

MISCELLANEOUS NOTES ON NEOTROPICAL FLORA, IX.

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The present notes are descriptions of new taxa in the genus *Espeletia*, Compositae, extracted from studies for the forthcoming revision in preparation, following similar lines of the previous contributions of this series. See *PHYTOLOGIA* 32 (4): 312-326, 1975, and vol. 35(1): 43-61, 1976. The basic work for these notes has been partially sponsored by the National Science Foundation (Grant GB 32086).

ESPELETIA ROBERTII Cuatr. sp. nov.

Caulirosula habitu alba moderate laxeque foliata, 40-60 cm ampla, trunco brevi vel usque ad 70 cm alto cum foliis marcescentibus dense tecto.

Folia coriacea crassiuscula rigidula utrinque dense albolanata, in totum 30-40 cm longa. Lamina anguste elongato-elliptica, oblongo-oblancoolata, apice acuta inferne gradatim attenuata et in ad modum pseudopetioli angustissime marginati angustata, 26-35 cm longa, 2-3.2 cm lata, ratio 9-12:1 (-16:1), supra basim infra indumentum 4-7 mm minima latitudine, margine integra revolutaque; indumento amoto adaxiale leviter rugulosa asperulata, costa plana vel leviter impressa vel inferne leviter elevata, nervis secundariis parum visibilibus, abaxiale costa bene elevata lateraliter argute angulata sed dorso plano et argute striato, nervis secundariis prominentibus in angulo 40-50° ascendentibus marginem versus arcuatis anastomosantibus, nervis tertiis transversis etiam prominentibus, flexuosis et cum minoribus in reticulo elevato anastomosatis, alveolis ovalibus profundis cum pilis minutis visu albissimus nitidis repletis; adaxiale spisse lanata et villosa pilis longis densis basim 2-3-spiraliter contortis spiris adpressis, sed extremo elongatis undulato-ascendentibus ad superficiem parallellis subadpressis insuper velo sericeo plus minusve villosa-barbato (praecipue in juvenilibus) instructis; abaxiale magis crasse lanata in nervatione pilis basi incrassata densissimis plurispiraliter patulis in lana crispa intricatis, ad costam densioribus basi crispis ceterum ascendentibus et insuper adpresse sericeis instructis. Pseudopetiolus plus minusve manifestus 4-6 (-8) cm longus, indumento crasso amoto 5-7 mm latus, costa crassa baxiale argute striata lateraliter cum lamina decurrenti revolutaque anguste vel angustissime marginata, basi robustior triangulare dilatata et in vaginam producta. Vagina 5-8 x 3-4.5 cm, coriacea trapeziales oblonga apice obtusa basim versus leviter dilatata, multiparalleli-nervata adaxiale glabra abaxiale villosa-sericeo-

barbata pilis strictissimis albidis antrorsis parallelis circa 25 mm longis. Folia incipientia gemmae terminalis densissime crassissimeque plurispiraliter crispo-lanata et insuper dense aureo val albo-sericea.

Inflorescentia axillares saepe plurae (4-8) interdum numerosae coetaneae in rosula, foliis duplo vel ultra longiores. Axes 50-80 cm longi; pars proximalis vegetativa 1-2-paribus foliorum parte media et circa basim insertis; foliis proximalibus basilaribus 3.5-8(-11) cm supra basim orientibus, 22-15 cm longis longe vaginantibus, laminis lineari-sublanceolatis coriaceis rigidulis textura indumentoque illis rosulariis similibus sed angustioribus, vaginis 3.5-4 cm longis membranceis ad axem amplectente adpressis, basi in tubum 1.5-2 cm longum connatis; in aliquot speciminibus foliis basilaribus absentibus; foliis medialibus similibus sed minoribus 8-11 (-14) x 0.8-1.3 (1.8) cm, subacutis crassiusculis rigidis, vagina 2.5-3.5 cm adpressa, tubo 0.4-1.3 cm longo. Pars distalis fertilis cyma simplice tricephala terminalis bibracteata vero instructa, pedunculo centrali 4-7 cm lateralibus bracteatis 3-6 cm longis, bracteis subcoriaceis ellipticis subacutatis basi concava breviter connatis amplectentibus intus glabris multiparallele nervatis extus crasse flavescente lanatis; ad apicem pedunculum centralem bractea una vel duae additionales ellipticae concavae basi amplectentes crasse aureo-crispo-lanatae ad capitulum adpressae saepe praesentes. Capitula ampla vel magna in sicco (30-) 40-55 cm diametentia, lateralia quam terminale minora (30-40 mm), omnia nutantia. Saepissime capitula lateralia non evoluta, inflorescentia capitulum singulum terminalem sed cum omnibus bracteis subtendentibus adsunt reducta est. Interdum synflorescentiae 5 (-4) capitulis instructae, 2-1 paracladiis monocephalis additionalibus evolutis, internodio fertili ad 26 cm longo paracladiis ad 18 cm longis. Axes foliaque crasse molli-terque albo-lanata insuper albo longe barbata, base axibus longe sericeo-barbata pilis antrorsis ad 25 mm longis, parte distali seu pedunculi capitula bracteaeque crassissime aureo vel luteo-crispo-lanatae.

Capitula ampla subgloboso-campanulata aureo-lanata (390-) 500-800 flores ferentia, ligulis amotis 30-50 mm circulo ligulari 40-50 mm disco 24-28 mm diametro. Involucrum cupulato-campanulatum 30-43 mm diam, 16-22 mm altum. Phyllaria sterilia pluriseriata circa 20 (16-22), saepe 1-2 magis externa 30-21 x 21-18 mm, ovata vel elliptica subacuta, 4-6 sequentia 27-21 x 18-15 mm, late ovata obtusa vel interdum subite acutata, basi concava, crasse herbacea intus multinervata glabra apice lanata excepta, extus crasse aureo-lanata, sequentia 3-7 intermedia 21-17 x 13-8 mm, elliptico-oblonga subite vel attenuate acutata, extus dense lanuginosa, et circa 9 interiora 17-14 x 8-5 mm, oblonga vel elliptico-oblonga acuta vel subacuta tenuiora dorso dense lanuginea. Interdum phyllaria exteriora angustiora e.g., 25-23 x 10 mm, elliptica acutata. Phyllaria fertilia 15-13(-11) x 6-4 mm, elliptico-oblonga vel lance-oblonga, subacuta vel acuta vel subite acutata, firme membrancea basi incrassata plana

extus lanata vel lanuginosa vel villosa-lanuginosa apice lanugineo-barbato, pilis 1.5 mm, adaxiale tenuiter 3-5 barbata, media et interiora 12-10 x 4-3 mm, ovalia acuta firme scariosa basi indurato-incrassata, amplexentia, tenuiter plurinervata dorso plus minusve, subapice apiceque ferrugineo barbata, pilis 1.5-0.5 mm longis flexuosis acutis, et copiose glandulifera glandulis erectis 0.5-0.8 mm longis. Receptaculum planum glabrum, 16-18 mm diametro. Paleae 11-9 x 4-3 (-2) mm, scariosae basi incrassatae, ovales vel elliptico-oblongae, acutae vel subacutae, naviculare amplexentes tenuiter multinervatae costa magis notata extremo apice excepto dorsale barbatae pilis flexuosis 0.5-1.5 mm acutis, margine dorso apiceque copiose glanduliferae glandulis erectis 0.03-0.1 mm.

Flores radii ligulati 85-153 in capitulo. Corolla lutea 13-20 mm longa, tubo 3-4.5 mm, interdum apice dente adaxiale brevi munito, copiose vel densiuscule glandulifero, glandulis columnaribus basim incrassatis 0.05-0.1 mm patulo-ascendentibus adaxiale saepe praecipue basi et apicem parvis vel raris pilis tenuibus subobtusis vel obtusis 0.2-0.5 mm; lamina lineari vel oblonga vel spatulata 1.3-2.1 mm lata firmula saepe longitudinale complicata, apice irregulariter 2-3-dentata, dentibus obtusis vel acutiusculis saepe divergentibus basi acute aperta 7-9 nervata, abaxiale sparsis glandulis minutis, 0.02-0.05 mm. Stylus 8-9 (-12) mm longus ramis subulatis acutis 2.5-3.5 mm longis. Achaenia vel ovaria exteriora 3-3.1 x 2.5-2 mm obovata triangulata saepe fere cordata apice emarginata basim attenuata, angulis argutis dorso plano vel paulo convexo, interiora 3-3.2 x 1-1.2 mm oblonga tetragona apice breviter emarginata basi attenuata angulis argutis vel angulo abaxiale obtusiusculo

Flores disci 391-680 in capitulo. Corolla lutea 8.5-11.5 mm longa, tubo 3-4 mm longo, basim versus glabro cetero copiose glandulifero glandulis columnaricapitatis 0.04-0.1 mm longis, interdum etiam praecipue ad apicem parcissimis pilis obtusis vel acutis ascendentibus 0.1-0.8 mm, limbo tubuloso sursum haud vel leviter ampliato, basi glandulifero et rare parvis pilis, sursum saepe parvis glandulis sparsis raro adaxiale parvis pilis, lobis triangulatis 1.2-1.5 (-1.7) mm altis marginibus incrassatis et densis papillis crassiusculis obtusissimis 0.05 mm, abaxiale copiosis glandulis capitatis 0.02-0.03 mm, raro 1-2 pilis acutis 0.2-0.3 mm munitis. Antherae 3-3.5 mm longae basi breviter acuteque sagittatae appendice apicali 0.4-0.7 mm ovata acuta vel subacuta; collum basim antheram attingens vel paulo longius. Stylus 10-12 mm, apice parum dilatatus bifidus lobis semicylindricis 0.5 mm longis dorsale papillis densis 0.05-0.08 mm. Nectarium tubulosum 1.3-1.5 mm longum crassiusculum inaequaliter dentatum.

Typus: Colombia, Norte de Santander - Cesar: linea divisoria, Cerro de Las Jurisdicciones (Cerro Oroque), 20 km al sur de Abrego, 3700-3900 m, caulirrosuletum de 0.8 m, inflorescencia péndula, ligulas amarillas, flósculos carmelitas, pedúnculos amarillos, 22-27 Jul 1974, H. Garcia-Barriga & Roberto Jaramillo-Mejía 20648; holotypus US; isotypus COL. Other collections:

Same location than type: caulirrosuletum 0.7 m, capítulos grandes amarillos, lígulas amarillo-claro, flósculos amarillos, 22-27 Jul 1974, H. Garcia-Barriga and Roberto Jaramillo M. 20729, paratypi, COL, US. Id. id. loc., caulirrosuletum 0.6 m, involucro blanco amarillento, ligulas amarillo claro, flósculos amarillo fuerte, pedúnculos blancos, Garcia-Barriga and R. Jaramillo M. 20662 (COL, US); Id. id. loc. caulirrosuletum 0.5 m, hojas muy blancas angostas, cabezuelas péndulas, brácteas blanco-amarillentas, lígulas y flósculos amarillo claro, Garcia-Barriga and R. Jaramillo M. 20652 (COL, US). Id. id. 3700-3960 m, acaule, tallos blancos brácteas amarillentas, lígulas y flósculos amarillos, hojas blancas, roseta central amarillo-dorado, 19-21 May 1969, Garcia-Barriga and R. Jaramillo M. 19753 (COL, US). New Grenada around Ocaña, 5 Dec. 1878, Kalbreyer 466 (K).

Espeletia roberti is endemic of the paramo hills of Las Jurisdicciones which are the divider between Departamentos of Norte de Santander and Cesar in the Ocaña region. It is closely related to *E. estanislana*, an endemic of Paramos del Almorzadero and Santurbán. From the latter it may be easily distinguished, among other differences, by its harder and larger leaves with a more compact and appressed indument. A photograph was published by H. Garcia-Barriga in *Flora Medicinal de Colombia*, vol. III, Fig. 374, plate between pages 346 and 347, publisher: Instituto de Ciencias Naturales, Bogotá, 1975.

Espeletia roberti is dedicated to my long time friend and companion of many of my botanical excursions in the eastern Colombian Andes, Roberto Jaramillo Mejia, well known Colombian botanist, indefatigable, efficient plant collector and one of the most knowledgeable of Colombian plants.

ESPELETIA BARCLAYANA Cuatr. sp. nov.

Caulirosula erecta visu albidá vel viridi-alba trunco simplice usque ad 1.2 m alto cum foliis marcescentibus eis vaginis spisse imbricatis densissime crasseque obtecto.

Folia coriacea erecta et semipatula, utrinque crasse denseque lanata alba vel viridi-cinerea, 28-40 cm longa, breviter pseudopetiolata. Lamina 19-30 cm longa 4.5-9 cm lata (ratio 3-4:1), elliptica apice subite attenuata obtuse vel acute angulata, interdum late ovato-lanceolata, basi subite vel gradatim in pseudopetiolum brevem contracta (0.8-1.4 cm late) margine integra anguste revoluta; supra visu levis costa plana fere inconspicua densissime crasseque lanata pilis tenuibus crispis valde intricatis sed extremis subrectis longis (5-10 mm) antrorsis ad modum barbularum adpressas insuper formantibus; subtus nervatio notata costa robusta striolata marginibus angulatis crassissime denseque crispo-lanata nervis secundariis prominentibus notatis 7-10 (5-14) mm inter se distantibus angulo 45-60° (40-70°) ascendentibus, circa marginem arcuatis anastomosantibus, nervis tertiis cum minoribus anastomosatis reticulum minutum prominentem leviter 2-3-stratosum formantibus; nervatio dense longeque intricate lanata, indumento crispo et barbulo

albo superficiem omnium tegenti, fundo alveolis minutissime etiam parce pilosulo. Pseudopetiolus brevis, 2-3.5 mm longis, 7-12 (-14) mm latus plus minusve anguste cum lamina decurrenti marginatum, basi triangulare dilatatum, densissime crassissime-que lanatum et ad basim insuper longe barbatum et in vaginam productus. Vagina rigide crasseque coriacea ovato-deltaidea subtriangulata vel trapeziale, basi valde latiori, 6.5-9 cm longa, 7-10.5 cm lata, argute multinervata, adaxiale apice excepto glabra, abaxiale dense adpresse antrorso barbata pilis fulvis usque ad 20 mm longis, ad apicem utrinque densissime crassissimeque intricato-lanata et insuper barbata.

Inflorescentiae axillares cymoso-paniculatae, rosula foliorum circa duplo longiores. Axis 40-75 cm longus robustus erectus, 3/4-4/5 parte vegetativa (32-57 cm longa) aphylla, crasse denseque albo-lanata; parte distali fertili ramosa late bracteata 5-11 capitula ferenti, tria in cyma terminali instructa cetera in 1-2 paribus ramorum oppositorum ascendentium disposita; internodia longitudine inferiori (vel unico) (3-) 5-9 cm longa, superiori 2.5-4.5 cm longa, terminalis (seu pedicellus centralis) 1.3-3 cm longus. Rami proximales cyma 3-capitulifera ad 17 cm in toto longi instructi alteri monocephali ad modum pedunculos 9-4 cm longos. Pedicelli secundarii saepe 3-3.5 cm longi. Interdum infra capitulum axe pedunculisque parte bractearum steriliam instructis. Rami sicut internodia pedunculi pedicellique crasse albo vel flavo-lanati et plus minusve barbati. Bractee subtendentes foliaceae lineari-ellipticae basi per paria decussatae amplectentes, inferiores 7-8 x 1.5 cm, medianae 5-4 x 3-1.5 cm, supremae 4.5-3.5 x 1.5-1 cm, spisse crasseque lanatae barbulataeque, albae vel ochroleucae adaxiale glabrescentes.

Capitula turbinato-globosa circa 3 cm diametentia 300-320 flores ferentia circulo ligularum 35-40 mm, disco 18-20 mm diametro. Involucrum cupulatum dense crasseque albido-lanatum. Phyllaria sterilia 7-9 subbiseriata 26-18 mm longa 11-5 mm lata sed intima 16-14 x 6-4 mm, crasse herbacea, circa basim incrassata, oblonga, attenuata obtusiuscula vel obtusa, abaxiale dense crasseque lanata, adaxiale sursum etiam lanata deorsum glabra nitidaque, sed interiora paulo villosa apicem barbata. Phyllaria fertilia 14-10 x 5-2.2 mm, oblonga attenuata acuta vel subite acutata basim versus leviter attenuata exteriora dense longe intricato-lanata altera villosa sursum flexuoso-barbata introrsum gradatim magis glabrescentia, sed intima scariosa acuta plurinervata dorso paulo longi-pilosa apice barbata pilis antrorsis acutis 1-1.5 mm. Receptaculum plano-convexum 9-10 mm diametro subglabrum tantum parcis pilis acutis erectis 0.4-1 mm longis. Paleae scariosae, 8-9 x 1.8-3 mm, hyalinae lineares vel ovali-lineares acutae basim gradatim angustatae, amplectente naviculares tenuiter pluri-nervatae subapicem subcucullatum extus barbato pilis erectis flexuosis 0.5-1.5 mm.

Flores radii feminei 110-120 in capitulo. Corolla lutea (15-) 19-23 mm longa tubo (2.5-) 2.8-3.5 (-3.8) mm longo angusto dense patulo-antrorso piloso pilis basim crassiusculis conicis

apice subacutis vel longioribus acutis 0.2-0.6 (-1) mm longis et parcis glandulis minute pediculatis; lamina linearis vel oblanceolato-linearis basim versus paulo attenuata convolutaque basi acute aperta (1.5-) 2-3.5 mm lata, apice 2-3-dentata, 6-9 nervis subtus plus minusve prominentibus et parcis glandulis minutis ad dorsum sparsis. Stylus 6-10 mm longus ramis crassiusculis 1.6-2.8 mm longis. Ovaria exteriora ovoidea triangulata apice emarginata basi obtusiuscula 2 x 1.1-1.7 mm, interiora oblonga quadrangulata 2.2-2.5 x 0.5-1 mm.

Flores disci 190-200 in capitulo. Corolla lutea 8-8.5 mm longa, tubo 2.8-3.2 mm, sparse vel copiose brevipiloso, pilis luteolo-hyalinis antrorsis subacutis basim conicis 0.1-0.4 mm longis, et parcis glandulis minute pediculatis 0.025 mm, limbo tubuloso ad basim etiam pilosulum et parce glandulifero; lobis triangularibus vel oblongo-triangularibus 0.8-1.2 mm longis, margine incrassato minute papillosis abaxiale barbularis, parcis pilis acutis flexuosis 0.1-0.6 mm et parcis glandulis sparsis munitis. Antherae 3-3.5 mm basi breviter sagittatis, appendice ovato-oblonga acuta 0.6-0.8 mm longa. Stylus 8-9 mm. Nectarium tubulosum 0.8-1 mm. Ovarium abortivum pediculiformi circa 0.5 mm.

Typus: Colombia, Cundinamarca: Hill NW of Embalse near the Telecón Station in the vicinity of Represa del Neusa, 3650 m, dry paramo with Calamagrostis effusa, caulirosula, the stem 30 cm high, leaves green-grayish, tomentose, ligules yellow, 26 May 1972, Antoine M. Cleef & R. Jaramillo-M. 4174; holotypus US, isotypi, COL, U. Other collections: Id. id, hills west side of lake at Represa del Neusa, east and northeast facing slopes, 3400 m, 22 Jun 1957, Harriet Barclay 4145, paratypus (COL). Id. Páramo de Laguna Seca, entre Cogua y San Cayetano, 3630 m, 3 Apr 1977, Diaz-Piedrahita & Cleef 804 (COL, U, US).

Espeletia barclayana belongs to the relationship of *E. lopezi*. It is distinguished mainly by the inflorescences much longer than the leaves bearing smaller and usually more numerous heads, and by the different shape of the leaf-blades. The name commemorates the extensive collections of paramo plants made by Dr. Harriet Barclay during her several years of ecologic work in the high tropical Andes of Ecuador, Colombia and Venezuela.

ESPELETIA IDROBOI Cuatr. sp. nov.

Caulirosula usque ad 2 m alta, circa 50 cm lata visu albida vel viridi-cinerea, caule dense crasseque cum foliis marcescentibus coriaceis tecto. Gemma terminalis foliaque juvenilia initialia crasse sublanata et sericea luteo-aurea vel fulvescentia.

Folia coriacea crassiuscula in vivo mollia flexibilia utrinque dense crasseque albo-lanata, breviter pseudopetiolata, adulta 38-42 (-50) cm totae longitudine. Lamina 27-33 x 5.5-8 cm ratio 4-5:1, anguste elliptica lanceolataque utrinque attenuata apice acuta basim gradatim in pseudopetiolum 2-3 cm longum 7-8 mm latum angustata, margine integerrima revolutaque, costa

robusta supra subplana levissime striolata subtus valde prominenti subplana striata et argute costulato-marginata basim gradatim triangulato-ampliata; adaxiale cinerea vel viridi-albida cum pilis tenuissimis 10-15 mm longis plurispiralicon-tortis intricatisque tecta, costa insuper pilis ascendentibus adpressis nitidulo-sericea notata, abaxiale indumento simili sed crassiori et nervis secundariis bene conspicuis, prominentibus circa 7-10 (-15) mm inter se distantibus, in angulo 45-60° ascendentibus extremo valde arcuatis prope marginem subcurrentibus anastomosantibusque, nervis tertiis irregulariter transversis et cum minoribus reticulum crassiusculum minutum subbistratosum formantibus, areolis fundo pilis brevissimis albidis dilutis munitis sed cum indumento crispo-lanato venulorum omnino tectis. Petiolus brevissimus tantum 2-3 cm longum exalatum vel interdum angustissime alatum et basitriangulari subite in vaginam dilatata commutata. Vagina coriacea 7-8 x 7-8.5 cm, robusta argute paralleli nervata, adaxiale glaberrima viridi apice densissime lanato-barbata excepta, abaxiale dense adpresseque sericeo-barbata pilis albidis strictissimis parallelis antrorsis ad 25 mm longis praedita.

Inflorescentiae thyrsoideae axillares 5-10 in rosula, tertia vel dimidia parte folia excedentes. Axis robustus striatus 56-80 cm longus; pars proximalis vegetativa $2/3-1/2$ totius longitudinis aequans, 2-4 paribus foliorum sterilium instructus; folia decussata proximalia 1-4 cm supra basim inserta, 25-30 cm longa, lamina sublanceolata 2-3 cm lata basim versus angustata et basi in vaginam 5-6 cm longam amplectentem ad basim 1-2 cm longe tubulosam producta, altera proxima similia sed paulo breviora cetera sursum gradatim minora omnia textura indumentoque folia rosularia similia, internodiis proximalibus 11-13 cm longis, sequentis sursum 13-18 cm, 12-14 cm longis; pars fertilis moderate floribunda 12-23 capitula grandiuscula ferens tria in cyma terminali instructa cetera in 3-4 paribus ramorum oppositorum angulo acuto ascendentium disposita. Rami in 1-3 parium proximalium cymae 3-capituliferae instructi, aliquando 2-capitula ferentes, ceteri monocephali. Internodia proximalia 7-13 cm longa, cetera sursum 6.5-10 cm, 5-7.5 cm, 3-5.5 cm, terminale (pedicellum centrale) 1.5-4.5 cm longum. Rami internodia valde excedentes proximales distales non attingentes, visu ad modum pyramydale dispositi, proximales 14-16 cm longi, sequentes 13-15 cm, 7-10 cm, 5-6 cm, pedicellis ultimis 3-5 cm longis; omnes rami pedicellique erecti sed extremo flexuoso-arcuato capitula nutantia ferentes. Bractee subtendentes lineari-lanceolatae vel lineares acutae foliaceae sed basi semiamplectenti paulo vaginosa inferne adaxiale glabra sursum sicut abaxiale dense lanata, proximales 6-14 x 1-2 cm, cum vagina ad 4 cm tubulo 0.6 cm longo, alterae 5-8 x 1-1.2 cm vagina usque 2-4 cm, ceterae 5-4.5 x 1.5-1 cm, 3.5-3 x 1-0.8 cm, omnes quam ramis vel pedunculis pedicellisque breviores. Axi et rami dense crasseque ochroleuco-lanati villosobarbati, pedicelli sicut bractee supremae et involucra, crasse denseque aureo-lanati.

Capitula radiata grandia longipedicellata nutantia, aureo-lanata, 175-200 flores ferentia ligulis amotis 25-30 mm diametro (in sicco), circulo ligularum 30-35 mm, disco 16-20 mm diametro. Involucrum cupulatum 12-16 mm altum circa 25 mm diametrens dense aureo-lanatum. Phyllaria sterilia 8-10 circa triseriata subchartacea exteriora plerumque 5, dua magis externa elliptica plus minusve attenuata subobtusa, 30-26 x 15-13 mm, tria obovato-elliptica obtusa vel subobtusa, 23-19 x 15-11 mm, cetera obovato-elliptica vel oblongo-attenuata 17-14 x 10-6 mm, omnia maturitate basi plus minusve incrassata, abaxiale adpressiuscule lanata, adaxiale sursum etiam lanata inferne glabra. Phyllaria fertilia exteriora subchartacea 15-11 x 6-5 mm, oblonga apice attenuata basi maturitate incrassato-indurata plurinervata, introrsum decrescentia ad 10 x 5 mm et magis acutata, abaxiale sublanuginosa vel adpresse villosa pilis plus minusve flexuosis acutissimis circa 1 mm, et glandulis 0.02-0.07 mm munita; intima tenera sed firmula acuta 10 x 3.5-3 mm nervata, praecipue ad costam basi incrassata indurataque, extus sparse pubescenti-villosa, margine sursum apiceque ciliata pilis 0.5-1 mm plus parcis glandulis praedita. Receptaculum plano-convexum, glabrum 12-13.5 mm diametro. Paleae rigide scariosae 8.5-9 x 3-4 mm, ovaes, acutae, 7(-9)-nervata, secus costam robustiusculam subcarinatam complicatae amplectentes marginibus hyalinis, ad apicem dorso marginibusque pubescenti-subciliatae pilis subflexuosis acutis patulis 0.5-1 mm et parcissimis glandulis capitatis minutis, 0.05 mm ornatae.

Flores radii ligulati 40-44 in capitulo 3-seriati. Corolla lutea 12-14 mm longa, tubo 1.8-2 mm alto raro apice adaxiale appendice lineari ad 5 mm longa instructo, dense piloso pilis crassis obtusis 0.05-0.15 (-0.2) mm et parcis glandulis conicis capitatis circa 0.05 mm, interspersis. Lamina lineari elliptica 2.3-3 mm lata subobtusa 3-2 dentata, 8-9-nervata duobus nervis magis conspicuis dorso inferne sparse pilosula et glandulosula reliqua sparsissimis glandulis minutis munita. Stylus 7-8 mm ramis subulatis 2-2.5 mm longis. Achaenia exteriora 3.8-4.2 x 2 mm obovato-oblonga triangulata apice obtusa basi acutata dorso curvato-convexo, interiora 3.8-4.2 x 1.2 mm oblonga quadrangulata apice obtusa basi leviter acutata.

Flores disci 140-154 in capitulo. Corolla lutea 8.5-9 mm longa, tubulo 3.5 mm sursum sparse piloso, pilis crassis obtusis saepe conicis raro acutis vel subacutis 0.05-0.2 mm, limbo tubuloso sursum leviter ampliato basi parcis pilis minutis, lobis 1.1-1.4 mm altis, triangulatis acutis margine incrassatis et mamillato-papillosis, abaxiale glabris. Antherae 3.1-3.2 mm longae basi minute auriculatae, appendice apicali ovata subacuta 0.5 mm longa. Stylus lobis brevibus subrhomboideis papillosis. Nectarium tubulosum dentatum 0.9-1 mm longum. Ovarium abortivum pediculiforme, 0.4-0.5 mm altum.

Typus: Colombia, Cauca: Macizo Colombiano, Valle de Las Papas, vicinity of Valencia, 2910 m alt, caulirosuletum at 1.5 m, on marshy ground, rays yellow, "frailejón", 11-IX-1-X - 1958, Jesus M. Idrobo, P. Pinto+Bischler 3212; holotypus, COL;

isotypus, P. Other collections: Id. Páramo de Las Papas, between Letreros and Santo Domingo, 3350 m, caulirosuletum at 2 m tall, leaf sheaths adaxially white, rays yellow, 16-IX - 1958, Idrobo, P. Pinto-Bischler 3372, paratypus (P, COL). Id. Valle de Las Papas, near Valencia, Los Andes, 3150 m, on extensive Espeletia-grass cienaga, caulirosuletum 2 m tall, leaves gray felty-woolly, young leaves deep gold to beige, with long light hairs at petioles, flowering stems and involucres densely yellow-hairy, rays yellow, 19 Oct. 1958, H. Barclay & Juaquibioy 6083 (US); same loc. 3150 m, caulirosuletum to 1-2 m, leaves gray, heads on long very hairy-yellow stocks involucral bracts yellow, rays yellow, 19 Oct. 1958, H. Barclay & Juaquibioy 6082 (US); id loc. 3140 m, 1.5 m tall, 25-IX - 19-X - 1958, Barclay & Juaquibioy 5797 (US).

Espeletia idroboi is the only representative species with a pseudopetiolate-lanceolate type of leaves in the Central Cordillera of Colombia; it is also characterized by its particular lanate indument, white on the leaf blades and yellowish at the inflorescences, by the long peduncles or pedicels and the longer phyllaries surpassing the flowers.

ESPELETIA FRONTINOENSIS Cuatr. sp. nov.

Caulirosula habitu lutescens, caule circa 1.5 m alto attingenti cum folia vel vaginis foliorum marcescentium spisse obtecto.

Folia coriacea in vivo flexibilia utrinque dense luteo-lanata et insuper plus minusve villosa-barbata, sessilia. Lamina anguste elliptica vel paulo sublanceolato-elliptica apice acutata basim versus attentuata, margine integra revolutaque, 20-29 cm longa 4-5.6 cm lata, ratio 4.7-5.5:1, basi 1-1.5 cm lata; adaxiale aspectu sublaevi uniformiter dense luteo-lanata et insuper subadpresso villosa-barbata, pilis tenuissimis ad 10 mm longis, costa parum conspicua; abaxiale costa valde elevata striataque dense crispo-lanata et adpressiuscule barbata pilis circa 10 mm, nervis secundariis prominentibus angulo $43-50^{\circ}$ (-55°) ascendentibus 5-9 mm inter se distantibus ad marginem curvatis anastomosatis, nervis tertiis irregulariter transversis prominentibus et cum nervulis bene prominulis in reticulum anastomosatis, alveolis ellipsoideis paulo profundis cum parvis pilis minutis acutis sericeis, sed pilis reticuli copiosis longis flexuosis et crispis lanam luteam densam omnino tegentem formantibus. Vagina coriacea ovata vel ovato-oblonga apice obtusa vel subobtusa lanata, adaxiale glabra argute parallele nervata abaxiale dense sericeo barbata pilis circa 15 mm longis rectis strictissimis antrorsis ochroleucis adpressis.

Inflorescentiae axillares thyrsoides vel simplice cymosae, 3-5-capituliferae, dense crasseque luteo-lanatae barbataeque, rosula foliorum fere aequilongae. Axis mediocris 24-40 cm longus erectus striolatus; pars proximalis vegetativa aphylla 18-38 cm, longa; pars distalis fertilis brevis 5-3 capitula

ferens, tantum cyma bracteata tricephala terminalis et duobus paracladiis oppositis monocephalis instructa. Internodium 6-10 cm longum, interdum internodio additionali ad apicem sterili-bracteato 3-5 cm longo. Rami seu pedunculi proximales (3.5-) 6-11 cm longi. Cyma terminalis pedicello centrali 1.8-7 (-10) longo, lateralibus 2.8-6 (-10) cm, aliquando capitulo mediali tantum evoluto ambobus lateralibus defectis et bracteis solis sterilibus remanentibus. Etiam saepe paracladiis omnino absentibus et cyma tricephala tantum adest. Pedunculi seu pedicelli apice recurvi capitulis fortiter cernuis vetustis nutantibus. Bracteae subtendentes pedunculos subaequilongae proximales 7-10 x 1-1.4 cm, oblongae vel sublanceolate-oblongae subacutae basi breviter connatae, distales 1-1.5 mm oblongo-ovatae acutae vel acuminatae.

Capitula mediana cernua radiis amotis subgloboidea 18-25 mm lata, 130-240 flores ferentia, circulo ligularum 25-30 mm disco 12-15 mm diametro. Involucrum cupulatum dense luteolo lanatum 18-25 mm latum 12-15 mm altum. Phyllaria sterilia crassiuscule subcoriacea flexibilia basim incrassata, 4-5 exteriora 18-14 x 11-6 mm, magis externa elliptica vel anguste ovata attenuata vel ovato-triangularata acuta, acuminata vel subacuta, altera ovato-oblonga vel oblonga acutata, dense crasseque crispulata adaxiale immerse nervata, apice glabro excepto, 1-2 interiora 13-11 x 6-5 mm tenuiora oblonga acutata etiam lanata. Phyllaria fertilia pauca 12-8 x 5-4 mm crasse herbacea elliptica attenuato-acuta vel subacuta dense lanata, altera minus exteriora tenuia membranacea 9-8 x 4.5-3 mm elliptica acutata, basim incrassata, multinervia plus minusve amplectentia abaxiale dorso sparse ad apicem dense crispulo barbulate pilis 1.5-1 mm, et sparse glandulata, glandulis circa 0.02-0.07 mm longis, interiora 8-7 x 2.5-3 mm elliptica acuta acuminata basi incrassata dorso glabro marginibus hyalinis magis amplectentibus subapice dorsale copiose glandulata et barbulate pilis ad 1 mm flexuosis.

Receptaculum plano-convexum glabrum 8-10 mm diametro. Paleae 6.5-8 x 2-3 mm, ovales vel oblongo-ellipticae acutatae, basim attenuatae scariosae hyalinae tenuiter pluri-nervatae basi maturitate incrassata, amplectentes abaxiale subapice lanugineo-barbata et copiose glandulata, pilis flexuosis acutis 0.4-0.8 mm, et glandulis columnaribus 0.02-0.07 mm.

Flores radii ligulati 28-44 in capitulo, 2-3-seriati. Corolla lutea 10-13 mm longa, tubo 1.6-2.5 mm longo dense vel copiose pilosulo pilis crassis obtusis vel obtusissimis vel aliquis subacutis saepe ad basim dilatatis 0.1-0.3 mm longis hyalinis et praecipue adaxiale sparsis glandulis capitato-pediculatis circa 0.05 mm longis; lamina crassiuscula elliptica vel oblongo-elliptica 2-3 mm lata, obtusa tridentata dente mediali minore vel 2-dentata, basi acute aperta, 9-nervata duobus nervis magis conspicuis, adaxiale conspicue mamillato-papillosa velutina, abaxiale copiose glandulata glandulis rotundis breviter pediculatis. Stylus circa 5 mm, ramis crassis subulato-lanceolatis crasse stigmatoso-marginatis 1.5-2 mm. Achaenia exteriora 2.6-2.8 x 2-1.8 mm obovato-oblonga apice

truncata triangulata dorso plano-convexo, angulis lateralibus argutis subalatis; interiora oblonga quadrangulata 2.8 x 1 mm, basi breviter attenuata.

Flores disci 103-192 in capitulo. Corolla lutea 6.5-7.5 (-8) mm longa, tubulo 2.4-3.5 mm, saltem sursum sparse pilosulo, pilis antrorsis crassiusculis basi dilatatis cellula terminali subacutata vel obtusa, 0.1-0.4 mm et parvis vel raris glandulis 0.02-0.05 mm longis, limbo anguste tubuloso-infundibuliformi ad basim parvis pilis et glandulis, lobis triangularibus 0.8-1.2 mm altis, vel interdum adaxiale usque ad 2 mm distinctis, margine incrassato dense papilloso, abaxiale glabris vel apice copiosis glandulis globoso-pediculatis subsessilibus 0.01-0.03 mm. Antherae 2-2.5 mm, subacute sagittatae appendice apicali ovata acutata 0.4-0.5 mm longa. Stylus 7-8 mm apice dilatatus. Nectarium 0.7-1 mm longum tubulosum denticulatum. Ovarii rudimentum 0.2 mm altum.

Typus: Colombia, Antioquia: Cordillera Occidental, Páramo de Frontino near Llano Grande, paramo 3450 mm, caulirosetum reaching heights of over 5 m, this specimen \pm 2 m, fire damage on trunks, inflorescences all yellow, disks browning with age, 25 Oct 1976, Jef D. Boeke and Jeff B. McElroy 234, holotypus, US; isotypus NY. Other collections: Id. id. open paramo, stem 60 cm high, appears silvery from a distance, inflorescence yellow, 26 Oct 1976, Boeke and McElroy 238, paratypi US, NY; Id. Páramo of Morro Frontino, north of Urrao, 3900 mm, to 5 ft. high, flower yellow, very common, 10 Mar 1944, Core 380, paratypi NY, F; id., id. Core 396, 392 (US); Páramo de Frontino 4000-4300 mm, Aug 1951, Carrier 131 (US).

E. frontinoensis is distinguished by its small, sessile, sublanceolate-elliptic leaves, tapering to a narrow base, by the naked axes of the inflorescences with only 5-3 long pedicellate heads not surpassing the rosette leaves, and by the whole yellow habit.

ESPELETIA PERLJAENIS Cuatr. sp. nov.

Caulirosula visu subsessilis, alba, 50-60 cm expansa, trunco brevi usque ad 30 cm alto cum foliis marcescentibus dense tecto.

Folia coriacea leviter crassiuscula flexibilia utrinque spisse lanata, pseudopetiolata, 30-45 cm longa. Lamina anguste elliptica lanceolata vel elongate oblanceolata apice bene acuta basim in pseudopetiolum gradatim vel subite angustata, 24-32 cm longa (petiolo excluso) 2.2-3.4 cm lata, ratio 8.5-11.5:1, margine integerrima revolutaque, costa robusta adaxiale subplana leviter surculata et ad margines leviter costulata, abaxiale prominenti striatosulcata saltem inferne bicostulata, nervis secundariis adaxiale obsoletis abaxiale moderate prominentibus paulo tortuosis in angulo $45-55^{\circ}$ (-60°) ascendentibus prope marginem subite curvatis parallele decurrentibus cum contiguis anastomosatis, nervis tertiis irregulariter transversis prominentibus et cum minoribus vix diversis etiam prominentibus

reticulum argute elevatum cum alveolis ovatis vel ellipticis minutis profundis fundo glabro formantibus; utrinque alba vel albido-cinerea, adaxiale infra indumentum superficie sublaevi levissime venosa viridi densissime cum pilis tenuissimis basi crassiori patula ceterum spirali contortem extremo longo parallele ascendenti ad superficiem adpresse tecto, indumento crassiusculo densissimo adpresso-lanato insuper plus minusve villosa-sericeo instructis ad costam magis sericeis; subtus pilis magis patulis multispiraliter contortis intricatis indumentum crassum crispo-lanatum et insuper partiale adpresse subsericeum praecipue ad costam formantibus. Pseudopetiolus 4-6.5 cm longus robustiusculus 4-7 (-8) mm latus utrinque pluristriatus adaxiale argute bicostulatus, marginibus angustissime decurrenti-alatus alis revolutis, adaxiale densissime adpresseque lanata abaxiale dense lanata et insuper adpresse villosa-barbata. Vagina coriacea trapeziales apice obtusa basim versus paulo ampliata, maturitate 6-8 cm longa, basi 4-6 (-7) cm lata, argute multi-paralleli-nervata adaxiale glabra apice lanato excepto, abaxiale copiose longe albo-villosa-barbata pilis tenuissimis ad 20 mm, rectis vel flexuosis.

Inflorescentiae axillares saepe numerosae circa 6-11 coetaneae in rosula, foliis duplo vel usque triplo longiores, ascendentes, maturitate 75-100 cm longae. Axis simplex medio-criter crassus sed rigidus teres striatus, inferne medullosus vel fistulosus. Pars proximalis vegetativa $2/3$ ad $4/5$ totae longitudinis aphylla vel saepius duobus foliis sterilibus oppositis vel alternis munita, internodio basilari 34-52 cm, longo, altero 9-35 cm longo; foliis sterilibus oblanceolato-linearibus acutis, 9-16 x 1 cm, inferne in vaginam basi usque 1 cm tubulosam ampliatis. Pars fertilis 3 capitula in cyma terminalia valde congesta pedicellis 0.3-2 cm longis ferens, et uno vel duobus paribus paracladiorum vel singulis paracladiis instructa. Paracladia distalia cum cyma apicali valde proxima 1.5-4 cm longa monocephala, internodio supremo 1-4 cm longo. Paracladia proximalia 9-16 cm longa erecta rigida, saepe monocephala vel interdum 2-3 capitulis breviter pedicellatis congestis munita, internodio 12-25 cm longo; paracladia saepe tantum uno interdum nunquam evoluta. Pedicelli monocephali semper argute curvati capitula longiradiata nutantia ferentes. Bractea subtendentes inferiores foliaceae 7-12 x 1 cm, mediales 3.5-5 x 1.2-1.5 cm lineari-lanceolatae acutae basi ampliatae amplectentes saepe concavae. Bractee supremae 2.5-3.5 x 1.2-1.4 cm ovato-lanceolatae inferne concavae amplectentes. Axis rami bractee pedicellique crasse dense albo-lanati pilis longis strictissimis valde crispis intricatis et insuper longe villosa-barbatis aspectu gossypino, basi axorum densissime antrorso-barbati pilis sericeis basi flexuosa ceterum rectis circa 25 mm longis.

Capitula grandiuscula cernua vel nutantia, 150-324 flores ferentia, ligulis amotis 20-25 mm, circulo ligularum 30-38 mm, disco 16-20 mm diametro. Involucrum cupulatum circa 16 mm altum dense longeque albo-lanato-barbatum. Phyllaria sterilia crasse herbacea vel subchartacea, 7-14, saepe 4-5 exteriora 19-16 x

15-11 mm, ovata, acutata vel acuminata, convexa, dense crasseque lanatasursum barbulate, intus (excepto acumine) glabra 6-7 nervata, cetera gradatim breviora angustioraque tria-quatuor 18-14 x 11-6 mm, oblongo-ovata vel ovato-lanceolata acuminata vel acutata, lanata vel villosa-lanuginosa sursum lanugineo-barbulata et sparse glandulifera, cetera 15-14 x 5-4 mm, elliptico-lanceolata acuta villosa lanuginosa et glandulis 0.05 mm interspersis. Phyllaria fertilia exteriora 17-12 x 8-4 mm ovali-lanceolata subacuminata acuta firme membranacea basim incrassata (saltem fructificatione) dorso villosa-lanuginosa et ⁺ glandulosa intus glabra plurinervata, sequentia gradatim breviora tenuioraque (14-) 12-7 x 5-3 mm, elliptico-acuminata membranacea plurivenosa extus infra apicem lanuginoso-villosa pilis flexuosis 3-1 mm longis plus glandulis copiosis dorsale et marginalibus. Receptaculum subplanum, vel conicum ad centrum, 9-12 mm diam, glabrum. Paleae 9-11 x 2-3 mm, elliptico-attenuatae, subscariosae, firmulae, plurinervatae, maturitate basi incrassata costa rigida carinata, amplectentes apicem dorsale flexuoso-barbatae pilis ad 1 mm plus glandulis sparsis.

Flores radii ligulati 38-62 in capitulo, 3-seriati. Corolla lutea 11.5-16 mm longa, tubo (1.5)2-2.5 mm longo copiose piloso pilis tenuibus vel crassiusculis obtusis vel subacutis, rectis ascendentibus circa 0.5 mm, ad basim et verticem apicalem copiosioribus longioribusque (ad 1 mm), plus copiosis glandulis circa 0.05 mm capitato-columnaribus interspersis; lamina crassiuscula oblongo-elliptica, 2-3.1 mm lata, apice obtusa 3-dentata dentibus obtusis, 5-7 nervis subtus crasse prominentibus, saepe 3-5 nervulis tenuioribus alternatibus, abaxialiter copiosis glandulis circa 0.03 mm sparsis, inferne plus minus pilis munita. Stylus 7.5-8 mm longus crassiusculus ramis 1.5-2.5 mm longis, lineari-subulatis. Achaenia exteriora 2.8-3.3 x 1.8-2.2 mm obovato-oblonga apice rotundata et emarginata, triangulata angulis argutissimis subalatis dorso plano-convexo laevi vel tenuiter 1-2-nervato, basi attenuata; interiora 3-3.2 x 1 mm, prismatico-oblonga, 4-angulata, angulis omnibus acutis vel dorsali obtuso.

Flores disci 110-264 in capitulo; corolla lutea, (8-) 9-10 mm longa, tubulo 2.8-3.8 mm, glandulis plus minusve copiosis vel sparsis glandulis columnari-capitatis ad 0.1 mm longis patulisque et parcis vel parcissimis (praecipue basim) pilis acutis vel obtusis usque ad 0.5 (-1) mm longis; limbo tubuloso parcis glandulis sparsis et ad basim parcis vel parcissimis pilis; lobis 1-1.2 mm triangularibus acutis extus copiosis vel parcis glandulis 0.03-0.05 mm, saepe 1-3 lobis parcis (1-3) pilis crassiusculis flexuosis 0.1-0.3 (0.8) mm munitis, marginibus dense crassipapillosis. Antherae 3.2-3.4 mm, appendice apicali ovata subacuta 0.5-0.6 mm longa. Stylus 10-12 mm, ad apicem leviter dilatatus, emarginatus, dense brevipapillosus. Nectarium tubulosum crassiusculum irregulariter 5-dentatum 1-1.4 mm longum.

Typus: Colombia, Cesar (formerly Magdalena): Sierra de Perijá, east of Manaure: Quebrada de Floridablanca, open grassy area between Andean forest and bushes, 2800 m alt.

subacaulirosula, white habit, corollas yellow, "frailejón", 10 Nov 1959, J. Cuatrecasas & R. Romero Castañeda 25192; holotypus, US; isotypus, COL. Other collections: Id. id Sierra de Perijá: Sabana Rubia, open flat grassy paramo, 3000 m, subacaulirosula, trunk short, white habit, 6 Nov 1959, Cuatrecasas & Romero Castañeda 25032; paratypi US, COL. Id. id. Sabana Rubia, 2800 m acaule hojas centrales blancas, lígulas y flósculos amarillos, 3 Mar 1959, R. Romero Castañeda 7339; paratypi US, COL.

Espeletia perijaensis belongs to the relationship of *E. conglomerata* Smith & *E. brassicoidea* Cuatr. It is easily distinguished by its narrow elliptic-lanceolate, acute leaves and by the inflorescences bearing one or two sterile or fertile bracts well apart below the terminal cyme. In some collections of *E. perijaensis* a number of outer ray flowers (8 or 4) are protected by an additional pair of lateral decussate, smaller bracts (pales), subtended by the corresponding regular, fertile phyllaries. This unique feature in the subtribe will be explained and illustrated in the forthcoming revision.

ESPELETIA MARTHAЕ Cuatr. sp. nov.

Rosula sessilis parva 12-16 cm diametro visu albo-sericea argentea nitenti, foliis angustis acutis crebris numerosis ad centrum erectis congestis ad marginem vetustis patulis. Caulis robustus lignosus cylindraceutus subterraneus rhizomaticus, 3-5 cm diametro, in medio crasse medullosus in cortice radiferus, extremo subite conico in solum verticale excurrenti, ad apicem meristematicum late subplano-convexum cum centro depresso permanente foliiferus. Radices terminales 2-3 descendentes robustiusculae breves, ceterae numerosae patulae vel descendentes, crassae vel crassiusculae elongatae usque ad 30 cm longae.

Folia linearia coriacea flexibilia crassiuscula in vivo, saepe 6-9 cm totius longitudine. Lamina 4-6.5 cm longa 4-5 mm lata ratio: 10-12(-14):1, linearis vel ensiformis sursum gradatim attenuata in apicem acutum, basi haud angustata sessilis et in vaginam aequilatam valde crassam producta, utrinque densissime adpresseque argenteo-sericea induta pilis albis rectis antrorsis 1-1.5 mm longis, adaxiale in vivo aspectu levissimi tantum costa obscure insinuata, infra indumentum plus minusve glutinosa, abaxiale etiam visu laevis sed costa bene elevata crassa in vivo semitereti laevissima, in sicco plana lateris angulata, inferne crasiore glabra viridique reliqua argenteo-sericea, superficie laminae subtus infra indumentum argute venoso-reticulata alveolis profundis dense albo-pilosis. Vagina anguste oblonga robusta 1.5-2.5 cm longa apice 3-4 mm lata reliqua 4-5.5 mm lata, valde incrassata semiteres sed apicem et basim complanata magis tenuis, trinervata ad extremos plerumque 5-nervata nervis immersis superficie laevi in vivo, utrinque glabra sed margine basalis copiose barbata pilis albis antrorsis 5-6 mm longis.

Inflorescentiae axillares scaposae, plures saepe 5-12, interdum usque ad 25 in rosula. Scapi monocephali 24-38 cm longi, erecti mediocriter rigiduli extremo moderate arcuato capitulo cernuo, striati dense lanati indumento sursum crassiore et pariter involucrium brunneo, simplices et bracteati base nudi valde acuti. Bractee saepe in 4-6 paribus dispositae vel 1-2 distales alternae, saepe 3 paribus inferioribus inter ea valde proximis. Bractee infimae 1-1.5 cm supra basim insertae, internodio sequenti 1-1.4 cm longo, altero 1.5-4.2 cm longo, tertio 6.5-10.5 cm, quarto 11-18 cm, proximalibus 1-4 cm. Bractee inferiores 3-4.3 cm longae vagina tubulosa 1.5-2 cm longa viridi tenuiter parallele nervata glabra, lamina lanceolata acutissima 0.6-0.8 cm lata, dense albo-sericea; sequentes similimae, aequales vel paulo breviores e.g., 2.5-2.7 x 0.6-0.5 cm cum tubo 1.5-1.2 cm longo. Bractee mediales 2.2-1.8 x 0.5-0.7 cm cum tubo brevior, ubique dense villosae, proximales 1-1.5 x 0.2-0.4 cm saepe solitariae anguste elliptico-lanceolatae densissime lanuginoso-villosae brunneaeque. Scapi in internodiis proximalibus dense albo-sericeis pilis rectis ascendentibus albis nitentibus 5-7 mm longis, intra tubum vaginae compressis, sursum pilis usque 10-15 mm longis liberis intricatis partiale crispis indumento brunneo-lanato instructis circa apicem praecipue infra capitulum saepe valde crasso evoluti.

Capitula mediocria involucrio visu turbinato campanulato, crasse villosa-lanato-barbato, brunneo, circa 20 mm lata, indumento phyllaria valde excedente et occultanti, circulo ligularum 30-35 mm, disco 9-12 mm diametro. Phyllaria sterilia crasse herbacea firmula, saepe 18-20 (-25) biseriata, 10-8 (-7) x (2.2-) 2-1 mm, anguste triangulata vel subulata acutissima, adaxiale glabra 3 (-5) nervis plus minusve conspicuis, abaxiale densissime crasseque villosa-barbata pilis brunneis rigidulis subrectis vel leviter flexuosis circa 5 mm longis, ascendentibus barbibus densissimis excedentibus formantibus, interiora quam externa gradatim sed leviter breviora et minus dense vestita. Phyllaria fertilia exteriora sterilia similima 10-7 x 1.2-1 mm, subulata acutissima uninervia plana dense brunneo-villosa pilis 4-2 mm, interiora 5.3-5 x 1-1.2 mm scariosa amplectentia costa rigida sparse pilosa sursum parce villosa et ciliata ad apicem pilis erectis 0.5 mm. Receptaculum 6-8 mm diam planum, densiuscule hirtum pilis tenuibus acutis 0.5-1 mm longis. Paleae 5-5.5 x 1.2-1.6 mm scariosae sed rigidae complicato-amplectentes anguste ellipticae sursum attenuatae acutae, costa conspicua carinata brunneo-colorata, 2-4 nervis tenuioribus, dorso ad costam plus minusve pilosa sursum praecipue ad apicem brunnescentem marginesque ciliatos pilis copiosioribus hyalinis sericeis antrorsis rectis acutis, 0.3-0.5 (-0.7) mm.

Flores radii ligulati 3-4 seriati, 70-114 in capitulo. Corolla lutea 9-14 mm longa, tubo 1.5-2 mm longo ad faucem annulo interno conspicuo interdum apicē denticulo adaxiale munito, extus dense vel densiuscule villosulo pilis hyalinis flexuosis obtusis 0.1-0.3 mm et interdum glandulis parcis

praecipue sursum; lamina fere firmula anguste elliptica apice attenuato breviter vel minute 2-3-dentato basim versus longe angustata, 4-5-nervata nervio mediale conspicuo vel obsoleto, abaxiale inferne sparse pilosula et glandulis obovoideis subsessilibus valde sparsis munita, adaxiale superficiei minutissime mamillato-papillosa. Stylus 4-5 mm longis ramis linearibus circa 1 mm. Ovaria exteriora 2.3 x 0.8 mm, anguste elliptica triangulata dorso plano, interiora circa 2.4 x 0.6 mm, 4-angulata duobus angulis utroque lateris.

Flores disci 78-123 in capitulo. Corolla lutea 5-5.5 mm longa visu glabra, tubulo 1.8-2.2 mm longo glabro vel sursum circa apicem sparsis pilis hyalinis 0.1-0.2 (-0.5) mm, limbo tubuloso apice leviter ampliato glabro vel rarissimis glandulis, lobis triangularibus 0.5-0.7 mm longis, marginibus valde incrassatis et adaxiale papillosis, abaxiale parcis vel parcissimis (4-1) pilis adpressis vel patulis rectis acutis 0.2-0.4(-0.6) mm et parcis glandulis subglobosis vel obovoideis subsessilibus 0.05-0.07 mm, saepe bene conspicuis. Antherae 2 mm, basi sagittatae ovata apice attenuata subacuta incurva 0.4-0.45 mm longa. Stylus circa 5 mm apice vix dilatato dense papilloso-pilosulo. Nectarium 0.5 mm altum crassum tubulosum 5 lobis obtusis. Rudimentum ovarii valde brevi, 0.1-0.2 mm.

Typus: Venezuela, Mérida: Llano Corredor, Páramo de Guirigay, 3300 m, in swampy ground, acaulirosula, leaves greenish white, silvery, scapes or peduncles and involucre brown-woolly, ligules and disc corollas bright yellow, 25 Oct 1969. J. Cuatrecasas, López-Figueiras and Marcano-Berti 28162, holotypus US; isotypus MERF. Other collections: Id. Páramo de Guirigay, Llano Corredor, psamófila-límnea, acaule, hojas sésiles plateadas, inflorescencias axilares 25-30 cm pardo rojizas, capítulos 30-40 mm diam, lígulas amarillas 12 x 2 mm, brácteas pardo-rojizas, 16-22 Oct 1972, M. López-Figueiras and H. A. Rodríguez 8873, US, MERF, paratypi. Id., id., Llano Corredor, Cuenca del río Aracay, afluente del Santo Domingo, municip. Piedras, 3350 m, prados pantanosos a pleno sol, acaulirosuleto, caudice robusto cilíndrico ortotropo profundo, escapos erectos con indumento leonado claro, ligulas amarillo-amaranjado claro, 17 Dec 1975, Ruiz-Terán & López Figueiras 12979 (MERF, US). Id id, hacia la laguna La Parida, 3500 m, Aug. 1958, L. Aristeguieta and E. Medina 3575, VEN.

Espeletia marthae belongs to the complex group of *E. weddellii*-*E. tenorae*. It is distinguished by its linear, pointed, silvery sericeous leaves and its monocephalous brown lanate scapes. It is dedicated to my wife, Martha Nowack Cuatrecasas, who has been generously for many years a great help and support in my botanical research work.