

NOTES ON ECUADOR PLANTS

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Between March and December of 1943 the author was in Ecuador, engaged in the collection of Cinchona and other members of the Rubiaceae. In addition, other plants were collected as time afforded. Some of these have been found to constitute new taxa, and have already been published by various botanists. Although a large part of the collection of over 2,000 numbers remains unstudied, the following report is an effort to record additional new taxa from this collection, as well as from the collections of other Ecuadorian botanists. All the specimens cited are deposited in the Herbarium of the Chicago Natural History Museum.

CYPERACEAE

CAREX AZUAYAE Steyermark, sp. nov.

Planta stolonifera, culmis trigonis efoliatis vel basi 1-2-foliatis 20-30 cm. altis 2 mm. diam., surculis sterilibus phyllipodiis, laminis erectis 15-45 cm. longis 3-5 mm. latis non septato-nodulosis marginibus serrulatis; inflorescentiis 12-17 cm. longis; bractea infima foliacea erecta inflorescentiam manifeste superante 20-25 cm. longa 3 mm. lata evaginata vel fere evaginata, vaginae parte clausa ca. 2 mm. longa; spicis 6-7 erectis densifloris tenuipedunculatis; spicis terminalibus masculis ca. 4 cm. longis, lateralibus plerumque gynaeandris tenuipedunculatis lineari-cylindricis 4-5.2 cm. longis 3-3.5 mm. diam. cum parte terminali brevi mascula 4-6 mm. longa et parte foeminea 3-4.5 cm. longa; glumis foemineis atropurpureo-castaneis caducis oblongis obtusis perigyniis brevioribus 2.25-2.5 mm. longis 1.5 mm. latis, dorso carinatis, carina pallido-viridescente vel brunnea, marginibus hyalinis; stigmatibus 2; perigyniis fulvis demum atrobrunneis vel purpureo-brunneis adpresso-adscendentibus inaequaliter biconvexis ovatis 2.75 mm. longis 1.3--1.4 mm. latis bicostatis dorso basin versus obsolete paucinervatis ceterum ut videtur nonnervatis basi longistipitatis in rostrum fuscum integrum apiculatum 0.15-0.2 mm. longum attenuatis; achaeniis brunneis lenticularibus biconvexis suborbicularibus 1.75 mm. longis 1.25 mm. latis reticulatis.

ECUADOR: Prov. Azuay: páramos in vicinity of Toreador, between Molleturo and Quinoas, alt. 3785-3900 m., June 15, 1943, Julian A. Steyermark 53105 (holotype, F).

This well-marked species is characterized by the pedunculate, long slender spikes, obtuse pistillate scales, very granular-roughened, long-stipitate, practically nerveless or obscurely

nerved perigynia, reticulate surface of achenes, elongate leaves, stoloniferous, stout, elongated culms, and the lowest bract conspicuously exceeding the inflorescence.

This is a member of the Subgenus Eucarex, Sect. Acutae, Subsection Vulgares, apparently related to C. Andersonii Boott and C. decidua Boott of Chile and Argentina on the one hand, and to C. strictior Dewey and related species on the other hand. It resembles the latter in the granular-roughened perigynia, but differs from it and related members of the group to which it belongs in the phyllopodic culms and long-stipitate perigynia. From C. Andersonii Boott, C. decidua Boott, and C. Hindsii Clarke, and others, it differs in its very granular-roughened perigynia, shape and size of perigynia, much longer and more slenderly pedunculate spikes, and stouter culms and leaves.

CAREX TOREADORA Steyermark, sp. nov.

Planta stolonifera, culmis 7-15 cm. longis 1.5-2 mm. crassis, angulis striatis, infra spicas minute scabridulis; foliis 6-16 cm. longis 2-3 mm. latis culmis plerumque brevioribus, marginibus minute scabridulis, supra canaliculatis, surculis sterilibus numerosis apice foliosis; inflorescentiis lanceolato-ovatis 1.5-2 cm. longis 6 mm. crassis; spicis crebris sessilibus ebracteatis vel glumis infimis brevissime bracteatis; spiculis 4-5 gynaeandris ovatis densifloris 6-8 mm. longis 2.5-4 mm. latis; spicae infimae bractea infima 4-5 mm. longa aristata; glumis foemineis pallidoferrugineis vel rufis late suborbiculari-ovatis apice rotundatis vel obtusis usque breviter mucronato-acutis perigyniis brevioribus 2.5 mm. longis 2 mm. latis, marginibus hyalinis; stigmatibus 2; perigyniis maturis atrobrunneis adpresso-erectis plano-convexis ovato-lanceolatis 3-3.25 mm. longis 1.5 mm. latis, superficie ventrali plana enervata, dorso convexo enervato, vel obsolete 3-nervato, in rostrum paullo scabridulum attenuatis, ore bidentato, marginibus vix angustateque alatis; achaeniis fulvis lenticularibus late ovoideis 1.5 mm. longis 1.2 mm. latis.

ECUADOR: Prov. Azuay: páramos in vicinity of Toreador, between Molleturo and Quinoas, in moist mossy boggy places bordering alpine lake, alt. 3785-3900 m., June 15, 1943. Julian A. Steyermark 53095 (holotype, F).

The new taxon is characterized by the conspicuously stoloniferous rhizomes, broadly suborbicular, obtuse pale brown pistillate scales, non-bracteate to very shortly bracteate inflorescences, and nerveless or scarcely nerved perigynia. It is a member of the section Ovales, related to C. Mandoniana Boeck. (C. pinetorum Liebm.), but that species has acute, brighter brown scales, and more conspicuously bracteate spikes, and to C. macloviana D'Urv., in which the rhizomes are caespitose, the perigynia larger, conspicuously nerved, and broadly winged.

COMMELINACEAE

ANEILEMA ECUADORIENSIS Steyermark, sp. nov.

Herba erecta 0.6-0.9-metralis ramosa foliosa, ramulis horizontaliter patentibus; internodiis foliis brevioribus superioribus per unum laterem pilosulis ceterum glabris; vaginis 1.7-2 cm. longis marginibus apiceque hirsutulis ceterum glabris, ore truncatis; laminis oblongo-lanceolatis apice subito acuminatis, acumine 1.5 cm. longo, basi inaequaliter rotundatis vel late obtusis 11-13 cm. longis 4-5 cm. latis supra prope marginem minutissime puberulentibus ceterum glabris subtus glabris; inflorescentia terminali paniculato-racemosa 1.5 cm. longe pedunculata 5-7.5 cm. longa 3.5 cm. lata, rhachi in sicco 2.5 mm. lato pilosula multiflora, ramulis tenuibus numerosis horizontaliter patentibus 15-16 mm. longis glabris parte apicali 7-8 mm. longa 3-5-flora, bracteolis floralibus ovatis 1.5-3 mm. longis 1.25-1.5 mm. latis; bracteis ramulos subtendentibus lineari-subulatis acuminatis patentibus 7-8 mm. longis; floribus non visis.

ECUADOR: Prov. Azuay: rich dense jungle between Chacanceo and Río Blanco, on road to Molleturo, between Río Putucay and Río Norcay, alt. 1,220 m., June 3, 1943, Julian A. Steyermark 52813; leafy side branches spreading horizontally; rachis and pedicels dark violet (holotype, F).

This species is characterized by the slender, glabrous, horizontally spreading branches of the inflorescence, the closely bracteolate floriferous apical half of the branches, and the densely ciliate margins of the leaf-sheaths. The generic position of this plant is uncertain, because of the lack of flowering material. It resembles some species of Floscopa and Dichorisan-dra, as well as Murdannia (i.e. M. gardneri [Sueb.] Bruckn.), but shows affinity with Aneilema ovato-oblongum Beauv. because of the conspicuously bracteolate and elongated branches of the inflorescence.

TRIPOGANDRA PARVIFLORA (R. & P.) Steyermark, comb. nov.

Tradescantia parviflora R. & P. Fl. 3: 43. pl. 272. 1802.

ECUADOR: Prov. Azuay: west of Patul 3 kms., between Guagualcoy and Río Patul below Pasas de Pinglioni, alt. 2725 m., May 19, 1943, Steyermark 52622; petals rose (F). Prov. Loja: between Tambo Cachiayacu, La Entrada, and Nudo de Sabanillas, alt. 2500-3500 m., October 7, 1943, Steyermark 54456 (F).

TRIPOGANDRA MULTIFLORA (Sw.) Steyermark, comb. nov.

Tradescantia multiflora Sw. Fl. Ind. Occ. 1: 599. 1797.

ZINGIBERACEAE

COSTUS ZAMORANUS Steyermark, sp. nov.

Herba erecta 1.75-2.5-metralis, caulibus foliigeris a florigeris discretis; caulibus foliigeris foliosis 8-17 mm. diam. crassiusculis glabris multifoliosis; foliis numerosis, vaginis ad-

pressis 4-7.5 cm. longis glabris arcte striato-nerviis apice truncatis; laminis ellipticis vel lanceolato-ellipticis apice acutis vel acuminatis basi cuneatim acutis 20-26 cm. longis medio 4-9 cm. latis; caule florifero scaposo saltem 45 cm. alto, foliis omnibus ad vaginas rigidas 5 cm. longas 18 mm. latas glabras papilloso-verruculosas reductis apice obliquis subtruncatis; inflorescentia terminalis subgloboso-ovoidea 9 cm. longa 6.5-7.5 cm. lata, bracteis rubris calycem superantibus arcte imbricatis inferioribus depresso-suborbicularibus apice rotundatis superioribus late ovatis apice rotundatis vel obtusis 4-4.5 cm. longis 2-4.2 cm. latis glabris extus apicem versus papilloso-verruculosus costato-nerviis; bracteolis lanceolatis obtuse acutis 2.8-3 cm. longis 5-6 mm. latis carinatis; calyce rubro turbinato-cylindrico vel profunde campanulato 12-13 mm. longo 6-8 mm. lato extus glabro costato-nervio 3-lobato, lobis late deltoideis subacutis 2-3 mm. longis 5-7 mm. latis; ovario 7 mm. longo.

ECUADOR: Prov. Santiago-Zamora: along Río Valladolid, around Tambo Valladolid, alt. 2000 m., October 14, 1943; flowering spikes arising from ground at base of leafy shoots; bracts of flowers firmly subcoriaceous, deep rose-red in lower half, pale salmon above; bracts red; calyx red; leaves pale gray-green below, glabrous; plant 5-8 feet tall; Julian A. Steyermark 54664 (holotype, F).

This species is distinguished by the separate fertile and sterile stems, glabrous nerves and lower surface of the leaf-blades, and rounded to obtuse, callose-lineate bracts of the inflorescence. It is related to Costus geothyrsus Schum. and C. erythrocoryne Loes. From the former it differs in the acuminate narrower leaf-blades and broadly rounded to obtuse, non-appendaged bracts of the inflorescence, while from the latter it differs in the glabrous bracts and glabrous nerves and lower surface of the leaf-blades.

RENEALMIA PUBERULA Steyermark, sp. nov.

Herba erecta, caulibus foliigeris a florigeris discretis; caulibus foliigeris cum caulibus crassiusculis; foliorum vaginis longissimis arcte striato-nerviis extus dense minutissime adpresso-puberulentibus pilis stellulatis instructis; laminis oblanceolatis apice acuminatis basi cuneatim acutis supra glabris subtus minutissime stellulato-puberulentibus 38-44 cm. longis 8-8.5 cm. latis; caule florifero 30 cm. alto, foliis omnibus ad vaginas 4.5 cm. longas vel longiores dense adpresso-puberulentibus pilis stellulatis reductis; inflorescentia oblonga multiflora densifloraque 10 cm. longa 4-5 cm. lata pedunculo dense puberulento; bracteis late oblongis apice rotundatis vel obtusis; calyce profunde campanulato vel breviter cylindrico 6-9 mm. longo extus dense puberulis pilis stellulatis instructis, lobis 3 ovatis acutis vel obtusis 3.5-5 mm. longis 3.5-4 mm. latis; ovario 4-5-ovulato extus dense puberulo pilis stellatis instructo; capsula 7-9 mm. longa extus dense puberulo pilis stellatis instructa; seminibus 4-5 ovali-orbicularibus cano-brunneis laevibus 3.5

mm. longis 3 mm. diam.

ECUADOR: Prov. Napo-Pastaza: along Río Pastaza below Finca Black, densely forested slopes between Río Topo at Topo and Mera, alt. 1212 m., November 6, 1943; inflorescence arising from ground, 1 foot tall; bracts dull brick-reddish orange; corolla pale yellow; leaves pale green below; plant acaulescent; Julian A. Steyermark 54901 (2 sheets, holotype, F; flowering sheet no. 1213602; foliage sheet no. 1213612).

This species is distinguished by the relatively short calyx, the congested densely-flowered inflorescence, and by the tomentum covering the lower leaf-surface, leaf-sheaths, bracts, peduncle, calyx, and ovary.

From R. spicata Gagnepain it differs in the larger calyx, more congested inflorescence, puberulent lower leaf-surface, puberulent sheaths, and densely tomentose peduncles. From R. thyrsoides (R. & P.) Poeppig & Endlicher it differs in the 4-5- instead of 30-36-seeded capsules, smaller calyx, flowers tomentose on calyx and ovary, and the puberulent lower leaf-surface.

RENEALMIA STELLULATA Steyermark, sp. nov.

Herba ad 75 cm. alta, caulibus foliigeris a florigeris discretis; caulibus foliigeris cum foliis paucis, vaginis longissimis arcte striato-nerviis, apice subito rotundatis; laminis late lanceolatis vel lanceolato-oblongis apice anguste acuminatis, 29-30 cm. longis medio 7.5-8 cm. latis, acumine 1 cm. longo, basi cuneatim angustatis utrinque glabris; caule florifero scaposo 5.3 dm. longo, foliis omnibus as vaginas rigidas 8.5-13 cm. longas dense adpresso-puberulentes reductis; inflorescentia parva 7.5 cm. longa 4.5-5 cm. lata, rhachi in sicco 4 mm. lato dense breviterque stellulato-furfuraceo; bracteis lanceolatis vel subelliptico-oblongis 17-38 mm. longis 6-8 mm. latis costato-nervatis extus apice basique puberulentibus ad apicem pilis minutissimis stellulatis instructis ceterum parce remoteque puberulentibus vel glabrescentibus; floribus pedicellatis, pedicellis 4.5-5 mm. longis stellulato-puberulentibus; calyce turbinato-cylindrico in anthesi 11-12 mm. longo in fructu 13-14 mm. longo, lobis late deltoideis 3 mm. longis extus apicem versus minutissime stellulato-puberulentibus ceterum paullo remoteque stellulato-pubescentibus vel glabrescentibus; corolla albida 22 mm. longa, tubo hypocrateriformi 14 mm. longo 1-1.5 mm. lato, lobis 3 late oblongo-suborbicularibus obtusis 7.5-8 mm. longis 6.5 mm. latis; labello unguiculato 10 mm. longo trilobato medio 8 mm. lato, lobis lateralibus principalibus rhomboideo-suborbicularibus 8 mm. latis attingentibus, lobis basalaribus lanceolatis minoribus 2 mm. longis; anthera 5 mm. longa; ovario 9-ovulato minutissime extus stellulato-puberulenti; fructu extus prominenter stellulato-puberulenti.

ECUADOR: Prov. El Oro: forested slopes along quebradas tributary to Río Palma (tributary to Río Amarillo), near Pampa de los Cedros, south of Cerro Chivo-turco, alt. 2135-2285 m., Aug. 11, 1943; common; calyx and ovary deep rose; corolla white; bracts dull salmon-brick; Julian A. Steyermark 53769 (holotype, F).

This species is distinguished by the stellate tomentum of rachis, peduncle, ovary, and sheaths, and by the relatively large flowers. From R. micrantha Schum., in which species the rachis is stellate-pubescent, it differs in the larger corolla and calyx, shorter peduncle, different labellum, and puberulent instead of glabrous leaf sheaths. From R. breviscapa R. & P. it is distinguished by the stellate-puberulent rachis and ovary, white instead of yellow corolla, and somewhat larger corolla, while from R. oligosperma Schum. it differs in the puberulent instead of glabrous peduncles, stellulate-puberulent instead of glabrous ovary, and more numerous ovules and seeds.

PROTEACEAE

ROUPALA OBOVATA H.B.K. var. ECUADORENSIS Steyermark, var. nov.

A var. obovata differt laminis foliorum ovatis vel ovali-oblongis basi rotundatis vel obtusis, costa media nervis lateralibusque subtus ferrugineo-tomentellis; petiolis dense fusco-tomentellis; racemis fructigeris 8.5 cm. longis; folliculis extus dense ferrugineo-tomentellis.

ECUADOR: Prov. Loja: along Río Cachiyacu at Tambo Cachiyacu, alt. 2000 m., Oct. 20, 1943; tree 30 feet tall; Julian A. Steyermark 54825 (holotype, F). PERU: Huamuco: Mito, alt. 2550 m., Macbride 3447 (paratype, F).

Sleumer has identified the specimens cited above with R. obovata H.B.K. (Proteaceae americanae. Bot. Jahrb. 76, part 2: 159. 1954). In his key to the species of Roupala (loc. cit. p. 146-147) Sleumer describes the base of the leaf-blades of R. obovata as "basin versus late cuneata". The original description of R. obovata Kunth (in H.B.K. Nov. Gen. Sp. Pl. 2: 153. 1817) states that the leaf-blades are "utrinque acutiusculis". This is clearly shown by the illustration (plate 120) in the same work. Moreover, the original description states that the leaves are "glabra" and that the petiole is "glaber". The type was collected in Colombia "prope Quilichao et Popayan" and is matched by later collections from Colombia.

The material from Ecuador and Peru thus appears to represent a geographical variation distinguished by the broadly rounded or broadly obtuse base of the leaf-blades with denser tomentum on the petioles and lower midrib and lateral nerves.

MONIMIACEAE

SIPARUNA RUGOSA Steyermark, sp. nov.

Arbuscula dioica, ramulis leviter stellato-tomentellis; foliis breviter petiolatis, petiolis 5-10 mm. longis dense stellato-tomentosis; laminis subcoriaceis utrinque valde rugosis ovato-vel late oblongis apice subito acutis basi rotundatis vel subcordatis 6-10.5 cm. longis 4-5.5 cm. latis in toto margine arcte

denticulis obtusis duplicidenticulatis, supra leviter stellato-puberulis subtus dense stellato-pilosulis, supra costa media nervis lateralibusque etiam venulis tertiariis profunde sulcatis subtus costa media nervis lateralibusque etiam venulis tertiariis prominenter elevatis; nervis lateralibus utroque latere 12-14 paullo arcuato-adscendentibus; inflorescentiis foemineis axillaribus ad 2.5-3.5 cm. longe pedunculatis, pedunculis dense tomentosis pilis stellatis sordido-fulvis obtectis petiolis demum longioribus; floribus brevissime pedicellatis vel subsessilibus; receptaculo floris foeminei campanulato basi rotundato 2.5-3 mm. longo extus dense stellato-tomentoso, sepalis ovatis apice obtusis 1 mm. longis intus glabris extus dense stellato-tomentosis, velo plano medio depresso, ore minute vix aperto, stylis vix exsertis; fructu late obconico 8 mm. lato extus stellato-tomentoso.

ECUADOR: Prov. Pichincha: bajada de Lache a Condor Machay, Cordillera Occidental, alt. 2700-3100 m., Enero 18, 1944; pequeño árbol de hojas coriáceas, verde oscuro al haz y verde claro al envés; bayas rojas; utilizado en la preparación del carbon "usocaspi"; M. Acosta Solis 7008 (holotype, F).

SIPARUNA VERRUCOSA Steyermark, sp. nov.

Arbuscula dioica, ramulis novellis dense tomentosis pilis stellatis sordido-fulvis obtectis; foliis petiolatis, petiolis 13-22 mm. longis dense tomentosis pilis stellatis sordido-fulvis obtectis; laminis lanceolato-ellipticis vel anguste oblongo-oblanceolatis apice subito breviter acuminatis basi subacutis 11-18.5 cm. longis 3.5-6.5 cm. latis in toto margine arcte denticulis obtusis denticulatis, supra dense stellato-asperulis subtus ruguloso-nervatis dense stellato-pilosulis, costa media subtus elevata; nervis lateralibus utroque latere 15-17 subhorizontaliter patentibus prope marginem anastomosantibus supra sulcatis subtus prominulis, venulis tertiariis subtus prominulis laxae reticulatis; inflorescentiis foemineis axillaribus in anthesi 10-13 mm. longe pedunculatis in fructu ad 25 mm. longe pedunculatis petiolis brevioribus vel longioribus 2-floris, floribus 1-1.5 mm. longe pedicellatis, pedunculis pedicellisque dense stellato-tomentosis; receptaculo floris foeminei obconico 4 mm. longo basi subacuto extus dense stellato-tomentoso, sepalis ovatis obtusis 1.5 mm. longis intus tomentoso, sepalis ovatis obtusis 1.5 mm. longis intus glabris extus dense stellato-tomentosis; velo late convexo, ore vix aperto; stylis breviter exsertis; fructu subgloboso ad 1.5 cm. diam. extus stellato-tomentoso.

ECUADOR: Prov. Imbabura: Urcusique, faldas occidental del Cotacachi, alt. 3300 m., Junio 19, 1944; planta arbustiva o arborea de hojas lanceo-acuminadas; frutos aromaticos; M. Acosta Solis 8233 (holotype, F).

From S. phaneroneura Standl. of Ecuador this species may be distinguished by the more attenuate tips and bases of the leaf-blades, fewer, more horizontally spreading lateral nerves, and longer, differently shaped leaf-blades.

BRUNELLIACEAE

BRUNELLIA PAUCIJUGA Steyermark, sp. nov.

Arbor 7.5-metralis, ramulis glabrescentibus; foliis oppositis imparipinnatis 1-2-jugis; petiolis 2.5-7.5 cm. longis supra sulcatis glabris; petiolulis 1-3 cm. longis glabris; laminis coriaceis ovato-oblongis vel ovatis apice subacutis basi rotundatis vel late obtusis 5.5-12 cm. longis dense pruinoso-pulverulentibus vel adpresso-puberulentibus grosse crenato-serratis dentibus utroque latere 10-12, nervis lateralibus utroque latere 10-12 supra sulcatis subtus prominentibus rectis adscendentibus; inflorescentia terminali multiflora 1-2 cm. longe pedunculata in fructu 7.5 cm. longa 7.5 cm. lata; pedunculo paullo strigilloso vel glabrescenti; rhachi ramisque plerumque superne puberulis; pedicellis in fructu 2-2.5 mm. longis dense minutissimeque strigillosis; sepalis fructiferis 5-6 lanceolato-oblongis acutis 6 mm. longis 3 mm. latis extus minute denseque sericeis; folliculis 6-7 subsessilibus vel sessilibus lanceolato-ovatis acumina-tis 8-15 mm. longis 5-6 mm. latis, pericarpio extus dense sericeo-tomentoso atque hirsutulo; seminibus anguste 3 mm. longis.

ECUADOR: Prov. El Oro: on ridge top with Cinchona, between Curtinca and Guagra Uma, 8 mi. northeast of Curtinca on southwest slopes leading to Chapel, alt. 2790-2880 m., August 16, 1943; tree 25 feet tall; Julian A. Steyermark 53873 (holotype, F).

This species is distinguished by the 3-5-foliolate leaves with coarsely crenate-serrate leaflets which are densely pruinose-pulverulent or puberulent beneath, and by the glabrous petioles and petiolules. It is related to B. inermis R. & P. of Peru, from which it differs in the fewer leaflets with more coarsely crenate, fewer-toothed margins, and glabrous petioles and petiolules.

BRUNELLIA ZAMORENSIS Steyermark, sp. nov.

Arbor; foliis imparipinnatis submembranaceis ad 53 cm. longis 6-jugis; petiolis 13 cm. longis teretibus hirsutis; petioli rhachi dense hirsuta; foliolis subsessilibus lateralibus anguste lanceolatis apicalibus elliptico-lanceolatis apice anguste acumina-tis basi asymmetricis acutis vel subacutis margine grosse serratis 12-19.5 cm. longis 3.5-5 cm. latis, supra sparse adpresso-pubescentibus subtus praecipue costa media nervisque pilosis pilis patentibus 0.5-0.75 mm. longis instructis; nervis lateralibus utroque latere 15-18 subtus prominulis; venulis tertiariis subtus laxe reticulatis prominulis; floribus non visis.

ECUADOR: Prov. Santiago-Zamora: in valley of moist forest at Arenillas along Río Tintas, between Campanas and Arenillas, 10 leagues southeast of El Pan, alt. 2195 m., July 13, 1943; leaves white below; Julian A. Steyermark 53576 (holotype, F).

The character of loose, hirsute pubescence on the rachis, stems, petioles, lower surface and midrib of lower leaf surface readily distinguishes this species. It is separated from B.

ecuadoriensis Cuatr. by the type of tomentum, the more numerous and larger leaflets, which are more narrowed at the base. From B. oliverii Britton, with which it shows affinity, it is distinguished by the long acuminate leaflets.

ROSACEAE

Bassett Maguire,
New York Botanical Garden

LACHEMILLA UNIFLORA Maguire, sp. nov. [Sect. Aphanoides (Perry) Rothm., Subsect. Pachyrrhizae Rothm.]

Perennes dense villosae pusillae; caulibus tenuibus prostratis 8-15 cm. longis adpresso-hirsutis, internodiis foliis longioribus; ramis lateralibus brevibus; foliis radicalibus tripartitis, laminis ovato-reniformibus 8-10 mm. longis 10-12 mm. latis multilobatis, lobis oblongo-lanceolatis, 1-2 mm. longis revolutis, superne adpresso-sericeo-hirsutulis, nervis valdissimis hirsutulis; petiolis 6-8 mm. longis; stipulis membranaceis, lobis libris deltoideo-lanceolatis acutis ca. 2 mm. longis ciliatis; foliis caulinis sessilibus, laminis 3-4 mm. longis, vaginis ca. 2 mm. longis, lobis 4-5, 1.5-2.5 mm. longis adscendentibus vel patentibus vel reflexis; floribus urceolatis 1-2, ca. 2 mm. longis; pedicellis 1-2 mm. longis dense hirsutulis persistentibus; hypanthiis ca. 2 mm. longis glabris, lobis 4 connatis oblongo-lanceolatis ca. 0.5 mm. longis subacutis sparse hirsutulis, bracteolis minutis 4 vel 1-2 obsoletis ca. 0.25 mm. longis linearibus acutis; staminibus 1-2; pistillis 6-8 brevi-stipitatis; acheniis 5-7 obtusis 0.7-0.8 mm. longis, stylis 1.5-2 mm. longis, subclavatis.

ECUADOR: Prov. Santiago-Zamora: moist places on páramo, trail between Pailas and El Pan, alt. 2255-3445 m., September 10, 1943; prostrate, gray-green leaves; Julian A. Steyermark 54347 (holotype, NY; isotype, F).

Lachemilla uniflora belongs to the L. frigida complex, and is its northernmost representative. Closest affinity seems to be with L. pedicellata Rothm. of Argentina, and, like it, from the description, has conspicuously long hirsute pedicels, few-flowered glomerules, and much reduced exterior bracteoles. But the flowers of L. uniflora are approximately twice the size of those of the Argentine species and produce twice the number of pistils and achenes, while the plant is much smaller with the leaves scarcely more than half the size.

Lachemilla uniflora is as distinct as any of the described species of the frigida-complex. It is not improbable that L. uniflora and others of the group represent no more than races of L. frigida. Such a situation is not to be unexpected in view of the prevalence of apomixis and other manifestations of genetical com-

plexity in the Potentilleae.

LACHEMILLA PROCUMBENS (Rose) Rydb. var. *ANDINA* (Perry) Maguire, comb. nov.

Alchemilla procumbens var. *andina* Perry, Contr. Gray Herb. 84: 23. 1929.

LEGUMINOSAE

Robert W. Schery

MIMOSA XEROPHYTICA Schery, sp. nov. Ser. Rubicaules

Arbor 7-metralis, ramulis juvenilibus tomentosis, ramis vetustioribus plus minusve glabris prominente lenticellatis longitudinaliter hriseo-striatis pauci-aculeatis, aculeis internodalis brevibus recurvatis; foliis bipinnatis pinnis plerumque 4-jugatis foliolis ca. 6-8-jugatis, petiolo (ca. 15 mm. longo) et rhachi (ca. 30 mm. longo) tomentoso eglanduloso, rhachibus secundariis ca. 30 mm. longis pulvinis apice brevi-biaculeatis, foliolis rhombico-oblongis 4-10 mm. longis 2-4 mm. latis sessilibus basi inaequilateraliter obtusis vel subacutis apice rotundatis supra glabris nitidis fuscioribus subtus subadpresso-tomentosis costa valde excentrica marginibus revolutis; stipulis aculeatis parvis ca. 1 mm. longis; inflorescentiis ex axillis terminalibus et subterminalibus, solitariis vel pauci-fasciculatis vel ex pedunculo primario 2-3-divisis, brevissime (ca. 3 mm.) spicatis ex pedunculo florifero ca. 15 mm. longo, bracteis minutis; floribus sessilibus albis, calycibus cupuliformibus ca. 0.8 mm. longis breviter 4-lobatis papyraceis subglabris, corollis infundibuliformibus ca. 2.5 mm. longis glabris 4-lobatis lobis ovatis ca. 1 mm. longis, staminibus 8 ? (6 visis); ovario hirsuto; leguminibus linearibus ad 7 cm. longis et ca. 8 mm. latis, planis, 5-7-segmentatis, breviter constrictis inter locales, marginibus persistentibus ?, pauci-aculeatis.

A tree sparsely armed with recurved thorns, the leaves bearing about 4 pairs of equidistant pinnae, these with 6-8 pairs of moderately small leaflets glabrous above but pubescent and lighter beneath, with the costa markedly excentric and in some leaflets one or two smaller veins arising from the base also visible, any other venation not apparent. The stipules are modified as very small spines. The inflorescences are short-spicate on moderately elongate peduncles, and arise 1-few from the upper axils or sometimes secondarily from a primary peduncle. Vestiges of flowers show 4-merous calyx and corolla, especially the former thin and delicate; apparently the corolla is diplostemonous (vestiges of at least 6 stamens could be counted). The legume, not completely mature in the type, is lomentaceous, with 5-7 briefly oblong, 1-seeded sections that apparently separate from the thickened margin in maturity. The margins are sparingly aculeate and indented between the segments.

ECUADOR: Prov. Loja: desert country between Vilcabamba and

Cachiyacu, alt. 1600-2100 m., Julian A. Steyermark 54368A (holotype, M; isotype, F).

Unfortunately, the type of this unusual species possesses no complete flowers, so that it is impossible to determine whether or not the anthers are glanduliferous. If so, the species might need to be placed in Prosopis (Sect. Lomentaria, since it has glabrous corolla, lomentaceous fruit, and hairy ovary). The lomentaceous legume and eglandular leaves would likely restruct it from Piptadenia, another possibility. The 4-merous flower and aculeate-margined legume better fit Mimosa than any other generic possibilities, although the arborescent habit, and some leaf and legume characters are rather unusual in that genus. The specific name is in allusion to the desert country where Steyermark collected the type.

CLETHRACEAE

CLETHRA RUGOSA Steyermark, sp. nov.

Arbor, ramulis dense hirsutulis; foliis subcoriaceis utrinque manifeste rugosis petiolatis, petiolis 2.2-2.7 cm. longis dense tomentoso-hirsutulis; laminis late elliptico-oblongis apice rotundatis vel obtusis basi obtusis vel subrotundatis atque subinaequalibus 11-17 cm. longis 6-8 cm. latis supra valde rugosis minute puberulis pilis fasciculatis praeditis subtus rugosis dense fulvo-tomentosis subrevolutis minutissime remoteque denticulatis, nervis lateralibus utroque latere 15-17 adscendentibus in marginem desinentibus; inflorescentiis terminalibus vel ad apices ramorum brevibus 2.5-3 cm. longis, rhachibus dense ferrugineo-hirsutulis, floribus crebris sessilibus; sepalis oblongis vel oblanceolato-oblongis apice rotundatis vel obtusis 4-4.5 mm. longis 1.5-2 mm. latis extus tomentellis intus supra medium strigillosis, marginibus laxe tomentosis; petalis obovatis apice rotundatis glabris 3.8-4 mm. longis 2.5-3 mm. latis supra medium eroso-fimbriatis; antheris 1-1.5 mm. longis glabris; filamentis glabris 1.75-2 mm. longis; stylo glabro 1.5 mm. longo apicem versus ampliatis; stigmatibus 3-capitellatis; ovario extus dense tomentoso-hirsutulo.

ECUADOR: Prov. Santiago-zamora: sotobosque andino de Campanas, Cordillera Oriental, alt. 2850 m.; hojas coriáceas de color café claro al envés, Julio 20, 1943, M. Acosta-Solis 5054 (holotype, F).

This taxon is characterized by the conspicuously rugose upper leaf surface, densely brown-tomentose lower leaf surface, the short racemes, and the small flowers.

APOCYNACEAE

Robert E. Woodson, Jr.

MANDEVILLA VERSICOLOR Woodson, sp. nov.

Frutex volubilis, ramulis elongatis crassiusculis pilosulis

cortice rubro-brunneis. Folia opposita petiolata, lamina elliptico-ovata acuminata basi cordata 10-15 cm. longa 6-8 cm. lata membranacea utrinque pilosula supra nervo medio basi pauciglanduligera, petiolo 1-1.5 cm. longo, appendicibus interpetiolaribus stipularibus pluribus ca. 0.1 cm. longis. Inflorescentiae in axillis alternatis racemosae pluriflores pendentes, pedunculo 8-10 cm. longo dense puberulo, pedicellis ca. 2-2.5 cm. longis similiter vestitis, bracteis scariaceis ovatis ca. 0.1-0.2 cm. longis. Calycis lacinae ovato-lanceolatae longe acuminatae ca. 0.5 cm. longae extus dense puberulae intus basi pluriglandulosae. Corolla infundibulariformis extus glabra, tubo proprio ca. 2.2 cm. longo basi ca. 0.2 cm. diam. dilute viridi et rubromaculato, faucibus conicis ca. 1.5 cm. longis ostio ca. 0.6 cm. diam. basi staminigeris, lobis oblique obovatis ca. 3 cm. longis sordide croceis margine interiori salmo-rubro patulis. Anthera anguste oblonga basi truncata 0.8-0.9 cm. longa glabra. Ovarii carpella oblongoidea ca. 0.2 cm. longa glabra, nectariis 5 plus minusve connatis vix 0.1 cm. longis, stigmatibus umbraculiformi ca. 0.4 cm. longo longe apiculato.

ECUADOR: Prov. El Oro: between Paccha and Puente Grande, passing over Montaña de Pueblo Viejo, Cordillera Suchiquilla, etc., alt. 1830-2430 m., Aug. 26, 1943, Julian A. Steyermark 54154 (holotype, F).

Obviously allied to the western South American species of Subgen. Eumandevilla, Sect. Laxae, particularly M. veraguasensis, but differing in the unusually large flowers and lax, pendulous inflorescences which at first sight suggest the genus Temnadenia.

SOLANACEAE

CYPHOMANDRA VILLOSA Steyermark, sp. nov.

Arbuscula, ramulis dense fulvo-villosulis; foliis petiolatis, petiolis 1.2-2.5 cm. longis dense velutinis, laminis simplicibus ovatis apice subito subacuminatis basi subcordatis vel late rotundatis 6-7.5 cm. longis 3-4 cm. latis supra plus minusve dense adpresso-pubescentibus subtus molliter denseque velutinis integris, nervis lateralibus utroque latere ca. 6; nervis tertiariis subtus laxè transverseque reticulatis; inflorescentiis axillari-bus vel subterminalibus bifurcatis 7.5-8 cm. longis 6-7 cm. latis 3.5-4.5 cm. longe pedunculatis, ramulis principalibus duobus 7-9 cm. longis quique ramorum saltem 5-6-flora, rhachi ramisque dense velutinis; pedicellis in anthesi 13-14 mm. longis in fructu 15-17 mm. longis dense pilosulis; floribus secundis fere scorpioideis; calycis tubo breviter cupulato-campanulato 1 mm. alto 4 mm. lato dense villosulo, lobis 5 anguste triangulari-lanceolatis vel triangulari-subulatis acuminatis 3.5-4 mm. longis basi 1.75 mm. latis dense villosulis; corollis purpureis campanulatis 11-12 mm. longis, tubo 6-7 mm. longo basi 3 mm. lato fauce 8 mm. lato, lobis late ovatis subacutis 7.5 mm. longis 5-6.5 mm. latis extus villosulis intus glabris laxè reticulato-venosis; staminibus exsertis, antheris oblongis apice ro-

tundatis 5-6 mm. longis 2.5 mm. latis glabris; filamentis 3 mm. longis glabris basi corollae insertis; stylo 10-10.5 mm. longo pilosulo; ovario glabro ovoideo-conico; bacca globosa 1.5 cm. longa 1.5 cm. lata glabra.

ECUADOR: Prov. Loja: region central: Las Chinchas, alt. 2250 m., Abril 12, 1944; arbustiva; flores moradas; bayas redondas, verdes; M. Acosta-Solis 7743 (holotype, F). Local name: "sabalucu".

This species differs from C. hypomalaca Bitter of Ecuador in the shorter petioles, smaller leaf-blades, fewer-flowered inflorescences, shorter pedicels, longer, narrower calyx-lobes with attenuate tips, and differently shaped broader fruit.

MARKEA GRANDIFLORA Steyermark, sp. nov.

Planta lignea, ramulis apice hirsutulis ceterum glabris; foliis coriaceis breviter petiolatis, petiolis 7-8 mm. longis glabris; laminis anguste obovatis vel oblanceolato-oblongis apice rotundatis basi angustatis acutis vel subacutis 6-9 cm. longis 2.5-3 cm. latis utrinque glabris, nervis lateralibus utroque latere 5-6 adscendentibus prope marginem conjunctis; floribus longipedunculatis; calyce tubuloso-campanulato laxe reticulato-venoso basi 4-carinato 5.5-6.5 cm. longo basi 1.7-2 cm. lato apice 3 cm. lato, lobis 4 ovatis subacutis vel obtusis 2.2-3 cm. longis 1.5 cm. latis; corolla calyce paullo longiore saltem 6.5 cm. longa; antheris lineari-oblongis 16 mm. longis 3 mm. latis; filamentis glabris; ovario conico 9 mm. longo.

ECUADOR: Prov. Pichincha: bajada de Loche a Condor Mackay, Cordillera Occidental, alt. 2700-3100 m., Enero 18, 1944; arborea o arbustiva; flores grandes, de peciolo largos, colgantes; corolla verdosa; M. Acosta-Solis 7009 (holotype, F).

The large calyx and corolla are characters of this species.

NIEREMBERGIA ESPINOSAE Steyermark, sp. nov.

Herba pusilla procumbens repensque 2 cm. alta, caulibus tenuissimis subfiliformibus glabris; foliis petiolatis, petiolis 3-10 mm. longis tenuissimis pilosulis; laminis elliptico-ovatis vel ovalibus apice rotundatis vel obtusis basi cuneatis acutis 6-9 mm. longis 3-7 mm. latis utrinque sparse pilosulis vel interdum glabrescentibus, nervis lateralibus utroque latere 1 vel 2 sed plerumque obscuris vel nullis; floribus solitariis subsessilibus; calyce tubuloso 5-5.6 mm. longo costato-nervio extus sparse pilosulo, lobis ovatis vel lanceolatis subacutis vel hebeti-acutis 1.5-2 mm. longis 0.75-1.5 mm. latis; corolla hypocrateri-infundibuliformi 14-16 mm. longa, tubo 7-9 mm. longo 0.5-0.75 mm. lato extus minute glandulari-puberulenti superne in faucem campanulatam 5-7 mm. longam 6 mm. latam subito dilatato extus pilis glandularibus remote oblecto apice in lobos breves late triangulares 2.5 mm. largos 0.5 mm. longos leviter desinente; ovulis ca. 20; seminibus ferrugineis subrhomboideis obtuse subtrigonis extremitatibus subtruncatis vel obliquis 1 mm. longis; testa alveolatorugosa.

ECUADOR: Prov. Loja: en prados, Namanda, alt. 1500 m., Nov. 24, 1946; yerba menuda, rostrera; poco frecuente; flores acampanuladas, color blanco con ligero tinte rosado; Reinaldo Espinosa 1076 (holotype, F).

This species is characterized by the diminutive size of the plant and proportionately large size of the corolla.

NOTES ON NEW AND NOTEWORTHY PLANTS. XXXIX

Harold N. Moldenke

ERIOCAULON BREVIPEDUNCULATUM var. *LONGIPES* Moldenke, var. nov.

Haec varietas a forma typica speciei pedunculis 3.5--5 cm. longis recedit.

This variety differs from the typical form of the species in having its peduncles 3.5--5 cm. long, usually subequalling the leaves.

The type of the variety was collected by R. D. Hoogland and R. Schodde (no. 7647) in a swampy patch in treefern grassland, at an altitude of about 8500 feet, in the Yobobos grassland area (source of Lagaip River), Laiagam Subdistrict, Western Highlands, New Guinea, on August 31, 1960, and is deposited in the United States Herbarium at Washington.

LIPPIA LASIOCALYCINA var. *SAINTHILAIREI* Moldenke, var. nov.

Haec varietas a forma typica speciei bracteis late ovatis ad apicem acutis vel subacutis recedit.

This variety differs from the typical form of the species in having its bracts broadly ovate and merely acute or subacute at the apex.

The type of the variety was collected by August François Cesar Prouvençal de Saint-Hilaire -- in whose honor it is named -- at Olho d'Agoa, Minas Gerais, Brazil, between 1816 and 1824, and is deposited in the United States National Herbarium at Washington. It is a great pleasure to dedicate this distinct taxon to a collector who did such noteworthy and important work on the flora of Brazil and Uruguay.



Steyermark, Julian A. 1963. "Notes on Ecuador plants." *Phytologia* 9(6), 337–350.

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