

THE TAXONOMY OF *ACMANThERA* (MALPIGHIACEAE)

William R. Anderson
Univeristy of Michigan

The genus *Acmanthera* comprises five species of trees and shrubs in northern Amazonia. One species is fairly common and the other four are rare, each having been collected only once or twice. Niedenzu (1928) treated the two species known to him in his monograph of the family Malpighiaceae, and MacBryde (1970) recently re-described the same two species. Unfortunately MacBryde did not examine the material in the herbaria in Belém and Manaus, where I have recently found collections of three undescribed species. The five species fall into two natural groups, one of which will be described here as a new section. This brief treatment of the genus is intended as a means of publishing these new taxa in a context of keys and descriptions that will facilitate their recognition and comparison.

There are three genera of Malpighiaceae that have longitudinal wings on the outer locules of the anther. They are *Acmanthera*, *Lophanthera*, and *Pterandra*. The following key will summarize their principal differences:

1. Petioles and alternate bracteoles bearing large glands; carpels connate for their entire length along a central axis; styles inserted at apex of carpels. *Lophanthera* Adr. Juss.
1. Petioles and bracteoles eglandular; carpels nearly or quite free, sharing a flat or pyramidal torus; styles inserted on inner face of carpels, sub-apically to almost basally.
2. Inflorescence a tight umbellate fascicle, sessile or subsessile, axillary to leaves or bracts or leaf scars on older stems; stipules up to 0.6 cm long, persistent; young internodes more or less terete. *Pterandra* Adr. Juss.
2. Inflorescence an elongated pseudoraceme terminating an axillary shoot; stipules 1.5–11 cm long, deciduous; young internodes strongly flattened. *Acmanthera* Grisebach

Some of the characters used by Niedenzu to separate *Acmanthera* and *Pterandra* are not reliable. The anthers of *P. pyroidea* have an extension of the anther connective that is just as large as that in *Acmanthera* sect. *Microglossa*. Although the cocci of *Pterandra* are smaller than those of *Acmanthera* (so far as fruits are known) and retain the styles in a more nearly terminal position, they do not seem to be as different as Niedenzu suggested. I can find no evidence that the cocci of *Acmanthera* are dehiscent, and as for the “carpophore” which is supposed to be present in *Pterandra* and lacking in *Acmanthera*, the fact is that in *A. latifolia* the coccus has the same kind of inflated basal rim as cocci of *Pterandra* species. However, the two groups still stand as distinct and useful genera.

Acmanthera (Adr. Juss.) Grisebach in Martius, Fl. bras. 12(1): 29. 1858.

Pterandra sect. *Acmanthera* Adr. Juss. Ann. Sci. Nat. (2° Sér. Bot.) 13: 328. 1840.

Shrubs or trees to 15 m tall; younger internodes flattened at right angles to the subtending pair of leaves; older branches rounded. Leaves opposite, eglandular, entire or somewhat repand; primary lateral veins 9–12(–15) on each side of the midrib, very prominent below, slightly to moderately prominent above, connected by many strongly

parallel secondary veins; stipules 1.5–11 cm long, the 4 at each node pressed or fused together to form a sheath enclosing the shoot apex, deciduous, leaving large scars between the petiole bases. Inflorescence an unbranched pseudoraceme terminating an axillary shoot with 1 internode and 1 node; flowers 50–150 or more, borne in irregular clusters, circinnate in bud; pedicel sessile, subtended by a bract and 2 bracteoles. Receptacle concave, bearing straight basifixed hairs among stamens and around ovary. Calyx bearing 10 glands, these obovate, laterally compressed, longest at the posterior of the flower, attached on the outside of the receptacle below the 5 lobes of the calyx. Petals 5, inserted at apex of receptacle between and inside calyx lobes, imbricated in bud. Stamens 10; filaments free, flat, with a few basal hairs; anthers alike, glabrous, 4-locular, winged on the outer locules, the wing widening from base to apex, the connective glandular and bearing an apical appendage; anthers deciduous; pollen 3(–4)-colporate. Ovary 3-carpellate, the carpels free and ventrally adnate to a common flat or pyramidal torus, each carpel uniovulate; styles 3, imbricated in bud, 1 inserted slightly ventrally on each carpel, very slender and tapering distally to a minute apical or slightly internal stigma. Fruit (where known) consisting of 3 (or fewer by abortion) dry, indehiscent, sub-spheroid cocci, each containing 1 seed free from the brittle, papery wall; apex of the coccus much exceeding the attachment of the persistent style.

TYPE: *Acmanthera latifolia* (Adr. Juss.) Grisebach.

Plants of this genus are usually collected by or near rivers or streams, not rarely in forests that are periodically flooded. The cocci are probably adapted to dispersal by water, being dry, light-weight, and indehiscent with air probably trapped between the wall and the seed. It is interesting to compare the individual mericarps of *Acmanthera* with whole compound fruits of *Burdachia* and *Glandonia*, which also have a tough, dry indehiscent wall and are probably also adapted for dispersal by water. *Coleostachys* may have fruits very much like those of *Acmanthera*; in this case there would be both functional analogy and structural homology.

Key to the Sections and Species of *Acmanthera*

1. Sepals triangular, acute to obtuse at the apex, uniformly sericeous abaxially, completely concealing the petals during enlargement of the bud; appendage of the connective 0.5–1.1 mm long, broad and thick, rounded and glandular at the apex; node subtending the inflorescence leafless, the leaves caducous, probably much reduced.
 - sect. *Acmanthera*
 2. Bracts and bracteoles broadly orbicular and deeply concave, 2.0–4.0 mm long, 2.5–5.0 mm wide, imbricated around the young bud, often deciduous, with several parallel longitudinal nerves prominent adaxially; petals densely sericeous abaxially.
 3. Stipules 1.5–3.1(–4.3) cm long, the stipular sheath plicate, cruciform in cross-section; bracts and bracteoles uniformly chartaceous, densely and uniformly sericeous.
 1. *A. latifolia* (Adr. Juss.) Grisebach
 3. Stipules 11–12 cm long,¹ the stipular sheath smooth, flattened, very narrowly elliptic in cross-section; bracts and bracteoles chartaceous and sericeous in the center, membranous and glabrous toward the margin.
 2. *A. duckei* W. R. Anderson
 2. Bracts and bracteoles narrowly triangular and flat, up to 1.6 mm long and 0.9 mm wide, often smaller, not at all enclosing the bud, reflexed and persistent, with only the midrib developed and even that obscure; petals sparsely sericeous or glabrous abaxially.
 3. *A. cowanii* W. R. Anderson
 1. Sepals orbicular, broadly rounded at the apex, abaxially sericeous in the center and glabrous toward the apex or margin, already separated in young buds, leaving the

¹Future collections of this species will show more variation and probably some diminution in this measurement.

- petals exposed during enlargement of the bud; appendage of the connective up to 0.3 mm long, thin, tapered to an acute, non-glandular apex; node subtending the inflorescence usually bearing 2 persistent leaves. sect. *Microglossa* W. R. Anderson
4. Leaves, stipules, vegetative branchlets, and ovary sericeous or pilose-sericeous, at least originally; young stems with few, obscure lenticels; leaves up to 23 cm long and 9 cm wide. 4. *A. parviflora* W. R. Anderson
4. Leaves, stipules, vegetative branchlets, and ovary glabrous; even the young stems with large, coarse lenticels; larger leaves 23–35 cm long and 7.5–15 cm wide. 5. *A. longifolia* Niedenzu

Acmanthera sect. Acmanthera

Primary lateral veins of the lamina straight and strongly parallel; leaves of the node subtending the pseudoraceme caducous, probably much reduced; sepals completely concealing the petals during enlargement of the bud, triangular, acute to obtuse at the apex, abaxially densely and uniformly sericeous, adaxially glabrous; appendage of the connective 0.5–1.1 mm long, often sigmoid-reflexed, broad and thick, terminating in a hemispherical gland.

1. *Acmanthera latifolia* (Adr. Juss.) Grisebach in Martius, Fl. bras. 12(1): 29. 1858. Fig. 1.

Pterandra latifolia Adr. Juss. in Delessert, Icon. sel. pl. 3: 19, tab. 30. 1837 [1838].

Shrub or tree 2–15 m tall; younger branches brown-appressed-sericeous, older branches sericeous to glabrate, obscurely lenticellate. Leaves originally sericeous, soon glabrate above, usually persistently sericeous below, rarely glabrescent in age; lamina (7–)10–25(–30) cm long, (2.5–)4.0–11.5(–13.5) cm wide, broadly ovate or elliptic, obtuse to rounded at the base, acute or obtuse or obtusely acuminate and often apiculate at the apex, flat and entire at the margin; petiole 1.0–3.3 cm long; stipules 1.5–3.1(–4.3) cm long, appressed-sericeous on both sides, free interpetiolarly, connate intrapetiolarly for the proximal 3–5 mm and free distally, exduplicate-valvate, the sheath cruciform in cross-section. Inflorescence (2–)5–16 cm long, pilose-sericeous; internode subtending the inflorescence 1–4.5(–5.3) cm long, appressed-sericeous; bracts 2.3–3.4 mm long, 3.3–5.0 mm wide, orbicular, deeply concave, always wider than long, broadly attached, abaxially densely and uniformly sericeous, adaxially glabrous except at base, with several parallel nerves well-developed and adaxially prominent; bracteoles similar to bracts but slightly smaller, 2.0–4.0 mm long, 2.7–4.2 mm wide, only slightly wider than long, more narrowly attached; bracts and bracteoles imbricated around buds, persistent or, especially in fruit, deciduous; pedicels (5–)8–12 mm long, 0.8–1.0 mm in diameter, pilose-sericeous. Calyx glands 2.5–3.5 mm long, free at the apex; calyx lobes 3.0–3.7 mm long, 2.5–3.0 mm wide, revolute after anthesis. Petals white (or yellow?), abaxially sericeous on midrib and claw; 4 lateral petals soon reflexed, the claw 1.0–2.0 mm long, the limb 3.5–5.0 mm long, 2.5–3.5 mm wide, spatulate or elliptic, denticulate, revolute; posterior petal erect (belatedly reflexed), the claw thick, 1.5–2.5 mm long, the limb 3.5–4.5 mm long, 3.0–4.2 mm wide, orbicular or obovate, glandular-denticulate, flat or revolute. Stamens with the filaments 2.5–3.8 mm long, 0.4–0.7 mm wide; anthers with locules 2.0 mm long, the wings 2.0–2.3 mm long and 0.5–0.7 mm wide, the apical appendage of the connective 0.6–0.8 mm long. Ovary conical, 1.0 mm high, covered with basifixed hairs 2.0 mm long; styles 4.0–5.5 mm long, glabrous; stigma slightly internal. Cocci 7.0–8.0 mm long, 7.0–8.0 mm wide, spheroid, ventrally flattened, apically rounded, with an inflated rim at the base, sparsely hairy, densely so below the apex; seed more or less filling the coccus at maturity.

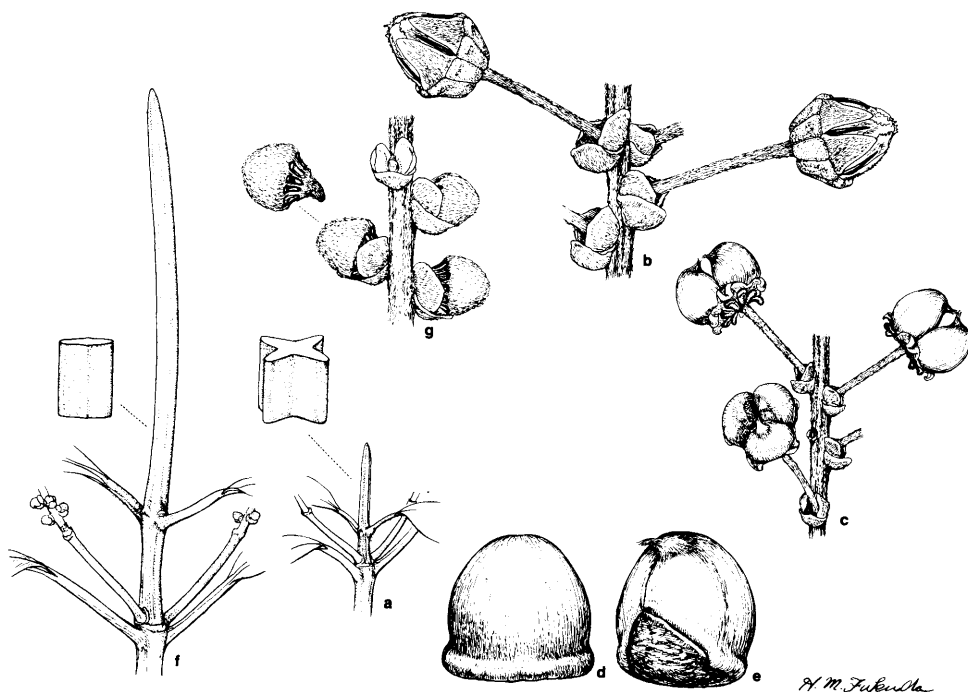


FIG. 1. *a-e*, *Acmanthera latifolia*: *a*, stipules and base of leaves and inflorescence, $\times 0.5$; *b*, section of inflorescence in bud, $\times 2.5$; *c*, section of inflorescence in fruit, $\times 1$; *d*, coccus, dorsal view, and *e*, coccus, ventral view, $\times 5$. *f-g*, *Acmanthera duckei*: *f*, stipules and base of leaves and inflorescence, $\times 0.5$; *g*, section of inflorescence in young bud, $\times 2.5$. (*a-b* drawn from *Prance et al.* 11753, *c-e* from *M. Silva et al.* 147, *f-g* from *Ducke s.n.* [MG#9034].)

TYPE: BRAZIL: Pará: *sine loc.*, *sine num.* (P, not seen).

BRAZIL: Amazonas: Rio Negro, Paraná do Ubim, várzea, terra firme, 31-I-1959, *Cavalcante* 491 (MG, NY); Manaus, Tarumãzinho, igapó, água preta, 15-VII-1955, *Coelho s.n.* [INPA #1405] (INPA, MG, SP); Manaus, margem esquerda do Rio Negro, terra firme, arenosa, capoeira fechada, alta, 16-I-1956, *Coelho s.n.* [INPA#3327] (IAN, INPA, MG, SP); Janauari, boca do Rio Negro, terra argilosa, mata virgem, várzea, 27-II-1956, *Coelho & Mello s.n.* [INPA#3510] (IAN, INPA, MG); Rio Cuieiras, igapó, 2-IV-1959, *Coelho s.n.* [INPA#7250] (IAN, INPA, SP); Rio Negro, Barcellos, beira do rio, 13-VI-1905, *Ducke s.n.* [MG#7118] (MG); baixo Rio Negro, boca do Taruman, beira alagada, 26-IV-1911, *Ducke s.n.* [MG#11565] (MG); Manaus, Igarapé da Cachoeira Grande, igapó, 18-IV-1937, *Ducke* 460 (MG, NY); Rio Negro, Barcelos, igapó, 28-IV-1952, *Fróes* 28356 (IAN, UB); margin of Rio Negro opposite Manaus, 3–6 km upstream, igapó, 8-IV-1971, *Prance et al.* 11753 (F, INPA, K, MICH, NY, S, U, US); Rio Negro, Paraná-ubim, várzea, 31-I-1959, *J. Rodrigues* 12 (IAN, UB); Cacaú Pirêra, igapó de solo argiloso, 20-III-1961, *W. Rodrigues & Lima* 2257 (INPA, SP); Lago do Janauari, boca do Rio Negro, igapó, 2-VI-1961, *W. Rodrigues et al.* 2715 (INPA, SP); Manaus, estrada do Aleixo, Km. 14, porto Mauá, igapó à margem do igarapé, 23-IV-1970, *W. Rodrigues* 8841 (INPA); Paraná da Eva, Rio Preto da Eva, mata da várzea alagavel, *M. Silva* 870 (MG, NY); Paraná da Eva, Rio Preto da Eva, lago Arumã, terreno alagavel, 15-IV-1967, *M. Silva* 891 (MG, NY); Manaus, Porto Mauá, 26-V-1972, *M. Silva et al.* 147 (INPA); Prov. Rio Negro, in vicinibus Barra [=Manaus], XII-1850–III-1851, *Spruce* 1901 (MG, NY); secus Rio Negro, inter Barra et Barcellos, XI-1851, *Spruce* 1903 (MG).

2. *Acmanthera duckei* W. R. Anderson sp. nov.

Fig. 1.

Arbor parva ramulis junioribus adpresso-sericeis; ramis vetustioribus glabratís. Folia novella adpresso-sericea, sero glabrescentia; lamina 22–32 cm longa, 11–16.5 cm lata, late elliptica, prope medium latissima, basi cuneata, apice obtusa (?) vel

brevi-acuminata, margine plana, integra vel distaliter parum repanda; petiolo 3.0–4.0 cm longo; stipulis 11–12 cm longis, abaxialiter adpresso-sericeis, ut videtur inter- et intrapetiolariter omnino connatis, vagina stipulacea suturas intrapetiolares praebenti, complanata, in sectione transversali angustissime elliptica. Inflorescentia gemmifera 8–11 cm longa, piloso-sericea; internodio sub inflorescentia 2.5–3.2 cm longo, adpresso-sericeo; bracteis 3.3–3.6 mm longis, 3.5–4.0 mm latis, orbicularibus, profunde concavis, abaxialiter centro dense sericeis versus marginem membranaceis glabrisque, interdum glabrescentibus, nervis compluribus inter se parallelis connexisque adaxialiter prominentibus; bracteolis bracteis similibus, parum minoribus, 2.5–3.5 mm longis, 2.5–3.3 mm latis; bracteis bracteolisque deciduis(?); pedicellis gemmiferis 3 mm longis, 1 mm diametro, piloso-sericeis. Calyx (gemmae) glandibus 2.5 mm longis; lobis 3.0 mm longis, 2.6 mm latis. Petala obovata, abaxialiter dense sericea, denticulata. Antherae alis loculos valde superantibus (in gemma), connectivi appendicula apicali crassa et bene evoluta. Ovarium pilis rectis basifixis dense vestitum; stylis basaliter piliferis; stigmatibus apicali. Fructus ignotus.

TYPE: BRAZIL: Pará: Rio Mapuera, abaixo da Cachoeira da Egua, 4-XII-1907, *Ducke s.n.* [MG#9034] (MG, holotype; R, isotype).

This species is known only from the type, and unfortunately that has no open flowers. For this reason, various floral characters have had to be omitted or qualified. It is clearly closely related to *A. latifolia*, but they differ in characters of the stipules, leaves, bracts, and bracteoles. Other characters will probably be evident when the species is collected with open flowers and fruits. The leaves of the type are very large and more or less glabrescent, but it remains to be seen how reliable these characters will be.

This species is named in honor of Adolpho Ducke, 1876–1959, renowned botanist of Amazonian Brazil.

3. *Acmanthera cowanii* W. R. Anderson sp. nov.

Fig. 2.

Frutex (vel arbor?) ramulis junioribus brunneo- vel albo-adpresso-sericeis; ramis vetustioribus glabris, lenticelliferis. Folia novella adpresso-sericea, mox glabrata praeter costam petiolumque, etiam petiolo demum glabrescenti; lamina 9.0–22.5 cm longa, 3.0–11.5 cm lata, elliptica obovatave, saepe supra medium latissima, basi acuta obtusave, apice obtuse acuminata, acumine 4–6 mm longo, margine plana, nunc integra nunc repanda praesertim distaliter; petiolo (1.2–)2.0–3.0 cm longo; stipulis 6.0–8.3 cm longis, abaxialiter adpresso-sericeis, adaxialiter villosis, inter- et intrapetiolariter connatis in 5 mm proximalibus et distinctis distaliter, exduplicato-valvatis, vagina stipulacea in sectione transversali cruciformi. Inflorescentia 11–20 cm longa, atrobrunneo-piloso-sericea; internodio sub inflorescentia 5–8 cm longo, brunneo- vel albo-adpresso-sericeo; bracteis 1.0–1.6 mm longis, 0.5–0.9 mm latis, aliquantum anguste triangularibus, planis, saepe reflexis, proximaliter pubescentibus, distaliter glabris vel paucipiliferis, membranaceis, costa sola evoluta ipsaque obscura; bracteolis bracteis similibus, plerumque minoribus; bracteis bracteolisque persistentibus; pedicellis 3–7(–9) mm longis, 0.5–0.7 mm diametro, piloso-sericeis. Calyx glandibus 2.5–3.5 mm longis, apice parum revolutis; lobis 3.0 mm longis, 2.0–2.6 mm latis, sub anthesi revolutis. Petala alba, glabra vel in costa abaxiali sparsim sericea. Petala quatuor laturalia mox reflexa, ungue 1.0–1.5 mm longo, limbo 3.0–3.7 mm longo, 1.6–2.0 mm lato, spathulato vel anguste obovato, revoluta, eroso. Petalum posticum erectum (sero reflexum), ungue 1.5–2.4 mm longo, crasso, limbo 2.8–4.0 mm longo, 2.0–3.1 mm lato, late elliptico, plano, glanduloso-denticulato. Stamina filamentis 2.5–3.0 mm longis, 0.5–0.6 mm latis; antherarum loculis 1.6–2.0 mm longis; loculorum alis 1.6–2.0 mm longis, 0.4–0.5 mm latis; connectivi appendicula apicali 0.5–1.1 mm

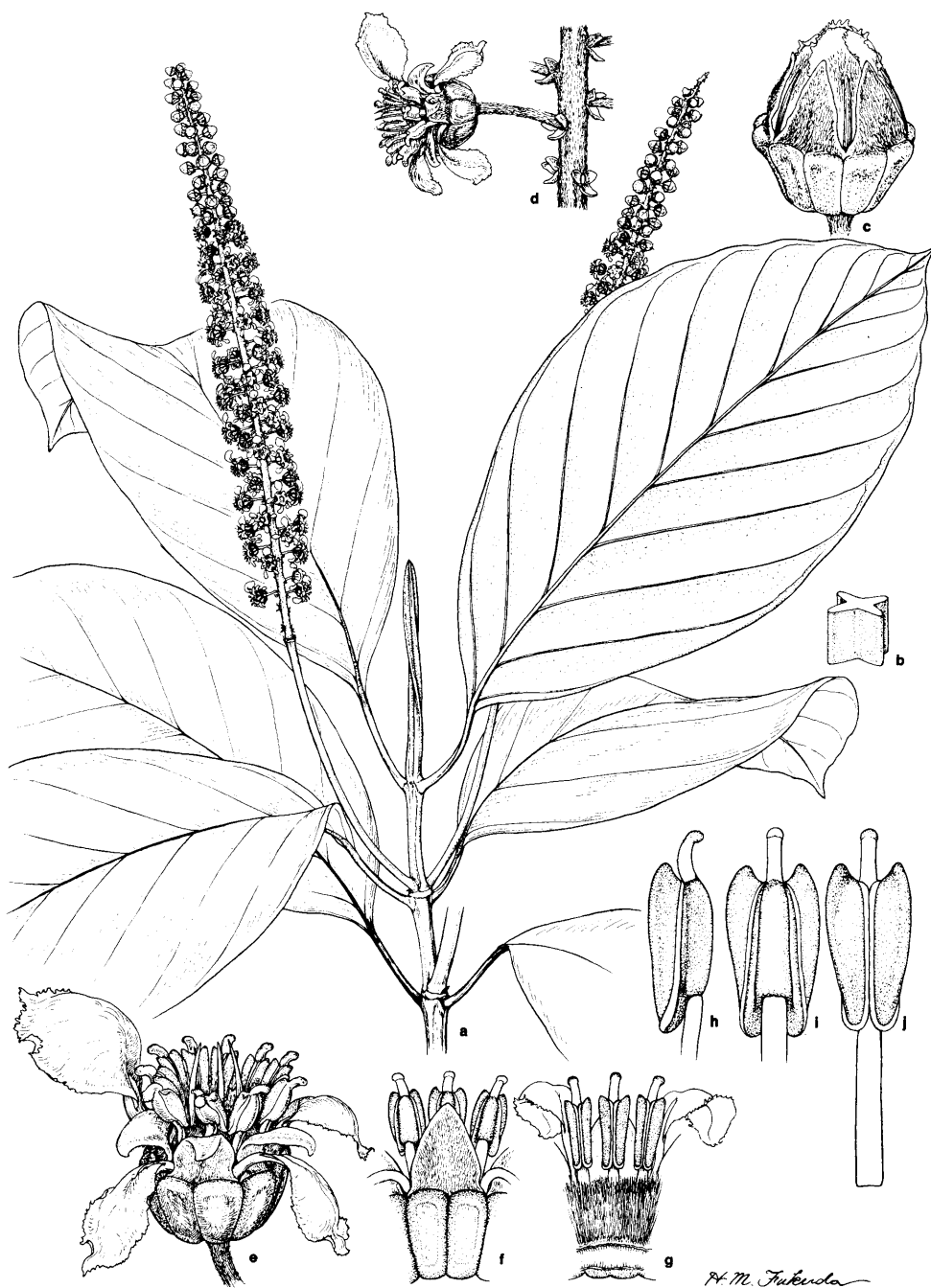


FIG. 2. *Acmanthera cowanii*: a, habit, $\times 0.5$; b, stipular sheath in cross-section, $\times 2$; c, opening flower bud, $\times 5$; d, flower, $\times 2.5$; e, flower, $\times 5$; f, sepal and stamens, dorsal view, $\times 5$; g, stamens, ventral view with ovary removed, $\times 5$; h-j, anthers in lateral (h), dorsal (i), and ventral (j) views, $\times 10$. (Drawn from Cowan 38597.)

longa. Ovarium conicum, 1.3 mm altum, pilis brevibus adpressis basifixis sericeum; stylis 3.6–5.5 mm longis, basaliter et sparsim distaliter piliferis; stigmatibus apicali vel parum interno. Fructus ignotus.

TYPE: BRAZIL: Terr. Amapá: Rio Amapari from Serra do Navio Camp to Porto Terezinha, left bank; 25-XI-1954; Cowan 38597 (IAN, holotype; F, MICH, NY, U, US, isotypes). PARATYPE: BRAZIL: Pará: Rio Jamundá [Nhamundá], perto da fóz do Paranapitinga, beira, varzea, 16-V-1911, Ducke s.n. [MG#11749] (MG, RB).

The label on Cowan's collection describes the plant as a liana, but it is probable that Ducke's hand-written field note of "Arb." (*arbusto*, i.e. shrub) is correct. The species will probably eventually be found to grow as a shrub or tree.

The two collections differ in a number of characters, most significant of which is the apical appendage of the connective, which is twice as long in the type as in the collection by Ducke. Also, the petals are sparsely hairy in the type and apparently glabrous in the paratype. However, the overall similarity of the plants is so great as to make it very likely that they are conspecific.

This species is named for Richard S. Cowan, (1921–), collector of the type and specialist in the taxonomy of Leguminosae.

Acmanthera sect. *Microglossa* W. R. Anderson sect. nov.

Acmanthera nervis lateralibus primariis laminae subparallelis, versus marginem arcuatis; nodo sub inflorescentia plerumque duo folia persistentia gerenti; gemma juveni sepalis iam separatis, ideo petalis visibilibus; sepalis orbicularibus, apice late rotundatis, abaxialiter centro basique piloso-sericeis et versus apicem vel marginem glabris, adaxialiter glabris; connectivi appendicula apicali usque ad 0.3 mm longa, plana, membranacea, apice acuta eglandulosaque.

TYPE: *Acmanthera parviflora* W. R. Anderson.

The name of this section refers to the small size of the appendage borne at the apex of the connective.

4. *Acmanthera parviflora* W. R. Anderson sp. nov.

Fig. 3.

Arbor 4 m alta; ramulis junioribus brunneo-piloso-sericeis, sparsim lenticelliferis; ramis vetustioribus glabris. Folia novella piloso-sericea, adulta sparsim sericea vel glabrata; lamina vegetativa 12–23 cm longa, 4–9 cm lata, elliptica obovatave, saepe supra medium latissima, basi attenuata, apice abrupte acuminata, acumine 5–8 mm longo, margine plana vel parum revoluta, integra; petiolo 0.8–1.5 cm longo; stipulis 4–5 cm longis, abaxialiter piloso-sericeis, adaxialiter glabris, inter- et intrapetiolariter omnino connatis, vagina stipulacea complanata, in sectione transversali angustissime elliptica. Inflorescentia 11–14.5 cm longa, sericea vel piloso-sericea, pilis pallidioribus quam pilis ramulorum; internodio sub inflorescentia 1.5–4 cm longo, atrobunneo-piloso-sericeo; foliis sub inflorescentia foliis vegetativis similibus sed minoribus, lamina 3.5–9.0 cm longa, 0.7–1.7 cm lata, petiolo 0.4–0.6 cm longo; bracteis 0.3–0.6 mm longis, 0.3–0.6 mm latis, triangularibus vel ellipticis, planis, basi glanduloso-callosis, saepe reflexis, glabris, membranaceis, ut videtur sine nervis; bracteolis bracteis similibus, plerumque minoribus praesertim angustioribus; bracteis bracteolisque deciduis (?); pedicellis 5–10 mm longis, 0.3–0.5 mm diametro, sericeis vel piloso-sericeis. Calyx glandibus 1.5 mm longis, apice non revolutis; lobis 1.5–2.0 mm longis, 1.2–1.5 mm latis, sub anthesi revolutis. Petala "albido-rosea" vel "flava," glabra vel in costa abaxiali paucipilifera; ungue 1.0–1.2 mm longo; limbo 2.5–2.9 mm longo, 2.0–2.5 mm lato,



FIG. 3. *Acmanthera parviflora*: a, habit, $\times 0.5$; b, stipular sheath in cross-section, $\times 1.5$; c, flower, $\times 2.5$; d, flower, $\times 5$; e, sepal and stamens, dorsal view, $\times 10$; f, stamens, ventral view with ovary removed, $\times 10$; g-i, stamens in lateral (g), ventral (h), and dorsal (i) views, $\times 15$. (Drawn from Fróes 25200.)

minute denticulato. Petala quatuor lateralia mox reflexa, limbo obovato. Petalum posticum erectum, ungue crassiore, limbo orbiculari. Stamina filamentis 1.0–1.5 mm longis, 0.4–0.6 mm latis; antherarum loculis 0.8–1.0 mm longis; loculorum alis 0.7–1.0 mm longis, ca. 0.2 mm latis; connectivi appendicula apicali 0.2–0.3 mm longa, 0.2 mm lata, triangulari, inflexa. Ovarium 1.0 mm altum, pilis sub-basifixis dense pilosum; carpellis sphaeroideis; stylis ca. 2.5 mm longis, sparsim piliferis; stigmatibus apicali. Fructus ignotus.

TYPE: BRAZIL: Amazonas: Rio Urubú, terra baixa, ao longo do rio, 12-IX-1949, *Fróes* 25200 (IAN, holotype; UB, isotype). PARATYPE: BRAZIL: Amazonas: Estrada Manaus–Itacoatiara, Km 195, picada 27 na margem do Rio Urubú, igapó, 22-XI-1965, *Rodrigues & Coelho* 7293 (INPA).

Both collections of this distinctive species are from low, wet forests near the Rio Urubú ca 3° S, 59° W. That area has produced several undescribed species and would probably repay intensive collecting.

The color of the petals remains in doubt. The label with Fróes's collection says "flôres roseo-esbranquiçadas," while that of Rodrigues and Coelho says "flôres amarelas." Since the latter is mostly in bud, perhaps the petals are pale yellow in bud and white or pinkish in the open flowers; such a shift in color does occur in some Malpighiaceae.

The epithet refers to the small flowers, the smallest known for the genus.

5. *Acmanthera longifolia* Niedenzu, Arb. Bot. Inst. Ak. Braunsberg 5: 32. 1914.

Tree 6 m tall, the trunk 8 cm in diameter; branches glabrous, prominently lenticellate. Leaves glabrous; lamina of the vegetative leaves 23–35 cm long, 7.5–15 cm wide, elliptic, broadest at or above the middle, acute at the base, usually abruptly acuminate at the apex, the acumen ca 1–1.5 cm long, entire at the margin; petiole 1.5–2 cm long; stipules 6.0–6.7 cm long, glabrous on both sides, completely and strongly connate inter- and intrapetiolarly, the whole sheath strongly flattened, narrowly elliptic in cross-section. Inflorescence 11–17 cm long, pilose-sericeous; internode subtending the inflorescence 2.5–7.5 cm long, glabrous; leaves subtending the inflorescence similar to vegetative leaves but smaller, the lamina 13–21 cm long and 4–6.5 cm wide, the petiole 1.0–1.5 cm long; bracts and bracteoles 0.6–0.9 mm long, 0.2–0.4 mm wide, subulate or triangular, membranous, with only an obscure midrib, glabrous, eventually deciduous; pedicels (in fruit) 1 cm long, ca 0.7 mm in diameter, pilose-sericeous. Calyx (in bud) with glands 3.5–4.0 mm long, lobes 1.0–1.5 mm long, 2.5–3.0 mm wide. Petals white, glabrous, orbicular, about as wide as long, entire. Connective of the anther (in bud) bearing a rudimentary subulate apical appendage ca 0.3 mm long. Ovary glabrous; styles glabrous; stigma apical. Cocci 9–10 mm long, 7–8 mm wide, ovate or spheroid, ventrally flattened, apically obtuse, smooth and without an enlarged rim at base, glabrous.

TYPE: BRAZIL: Amazonas: Prov. Rio Negro, prope Barra [=Manaus], 1855, *Spruce* 3838 (NY, isotype). Other collection studied: BRAZIL: Amazonas: Manaus and vicinity, Cachoeira baixa Tarumã, beside river, 2-I-1967, *Prance et al.* 3854 (F, INPA, K, MICH, NY, P, S, U, US).—This is the second known collection of the species and the first with flowers.

Of the two collections available to me, one is in advanced fruit and the other is in young bud. Therefore many measurements have been left out (e.g. petal dimensions), and others have been qualified ("in bud") to warn the reader that when open flowers are found the measurements will differ.

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