

Excerpt from:

W. R. Anderson. 2006.

Eight Segregates from the Neotropical Genus *Mascagnia* (Malpighiaceae)

Novon 16: 168–204. [*Adelphia* on pages 170–173]

I. *Adelphia* W. R. Anderson, gen. nov. TYPE:
Adelphia hiraesa (Gaertner) W. R. Anderson.

Lianae lignosae; petiolus plerumque prope apicem biglandulosus glandulis protuberantibus; lamina eglandulosa vel margine in dimidio distali glandulis minimis instructa; stipulae interpetiolares; inflorescentia pseudoracemus vel panícula elongata floribus plerumque 2, 3, vel 4 in quoque nodo portatis; pedunculi floriferi bene evoluti; 1 bracteola cujusque paris eglandulosa, altera uniglandulifera glandulo excentrico; pedicellus in alabastro parum circinatus; sepala per anthesin plusminusve appressa; petala glabra, 4 lateralía lutea, posticum luteum vel luteum rubrumque, fimbriatum; carpella fere distincta in ovario; styli arcuati vel lyrati, stigmatē introrso, apice dorsaliter truncati, apiculati, vel breviuncinati; samara alis lateralibus apice basique usque ad nucem incisís (alis lateralibus rudimentariis in *A. mirabili*), nuce subglobosa.

Woody vines. Petiole usually biglandular above middle, the glands when present protuberant, usually large and knoblike; lamina eglandular or bearing very small marginal glands, often drawn out into vascularized cilia, on distal half, especially near apex; tertiary veins weakly or not scalariform; stipules very small, triangular, borne on stem beside base of petiole. Inflorescence an open, elongated, axillary or terminal panicle or pseudoraceme with the flowers borne singly or (most often) in 2s, 3s, or 4s; floriferous bracts eglandular; floriferous peduncle well developed; bracteoles borne at apex of peduncle, one of each pair bearing 1 bulging eccentric abaxial gland; pedicel slightly circinate in bud. Sepals ovate or broadly rounded, separating to expose petals during enlargement of bud, $\pm$ appressed in anthesis, the

lateral 4 or all 5 abaxially biglandular; corolla bilaterally symmetrical, the posterior petal long-fimbriate and strongly differentiated from the lateral 4; petals yellow or the posterior yellow and red, glabrous; androecium bilaterally symmetrical; stamens 10, all fertile, glabrous; filaments distinct or only slightly connate at very base, longer opposite sepals, shorter opposite petals; anthers $\pm$ alike, mostly larger on longer filaments; carpels nearly distinct in ovary; styles inserted low on ventral face of carpels, $\pm$ bowed or lyrate, the anterior mostly shorter and less strongly bent than the posterior 2; apex of styles with a large internal stigma and dorsally truncate, apiculate, or bearing a hook up to 0.5 mm long. Fruit dry, breaking apart into samaras separating from a short pyramidal torus; samara orbicular to butterfly-shaped with lateral wings dominant, borne on upper edge of nut, membranous or chartaceous with many fine strongly parallel veins, cleft to nut at base and apex, the margin undulate or erose (lateral wings rudimentary and the small dorsal wing dominant in *A. mirabilis*); dorsal wing smaller and distinct from lateral wings at both apex and base; intermediate winglets absent; ventral areole circular, partially surrounded by an irregular callose thickening.

The molecular studies published to date (Cameron et al., 2001: 1856; Davis et al., 2001: 1839, and 2002: 6835) consistently place this genus [represented by *Mascagnia hippocrateoides* (Triana & Planchon) Niedenzu] in a clade with *Excentradenia* W. R. Anderson, *Hiraea*, an undescribed genus [represented by *Mascagnia dipholiphylla* (Small) Bullock], and (in Davis et al., 2002) *Lophopterys* A. Jussieu in Delessert, but mostly without strong support or good resolution of the relationships among the five genera. The morphology suggests to me that this genus is probably sister to *Excentradenia*, hence the name *Adelphia*, from the Greek word for sister, *adelphē*. *Adelphia* and *Excentradenia* are alike in most characters, including the eccentric bracteole glands for which *Excentradenia* was named (Anderson, 1997). However, they have dramatically different inflorescences, that of *Excentradenia* being a short, compact raceme of 3–7(–9) umbels of four flowers each, with the floriferous peduncles very short to absent. The sepals in *Excentradenia* are elongated, and revolute in anthesis; the tertiary leaf veins are strongly scalariform; and except for a few populations of *E. adenophora* (Sandwith) W. R. Anderson the lateral wings of the samara are continuous at the base. The inflorescence in *Excentradenia* probably resulted from condensation of an ancestral inflorescence resembling that of *Adelphia*, so it is possible that *Excentradenia* will eventually be found to nest within the *Adelphia*

clade. If so, we can reconsider these genera then; for now it seems best to recognize these very different-looking groups as separate genera.

Adelphia comprises four species of the West Indies, Mesoamerica, and western South America.

KEY TO THE SPECIES OF *ADELPHIA*

- 1a. Petiole of larger leaves (20–)25–60 mm long; lamina of larger leaves (21–)23–30 $\times$ (11–)13–19 cm, eglandular; samara (55–)60–80 mm wide, $\pm$ orbicular, or the lateral wings rudimentary; posterior petal proximally glandular-fimbriate, distally eglandular-fimbriate; sepals abaxially densely and evenly appressed-tomentose.
 - 2a. Samara with the lateral wings rudimentary, 1–2 mm wide, the dorsal wing larger than the laterals; Amazonian Peru 3. *A. mirabilis*
 - 2b. Samara with the lateral wings well developed, 25–40 mm wide, 50–72 mm high, the dorsal wing much smaller than the laterals; Bolivia and Amazonian Peru 2. *A. macrophylla*
- 1b. Petiole of larger leaves 6–15 (rarely –27) mm long; lamina of larger leaves 9–19(–26) $\times$ 4–10 (–12.5) cm, eglandular or bearing very small marginal glands, often drawn out into vascularized cilia, on distal half, especially near apex; samara 15–55 mm wide, $\pm$ butterfly-shaped; posterior petal eglandular-fimbriate all around margin; sepals abaxially glabrous or proximally sericeous, ciliate on margin.
 - 3a. Lateral wings of samara 5–10 mm wide, 10–25 mm high, coriaceous; Pacific coast of Colombia 4. *A. platyrachis*
 - 3b. Lateral wings of samara 12–25 mm wide, 15–40 mm high, membranous; Jamaica, south-eastern Mexico, Central America, and north-western South America 1. *A. hiraea*

1. *Adelphia hiraea* (Gaertner) W. R. Anderson, comb. nov. Basionym: *Triopterys hiraea* Gaertner, Fruct. 2: 169, pl. 116. 1790. *Mascagnia hiraea* (Gaertner) Fawcett & Rendle, Fl. Jamaica 4: 240. 1920. TYPE: Jamaica. *W. Wright s.n.* (holotype, BM Banks Hb.). Figure 1.

Hiraea hippocrateoides Triana & Planchon, Ann. Sci. Nat. Bot., Sér. 4, 18: 328. 1862. *Mascagnia hippocrateoides* (Triana & Planchon) Niedenzu, Arbeiten Bot. Inst. Königl. Lyceum Hosianum Braunsberg 3: 24. 1908. TYPE: Colombia. Vicinity of Anapoima, *J. Triana s.n.* (holotype, COL 17026; isotype, BM [MICH, WRA neg. 81-2-10]).

Mascagnia jamaicensis Urban & Niedenzu, Arbeiten Bot. Inst. Königl. Lyceum Hosianum Braunsberg 3: 25. 1908. TYPE: Jamaica. *W. Harris 9862* (lectotype, designated here, NY; duplicates, BM, K).

Of the five syntypes, all from Jamaica, *Harris 9862* is the most complete and representative.

Mascagnia excelsa Standley & Steyermark, Publ. Field Mus. Nat. Hist., Bot. Ser., 23: 168. 1944. TYPE: Guatemala. Izabal: Río Dulce, *J. A. Steyermark 39456* (holotype, F).

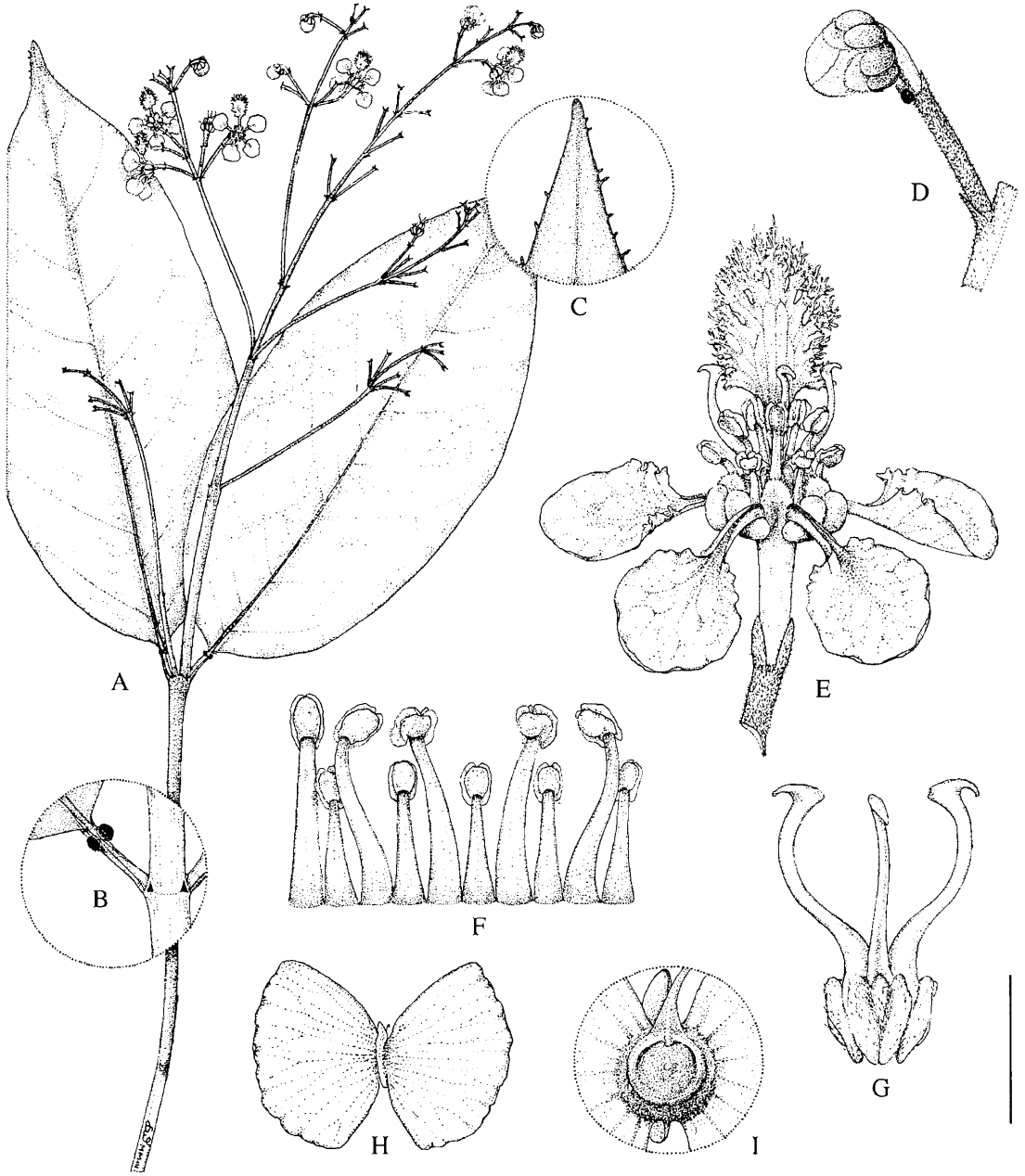


Figure 1. *Adelphia hiraea* (Gaertner) W. R. Anderson. —A. Flowering branch. —B. Node to show interpetiolar stipules and large glands on petiole. —C. Apex of lamina to show marginal processes. —D. Circinate flower bud with one large eccentric gland on one bracteole. —E. Flower, posterior petal uppermost (eccentric bracteole gland is behind pedicel, below posterior petal). —F. Androecium laid out, abaxial view, the stamen just above the letter F opposite posterior petal. —G. Gynoecium, the anterior style in center. —H. Samara, abaxial view. —I. Ventral areole of samara. Scale bar equivalents: A, 4 cm; B & C, 1.3 cm; D, 8 mm; E, 6 mm; F, 2.7 mm; G, 3.3 mm; H, 3 cm; I, 8 mm. A–G, *Foster 2313* (MICH); H & I, *Davidse et al. 20520* (MICH).

This species is known from Jamaica, southeastern Mexico (*Davidse et al. 20520*, MICH), Central America, and northwestern South America.

2. *Adelphia macrophylla* (Rusby) W. R. Anderson, comb. nov. Basionym: *Mascagnia macrophylla*

Rusby, Mem. New York Bot. Gard. 7: 272. 1927. TYPE: Bolivia. Beni: Rurrenabaque, *M. Cárdenas 2044* (lectotype, designated by Anderson (1980: 21), NY; duplicates, K, MICH).

This species is known from Bolivia and Amazonian Peru (*Díaz & Ruiz 851A*, MICH).

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3. **Adelphia mirabilis** (W. R. Anderson) W. R. Anderson, comb. nov. Basionym: *Mascagnia mirabilis* W. R. Anderson, Contr. Univ. Michigan Herb. 14: 19. 1980. TYPE: Peru. San Martín: Puente Colombia to Shapaja, T. C. Plowman 6019 (holotype, MICH).
4. **Adelphia platyrachis** (Triana & Planchon) W. R. Anderson, comb. nov. Basionym: *Hiraea platyrachis* Triana & Planchon, Ann. Sci. Nat. Bot., Sér. 4, 18: 328. 1862. *Mascagnia hippocrateoides* var. *platyrachis* (Triana & Planchon) Niedenzu, Arbeiten Bot. Inst. Königl. Lyceum Hosianum Braunsberg 3: 24. 1908. *Mascagnia platyrachis* (Triana & Planchon) Cuatrecasas, Webbia 13: 374. 1958. TYPE: Colombia. Chocó: Isthmus of San Pablo, J. Triana s.n. (holotype, COL not seen; isotypes, BM, G, K, P).