
MANGROVES OF THE NORTHERN TERRITORY, AUSTRALIA:

IDENTIFICATION and TRADITIONAL USE

Glenn Wightman

Ethnobiology Project, Parks and Wildlife Service
Department of Natural Resources, Environment and the Arts
PO Box 496, Palmerston NT 0831, Australia



Northern Territory Government



Principal Illustrator

Milton Andrews

NORTHERN TERRITORY BOTANICAL BULLETIN No. 31

EXTRACT: *Derris* (pp. 85–88)

Prepared for online viewing and download by the Department of Land Resource Management, 2015

DEPARTMENT OF NATURAL RESOURCES, ENVIRONMENT & THE ARTS
and GREENING AUSTRALIA NT

DARWIN 2006

Derris**FABACEAE**

DERIVATION: The Greek 'derris' means fur, hair covering or a leather covering and refers to the leathery fruit characteristic of the genus.

A genus of about 40 tropical or subtropical species, three occur in Australia, one in NT tidal areas.

Derris trifoliata Lour.**Derris**

DERIVATION: The Latin 'tri' means three, and 'foliatus' means leaflets in reference to the compound leaf of this species, which sometimes has three leaflets.

DESCRIPTION: Evergreen climber, often rambling, stems woody to 5 cm diameter; bark smooth, dark brown, lenticels orange, corky. Leaves alternate, imparipinnate, 9–25 cm long, stipules minute; petiole 3–8 cm; leaflets 3–7; petiolule swollen, 5 mm long; lamina ovate or elliptic, 6–13 x 2–6 cm, apex acuminate, base rounded, upper surface glossy, green, lower surface dull, grey-green. Inflorescence racemose, axillary, on prostrate stems, 7–20 cm long. Flowers bisexual, zygomorphic; pedicel 2 mm long; bracts 2, deltoid, 0.5 mm long, margin ciliate. Calyx cupular, 1.5 mm long, lobes 5, short, broad, margins ciliate. Corolla white to pale pink, lobes 5, imbricate, upper lobe orbicular to obovate, 10 x 9 mm, side lobes elliptic, 10 x 3 mm; lower 2 lobes adnate, straight, 10 x 6 mm, apex deeply emarginate. Stamens 10, upper 1 free, lower 9 connate; filaments 9 mm long; anthers 2 celled, ovate, 1 mm long, dorsifixed. Style filiform, 11 mm long; stigma small, capitate. Pod oblong or suborbicular, flat, inflated, 2–4.5 x 2.7–3.7 cm; apex and base obtuse, style base persistent, coriaceous, venation distinct. Seeds 1–2, rugose, suborbicular, 12 x 11 mm, bronze-green when dry.

HABITAT: *Derris trifoliata* grows in mud and sand substrates toward the landward margin of mangal habitats, it prefers areas with a high freshwater input, infrequently inundated by tidal movements. Associates include *Sonneratia lanceolata*, *Avicennia marina* and *Hibiscus tiliaceus*.

DISTRIBUTION: *Derris trifoliata* is widely distributed across the northern NT coastline, but is not a common constituent of mangal floras. It has not been recorded south-west of the Peron Islands or south-east of Groote Eylandt. *Derris trifoliata* also occurs in Queensland and extends through south-east Asia and India to China and Africa.

DISTINCTIVE FEATURES: Climber with stems to 5 cm diameter; leaves compound, leaflets 3–7, opposite; flowers white to pale pink; fruit a rounded to oblong, slightly inflated pod to 55 mm long.

ETHNOBOTANY: Iwaidja speakers from western Arnhem Land use the leaves and stems of this plant as fish poison. The use is heavily restricted and may only be undertaken by senior clan elders. The plant is generally used in coastal reef situations though it is also effective in fresh water (Blake et al. 1997).

In north-east Arnhem Land, Rirratjingu people use the stems to tie up fish and turtle meat, turtle eggs and other items (Yunupingu et al. 1995).

Recorded Aboriginal language names

Gurrkurrnganing (Rirratjingu)

Anmiyarlard (Iwaidja)

Derris trifoliata has been used by Cape York Aboriginals to poison fish (Elliot & Jones 1984) and has the advantage of being useful in both salt and fresh water.

Vanuatu tribesmen dip poison arrowheads in an infusion of *D. trifoliata* to add more zest; Indians use the stems as rope. In Fiji it is used as fish poison and the stems are used to string fish and to tie up large crabs, it is also used medicinally (Pillai 1987). In Vietnam the roots can be used as fish poison (Hong and San 1987).

NOTES: The fish stupefying and poisoning properties of *Derris* spp. are well known and documented (e.g. Watson 1928, Baines 1981). The commercial insect poison 'rotenone' or Derris dust is derived from the tuberous roots of a south-east Asian species of *Derris*.

Flowers are produced from September to November, fruits occur in November and December.

The pods and seeds of *D. trifoliata* are adapted to water dispersal, and are often seen washed up amongst flotsam on NT coastlines. The inflated, coriaceous pod can attribute its buoyancy to air cavities between the pod and seed. An air cavity is produced in the seed when, during final maturation, the cotyledons arch away from each other (Guppy 1906).

Van der Pijl (1971) considers the pods of *Derris* spp. evolved toward wind dispersal. However, wind is not a major agent of dispersal for *D. trifoliata* in NT situations because most fruit are produced on lateral stems at ground level (Wightman pers. obs.).

Elliot and Jones (1984) believe this species is suitable for embankment stabilisation.

This species has been referred to as *D. uliginosa* in the past.

Reference: Verdcourt 1979.

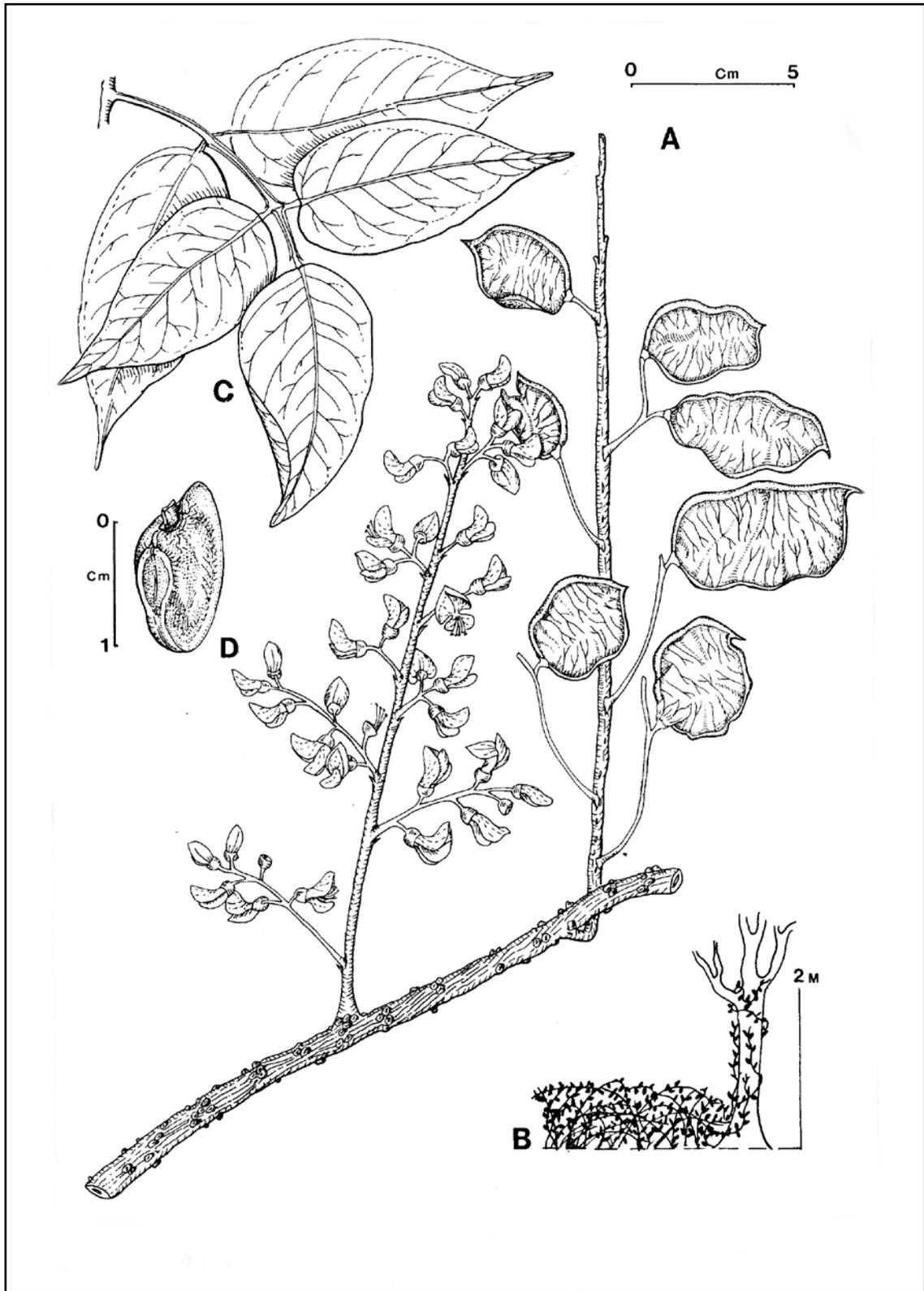


Figure 24. *Derris trifoliata*. A, flowering and fruiting lateral stem; B, habit; C, compound leaf; D, seed (G. Wightman 2352, DNA).