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Abstract

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This synopsis provides a key, synonymies, descriptions, habitat descriptions, specimens examined, illustrations, maps, and conservation assessment for the four species of *Asketanthera* Woodson currently recognized. Lectotypes are selected for *Asketanthera longiflora* Woodson, *Asketanthera obtusifolia* A.H. Liogier, *Echites calycosus* A. Rich., *Echites picardae* Urb. and *Echites rugelianus* Urb. A neotype is also designated for *Echites dolichopetalus* Urb. *Asketanthera obtusifolia* A.H. Liogier is reduced to the synonymy of *Pentalinon luteum* (L.) B.F. Hansen & Wunderlin.

Keywords

APOCYNACEAE – *Asketanthera* – West Indies – Taxonomy – Lectotypification

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Introduction

The West Indies are one of the hotspots of biological diversity, with many endemic genera and species (Smith et al., 2004; Kreft et al., 2008). In *Apocynaceae* 30 native genera and 224 native species has been reported, of which three genera (*Asketanthera* Woodson, *Neobracea* Britton, *Strempeliopsis* Benth.) and 191 species are restricted to this region (Krings & Endress, 2012). *Asketanthera (Apocynoideae, Echiteae)* was described by Woodson (1932) to accommodate a group of species from the West Indies.

The last revision (Woodson, 1936) recognized four species, since then two additional species have been described: *A. obtusifolia* Liogier (Liogier,1973) endemic to Puerto Rico and *A. steyermarkii* Markgraf (Markgraf, 1975) endemic to Venezuela. Based on its morphological characters and different distribution, Morales (1998) transferred the latter to *Macropharynx*, which was recently supported by molecular data (Morales et al., 2017). Recently, Krings & Endress (2012) reported five species.

Endress et al. (2014) proposed a new circumscription of the tribe *Echiteae.* It was recently evaluated by Morales et al. (2017) based on nuclear and chloroplast data and several taxonomic changes were proposed, including new synonyms, the exclusion of subtribe *Pentalinoninae* and the description of a new subtribe *(Laubertinae).* As currently defined *Echiteae* is monophyletic and comprises five subtribes: *Echitinae, Laubertinae, Parsonsiinae, Peltastinae,* and *Prestoniinae.*

The subtribe *Echitinae* includes four genera (*Asketanthera*, *Echites* P. Browne, *Thenardia* Kunth, and *Thoreauea* J.K. Williams) restricted to Mexico, Central America and the West Indies. *Asketanthera* was resolved as monophyletic and as sister to *Echites*, from which it differs by its foliaceous bracts and sepals and corolla tube with the external indument distributed in five longitudinal lines (vs. scarious bracts, small sepals and corolla tube externally glabrous or with indument irregularly distributed).

Asketanthera is probably the most poorly collected and and highly endangered genus of neotropical apocynoids, considering the paucity of specimens collected, its restricted geographical distribution (so far, known only from Cuba and Hispaniola) and the destruction of the natural habitat, especially in Hispaniola. Most of specimens were collected more than 80 years ago and two species are known by less than four collections.

A synopsis is presented, including descriptions, detailed illustrations, distribution maps and specimens examined. Material from fifteen herbaria has been studied, including all type collections. All specimens with coordinates were included in a database and those without coordinates were georeferenced (when possible). The conservation status was assessed by calculating the extent of occurrence (EOO) and the area of occupancy (AOO) with GeoCAT (Bachman & Moat, 2012) and applying the IUCN Red List Categories and Criteria (IUCN, 2012). The AOO was calculated based on a user defined grid cell of 2 km. The EOO for *A. dolichopetala* (Urb.) Woodson was not calculated because at least three distribution points or localities are necessary. Population size is poorly understood for many species of neotropical apocynoids, whereby the evaluation of this feature in *Asketanthera* is not possible at this time.

Taxonomic treatment

Asketanthera Woodson in Ann. Missouri Bot. Gard. 19: 46. 1932.

Typus: *Asketanthera calycosa* (A. Rich.) Woodson.

Lianas, young stems herbaceous, becoming more or less woody with age; branchlets cylindric to subcylindric, with milky sap, pubescent to glabrate; interpetiolar colleters very small. *Leaves* opposite, petiolate, petioles without colleters, blades glabrous, glabrescent or variously pubescent, membranaceous, without colleters or domatia, not revolute. *Inflorescence* axillary, a few- to many-flowered cyme, usually variously pubescent, pedunculate, bracts foliaceous, well developed. *Sepals* 5, foliaceous, prominantly nerved, all more or less the same size and shape or subequal, free, with a single entire to variously lacerated colleter at the base of the adaxial surface. *Corolla* hypocrateriform with the indument distributed on five longitudinal lines, without corona or free corona lobes, the limb actinomorphic, 5-lobed, dextrorsely contorted. *Stamens* 5, included, anthers connivent and agglutinated to the style-head, anthers glabrous, the base auriculate, the auricles rounded to acute, filaments short, pubescent. *Carpels* two, united at the apex, style-head with a basal expanded ring. *Ovules* many, several-seriate; nectaries 5, each nectary lobed or entire, glabrous. *Follicles* 2, apocarpous, free, often remaining united at the tips for some time, dehiscing along the ventral suture, terete or subterete, membranaceous, continuous, pubescent to glabrate; seeds numerous, dry, rostrate, glabrous to sparsely pubescent, comose at the microphylar end.

Distribution. – Four species restricted to Cuba and Hispaniola (Dominican Republic and Haiti).

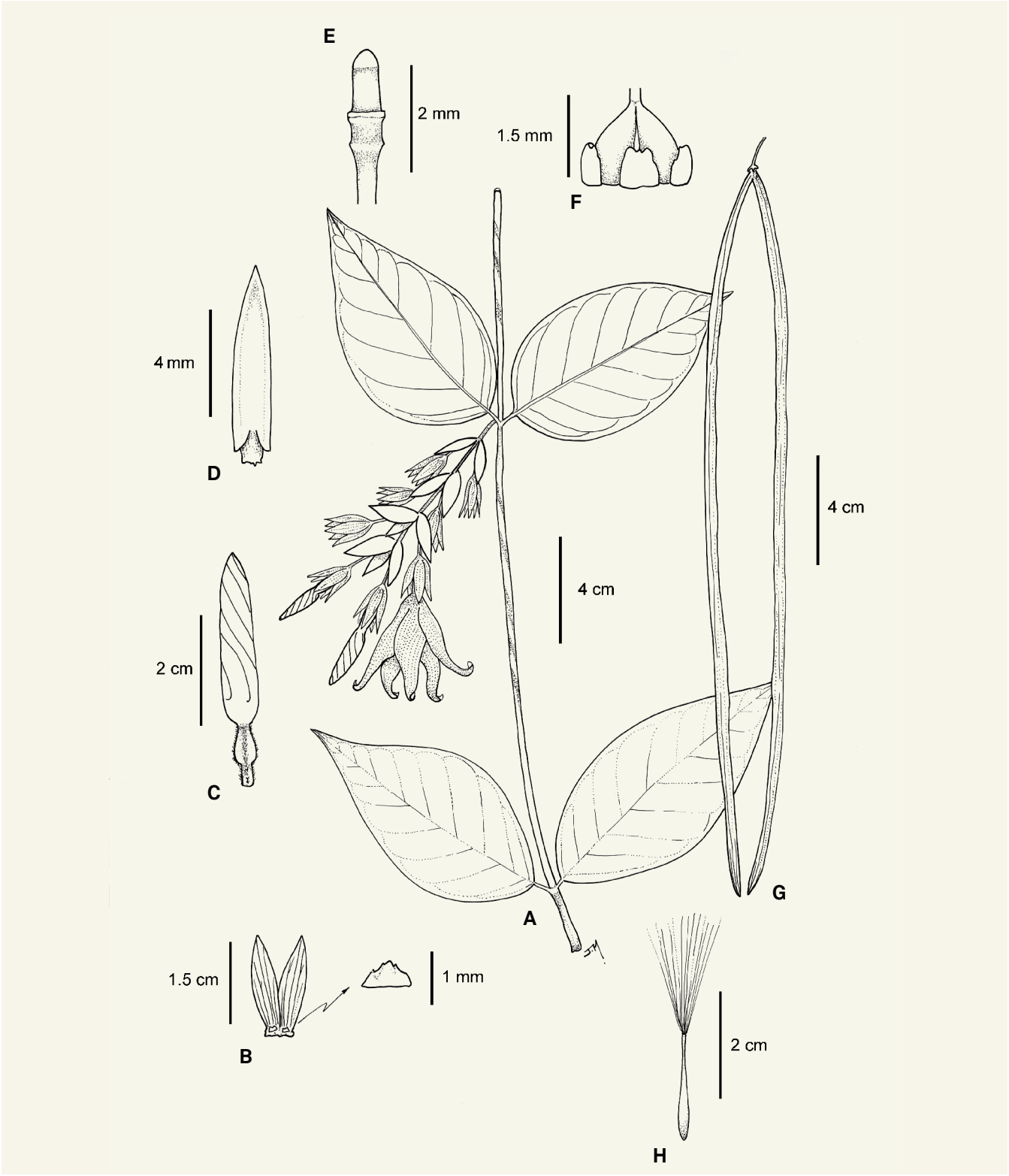

Fig. 1. – *Asketanthera calycosa* (A. Rich.) Woodson. **A.** Habit; **B.** Adaxial view of two sepals, showing the colleters at the base; **C.** Corolla bud; **D.** Anther, dorsal view; **E.** Style-head; **F.** Nectaries and ovary; **G.** Follicles; **H.** Seed. [**A-F:** *Figueiras 197*, US; **G-H:** *Eggers 4707*, US] [Drawings: J.F. Morales]

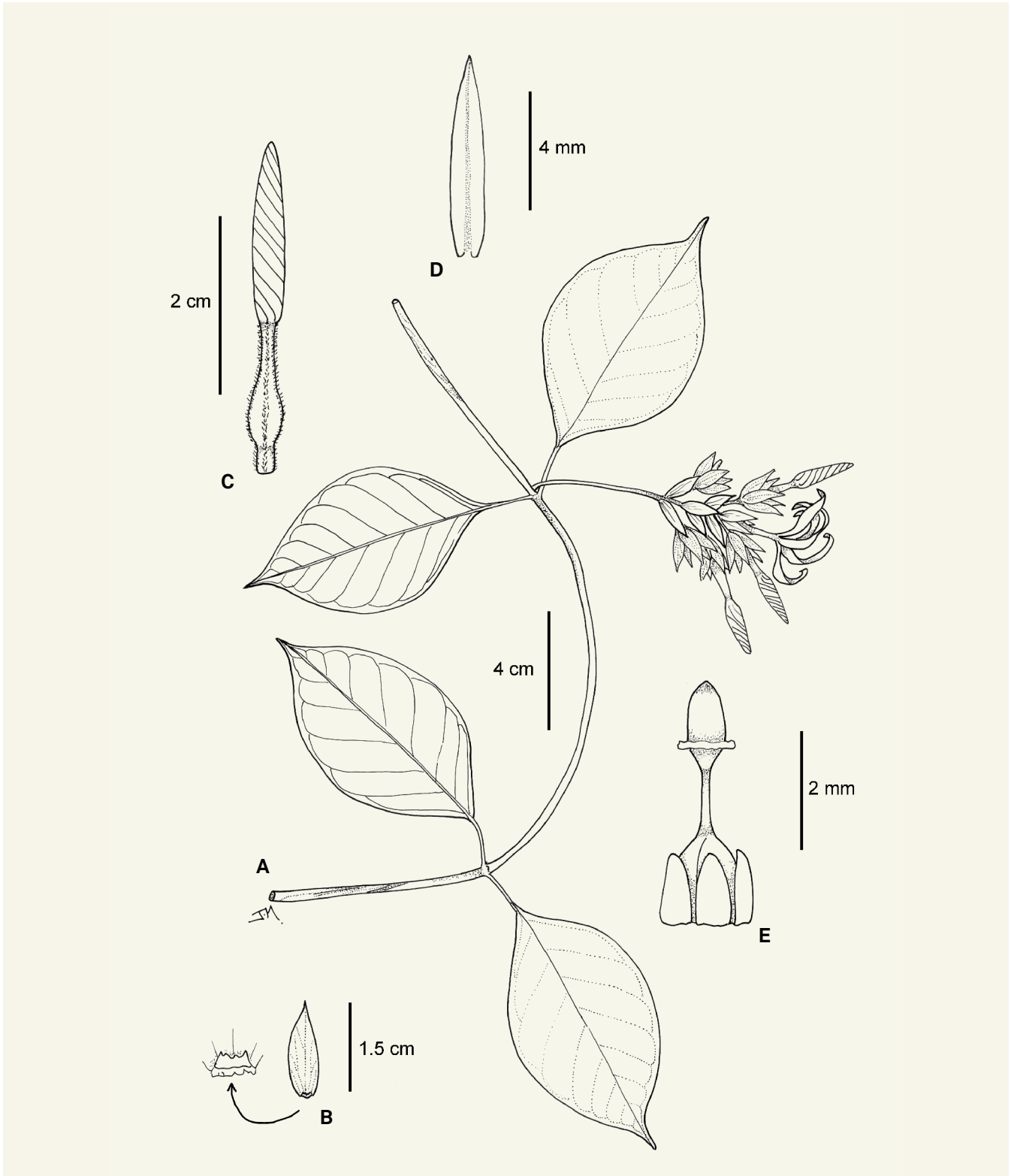

Fig. 2. – *Asketanthera dolichopetala* (Urb.) Woodson. **A.** Habit; **B.** Adaxial view of one sepal, showing the colleter at the base; **C.** Corolla bud; **D.** Anther, dorsal view; **E.** Style-head, nectaries, and ovary.
[*Fuertes 453*, S] [Drawings: J.F. Morales]

Key to the species of Asketanthera

1. Corolla tube 63-80 mm; inflorescences 2-4-flowered; anthers 11-14 mm long..... 3. ***A. longiflora***
1a. Corolla tube 11-21 mm; inflorescences 8-20-flowered; anthers 5.5-7 mm long..... 2
2. Petioles 12-20 mm; peduncles (30-)35-55 mm long..... .....2. ***A. dolichopetala***
2a. Petioles 4-10 mm; peduncles 4-20 mm long.....3
3. Corolla tube 11-15 mm with lobes 9-15 mm; leaf blade with the base acute or attenuate..... 4. ***A. picardae***
3a. Corolla tube 15-21 mm with lobes 28-41 mm; leaf blade with the base obtuse to rounded ..... 1. ***A. calycosa***

1. ***Asketanthera calycosa*** (A. Rich.) Woodson in Ann. Missouri Bot. Gard 19: 47. 1932 (Fig. 1, 3).

≡ *Echites calycosus* A. Rich., Hist. Fis. Cuba, Bot. 2: 94. 1850.

≡ *Rhodocalyx calycosus* (A. Rich.) Miers, Apocyn. S. Am.: 140. 1878.

Lectotypus (designated here): **Cuba. Prov. Oriente:** Santiago de Cuba, 1844, fl., *Linden 1783* (P [P00492317]!; isolecto-: BR [BR0000005782482, BR0000005782819]!, GENT!, P [P03887805]!).

= *Echites rugelianus* Urb., Symb. Antill. 5: 465. 1908. **Lectotypus** (designated here): **Cuba. Prov. Matanzas:** Adripas, San Juan river, s.d., fl., *Rugel 397* (NY [NY 111002]!; isolecto-: P!).

Branchlets moderately to sparsely hirsutulous; interpetiolar colleters up to 0.8 mm long. *Petioles* 5-10 mm long; leaf blades 7.7-15.1 × 4.8-9.2 cm, ovate, ovate-elliptic to elliptic, the apex acute-mucronate, the base obtuse to rounded, sparsely strigulose on both surfaces, secondary veins impressed on both surfaces. *Inflorescence* hirsutulous, 8-14-flowered, peduncle 7-20 mm long, pedicels 9-18 mm long, bracts (10-)13-21 × 1.3-7 mm, linear-ovate, narrowly ovate to ovate-elliptic; sepals (10-)14-21(-28) × 3.5-4.7 mm, narrowly ovate to ovate-elliptic, the apex narrowly acute-mucronate to shortly acuminate, sparsely to moderately hirsutulous externally, the colleter irregularly erose at the apex. *Corolla* white to creamish white, hirsutulous externally, the indument more dense on floral buds, tube 15-21 × 1.5-3.5 mm, inflated around the stamens, 9-10 mm diam. at the orifice; lobes 28-41 × 12.5-15 mm, obliquely elliptic to ovate-elliptic; stamens inserted in the distal part of the corolla tube, anthers 6.3-6.6 mm long, the auricles acute, style-head 1.7-2 mm long; ovary 1.4-1.5 mm long, glabrous; nectaries c. half the length of the ovary, each nectary irregularly lobed. *Follicles* 20-34 cm × 5-7 mm, free, densely hirsutulous, continuous; seeds 17-20 mm long, glabrous, coma 1.5-3.3 cm long, cream coloured.

Distribution, habitat and phenology. – Dominican Republic and Cuba, growing in gallery forest and vegetation associated with cliffs at 250-1100 m. Flowering specimens have been collected in January, February, July, August, September, and November, and fruiting in February, August, and September.

Conservation status. – *Asketanthera calycosa* is known from 16 locations and has an EOO of 109,377 km^2. Forest in many of these places have been reduced to small remnants or have been destroyed. Although the AOO is 44 km^2 and exceeds the value required for an endangered status, more than 50% of the localities analyzed are from outside of protected areas, where *A. calycosa* is at risk. *Asketanthera calycosa* is provisionally assessed as "Endangered" [EN B2ab(iii)] according to the IUCN Red List Categories and Criteria (IUCN, 2012).

Notes. – *Asketanthera calycosa* may be confused with *A. picardae* Urb. but can be distinguished by its longer corolla tube and longer corolla lobes and leaf blades obtuse to rounded at the base. The collection from Santo Domingo could represent a mislabeled specimen or with a wrong locality. The duplicate of *Linden 1783* deposited at P is designated here as the lectotype because it is better preserved than the other duplicates at BR and GENT herbaria.

Specimens examined. – **Cuba**. **Prov. Camaguey:** Cuba oriental, Monte Verde, 17.IX.1860, fl., *Wrigth 1377* (BR, GOET, K, MA, MO, NY, P). **Prov. Granma:** Bayamesa, Bayamo, II.1889, fr., *Eggers 4707* (CR, K, P, US). **Prov. Guantánamo:** San Antonio del Sur, Sierra del Purial, cabeceras del arroyo Los Cacaos, 7.IV.1984, *Arias et al. s.n.* (JE); Baracoa, Macaguanigua river, 19.I.1915, fl., *Ekman 4340* (S); Maisí, La Tinta, orillas del río Baracoa, entre Guajimero y Alto del Pino, 23.IV.1986, fl. & fr., *Genes et al. s.n.* (B, HFC). **Prov. Holguin:** valley of Cayoguán river, Moa, VII.1949, fl., *Alain & Clemente 900* (US); Sierra de Nipe, El Taller, Piloto river, 3.XI.1914, fl., *Ekman 3335* (S); Sierra de Nipe, El Taller, Piloto river, 18.II.1918, fl., *Ekman 9051* (MO, S); Sierra de Nipe, Barigua river, 30.IX.1922, fl., *Ekman 15311* (S); upper area of Libina river, Sierra del Cristal, 26.VIII.1959, fl., *Figueiras 197* (CR, MO, US). **Prov. Las Tunas:** Sevilla, Guama river, 3.IX.1906, fl. & fr., *Taylor 182* (JE, NY). **Prov. Mayabeque:** Sierra Maestro, El Perú, El Perú river, 15.VIII.1922, fl., *Ekman 16409* (MO, S); Pico Turquino, El Perú, 15.VIII.1922, fl., *Ekman 14846a* (NY). **Prov. Pinar del Río:** Sierra de los Órganos, grupo del Rosario, valley of Santa Cruz river, 31.III.1923, ster., *Ekman 16390* (S). **Prov. Santiago de Cuba:** Sierra Madre, Loma Esperón, 2.VII.1921, ster., *Ekman 13037* (MO, S); Santiago de Cuba, altiplanicie de Santa María del Loreto (Sierra de los Ciegos), 3.V.1989, fl., *Gutiérrez et al. s.n.* (B, HFC). **Prov. Villa Clara:** Santa Clara, Trinidad mountains, San Blas-Buenos Aires, VIII.1941, fl., fr., *Howard 6545* (JE, NY).

Dominican Republic. Distrito Nacional: Santo Domingo, s.d., fl., *Anon. s.n.* (P-LA n°78).

2. ***Asketanthera dolichopetala*** (Urb.) Woodson in Ann. Missouri Bot. Gard. 19: 47. 1932 (Fig. 2, 3).

   ≡ *Echites dolichopetalus* Urb., Symb. Antill. 7: 335. 1912.

   Lectotypus (designated here): **Dominican Republic. Prov. Barahona:** near Barahona, road to El Marisal, VII.1910, fl., *Fuertes 453* (S [S04-1835]!; isolecto-: BM!, K [K000582733]!, L [L0004431]!, MO [MO100108]!).

Branchlets moderately to densely puberulent; interpetiolar colleters up to 1.1 mm long. *Petioles* 12-20 mm long; leaf blades 5.8-10.3 × 3.8-6.2 cm, ovate-elliptic to elliptic, the apex acuminate, the base broadly acute to abruptly attenuate, very sparsely strigulose to hirsutulous on both surfaces, secondary veins slightly impressed abaxially, not visible adaxially. *Inflorescence* densely to moderately puberulent, 8-13-flowered, peduncle (30-)35-55 mm long, pedicels 5-9 mm long, bracts 7-15 × 1.5-5 mm, elliptic to linear-elliptic; sepals 12-18 × 4-6.5 mm, elliptic to ovate-elliptic, the apex narrowly acuminate, moderately to sparsely hirsutulos externally, the colleter irregularly erose at the apex. *Corolla* cream, densely hirsutulous externally, tube 15-21 × 1.7-3.7 mm, inflated around the stamens, 1.7-2 mm diam. at the orifice; lobes 24-28 × 5.5-7 mm, obliquely obovate-elliptic; stamens inserted in the proximal half of the corolla tube, anthers 6.4-7 mm long, the auricles rounded, style-head 1.5-1.9 mm long; ovary 1.5-2 mm long, glabrous; nectaries c. two-third the length of the ovary, each nectary entire. *Follicles* unknown.

Distribution, habitat and phenology. – Endemic to the Dominican Republic, where it grows in wet forest, from 90-600 m. Flowers have been reported in July and December.

Conservation status. – Only two populations from severely fragmented habitats are known for *A. dolichopetala*. Additional fieldwork might reveal that this species has a wider distribution, but based on the current collections and the reduced AOO (8 km^2), *A. dolichopetala* is provisionally assessed as "Critically Endangered" [CRB1ab(iii,iv) + B2ab(iii,iv)] following IUCN Red List Categories and Criteria (IUCN, 2012).

Notes. – *Asketanthera dolichopetala* is separated from *A. calycosa* and *A. p*icardae by its petioles 12-20 mm and inflorescences with long peduncles. Fruiting specimens show some resemblance to A. picardae, but the latter species has shorter peduncles (4-15 mm vs. (30-)35-55 mm). The holotype of *Echites dolichopetalus* was destroyed in May 1943 during World War II. The duplicate at S is designated here as the lectotype because is the most complete preserved specimen.

Specimens examined. – **Dominican Republic. Prov. Barahona:** Sierra del Bahoruco, La Ciénaga, section La Filipina, cañada La Baliza, 7.XII.2006, fl., *Clase 4333* (CR, MO).

3. ***Asketanthera longiflora*** Woodson in Ann. Missouri Bot. Gard. 19: 47. 1932 (Fig. 3, 4).

   ≡ *Echites longiflorus* Ekman & Helwig in Ark. Bot. 22A(10): 45. 1929 [non *E. longiflorus* Desf.].

   ≡ *Asketanthera ekmaniana* Woodson, Ann. Missouri Bot. Gard. 23: 267. 1936 [nom. illeg. superfl.].

   Lectotypus (designated here): **Dominican Republic. Prov. Barahona:** Santo Domingo, cordillera de Bahoruco, sierra de los Cornincuios, between Beueve and Gros Figuier, near Vrickets, 28.VIII.1926, fl., *Ekman 6762* (S [S04-1837]!; isolecto-: JE [fragment]!).

Branchlets sparsely puberulent to glabrate; interpetiolar colleters up to 1.4 mm long. *Petioles* 4-8 mm long; leaf blades 7.5-13.1 × 3-6.8 cm, ovate, ovate-elliptic to elliptic, the apex acuminate, the base obtuse, glabrous on the adaxial surface, sparsely puberulent to glabrate on the abaxial surface, secondary veins impressed on both surfaces. *Inflorescence* very sparsely puberulent, 2-4-flowered, peduncle 10-28 mm long, pedicels 10-22(-25) mm long, bracts 9-20 × 1.5-4 mm, linear-elliptic, linear-ovate, narrowly ovate to narrowly elliptic; sepals 16-24 × 5-7 mm, narrowly ovate to ovate-elliptic, the apex shortly acuminate, glabrate externally, the colleter irregularly erose at the apex. *Corolla* green, inconspicuously puberulent to glabrate, the indument more dense in floral buds, tube 63-80 × 3.5-7 mm, inflated around the stamens, 6-7 mm diam. at the orifice; lobes 60-90 × 22-25 mm, obliquely elliptic; stamens inserted in the proximal half of the corolla tube, anthers 11-14 mm long, the auricles obtuse, style-head 3-4 mm long; ovary 3-4 mm long, glabrous; nectaries c. half of the ovary length, irregularly lobed. *Follicles* 18.5-20 cm × 3.5-5 mm, free, sparsely puberulent to glabrate, continuous; seeds unknown.

Distribution, habitat and phenology. – Endemic to Hispaniola (Dominican Republic and Haiti), growing in wet forest over limestone hills from 1000-1300 m. Flowering in August and September. Fruits have been reported in November.

Conservation status. – This species is known from only four localities in Hispaniola with an EOO of 865 km^2 and an AOO of 16 km^2, from regions with highly disturbed and fragmented forest remnants. Three of the specimens were collected more than 90 years ago, but future fieldwork could probably reveal additional populations. *Asketanthera longiflora* is provisionally assessed as "Endangered" [ENB1ab(iv) + B2ab(iii,iv)] following IUCN Red List Categories and Criteria (IUCN, 2012).

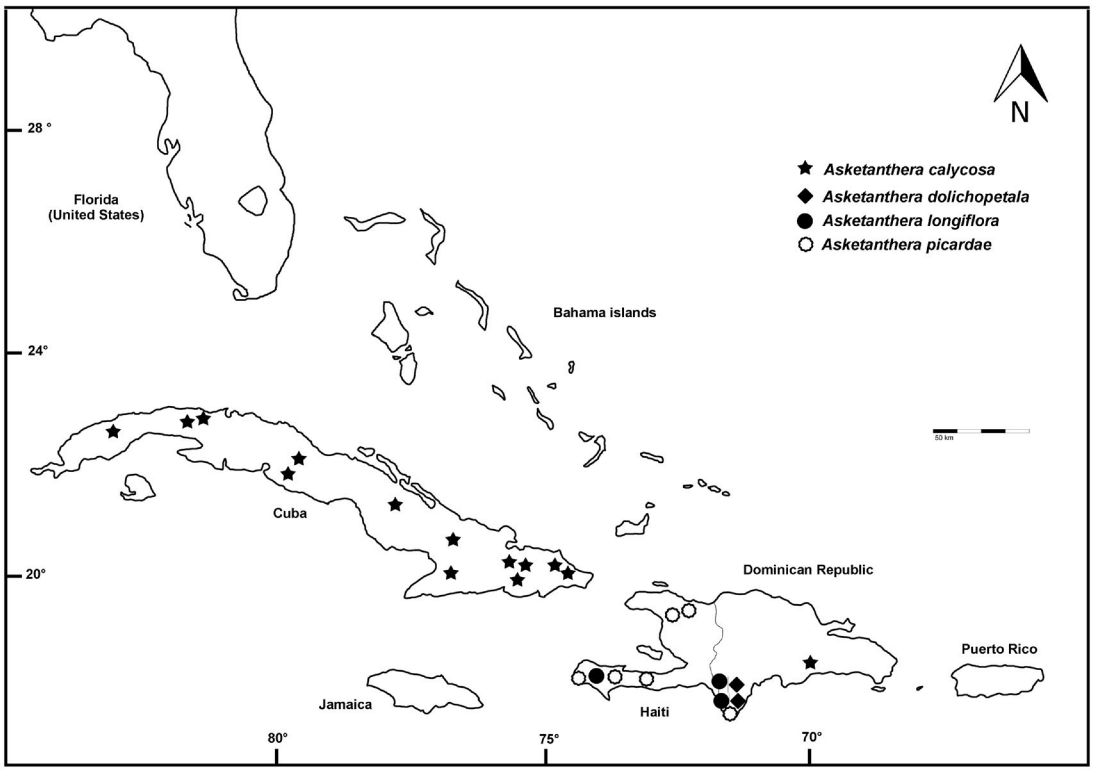

Fig. 3. – Distribution map of the four accepted species in *Asketanthera* Woodson.

Notes. – *Asketanthera longiflora* is easily recognized by its 2-4-flowered inflorescences and the corolla tube 63-80 mm length. Woodson (1936) described 2-8-flowered inflorescences, but in all the specimens examined (included those examined by Woodson) the inflorescence has up to 4 flowers. The duplicate of *Ekman 6762* at S is designated here as the lectotype. One duplicate is deposited at JE, but it is a fragment, whereas a second duplicate at B was destroyed in 1943.

Specimens examined. – **Haiti. Dept. Sud:** eastern La Hotte, Chapelle Mont Carmel, 8.XI.1924, fr., *Ekman 2426* (S); massif de la Hotte, eastern group, St. Grave, near Chap St. Mickel, steeps, limestone hillside, 4.VIII.1926, fl., *Ekman 6598* (S).

Dominican Republic. Prov. Pedernales: 50 km de la Compañía de Exploración Alcoa, Puerto Cabo Rojo, camino a las Mercedes and Las Abejas, área llamada Las Abejas, 15.IX.1981, fl., *Zanoni & Mejía 16561* (CR, MO, NY).

4. ***Asketanthera picardae*** (Urb.) Woodson in Ann. Missouri Bot. Gard. 19: 47. 1932 (Fig. 3, 5).

   ≡ *Echites picardae* Urb., Symb. Antill. 5: 466. 1908.

   Holotypus: **Haiti. Dept. Ouest:** mountain near Pétionville, 400 m, 17.VII.1891, fl., *Picarda 804* (B†).

   Neotypus (designated here): **Haiti. Dept. of Nippes:** Pte. Riviére des Nippes, mountain in Bellevue, 16.VII.1927, fl., *Ekman 8590* (S [S-PL-23930]!; isoneo-: US [US00783151]!).

Branchlets moderately to densely puberulent; interpetiolar colleters up to 1.2 mm long. *Petioles* 4-10 mm long; leaf blades 6.5-14.5 × 3.6-8.3 cm, elliptic to ovate-elliptic, the apex acuminate, the base acute to attenuate, sparsely strigulose on both surfaces, sometimes glabrate, secondary veins slightly impressed on both surfaces. *Inflorescence* densely to moderately puberulent, 8-20-flowered, peduncle 4-15 mm long, pedicels 6-13 mm long, bracts 12-25 × 5-7.5 mm, elliptic to ovate-elliptic; sepals 13-20 × 3.3-7 mm, narrowly elliptic, ovate-elliptic to ovate, the apex narrowly acuminate, sparsely puberulent to glabrate externally, the colleter irregularly erose at the apex. *Corolla* greenish yellow, sparsely hirsutulous externally, sometimes glabrate, tube 11-15 × 2.1-4.1 mm, inflated

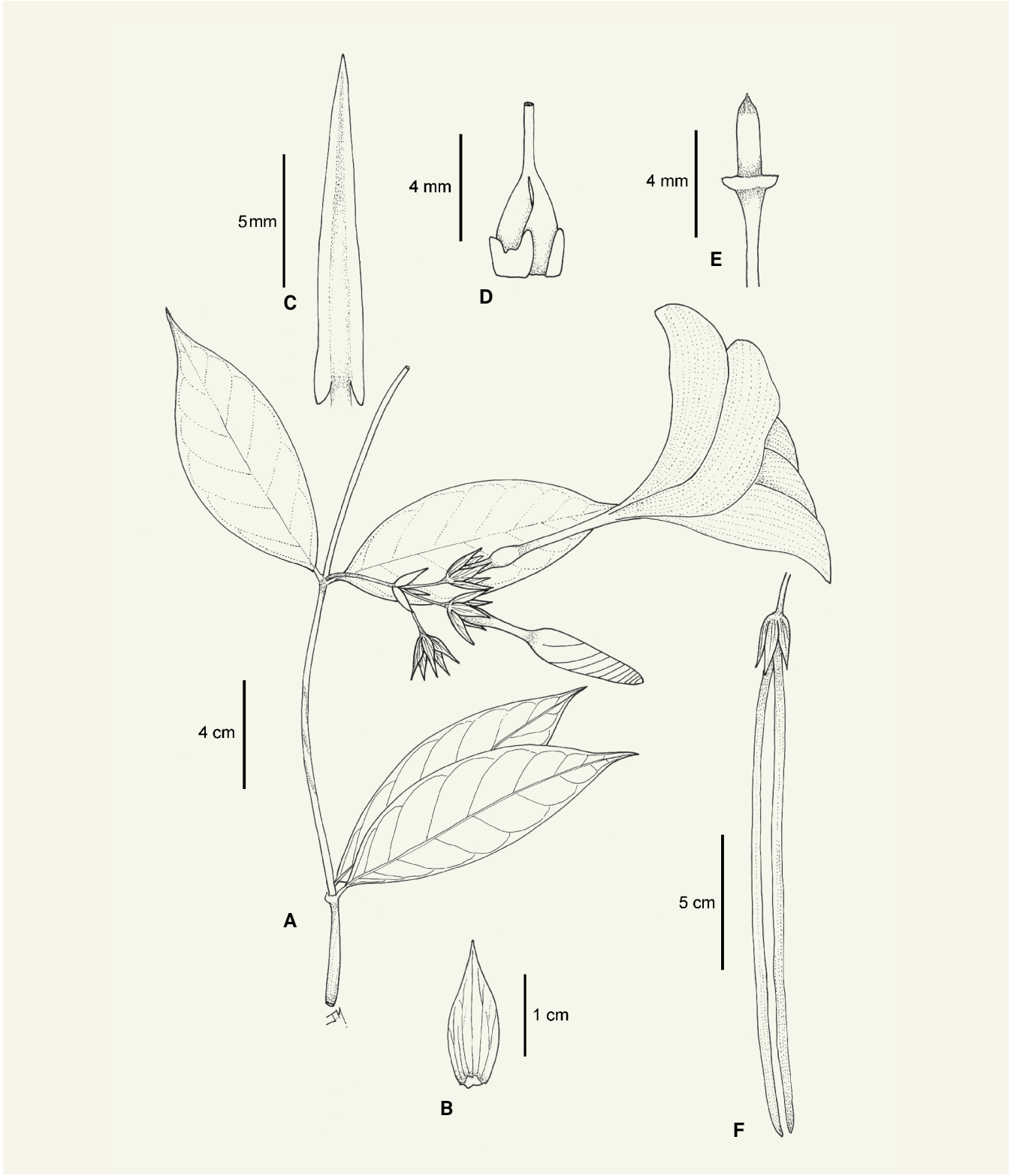

Fig. 4. – *Asketanthera longiflora* Woodson. **A.** Habit; **B.** Adaxial view of one sepal, showing the colleter at the base; **C.** Anther, dorsal view; **D.** Nectaries and ovary; **E.** Style-head. **F.** Follicles.
[**A-E:** *Zanoni & Mejía 16561*, MO; **F:** *Ekman 2426*, US] [Drawings: J.F. Morales]

around the stamens, 2.1-2.3 mm diam. at the orifice; lobes 9-15 × 4-5.5 mm, obliquely ovate-elliptic; stamens inserted about midway inthe tube, anthers 5.5-6 mm long, the auricles acute, style-head 1-1.2 mm long; ovary 1.9-2.1 mm long, glabrous; nectaries c. one-half to one-third of the ovary length, entire. *Follicles* 32-47 cm × 3-5.5 mm, free, minutely and sparsely puberulent, continuous; seeds 14-17 mm, sparsely puberulent, coma 2.5-5 cm, cream coloured.

Distribution, habitat and phenology. – Endemic to Haiti, growing in gallery forest and vegetation over limestone formations from 200-700 m. Flowering from June to November and fruiting in December and January.

Conservation status. – *Asketanthera picardae* is known from eight locations (all outside of protected areas) and has an AOO of 27,071 km^2. Given the severe loss of forest predominant in Haiti and the fragmented and continuing decline of its habitat, *A. picardae* is provisionally assessed as "Endangered" [EN B2a biii] following IUCN Red List Categories and Criteria (IUCN, 2012).

Notes. – *Asketanthera picardae* is distinguished by its petioles 4-10 mm, 8-20-flowered inflorescences, peduncles 4-15 mm, corolla tube 11-15 mm, and corolla lobes 9-15 mm long. The type of *Echites picardae* (*Picarda 804,* B) was destroyed in 1943 and no additional duplicates are known. *Ekman 8590* is designated here as a neotype, because it is well preserved and matches the original description. The collection is also represented in two herbaria in two different continents.

Specimens examined. – **Haiti. Dept. Artibonite:** montañas de Terre-Neuve, Hab. Descortiéres, 10.X.1925, fl., *Ekman 5053* (CR, S); Les Gonaives, between Bassin and Memé, 24.XII.1927, fr., *Ekman 9460* (S). **Dept. Nord:** Cerca de Bel Endroit, 9.VIII.1917, fl., *Ekman 659* (K, S). **Dept. Grand´Anse:** Massif de la Hotte, Acquin, La Colina, Morne des Abricots, 9.XI.1926, fl., *Ekman 7191* (NY, S). **Dept. Nippes:** Massif de la Hotte, Miragoane, S of Etang-Miragoane, 28.VII.1926, fl., *Ekman 6536* (S); around Miragoane, 19.VII.1927, fl., *Eyerdam 151* (US). **Dept. Sud:** Le Tiburón, 2.IX.1910, fl., *Christ 2279* (NY); Changieux, 29.VI.1980, fl., *Sastre & Polynice 7178* (CR, P).

Dominican Republic. Prov. Barahona: c. 2 km arriba de la boca del río Baoruco, Los Morrones, 18.I.1982, fr., *Zanoni et al. 18829* (CR, NY).

Sine loco: fl., *Richard s.n.* (P).

Species excluded

Asketanthera obtusifolia A.H. Liogier in Phytologia 25: 271. 1973.

Lectotypus (designated here): **Dominican Republic. Prov. Barahona:** mountain Hispaniola Bahoruco, hoyo de Pelempito, 3-8.VII.1971, fl., *Alain 18124* (NY [NY00111008]!; isolecto-: NY [NY00111007]!, US [US00112017]!).

= ***Pentalinon luteum*** (L.) B.F. Hansen & Wunderlin in *Taxon* 35: 167. 1986.

Notes. – This species was described by Liogier (1973) based on two specimens, one with immature flowers and the second with immature fruits. The calyx has colleters which are alternate with the sepals, a character common in *Pentalinon* Voigt, as well as anthers with filiform and spiraled apical appendages, which are absent in *Asketanthera*. Foliaceous or subfoliaceous bracts are also found in *Pentalinon luteum* (Morales, 2009). Liogier (1973) mentioned that the type was in NY, but without indicating a specific specimen. Two specimens are deposited at NY and I choose the specimen with flower and fruits as the lectotype.

Asketanthera steyermarkii Markgr. in Acta Biol. Venez. 5: 65. 1975.

≡ ***Macropharynx steyermarkii*** (Markgr.) J.F. Morales in *Rhodora* 99: 258. 1998.

Holotypus: Venezuela. State Falcón: Sierra de San Luis, montaña de Paraguariba, 23.V.1979, fl., *Steyermark 99348* (Z!; iso-: MO!, VEN [VEN79377]!).

Note. – This species was transferred to *Macropharynx* by Morales (1998), based on the presence of scarious to subfoliaceous bracts on the pedicels.

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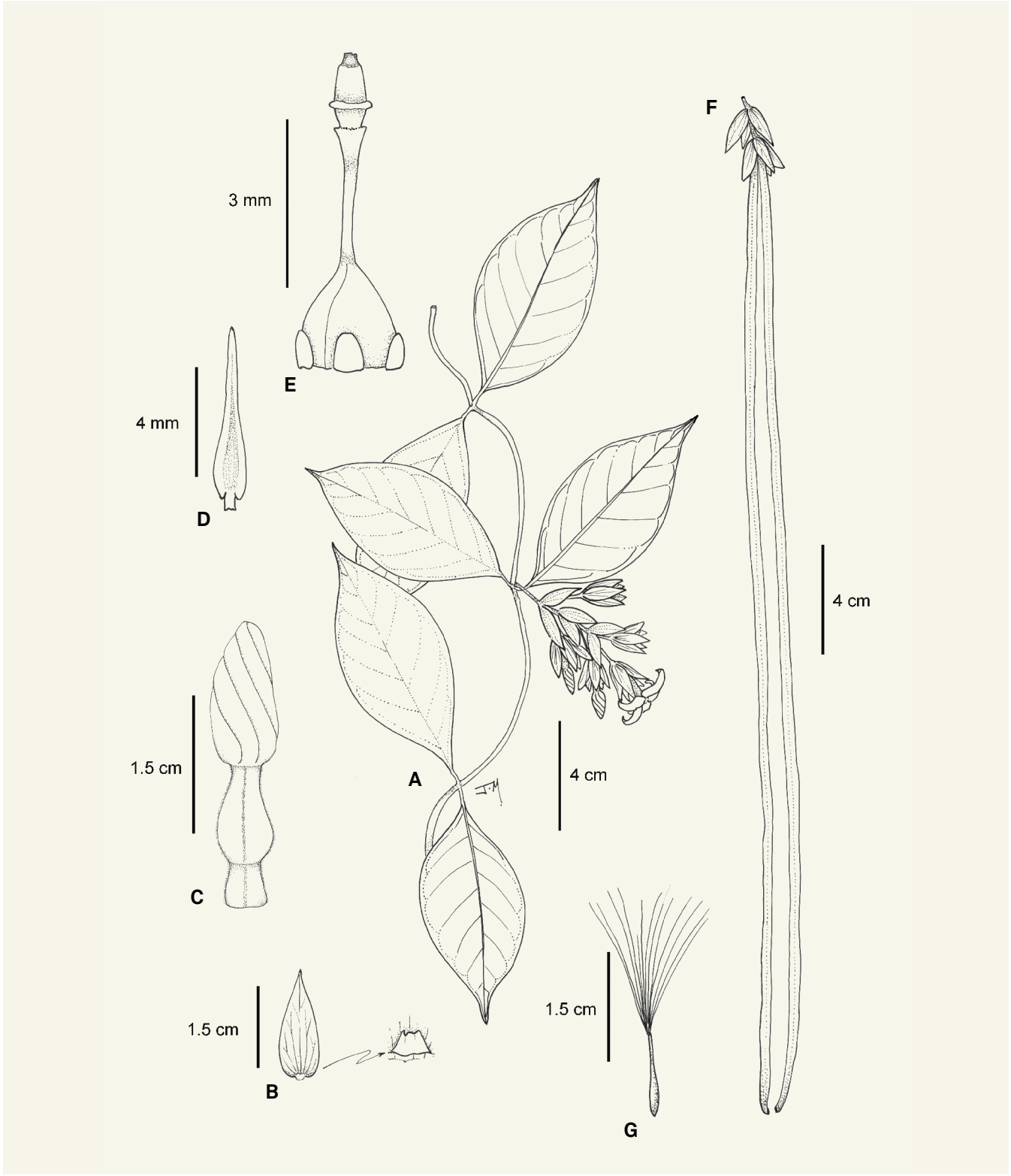

Fig. 5. – *Asketanthera picardae* (Urb.) Woodson. **A.** Habit; **B.** Adaxial view of one sepal, showing the colleter at the base; **C.** Corolla bud; **D.** Anther, dorsal view; **E.** Style-head, nectaries, and ovary; **F.** Follicles; **G.** Seed.
[**A:** *Eyerdam 151*, US; **B-E:** *Ekman 5053*, S; **F-G:** *Ekman 9460*, S] [Drawings: J.F. Morales]

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