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AN EVALUATION OF THE GENUS POTERANTHERA

J. J. WURDACK

FIELDIANA: BOTANY

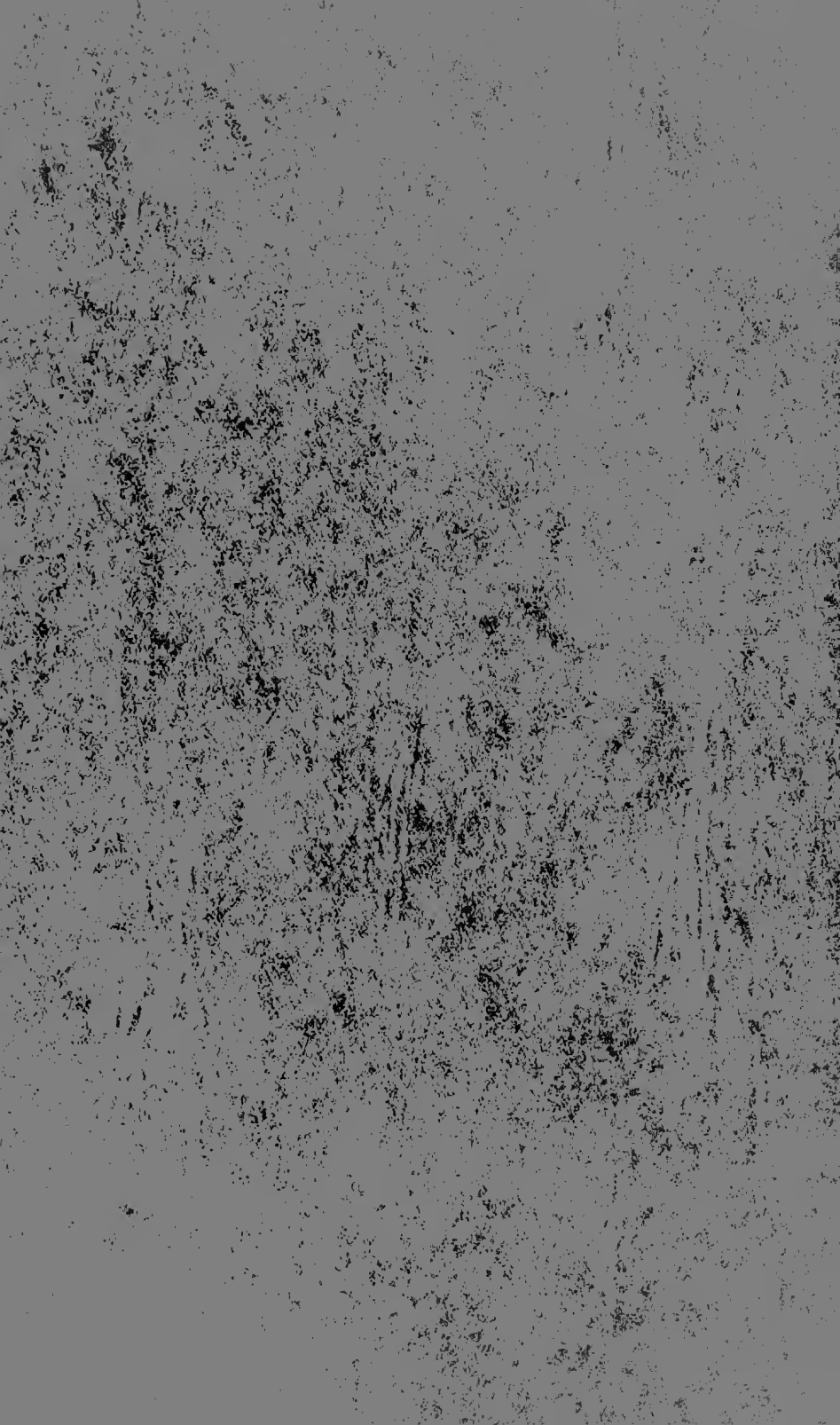
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Department of Botany, United States National Museum

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An Evaluation of the Genus *Poteranthera*

The open grassy swamps of tropical America support an abundance of herbaceous annual Melastomataceae, especially of the genera *Acisanthera*, *Poteranthera*, and *Siphanthera*. The diminutive habit and small fugaceous flowers have combined to insure both paucity of collections and difficulty of identification. For the present, both *Poteranthera* and *Siphanthera* can be treated fairly satisfactorily; the latter genus will be discussed in a future paper. Since several of the Central American taxa to be treated by Dr. Williams in the *Flora of Guatemala* are involved in the *Acisanthera*-*Poteranthera* generic problem the following discussion has been prepared for publication at this time.

The three sections of *Poteranthera*, as treated by Cogniaux, are a generic salmagundi. Sect. *Tulasnea* was composed of species now referable to *Siphanthera*; the species of Sect. *Onoctionia* are all congruent within *Acisanthera*; and the generotype, *P. pusilla* Bong., seems to be an advanced monotype related to *Acisanthera*, but having only five stamens and lacking staminodia. The microlicoid seed characters sharply differentiate Sect. *Tulasnea* from the other two sections. As a criterion for delimiting the genus *Poteranthera*, the size of the anther pore has no fundamental significance.

The annual species of *Acisanthera*, with sessile clasping leaves, blunt ventral appendages of the connective, and two-celled ovary, form a closely related group. The differences in stamens are illustrated in the accompanying plate, prepared by M. L. Solt. Apart from three Brazilian taxa dubiously (if at all) distinct from *A. limnobios* (DC.) Triana, these species may be keyed as follows:

Small anther thecae completely sterile.

Large anther thecae 2.5-4 times longer than broad, the connective prolongation about as long as the thecae and with a dorsally acute appendage.

5. *A. rosulans*.

Large anther thecae about as wide as long, the connective prolongation only 1/5-1/3 as long as the thecae and with a dorsally rounded appendage.

6. *A. gentliseoides*.

Large and small anther thecae both polleniferous.

Large and small anther thecae oblong, tapering to a narrower pore.

Plant glabrous, the calyx-lobes longer than the hypanthium. . . 1. *A. bivalvis*.

Plant glandular-puberulous, the calyx-lobes usually shorter than the hypanthium. 2. *A. limnobios*.

Small (and usually large) anther thecae broadly oval and truncate, the pore equaling the anther width.

Large stamen connective prolongation longer than or about equaling the anther thecae, the ventral lobes and thecae horizontal; calyx lobes lanceolate-oblong. 3. *A. nana*.

Large stamen connective prolongation distinctly shorter than the thecae, the ventral lobes and thecae erect; calyx-lobes lanceolate. . 4. *A. crassipes*.

1. ***Acisanthera bivalvis*** (Aubl.) Cogn. Fl. Bras. 14, pt. 3: 216. 1885. *Melastoma bivalvis* Aubl. Pl. Guian. 1: 404. 1775. Figure 15, A.

British Honduras, northeastern lowland South America to Bahia, Brazil.

2. ***Acisanthera limnobios*** (DC.) Triana, Trans. Linn. Soc. Bot. 28: 33. 1871. *Microlicia limnobios* DC. Prodr. 3: 117. 1828. Figure 15, B.

There seems no reason for refusing to accept Triana's synonymization of *A. pellucida* Wright ex Griseb. under *A. limnobios*, rather than Cogniaux' maintenance of the West Indian population as a distinct species. Certainly the Cuban material is conspecific with Venezuelan and Guianan collections.

From the limited southeastern Brazil collections examined, I have been unable to decide whether *A. divaricata* Cogn., *A. inundata* (DC.) Triana, and *A. fluitans* Cogn. are distinct from *A. limnobios*. There seem to be at most two species, one having short (up to 1 mm. long) prolongation of the connective from the anther base to the filament insertion and one with prolongation 2–2.5 mm. The agglomeration of species with short prolongations (according to Cogniaux' descriptions) includes *A. limnobios*, *A. inundata*, and *A. fluitans*, while the species with long connective is *A. divaricata*. Generally only one flower per specimen is examinable without dissection; in each of the Gardner collections 2591 and 4615 (K, P, US, W) both long and short prolongations of connectives exist on individual plants, while 4614 (K, W) has prolongations about 1.5 mm. long. Only assemblage of all duplicates of the type collections, or additional collecting coupled with field observations, will resolve the taxonomic importance of the connective length. The vegetative distinctions used by Cogniaux will probably prove of no value in specific delimitation.

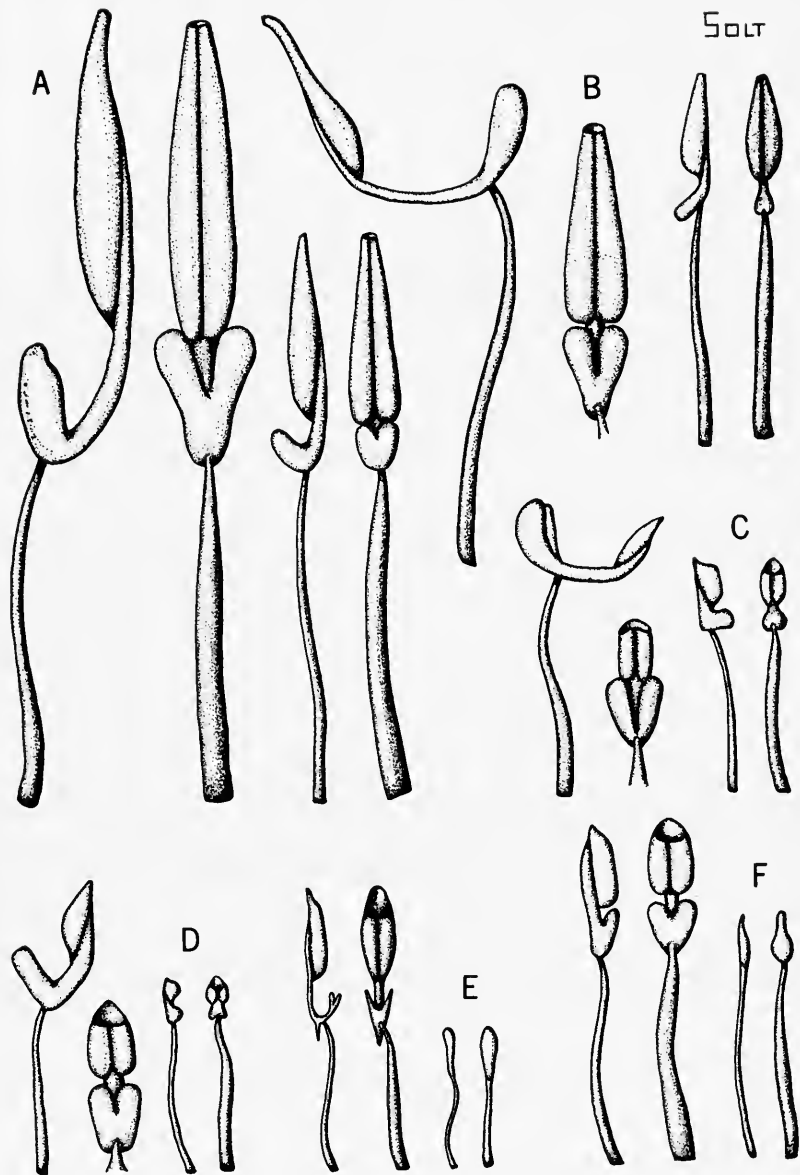


FIG. 15. Large and small stamens, lateral and ventral views, of various *Acisanthera* species (all $\times 15$). A, *A. bivalvis*; B, *A. limnobios*; C, *A. nana*; D, *A. craspipes*; E, *A. rosulans*; F, *A. genliseoides*.

For the time being, it seems best to use the name *A. limnobios* for all extra-Brazilian material.

Among the collections which I have assigned to *A. limnobios*, *Schomburgk 485*, *Wilson Browne 9*, and *Wurdack & Monachino 40902* approach *A. nana* but the pores of the small anthers are distinctly less broad than the thecae. These collections seem worthy of sub-specific distinction, but the transfer will not be made until the holotypes of *A. limnobios* and *A. inundata* collected by Martius are examined.

SPECIMENS EXAMINED

GUATEMALA: Chiquimula: southeast of Concepción de las Minas, *Steyermark 31159* (F).

HONDURAS: Comayagua: El Achote near Siguatepeque, *Standley 56122* (F).—Santa Bárbara: Llano del Conejo, *Molina 3683* (F, US).—El Paraíso: Suyate, *Standley 28047* (F, US); Galeras, *Standley & Williams 67* (F, US); Güinope, *Standley, Williams, Molina & Paddilla 2052* (F, US); El Limonar, *Williams 17324* (F); Ojo de Agua, *Williams 17314a* (F); Güinope, *Williams & Molina 11513* (F, NY); Galeras, *Williams & Molina 12614* (F, NY).—Morazán: San Juan del Rancho, *Molina 1737* (F, US), *Standley 15157* (F); Las Mesas, *Valerio 3704* (F); Las Mesas, *Williams, Molina & Williams 23299* (F, US, EAP, 20 other herbaria).

PANAMA: Chiriquí: Río Caldera, *Killip 3623* (US).—Panama: Alhajuela, *Killip 3220* (US).

CUBA: Isle of Pines: *Britton, Britton, & Wilson 15620* (NY, US).—Las Villas: Yaguaramas, *Ekman 18386* (F, NY, US); Manacas, *León & Cazanás 6043* (NY).

COLOMBIA: Huila: Neiva, *Rusby & Pennell 394* (NY), *1068a* (NY).—Meta: Orocué, *Cuatrecasas 4364* (US). "Plains of La Cruz," *Purdie* s.n. (K).

VENEZUELA: Aragua: Maracay, *Pittier 5838* (US), *10111* (US).—Bolívar: Ciudad Piar, *Maguire, Wurdack, & Bunting 35904* (NY, US), *36020* (NY); Hato La Vergareña, *Wurdack & Guppy 14* (NY, US); base of Cerro Carichana, *Wurdack & Monachino 40902* (NY).

BRITISH GUIANA: Sand Creek, Rupununi River, *Wilson-Browne 9* (NY), *36* (NY); "Roraima," *Schomburgk 485* (syntypes of *A. inundata* var. *pusilla* Cogn.; K, NY, W).

BRAZIL: Rio Branco: Surumú near Serra do Mel, *Ule* 8249 (K, MG).—Pará: Monte Alegre, *Lima* 53-1421 (IAN), *Ducke* 16127 (MG); Rio Moju, *Black* 54-16222 (IAN).—Goiás: Couto de Magalhães, Rio Araguaia, *Fróes* 30128A (IAN), 30160 (IAN).—Mato Grosso: Cuyabá, *Malme* 1570 (US); Lagoinha, *Archer & Gehrt* 51 (US).—Minas Gerais: Corinto, *Mexia* 5658 (US).

3. *Acisanthera nana* Ule, Notizbl. Bot. Gart. Berl. 6: 349. 1915. Figure 15, C.

Usually the calyx-lobes are, like those of *A. limnobios*, narrowly ovate-oblong and obtuse, rather than lanceolate and acute as in *A. crassipes* and *A. rosulans*. Hoehne's illustration of *Poteranthera pauciflora* (Naud.) Triana (Anex. Mem. Butantan 1. Tab. 6A, III. 1922), based on Kuhlmann's Boa Vista (Rio Branco) collections, is surely rather *A. nana*. The Colombian material cited below varies toward *A. limnobios*, having thecae of the anthers somewhat larger than in other specimens.

SPECIMENS EXAMINED

COLOMBIA: Cundinamarca: "Alto del Páramo" northwest of Zipaquirá, *S. G. Smith* 1379 (US).—Meta: La Serranía, *Cuatrecasas* 7876 (NY); Villavicencio, *Pennell* 1624 (NY, US).

VENEZUELA: Amazonas: Santa Bárbara, *Steyermark* 58425 (F, NY).—Bolívar: Sta. Elena, *Tamayo* 2888 (US).

BRITISH GUIANA: Frechal, *Tate* 12 (NY); Wichabai, Rupununi River basin, *A. C. Smith* 2305 (NY, US).

BRAZIL: Rio Branco: Serra Pellada, *Ule* 7654 (isotypes, F, K, L, US); Igarapé Caraná, 6 km. west of Boa Vista, *Black* 51-13764 (IAN); Boa Vista, *Kuhlmann* 503 (RB).

4. *Acisanthera crassipes* (Naudin) Wurdack, comb. nov. *Onoc-tonia crassipes* Naudin, Ann. Sci. Nat. ser. 3, 12: 277, t. 12, f. 4. 1849. *O. pauciflora* Naudin, l.c., t. 12, f. 3. *O. calcarata* Naudin, l.c., t. 12, f. 2. *Poteranthera crassipes* (Naudin) Triana, Trans. Linn. Soc. Bot. 28: 33, f. 17c. 1871. *P. pauciflora* (Naudin) Triana, l.c., f. 17b. *P. calcarata* (Naudin) Triana, l.c., f. 17a. *Acisanthera gracilis* Ule, Notizbl. Bot. Gart. Berlin 6: 349. 1915. *A. bartlettii* Gleason, Pap. Mich. Acad. Sci. 17: 145, t. 19. 1933. Figure 15, D.

Acisanthera crassipes is quite variable in size and glandulosity; most of the variability can be seen in *Wurdack* 213, which was col-

lected in an area of only a few hundred square meters. The smaller plants have few branches and the stem only slightly thickened basally. The development of glandular hairs on the hypanthium and stem varies independently of the plant size, with some specimens nearly glabrous. While Naudin's sketch of *Onoctonia calcarata* suggests a long connective prolongation and completely sterile small anthers like those of *A. rosulans*, all anthers visible on the three sheets of the Leprieur collection are quite conformable with those of *A. crassipes*.

SPECIMENS EXAMINED

BRITISH HONDURAS: Belize: Belize, *Bartlett 11260* (holotype of *A. bartlettii*, NY), *Gentle 3420* (NY); Sibun River, *Gentle 1793* (NY), *Bartlett 11387* (NY).—Stann Creek: All Pines, *Schipp 677* (F, NY).—Toledo: Monkey River, *Gentle 3784* (F, NY, US).

VENEZUELA: Bolívar: Caicara, *Sprague 8* (K, US); Hato La Vergareña, *Wurdack & Guppy 181* (NY).—Amazonas: Puerto Ayacucho, *Maguire, Wurdack, & Bunting 36040* (NY), *Steyermark 58517* (NY), *Wurdack 213* (NY, US); Sabana Huachapana, *Maguire, Wurdack, & Keith 41464* (NY, US).—Without definite locality: "bords de l'Orénoque," *Chaffanjon 197* (P).

BRITISH GUIANA: Rupununi savannahs, *J. G. Myers 5517* p.p. (K); Orinduik Falls, Ireng River, *Irwin 490* (US); without definite locality, *Schomburgk* s.n. (holotype of *Onoctonia pauciflora*, P).

FRENCH GUIANA: Cayenne, *Santini 2368* (L); Mt. Sinéry, *Melinon 23* (holotype of *Onoctonia crassipes*, P; isotype, L); without definite locality, *Leprieur* s.n. ann. 1838 (holotype of *Onoctonia calcarata*, P; isotypes, P).

BRAZIL: Rio Branco: Surumú near Serra do Mel, *Ule 8248* (syntypes of *A. gracilis*, F, K, L, US); Rio Cantá, *Black 51-13814* (IAN).—Pará: Santarém, *Spruce 1043* (K, P, RB), *Spruce* s.n. (F, NY, W).—Amazonas: Manáos, *Ule 8939* (K, L, MG).

5. **Acisanthera rosulans** Huber, Bol. Mus. Paraense 2: 509. 1898. Figure 15, E.

Both this and the following species are dubiously distinct from *A. crassipes*. The large anthers of the Benoist collection conform fairly well with Naudin's drawing for *Onoctonia calcarata*, but not with those of the Leprieur collections.

FRENCH GUIANA: "Savane du Rocher, Gourdonville," *Benoist 1501* (P).

BRAZIL: Pará: Rio Maraca, *Guedes 618b* (holotype, MG); Campo do Cupijó, Cametá, *Ducke M. G. 16300* (MG); Rio Camará, *Black 50-9993* (IAN).—Maranhão: Carolina, Rio Tocantins, *Pires & Black 2189* (US).—Goiás: Couto de Magalhães, Rio Araguaia, *Fróes 30159* (IAN).

6. *Acisanthera genliseoides* (Hoehne) Wurdack, comb. nov. *Poteranthera genliseoides* Hoehne, *Anex. Mem. But.* 1: 49, t. 6A, f. 1. 1922. Figure 15, F.

All of the Hoehne collections cited below are syntypes; since one syntype number has not been seen, no lectotype has been chosen.

SPECIMENS EXAMINED

BRAZIL: Mato Grosso: Casa da Pedra, Chapada, *Hoehne 2399* (R), *2400* (R), *2402* (R), *2404* (R), *2405* (US).—Goiás: *Glaziou 21436* p.p. (RB).

Poteranthera pusilla Bong. *Mem. Acad. Sc. St-Pétersb. ser. 6,* 3: 138. 1835.

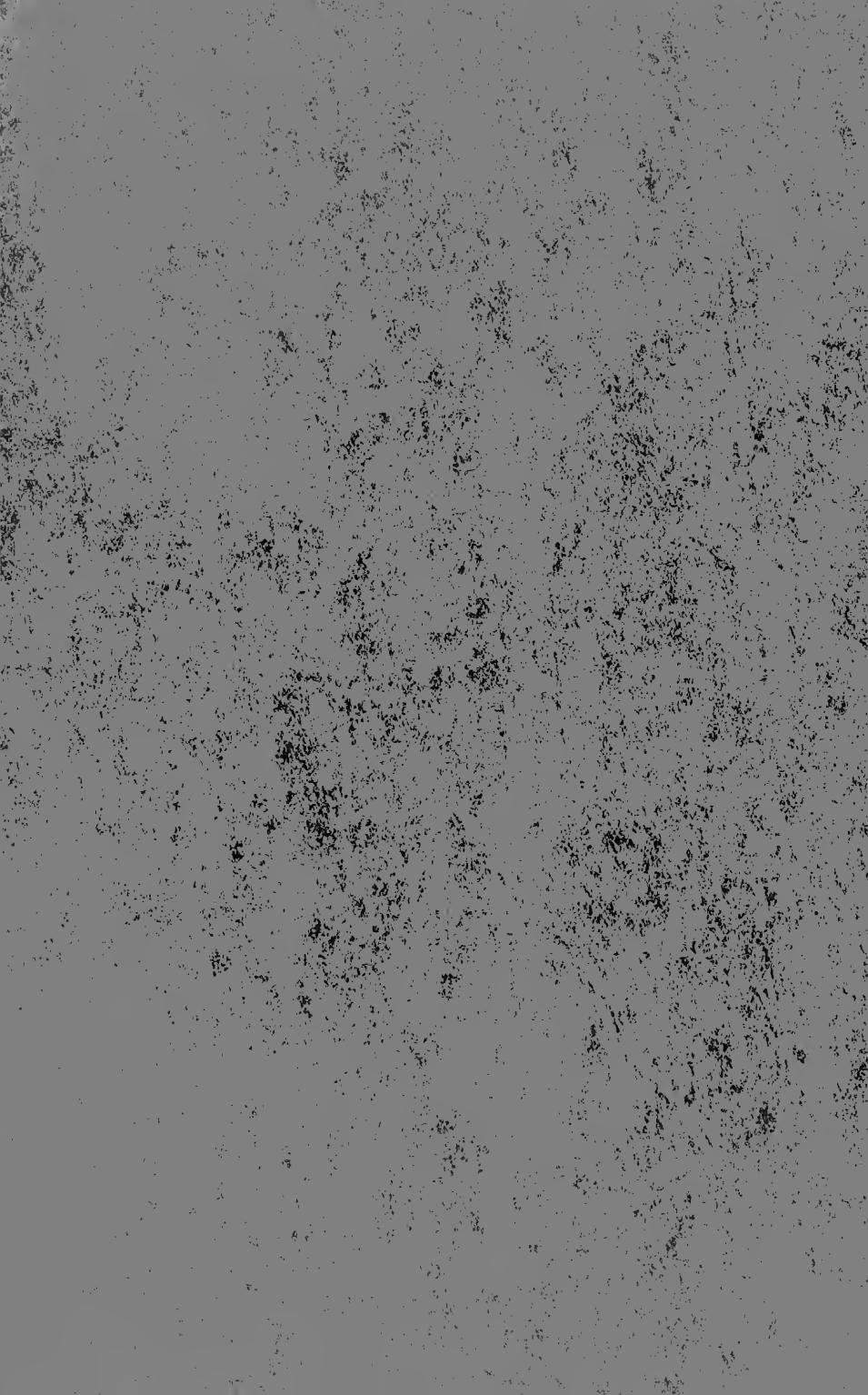
This rarely collected and inconspicuous annual is unlike all species subsequently placed in the genus. The strong toral constriction of the hypanthium, the 3-celled ovary, the lack of alternisepalous small stamens or staminodia, and the reniform foveolate seeds suggest placement in the Tibouchineae near *Acisanthera*.

SPECIMENS EXAMINED

BRAZIL: Maranhão: Carolina, *Pires & Black 2184* (IAN).—Goiás: Serra da Chapada, *Riedel* s.n. (isotype, K); "entre Colombista et Rio Bananal," *Glaziou 21436* (K, RB p.p.).

Siphanthera duidae (Gleason) Wurdack, comb. nov. *Poteranthera duidae* Gleason, *Bull. Torr. Club* 58: 415. 1931.

The species is known only from the Duida cumbre; two recent collections are *Maguire, Cowan, & Wurdack 29516* and *29517*. No further nomenclatural adjustment is necessary for the genus *Poteranthera*; the only remaining binomial, *P. minor* Gleason, is a taxonomic synonym of *Siphanthera foliosa* (Naudin) Wurdack.



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