

AUSTRALIAN BIOLOGICAL RESOURCES STUDY



FLOODPLAIN FLORA

A flora of the coastal floodplains
of the Northern Territory, Australia

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Extract: Solanaceae

SOLANACEAE

Herbs, shrubs, small trees or woody vines, glabrous or pubescent. *Leaves* alternate, simple to pinnate; stipules absent. *Flowers* bisexual or rarely unisexual, terminal or lateral, single or in cymes, panicles or subumbellate. *Calyx* tubular to campanulate, with (3) 5 (9) lobes, persistent. *Corolla* campanulate, funnel-shaped, tubular or urn- or salver-shaped, with (3) 5 (9) lobes. *Stamens* usually 4 or 5, rarely 1–3 or 8, equal or unequal in length, attached to corolla tube and alternating with corolla lobes; anthers mostly tetrasporangiate and dithecal but sometimes monothechal, sometimes the anthers cohering, opening by longitudinal slits or with terminal pores. *Gynoecium* mostly of 2 carpels united to form a superior, compound ovary, which is mostly bilocular but occasionally 4-locular or irregularly 3- or 5-locular or rarely unilocular; ovules usually numerous; placentation axile; style 1, simple, terminal; stigma mostly 2-lobed. *Fruit* usually a bilocular capsule or berry, seldom a drupe. *Seeds* usually numerous, with a curved, spiral or straight embryo; endosperm usually present.

A family of about 2,800 species and approximately 90 genera. It is widely distributed in temperate and tropical regions but best developed in tropical South America. In Australia represented by 23 genera and about 200 (including *c.* 70 naturalised) species. The family includes food plants such as capsicum (*Capsicum* spp.), eggplant (*Solanum melongena*), tomato (*Lycopersicon esculentum*) and potato (*Solanum tuberosum*). One genus on the NT floodplains.

PHYSALIS L.

Annual *herbs*, perennials or shrubs, glabrous or with simple, forked, stellate or glandular hairs. *Leaves* petiolate, alternate (appearing opposite when 2 at the same node but the leaves of unequal size); lamina simple and entire, toothed or lobed. *Flowers* solitary in leaf axils or stem forks, actinomorphic, bisexual. *Calyx* tubular to campanulate, 5-lobed, enlarged in fruit. *Corolla* broadly campanulate to rotate, mostly yellow, often with dark spots towards the base; tube short; limb expanded and shallowly 5-lobed. *Stamens* 5, equal or unequal in height and inserted towards base of corolla tube; anthers yellow or bluish, bilocular and dehiscent by longitudinal slits. *Ovary* bilocular. *Stigma* capitate. *Fruit* a berry enclosed by the inflated calyx. *Seeds* numerous, lenticular.

A widespread genus of about 100 species, mostly occurring in America. In Australia ten species are naturalised or cultivated.

Taxonomic references: Symon (1981, 1997).

P. minima L.

Annual *herbs*; young tips, calyces and leaf veins with minute, simple, antrorse hairs, but otherwise plants more or less glabrous. *Leaves* petiolate; petiole 0.5–6 cm long; lamina ovate or elliptic, 1.5–10 (17) cm long, 0.6–5 (8) cm wide, entire or shallowly toothed or lobed; apex acute to acuminate. *Flowers* solitary, with pedicels 2–2.5 cm long at anthesis. *Calyx* 3–5 mm long at anthesis, 5-lobed. *Corolla* 5–8 mm long, 5-angled, pale cream or yellow except for brown spotting towards the base. *Stamens* with filaments 4–5 mm long; anthers 2–2.5 mm long and pale blue or greyish blue. *Style* 4–5 mm long. *Berry* globular, 8–14 mm diam., yellow when ripe, enclosed in the inflated calyx; calyx 25–30 mm long, with 5 major and 5 minor veins. *Seeds* numerous, flattened, 1.5–2 mm long, pale yellow. *Flowering & fruiting*: all months in favourable conditions but mainly Jan.–June. Fig. 23 (*Craven 3493*).

A widespread species in tropical regions of Asia, Africa and America and common in Australia (WA, NT, Qld, NSW). Collections in NT include floodplains of Daly, Howard, Mary and South Alligator rivers, but also a plant of other moist habitats, particularly disturbed ground. Other collections include coastal dunes on Cobourg Peninsula, riverine

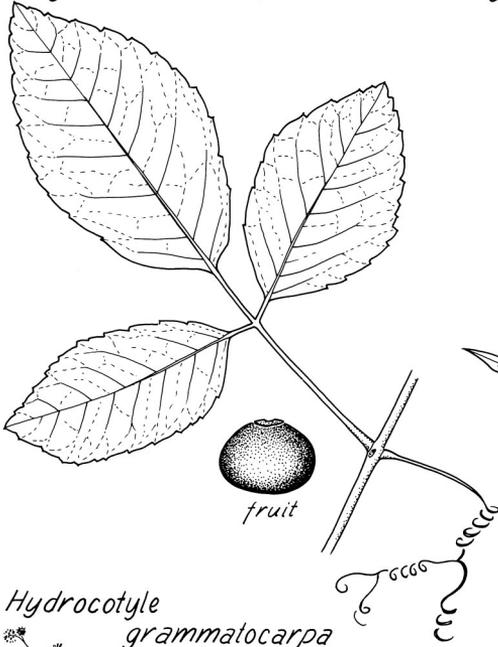
woodland in Kilgour Gorge (Mallapunyah Spring Station) and open woodland at Douglas Hot Springs.

Whether or not this species is native or an early introduction is unclear. Symon (1981, 1997) has treated *P. minima* as a native, but has also stated that it is a discordant element in the Australian flora that may have been introduced following very early European contact between Central America and SE Asia and subsequent introduction to Australia from Asia. It has also been suggested that the name *P. angulata* L. should be used for Australian specimens. However, the weedy annual species of *Physalis* have not been revised throughout their range and until such studies are made the name *P. minima* is probably best retained (Symon, 1997).

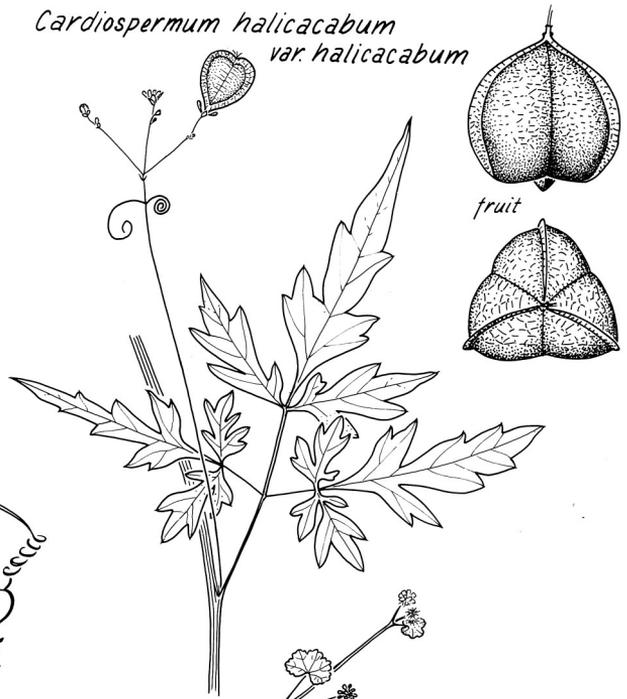
Symon (1997) has also recorded the presence of a further weedy annual species, *P. micrantha* Link, in NT, citing five collections from the Gulf of Carpentaria coastline. Plants grow on beach dunes or at the rear of mangroves. It is closely related to, and difficult to distinguish from, *P. minima*. There are no substantiated records of *P. micrantha* from the strictly seasonal floodplains covered in this flora but it may prove to be present. It differs from *P. minima* in having a bushy or subprostrate habit, subtire rather than coarsely toothed or lobed leaves, pale yellow anthers, and corolla to 5 mm long.

Consumption of the fruit of *P. minima* by Aboriginal people has been recorded (Marrfurra *et al.*, 1995; Wightman *et al.*, 1992 b, 1994; Yunupingu *et al.*, 1995).

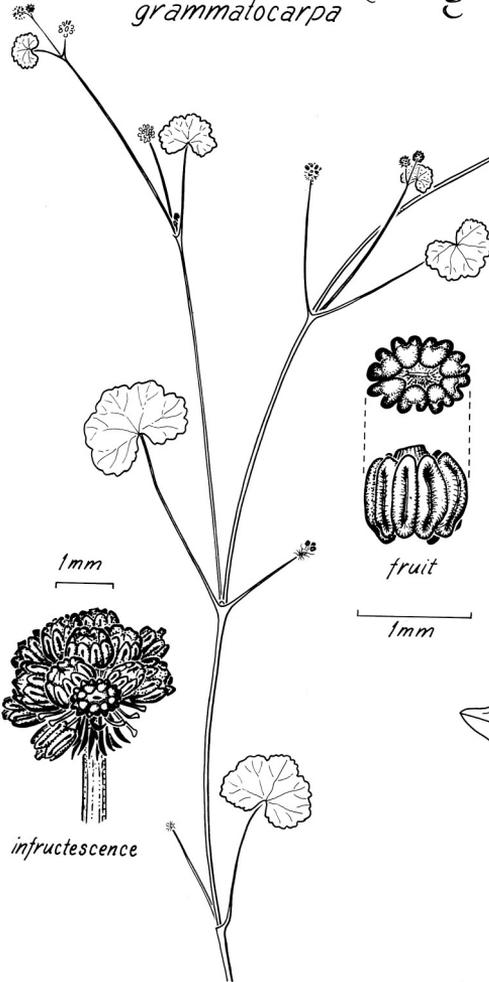
Cayratia maritima



Cardiospermum halicacabum
var. *halicacabum*



Hydrocotyle
grammatocarpa



all illustrations
unless otherwise indicated } 1cm

Physalis minima



FIGURE 23