

Adesmieae (15.01)

Genus: *Adesmia* A.-P. de Candolle

Phylogenetic Number: 15.01.

Tribe: Adesmieae.

Species Studied—Species in Genus: 35 spp.—ca. 230 spp.

Fruit a loment; $1.2\text{--}3 \times 2.5\text{--}7 \times 0.05\text{--}0.2$ cm; with deciduous corolla; with deciduous calyx; straight or curved (or slightly curved); not plicate; not twisted; asymmetrical; when asymmetrical with 1 straight and 1 curved suture; narrowing in several places, resembling *Desmodium* fruit; not inflated; flattened or compressed; without beak; rounded at apex; apex aligned with longitudinal axis of fruit; rounded at base; base aligned with longitudinal axis of fruit; with the apex and base uniform in texture; membranous; seed chambers externally visible; with the raised seed chambers not torulose. Fruit margin constricted only on 1 margin; without sulcus; embellished; with prickles. Fruit wings absent. Fruit substipitate. Fruit with all layers dehiscing (occasionally: Burkart (1967, p. 491)) or indehiscent; splitting along sutures. Dehiscence of valves passive. Replum invisible. Loment segments (articles) inconspicuous; 4–12 mm long; widest across seed area; with all essentially similar in shape; triangular or D-shaped. Epicarp dull; monochrome; black, brown (to reddish brown), or tan; glabrous or pubescent but soon deciduous; with 1 type of pubescence; pilose, tomentose, or villous; with pubescence golden, gray-brown, red, gray, or tan; with simple or complex hairs; with plumose or bristle-like hairs (up to 1 cm long); stiff or pliable; with hair bases plain; straight; straight at apex; eglandular; without spines; not smooth; with elevated features; reticulately veined; not tuberculate; glandular dotted; not exfoliating; without cracks. Mesocarp absent. Endocarp dull; monochrome; tan; smooth; nonseptate; chartaceous; not exfoliating; remaining fused to epicarp. Seeds 1–12; length parallel with fruit length; neither overlapping nor touching; in 1 series. Funiculus less than 0.5 mm long; of 1 length only. Aril dry; rim-aril; brown.

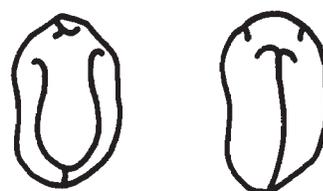
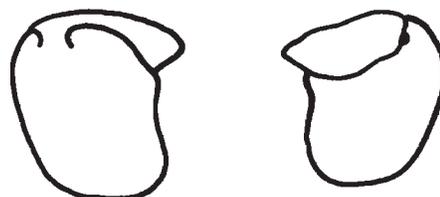
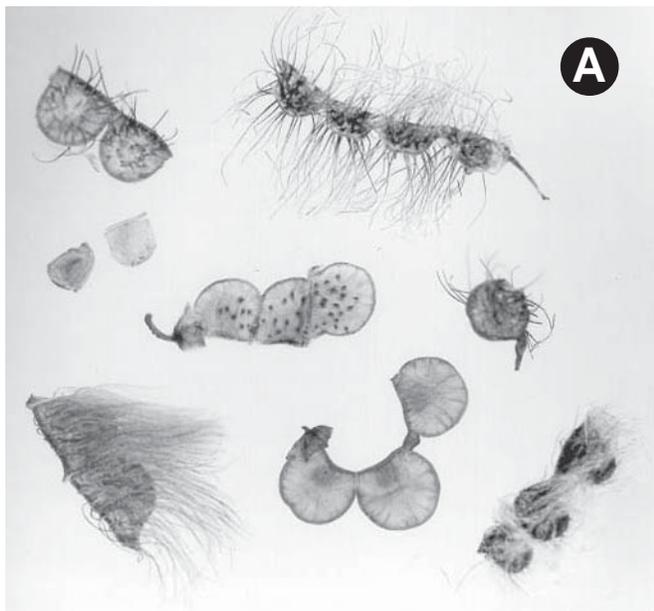
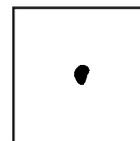
Seed $1.5\text{--}3.5 \times 1.5\text{--}3.5 \times 1\text{--}2.4$ mm; overgrown, 1 seed filling entire fruit cavity; not angular (though at first glance appearing to be angular) or angular; asymmetrical; mitaform (or nearly so); mounded on 1 side and straight on other side; with visible radicle and cotyledon lobes; without umbo on seed faces. Testa not adhering

to endocarp; glossy; not modified by a bloom; colored; monochrome, mottled, or streaked; with frequent mottles; with frequent streaks; black, brown (to reddish), or tan; with brown overlay; glabrous; smooth; osseous to coriaceous. Fracture lines absent. Rim absent. Raphe not visible. Hilum fully concealed or partially concealed; concealed by aril, aril remnant, radicle lobe, or wing; with faboid split; with the lips of the faboid split lighter colored than the rest of the hilum and therefore conspicuous; punctiform; between cotyledon and radicle lobe; recessed; within rim. Hilum rim color darker than testa. Lens discernible; equal to or greater than 0.5 mm in length; 1–2 mm long; with margins curved; circular (as large as hilum); not in groove of raphe; adjacent to hilum; mounded; dissimilar color from testa; darker than testa; black; not within corona, halo, or rim. Endosperm thin; 1/2 covering entire embryo; adnate to testa. Cotyledons smooth; outer face of 1 cotyledon flat and other cotyledon convex; 1 thicker than the other; both more or less of equal length; with both folded or not folded; not sufficiently folded for inner face to touch itself; margin entire 180 degrees from base of radicle; similar at apex; not concealing radicle (nearly); split over radicle; with lobes; with lobes not touching; with the interface division terminating at base of radicle; without margins recessed; white or yellow; inner face flat; glabrous around base of radicle. Embryonic axis deflexed; parallel to length of seed. Radicle linear; lobe tip straight; deflexed and parallel to cotyledon length; centered between cotyledons; 1/2 to nearly length of cotyledons, equaling length of cotyledons, or exceeding length of cotyledons. Plumule rudimentary; glabrous.

Distribution: Montane and temperate South America (Peru and southern Brazil to Tierra del Fuego).

Notes: Polhill (1981g) evaluated the phylogenetic position of Adesmieae. For additional seed and fruit drawings, see Burkart (1966, 1967), the latter a synopsis of the genus. In his synopsis, Burkart compared the seeds of *A. bicolor* (J.L.M. Poiret) A.-P. de Candolle to those of *Trifolium repens* C. Linnaeus (Trifolieae, 21.06). Ulibarri (1987) monographed the series *Microphyllae* and included 33 species. Miotto and Leitão filho (1993) treated the Brazilian species of *Adesmia*. Most of our fruit samples were composed of individual indehiscent articles, and our data for entire fruits were derived from the two papers of Burkart.

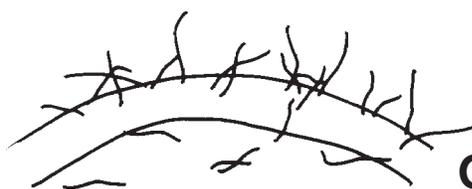
Adesmia: *A. aromatica* A. Burkart (*H*), *A. capitellata* A. Burkart (*G*), *A. incana* E. de Vogel (*C–E*), *A. lihuelensis* A. Burkart (*F*), *A. spp.* (*A–B*). *A*, Fruits ($\times 1.9$); *B*, seeds ($\times 4.3$); *C–D*, testa ($\times 50$, $\times 1000$); *E*, embryos ($\times 10$); *F*, bristlelike fruit hair ($\times 16$) redrawn from Burkart (1966); *G*, simple fruit hairs ($\times 30$) redrawn from Burkart (1966); *H*, plumose fruit hair ($\times 15$) redrawn from Burkart (1966).



E



F



G



H

