

## Botanical name

*Acacia subrigida* Maslin, Nuytsia 10: 198 (1995)

The botanical name is derived from the Latin *subrigidus* (subrigid), and refers to the phyllodes texture which is one of the characters distinguishing the species from its close relatives (see Maslin 1995 for further discussion).

## Common name

None known.

## Characteristic features

Glabrous *shrubs*. *Phyllodes* rhombic in cross-section (flat in Shark Bay variant), long and slender, sub-rigid, smooth, ascending to erect, with 4 longitudinal nerves (one at the apex of each angle); *pulvinus* much-reduced. *Heads* globular, arranged in short racemes, peduncles long. *Pods* broad, flat, chartaceous. *Seeds* large; *funicle* not expanded into an aril.

## Description

**Habit.** Glabrous, erect *shrubs* 1.5-3 m tall and about the same across, single-stemmed or 2-4 branched at the base.

**Bark.** Grey, slightly fissured on the main trunks, smooth or slightly fissured on upper branches.

**Phyllodes.** Usually rhombic in cross-section, mostly 8-15 cm long, usually 1-1.5 mm wide, slender, sub-rigid, smooth, ascending to erect, straight to shallowly incurved, dull, green to sub-glaucous; with 4 yellowish *longitudinal nerves*, one at the apex of each of the 4 angles; *apices* ending in a short, hard, non-spiny, +/- straight, erect, dark brown point; *pulvinus* much-reduced; *gland* not prominent, situated on upper edge of phyllode 3-17 mm above the pulvinus, an additional obscure gland situated at base of the apical point.

**Heads.** Arranged in mostly 2-4-branched racemes 2-10 mm long, globular, golden, 15-30-flowered; *peduncles* usually 10-20 cm long.

**Flowers.** 5-merous; *sepals* free.

**Pods.** Narrowly oblong to linear, flat but raised over the seeds, 6-11 cm long, 7-10 mm wide, chartaceous, yellow tinged green just prior to maturity but aging light brown.

**Seeds.** Longitudinal to longitudinally oblique in the pods, 5.5-7 mm long, 2.5-5 mm wide, shallowly depressed at centre, dull to slightly shiny, black, retained in the pods on the plants for a period following dehiscence; *funicle* light brown and not expanded into an aril.

## Taxonomy

**Related species.** *Acacia subrigida* is a member of the informal "*Acacia murrayana* group" (see Maslin 1995 for discussion); two closely related members of this group, *A. murrayana* and *A. subrigida*, occur in the Kalannie region. *Acacia murrayana* differs most obviously from *A. subrigida* in having shorter peduncles, transverse to oblique seeds and its flat, broader phyllodes with recurved apical points and a basal gland situated at the distal end of the pulvinus. *Acacia subrigida* is also closely allied to the Arid Zone species, *A. pachyacra* (see Maslin 1995 for distinguishing characters).

**Variants.** Plants of *A. subrigida* from the wheatbelt (including those from the Kalannie region) show little morphological variation. However, in the Shark Bay area

there is a poorly-known variant that appears referable to this species, or may possibly represent an as yet undescribed new species. This variant is distinguished most readily from typical *A. subrigida* by its +/- flat phyllodes, longer racemes (mostly 10-30 mm) and very large seeds (8 x 7 mm).

### **Distribution**

With a scattered, discontinuous distribution from near Kalannie to Bonnie Rock on the eastern perimeter of the north-central wheatbelt region of Western Australia; there is an outlying population in the Arid Zone south of Sandstone, and a variant of uncertain rank in the Shark Bay area.

*Acacia subrigida* is rare in the Kalannie region.

### **Habitat**

Grows on deep yellow sand or light brown sandy loam. In the Kalannie region it is grows with Old Man Wodjil (*A. resinimarginea*).

**Recorded from the following Kalannie region Land Management Unit.** Wodjil.

### **Conservation status**

Treated as a Priority 2 taxon on the Department of Conservation and Land Management's *Declared Rare and Priority Flora List*.

**Priority 2 - Poorly Known Taxa.** 'Taxa which are known from one or a few (generally <5) populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in need of further survey.'

### **Flowering**

Over its geographic range *A. subrigida* appears to flower in September and October, however, this assessment has been based on the few available collections.

Plants from the Kalannie region were in full flower in mid-October 1993.

### **Fruiting**

Over the geographic range of this species pods with mature seeds have been collected from December to January. However, because there are so few collections of this species it is difficult to be certain about its phenology.

In mid-December 1996 plants from the the Kalannie region were with mature seeds.

The pods are produced in quite large quantities and are easily collected by hand. The large to very large seeds are retained in the dehisced pods, at least while the pods remain attached to the plants.

There are about 52 000 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**

No information available.

## **Propagation**

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 5 minutes prior to soaking. Seeds appear to germinate more quickly by using the "just-boiled" pre-treatment. Untreated showed very low rates of germination.

## **Revegetation**

*Acacia subrigida* could be a useful inclusion in seed mixes for soil stabilisation of Wodjil country within the Kalannie region.

## **Utilisation**

**Soil stabilisation.** See Revegetation above.

**Seed for human food.** *Acacia subrigida* is one of the lesser-known species suggested by Maslin *et al.* (1998) for trialling as a source of seed for human food. However, it is emphasised that much more research is needed before this species can be recommended for food production; in particular, there is a need for comprehensive biochemical analyses to ascertain if any anti-nutritional or toxic components are present in the seeds. There are no records of the seeds of this species having been eaten by Aborigines.

## **References**

- Maslin, B.R. (1995). *Acacia* miscellany 14. Taxonomy of some Western Australian "Uninerves-Racemosae" species (Leguminosae: Mimosoideae: section Phyllodineae). *Nuytsia* 10(2): 181-203.
- Maslin, B.R., Thomson, L.A.J., McDonald, M.W. and Hamilton-Brown, S. (1998). *Edible Wattle Seeds of Southern Australia. A review of species for semi-arid regions of southern Australia.* (CSIRO, Forestry and Forest Products, Australian Tree Seed Centre: Canberra.)