Botanical name

Acacia resinimarginea W.Fitzg. (as 'resinomarginea'), J. W. Austral. Nat. Hist. Soc. 1: 15 (1904)

The botanical name is derived from the Latin *resina* (resin) and *margo -inis* (border), and refers to the phyllodes which have four resinous nerves running along their entire length (one at the apex of each of the four angles).

Common name

Old Man Wodjil.

Characteristic features

Obconic *trees* with dense crowns. *Phyllodes* rhombic in cross-section, long, narrow, thin and flexible, greyish green, finely multi-nerved (with a resinous nerve at the apex of each of the 4 angles), apices narrowed to delicately curved, acuminate tips. S*p*ikes short, on short peduncles. *Pods* linear, narrow, thinly textured. *Seeds* mottled. Grows primarily on *Wodjil sands*.

Description

Habit. Obconic *trees* 4-7 m high, single-stemmed or dividing at or just above ground level into 2-5, fairly straight, generally erect, moderately branched main trunks which attain about 20 cm diameter at breast height, crowns dense, rounded to sub-rounded, spreading yet narrow (2-4 m across) and occupying about 30% of the total plant height (40-50% in young plants).
Bark. Grey, thin, finely fissured on main trunks, fibrous on oldest trees, smooth on upper branches.
Branchlets. Terete, resin-ribbed when young, glabrous except occasionally minutely hairy in axil of phyllodes.
Phyllodes. Linear, rhombic in cross-section (occasionally flat outside the Kalannie region), 8-18 cm long, 1-1.5 wide (up to 3 when mm when flat), thin and flexible, ascending to erect, straight or shallowly incurved, grey-green, sometimes with a silvery sheen in sunlight, glabrous; *longitudinal nerves* numerous, a resinous nerve at the apex of each of the 4 angles and numerous, finer nerves on the intervening faces; *apices* acuminate and delicately curved, not pungent.
Spikes. 1 or 2 within axil of phyllodes, obloid to shortly cylindrical, bright light golden; *peduncles* 2.5-6 mm long, glabrous.
Flowers. 5-merous; *sepals* 3/4-united.
Pods. Linear, flat or sub-terete, +/- raised over and constricted between the seeds, 4-7 cm long, 2-2.5 mm wide, pendulous, straight to shallowly curved, firmly chartaceous, glabrous, light brown over the seeds.
Seeds. Longitudinal in the pods, 2.5-3.5 mm long, about 1.5 mm wide, sub-glossy, mottled dark and light brown or greyish yellow; *aril* white.

Taxonomy

Related species. *Acacia resinimarginea* is most closely related to *A. jamesiana* (which does not occur in the Kalannie region), a species that is distinguished by its rather rigid phyllodes with straight apices, larger legumes and non-mottled seeds.

Variants. Apart from the infrequent flat phyllode individuals which occur in a few places (not within the Kalannie region) this species is morphologically uniform.

Distribution

Common in Western Australia from Perenjori southeast to near Kambalda; it also occurs inland to Leonora. This species often forms pure stands in the places where it occurs with the plants typically growing close together and forming dense populations.

Acacia resinimarginea is common in parts of the Kalannie region.

Habitat

Flats or low rises in light brown sandy loam or deep yellow sand.

Recorded from the following Kalannie region Land Management Units. Wodjil; Sand over Gravel; Pediment; Deep Yellow Sand.

Conservation Status

Not considered rare or endangered.

Flowering

Over its geographic range A. resinimarginea flowers from August to October.

Plants in the Kalannie region were in full flower in early September 1997.

Fruiting

Over the geographic range of this species pods with mature seeds have been collected from November to January.

Plants from the Kalannie region were with mature seeds in early December 1996, however, not all the plants within a particular population produced pods.

There are about 184 000 seeds per kilogram. *Note*: This figure is derived from a single sample counted by Angela Waters (Kalannie Tree Supplies) and would most probably have included both viable and non-viable seeds.

Biological features

Toxicity. The phyllodes of *A. resinimarginea* contain low concentrations of cyanogenic glucoside; however, they do not appear to possess an endogenous enzyme that is needed to hydrolyse this into hydrogen cyanide (Maslin *et al.* 1987). There are not reported cases of stock losses involving this species.
Sandalwood host. In some places in the Kalannie region Southern Sandalwood (*Santalum spicatum*) grows well beneath *A. resinimarginea*.

Propagation

Propagate from seed.

Informal germination tests, using various hot water treatments, were conducted by Angela Waters (Kalannie Tree Supplies). Good results were obtained by either soaking the seed overnight in just-boiled water prior to sowing, or by boiling the seed for 1 minute prior to soaking. Untreated seed showed substantially lower rates of germination.

Revegetation

Acacia resinimarginea is an excellent species for revegetation of Wodjil sands, within the Kalannie region. Its arborescent growth form and its dense, spreading, porous

crowns make this species ideally suited for use as a windbreak and visual screen, as well as for providing good shade and shelter for stock. *Acacia resinimarginea* is well-suited for soil stabilisation of Wodjil sands and under natural conditions it often forms dense, monotypic stands in these areas.

Wilcox *et al*. (1996) and Lefroy *et al.* (1991) recommend this species for revegetation in the Midlands region and the northern and central wheatbelt regions of Western Australia for areas of deep yellow acidic sand (i.e. "Wodjil" country). Also suited to revegetation of "Tamma" country (i.e. shallow gravelly soils on upland sandplain) according to Lefroy *et al.* (1991).

Utilisation

Erosion control. See under Revegetation above.
Windbreak. See under Revegetation above.
Shade and shelter. See under Revegetation above.
Wildlife refuge. See under Revegetation above.
Visual screen. See under Revegetation above.
Amenity planting. The species has a most pleasing growth form and would make a very suitable inclusion in amenity plantings. Wind blowing through foliage makes a very soothing sound, like that which is heard in species of *Allocasuarina*.
Wood. The straight, unbranched trunks render this species suitable for poles and other wood products such as fence posts, subject to plants of suitable size being.

References

Lefroy, E.C., Hobbs, R.J. and Atkins, L.J. (1991). *Revegetation guide to the central Wheatbelt*. (Agriculture W.A.: Western Australia.)

Maslin, B.R., Conn, E.E. and Dunn, J.E. (1987). Cyanogenic Australian species of *Acacia*: A preliminary account of their toxic potential. pp. 107-111. In: Turnbull, J.W. (ed.) 'Australian *Acacia*s in Developing Countries'. Proceedings of an international workshop held at the Forestry Training Centre, Gympie, Qld, Australia, 4-7 August 1986.

Wilcox, D.G., Lefroy, E.C., Stoneman, T.C., Schoknecht, N.R. and Griffin, E.A. (1996). *Trees and shrubs for the Midlands and Northern Wheatbelt*. (Agriculture W.A.: Western Australia.).