male (age range) | # Female (age range) | # Male (age range) | # Female (age range) |
| Cuispes | 1891 | 5°55′41.10”S; 77°56′38.49”W | 895 | Subsistence agriculture and extensive subsistence cattle | 2 (30–72) | 1 (49) | 23 (20–89) | 24 (21–86) |
| Granada | 3454 | 6°6′11.11”S; 77°37′42.15”W | 385 | Productive agriculture and extensive subsistence cattle | 1 (46) | 4 (42–57) | 24 (18–59) | 21 (20–77) |
| Huambo | 1683 | 6°25′44.45”S; 77°32′16.50”W | 920 | Productive coffee and intensive bovine cattle and swine | 2 (29–53) | 2 (41–51) | 23 (24–72) | 23 (19–80) |
| Longuita | 2758 | 6°24′50.14”S; 77°58′6.53”W | 548 | Productive agriculture and extensive subsistence cattle | 4 (43–56) | 3 (46–71) | 20 (18–69) | 23 (20–76) |
| María | 2743 | 6°25′46.83”S; 77°57′39.03”W | 645 | Productive agriculture and extensive subsistence cattle | 3 (37–55) | 4 (34–75) | 23 (19–70) | 20 (19–81) |
| Olleros | 3442 | 6°3′13.25”S; 77°38′52.43”W | 362 | Productive agriculture and extensive subsistence cattle | 1 (52) | 6 (44–79) | 27 (21–79) | 16 (18–78) |
| Quinjalca | 3198 | 6°5′29.76”S; 77°40′43.00”W | 843 | Productive agriculture and extensive subsistence cattle | 2 (55–59) | 5 (41–74) | 23 (19–66) | 20 (18–72) |
| San Carlos | 2013 | 5°57′57.74”S; 77°56′43.31”W | 517 | Subsistence agriculture and extensive subsistence cattle | 0 | 4 (36–68) | 25 (24–81) | 21 (23–69) |
| Sta. Rosa | 1759 | 6°27′10.54”S; 77°27′22.13”W | 912 | Productive coffee and intensive bovine cattle and swine | 1 (38) | 5 (34–82) | 25 (18–71) | 19 (19–74) |
| Totora | 1655 | 6°29′5.92”S; 77°27′58.90”W | 855 | Productive coffee and intensive bovine cattle and swine | 0 | 7 (33–84) | 23 (21–65) | 20 (19–68) |
| Valera | 1908 | 6°2′33.49”S; 77°55′9.33”W | 981 | Subsistence agriculture and extensive subsistence cattle | 0 | 3 (55–59) | 25 (18–69) | 22 (20–75) |
| Yomblón | 2920 | 6°26′54.33”S; 78°5′33.55”W | 766 | Productive agriculture and extensive subsistence cattle | 3 (39–58) | 4 (26–59) | 24 (18–74) | 19 (18–70) |

of 100 participants for different reasons. We then conducted structured interviews to be compared with the semi–structured interviews that had already been done. Of the 81 informants interviewed twice, 7 were experts and 74 were general participants. We again asked the participants about all the medicinal plants reported during our first study period, using our existing list with the registered common names, and using a laptop to show the participants photographs of the species, in case of any doubt. We assumed that with a one–year period between the two interviews, the TK reported during the first interview (semi–structured) would also be maintained in the second interview (structured) and that, at the same time, the informants would not feel uncomfortable answering our questions. We registered the time it took to conduct the different types of interviews with each of the informants, to later compare the time needed for the different interview methods.

All the collected species were identified and deposited in the Herbarium Truxillense (HUT). The scientific names follow The Plant List (The Plant List: A working list of all known plant species 2018) and the family taxonomic classification proposed by the Angiosperm Phylogeny Group (Chase et al. 2016).

## Data Analysis

We classified all the reported medicinal uses in 18 categories following international standards (ICPC–2 (International Classification of Primary Care), revised 2nd edition 2005) and including modifications for cultural, ritual, or magical diseases as proposed by Macía et al. (2011) and Gruca et al. (2014). Three ethnobotanical indicators were analyzed for each informant: 1) the number of medicinal plant species (NSP) reported in the respective interviews; 2) the number of medicinal plant uses (NMU), corresponding to the use of a plant part of a given species that is associated with a medicinal category and a specific medical indication; and 3) the number of medicinal plants use–reports (NUR), corresponding to the sum of all different medicinal uses reported for the total number of known species.

To analyze the information gathered from expert informants and general informants, we first compared the mean (±SD) of the three ethnobotanical indicators obtained per type of informant and later averaged for all 12 localities. Second, we used two ethnobotanical indicators (NSP and NUR) because the global patterns of NMU and NUR yielded

similar patterns. We compared total percentages that expert and general participants contributed to the NSP and NUR per locality, respectively. And finally, using these two ethnobotanical indicators, we averaged and compared them among the 12 most cited medicinal categories.

To evaluate possible differences between both interview methodologies (semi–structured and structured), we calculated a Mann–Whitney U test to seek statistically significant differences between the two interview methods for each ethnobotanical indicator. Finally, we used a general mixed linear model and its corresponding post hoc LSD Fisher test of multiple comparisons ($p < 0.05$) using only NUR with the 12 medicinal categories that yielded the highest number of records. All the analyses were performed in R 3.4.0. (R Development Core Team 2020).

### Ethics Statement

The objectives of this study were first explained to the authorities of the 12 localities and after their approval, a written consent permit was obtained. Afterwards, we also obtained oral informed consent from all 600 participants before any interview. The informants agreed to participate voluntarily, knowing they could stop the interview whenever they decided, and that the data gathered would be treated anonymously. In this way, we followed the stipulations of the Convention on Biological Diversity, taking into account the Bonn guidelines, and the Nagoya Protocol (SCBD (Secretariat of the Convention on Biological Diversity) 2002, 2011). The ethics committee of the Universidad Autónoma de Madrid approved the research project and research protocol (CEI 73–1327 to M.J. Macía).

## Results

### Expert Informants Vs. General Informants

A total of 416 species of medicinal plants belonging to 107 families were registered from the 600 interviews conducted in 12 localities of northern Peruvian Andes. The expert informants represented 12.8% of the total participants interviewed. Overall, the mean of the three ethnobotanical indicators (NSP, NMU, and NUR) at the individual level was almost twice as high for the expert informants than for general informants, whereas the total number of both species and botanical families recorded from each participant group were similar (Table 2). The average time spent per interview was 13 times higher with the experts than with the general informants, but overall, 17 days less were spent with the expert informants.

When the NSP and NUR for the two types of informants were compared per locality using the number of records gathered for each case, we found higher values for the general informants for both ethnobotanical indicators in most of the localities (Fig. 1). However, in four of them, the number of records of NSP and the NUR showed higher values (Fig. 1b, c, and i) or equal values (Fig. 1d) for the expert informants. On average, the expert informants contributed 46.1% of the number of records of NSP and 48.4% of the NUR, whereas the contribution of the general informants was 53.9% of the NSP and 51.6% of the NUR (Fig. 1).

The expert informants clearly showed higher TK of medicinal plants than the general informants in all the medicinal categories, based on the two ethnobotanical indicators tested (Fig. 2). Overall expert

Table 2. Comparison of three ethnobotanical indicators (NSP—number of medicinal plant species, NMU—number of medicinal plant–uses, and NUR—number of medicinal plant use–reports), together with plant species richness, and time spent on interviews for expert informants and general informants in 12 localities of the northern Peruvian Andes

| Informant type | Ethnobotanical indicators | Mean ± SD | Plant families | Medicinal plant species | Exclusive medicinal plant species | Average ± SD interview time (min) | Total interview time (days) |
|---|---|---|---|---|---|---|---|
| Expert informants | NSP | 33.2 ± 19.6 | 105 | 379 | 36 | 625 ± 238 | 104 |
| | NMU | 38.1 ± 16.2 | | | | | |
| | NUR | 40.6 ± 22.8 | | | | | |
| General informants | NSP | 17.8 ± 20.9 | 101 | 376 | 39 | 47 ± 55 | 121 |
| | NMU | 18.2 ± 22.4 | | | | | |
| | NUR | 20.8 ± 27.6 | | | | | |

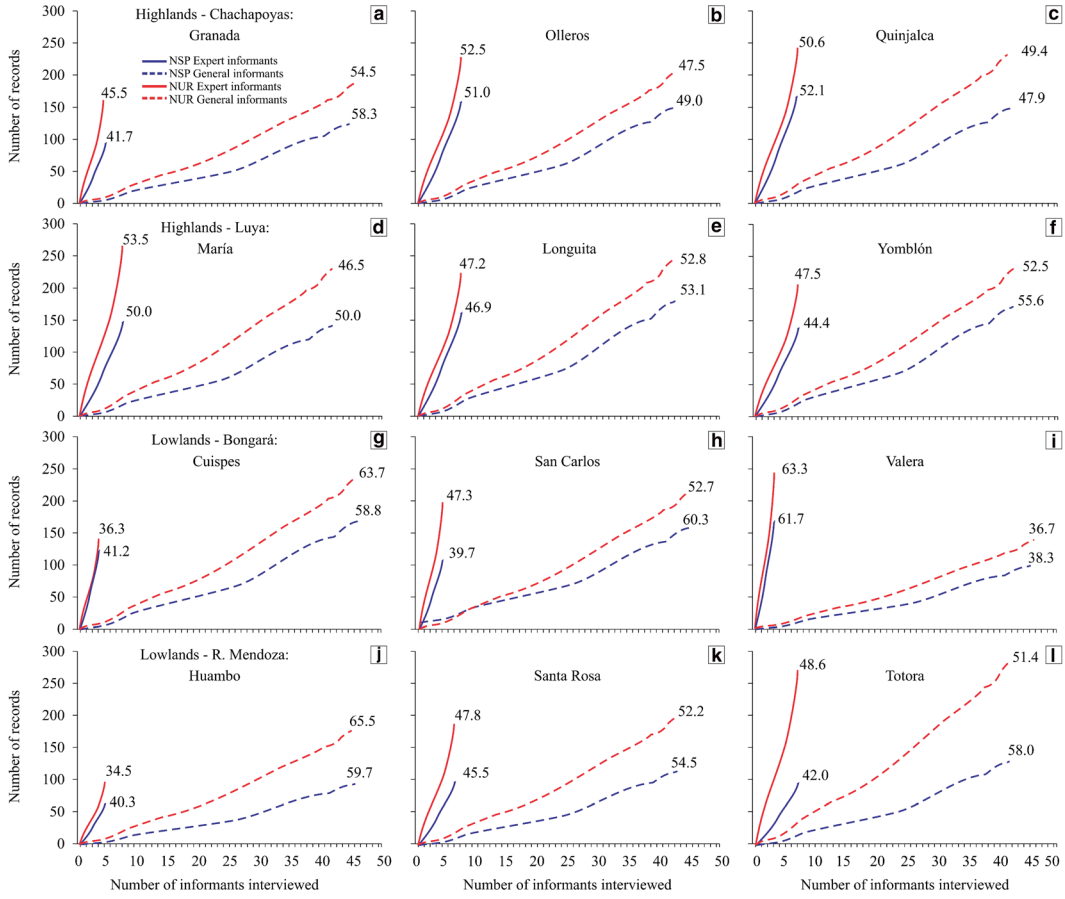


**Fig. 1.** Comparison of the number of records of medicinal plant species (NSP) and number of medicinal plant use–reports (NUR) gathered from expert informants and general informants in 12 localities of the northern Peruvian Andes. The numbers to the right of the lines indicate the percentages of NSP and NUR obtained within the localities, respectively

informants reported more than twice the NSP than general informants in 6 out of 12 medicinal categories (Fig. 2a, e, f, j, k, and l). Similarly, experts reported more than twice the NUR than general participants in 5 out of 12 medicinal categories (Fig. 2a, e, f, g, and l).

## Semi–Structured Interviews Vs. Structured Interviews

In the two localities studied twice, we recorded 249 medicinal plant species belonging to 89 plant families from 81 interviews. The information obtained with structured interviews yielded the highest numbers for all three ethnobotanical indicators (NSP, NMU, and NUR). However, the average time spent in the structured interviews was more than double that spent in the semi–structured interviews (Table 3). Differences between both interview methodologies were statistically significant.

The structured interviews reported a higher NUR than semi–structured interviews for all medicinal categories, although statistically significant differences were found in 7 out the 12 most cited categories: *Digestive system*; *General ailments*; *Skin and subcutaneous tissue*; *Cultural diseases and disorders*; *Muscular–skeletal system*; *Pregnancy, birth, and puerperium*; and *Infections and infestations* (Fig. 3a, d, e, f, h, j, and k, respectively).

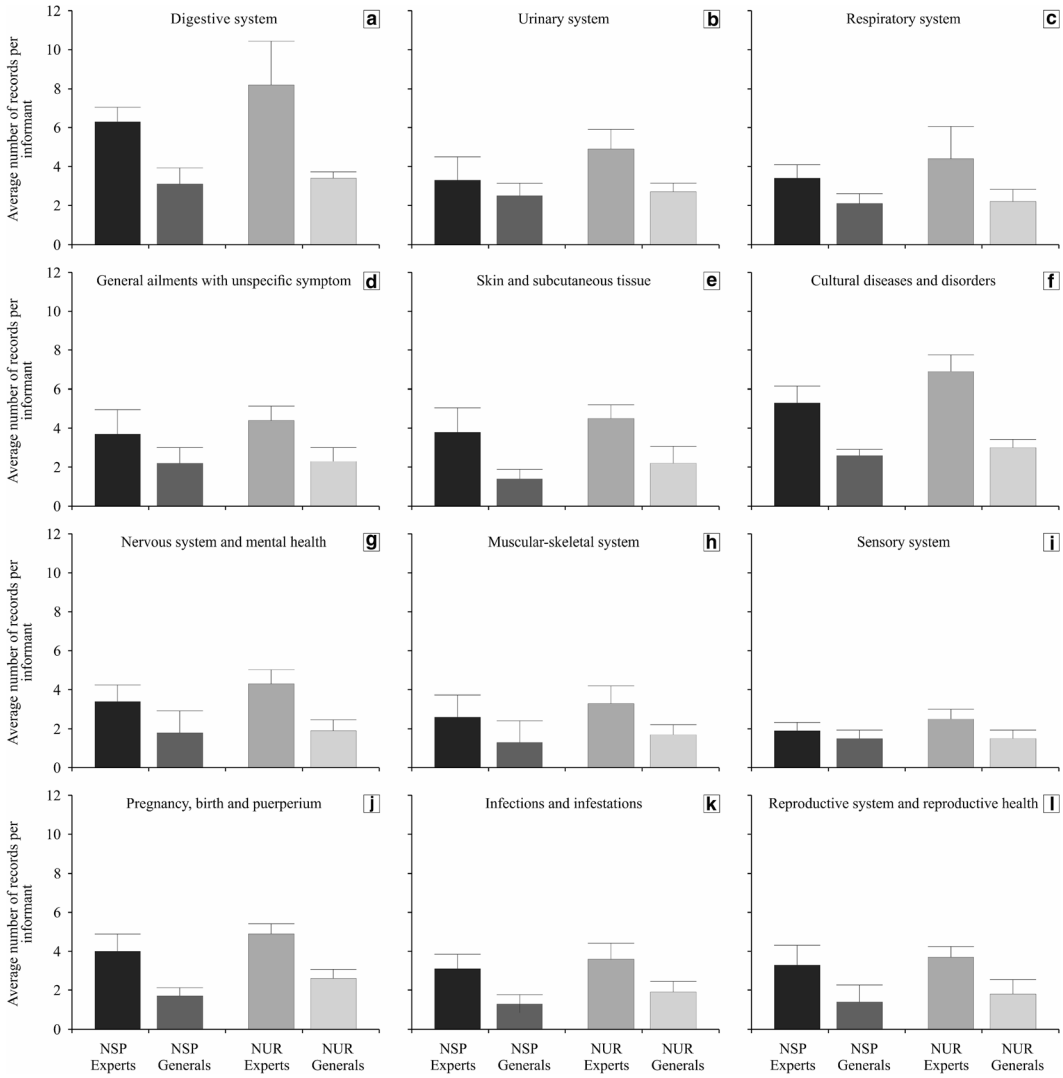


**Fig. 2.** Comparison of the averages of the number of medicinal plant species (NSP) and number of medicinal plants use–reports (NUR) gathered from expert and general informants in the 12 most cited medicinal categories in the 12 localities studied in the northern Peruvian Andes

## Discussion

### Expert Informants Vs. General Informants

Our first hypothesis was accepted because most TK of medicinal plants could indeed be registered by only gathering data with expert informants. This means that working only with 12.8% of the total population interviewed, and spending less than half the overall time, we yielded 91% of the NSP information and 67% of the NMU. This is a very acceptable level of confidence, as also documented in earlier studies (Almeida et al. 2012; Voeks 1996). In this sense, it appears that the general informants in the study area have only a basic TK of medicinal plants, leaving the responsibility of maintaining and using more complex medicinal practices to the expert informants of each locality (Singh et al. 2012; Tongco 2007). Our study is in line with previous studies that documented higher TK of expert informants compared to other participants (Belayneh et al. 2012; Cartaxo et al. 2010; Demie et al. 2018).

TABLE 3. THE AVERAGE NUMBER OF MEDICINAL PLANT SPECIES (NSP), AVERAGE NUMBER OF MEDICINAL USES (NMU), AND AVERAGE NUMBER OF MEDICINAL PLANT USE–REPORTS (NUR) OF THE TWO INTERVIEW METHODS USED WITH 81 INFORMANTS IN TWO LOCALITIES OF THE NORTHERN PERUVIAN ANDES

| Ethnobotanical indicators | Semi–structured interviews (Mean ± SD) | Structured interviews (Mean ± SD) | Mann–Whitney test between the two methods ($p$ value) |
|---|---|---|---|
| NSP | 25.6 ± 9.3 | 31.8 ± 16.2 | 0.01** |
| NMU | 30.4 ± 12.4 | 36.7 ± 18.3 | 0.02* |
| NUR | 32.4 ± 12.6 | 38.6 ± 19.0 | 0.02* |
| Average interview time (min) | 70 ± 26 | 150 ± 29 | – |

* indicate significant differences ($p < 0.05$), and ** indicate highly significant differences ($p < 0.01$)

However, in most localities we gathered a higher total number of records with the general informants than with the expert informants, which easily can be explained because the number of general informants interviewed was clearly higher than the number of expert informants interviewed in all 12 localities. Thus, using the walk–in–the–woods method to gather first ethnobotanical information only with the expert participants was relevant to have a whole picture of the majority of the medicinal species used and their associated uses in the study area.

However, the differences between the two types of informants depended on the medicinal category. The TK in the categories *Pregnancy, birth and puerperium*, and *Reproductive system and reproductive health* has been documented as specialized and unique knowledge of expert women in northern Peru (Bussmann and Glenn 2010; Monigatti et al. 2013). But in case of the categories, *General*

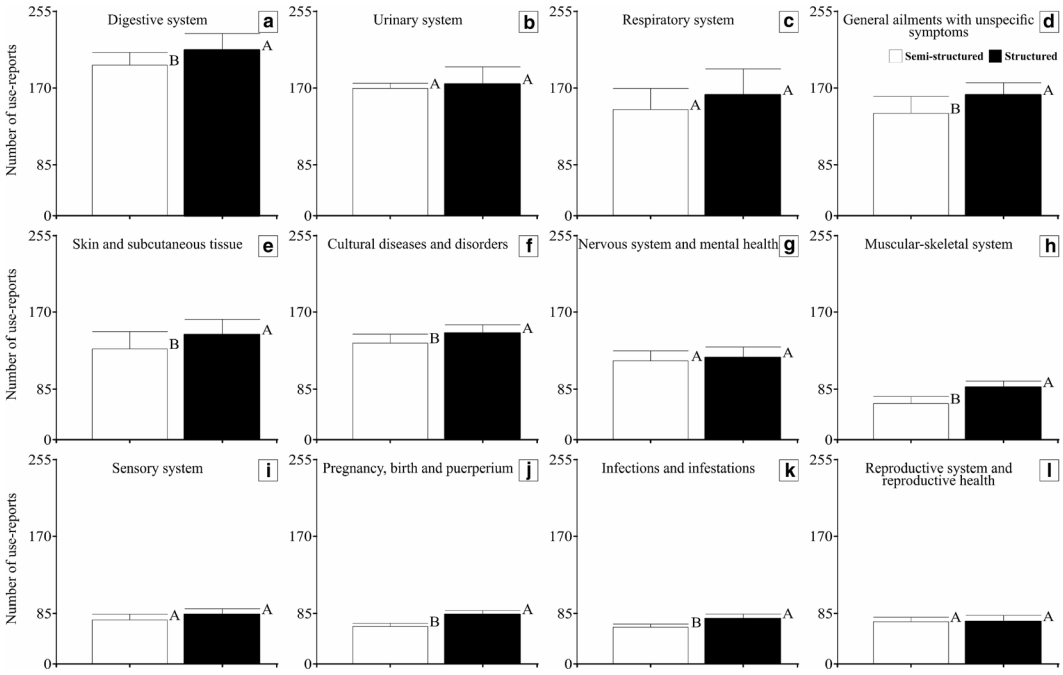


**Fig. 3.** Comparison of the average percentage of medicinal plant use–reports recorded in semi–structured interviews and structured interviews of 81 participants of Granada and Olleros localities in northern Peruvian Andes. Letters (A, B) indicate significant differences based on general mixed lineal models and the corresponding post hoc LSD Fisher test ($p < 0.05$)

*ailments with unspecific symptoms* and *Skin and subcutaneous tissue*, most informants in the Andean society know plant resources to alleviate and heal such ailments (Bussmann and Sharon 2014; Ceuterick et al. 2011; De Feo 2003).

However, it is also true that TK information of medicinal plants would be incomplete if focusing only on expert informants, without having any clear idea about how such TK is distributed in a locality or region. Depending on the objectives of the studies, researchers may thus need to focus on different types of participants, taking into account, e.g., gender, age, experts, or general informants to gather the TK as complete as possible, and interviews may need to be extended to the general population to obtain more complete and representative information from the whole community (Espinosa et al. 2012; Mugisha et al. 2014).

Time and costs are two key factors that can greatly limit research efforts, and thus need to be considered carefully before conducting any work. Unfortunately, most grants in our discipline provide a limited budget, and to be executed over short periods of time. Both are fundamental variables to be taken into account in two dimensions. Thus, first, in order to collect as much information about TK in a community in the shortest time possible and thus to gain efficiency, we propose focusing interviews on the so–called expert informants (Almeida et al. 2012; Vandebroek et al. 2004). Second, there is evidence that TK transmission is decreasing worldwide and thus, we need to obtain as much information as possible of cultural ecosystem services before they are lost forever (Cámara-Leret et al. 2014; McMillen 2012; Salpeteur et al. 2016), although we also know that TK is dynamic and local populations adapt to learn new knowledge (e.g., Gómez-Baggethun et al. 2010; Reyes-García et al. 2013a), which is fundamental to the understanding of traditional medical systems nowadays.

Finally, gender and age are relevant factors in TK studies, so when possible, it should be incorporated in data collection and analyses (e.g., Corroto et al. 2019; Srithi et al. 2009). In this study, it was not possible since expert informants were very few in number in all localities and selected by local authorities, exclusively.

## Semi–Structured Interviews Vs. Structured Interviews

Our second hypothesis was also verified, because the use of structured interviews resulted in the most effective method to obtain TK information on medicinal plants. Conducting structured interviews, we obtained an increase of 18% of NSP, 21% of NMU, and 19% of NUR. Using this method, we made sure the informants had the opportunity to give information on all potential medicinal plant species used in the area (Bernard 2006), and follow past results that documented interviews elicited more TK than freelists (Paniagua-Zambrana et al. 2018). It is very important to gain the confidence of the informants to obtain good results, which depends on an open and collaborative role of the interviewer to succeed (Albuquerque and Hanazaki 2009). Furthermore, through the use of structured interviews, the interviewer has the opportunity to use previous knowledge about medicinal plants, making it easier for the informants to be involved in the interview (Alexiades 1996). However, at the same time, structured interviews need to be prepared more carefully, requiring previous research on the species, and might even include, as in our case, the previous photographic documentation of the species, reducing the time of the interview and minimizing the risk of misidentification (Martins et al. 2012; Nguyen 2003; Thomas et al. 2007).

The time spent in the interviews is a very important factor when conducting a large number of field interviews at different levels. Structured interviews usually take almost twice as long as semi–structured interviews, which could be a limiting factor when deciding on the method to be used in the field (Quinlan 2005). Thus, the implications of doing a pre–study to get names and plant images for the structured interviews is time demanding. This needs to be taken into account when a researcher starts a new project and little or no previous data exist for a given area. In this particular case, structured interviews may not be the most efficient method and therefore we do not recommend it.

Our results identify differences in the two interview methods; that is, semi–structured and structured interviews. However, it needs to be further tested since unidentified bias could be found. Other authors could use our study as a model to investigate potential biases from using semi–structured and/or structured interviews with different human populations elsewhere.

Finally, our results only have quantitatively analyzed TK of medicinal plants, and probably other use categories will follow this same pattern for both the type of informants and interviews, but still we need more studies to confirm that our results can be applied widely to different cultural domains.

## Conclusions

The importance of TK in the conservation of biocultural diversity is widely recognized by international organizations that protect health and the environment. These entities have highlighted the dire consequences of the unquestionable loss of TK (of medicinal plants) throughout the world. Ethnobotanists and ethnobiologists must find the most efficient techniques and methods for documenting TK rapidly, before it is lost forever. Our study shows that, at least in the case of medicinal plant knowledge, working only with expert informants allows us to obtain a large part of the TK while spending less time in the field. The use of structured interviews was a more appropriate method to obtain most of the TK in a community when previous ethnobotanical data have been already reported; but, in turn, required much more time. Researches may take these recommendations into account before starting a new study, and depending on the available budget and time.

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