
MANGROVES OF THE NORTHERN TERRITORY, AUSTRALIA:

IDENTIFICATION and TRADITIONAL USE

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NORTHERN TERRITORY BOTANICAL BULLETIN No. 31

EXTRACT: *Acanthus* (pp. 34–36)

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

Acanthus**ACANTHACEAE**

DERIVATION: The Greek 'akantha' means a thorn and refers to the spiny leaves of some species.

A genus of 8–10 species worldwide, three being mangroves; two occur in tidal areas of the NT.

DESCRIPTION: Subshrubs, stems decumbent, often forming dense thickets. Leaves decussate, petiolate, glabrous. Inflorescence a terminal spike. Calyx 4-lobed, outer pair ovate, 12–15 mm long, obtuse; inner pair narrowly ovate, 8–11 mm long, acute. Corolla tube 6–8 mm long; upper lip absent; lower lip orbicular, 18–23 x 16–19 mm, apex 3-lobed, inner surface shortly pubescent. Stamens 4, inserted at apex of corolla tube in pairs; filaments to 12 mm long; anthers to 6 mm long, 1-celled, margin bearded. Ovary superior, 2-locular, 2 ovules per locule; style slender, stigma obscurely 2-lobed. Capsule ovoid to oblong, 18–25 mm long, dark brown, shining when mature. Seeds 2–4, borne on strong hooks, discoid, 7–10 mm diameter, surface rugose with tomentum of short hairs.

KEY TO SPECIES:

1. Flowers subtended by 1 bract only, corolla rich purple;
leaf margin usually *A. ebracteatus*
1. Flowers subtended by 1 bract and 2 bracteoles, corolla
pale lilac; leaf margin usually with spines and prickly *A. ilicifolius*

Acanthus ebracteatus* Vahl*Purple Mangrove Holly**

DERIVATION: The Latin 'ebracteatus' means lacking bracts and refers to the lack of bracteoles below the flowers in this species.

DESCRIPTION: Subshrubs forming loose thickets to 2.0 m. Leaf lamina narrowly ovate, 7.5–16.5 x 2.5–5.5 cm, apex acute, base cuneate, margins generally entire, petiole 4–19 mm; axillary spines absent. Bract 1, broadly ovate, 6 x 6 mm, obtuse; bracteoles absent. Corolla rich purple. Abaxial stamens lacking sessile glands on dorsal surface. Style 16–17 mm long.

HABITAT: *Acanthus ebracteatus* prefers fine-grained soils in upper tidal situations along tidal waterways and at the landward margin of mangal formations. It can form thickets under taller mangroves fringing tidal waterways such as the South Alligator River, where it is very common. This species may co-occur with *A. ilicifolius*.

DISTRIBUTION: *Acanthus ebracteatus* occurs sporadically on the northern coastline of the NT; in some areas it is relatively common. Other Australian

records include Wyndham in Western Australia and the west coast of Cape York in Queensland. Extra-Australian distribution includes New Guinea, the Philippines and the Solomon Islands.

DISTINCTIVE FEATURES: Sprawling subshrub with decumbent stems; leaves decussate, entire to toothed; flowers rich purple with one bract below.

ETHNOBOTANY: In the Northern Territory no specific uses have been recorded for this species, though it is likely that the uses of *A. ilicifolius* would also apply to this species where they co-occur.

In the Philippines the juice from the leaves can be used as a hair preserver (Jara 1987). In Thailand the plant can be boiled in water and the liquid drunk to treat kidney stones (Aksornkoae 1987), while in Indonesia the leaf juice is used to relieve rheumatism (Soegiarto & Soemodihardjo 1987).

***Acanthus ilicifolius* L.**

Mangrove Holly

DERIVATION: The Greek 'ilici' refers to *Ilex* (holly) and 'folius' means leaves, in reference to the holly-like leaves of this species.

DESCRIPTION: Subshrub forming dense thickets to 1.5 m high, occasionally supported to 3.0 m; stilt roots present in larger specimens. Leaf lamina narrowly ovate, 5–15 x 2–6 cm, base cuneate, apex acute to aristate, margin entire to sinuate, spiny; petiole 0.8–1.3 cm; axillary spines to 5 mm, occasionally absent. Bract 1, ovate, 6–8 mm long, apex acute to acuminate; bracteoles 2, asymmetric, ovate, 6–7 mm long, apex acute. Corolla pale lilac to almost white in older specimens. Abaxial stamens bearing sessile glands on dorsal surface. Style 15–18 mm long.

HABITAT: *Acanthus ilicifolius* forms thickets along tidal waterways and the landward margin of mangrove zones, particularly in areas that receive some improved freshwater input. Wells (1982) records this species as growing in hypersaline areas also. Substrates colonised are generally fine-grained muds. Common associates include *Avicennia marina*, *A. integra* and *Aegiceras corniculatum*.

DISTRIBUTION: *Acanthus ilicifolius* is sporadically distributed around the NT coast, though it has not been recorded south-west of the Daly River system; also occurs in Queensland. Extra-Australian records include India, throughout Malesia to the Solomon Islands and New Caledonia.

DISTINCTIVE FEATURES: Sprawling subshrub with decumbent stems; leaves decussate, generally with prickly leaf margins; flowers pale lilac with three bracts below.

ETHNOBOTANY: *Acanthus ilicifolius* has several recorded Aboriginal language names. While no specific uses have been recorded, the Rirratjingu name Banuminy is also used as a personal name.

Recorded Aboriginal language names

Akukuwarnanda (Anindilyakwa)

Anyellekberrk (Mayali)

Banuminy, plant (Rirratjingu, Yolngu matha)

Wagururngani, flowers (Rirratjingu, Yolngu matha)

Acanthus ilicifolius has been used to combat boils, rheumatism, blood impurities, snake bite and arrow poisoning in Malaysia (Watson 1928). In New Guinea a root and leaf mixture is used as hair-restorer (Percival & Womersley 1975). In the Philippines it has been used as a blood purifier, to treat snake bites and to dress boils (Jara 1987). In Vietnam the leaves are used to treat rheumatic joints and ucuralgia (Hong & San 1993). In Indonesia entire plants are placed in sacks of rice to act as a desiccant (Mastaller 1997).

GENUS NOTES: Differentiation of these two species using vegetative characters alone is difficult and can be inaccurate. However, in general, *A. ilicifolius* has distinctly prickly leaves and *A. ebracteatus* has entire, non-prickly leaves. The stems of *A. ebracteatus* generally have no spines, while the stems of *A. ilicifolius* usually have sharp spines, meaning that thickets of *A. ebracteatus* can be traversed with minimal skin damage, while traversing thickets of *A. ilicifolius* results in multiple scratches.

Acanthus ilicifolius may possess entire, non-prickly leaves, especially in conditions of low sunlight or strong growth, and occasionally axillary spines are also lacking. Occasionally *A. ebracteatus* may possess prickly, toothed foliage, though no specimens observed in NT populations have axillary spines.

In the known NT populations the two species can be unequivocally differentiated using floral characters as follows.

Acanthus ilicifolius possesses:

- a) one bract and two bracteoles subtending the flower;
- b) corolla colour from pale lilac to almost white;
- c) sessile glands on dorsal surface of abaxial stamens.

In contrast *A. ebracteatus* possesses:

- a) one bract only subtending flower;
- b) corolla colour rich purple;
- c) no sessile glands on dorsal surface of abaxial stamens.

Floral morphology of *Acanthus* spp. dictates a large pollinator. In Queensland Primack et al. (1981) observed sunbirds (*Nectarinia jugularis*) visiting flowers of *Acanthus* spp. and suspected large *Xylocopa* bees of also pollinating flowers. The flowers of both species exhibit weak protandry, which would restrict self-pollination.

Abundant fruit set within populations suggests that pollination is normally effective (Tomlinson 1986). Seeds of *Acanthus* species are actively discharged from the capsule via elastic funicles or jaculators (van der Pijl 1969). The short tomentum of interlocked hairs covering the seed traps air to aid buoyancy during water dispersal.

Acanthus ilicifolius flowers from May to November and fruits from June to December; *A. ebracteatus* flowers and fruits from September to February.

All records of *A. ilicifolius* from the NT are referable to subspecies *orientalis* Bremekamp. This subspecies, as the epithet suggests, has a more easterly distribution than *A. ilicifolius* subsp. *ilicifolius*. Whilst ranges of these subspecies overlap, no intermediates are known (Bremekamp 1955).

All specimens of *A. ebracteatus* in the NT are referable to subspecies *ebarbatus* R. M. Barker, this subspecies is endemic to Australia and its range does not appear to overlap with *A. ebracteatus* subsp. *ebracteatus* (Barker 1986, Duke 2006). In Australia a single population of *A. ebracteatus* subsp. *ebarbatus* is known from the Escape River in Queensland, and this subspecies is widespread from Polynesia through to India. This subspecies has conspicuous white flowers and is quite distinctive.

References: Barker 1986, Bremekamp 1955, Duke, 2006, Primack et al. 1981.

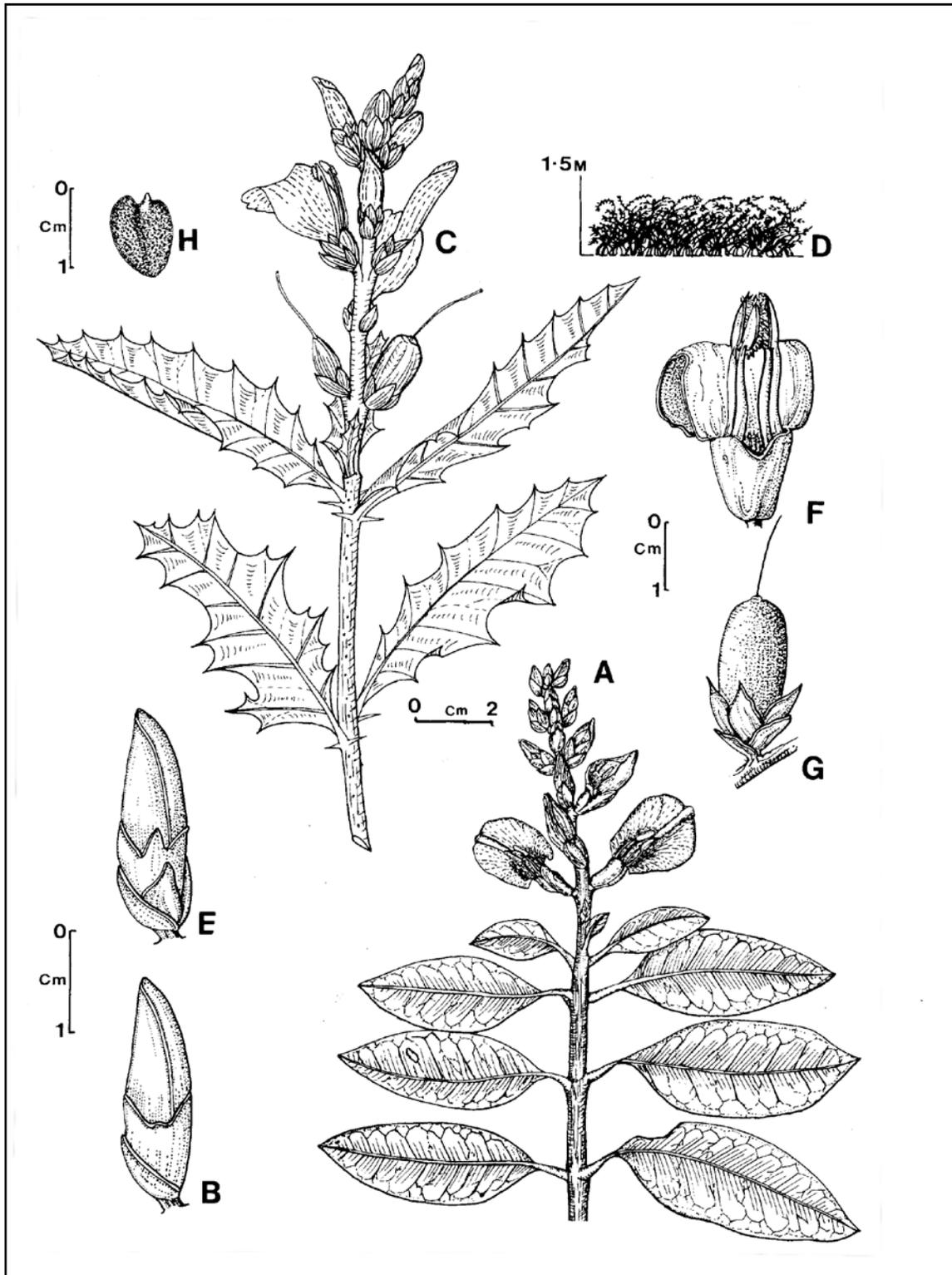


Figure 9. *Acanthus*. A–B, *A. ebracteatus*. A, flowering branchlet; B, bud (A–B, G. Wightman 2450, DNA). C–H, *A. ilicifolius*. C, flowering and fruiting branchlet; D, habit; E, bud; F, flower; G, fruit; H, seed (C–F, G. Wightman 384, DNA; G–H, G. Wightman 950, DNA).