Excerpt from:

Anderson, W. R. 1981. Malpighiaceae *in* The botany of the Guayana Highland, Part XI. Mem. New York Bot. Gard. 32: 21–305.

6. Diacidia Grisebach in Martius, Fl. Bras. **12**(1): 119. 1858.

Sipapoa Maguire, Mem. New York Bot. Gard. **8**(2): 124. 1953.

Trees, shrubs, or subshrubs, with mostly basifixed or sub-basifixed hairs, the leaves eglandular; proximal portion of stipules and petioles fused to form an interpetiolar sheath; distal portion of stipules (the part extending beyond the petioles) free or connate. Inflorescence a simple or compound thyrse (i e a raceme or panicle of cincinni) or a pseudoraceme (i e a raceme of 1-flowered cincinni); bracts and bracteoles eglandular. Sepals all biglandular, slightly (subgenus *Diacidia*) or greatly (subgenus *Sipapoa*) accrescent in fruit. Petals yellow, often with red claws, glabrous or with a few hairs at base of claw; lateral petals spreading or reflexed, posterior petal erect, its claw stouter than in the laterals and its limb a different shape. Stamens 6–10; filaments flattened, free or especially the posterior 3(–5) up to ½ connate, abaxially glabrous, adaxially hirsute at the base; anthers deciduous, alike, 2-locular, each locule bearing at the apex and angled forward 1(–2) stout, basifixed, awn-like hairs [hence the name of the genus, meaning two-barbed], the connective equalling the locules or extended and bent forward between them at the apex; pollen tricolporate. Receptacle hirsute between filaments and ovary. Ovary glabrous, syncarpous, spheroid or conoid, 1–1.5 mm high, composed of 3 carpels but only 2-locular, the anterior carpel reduced to a ridge of tissue; styles 3, glabrous, straight, subulate, 2–4 mm long, unequal, one or both of the 2 posteriors shorter than the anterior, the stigmas minute and slightly internal. Fruit a spheroid or ovoid, dry, indehiscent, nut-like capsule ca 2.5 mm high and wide, glabrous, with a thin exocarp and a bony, smooth or rugose endocarp and containing 2 seeds (or 1 due to abortion), subtended and enclosed by accrescent (in subgenus *Sipapoa* red, membranous, veiny, wing-like) sepals.

Type. *Diacidia galphimioides* Grisebach.

I have given careful consideration to Dr. Bassett Maguire's (1969) bases for maintaining *Sipapoa* distinct from *Diacidia*. The ones with which I can agree are given in the key below; for the others (habit, leaf size, anther pubescence, substrate, geographical range), recent collections or observations have eroded their ability to separate the two groups. With its reduced androecium and accrescent sepals, *Sipapoa* is obviously a natural group, but its close relationship to *Diacidia* is equally obvious. Since I prefer to emphasize relatedness at the generic level,

I have decided to combine the two groups as subgenera of a single genus. This course is consistent with the rather conservative view of genera that has prevailed in most studies of the Malpighiaceae.

Diacidia is closely related to *Blepharandra*. See the treatment of *Blepharandra* for a discussion of that relationship.

Key to the Species of *Diacidia*

1. Stamens 10; sepals only slightly accrescent in fruit, up to 3.5 mm long and 2.5 mm wide; interpetiolar stipular sheath 2–3(–6) mm long, obscure, lacking median seams; known only from elevations of 100–450 m. Subgenus *Diacidia*.
   2. Robust shrubs or small trees 0.5–2(–4) m tall; larger leaves 4–9 cm long, 1.2–5 cm wide; lateral veins of the lamina raised below; bracteoles mostly 3–7 mm long; pedicel (6–)7–10 mm long. 1. *D. galphimioides*.
   2. Subshrubs or spindly shrubs to 1 m tall; larger leaves 0.7–3 cm long, 0.3–1.6 cm wide; lateral veins of the lamina flat and usually inconspicuous below; bracteoles 1.5–2.5 mm long; pedicel 4–7 mm long. 2. *D. parvifolia*.
1. Stamens 6–9; sepals greatly accrescent in fruit, forming membranous wings 7–13 mm long and (2.5–)4–12 mm wide; interpetiolar stipular sheath 4–26 mm long, marked by median seams; known only from elevations of 650–2250 m. Subgenus *Sipapoa*.
   3. Stipule-lobes beyond petiole completely connate to form a single intrapetiolar structure.
      4. Stipules beyond petiole 28–90 mm long, broadly obtuse or rounded at the apex.
         5. Leaves densely and persistently hairy above. 3. *D. glaucifolia*, sucker shoots?
         5. Leaves glabrous above, or at most sericeous on the midrib and ciliate on the margin.
            6. Inflorescence a compound thyrse, with a terminal axis and few to many lateral axes, and with the cincinni several-flowered; inflorescence, bracts, bracteoles, and sepals densely and persistently hairy; trees 2–15 m tall.
               7. Leaves glabrous or soon glabrate below. 3. *D. glaucifolia*.
               7. Leaves densely and persistently rufous-sericeous below. 4. *D. rufa*.
            6. Inflorescence a simple pseudoraceme, glabrate; bracts, bracteoles, and sepals glabrous; shrubs 0.5–3 m tall. 5. *D. stipularis*.
      4. Stipules beyond petiole 7–10 mm long, acute at the apex. 6. *D. kunhardtii*.
   3. Stipule-lobes beyond petiole nearly or quite distinct.
      8. Inflorescence a simple thyrse with several-flowered cincinni, glabrous; leaves glabrous below. 7. *D. cordata*.
      8. Inflorescence a pseudoraceme, hairy; leaves hairy below.
         9. Vegetative internodes glabrous. 8. *D. hypoleuca*.
         9. Vegetative internodes hairy.
            10. Lamina of the larger leaves 3–6 cm long, 1–2.5 cm wide, glabrous or soon glabrescent above except for the very base; stipule-lobes 1–3 mm long.
               11. Fertile stamens 6; connective of the anthers much enlarged, globular at the apex; sepals ciliate on the margin; leaves glabrous above except sericeous at the very base; leaf hairs sub-basifixed above, basifixed below. 9. *D. ferruginea*.
               11. Fertile stamens 8; connective of the anthers slightly overtopping the locules but hardly or not at all enlarged; sepals glabrous on the margin; leaves initially sericeous above, soon glabrescent; leaf hairs sub-medifixed to sub-basifixed above, sub-basifixed below. 10. *D. aracaënsis*.
            10. Lamina of the larger leaves 6–10 cm long, 3–5.5 cm wide, densely and persistently hairy above; stipule-lobes 5–15 mm long.
               12. Abaxial surface of the lamina woolly, the hairs much twisted and

intertwined; lateral veins prominulous below; fruit wings (i e enlarged sepals) cordate at the base. 11. *D. vestita.*

12. Abaxial surface of the lamina sericeous, the hairs straight, more or less appressed, and parallel; lateral veins very prominent below; fruit wings truncate at the base. 12. *D. steyermarkii.*

Subgenus **Diacidia**

1. Diacidia galphimioides Grisebach in Martius, Fl. Bras. **12**(1): 120. 1858.

Diacidia duckeana Maguire, Mem. New York Bot. Gard. **8**(2): 124. 1953. Type. *Ducke,* Cucuhy, Rio Negro, Amazônas, Brazil (holotype US!).

Shrubs or small trees 0.5–2(–4) m tall; vegetative internodes sericeous. Lamina of the larger leaves 4–6(–9) cm long, 1.2–2.7(–5) cm wide, elliptical, cuneate or rounded at the base, flat at the margin, acute or obtuse and apiculate at the apex, slightly or not glaucous on both sides, loosely sericeous to subtomentose on both sides, occasionally glabrescent in age, the hairs basifixed or sub-basifixed, the lateral veins obscure above and raised below; petiole 4–8 mm long, with the proximal 2–3 mm part of the petiolar-stipular sheath and the distal 2–5 mm free, sericeous; stipules 5–8(–13) mm long, united proximally with the opposite pair to form an obscure, smooth sheath without seams 2–3(–6) mm long, the distal 2–5 (–7) mm completely connate to produce a single intrapetiolar structure broadly rounded at the apex, abaxially sericeous, adaxially glabrous. Inflorescence 9–18 (–22) cm long, glabrous or sparsely sericeous below the lowest cincinnus, a simple thyrse, the cincinni (1–)2–10-flowered; bracts and bracteoles glabrous, the bracts ca 5 mm long and caducous, the bracteoles (3–)4–7 mm long, deciduous. Pedicel (6–)7–10 mm long, glabrous. Sepals revolute, entire, glabrous. Limb of the lateral petals 3.5–5 mm long and wide; limb of the posterior petal 4–6 mm long, 5–7.5 mm wide. Fertile stamens 10; anthers 0.8–1.3 mm long, each locule bearing 1 (–2) apical awns and abundantly tomentose on the sides and base with long, fine, twisted, persistent or deciduous hairs, the connective bent forward over the apex and down between the locules. Fruit subtended by slightly accrescent sepals, these up to 3.5 mm long, 2.5 mm wide, truncate at the base, entire at the margin, obtuse or rounded at the apex, glabrous.

Type. *Spruce 2966,* ad flumina Casiquiari, Vasiva et Pacimoni, Amazonas, Venezuela (GH! K).

Illustration. Niedenzu, 1928, p 764.

Distribution. Upper Río Orinoco and tributaries, upper Río Negro and tributaries, and Río Vaupés and tributaries, at elevations of 100–380 m, usually among granitic rocks. VENEZUELA. Amazonas: Caño Caranaben, 10 km below San Fernando de Atabapo, *Level L-58* (MICH, NY, US, VEN); Cerro Cucuy, *Maguire & Wurdack 34921 & 34943* (both NY); Cerro Nunca, *Maguire & Wurdack 34953* (NY, VEN); Río Guayapo, *Morillo & Ishikawa 3470* (VEN); 5 km sur de Pendare, Río Sipapo, *Morillo & Ishikawa 3513* (VEN); Piedra de Cocuí, *Schultes & López 9455* (US); type, q v; cerca de la bifurcación del Casiquiare y el Río Guainía, *Ll. Williams 14793* (G, US, VEN); bajo Río San Miguel, Guainía, *Ll. Williams 14905* (G, US, VEN). BRAZIL. Amazônas: Alto R. Negro, 67°52′W, 1°5′N, *Coradin 479* [IAN 149.954] (MICH); Serra de Cucui, Mun. São Gabriel, *Fróes 12388/147* (NY); Cucui, *Luetzelburg 22330 & 22873* (both R); S. Gabriel, *Nascimento et al 121* [IAN 148.232] (MICH). COLOMBIA. Vaupés: Cerro de

Mitú, *Cuatrecasas 6882* (US) & *Davis 202* (MICH); Cerro del Varador, Río Inírida, *Alv. Fernández 2074* (US). Cerro Mitú, *Maguire et al 44091* (COL, NY) & *44100* (NY); Río Negro, opposite Piedra de Cocuí, *Schultes & López 9891* (NY, US); San Felipe & vicinity, *Schultes et al 18096* (NY, US) & *18123* (US); Mesa de Yambí, Río Karurú, *Schultes & Cabrera 19170* (US); Río Vaupés, cerro de Tipiaca, between Mitú and Javareté, *Schultes & Cabrera 19314* & *19318* (US); granitic slope at Cerro de Mitú, *Zarucchi 1674* (MICH).

Collected in flower and fruit from September to May.

2. Diacidia parvifolia Cuatrecasas, Webbia **13**(2): 632. 1958.

In addition to the differences given in the key, this species differs from the preceding one in having slightly smaller petals, and the connective of the anther does not extend so far forward between the locules. For a complete description see the protologue.

Type. *Cuatrecasas 7703,* San José del Guaviare, Vaupés, Colombia (holotype US!).

Distribution. Vaupés, Colombia, in savannas, often over quartzitic rocks, at elevations of 100–450 m. In addition to the collections cited in the protologue, I would refer the following collections (annotated as *D. galphimioides* by Cuatrecasas) to this species: Río Kuduyarí, Cerro Yapobodá, *Schultes & Cabrera 14355* (US), *Schultes et al 20049* (NY, US). Recent collections, all from Mitú and vicinity: Río Paraná-pichuna, sandstone savanna at major rapids, *Zarucchi 1343* (MICH); lower Río Kubiyú, sandstone savanna, *Zarucchi 1409* & *1778* (MICH); lower Río Paraná-pichuna, savanna at major rapids, *Zarucchi 1990* (MICH).

Collected in flower and fruit in almost every month.

This is very closely related to *Diacidia galphimioides*. Plants from the Río Negro and Río Orinoco areas have large leaves and bracteoles; these constitute "typical" *D. galphimioides*. Most plants from southeastern Colombia have small leaves and bracteoles, and are recognized here as *D. parvifolia*. However, plants from Cerro Mitú in Colombia have the larger leaves and stature of *D. galphimioides* but bracteoles little larger than those of *D. parvifolia*. These plants are being called *D. galphimioides* here, but it seems clear that they represent intermediates between the two "species," and that population deserves study to try to determine its genetic and ecological position with respect to *D. galphimioides* sens str and *D. parvifolia*.

Subgenus **Sipapoa** (Maguire) Anderson, comb et stat nov

Sipapoa Maguire, Mem. New York Bot. Gard. **8**(2): 124. 1953.

Type. *Diacidia kunhardtii* (Maguire) Anderson.

In the descriptions below, the term "fruit wings" refers to the accrescent, wing-like sepals; the fruit proper is unwinged.

3. Diacidia glaucifolia (Maguire) Anderson, comb nov

Sipapoa glaucifolia Maguire, Mem. New York Bot. Gard. **18**(2): 48. 1969.

Trees 5–15 m tall; vegetative internodes glabrous. Lamina of the larger leaves 16–27 cm long, 11–18 cm wide, broadly elliptical or obovate, obtuse or truncate

or subcordate at the base, obtuse or rounded at the apex, glaucous below, glabrous above, ciliate to glabrate on the margin, sericeous below on the midrib and lateral veins to soon glabrate, the hairs 1–1.5 mm long, basifixed, straight, fine, the veins prominent below; petiole 3.4–5.3 cm long, with the proximal 1.7–2.8 cm part of the petiolar-stipular sheath and the distal 1.3–2.5 cm free, glabrous; stipules 8.2–10.5 cm long, united proximally with the opposite pair to form a sheath 1.2–2 cm long, the distal 7–9 cm completely connate to produce a single intrapetiolar structure broadly rounded at the apex, abaxially glabrous and glaucous, marginally ciliate to glabrate, adaxially glabrous except hirsute at base inside sheath. Inflorescence 17–35 cm long, laxly rufous-sericeous, a compound thyrse, the terminal axis ternate and subtended by 2–4 unbranched lateral axes, the cincinni mostly 4–10-flowered; bracts and bracteoles sericeous or tomentose on both sides, more densely so abaxially, the bracts caducous, the bracteoles smaller and longer persistent. Pedicel 4–10 mm long, villous. Sepals revolute, dentate or laciniate, abaxially tomentose or villous, adaxially sparsely tomentose to glabrate. Limb of the petals 5–7 mm long, 4–6 mm wide. Fertile stamens (8–)9, 1 (very rarely both) of the stamens opposite the anterior-lateral petals absent; anthers 1.4–1.8 mm long, each locule bearing 1(–2) apical awns and otherwise glabrous. Fruit wings up to 9 mm long and 4 mm wide, truncate or cordate at the base, dentate or laciniate at the margin, abaxially tomentose or villous.

Type. *Maguire et al 42057,* Cerro de la Neblina, Río Yatúa, Amazonas, Venezuela (holotype NY! isotypes F! NY! US! VEN!).

Distribution. Known only from the Cerro de la Neblina in Venezuela and the nearby Serra de Pirapucú in Brazil, at elevations of 650–1100 m; see protologue.

Collected in flower and fruit from November through February.

Two intriguing collections from Neblina may represent hairy-leaved sucker shoots of this species. They are *Maguire et al 42057B,* for which the label states they are sucker shoots, and *Coradin 445* (IAN 149920 & 149920a). In the latter case the plant was described as a shrub 1.5 m tall; it may have been juvenile, or these may have been stump sprouts. Both collections are sterile. The leaves are smaller, especially narrower, than in typical specimens, and cuneate at the base. More interesting, the leaves are abundantly and persistently hairy on both sides (mostly on the midrib and veins below, uniformly above) and ciliate on the margin, with straight basifixed hairs 3–7 mm long. The petioles and stipules are also hairy. This is in marked contrast to *Maguire et al 42057A,* sterile apical shoots with glabrate leaves like those of the flowering stems. Such dimorphism between sucker shoots and apical shoots is otherwise unknown in the Malpighiaceae, and almost incredible to me. I think it possible that there is actually an undescribed species of *Diacidia* on Neblina, a shrub with hairy leaves, but until it is found fertile these two collections are best left with *D. glaucifolia.*

4. Diacidia rufa (Maguire) Anderson, comb nov

Sipapoa rufa Maguire, Mem. New York Bot. Gard. **18**(2): 48. 1969.

Trees 2–12 m tall; vegetative internodes glabrous. Lamina of the larger leaves 8.5–17(–22) cm long, 5–10(–14) cm wide, obovate, truncate or usually slightly cordate at the base, obtuse at the apex, glaucous below (the glaucescence often

hidden by hairs), glabrous above or sericeous on the midrib, ciliate on the margin, persistently rufous-sericeous below, the hairs 1–4 mm long, basifixed, straight, fine, longer on the midrib and lateral veins but very dense over the whole surface, the veins prominent below; petiole 2–4(–5) cm long, with the proximal 1.2–3 (–3.5) cm part of the petiolar-stipular sheath and the distal 0.5–1(–1.5) cm free, glabrous; stipules 5.5–10 cm long, united proximally with the opposite pair to form a sheath 1–2 cm long, the distal 4–8 cm completely connate to produce a single intrapetiolar structure broadly rounded at the apex, abaxially sericeous to glabrate and glaucous, ciliate on the margin, adaxially glabrous except hirsute at base inside sheath. Inflorescence, flowers, and fruit ± like those of *D. glaucifolia,* the cincinni only 2–6-flowered and various parts, especially the pedicels and sepals, tending to be more densely villous.

Type. *Maguire et al 42036,* Cerro de la Neblina, Río Yatúa, Amazonas, Venezuela (holotype NY! isotypes F! US! VEN!).

Distribution. Known only from the Cerro de la Neblina and the nearby Serra de Pirapucú in Brazil, at elevations of 1600–1800 m; see protologue.

Collected in flower and fruit from November through January.

Diacidia rufa and *D. glaucifolia* are almost identical except for the size and hairiness of their leaves and stipules. Since they bloom at the same time and grow in the same mountains, it would be interesting to know how they maintain their identity. Label data reveal that *D. glaucifolia* has been collected between elevations of 650 m and 1100 m, versus 1600 m to 1800 m for *D. rufa*. While it is difficult for one who has not been there to evaluate these data, they suggest that the two species have different ecological requirements that may effect partial or complete reproductive isolation and may also select against hybrids if they do occur.

5. Diacidia stipularis (Maguire & Phelps) Anderson, comb nov

Sipapoa stipularis Maguire & Phelps, Mem. New York Bot. Gard. 8(2): 127. 1953.

Shrubs 0.5–3 m tall; vegetative internodes glabrous. Lamina of the larger leaves 4.5–13.5 cm long, 2.5–9.5 cm wide, elliptical or ovate or subrotund, obtuse or truncate or subcordate at the base, broadly obtuse or rounded at the apex, glaucous below, glabrous above, densely and ± persistently white- or yellowish-sericeous below, the hairs 2–2.5 mm long, basifixed, straight, fine, the lateral veins obscure or prominulous below; petiole 1.2–2.4 cm long, with the proximal 0.7–1.4 cm part of the petiolar-stipular sheath and the distal 0.4–1.0 cm free, glabrous; stipules 3.5–8 cm long, united proximally with the opposite pair to form a sheath 0.7–2 cm long, the distal 2.8–6.2 cm completely connate to produce a single intrapetiolar structure broadly obtuse or rounded at the apex, glabrous on both sides except hirsute adaxially inside sheath. Inflorescence 9–15 cm long, glaucous and apparently glabrous (actually initially strigose but the hairs caducous), a pseudoraceme; bracts and bracteoles glabrous, caducous, the bracts 8–10 mm long, the bracteoles ca 2 mm long. Pedicel 7–14 mm long, glabrous. Sepals revolute, entire or obtusely denticulate, glabrous. Limb of the petals 4–6 mm long, 4–5 mm wide. Fertile stamens 6(–7), the 4 opposite the lateral petals absent; anthers 1.1–1.6 mm long, each locule bearing 1(–2) apical awns and laterally

strigose to soon glabrate, the few hairs straight, basifixed, caducous. Fruit wings up to 12 mm long and 5 mm wide, cordate at the base, entire or paucidenticulate distally, acute at the apex, unequal, glabrous.

Type. *Cowan & Wurdack 31200,* Cerro Parú, Río Parú, Río Ventuari, Amazonas, Venezuela (holotype NY! isotypes F! MO! NY! US! VEN!).

Distribution. Known only from the type locality, at elevations of 1600–2000 m; see protologue.

Collected in flower and fruit in January and February.

6. Diacidia kunhardtii (Maguire) Anderson, comb nov

Sipapoa kunhardtii Maguire, Mem. New York Bot. Gard. **8**(2): 125. 1953.

Shrubs or small trees to 4 m tall; vegetative internodes glabrous. Lamina of the larger leaves 4–7 cm long, 2.3–5 cm wide, elliptical to nearly rotund, obtuse or rounded at base and apex, glaucous below, sparsely sericeous to glabrate above, densely and persistently ciliate on the margin, spreading-sericeous below on the midrib and lateral veins, the hairs 2–4 mm long, basifixed, straight, very fine; petiole 17–26 mm long, with the proximal 12–19 mm part of the petiolar-stipular sheath and the distal 5–8 mm free, hirsute; stipules 22–32 mm long, united proximally with the opposite pair to form a sheath 15–22 mm long, the distal 7–10 mm completely connate to produce a single triangular intrapetiolar structure acute at the apex, abaxially sericeous, adaxially hirsute. Inflorescence 9–20 cm long, villous, a pseudoraceme (the cincinni rarely 2-flowered); bracts and bracteoles abaxially sericeous, marginally ciliate, adaxially glabrous, the bracts caducous, the bracteoles smaller and longer persistent. Pedicel 3–5 mm long, villous. Sepals revolute, glandular-dentate, abaxially tomentose to glabrate, adaxially glabrous. Limb of the petals 2.5–4 mm long, 2–4 mm wide. Fertile stamens 8, the 2 opposite the anterior-lateral petals absent or reduced to minute rudimentary filaments; anthers 1–1.5 mm long, each locule bearing 1(–2) apical awns and otherwise glabrous. Fruit wings up to 13 mm long and 4 mm wide, cordate at the base, dentate at the margin, obtuse at the apex, glabrate.

Type. *Maguire & Politi 27677,* Caño Negro, Cerro Sipapo, Amazonas, Venezuela (holotype NY! isotypes F! MO! US! VEN!).

Distribution. Known only from Cerro Sipapo, at elevations of 1450–1500 m; see protologue.

Collected in flower and fruit in December and January.

7. Diacidia cordata (Maguire) Anderson, comb nov

Sipapoa cordata Maguire, Mem. New York Bot. Gard. **18**(2): 46. 1969.

Shrubs 0.5–1.5 m tall, the stems glabrous and often glaucous. Lamina of the larger leaves 3–6.5 cm long, 1.5–4.5 cm wide, elliptical or oblong or slightly ovate or obovate, deeply cordate at the base, obtuse or rounded at the apex, glaucous below, initially ciliate on the margin but soon quite glabrate, the veins and reticulum prominent on both sides, the midrib red; petiole 5–10 mm long, all but up to 1 mm part of the petiolar-stipular sheath, glabrous; stipules 11–16 mm long, united proximally with the opposite pair to form a sheath 4–6 mm long, the distal

7–10 mm free as 2 triangular acute epipetiolar lobes, abaxially glabrous, adaxially hirsute inside the sheath and glabrous distally. Inflorescence 5–17 cm long, glabrous, a simple thyrse, the cincinni 2–6(–8)-flowered; bracts 6–9 mm long, rhombic, glabrous, caducous; bracteoles similar but smaller. Pedicel 8–12 mm long, glabrous. Sepals revolute, entire, glabrous. Limb of the petals 4–6.5 mm long, 3–4.5 mm wide. Fertile stamens 8–9, 1 or both of the 2 opposite the anterior-lateral petals absent or reduced to minute rudimentary filaments; anthers 1–1.3 mm long, each locule bearing 1–2 apical awns and laterally finely hirsute to soon glabrate. Fruit wings up to 7 mm long and 4 mm wide, cordate at the base, entire, acute or obtuse at the apex, often unequal and asymmetrical, glabrous.

Type. *Maguire et al 42537D,* Cerro de la Neblina, Río Yatúa, Amazonas, Venezuela (holotype NY! isotypes F! NY! US! VEN!).

Distribution. Known only from Cerro de la Neblina, at elevations of 1500–1800 m; see protologue.

Collected in flower and fruit in December and January.

8. Diacidia hypoleuca (Maguire) Anderson, comb nov

Sipapoa hypoleuca Maguire, Mem. New York Bot. Gard. **8**(2): 125. 1953.

Trees 3–10 m tall; vegetative internodes glabrous, glaucous. Lamina of the larger leaves 5.5–10.5 cm long, 3–6 cm wide, elliptical or obovate, obtuse or truncate or subcordate at the base, obtuse or usually rounded or emarginate and apiculate at the apex, glaucous below, glabrous above, densely and persistently white- or yellowish-sericeous below, the hairs up to 4 mm long, basifixed, straight, very fine, the lateral veins prominent below; petiole 1.6–2.5 cm long, with the proximal 1.3–1.9 cm part of the petiolar-stipular sheath and the distal 0.2–0.6 cm free, sericeous; stipules 2–3 cm long, initially united proximally with the opposite pair to form a sheath 0.7–1.6 cm long (the sheath soon splitting open along the interpetiolar seams), the distal 1–1.8 cm nearly free (up to 3 mm connate) as 2 triangular or ovate, acute or acuminate epipetiolar lobes, abaxially glabrate on the sheath and sericeous distally, ciliate on the margins, adaxially hirsute inside the sheath and glabrous distally. Inflorescence 6–12 cm long, loosely sericeous, a pseudoraceme; bracts and bracteoles deciduous, the bracts 7–9 mm long and abaxially very densely sericeous, the bracteoles ca 3 mm long and sparsely pilose. Pedicel 6–13 mm long, tomentose. Sepals revolute, denticulate or subentire, glabrous on both sides, ciliate to glabrate on the margin. Limb of the petals 3.5–5 mm long (–7 mm in the posterior petal), 3–4.5 mm wide. Fertile stamens 9, 1 of the stamens opposite the anterior-lateral petals absent; anthers 1–1.3 mm long, each locule bearing 1(–2) apical awns and laterally finely hirsute to very soon glabrate (apparently glabrous). Fruit wings up to 10 mm long and 8 mm wide, cordate at the base, denticulate or subentire at the margin, obtuse at the apex, glabrate or ciliate on the margin; pedicel strongly reflexed in fruit.

Type. *Maguire et al 30704,* Cerro Yapacana, upper Río Orinoco, Amazonas, Venezuela (holotype NY! isotypes F! MO! US! VEN!).

Distribution. Known only from the type locality, at elevations of 1000–1200 m; see protologue. A recent collection from the same place is *Steyermark & Bunting 103138* (NY, VEN).

Collected in flower and fruit in January, April, and May.

9. Diacidia ferruginea (Maguire & Phelps) Anderson, comb nov

Sipapoa ferruginea Maguire & Phelps, Mem. New York Bot. Gard. 8(2): 126. 1953.

Shrubs or small trees 1–4 m tall; vegetative internodes persistently sericeous. Lamina of the larger leaves 3–4.5 cm long, 1–2 cm wide, narrowly elliptical, obtuse at the base, thickened at the margin, obtuse and apiculate at the apex, glaucous below, glabrous above except sericeous at very base, densely and persistently rufous- or yellowish-sericeous below, the hairs up to 1.3 mm long, basifixed below, sub-basifixed above, straight, very fine, the lateral veins obscure on both sides or prominulous below; petiole 5–9 mm long, with the proximal 4–6 mm part of the petiolar-stipular sheath and the distal 1–3 mm free, sericeous; stipules 5–9 mm long, united proximally with the opposite pair to form a sheath 4–7 mm long (the sheath often soon splitting open along the interpetiolar seams), the distal 1–2 mm free as 2 triangular, acute, epipetiolar lobes, abaxially sericeous, adaxially hirsute inside the sheath and glabrous distally. Inflorescence 3–12 cm long, tomentose, a pseudoraceme; bracts ca 4 mm long and abaxially densely sericeous; bracteoles ca 2 mm long and sparsely pilose. Pedicel 8–12 mm long, tomentose. Sepals revolute, entire, abaxially sparsely pilose to glabrate, ciliate on the margin, adaxially glabrous. Limb of the lateral petals 3.5–4 mm long, 3.5–4.5 mm wide; limb of the posterior petal 5.5–6 mm long, 6.5–7 mm wide. Fertile stamens 6, the 4 opposite the lateral petals absent; anthers 1–1.5 mm long, each locule bearing 1(–2) apical awns and otherwise glabrous, the connective much enlarged and globular at the apex. Fruit wings up to 13 mm long and 12 mm wide, cordate at the base, entire at the margin, rounded at the apex, glabrate or ciliate on the margin; pedicel strongly reflexed in fruit.

Type. *Cowan & Wurdack 31233,* Cerro Parú, Río Parú, Río Ventuari, Amazonas, Venezuela (holotype NY! isotypes MO! VEN!).

Distribution. Known only from the type locality and vicinity, at elevations of 1700–2000 m; see protologue. Two recent collections from the same area [Cerro Asisa (La Momia), Serranía Parú] are *Hoyos & Morillo 64* and *97* (both VEN).

Collected in flower and fruit in January, February, and May.

This species is morphologically the most specialized in the genus. Apart from the very reduced androecium, it is notable for its short stipule-lobes, strongly dimorphic petals, enlarged connectives, and distinctly internal stigmas.

10. Diacidia aracaënsis Anderson, sp nov Fig 15.

Arbor 3 m alta, internodiis vegetativis sericeis. Lamina foliorum majorum 3–6 cm longa, 1.2–2.5 cm lata, elliptica vel anguste ovata, basi obtusa, margine parum revoluta, apice acuta vel obtusa apiculataque, subtus glauca, supra novella sericea mox glabrescens, subtus pertinaciter sericea vel demum glabrescens, pilis supra submediofixis vel sub-basifixis (altero brachio 1.1 mm altero 0.5–0.1 mm longo), subtus sub-basifixis (altero brachio 1 mm altero 0.1 mm longo), nervis lateralibus utrinque obscuris vel paulo prominulis; petiolus 7–9 mm longus, 4–6 mm proximalibus in vagina cum stipulis coalitis, 2–4 mm distalibus liberis, sericeus; stipulae 6–8 mm longae, 4–5 mm proximalibus in vagina cum petiolo et stipulis oppositis coalitis, 2–3 mm distalibus liberis triangularibus, abaxialiter sericeae, adaxialiter hirsutae. Inflorescentia 3–11 cm longa, tomentosa, pseudoracemosa

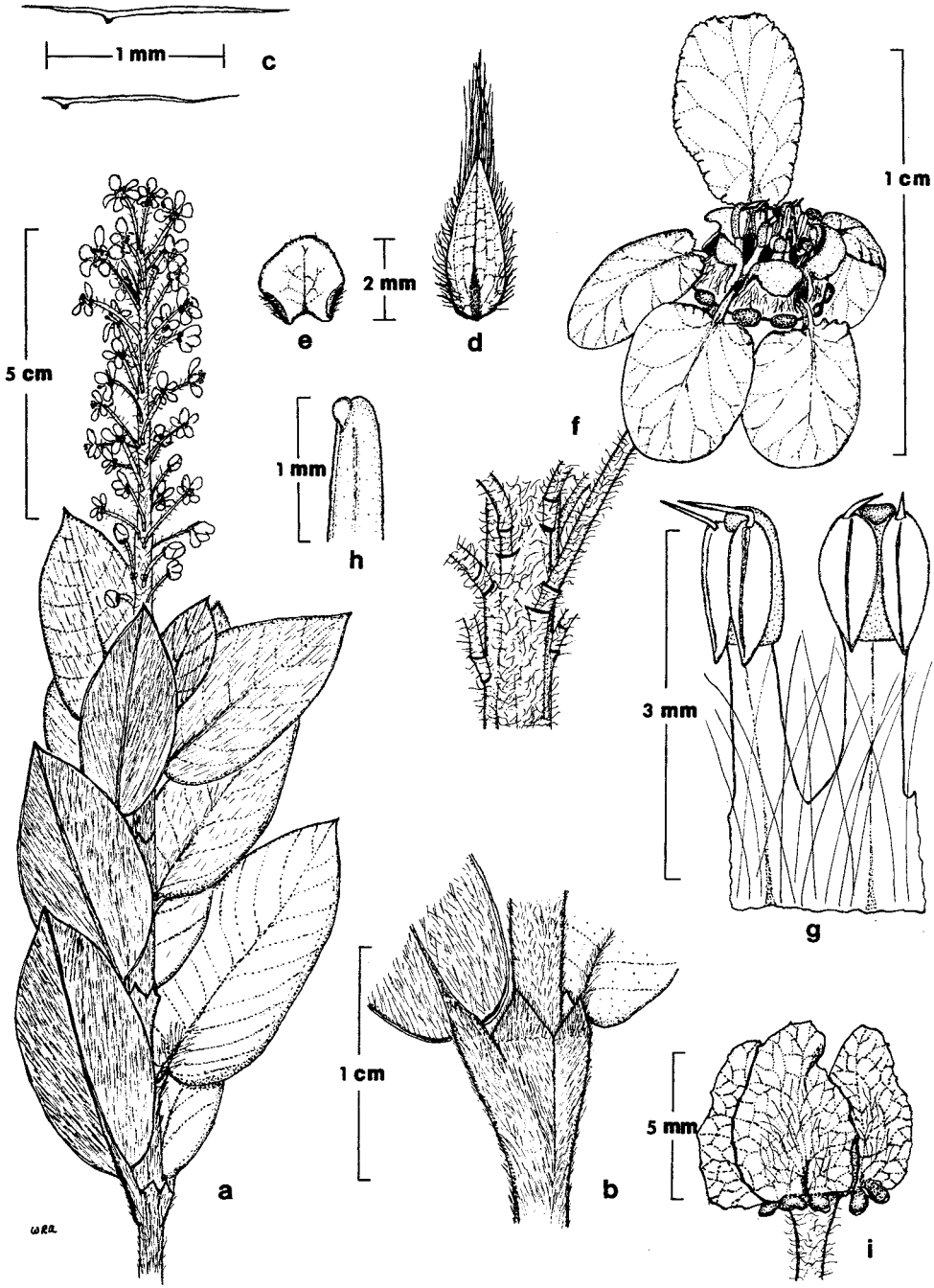

Fig 15. *Diacidia aracaënsis*. a) Flowering branch; b) stipules; c) leaf hairs (upper from adaxial surface, lower from abaxial surface); d) bract, adaxial view; e) bracteole, adaxial view; f) flower; g) stamens, adaxial view; h) stigma; i) enlarged sepals surrounding fruit. Drawn from holotype.

cincinnis unifloris, pedunculo 0.5–1.3 mm longo, bracteis bracteolisque deciduis, abaxialiter sericeis, illis ca 3 mm, his ca 1.5 mm longis. Pedicellus 8–10 mm longus, tomentosus. Sepala revoluta, minute denticulata, abaxialiter in centro sericea, margine et adaxialiter glabra. Petala 4 lateralia ungue 1 mm longo, limbo 4.5–5 mm longo et lato, late ovato, denticulato. Petalum posticum ungue 1.5 mm longo, limbo 5–6 mm longo, 3–3.5 mm lato, elliptico, denticulato. Stamina fertilia 8, 2 petalis anterioribus oppositis anantheris vel absentibus, filamentis ca 2 mm longis, liberis vel usque ½ connatis. Antherae 1.2–1.5 mm longae, in quoque loculo 1(–2) aristis apicalibus ornatae, aliter glabrae, connectivo apice tantum parum tumido. Ovarium conicum, 1.3 mm altum. Styli 2–2.5 mm longi, stigmatibus internis. Fructus alae (maturae?) usque 7 mm longae, 5 mm latae, basi subcordatae, margine integrae vel minute denticulatae, apice rotundatae, abaxialiter sparsim sericeae, aliter glabrae.

Type. *Pires 14993*, Serra Aracá [ca 1°N, 63°W fide Prance (1976)], Amazônas, Brazil, 2 Oct 1975 (holotype IAN 145429, isotype MICH).

Known only from the type collection; named for the type locality, which has yielded a number of endemic new species.

11. Diacidia vestita (Bentham) Bentham & Hooker ex Jackson, Ind. Kew. 1: 741. 1895.

Coleostachys vestita Bentham, London Jour. Bot. (Hooker) 7: 124. 1848.
Sipapoa vestita (Bentham) Maguire, Mem. New York Bot. Gard. 8(2): 127. 1953.

Shrubs or small trees 3–9 m tall; vegetative internodes loosely sericeous. Lamina of the larger leaves 6–10(–13.5) cm long, 2.8–5.5 cm wide, elliptical or slightly obovate, obtuse or rounded at the base, flat or revolute at the margin, obtuse or rounded and apiculate or very shortly acuminate at the apex, slightly or not at all glaucous below, villous or subsericeous or subtomentose above, the hairs straight or slightly bent and erect to subappressed, woolly below, the hairs much twisted and intertwined (or nearly straight on the midrib), the lateral veins obscure above and prominulous below; petiole 19–32 mm long, with the proximal 14–25 mm part of the petiolar-stipular sheath and the distal 4–7 mm free, villous or woolly; stipules 20–35 mm long, united proximally with the opposite pair to form a sheath 15–25 mm long (the sheath soon splitting open along the interpetiolar seams), the distal 5–11 mm free as 2 triangular, acute or acuminate, epipetiolar lobes, abaxially subsericeous, adaxially hirsute inside the sheath and glabrous distally. Inflorescence 4–12 cm long, villous, a pseudoraceme; bracts and bracteoles abaxially sericeous or villous (especially the bracts), eventually deciduous, the bracts 3.5–5 mm long, the bracteoles 2–3 mm long. Pedicel 7–10(–12) mm long, villous. Sepals revolute, entire or denticulate, abaxially villous, ciliate on the margin, adaxially glabrous. Limb of the lateral petals 4.5–5 mm long, 3–4 mm wide; limb of the posterior petal 6 mm long, 3–4 mm wide. Fertile stamens (7–) 8, the 2 opposite the anterior-lateral petals absent and the stamen opposite 1 of the posterior-lateral petals sometimes reduced to a staminode; anthers 1.1–1.5 mm long, each locule bearing 1(–2) apical awns and otherwise glabrous or sparsely pilose and soon glabrate, the connective bent forward at the apex. Fruit wings

up to 13 mm long and 7 mm wide, cordate at the base, entire or dentate at the margin, acute or obtuse at the apex, abaxially villous; pedicel reflexed in fruit.

Type. "Mountains of British Guiana, [*Robert*] *Schomburgk s n.*" (K) [probably actually from Amazonas, Venezuela; cf Maguire, 1969, p. 50].

Distribution. Known from three mountains in Amazonas, Venezuela, at elevations of 1200–1900 m: Cerro Duida, *Steyermark 58122* (NY, US), *Tate 563* (NY, US); Cerro Huachamacari, *Maguire et al 29806* (NY), *29858* (NY), *29869* (F, NY), *30091* (F, MO, NY, VEN), *30111* (NY, VEN), *30221* (NY), *30252* (NY, VEN); Sierra Parima, Brazilian frontier, 3°58′N, 64°40′W, elev 1750 m, *Cardona 3080* (VEN), 4°5′N, 64°40′24″W, elev 1500 m, *Steyermark 107499* (VEN).

Collected in flower and fruit in January, March, May, and December.

12. Diacidia steyermarkii (Maguire) Anderson, comb nov

Sipapoa steyermarkii Maguire, Mem. New York Bot. Gard. **18**(2): 54. 1969.

Trees 3–8 m tall; vegetative internodes loosely sericeous to villous. Lamina of the larger leaves 6–10 cm long, 3–4.5 cm wide, elliptical or obovate, rounded or slightly cordate at the base, revolute at the margin, obtuse or rounded and apiculate or very shortly acuminate at the apex, glaucous below (the glaucescence hidden by the hairs), villous above, the hairs straight and erect (broken and appressed on older leaves), very densely sericeous below, the hairs straight, appressed, and parallel, the lateral veins impressed above and very prominent below; petiole 23–30 mm long, with the proximal 18–25 mm part of the petiolar-stipular sheath and the distal 3–7 mm free, villous or woolly; stipules 26–39 mm long, united proximally with the opposite pair to form a sheath 15–26 mm long (the sheath soon splitting open along the interpetiolar seams), the distal 9–15 mm free as 2 ovate or triangular, acuminate, epipetiolar lobes, abaxially villous or subsericeous, adaxially hirsute inside the sheath and glabrous distally. Inflorescence 12–15 cm long, villous, a pseudoraceme; bracts and bracteoles abaxially sericeous (especially the bracts), eventually deciduous, the bracts 4–6 mm long, the bracteoles 1.5–2 mm long. Pedicel 6–10 mm long, villous or woolly. Sepals erect or revolute, denticulate, abaxially sericeous or woolly, adaxially glabrous or sparsely pilose near the margin. Limb of the lateral petals 4–5 mm long and wide; limb of the posterior petal 5–6 mm long, 4–5 mm wide. Fertile stamens 8, the 2 opposite the anterior-lateral petals absent; anthers 1–1.5 mm long, each locule bearing 1 apical awn and otherwise glabrous, the connective bent forward at the apex. Fruit wings (immature?) up to 7 mm long and 2.5 mm wide, truncate at the base, entire or dentate at the margin, acute or obtuse at the apex, abaxially loosely sericeous; pedicel spreading in fruit.

Type. *Steyermark 98016,* Cerro Jaua, Río Kanarakuni, Río Caura, Bolívar, Venezuela (holotype NY! isotype VEN!).

Distribution. Known only from the Meseta del Jaua, Bolívar, Venezuela, at elevations of 1320–2250 m. Dr. Steyermark made the following additional collections in 1974: Cerro Sarisariñama, *109030* & *109158* (both NY); Cerro Jaua, *109282* & *109576* (both NY).

Collected in flower and fruit in February and March.