

KEY TO THE SPECIES OF ERICACEAE OF BOLIVIA, INCLUDING TWO NEW SPECIES

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ABSTRACT

A review of the Ericaceae of Bolivia is herein presented. Nineteen genera and 53 species are native; two genera and 19 species are endemic; 18 additional species are shared by Bolivia and adjacent Peru; one species is occasionally cultivated. Most taxa are found in the wet, cool habitat, montane "Yungas" of the eastern slopes of the Cordillera Real, ranging between 2000 m and 4000 m elevation. ***Siphonandra boliviana*** Luteyn and ***Themistoclesia unduavensis*** Luteyn are described and illustrated. A key in English and Spanish to the 19 genera and 53 native species is provided. The names of all taxa of Ericaceae attributed to Bolivia are accounted for.

RESUMEN

Se presenta una reseña de las especies de Ericaceae de Bolivia. Diez y nueve géneros y 53 especies son nativas; dos géneros y 19 especies son endémicas; 18 especies adicionales son compartidas por Bolivia y la parte adyacente de Perú; una especie es cultivada ocasionalmente. La mayoría se encuentra en hábitats montañosos, húmedos y fríos de las "Yungas" de la vertiente oriental de la Cordillera Real, entre 2000 y 4000 m de elevación. También se describen y se ilustran *Siphonandra boliviana* Luteyn y *Themistoclesia unduavensis* Luteyn. Se presenta una clave en inglés y en español para los 19 géneros y las 53 especies nativas. Los nombres de todos los taxones de Ericaceae atribuidos a Bolivia están justificados.

INTRODUCTION

The Ericaceae are a large, cosmopolitan family of over 125 genera and 4500 species, which inhabit the temperate regions of the world and montane areas in tropical latitudes (Luteyn 1998, in press). In the Neotropics, the Ericaceae are composed of 46 genera (70% endemic) and about 800 species (ca. 94% endemic), although generic limits in the Andean Vaccinieae are still poorly understood (Kron et al. 2002; Luteyn 1997, 2001). Neotropical Ericaceae are an Andean-centered family, adapted to moist, open, cool montane environments. Overall species richness in the Neotropics increases nearer the Equator, with the highest species numbers concentrated in Colombia and Ecuador between 1000 m and 3000 m. Nineteen genera and 53 species are native to Bolivia. Two of those genera and 18 of the species are endemic, while 18 additional species have ranges that overlap between Bolivia and adjacent Peru and one species range overlaps between Bolivia and extreme northwestern Argentina; one species is occasionally cultivated. In Bolivia, the Ericaceae occur almost exclusively in the wet,

cool, montane cloud forests, mostly in the “Yungas” regions of the eastern slopes of the Cordillera Real, ranging between 2000 m and 4000 m elevation. One of these species (*Satyria neglecta*) ranges primarily below 1000 m elevation, 12 species range primarily between 1000 m and 2000 m, 18 species range primarily between 2000 m and 3000 m, and 20 species range primarily between 3000 m and 4000 m. *Agarista boliviensis* and *Gaylussacia cardenasii*, in contrast, occur in relatively dry montane regions in south-central Bolivia at about 1200-2500 m elevation. Although Bolivia is a very large country within the Neotropics, it lies at the southern end of the distributional range of the family and many of its mountainous regions are dry. Therefore, relatively few Ericaceae occur in Bolivia compared to countries in the Northern Andes and adjacent southern Mesoamerica. There are no economic uses known for the Ericaceae of Bolivia.

There are very few general publications about the flora of Bolivia and only the out-dated checklist of Foster (1958) gives an idea of the numbers of species of Ericaceae that occur there. Killeen et al. (1993) is misleading for Ericaceae, since virtually all the taxa in Bolivia are shrubs not trees. There is, however, a project currently being organized by the Missouri Botanical Garden in collaboration with all the major herbaria in Bolivia and the New York Botanical Garden that has begun a modern checklist of the plants of Bolivia. With regards to the Ericaceae of Bolivia, only the larger overall treatment of the tribe Thibaudieae (=Vaccinieae) by A.C. Smith (1932) gives details of some of the Bolivian blueberries. The most up-to-date list of Ericaceae of Bolivia, along with some descriptions and photos, may be found on the website “Neotropical Blueberries” (Luteyn 1998). A list of all species of Ericaceae attributed to Bolivia, including the current status of names given by Foster (1958), is herein presented in an Appendix. The largest herbarium collection of Ericaceae in Bolivia is found in La Paz, at the National Herbarium (LPB); there is also a moderate sampling in Cochabamba (BOLV). The geographical regions of Bolivia in greatest need of more collecting and with greatest possibilities for more Ericaceae records would be the areas northeast of La Paz towards the frontier with Peru.

Neotropical Ericaceae, in general, have undergone dynamic speciation and extensive adaptive radiation due to their ecological and life-form plasticity, colonization abilities, adaptation to epiphytic habits, and co-evolution with hummingbirds (Luteyn 2002). Given the high diversity and endemism within neotropical Ericaceae, along with high levels of habitat alteration, protection of Andean montane ecosystems should become a priority for their conservation.

FAMILY DESCRIPTION AND KEYS TO THE BOLIVIAN SPECIES OF ERICACEAE

ERICACEAE

Terrestrial or epiphytic *shrubs*, *subshrubs*, sometimes lianoid, rarely trees, often rhizomatous; indumentum when present of simple unicellular hairs, that are usually translucent or whitish, these sometimes glandular tipped, or often (es-

pecially on leaves beneath) of multicellular, multiseriate, swollen-headed, usually glandular, hair-like structures called fimbriae which are brownish to reddish-brown. *Leaves* alternate, simple, usually petiolate, exstipulate but rarely bud scales appearing pseudostipular; lamina coriaceous to membranous, evergreen, the margin usually entire but sometimes serrulate-crenate, the venation pinnate or plinerved; leaf scars usually with a single vascular bundle scar, nodes usually with one trace and one gap. *Inflorescences* axillary, racemose, paniculate, fasciculate, or flowers solitary; individual flowers pedicellate or rarely sessile in axils of small or large, deciduous or persistent floral bracts; pedicel bibracteolate; bracteoles persistent, small or large. *Flowers* bisexual, actinomorphic or slightly zygomorphic, 5(-7)-merous, obdiplostemonous, hypogynous or epigynous and with a biseriate perianth, typically without floral odors, rarely with extrafloral nectaries, the superior-ovaryed genera pollinated by bees and the inferior-ovaryed genera by hummingbirds; aestivation valvate, imbricate, or reduplicate; calyx continuous or articulate with the pedicel, synsepalous, the sepals rarely fleshy and accrescent to the fruit, the hypanthium when present terete, angled, or winged; corolla membranous to thick-carnose, polypetalous or more commonly sympetalous, cylindric, campanulate or urceolate, terete or angled to winged opposite the lobes; stamens 8-10(-14), in 2 whorls, usually twice as many as the petals or rarely just as many, equaling the corolla in overall length or 1/2-1/3 the corolla length, equal with each other or alternately unequal, borne on the edge of an obscure to prominent nectariferous disc; filaments equal or unequal, usually straight or rarely S-shaped (geniculate), ligulate but sometimes basally dilated, sometimes also basally papillose, distinct or connate, with or without spurs, shorter or longer than the anther; anthers inverting during development, 2-celled, equal or unequal, often distally with 2 distinct or connate tubules or terminal awns, sometimes provided with abaxial spurs; disintegration tissue present or lacking; thecae smooth to coarsely granular, the base rounded to apendiculate; tubules when present conical and rigid or cylindric and flexible, of equal or ca. 1/2 the diameter of the thecae, longer to shorter than the thecae; dehiscence introrse by longitudinal or more typically by apical to subapical clefts or pores, rarely perfectly terminal; pollen grains in tetrahedral tetrads; carpels 4-5(-10), fused; ovary superior or inferior, usually with as many locules as carpels or with twice as many locules as carpels or rarely loculate in lower portion and 1-locular above; placentation axile, rarely intruded parietal; ovules numerous per locule or rarely solitary, anatropous to campylotropous with a single integumentary layer; style single, fluted, hollow; stigma simple but occasionally weakly lobed. *Fruit* a loculicidal or septicidal capsule, berry, or drupe, with a usually persistent, rarely accrescent and fleshy calyx; seeds small, ca. 1-1.5 mm long, usually numerous (1 per locule in *Gaylussacia*), winged or tailed only in *Bejaria*, sometimes enclosed in a mucilaginous sheath, the testa thin with elongated or isodiametric cells, the en-

dosperm fleshy, the embryo straight, usually white or sometimes green. *Chromosome numbers*: $x=6, 8, 11, 12(?), 13, 19, 23$.

Ericaceae comprise ca. 125 genera and 4500 species worldwide, and are cosmopolitan with the exception of Antarctica. Nineteen genera and 53 species are native to Bolivia. *Rhododendron simsii*, native to China, is sometimes cultivated in the montane areas throughout the Neotropics (including Bolivia), but is not treated here.

ENGLISH KEYS

Notes on using the keys

The keys below are based primarily on herbarium specimens, although living (*in situ* and greenhouse-grown plants), alcohol-preserved material, and photographs taken from field or greenhouse-grown material have been used. Floral measurements are taken from herbarium material at anthesis unless otherwise stated; colors are from fresh material observed by the author unless otherwise stated; if a range of measurements is not available, the known measurement is preceded by the abbreviation "ca." (about); calyx limb length includes measurement of the lobes, and anther length includes thecae and tubules.

KEY TO THE SPECIES OF BOLIVIAN ERICACEAE WITH SUPERIOR OVARIES

1. Corolla with petals separate; fruit a septicidal capsule _____ **Bejaria aestuans**
1. Corolla with petals fused; fruit a loculicidal capsule or berry.
 2. Stamens with filaments geniculate; anthers without terminal awns, and without white disintegration tissue on abaxial side _____ **Agarista boliviensis**
 2. Stamens with filaments straight; anthers with terminal awns, and with white disintegration tissue on abaxial side.
 3. Fruit a berry, rarely calyx becoming fleshy at base but never surrounding the berry _____ **Pernettya prostrata**
 3. Fruit a capsule, surrounded by the fleshy, accrescent calyx (calyx rarely not fleshy).
 4. Flowers solitary in axils of normal (or only slightly reduced) leaves.
 5. Thick-stemmed shrub to 5 m tall; corolla campanulate, broadest at apex, yellowish-green _____ **Gaultheria buxifolia** var. **secunda**
 5. Thin-stemmed subshrub to 0.4 (rarely 1–2) m tall; corolla urceolate to nearly subglobose, inflated at the base and very constricted at the throat, pink to rose-red _____ **Gaultheria vacinioides**
 4. Flowers in axillary racemes.
 6. Abaxial surface of lamina and entire inflorescence tomentose-lanate _____ **Gaultheria eriophylla** var. **mucronata**
 6. Abaxial surface of lamina and inflorescences glabrous or sparsely to densely pubescent but never tomentose-lanate.
 7. Young twigs and inflorescences conspicuously strigose with straight, rigid, appressed hairs, usually so dense as to obscure surfaces; lamina usually densely and persistently reddish-strigose beneath.
 8. Calyx glabrous; corolla glabrous to variably hairy, never densely strigose all over; ovary glabrous or very weakly short-pilose at apex;

- inflorescence congested (glomerate) at anthesis with the flowers broadly overlapping _____ **Gaultheria glomerata**
8. Calyx and corolla densely strigose-hirsute with ferruginous, subsetose, rarely glandular hairs; ovary densely short-white pilose or cinerous; inflorescence not congested at anthesis, the flowers widely spaced _____ **Gaultheria bracteata**
7. Young twigs and inflorescences glabrous or variously spreading pubescent, but not appressed-strigose with straight, rigid hairs; lamina glabrous or variously pubescent, but not strigose beneath.
9. Repent, rhizomatous subshrub, 0.1–0.2 m tall; leaf lamina usually obovate with the apex rounded _____ **Gaultheria hapalotricha**
9. Erect, subshrubs to shrubs, 0.1–8 m tall; leaf lamina various but only rarely obovate, the apex usually acute to acuminate.
10. Leaf lamina usually distinctly and prominently reticulate-veined on **both** surfaces, the base usually acute to rounded; inflorescences clustered at branch tips and conspicuously exceeding the leaves in length; calyx and corolla eglandular; corolla white, pilose within _____ **Gaultheria reticulata**
10. Leaf lamina not conspicuously reticulate-veined on both surfaces, the base usually rounded and deeply cordate; inflorescences scattered along branches, not exceeding leaves; calyx and corolla often glandular pubescent; corolla red, glabrous within _____ **Gaultheria erecta**

KEY TO THE SPECIES OF BOLIVIAN ERICACEAE WITH INFERIOR OVARIES

1. Stamens strongly unequal with filaments or anthers, **or** filaments and anthers alternately conspicuously unequal.
2. Filaments equal and connate over entire length; anthers with tubules widening distally.
3. Leaves elliptic-lanceolate, 6–10 cm long, 1.5–3 cm broad, basally obtuse to rounded, 3-plinerved; inflorescence densely pilose (except corolla); pedicels 16–21 mm long; corolla ca. 11 mm long _____ **Satyria boliviana**
3. Leaves elliptic-oblong, 3–6 cm long, 1.2–1.8 cm broad, basally cuneate to subattenuate, pinnately veined; inflorescence glabrous; pedicels 6–12 mm long; corolla ca. 6 mm long _____ **Satyria neglecta**
2. Filaments unequal, distinct or partially connate; anthers with sides parallel, not widening distally.
4. Anthers equal; stamens 1/2–1/3 as long as corolla; floral bracts rarely large and showy but if so then early deciduous.
5. Leaves pinnately veined _____ **Orthaea pinnatinervia**
5. Leaves plinerved.
6. Stems, petioles, leaves, rachis, pedicels, and corolla pilose _____ **Orthaea rusbyi**
6. Plants essentially glabrous.
7. Corolla 11–12 mm long _____ **Orthaea constans**
7. Corolla 15–33 mm long.
8. Staminal filaments distinct.
9. Rachis 3–5 cm long; pedicels 8–13 mm long _____ **Orthaea weberbaueri**
9. Rachis ca. 1 cm long; pedicels ca. 7 mm long _____ **Orthaea ignea**
8. Staminal filaments connate.

10. Staminal dehiscence by terminal or subterminal pores _____ **Orthaea boliviensis**
10. Staminal dehiscence by lateral clefts _____ **Orthaea ferreyrae**
4. Anthers unequal; stamens as long as corolla or rarely 1/2–2/3 the corolla length; floral bracts usually large and showy, usually persistent through anthesis.
11. Inflorescence a panicle _____ **Cavendishia martii**
11. Inflorescence a raceme.
12. Calyx densely woolly, the matted hairs persistent; leaves persistently soft-pilose beneath _____ **Cavendishia pubescens**
12. Calyx glabrous to pilose, but never woolly and the hairs never matted; leaves glabrous to glabrate _____ **Cavendishia bracteata**
1. Stamens equal with filaments and anthers of equal lengths (rarely anthers inconspicuously alternately unequal).
13. Bracteoles located at apex of pedicel and surrounding calyx (and sometimes lower corolla).
14. Leaves less than 5 mm broad.
15. Corolla campanulate-cylindric, 10–14 mm long, white sometimes tinted with pink _____ **Disterigma pernettyoides**
15. Corolla subcylindric to somewhat urceolate, 6–9 mm long, red _____ **Disterigma empetrifolium**
14. Leaves more than 5 mm broad.
16. Corolla 10–12 mm long, narrowly cylindric, red _____ **Disterigma pallidum**
16. Corolla 4.5–7.5 mm long, subcylindric to ovate-urceolate, white to red.
17. Flowers 4-merous; corolla subcylindric, rarely puberulous within; staminal filaments distinct _____ **Disterigma alaternoides**
17. Flowers usually 5-merous (sometimes 4-merous); corolla ovate-urceolate, conspicuously pilose within; staminal filaments coherent at base _____ **Disterigma ovatum**
13. Bracteoles located well below apex of pedicel, **or** if apical then not clasping calyx.
18. Tubules elongate, thin, very graceful, about half as wide (or less) as thecae; dehiscence pores perfectly terminal.
19. Filaments distinct; rachis to 0.5 cm long; calyx ca. 9 mm long; corolla 35–37 mm long _____ **Siphonandra magnifica**
19. Filaments connate; rachis 2–5 cm long; calyx 7–8 mm long; corolla 25–48 mm long.
20. Corolla ca. 25 mm long _____ **Siphonandra elliptica**
20. Corolla 43–48 mm long _____ **Siphonandra boliviana**
18. Tubules about as wide as thecae, **or** if narrower then proportionally much shorter than thecae; dehiscence by lateral slits or elongate clefts.
21. Thecae conspicuously papillate; tubules rigid, elongate- to short-conical; stamens often 1/3–1/2 as long as corolla.
22. Leaves stiff coriaceous; pedicels 20–40(–55) mm long; calyx lobes prominent, 3–5 in number, often in a state of fusion, 1–3 mm long; corolla 18–35 mm long; stamens 9–15 mm long _____ **Psammisia guianensis**
22. Leaves chartaceous to soft coriaceous; pedicels 10–14 mm long; calyx lobes lacking or 5, apiculate and less than 0.4 mm long; corolla 25–40 mm long; stamens 8–10 mm long _____ **Psammisia pauciflora**
21. Thecae smooth to minutely papillate; tubules flexible, cylindric, elongate to short; stamens usually as long as corolla.

23. Calyx articulate with pedicel.
24. Corolla elongate-tubular, (7–)11–27 mm long, normally carnose or coriaceous, the lobes valvate; filaments short and inconspicuous with regard to anthers.
25. Corolla 20–27 mm long; staminal filaments distinct.
26. Leaves truncate or subcuneate at base; calyx smooth, not papillose at base _____ **Thibaudia macrocalyx**
26. Leaves attenuate at base; calyx strongly papillose at base _____ **Thibaudia axillaris**
25. Corolla 7–13 mm long; staminal filaments connate.
27. Leaves obtuse, rounded to subcordate at base; twigs, leaves, and inflorescences (including rachis, pedicels, calyx and sometimes corolla) densely white pilose _____ **Thibaudia densiflora**
27. Leaves cuneate, attenuate or subattenuate at base; plant surfaces glabrous or essentially so.
28. Leaf apex acute; calyx 5.5–6 mm long, the lobes deltate, ca. 1 mm long _____ **Thibaudia regularis**
28. Leaf apex obtuse; calyx 2.5–3.5 mm long, the lobes apiculate, less than 1 mm long _____ **Thibaudia crenulata**
24. Corolla urceolate to campanulate, 7–12 mm long, normally of thin texture and membranaceous, the lobes imbricate; filaments proportionally long with regards to anther length.
29. Ovary with a single ovule in each of the 10 locules; fruit a drupe with 10 pyrenes _____ **Gaylussacia cardenasii**
29. Ovary with few to numerous ovules in each of the 5(–10) locules; fruit a many-seeded berry.
30. Leaves glabrous or lacking subfasciculate hairs beneath; corolla cylindric-urceolate, white to pinkish _____ **Vaccinium floribundum**
30. Leaves with subfasciculate hairs beneath; corolla rotate-campanulate, green _____ **Vaccinium dependens**
23. Calyx continuous with pedicel, the pedicel not jointed at apex.
31. Calyx conspicuously angled to 5-winged; corolla terete or angled.
32. Calyx angled opposite the lobes _____ **Polyclita turbinata**
32. Calyx angled to winged alternate with the lobes.
33. Leaves linear, ca. 2 mm broad, 1-nerved _____ **Rusbya taxifolia**
33. Leaves mostly ovate, greater than 1 cm broad, multi-nerved.
34. Plants with pilose-hispid habit (including twigs, petioles, leaves beneath, racemes, pedicels, and calyx); corolla cylindric, terete throughout, 9–10 mm long, sparsely pilose distally _____ **Themistoclesia peruviana**
34. Plants with glabrous habit (although leaves beneath with brownish fimbriae); corolla urceolate-turbinate, conspicuously swollen at base and narrowed at throat, bluntly 5-angled, 8–11 mm long, glabrous _____ **Themistoclesia unduavensis**
31. Calyx terete; corolla terete.

35. Corollas usually large, carnose to coriaceous, (0.6–)1.5–5 cm or more long, if less than 1 cm then staminal tubules twice as long as thecae; staminal tubules 2–5 times longer than thecae; seeds with white embryos.
36. Corolla 0.6–0.8 cm long, white to pinkish _____ **Demosthenesia pearcei**
36. Corolla 1.7–5 cm long, red.
37. Corolla 2–3 cm long and 3–8 mm diam., slightly zygomorphic _____ **Demosthenesia mandonii**
37. Corolla 3.5–5 cm long and 7–10 mm diam., actinomorphic _____ **Demosthenesia spectabilis**
35. Corollas small, thin-membranaceous, up to 10 mm long, but if longer then filaments proportionally much longer than anthers; staminal tubules about equalling anthers; seeds with green embryos.
38. Flowers usually in few- to many-flowered fascicles or racemes, rarely solitary; pedicels slender but not properly cernuous; filaments usually shorter than anthers.
39. Inflorescence a fascicle of 3–6 flowers, the rachis none _____ **Diogenesia boliviana**
39. Inflorescence a raceme of up to 18 flowers, the rachis 2.5–6 cm long _____ **Diogenesia racemosa**
38. Flowers 1–2 per axil; pedicels usually relatively long and thin, filiform, cernuous, **or** rarely absent (i.e., flowers sessile); filaments usually longer than anthers.
40. Flowers sessile _____ **Sphyrospermum sessiliflorum**
40. Flowers conspicuously pedicellate.
41. Leaves suborbicular to oblong-ovate, (0.7–) 0.9–1.5(–1.8) cm long, the apex rounded or obtuse; flowers usually extending well beyond the leaves; corolla 4–6 mm long; stamens 4 _____ **Sphyrospermum buxifolium**
41. Leaves ovate to ovate-lanceolate, usually conspicuously longer than broad, (1–)2–3.5 (–5) cm long, the apex obtuse to acute, sometimes shortly and bluntly acuminate; flowers rarely extending beyond the leaves; corolla (4–)5–7(–9) mm long; stamens 4–5 or 8–10 _____ **Sphyrospermum cordifolium**

SPANISH KEYS

Notas sobre la utilización de las claves

Las siguientes claves se basan principalmente en ejemplares de herbario, aunque también en material vivo (*in situ* y de plantas de invernadero), material preservado en alcohol y fotografías tomadas en el campo y en invernaderos. Las medidas florales se tomaron del material de herbario en la antesis a menos que se diga lo contrario; los colores se tomaron del material vivo observados por el autor a menos que se diga lo contrario; si no se tiene un intervalo de

medidas, entonces las medidas conocidas se presentan precedidas por la abreviación “ca.” (cerca); la longitud del limbo del cáliz incluye la medida de los lóbulos y la longitud de la antera incluye las tecas y los túbulos.

CLAVE PARA LAS ESPECIES BOLIVIANAS DE ERICACEAE
CON OVARIO SÚPERO

1. Corola con pétalos separados; fruto una cápsula septicida _____ **Bejaria aestuans**
1. Corola con pétalos unidos; fruto una cápsula loculicida o una baya.
 2. Estambres con filamentos geniculados; anteras sin aristas terminales y sin tejido blanco desintegrado en el lado abaxial _____ **Agarista boliviensis**
 2. Estambres con filamentos rectos; anteras con aristas terminales y con tejido blanco desintegrado en el lado abaxial.
 3. Fruto una baya, raras veces el cáliz se vuelve carnoso en la base pero nunca rodea la baya _____ **Pernettya prostrata**
 3. Fruto una cápsula, rodeada por el cáliz carnoso y acrescente (cáliz raras veces no carnoso).
 4. Flores solitarias en las axilas de las hojas normales (o ligeramente reducidas).
 5. Arbusto de tallo grueso hasta 5 m de altura; corola campanulada, más ancha en el ápice, verde-amarillenta _____ **Gaultheria buxifolia** var. **secunda**
 5. Subarbusto de tallo delgado hasta 0,4 (raras veces 1–2) m de altura; corola urceolada a estrechamente subglobosa, inflada en la base y muy contraída en la garganta, rosada a rosado-roja _____ **Gaultheria vaccinioides**
 4. Flores en racimos axilares.
 6. Superficie abaxial de la lámina y toda la inflorescencia lanado-tomentosas _____ **Gaultheria eriophylla** var. **mucronata**
 6. Superficie abaxial de la lámina y la inflorescencia glabras o esparcidas a densamente pubescentes pero nunca lanado-tomentosas.
 7. Ramas jóvenes e inflorescencias conspicuamente estrigosas con pelos rectos, rígidos, adpresos, generalmente tan densos que ocultan las superficies; lámina en general densa y persistentemente rojizo-estrigosa en el envés.
 8. Cáliz glabro; corola glabra a variablemente pubescente, nunca densamente estrigosa en todas partes; ovario glabro o muy débil y cortamente piloso en el ápice; inflorescencia congestionada (aglomerada) en la antesis con las flores ampliamente sobrepuestas _____ **Gaultheria glomerata**
 8. Cáliz y corola densamente estrigoso-hirsuta con pelos ferrugíneos, subsetosos, raras veces glandulares; ovario densamente piloso con tricomas cortos, blancos o cinéreos; inflorescencia no congestionada en la antesis, las flores ampliamente espaciadas _____ **Gaultheria bracteata**
 7. Ramas jóvenes e inflorescencias glabras o variadamente con pubescencia espaciada pero no apresado-estrigosa con pelos rectos, rígidos; lámina glabra o variadamente pubescente pero no estrigosa en el envés.
 9. Subarbustos rizomatosos rastreros, 0,1–0,2 m de altura; lámina de la hoja generalmente obovada con el ápice redondeado _____ **Gaultheria hapalotricha**
 9. Subarbustos a arbustos erectos, 0,1–8 m de altura; lámina de la hoja de forma variada pero raras veces obovada, el ápice generalmente agudo a acuminado.

10. Lámina de la hoja en general marcada y prominentemente reticulado-nervada en **ambas** caras, la base generalmente aguda a redondeada; inflorescencias agrupadas en la punta de las ramas y conspicuamente excediendo la longitud de las hojas; cáliz y corola eglandulares; corola blanca, pilosa por dentro _____ **Gaultheria reticulata**
10. Lámina de la hoja no conspicuamente reticulado-nervada en ambas superficies, la base generalmente redondeada y profundamente cordada; inflorescencias espaciadas a lo largo de las ramas, sin exceder la longitud de las hojas; cáliz y corola a menudo pubescente-glandulosos; corola roja, glabra por dentro _____ **Gaultheria erecta**

CLAVE PARA LAS ESPECIES BOLIVIANAS DE ERICACEAE CON OVARIO ÍNFERO

1. Estambres desiguales con filamentos o anteras, **o** filamentos y anteras alternamente desiguales en forma conspicua.
 2. Filamentos iguales y connados en toda su longitud; anteras con túbulos ensanchándose distalmente.
 3. Hojas elíptico-lanceoladas, 6–10 cm de largo, 1,5–3 cm de ancho, obtusas a redondeadas basalmente, 3-plinervias; inflorescencia densamente pilosa (excepto en la corola); pedicelos 16–21 mm de largo; corola ca. 11 mm de largo _____ **Satyria boliviana**
 3. Hojas elíptico-oblongas, 3–6 cm de largo, 1,2–1,8 cm de ancho, cuneadas a subatenuadas basalmente, pinnatinervias; inflorescencia glabra; pedicelos 6–12 mm de largo; corola ca. 6 mm de largo _____ **Satyria neglecta**
 2. Filamentos desiguales, libres o parcialmente connados; anteras con los lados paralelos, sin ensancharse distalmente.
 4. Anteras iguales; estambres 1/2–1/3 tan largos como la corola; brácteas florales raras veces grandes y vistosas pero si así, entonces deciduas tempranamente.
 5. Hojas pinnatinervias _____ **Orthaea pinnatinervia**
 5. Hojas plinervadas.
 6. Tallos, pecíolos, hojas, raquis, pedicelos y corola pilosos _____ **Orthaea rusbyi**
 6. Plantas esencialmente glabras.
 7. Corola 11–12 mm de largo _____ **Orthaea constans**
 7. Corola 15–33 mm de largo.
 8. Filamentos estaminales libres.
 9. Raquis 3–5 cm de largo; pedicelos 8–13 mm de largo _____ **Orthaea weberbaueri**
 9. Raquis ca. 1 cm de largo; pedicelos ca. 7 mm de largo ____ **Orthaea ignea**
 8. Filamentos estaminales connados.
 10. Dehiscencia estaminal por poros terminales o subterminales __ **Orthaea boliviensis**
 10. Dehiscencia estaminal por suturas laterales _____ **Orthaea ferreyrae**
 4. Anteras desiguales; estambres tan largos como la corola o raras veces 1/2–2/3 de la longitud de ésta; brácteas florales generalmente grandes y vistosas, generalmente persistentes durante la antesis.
 11. Inflorescencia en panícula _____ **Cavendishia martii**
 11. Inflorescencia en racimo.
 12. Cáliz densamente lanoso, los pelos enredados persistentes; hojas con pelos suaves persistentes por el envés _____ **Cavendishia pubescens**

12. Cáliz glabro a piloso pero nunca lanoso y los pelos nunca enredados; hojas glabras a glabrescentes _____ **Cavendishia bracteata**
1. Estambres iguales con filamentos y anteras de igual longitud (raras veces las anteras alternamente desiguales en forma inconspicua).
13. Bractéolas localizadas en el ápice del pedicelo y rodeando el cáliz (y algunas veces la parte baja de la corola).
14. Hojas menos de 5 mm de ancho.
15. Corola campanulado-cilíndrica, 10–14 mm de largo, blanca, algunas veces teñida de rosado _____ **Disterigma pernettyoides**
15. Corola subcilíndrica a algo urceolada, 6–9 mm de largo, roja _____ **Disterigma empetrifolium**
14. Hojas más de 5 mm de ancho.
16. Corola 10–12 mm de largo, estrechamente cilíndrica, roja _____ **Disterigma pallidum**
16. Corola 4,5–7,5 mm de largo, subcilíndrica a ovado-urceolada, blanca a roja.
17. Flores 4-meras; corola subcilíndrica, raras veces pubérula por dentro; filamentos estaminales libres _____ **Disterigma alaternoides**
17. Flores generalmente 5-meras (algunas veces 4-meras); corola ovado-urceolada, conspicuamente pilosa por dentro; filamentos estaminales cohesionados en la base _____ **Disterigma ovatum**
13. Bractéolas localizadas muy por debajo del ápice del pedicelo **o** si apical entonces sin abrazar el cáliz.
18. Túbulos alargados, delgados, casi tan ancho como la mitad (o menos) de la teca; dehiscencia por poros perfectamente terminales.
19. Filamentos libres; raquis hasta 0,5 cm de largo; cáliz ca. 9 mm de largo; corola 35–37 mm de largo _____ **Siphonandra magnifica**
19. Filamentos connados; raquis 2–5 cm de largo; cáliz 7–8 mm de largo; corola 25–48 mm de largo.
20. Corola ca. 25 mm de largo _____ **Siphonandra elliptica**
20. Corola 43–48 mm de largo _____ **Siphonandra boliviana**
18. Túbulos casi tan anchos como la teca **o** si más delgados, entonces proporcionalmente mucho más cortos que la teca; dehiscencia por suturas laterales o hendiduras alargadas.
21. Teca conspicuamente papilosa; túbulos rígidos, alargados a cortamente cónicos; estambres a menudo 1/3–1/2 tan largos como la corola.
22. Hojas rígidamente coriáceas; pedicelos 20–40(–55) mm de largo; lóbulos del cáliz prominentes, 3–5, a menudo algo fusionados, 1–3 mm de largo; corola 18–35 mm de largo; estambres 9–15 mm de largo _____ **Psammisia guianensis**
22. Hojas cartáceas a suavemente coriáceas; pedicelo 10–14 mm de largo; lóbulos del cáliz ausentes ó 5, apiculados y menos de 0,4 mm de largo; corola 25–40 mm de largo; estambres 8–10 mm de largo _____ **Psammisia pauciflora**
21. Teca lisa a diminutamente papilosa; túbulos flexibles, cilíndricos, alargados a cortos; estambres generalmente tan largos como la corola.
23. Cáliz articulado con el pedicelo.
24. Corola alargada, tubular, (7–)11–27 mm de largo, normalmente carnosa o coriácea, los lóbulos valvados; filamentos cortos e inconspicuos con respecto a las anteras.

25. Corola 20–27 mm de largo; filamentos estaminales libres.
26. Hojas truncadas o subcuneadas en la base; cáliz liso, no papiloso en la base _____ **Thibaudia macrocalyx**
26. Hojas atenuadas en la base; cáliz fuertemente papiloso en la base _____ **Thibaudia axillaris**
25. Corola 7–13 mm de largo; filamentos estaminales connados.
27. Hojas obtusas, redondeadas a subcordadas en la base; ramas, hojas e inflorescencias (incluyendo raquis, pedicelos, cáliz y algunas veces la corola) densamente blanco-pilosas _____ **Thibaudia densiflora**
27. Hojas cuneadas, atenuadas o subatenuadas en la base; superficies de la planta glabras o esencialmente glabras.
28. Ápice de la hoja agudo; cáliz 5,5–6 mm de largo, los lóbulos deltados, ca. 1 mm de largo _____ **Thibaudia regularis**
28. Ápice de la hoja obtuso; cáliz 2,5–3,5 mm de largo, los lóbulos apiculados, menos de 1 mm de largo _____ **Thibaudia crenulata**
24. Corola urceolada a campanulada, 7–12 mm de largo, normalmente de textura delgada y membranácea, los lóbulos imbricados; filamentos proporcionalmente largos con respecto a la longitud de las anteras.
29. Ovario con 10 lóculos, un solo óvulo por lóculo; fruto una drupa con 10 pirenos _____ **Gaylussacia cardenasii**
29. Ovario con 5(–10) lóculos, pocos a numerosos óvulos en cada lóculo; fruto una baya con muchas semillas.
30. Hojas glabras o sin pelos subfasciculados en el envés; corola cilíndrico-urceolada, blanca a rosada _____ **Vaccinium floribundum**
30. Hojas con pelos subfasciculados en el envés; corola rotado-campanulada, verde _____ **Vaccinium dependens**
23. Cáliz continuo con el pedicelo, no articulado.
31. Cáliz conspicuamente angulado hasta 5-alado; corola terete o angulado.
32. Cáliz angulado opuesto a los lóbulos _____ **Polyclita turbinata**
32. Cáliz angulado a alado alterno con los lóbulos.
33. Hojas lineares, ca. 2 mm de ancho, 1-nervias _____ **Rusbya taxifolia**
33. Hojas principalmente ovadas, más de 1 cm de ancho, multinervias.
34. Plantas con hábito hispido-piloso (incluyendo ramas, pecíolos, envés de las hojas, racimos, pedicelos y cáliz); corola cilíndrica, completamente terete, 9–10 mm de largo, espaciadamente pilosa en el parte distal _____ **Themistoclesia peruviana**
34. Plantas con hábito glabro (aunque el envés de las hojas con fimbrias de color castaño); corola urceolado-turbinada, conspicuamente hinchada en la base y estrecha en la garganta, ampliamente 5-angulada, 8–11 mm de largo, glabra _____ **Themistoclesia unduavensis**

31. Cáliz terete; corola terete.
35. Corola generalmente grande, carnosa a coriácea, (0,6–)1,5–5 cm o más de largo, si menos de 1 cm entonces los túbulos estaminales dos veces tan largos como las tecas; túbulos estaminales 2–5 veces más grandes que las tecas; semillas con embriones blancos.
36. Corola 0,6–0,8 cm de largo, blanca a rosada ____ **Demosthenesia pearcei**
36. Corola 1,7–5 cm de largo, roja.
37. Corola 2–3 cm de largo y 3–8 mm en diám., ligeramente zigomorfa _____ **Demosthenesia mandonii**
37. Corola 3,5–5 cm de largo y 7–10 mm en diám., actinomorfa _____ **Demosthenesia spectabilis**
35. Corola pequeña, delgada, membranácea, hasta 10 mm de largo, pero si es más larga entonces los filamentos proporcionalmente mucho más largos que las anteras; túbulos estaminales casi igualando las anteras; semillas con embriones verdes.
38. Flores generalmente en fascículos o racimos de pocas a muchas flores, raras veces solitarias; pedicelos delgados pero no propiamente péndulos; filamentos generalmente más cortos que las anteras.
39. Inflorescencia en fascículos de 3–6 flores, sin raquis _____ **Diogenesia boliviana**
39. Inflorescencia en racimos de hasta 18 flores, el raquis 2,5–6 cm de largo _____ **Diogenesia racemosa**
38. Flores 1–2 por axila; pedicelos en general relativamente largos y delgados, filiformes, péndulos o raras veces ausentes (flores sésiles); filamentos generalmente más largos que las anteras.
40. Flores sésiles _____ **Sphyrospermum sessiliflorum**
40. Flores conspicuamente pediceladas.
41. Hojas suborbiculares a oblongo-ovadas, (0,7–)0,9–1,5(–1,8) cm de largo, el ápice redondeado u obtuso; flores generalmente extendiéndose mucho más allá de las hojas; corola 4–6 mm de largo; estambres 4 ____ **Sphyrospermum buxifolium**
41. Hojas ovadas a ovado-lanceoladas, en general conspicuamente más largas que anchas, (1–)2–3,5(–5) cm de largo, el ápice obtuso a agudo, algunas veces corta y llanamente acuminado; flores raras veces extendiéndose más allá de las hojas; corola (4–)5–7(–9) mm de largo; estambres 4–5 u 8–10 ____ **Sphyrospermum cordifolium**

NEW SPECIES

Siphonandra boliviana Luteyn, sp. nov. (**Fig. 1**). TYPE: BOLIVIA. DEPTO. LA PAZ. Prov. Bautista Saavedra: Charazani, W of Chullina, 3400 m, 1 Aug 1994 (fl), B. Herzog H200 (HOLOTYPE: NY; ISOTYPES: LZ, s.n.).

A *S. magnifica* staminum filamentis connatis nec distinctis, rhachidibus 2–5 nec 0.5 cm longis, et ab *S. elliptica* corollis 45–47 nec ca. 25 mm longis differt.

Shrub (size unknown); mature branches terete, glabrous, the bark exfoliating in thin strips; twigs subterete, sometimes shallowly angled or ribbed, short-pilose with white hairs; buds axillary, the scales 2, valvate, ca. 2 mm long, short-pilose. *Leaves* alternate, coriaceous, elliptic to oblanceolate, 2.5–5.5 cm long, 1–1.8 cm broad, basally cuneate, apically broadly acute to nearly obtuse, marginally entire, essentially glabrous above or sparsely short-pilose proximally along midrib, sparsely pilose beneath especially along midrib, also provided with reddish-brown, basally swollen, glandular fimbriae beneath; pinnately nerved with 4–6 secondary veins anastomosing near margin, the midrib and secondary veins impressed above and raised beneath, the reticulate veins plane to slightly impressed above but inconspicuously raised beneath; petiole rugose, subterete, broadly flattened above, 4–5 mm long. *Inflorescence* axillary, racemose, ca. 20-flowered, apparently nodding; rachis subterete, striate to angled, densely short-pilose with white hairs, at least 5 cm long (still in bud, apparently still elongating); floral bracts ovate, acuminate, 3–4 mm long, densely short-pilose; pedicels subterete, striate to angled, densely short-pilose as rachis, 11–13 mm long; bracteoles located in proximal 1/3 pedicel, similar to floral bracts, 2–3 mm long. *Flowers*: calyx articulate with pedicel, 7–8 mm long, densely short-pilose as rachis; hypanthium cylindrical, ribbed, 4–5 mm long, rounded at base; limb spreading-campanulate, 3.8–4.5 mm long; lobes 5, deltate, acute, 1.5–2 mm long; sinuses obtuse; corolla of 5 fused petals, long-cylindrical, 43–48 mm long, 6–7 mm diam., short-pilose throughout, with white hairs, the lobes 5, deltate, acute, ca. 2 mm long; stamens 10, equal, ca. 32 mm long; filaments connate, glabrous, ca. 7 mm long; anthers ca. 28 mm long; thecae granular, ca. 6 mm long, incurved at base; tubules thin, delicate, about half as wide as thecae, ca. 22 mm long, dehiscing by perfectly terminal, flaring pores; ovary 5-locular; style about equaling corolla. *Berry* not seen.

Distribution.—Endemic to Bolivia and known only from the type collection, which was made in a *Weinmannia* forest.

Etymology.—The species is named for the country Bolivia to which it is endemic.

Siphonandra is a small, distinctive, high-elevation genus of three species: *S. elliptica* which is common and ranges from south-central Peru to northern Bolivia, *S. magnifica* which is endemic to Bolivia and is herewith maintained despite the fact that the type and only specimen was destroyed during World War II, and the new species herein described *S. boliviana*, for which only the type collection is known. With only one extant collection of the latter two species, it is difficult to assess the relationships between any of the three species in this genus. Nevertheless, *S. boliviana* is easily distinguished morphologically from the other two species by the characters mentioned in the key and diagnosis.

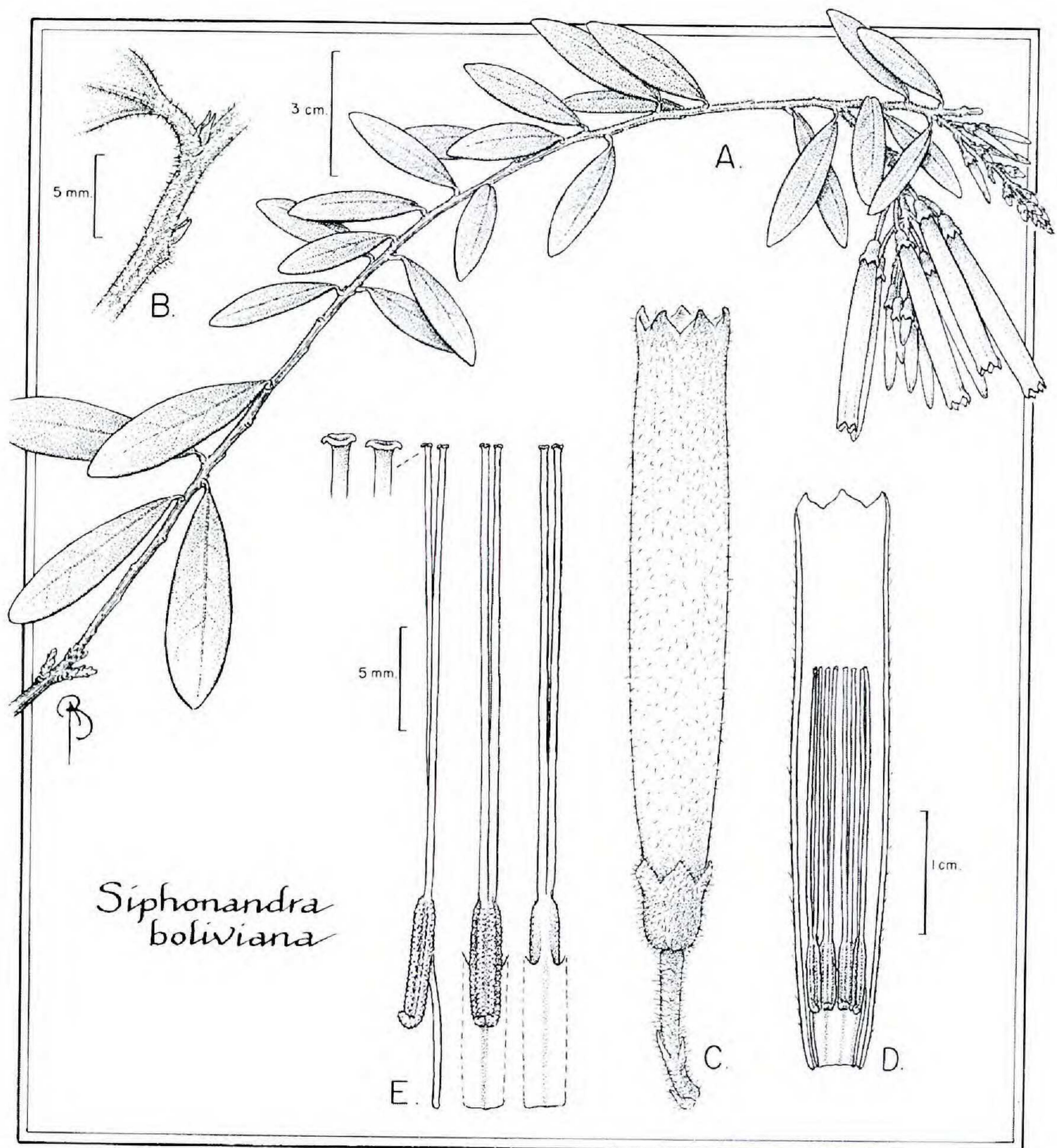


FIG. 1. *Siphonandra boliviana* Luteyn. A. Habit. B. Portion of stem showing pubescence. C. Flower showing floral bract, pedicel, bracteoles, calyx and corolla. D. Longitudinal section of corolla showing position of stamens. E. Stamens showing side, front, and back views with details of terminal dehiscence pores. (From type collection).

Themistoclesia unduavensis Luteyn, sp. nov. (**Fig. 2**). TYPE: BOLIVIA. DEPTO. LA PAZ. Prov. Nor Yungas: trail to Río Coscapa, ca. 2.5 km E of Unduavi, along new rd to Coroico, and ca. 6 km W of Cotapata, ca. 16° 17'S, 67° 53'W, 3200–3350 m, 19 Mar 2000 (fl), J.L. Luteyn, E. Ann Powell & S. Beck 15471 (HOLOTYPE: NY; ISOTYPES: AAU, CAS, F, K, LPB, MO, TEX, plus 6 others to be distributed by LPB).

A *T. peruviana* habitu glabro nec piloso-hispido, corolla ventricosa et angulosa nec cylindrica et teretia, et glabra nec pilosa distaliter differt.

Rhizomatous, terrestrial or epiphytic *subshrubs*, to 30 cm tall; mature stems terete, striate, glabrous, the bark cracking longitudinally but not exfoliating;

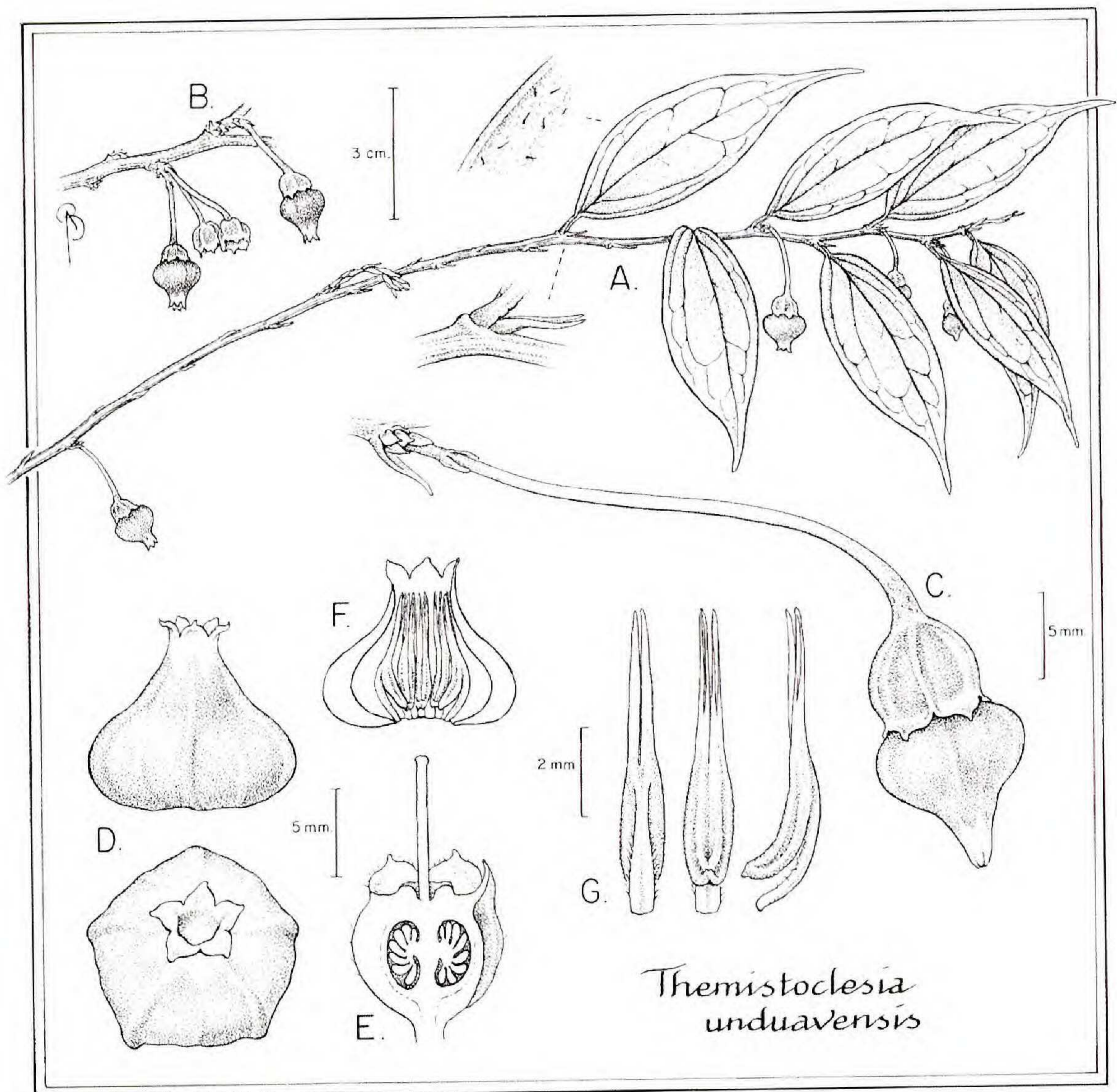


FIG. 2. *Themistoclesia unduavensis* Luteyn. A. Habit with details of leaf undersurface and axillary bud-scales. B. Portion of stem showing inflorescences. C. Inflorescence showing twig, floral bracts, pedicel, bracteoles, calyx, and corolla. D. Corolla showing side and top views. E. Longitudinal section of calyx. F. Longitudinal section of corolla showing position of stamens. G. Stamens showing back, front, and side views. (A from *Solomon 18195*; B-G from type collection).

twigs subterete, flattened to broadly and obtusely ribbed, weakly striate, glabrous; buds axillary, the scales 2, valvate, ovate, acuminate to acicular, 4–5 mm long. *Leaves* alternate, coriaceous, slightly bullate, clustered near apex, ovate to elliptic-ovate, 4.4–9 cm long, 1.4–4.5 cm broad, basally rounded to obtuse, apically long-acuminate, marginally entire, glabrous on both surfaces but provided with brownish, glandular fimbriae beneath; 3–5-plinerved with inner nerves arising 7–11 mm above base, midrib, lateral nerves, and reticulate veinlets impressed above and raised beneath; petioles rugose, subterete, broadly flattened above, 3.5–5 mm long, glabrate. *Inflorescences* axillary but usually from older, leafless nodes, flowers 1–2(–3) per node, when 2–3 then with very short

rachis; rachis (when present) subterete, 1–4 mm long, glabrous, obscure; floral bract ovate, acute, somewhat cucullate, ca. 2 mm long, marginally glandular-fimbriate, glabrous; pedicels slender, subterete, striate, sharply angled distally, 14–18 mm long, glabrous; bracteoles nearly basal, ovate, acuminate ca. 3 mm long, glabrous but marginally glandular-fimbriate. *Flowers*: calyx continuous with pedicel, 6–8.5 mm long, essentially glabrous; hypanthium obpyramidal, strongly 5-winged, 3.5–5 mm long, sparsely short-pilose along proximal portions of wings; limb spreading, ca. 3–3.5 mm long; lobes 5, broadly ovate, sharply and shortly acuminate, ca. 2–2.8 mm long, sparsely short-pilose along margins; sinuses acute; corolla of 5 fused petals, carnose, urceolate-turbinate, broadly swollen basally, broadly and bluntly 5-angled, 8–11 mm long, 7–12 mm diam. at base, glabrous, reddish-orange, the lobes 5, reflexed, deltate, acute, ca. 1.5 mm long, green in bud but becoming light green to white at anthesis; stamens 10, equal, nearly as long as corolla, ca. 8 mm long; filaments distinct, sparsely short-pilose, ca. 2.5–3 mm long; anthers ca. 7–7.5 mm long; thecae smooth, incurved at base, ca. 3.5 mm long; tubules distinct to base, ca. 3.5–4 mm long; ovary 5-locular; style about equaling corolla. Berry not seen.

Distribution.—Endemic to Bolivia and known only from the province of Nor Yungas, between Unduavi and Cotapata, at ca. 3000–3500 m. The plants are found in the wet, moss-covered, cloud forest associated with *Clusia*, *Weinmannia*, *Hedyosmum*, *Brunellia*, *Miconia*, and *Desfontainea*.

Etymology.—The species is named for the small village of Unduavi, close to the locality from which all collections have been made.

Themistoclesia is a neotropical genus of ca. 25 species, ranging from Costa Rica and Panama through the Andes of South America from Venezuela into northern Bolivia. *Themistoclesia unduavensis* may be distinguished by its rhizomatous, subshrub habit, somewhat bullate leaves, 1–3-flowered, axillary and often ramiflorous inflorescences, carnose corollas that are bluntly 5-angled and basally swollen, and reddish-orange corollas with green to white lobes. Individually each of these characters is either absent or uncommon amongst the other species in the genus, and the combination of characters effectively isolate this species from all others.

Additional collections examined: **BOLIVIA. La Paz. Nor Yungas**: between Unduavi and Cotapata, ascending Páramo Yunqueño, 3200 m, 8 Apr 1996 (fl), *Beck* 22680 (NY, LBP); Unduavi, 3000 m, Jul 1965 (fl), *Braun* 37 (US); 4 km E of Unduavi Nuevo, mule trail of Rusby, 3300 m, 20 Mar 1988 (fl), *Grifo & Solomon* 1005 (BH, NY); trail to Río Coscapa, ca. 3 km E of Unduavi along new rd, 5.6 km W of Cotapata, 3300–3500 m, 5 May 1990 (fl), *Luteyn & Dorr* 13476 (NY, LPB, plus 5 to be distributed); 1.4 km E of Cotapata, 3200 m, 20 Mar 1988 (fl), *Solomon* 18195 (MO, NY).

APPENDIX

List of all species of Ericaceae attributed to Bolivia, including current status of names given by Foster (1958). [Key: names appearing in *italics* are currently

synonyms; names appearing in Roman are currently accepted; ! = new species; **BO** = species endemic to Bolivia (or nearly so); * = species endemic to northern Bolivia and adjacent central to southern Peru; ** = species not found in Bolivia; **CULT** = introduced ornamental species.]

Agarista boliviensis (Sleumer) Judd **BO** (but see Judd and Hermann 1990)

Befaria = *Bejaria*

Befaria boliviensis B.Fedtsch. & Basilevsk. = *Bejaria aestuans*

Befaria denticulata Remy = *Bejaria aestuans*

Befaria glauca Bonpl. = *Bejaria aestuans*

Befaria glauca var. *coarctata* (Bonpl.) Mansf. & Sleumer = *Bejaria aestuans*

Befaria glauca var. *glandulosa* Mansf. & Sleumer = *Bejaria aestuans*

Befaria glauca var. *setosa* Mansf. & Sleumer = *Bejaria aestuans*

Befaria glauca var. *tomentella* Mansf. & Sleumer = *Bejaria aestuans*

Befaria hispida Poeppig & Endl. = *Bejaria aestuans*

Befaria parvifolia Rusby = *Bejaria aestuans*

Bejaria aestuans L.

Cavendishia acuminata (Hook.) Hemsl. = *Cavendishia bracteata*

Cavendishia beckmanniana Hoerold = *Cavendishia bracteata*

Cavendishia bracteata (Ruiz & Pav. ex J.St.-Hil.) Hoerold

Cavendishia martii (Meissn.) A.C.Sm. *

Cavendishia paniculata Rusby = *Cavendishia martii*

Cavendishia pubescens (Kunth) Hemsl.

Cavendishia pubescens var. *boliviensis* Hoerold = *Cavendishia pubescens*

Cavendishia sillarensis Herzog = *Cavendishia bracteata*

Cavendishia strobilifera (Kunth) Hoer. = *Cavendishia bracteata*

Ceratostema hookeri Britton = *Siphonandra elliptica*

Ceratostema serratum Britton = *Thibaudia macrocalyx*

Chupalon viridiflorum Kuntze = *Cavendishia martii*

Clethra spp. = *Clethraceae*

Demosthenesia fabulosa (Sleumer) A.C.Sm. = ?

(type and only specimen destroyed during World War II; protologue insufficient for generic determination)

Demosthenesia graebneriana (Hoerold) A.C.Sm. = *D. mandonii*

Demosthenesia mandonii (Britton) A.C.Sm. *

Demosthenesia pearcei (Britton) A.C.Sm. **BO**

Demosthenesia spectabilis (Rusby) A.C.Sm. *

Diogenesia boliviana (Britton) Sleumer **BO**

Diogenesia racemosa (Herzog) Sleumer **BO**

Disterigma alaternoides (Kunth) Nied.

Disterigma alaternoides var. *parvifolium* (Benth.) A.C.Sm. = *Disterigma alaternoides*

Disterigma empetrifolium (Kunth) Drude

Disterigma ovatum (Rusby) S.F.Blake *

Disterigma pallidum A.C.Sm. **BO**

Disterigma pernettyoides (Griseb. ex Wedd.) Nied. *

Eleutherostemon bolivianum (Britton) Herzog = *Diogenesia boliviana*

Eleutherostemon racemosum Herzog = *Diogenesia racemosa*

Gaultheria anastomosans (L.f.) Kunth = not found in Bolivia, only in Colombia and Venezuela

Gaultheria barosmoides Rusby = *Gaultheria vaccinioides*

Gaultheria brachybotrys DC. = *Gaultheria glomerata*

Gaultheria bracteata (Cav.) G.Don *

Gaultheria buxifolia Willd. var. *secunda* (Remy) Luteyn *

Gaultheria conferta Benth. = *Gaultheria anastomosans*

Gaultheria cordifolia Kunth = *Gaultheria erecta*

Gaultheria erecta Vent.

Gaultheria eriophylla (Pers.) Sleumer ex Burt var. *mucronata* (Remy) Luteyn *

Gaultheria formosa Remy = *Gaultheria erecta*

Gaultheria glabra DC. = *Gaultheria reticulata* Kunth

Gaultheria glomerata (Cav.) Sleumer

Gaultheria hapalotricha A.C.Sm.

- Gaultheria mucronata* Remy = *Gaultheria eriophylla* var. *mucronata*
Gaultheria odorata Bredemeyer ex Willd. = *Gaultheria erecta*
Gaultheria pichinchensis Benth. = *Gaultheria glomerata*
Gaultheria remyana A.C.Sm. = *Gaultheria eriophylla* var. *mucronata*
Gaultheria reticulata Kunth
Gaultheria rufescens DC. = *Gaultheria bracteata*
Gaultheria saxicola Wedd. = *Gaultheria vaccinioides*
Gaultheria secunda Remy = *Gaultheria buxifolia* var. *secunda*
Gaultheria serrulata Herzog = ? *Gaultheria vaccinioides* x *G. erecta* (see Luteyn 1995)
Gaultheria tetrishes Rusby = *Gaultheria erecta*
Gaultheria tomentosa Kunth **
Gaultheria vaccinioides Wedd. *
Gaylussacia cardenasii A.C.Sm. **BO**
Gaylussacia pseudogaultheria Cham. & Schlecht. = not found in Bolivia, only in Brazil
Hornemannia boliviensis Kuntze = *Thibaudia boliviensis*
Leucothoë boliviensis Sleumer = *Agarista boliviensis*
Orthaea boliviensis B.Fedtsch. & Basilevsk. **BO**
Orthaea constans A.C.Sm. **BO**
Orthaea ferreyrae A.C.Sm. *
Orthaea ignea Sleumer *
Orthaea pinnatinervia Mansf. *
Orthaea rusbyi Luteyn **BO**
Orthaea weberbaueri Hoerold *
Pernettya densa Rusby = *Pernettya prostrata*
Pernettya phylluraefolia (Pers.) DC. = not found in Bolivia, only Argentina and Chile
Pernettya prostrata (Cav.) DC.
Pernettya prostrata var. *pentlandii* (DC.) Sleumer = *Pernettya prostrata*
Pernettya prostrata var. *purpurea* (D. Don ex G. Don) Sleumer = *Pernettya prostrata*
Pernettya schizostigma Rusby = *Pernettya prostrata*
Polyclita turbinata (Kuntze) A.C.Sm. **BO**
Psammisia elliptica (Rusby) A.C.Sm. = *Psammisia pauciflora*
Psammisia guianensis Klotzsch
Psammisia pauciflora Griseb. ex A.C.Sm.
Rhododendron simsii Planchon **CULT**
Rusbya boliviana Britton = *Diogenesia boliviana*
Rusbya pearcei Britton = *Demosthenesia pearcei*
Rusbya taxifolia Britton **BO**
Satyria boliviana Luteyn **BO**
Satyria neglecta A.C.Sm. **BO**
Siphonandra boliviana Luteyn **! BO**
Siphonandra elliptica (Ruiz & Pav. ex G. Don) Klotzsch *
Siphonandra magnifica Sleumer = ? (type and only specimen destroyed during World War II, but protologue sufficient for determination) **BO**
Siphonandra pilosa A.C.Sm. = *Siphonandra elliptica*
Sophoclesia robusta Rusby = *Sphyrospermum cordifolium*
Sphyrospermum buxifolium Poeppig & Endl.
Sphyrospermum cordifolium Benth.
Sphyrospermum sessiliflorum Luteyn **BO**
Themistoclesia peruviana A.C.Sm. *
Themistoclesia unduavensis Luteyn **! BO**
Thibaudia axillaris Rusby **BO**
Thibaudia boliviensis (Kuntze) Hoerold = *Thibaudia crenulata*
Thibaudia crenulata Remy *
Thibaudia densiflora (Herzog) A.C.Sm. **BO**
Thibaudia macrocalyx Remy **BO**
Thibaudia oblongifolia Remy = *Cavendishia pubescens*
Thibaudia regularis A.C.Sm. *
Vacciniopsis ovata Rusby = *Disterigma ovatum*
Vacciniopsis tetramera Rusby = *Disterigma alaternoides*
Vaccinium dependens (G. Don) Sleumer *
Vaccinium didymanthum Dunal = not in Bolivia, only Peru
Vaccinium empetrifolium Kunth = *Disterigma empetrifolium*
Vaccinium epacridifolium Benth. = *Disterigma empetrifolium*
Vaccinium floribundum Kunth
Vaccinium floribundum var. *ramosissimum* (Dunal) Sleumer = *Vaccinium floribundum*
Vaccinium floribundum var. *tatei* (Rusby) Sleumer = *Vaccinium floribundum*
Vaccinium marginatum Dunal = *Vaccinium floribundum*

Vaccinium penaeoides Kunth = *Disterigma empetrifolium* *Vaccinium polystachyum* Benth. = *Vaccinium floribundum*

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