

## MARTYNIACEAE UNICORN-PLANT FAMILY

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Herbs, viscid-pubescent, annual or perennial, usually strongly scented. LEAVES simple, opposite or subopposite, exstipulate, long-petioled, entire to sinuate, dentate, or lobed, cordate at base. INFLORESCENCE a terminal raceme. FLOWERS showy, perfect, zygomorphic; calyx bibracteolate, composed of 5 irregular sepals that are fused and split abaxially to base; corolla sympetalous, 5-lobed and bilabiate, the tube cylindrical at base and equaling or surpassing the calyx, the throat campanulate or infundibular, the upper lobes exterior in bud; stamens 4, didynamous, or 2, the second pair staminodial; filaments attached to the corolla; anthers with two divergent cells; ovary superior and inserted on an annular glandular disk, unilocular, bicarpellate with 2 parietal placentae expanded into 2 broad T-shaped lamellae cohering above into false partitions; style 1; stigma with 2 flat and sensitive lobes; ovules few to many. FRUIT a drupaceous capsule, bivalved and dehiscent longitudinally, imperfectly 5-celled, frequently crested and always terminated by an incurved 2-horned beak; exocarp thick, fleshy, deciduous in 2 valves; endocarp woody and persistent (can be found at any time of the year), sculptured, crested along the adaxial (and sometimes abaxial) suture. SEEDS 4 to many, often somewhat irregularly compressed, the testa corky-tuberculate in ours. —5 genera, 13 spp. Native to the U. S., Mex., W. Ind., C. and S. Amer., naturalized in other parts of the world.

### **Proboscidea** Keller Unicorn-Plant, Devil's Claw

Erect to decumbent herbs arising from annual taproots or perennial tuberous roots. LEAVES orbicular-reniform to ovate-lanceolate, sometimes inequilateral at base with margins entire or palmately or pinnately lobed. INFLORESCENCES usually exceeding the leaves, few- to many-flowered, the axis lengthening in fruit. FLOWERS 2-7 cm in length; pedicels erect to spreading but lengthening, thickening and becoming deflexed in fruit; calyx up to 2.5 cm long, spathaceous and more or less unequally 5-lobed, split abaxially to the base, deciduous, with 2 frequently fleshy-thickened linear to orbicular bracts at the base; corolla sympetalous, somewhat bilabiate, tubular-cylindric to campanulate or infundibular, more or less gibbous and ventricose, the limb 5-lobed, the lobes rounded; stamens 4, didynamous, the rudiment of a 5<sup>th</sup> usually obvious, included in throat of corolla, the abaxial pair of fertile stamens longer; filaments arcuate; anthers gland-tipped with spreading cells; pistils about as long to longer than stamens; style slender, about three times as long as ovary; stigma lobes 2, sensitive, obovate-oblongate, included in or slightly exerted from the throat; ovary 1-celled, ovate to lanceolate and usually glabrous.

FRUIT: exocarp viscid-tomentose, deciduous; endocarp woody, reticulate-sculptured, with a suture on both dorsal and ventral median lines, crested along the dorsal suture and occasionally on the ventral suture, terminated by an upcurved beak about 1.25 to 3.5 times as long as the body that splits into two elongate, sharp-pointed rostrum. SEEDS black or white, 6-8 mm long, angled, with a thick corky tuberculate testa. — 6 species; U.S., Mexico, Guatemala, Peru; may be naturalized as a weed worldwide. (Name from Greek, *proboskis*, *pro-* forward or in front of +*boskein* to feed, in allusion to the long-beaked fruit and its resemblance to elephants and their relatives.)

1. Plant perennial, arising from a tuberous root; corolla light-yellow to bronze; fruit crested on dorsal side only or on both dorsal and ventral sides; lamina of leaf usually wider than long ..... *P. althaeifolia*  
 1' Plant annual, arising from a taproot; corolla reddish-purple, pink or rarely white; fruit crested on dorsal side only; lamina of leaf usually longer than wide ..... *P. parviflora*

**Proboscidea althaeifolia** (Bentham) Decaisne (healing-leaved, in reference to the use of the sticky leaves for removing lice). Desert Unicorn-Plant. —Decumbent and spreading perennial to 2 dm high. ROOTS large and fusiform. LEAVES simple; petioles 3-18 cm long; blades nearly reniform or suborbicular to broadly ovate, 2-7 cm long, 2-8 cm wide, the margins entire to deeply lobed. INFLORESCENCES short racemes with an initial axis length of 5-12 cm but lengthening in fruit to 1-2 dm. FLOWERS 3-16 and fragrant; pedicels 2-8 cm long, slender, ascending in anthesis and with a linear basal bract; calyx bracts orbicular or broadly ovate to oblong-falcate, 5-10 mm long, 2-5 mm wide; calyx 1-1.5 cm long, the lobes cut one third to one half its length, viscid-pubescent without, glabrous within, the margins glandular-ciliate; corolla yellowish-brown externally, yellow to bronze-orange internally, the tube with pale blotches and maroon, reddish-brown or rust-colored spots in two rows internally and leading out to the throat and lobes, 2-3 cm long, slightly to strongly ventricose, infundibular to campanulate, the lobes spreading; filaments viscid-pubescent at their base; pistil as long as or longer than the stamens. FRUIT body very slender, 5-6 cm long and ca. 12 mm thick, crested dorsally and sometimes ventrally, the horns about twice as long as the body, the distal tooth on the dorsal suture often forming a slender horn. [*Martynia althaeifolia* Bentham, *M. arenaria* Engelm., *M. palmeri* S. Watson, *Proboscidea arenaria* (Engelm.) Decaisne, *P. confusa* Van Eseltine, *P. peruviana* Van Eseltine]. —In sandy soil and on dunes and gravelly hills: Cochise, Gila, Graham, Maricopa, Mohave, Pima, Pinal, Santa Cruz, Yavapai, Yuma cos.; below 1200 m (4000 feet); May-Sept; CA, NM, TX; n Mex., Peru.

**Proboscidea parviflora** (Wooten) Wooten & Standley (small flowers). —Erect or spreading annual to 2.5 m across and 1 m high. LEAVES simple; petioles to 25 cm long or more; blades broadly triangular-ovate to suborbicular-ovate, cordate or inequilateral, rounded to obtuse at apex, to 25 cm long and nearly as broad, the margins entire to shallowly 3- to 7-lobed, the sinuses obtuse, denticulate. INFLORESCENCES slender racemes to 2.5 dm long at maturity. FLOWERS 5-15 per inflorescence; pedicels 1.5-3 cm long in anthesis, lengthening in fruit to about 45 mm; pedicel bract obovate to oblanceolate, 3-5 mm long; calyx bracts ovate to elliptic

3-5 mm wide; calyx 1-1.5 cm long, the lobes unequally cut one fourth to one half its length; corolla tubular-campanulate, only slightly ventricose, 2.5-4 cm long, viscid-glandular without and slightly so within; corolla tube reddish-purple, pink, or white, with a bright yellow band extending along the lower portion of tube and out onto lower lobe; corolla lobes the same color as the tube but the upper lobes frequently with a single large purple or reddish-purple blotch, the upper and lateral lobes wide-flaring or reflexed; filaments glandular at or below point of attachment, glabrous above; anthers 2.8-5.0 mm long; pistil as long as or longer than the stamens. FRUIT body ellipsoid, 5-10 cm long, 1.5-3 cm thick and strongly keeled ventrally, the horns about 1 to 3.5 times as long as the body. —3 subsp., 1 in AZ; CA, NV, NM, TX; n Mex.

Subsp. **parviflora**. —INFLORESCENCES slender racemes to 1.5 dm long often covered over by the leaves. FLOWERS 10 or fewer; pedicels 1.5-3 cm long in anthesis, lengthening in fruit to about 4.5 cm; abaxial corolla lobe narrower than 16 mm; anthers shorter than 4.2 mm. —2 varieties, both in AZ; CA, NV, NM, TX; n Mex.

1. Rostrum on fruit longer than 18 cm; seeds white ..... var. *hohokamiana*  
 1' Rostrum on fruit shorter than 18 cm; seeds black ..... var. *parviflora*

Var. **hohokamiana** Bretting. —FLOWERS with anthers longer than 2.8 mm; style longer than 15 mm. FRUIT body longer than 9 cm, fruit crests longer than 5 cm and higher than 5 mm; rostrum longer than 18 cm. SEEDS white.

—Cultivated as a field crop for basketry fiber: Coconino, Gila, Maricopa, Pima, Pinal cos., below 1200 m (4000 ft); May–Sep; CA, NV, UT.

Var. **parviflora**. —FLOWERS with anthers shorter than 2.8 mm; style shorter than 10 mm. FRUIT body shorter than 9 cm, fruit crests shorter than 5 cm and lower than 5 mm; rostrum shorter than 18 cm. SEEDS black. [*Martynia parviflora* Wooton, *Proboscidea crassibracteata* Correll]. —In disturbed areas: All cos. except La Paz and Navajo; below 1200 m (4000 ft); May-Sep; CA, NM, TX; n Mex.

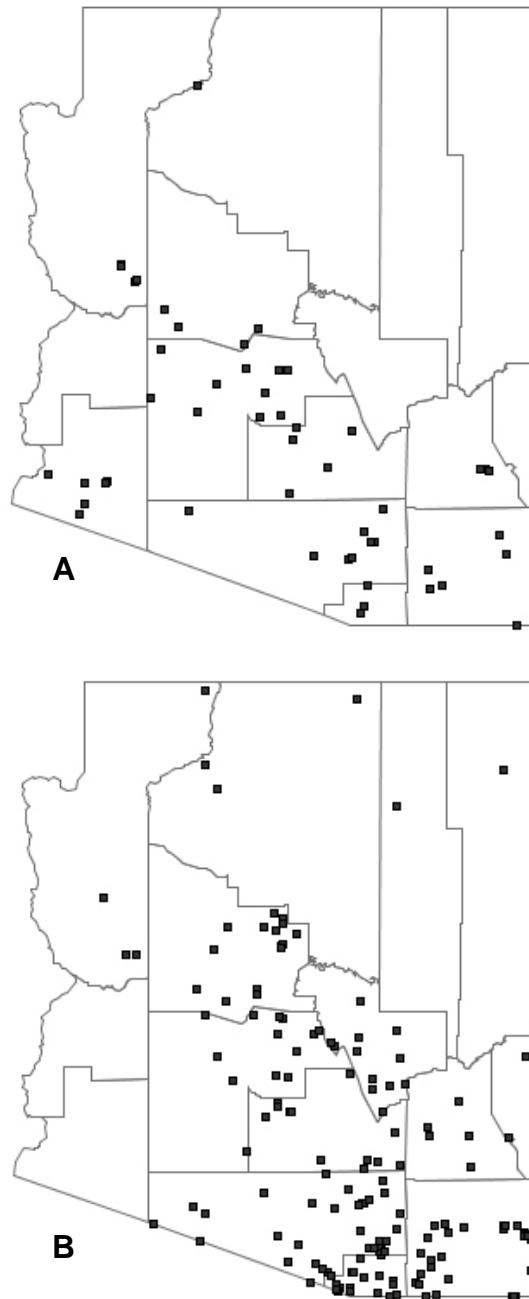
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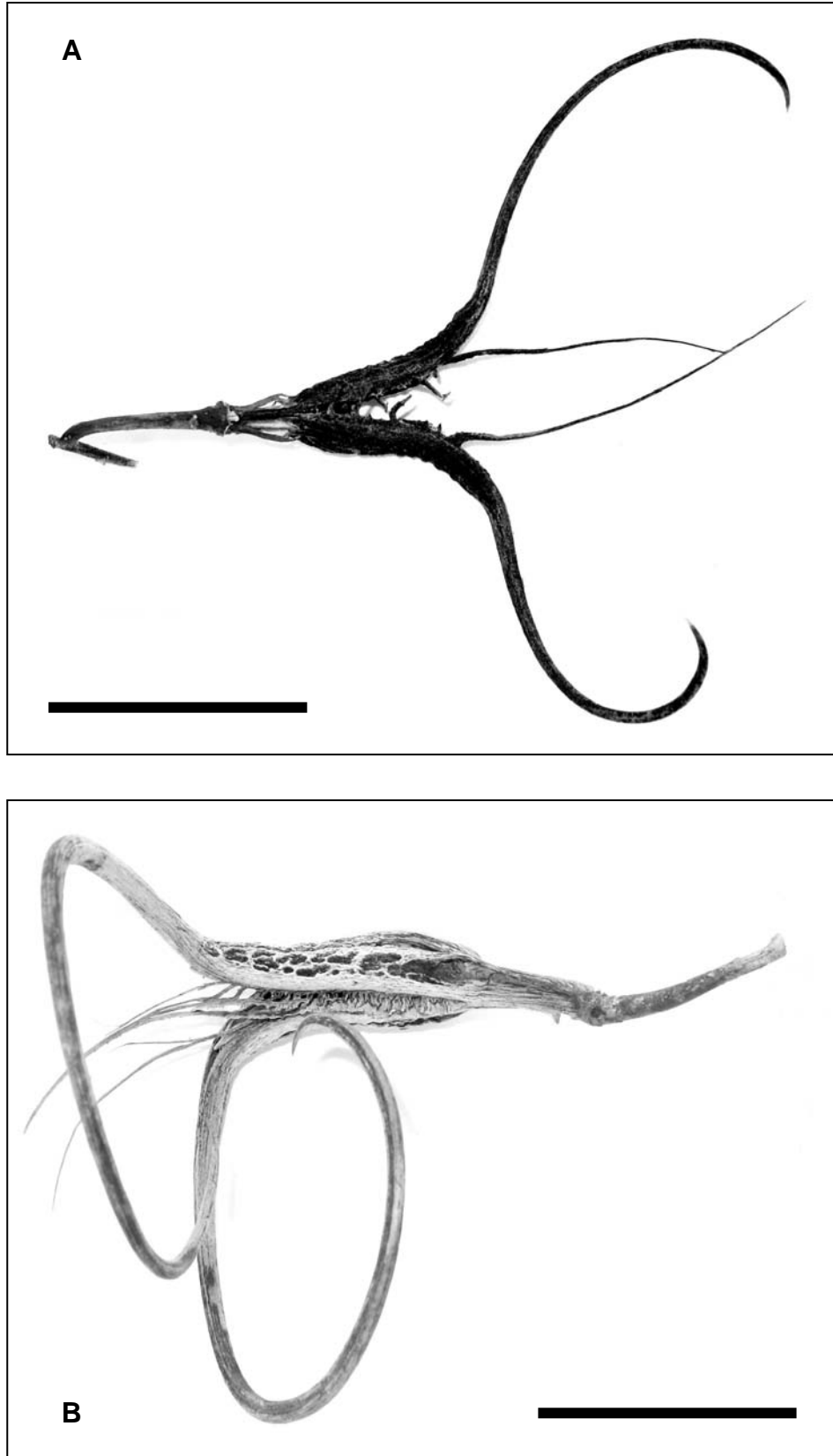
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**Martyniaceae** Figure 1. Distributions of: (A) *Proboscidea althaeifolia*; (B) *P. parviflora*.



**Martyniaceae** Figure 2. *Proboscidea*: (A) *P. althaeifolia*, flower; (B) *P. parviflora*, flower (images courtesy of Elizabeth Makings).



**Martyniaceae** Figure 3. *Proboscidea* fruits: (A) *P. althaeifolia* (Pinkava et al. 6333); (B) *P. parviflora* subsp. *parviflora* var. *parviflora* (E. Joyal 1965; all scale bars = 5 cm).