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# MANGROVES OF THE NORTHERN TERRITORY, AUSTRALIA:

## *IDENTIFICATION and TRADITIONAL USE*

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**EXTRACT: *Diospyros* (pp. 88–91)**

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DARWIN 2006

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## ***Diospyros***

## **EBENACEAE**

**DERIVATION:** The Greek 'dios' means divine or god-like, and 'pyros' means wheat, a reference to the fruit of the gods, as some of the members of the genus have tasty fruit.

A genus of about 475 species of tropical and subtropical areas; of the eight species occurring in the NT, two regularly occur in tidal situations.

**DESCRIPTION:** Trees, mostly dioecious; pneumatophores knotted, lenticelled. Leaves simple, entire, alternate, elliptic to broadly elliptic. Flowers mostly unisexual. Male flowers borne in axillary, cymose clusters; pedicel 1 mm long, tomentose; peduncle 2–5 mm long, tomentose. Calyx 2–3-lobed. Corolla 2–4-lobed. Stamens 6–8, in pairs, adnate to receptacle; filament 2 mm long; anther narrowly triangular, 3 mm long, acute, dithecal, basifixed. Pistillode vestigial. Female flowers solitary, axillary; pedicel 2–3 mm long. Calyx and corolla as for male flowers. Ovary globose, glabrous, locules 2, ovules 1–2 per locule; style simple; stigma rounded. Pistillode absent or vestigial. Berry subglobular to oval. Seeds semicircular to wedge-shaped.

### **KEY TO SPECIES:**

1. Berry reddish, subglobular, calyx reflexed ..... *D. compacta*
1. Berry yellow-orange, oval or elliptic, calyx clasping fruit ..... *D. littorea*

### ***Diospyros compacta* (R.Br.) Kosterm.**

### **Ebony Mangrove**

**DERIVATION:** The Latin 'compacta' means compact, the application uncertain.

**DESCRIPTION:** Tree to 11 m; bark smooth, mottled grey to platy, black. Leaf lamina broadly elliptic, 4.9–10 x 2.7–4.9 cm, coriaceous, upper surface shining, margin recurved, venation reticulate, distinct, apex blunt, base obtuse; petiole curved, 4–6 mm long. Male flowers: calyx 6 mm long, slightly tomentose, lobes 2 mm long, obtuse. Corolla 8 mm long, lobes 3 mm long, reflexed, acute, exterior slightly tomentose. Stamens 8. Female flowers: calyx and corolla as for male flowers. Style 1 mm long; stigma 0.7 mm diameter. Berry red when ripe, subglobular 1.3 x 1.0 cm, calyx persistent, lobes reflexed, interior densely villous, exterior glabrous; style base persistent. Seeds 2–5, semi-circular, 5 mm long, dark brown, surface slightly rugose.

**HABITAT:** *Diospyros compacta* is found toward the landward margin of mangrove habitats, often occurring in the ecotone between mangrove and terrestrial vegetation. This species also occurs toward the freshwater end of tidal creeks. Soils colonised include sands, muds and laterite. *Diospyros compacta* also regularly inhabits non-mangrove vegetation, mainly monsoon vine thickets.

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**DISTRIBUTION:** *Diospyros compacta* occurs commonly around the northern NT coastline, but is not recorded from the drier south-east or south-west coasts. This species is also found in Western Australia and Queensland and is endemic to Australia.

**DISTINCTIVE FEATURES:** Tree at rear of mangroves, mottled grey to black bark, fruit a globular red berry with reflexed calyx.

**ETHNOBOTANY:** Anindilyakwa people believe that evil spirits which kill people climb this tree, they also note that birds eat the fruit (Levitt 1981). Mayali people use the wood to make spear throwers (Chaloupka & Giuliani 1984).

**Recorded Aboriginal language names**

Andjarrawo (Mayali)

Dirndirnda (Anindilyakwa)

The fruit are eaten by some Aboriginal people when they are ripe, red (pers. obs.); they have a somewhat floury texture.

***Diospyros littorea*** (R.Br.) Kosterm.

**Ebony Mangrove**

**DERIVATION:** The Latin 'littorea' means seashore, and refers to the coastal habitat of this species.

**DESCRIPTION:** Tree to 15 m, occasionally multi-stemmed; bark mottled grey, smooth; rarely with finger-like pneumatophores. Leaf lamina narrowly elliptic to obovate, 5.9–9.4 x 2.5–4.4 cm, upper surface somewhat dull; venation reticulate, inconspicuous; petiole curved, 4–5 mm long. Male flowers: calyx 4 mm long, loosely adhering to corolla. Corolla 6 mm long, densely tomentose, lobes 12 mm long, acute. Stamens 6–8. Female flowers: calyx and corolla as for male flowers. Style 0.8–1.5 mm long; stigma rounded. Berry yellow-orange when ripe, oval-elliptic, 10 x 14 mm, calyx persistent, lobes appressed to berry; pedicel 4 mm long. Seeds 5–6, semicircular wedge-shaped, 10 x 4 mm, surface dark brown, rugose.

**HABITAT:** *Diospyros littorea* occurs towards the landward margin of mangals, often between mangrove and terrestrial habitats. Sands and muds are colonised. Common associates include *Lumnitzera racemosa*, *Avicennia marina* and *Ceriops australis*. This species also occurs in monsoon vine forests and coastal non-mangrove vegetation.

**DISTRIBUTION:** *Diospyros littorea* is widespread around the NT coastline, but is more common in the northern coastal areas. Also occurs in Queensland and Western Australia; extra-Australian distribution includes New Guinea and Thailand.

**DISTINCTIVE FEATURES:** Tree at rear of mangroves with mottled grey bark, fruit an elongate yellow-orange berry with clasping calyx.

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**ETHNOBOTANY:** Rirratjingu people consider this species to be the grandmother of *Diospyros humilis*, burrpurr. The fruit are eaten when they are ripe, yellow-orange; they leave a somewhat dry taste in the mouth (Yunupingu et al. 1995). Tiwi people give this plant the generic name for monsoon vine forest plants and note that birds eat the fruit (Puruntatameri et al. 2001).

**Recorded Aboriginal language names**

Mari-Burpurr (Rirratjingu)

Yawurlama (Tiwi)

**GENUS NOTES:** Both species produce flowers from October to December, while fruits are found throughout the year, but in higher numbers from November to May. Both species appear to be dioecious, though further field data is required to assess sexuality of individual plants.

Flowers are suited to insect pollination and both species have relatively low fruit set.

Ebony timber is derived from trees of the genus *Diospyros*, as are several other locally valuable timbers. Several important tropical fruit trees also belong to the genus, for example, black sapote, Japanese persimmon and persimmon.

Nomenclature in the genus *Diospyros* has been confused; previously both *D. littorea* and *D. compacta* have been identified as *Diospyros ferrea* var. *reticulata*, by Australian authors.

References: Jessup, L. W. *in litt.* 1987; Kostermans 1974.

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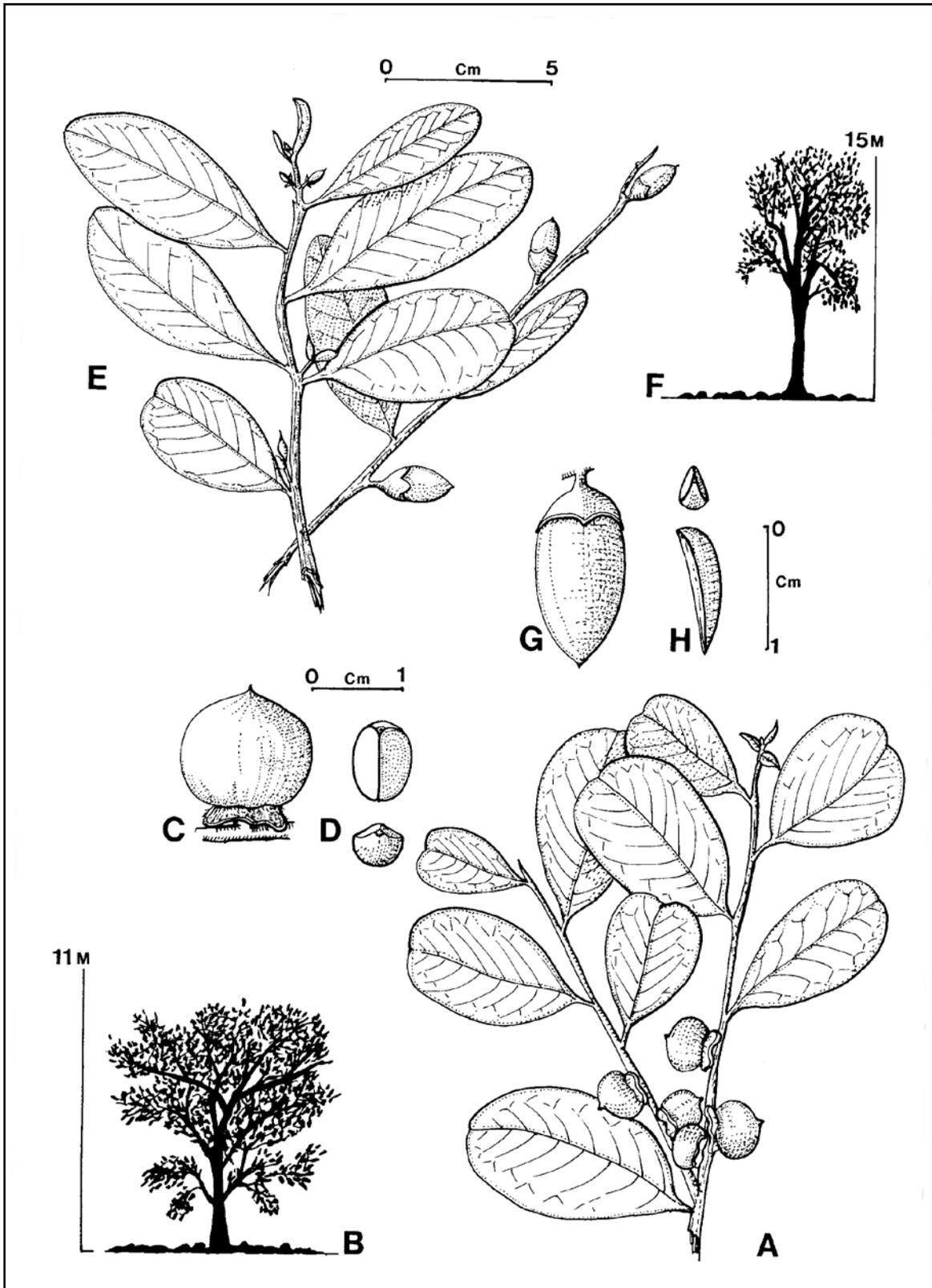


Figure 25. *Diospyros*. A–D, *D. compacta*. A, fruiting branch; B, habit; C, fruit; D, seed (A–D, M. Rankin 2385, DNA). E–H, *D. littorea*. E, fruiting branch; F, habit; G, fruit, H, seed (E–H, G. Wightman 1732, DNA).