

NEW SPECIES AND COMBINATIONS IN APOCYNACEAE FROM PERU AND ADJACENT AMAZONIA¹

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ABSTRACT

Among recent collections from Peru and adjacent regions are the six new species of Apocynaceae described here. A new combination is also proposed for the widespread plant previously known as *Mandevilla velutina*. The genus *Pacouria* is reported for the first time from Peru and the very unusual fruits of *Allamanda weberbaueri* described for the first time.

Aspidosperma tambopatense A. Gentry, sp. nov.

TYPE: Peru. Madre de Dios: Tambopata Reserve, 26 km S of Puerto Maldonado on E side of Río Tambopata, 12°49'S, 69°17'W, 280 m, subtropical moist forest life zone, 12 Nov. 1979, G. Hartshorn 2421 (holotype, MO; isotypes, CR, F, USM).

Arbor grandis. Lamina folii elliptica vel anguste obovata, cuneata, obtusa, discoloria. Inflorescentia multum ramosa, ex parte glabriuscula, pedicellis rufescentibus, floribus albidis, calycis lobis ovatis, acutis, corolla tubulosa, sericea, ad tubi apicem constricta.

Canopy tree to 30 m tall, producing white latex, the branchlets irregularly angled, more or less whitish lenticellate when young, glabrous or glabrate. Leaves alternate, the blade elliptic to narrowly obovate, cuneate at base, obtuse to subacutish at apex, 5–16 cm long, 2–7 cm wide, chartaceous, glabrous or with a few scattered trichomes near base of midvein, discolorous with the densely and minutely glandular-papillate undersurface strikingly paler; petiole slender, dark-drying, 1–3 cm long. Inflorescence ebracteate, ramiflorous and leaf-opposed or subterminal on short axillary branches, openly branching and with well-developed peduncles, rather inconspicuously and glabrescently appressed puberulous, the trichomes more concentrated on the distinctly rufescent pedicels. Flowers whitish, the five calyx lobes ovate, acute, 1–1.5 mm long; corolla tubular, densely whitish sericeous, slightly constricted at apex of tube, the round lobes somewhat reflexed, 1 mm long, the tube 3–4 mm long, to 2 mm wide at broadest point; stamens inserted near middle of tube, the anther thecae slightly divergent, ca. 1 mm long, the connective

acuminately extended; ovary conical, 1 mm long and wide, densely white puberulous; style ca. 1 mm long, the stigma minute. Fruits asymmetrically obovate in outline, compressed “pyriform,” 6.5 cm by 4 cm, rather thick (ca. 2.5 cm) and woody valved, with a slightly raised median ridge, conspicuously whitish lenticellate.

Distribution. Moist forests on relatively good soils along the base of the Andes, 280–400 m altitude.

Additional collections examined. PERU. MADRE DE DIOS: Tambopata Reserve (type locality), 23 Apr. 1980, P. Barbour 4985 (MO). SAN MARTIN: Mariscal Caceres, Ramal de Aspuzana, Uchiza, 390–400 m, 16 July 1973, Schunke 6306 (F, MO, USM, to be distributed). LORETO: Cerros Campanquíz, R bank of Río Marañón opposite mouth of Río Santiago, 300–450 m, 2 Nov. 1962, Wurdack 2525 (MO).

This species belongs to Woodson's (1951) series *Pyricolla* on account of its small corolla with a constricted tube apex and ebracteate inflorescence. It keys to *A. parvifolium* in Woodson's key because of its extremely short round corolla lobes less than one-quarter the tube length and the reddish inflorescence tomentum. *Aspidosperma parvifolium*, presumably the closest relative of *A. tambopatense*, is restricted to coastal Brazil (Bahia to São Paulo) and differs in having smaller obovate leaves that are usually pubescent beneath, a much denser and less appressed inflorescence tomentum, and especially a reddish tomentellous corolla tube, the latter very different from the whitish sericeous corolla tube of *A. tambopatense*. *Aspidosperma tambopatense* is also very similar to *A. vargasii*, the only member of series *Pyricolla* with which it is sympatric, and the Wurdack collection was identified as *A. var-*

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gasii by Woodson. It differs from *A. vargasii* in having a much more open inflorescence with a largely glabrescent tomentum (the inflorescence branches thus appearing blackish), mostly composed of reddish rather than grayish yellow trichomes. The calyces of *A. tambopatense* are relatively sparsely puberulous and brownish drying. The leaves of *A. vargasii* are much more concentrated near the branchlet tips than in *A. tambopatense*. The fruit described for *A. tambopatense* is a detached one picked up from the forest floor but comes from the type locality and is not referable to any other Peruvian *Aspidosperma*; this fruit is larger than that of *A. vargasii* (4–5 cm by 2.5–3 cm) and has much thicker valves although its general form is similar. Apparently *A. vargasii* occurs in drier habitats than does *A. tambopatense* and in Peru appears to bloom precociously whereas *A. tambopatense* blooms with the mature leaves.

Aspidosperma provides an excellent example of the inadequacy of the coverage of Amazonian plants in the "Flora of Peru." In Macbride's (1959) "Flora of Peru" treatment, only three species of *Aspidosperma* were reported to occur in Peru, although several other species that might be expected were also noted in the Flora. Twelve additional species of *Aspidosperma* are now known from Peru, quintupling the number of species reported in the Flora. Besides *A. tambopatense*, the additional Peruvian species are:

- A. australe* Muell.-Arg. [Cajamarca, Mandangua (*Woytkowski* 6817 (MO)).]
- A. capitatum* L. Wms. [Huanuco, Rupa-Rupa (*Gutierrez* 95, fide *Fieldiana*, Bot. 31: 249. 1967).]
- A. cruentum* Woods. [Loreto, Río Itaya (*Revilla* 2367 (MO)); see *Gentry*, 1974, for correct use of this name.]
- A. cylindrocarpon* Muell.-Arg. [Huanuco, Pachitea, fide L. Williams, *Fieldiana*, Bot. 31: 18. 1964; Junin, Río Colorado, 500–600 m (*Gentry et al.* 40109 (MO)).]
- A. excelsum* Benth. [San Martin, Tocache Nuevo (*Schunke* 10019 (MO)); Loreto, Mishana (*Gentry & Aronson* 25313 (MO), *Gentry et al.* 31693 (MO)).]
- A. macrocarpon* Mart. [Loreto, Distrito Calleria, fide L. Williams, *Fieldiana*, Bot. 31: 18. 1964; San Martin, Tocache Nuevo (*Gentry et al.* 25538 (MO); *Schunke* 8673 (MO)).]
- A. marcgravianum* Woods. [Huanuco, Codo de Pozuzo, 450 m (*Foster* 9274 (MO)); Madre

de Dios, 20 km W of Puerto Maldonado (*Gentry et al.* 19721 (MO)).]

- A. megaphyllum* Woods. [Madre de Dios, Manu Park (*Gentry et al.* 26949 (MO)).]
- A. nitidum* Benth. [Loreto, Mishana (*Gentry et al.* 25323, 25355, 25364, 36500 (all MO)), Laguna de Yarana, Río Nanay (*Diaz et al.* 447 (MO)), Río Tacsha Curaray (*Croat* 20413 (MO)); a common species of seasonally inundated tahuampa forests, occasionally also on upland white sand, especially in poorly drained areas. Some of this material has been identified as *A. marcgravianum* but the Loreto collections have the leaf-opposed, rather than terminal, inflorescences and larger less acuminate leaves of *A. nitidum* and are clearly not conspecific with the specimens cited above as *A. marcgravianum* despite the very similar small verrucose fruits.]
- A. schultesii* Woods. [Loreto, Mishana (*Gentry et al.* 25312, 26169 (both MO)).]
- A. cf. verruculosum* Muell.-Arg. [Loreto, Mishana (*Gentry et al.* 25219, 25272, 26084 (all MO)); sympatric with and very close to *A. schultesii* but has red latex.]
- A. sp. nov. aff. pichonianum* [Loreto, Mishana (*Gentry et al.* 31682, *Gentry & Aronson* 25299 (both MO)). Although it is highly likely that this species is undescribed, it seems best to await the discovery of its flowers before describing it. The leaves are coriaceous, and narrowly oblong with a rounded or retuse acumen, asymmetrically cuneate revolute-margined base, and obscure secondary veins. This species is vegetatively most similar to *A. pichonianum* of the Guayana Highlands, an unlikely identification on phytogeographic grounds. The fruit of the Peruvian plant is flattened and suborbicular, ca. 10 cm by 8 cm, with a minutely roughened black-drying surface, very short stipe, and no raised midrib; the suborbicular seeds are ca. 8 cm diam. Another noteworthy feature is the abundant red latex in the younger branches.]
- A. sp.* [At least one additional species is represented by a sterile transect voucher that I have been unable to match in the herbarium.]

Pacouria boliviensis (Mgf.) A. Chev., *Rev. Int. Bot. Appl.* 28: 455. 1948. *Landolphia boliviensis* Mgf., *Notizbl. Bot. Gart. Mus. Berlin*

9: 1041. 1926. TYPE: Bolivia. *Steinbach* 6537 (not seen).

The few American species generally attributed to the otherwise exclusively African genus *Landolphia* are a famous trans-Atlantic disjunction, complicated by the fact that the oldest name for any member of the group, *Pacouria* Aublet, has been rejected against *Landolphia*. *Pacouria guianensis*, described from French Guiana (Aublet, 1775), was not re-collected for well over a century, leading Bentham (1876) and others to suggest that Aublet's plant might have been introduced from Africa. Monachino (1945) summarized the convoluted taxonomic history of the rarely-collected American members of this group, accepting three species, of which he had seen only four collections.

At the time of Monachino's summary, the African species of this alliance were usually retained in a rather heterogeneous sensu lato *Landolphia*. However, for better or for worse, taxonomic custom has changed, and all African authors (e.g., "Flora of West Tropical Africa" and the various checklists of plants of northwest Gabon) now accept *Dictyophleba* and *Ancylobothrys*, with distinctive terminal inflorescences having curved lateral branches that apparently serve as "grappling hook" tendrils, as separate from *Landolphia*, which has short contracted, mostly axillary inflorescences. The American species are closest to either *Ancylobothrys* (Monachino, 1945: 309) or *Dictyophleba* (because of the non-keeled anthers and glabrous fruit, cf. Pichon, 1953: 39–40). While the American species are clearly not very different from either of these African genera, Pichon (1953) elected to treat them as generically distinct under a resurrected and narrowly defined *Pacouria*, a decision supported by several current students of the family (Zarucchi, pers. comm.; Leeuwenberg, pers. comm.). Nevertheless, as Pichon (1953) himself remarked, American *Pacouria* appears to be intermediate between the advanced African genera *Dictyophleba*, *Vahadenia*, and *Ancylobothrys* and the relatively unspecialized African genus *Landolphia*!

All of this becomes relevant to Peru because of the discovery of *Pacouria boliviensis* in Peru (*Ancuash* 339 (MO), Amazonas Dept., Quebrada Huampi, determined as *Landolphia boliviensis* by Markgraf; *Gentry* 43294, 43408 (both MO), Madre de Dios, Cocha Cashu Biological Station, Manu National Park).

Geissospermum, a small genus of three species

plus the two additional ones described here, has not been reported previously from Peru. It differs from *Aspidosperma* in having dextrorse rather than sinistrorse corolla aestivation, in lacking slits in the corolla tube at the level of the anthers, and especially in having a non-compressed ellipsoid or ovoid fruit that contains small wingless, though rather flattened, seeds. The three known species are *G. laeve* (Vell.) Miers from coastal Brazil (*G. vellosi* Allem. is a synonym), and two species from Central and lower Amazonia and the Guianas. *Geissospermum argenteum* Woods. occurs from the Guianas south through central and lower Amazonian Brazil (mostly north of the Río Amazonas except in the Xingu region). According to Markgraf (1978), *G. argenteum* is a synonym of *G. sericeum*, but it is his own *G. fuscum* Mgf. that is really conspecific with the type of *G. sericeum* (Sagot 966 (P)). *Geissospermum sericeum* Benth. & Hook. occurs from the Río Negro region of Venezuela and Brazil north to Surinam and east to Amapá. One of the new species described here occurs in southern Amazonian Brazil from the Tocantins and Tapajos to the Bolivian border in Rondonia. The other is known only from an isolated patch of dry forest in Central Amazonian Peru.

KEY TO THE SPECIES OF *GEISSOSPERMUM*

1. Corolla tube 9–10 mm long, the lobes 4–5 mm long; follicles acuminate; leaves less than 8 cm long and 3 cm wide; coastal Brazil *G. laeve*
1. Corolla tube less than 6 mm long, the lobes less than 3 mm long; follicles obtuse to apiculate; some leaves usually more than 8 cm long and 3 cm wide; Amazonia.
 2. Leaves densely sericeous below with silvery or brownish trichomes, the tertiary venation hidden by the pubescence and hardly evident; northern and eastern Amazonia.
 3. Stem pubescence brown, not appressed; leaf pubescence brownish sericeous; corolla lobes 2–3 mm long *G. sericeum*
 3. Stem pubescence tan, appressed; leaf pubescence silvery sericeous; corolla lobes 1–2 mm long *G. argenteum*
 2. Leaves almost glabrescent below, the tertiary venation conspicuously prominulous; southern or western Amazonia.
 4. Corolla tube 5–6 mm long, enlarged at base and constricted at throat; inflorescence few-flowered; calyx lobes separate to base, obtuse *G. urceolatum*
 4. Corolla tube 3–4 mm long, uniformly tubular; inflorescence many-flowered; calyx lobes fused at base, acute *G. reticulatum*

***Geissospermum reticulatum* A. Gentry, sp. nov.**

TYPE: Peru. Huanuco: Pachitea, Carretera Miel de Abejas, 1 km arriba de Tournavista, Honoria, 300 m, Bosque Nacional de Iparia, bosque seco tropical, 29 Dec. 1966, *J. Schunke 1446* (holotype, MO; isotype, P; other duplicates distributed by F as *Aspidosperma* aff. *polyneuron*).

Arbor lactifer. Folia elliptica vel anguste ovata, cuneata, acuminata, infra sparsim puberula trichomatibus adpressis, nervatura intricate prominula. Inflorescentia lateralis, pedunculata, ramosa, dense puberula, floribus eburneis, calyce cupulato, 1.5 mm longo, acute 5-lobato, puberulo, corolla tubulosa, dense sericea. Fructus immaturus ovoideus, dense velutinus.

Tree 14 m tall, producing white latex; branchlets more or less terete, appressed puberulous, elenticellate. Leaves alternate, elliptic to narrowly ovate, long acuminate, cuneate at base, 8–11 cm long, 3–4.5 cm wide, chartaceous, minutely appressed-puberulous on midvein above and below and sparsely and inconspicuously over whole surface below, the venation intricately prominulous above and below; petiole 4–7 mm long. Inflorescence mostly scattered along the branches, sometimes opposite the leaves, each inflorescence with a well-developed peduncle, often ca. 1 cm long with several main bifurcations, densely appressed-puberulous with tannish trichomes; the ultimate flower clusters subtended by ca. 1 mm long appressed tannish-puberulous bracts. Flowers cream; the calyx cupular, ca. 1.5 mm long, the five acute lobes split $\frac{1}{2}$ to $\frac{2}{3}$ of way to base, densely appressed tannish puberulous; corolla tubular, the round thick lobes reflexed at anthesis, ca. 1 mm long, the tube 3–4 mm long, 1–1.5 mm wide, densely tannish sericeous; stamens inserted near top of tube, the parallel thecae completely fused, ca. 0.6 mm long, the prolonged connective acute; ovary ovoid, puberulous, sulcate. Very immature fruits (only 5 mm long) ovoid, densely tannish-velutinous.

Distribution. Known only from the strongly seasonal forest of the central Río Ucayali drainage south of Pucallpa.

Geissospermum reticulatum is most closely related to *G. argenteum*, from which it is differentiated especially by lack of a conspicuously sericeous leaf undersurface and the intricately prominulous network formed by the leaf venation. Although the type collection was identified as *Aspidosperma* aff. *polyneuron*, and *G. reticulatum* is superficially somewhat similar to that

species and some other *Aspidospermas*, the prominulously intricately reticulate fine leaf venation of *G. reticulatum* is quite unlike the leaf venation of any *Aspidosperma* species at MO.

***Geissospermum urceolatum* A. Gentry, sp. nov.**

TYPE: Brazil. Pará: Belterra, 3 Nov. 1957, *Black 47-1909* [holotype, MO; isotype, P, MG (not seen)].

Arbor lactifer. Folia elliptica vel ovata, acuminata, ad basim obtusa, plerumque glabrata. Inflorescentia lateralis, pauciflora, floribus viridibus, calycis lobis separatis, lanceolatis, corolla tubulo-urceolata, tubi apice constricta, dense puberula. Fructus duobis folliculis ellipsoideis tomentosis compositus, seminibus complanatis, exalatis.

Tree to 10 or more m tall, producing white latex, the branchlets subterete, distinctly longitudinally striate-ridged, puberulous with short subappressed trichomes, elenticellate. Leaves alternate, the blade elliptic to ovate, acuminate to long acuminate, obtuse to broadly cuneate at base, 4.5–12 cm long, 1.5–5 cm wide, chartaceous, mostly glabrescent, minutely appressed-puberulous only on midvein and very sparsely over lower surface, the venation prominulous above and below; petiole 3–8 mm long. Inflorescence lateral, few-flowered, tannish puberulous with subappressed trichomes. Flowers greenish, the calyx of 5 separate lobes, the lobes lanceolate, obtuse, ca. 1.5 mm long, appressed puberulous; corolla tubular-urceolate, the base distinctly swollen, the neck constricted, the tube 5–6 mm long, almost 2 mm wide at base, densely tannish puberulous, the trichomes over basal swelling not appressed, the lobes 1–1.5 mm long. Fruits of 2 ellipsoid follicles, rather densely but glabrescently tannish tomentose, ca. 3 mm long, 1.5–2 cm wide; seeds flattened, wingless, rather angular, 6–9 mm long, ca. 10 mm wide.

Distribution. Amazonian Brazil south of the Amazon.

Additional collections examined. BRAZIL. PARÁ: Breu Branco, Estrada de Ferro Tocantins, terra firme highland forest, 29 Sept. 1948, *Froes 23576* (MO). RONDONIA: Guajará-Mirim, campina, 17 Dec. 1949, *N. Silva 338* (MO; two sheets, one with number changed to "438" with pencil).

This species resembles *G. laeve* (*G. vellosi*) of coastal Brazil in its relatively large flowers and few-flowered inflorescences but differs strongly from that species in its much smaller corolla lobes and urceolate corolla tube. Its leaves are similar

to those of *G. reticulatum* in lacking an obvious sericeous pubescence, but the corolla is larger and differently shaped, the inflorescences have fewer flowers, and the calyx is split to the base and has obtuse rather than acute lobes.

Mandevilla arcuata A. Gentry, sp. nov. TYPE: Peru. Amazonas: Valle del Río Santiago, 77°40'W, 3°50'S, Quebrada 2–3 km atras de la comunidad de Caterpiza, 200 m, 29 Jan. 1980, *S. Tunqui* 674 (holotype, MO; isotype, USM).

Herba glabra scandens. Folia anguste obovato-elliptica, acuminata, basi truncata, margine ciliato excepto glabra. Inflorescentia racemosa, axillaris, fere glabra, floribus eburneis, calyce 2 mm longo, lobis subulato-acuminatis, corolla ad apicem tubulo-campanulata, ad basim anguste tubulosa, curvata, gibbosa. Fructus duobis folliculis lineariis inter semina constrictis compositus, seminibus ad apicem plumosis.

Vine, stems terete, slender, glabrous or with a few scattered minute inconspicuous trichomes. Leaves opposite, narrowly obovate-elliptic, acuminate, the base narrowly truncate, not at all cordate, 5–7 cm long, 1.5–2.5 cm wide, membranaceous, glabrous except the minutely subciliate margin and a few minute scattered trichomes, some leaves with obvious glands on the midrib above; petiole 0.5–0.8 cm long. Inflorescence racemose, axillary, virtually glabrous, not at all 1-sided, the pedicels 7–8 mm long. Flowers cream, the calyx 2 mm long, 5-lobed, the subulate-acuminate lobes with a few short trichomes along margins; corolla narrowly tubular-campanulate above a narrow strongly curved gibbous basal tube, glabrous outside, the throat (in bud) 1 cm long and 5 mm wide, the basal tube ca. 1.5 cm long, less than 1 mm wide except toward base. Fruit apocarpous, the 2 follicles linear, strongly constricted between seeds, glabrous, 18–20 cm long, ca. 3 mm wide at thickest points; seed body narrow, conspicuously longitudinally grooved, 1 cm long, with a dense apical tuft of 1.2–2 cm long brownish trichomes.

Distribution. Known only from the Ecuador-Peru border region of northeastern Amazonas Department.

This species belongs in subgenus *Exothostemon* because of its strongly arcuate gibbous corolla tube. It is most closely related to *M. polyantha* K. Schum. ex Woods. based on the unusual corolla shape. Although the cream flower color would key it out with *M. polyantha*, it does not

have the second inflorescence used to distinguish *M. polyantha* in Woodson's (1933) key. Nevertheless, a second inflorescence, which in any event may be partially a pressing artifact, is not universal in *M. polyantha* and that feature thus is not a major differentiating character between *M. arcuata* and *M. polyantha*. One of the most obvious differences between these two species is that *M. arcuata* is essentially glabrous almost throughout—only a few minute and inconspicuous trichomes are scattered over its stems, inflorescences, and leaves (especially the subciliate margins)—whereas *M. polyantha* is conspicuously puberulous on stems, leaf undersurfaces, petioles, and inflorescence. *Mandevilla arcuata* has smaller leaves that taper to a narrow, abruptly truncate base whereas the leaf of *M. polyantha* narrows to a distinctly cordate base. The flower of *M. arcuata* is apparently somewhat smaller than that of *M. polyantha*. *Mandevilla polyantha* is endemic to the lower Huallaga Valley around Yurimaguas but *M. arcuata* occurs further northwest in the Río Santiago Valley near the Ecuador border.

Mandevilla is a large and taxonomically difficult genus and it is with some hesitation that I propose a new species in it, even such a distinctive one. Thirty-five new species of *Mandevilla* have been published since Woodson's monograph. I have seen no material of a number of these but have checked the descriptions of all species proposed from Central and western South America. None of these species is even remotely similar to *M. arcuata* or *M. polyantha*.

Mandevilla pohliana (Stadelm.) A. Gentry, comb. nov. *Echites pohliana* Stadelm., Flora 24(1): Beibl. 73. 1841. TYPE: Brazil. Minas Geraes, *Pohl s.n.* (not seen).

Dipladenia gentianoides Muell.-Arg. var. *glabra* Muell.-Arg. in Mart., Fl. Bras. 6(1): 124, pl. 37, fig. 2. 1860. *Mandevilla velutina* (Mart.) Woods. var. *glabra* (Muell.-Arg.) Woods. Ann. Missouri Bot. Gard. 20: 732. 1933. (9 additional synonyms are cited under var. *glabra* by Woodson.) SYNTYPES: Brazil. São Paulo, *Lund* 889, *Sellow s.n.*, *Pohl* 474; Minas Geraes, *Weddell s.n.* (not seen).

Mandevilla pohliana (Stadelm.) A. Gentry var. **velutina** (Mart. ex Stadelm.) A. Gentry, comb. nov. *Echites velutina* Mart. ex Stadelm., Flora 24(1): Beibl. 72. 1841. *Dipladenia velutina* (Mart. ex Stadelm.) DC., Prodr. 8: 483. 1844. *Dipladenia gentianoides* Muell.-Arg. var. *velutina* (Mart. ex Sta-

delm.) Muell.-Arg. in Mart., Fl. Bras. 6(1): 124. 1860. *Mandevilla velutina* (Mart. ex Stadelm.) Woods. var. *typica* Woods., Ann. Missouri Bot. Gard. 20: 732. 1933. TYPE: Brazil. São Paulo, *Martius 503* (not seen).

The plant generally known as *Mandevilla velutina* is one of the commonest and best known species of the genus, occurring through most of southeastern Brazil, Paraguay, and into Bolivia [*Cardenas 5500* (MO) from between San Ignacio and San Miguel, Santa Cruz Department, is apparently a first report for Bolivia]. While not yet reported from Peru, this is the kind of distribution pattern that might be expected of the plants that will be found in the botanically unexplored Pampas de Heath on the Bolivian border.

When Woodson (1933) proposed his new combination for this species, he apparently failed to realize that the epithet "velutina" was already preoccupied in *Mandevilla* by *M. velutina* K. Schum. (in Engler & Prantl, Nat. Pflanzenfam. 4(2): 171. 1895), a Costa Rican plant previously placed by Woodson in synonymy under *Fernaldia pandurata* (DC.) Woods. Resurrection of the next available name for the plant usually known as *M. velutina* is unavoidable. This plant must thus be known as *M. pohliana*, based on *Echites pohliana*, published concurrently with *E. velutina* by Stadelmeyer. However, there are two distinctive variants of this plant, a glabrous-leaved and a pubescent-leaved form, the latter including the type of *Echites velutina* and designated *M. velutina* var. *typica* by Woodson. The type of *Echites pohliana* belongs to the glabrescent-leaved form, usually referred to as variety *glabra*, which thus becomes var. *pohliana*. Luckily an epithet older than Woodson's "typica" is available at varietal rank for the pubescent-leaved plant that Mueller-Argoviensis (1860) reduced to varietal status as *Dipladenia gentianoides* var. *velutina* long before Woodson proposed his variety *typica*. Thus the pubescent taxon becomes *M. pohliana* var. *velutina* (Mart. ex Stadelm.) A. Gentry.

***Odontadenia macrostoma* A. Gentry, sp. nov.**

TYPE: Peru. Amazonas: Valle del Río Santiago, 77°40'W, 3°50'S, Quebrada Caterpiza, 2–3 km atras de la comunidad de Caterpiza, 200 m, 14 Jan. 1980, *S. Tunqui 602* (holotype, MO; isotype, USM).

Frutex scandens. Folia elliptica, acuminata, basi obtusa, infra secus nervos minute puberula. Inflorescentia corymboso-paniculata, terminalis, floribunda, minute puberula, floribus luteis, calycis lobis ovatis, obtusis, 5–6 mm longis, puberulis, corolla late infundibuliformi-campanulata supra tubi partem basalem, dense puberula, antheris in tubi parte basali inclusis. Fructus ignotus.

Liana; stems reddish brown, with conspicuous small raised blackish lenticels. Leaves opposite, elliptic, acuminate at apex, broadly cuneate to obtuse at base, very minutely and sparsely puberulous along main veins below and base of mid-vein above, otherwise glabrous, 9–12 cm long, 3–4.5 cm wide, chartaceous; petiole 0.8–1 cm long; stipules not seen, early caducous, leaving an interpetiolar scar. Inflorescence corymbose-paniculate, terminal, many-flowered, the branches and pedicels minutely puberulous. Flowers with the calyx lobes ovate, obtuse, uniformly 5–6 mm long, not at all or barely unequal, densely minutely puberulous outside, the squamellae thin and inconspicuous; corolla yellow, broadly infundibuliform-campanulate above the narrow basal tube, the basal tube 1–1.5 cm long, 2–3 mm across at basal bulge, 1–2 mm across above bulge, the upper tube (throat) ca. 2 cm long, 1.5–2 cm broad at mouth, minutely papillose-puberulous outside, especially conspicuously so in bud, the anthers included in basal tube, linear, 5 mm long, with acuminate connective and acuminate basal tails; ovary ovoid, densely minutely puberulous, 1.5 mm long, ca. 1 mm wide, surrounded by the annularly accrescent nectaries. Fruit unknown.

It is surprising that not a single new species of *Odontadenia* has been described since Woodson's (1935) monograph (although an apparently unpublished name suggested by Markgraf is represented in the MO herbarium). *Odontadenia macrostoma* is closest to *O. cognata* (Stadelm.) Woods., a widespread and variable species, and keys out to that species both in the "Flora of Peru" and in Woodson's (1935) monograph because of its prominent lenticels, thyriform-subcorymbose terminal inflorescence, infundibuliform puberulous corolla, stamens inserted in basal part of the tube, acute-based leaves, and 5–6 mm long calyx lobes. However, I do not think that the broadly infundibuliform campanulate corolla (1.5–2 cm broad at mouth) of *O. macrostoma* can possibly fit into the range of variation of *O. cognata*, the maximum orifice diameter of which

is 1 cm according to Woodson and in the material examined by me. The character of "corolla throat about 5.5 cm across" given in Macbride's (1959: 438) key is erroneous and presumably a typographical error for 0.55 cm. The shape of the *O. cognata* corolla is also very different, with the upper part of the tube (throat) much more uniformly tubular as well as narrower and broadening much more gradually from the narrow basal tube. In Peru *O. cognata* has red or red-orange, presumably hummingbird-pollinated flowers, whereas *O. macrostoma* has yellow flowers. Although flower color is too variable in this group to be very useful taxonomically—*O. cognata* has uniformly yellow flowers in Panama, coastal Colombia, and lower Amazonian Brazil—the difference in flower color, shape, and size between *O. macrostoma* and *O. cognata* strongly suggest that differentiation of the two taxa involved an evolutionary shift between hummingbird and bee pollination in Peru.

Allamanda weberbaueri Mgf., Notizbl. Bot. Gart. Berlin 9: 77. 1924.

The fruits of this species, endemic to the Balsas region of the Marañón Valley, have never been described. A recent collection (Dillon & Turner 1710 (F, MO, USM)) is the first to include the distinctive fruits of this plant. Contrary to Macbride's suggestion that *A. weberbaueri* might be no more than a variant of widespread *A. cathartica* L., its fruits are so different from those of *A. cathartica* or any other species of *Allamanda* as to suggest that generic separation might even be warranted. *Allamanda weberbaueri* has smooth elliptic fruits 2–2.5 cm long and 1.2–1.5 cm wide. All but one other *Allamanda* species have spiny echinate fruits; the single smooth-fruited species is *A. laevis* Mgf. of Minas Geraes, Brazil which otherwise shares the much larger orbicular fruit of typical *Allamanda*. The thin,

brownish-winged seeds of *A. weberbaueri*, 4–5 mm long and 4–6 mm wide, are generally similar to those of other species of *Allamanda*. The Peruvian plant is reported as being an erect shrub or tree to 5 m tall whereas most *Allamanda* species are scandent. The leaves of *A. weberbaueri* are sometimes whorled as in other species of *Allamanda* but on some branches of the Dillon and Turner collection the leaf whorls are very irregular or even lacking, the leaves becoming irregularly apically clustered. The flowers of the new collection are much smaller than those of the two previous ones but of the same general form; their reported white corolla color is probably erroneous (Dillon, pers. comm.). On balance, the evidence suggests that *A. weberbaueri* is best considered a highly atypical species of *Allamanda*.

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