

Botanical name

Acacia stanleyi Maslin (to be described in a forthcoming issue of *Nuytsia*)

The botanical name commemorates Don Stanley in recognition of his significant contribution to landcare within the Kalannie region.

Common name

Stanley's Rock Wattle

Characteristic features

Shrubs with bushy crowns. *Phyllodes* continuous with the branchlets (pulvinus absent) and not easily separated from them, terete, very long and narrow, longitudinal nerves 8, distinctly longitudinally grooved between the nerves. *Spikes* on very short, appressed-hairy peduncles. *Flowers* 4-merous. *Pods* +/- moniliform, long and narrow. Seeds roughened by minute wrinkling and pits. *Granite rock* habitat.

Description.

Habit. Obconic or sometimes +/- rounded, dense or sub-dense *shrubs* 2-3.5 m tall and 1.5-3 m wide, its growth habit reminiscent of *Calycopeplus paucifolius* (Euphorbiaceae) with which it grows, dividing at ground level into 3-5, rather slender, ascending to erect main stems which are 1.5-3 cm diameter at their base (to 7 cm diameter on oldest plants).

Bark. Dark grey, flakey and longitudinally fissured at base of oldest main stems, upper branches smooth.

Branchlets. Ascending to erect, sub-glabrous to very sparsely appressed-hairy when young, the hairs confined to axils of phyllodes on mature branchlets, brown at extremities.

Phyllodes. Continuous with the branchlets (and not easily separated from them), terete, 15-30 cm long, 1-1.5 mm in diameter, sub-rigid, ascending to erect, mostly shallowly incurved, sometimes shallowly sinuous, glabrous (or sometimes sparsely appressed-hairy on upper surface at base), pale green to mid-green (but upon dying the phyllodes first turn yellow then pale orange and finally grey, the dead phyllodes remaining attached to the branches); *longitudinal nerves* 8, deeply longitudinally grooved between the nerves; *apices* acute to acuminate and shallowly curved to uncinat, not pungent (although sometimes coarsely pungent once the points have broken off as frequently occurs); *pulvinus* absent.

Spikes. Single or paired within axil of phyllodes, 25-35 mm long and 6-7 mm in diameter when fresh, golden; peduncles 1-2 mm long (sometimes obscured by anthers at anthesis and then the spikes appear sessile), appressed-hairy.

Flowers. 4-merous; *sepals* 3/4-united.

Pods. Moniliform or sub-moniliform, (5-)7-14(16.5) cm long, 3-5 mm wide, thinly coriaceous, pendulous to sub-pendulous, glabrous, dark brown over seeds and lighter brown between them.

Seeds. Longitudinal in the pods, elliptic to oblong-elliptic, about 3-4 mm long and 2-2.5 mm wide, black, slightly shiny but surface roughened by being minutely rugose and pitted (observe at x10 magnification); *aril* waxy, white to pale brownish cream, darker brown at the hilum.

Taxonomy

Related species. *Acacia stanleyi* has affinities to both *A. jibberdingensis* and *A. longiphyllodinea* and in regard to its phyllodes would seem intermediate between the two. Nevertheless, *A. stanleyi* is probably most closely related to *A. jibberdingensis*. All three species occur in the Kalannie region and are associated with granite rocks,

at one site *A. stanleyi* and *A. jibberdingensis* grow together. The three species are united in having very long, narrow, non-pungent phyllodes, spicate inflorescences, clearly united sepals and long, narrow, thinly textured pods containing black seeds. *Acacia jibberdingensis* differs most obviously from *A. stanleyi* in having (commonly flat) phyllodes with a distinct pulvinus at their base (thus, the phyllodes are not retained on the branchlets upon dying as happens in *A. stanleyi*). Also, in *A. jibberdingensis* longer peduncles and the seeds are larger and only their central area slightly roughened by minute pits (the rest of the seed is smooth: observe at magnification). *Acacia longiphyllodinea* is most readily distinguished from *A. stanleyi* by its phyllodes having more numerous nerves which are positioned very close together and not separated by well-defined longitudinal grooves. *Acacia longiphyllodinea* is also recognized by its 5-merous flowers (best observed in mature buds at magnification), often pruinose branchlets, slightly longer spikes on longer, glabrous peduncles and its flat pods with smooth seeds.

Variants. Plants of *A. stanleyi* show little variation over its restricted geographic range.

Distribution

A rare species restricted to Western Australia where it is known from only two populations, one in the Goodlands area of the Kalannie region (where it is reasonably common) and the other from Mollerin 40 km to the south.

Habitat

Acacia stanleyi grows in association with granite outcrops on hard, light brown gritty, sandy loam in shallow soil pockets and on the fringing soil apron. It occurs in tall shrubland dominated by *Allocasuarina* and mixed acacias (e.g. *A. assimilis* subsp. *assimilis*, *A. duriuscula*, *A. jibberdingensis* and *A. synoria*).

Recorded from the following Kalannie region Land Management Unit. Shallow Soil over Granite.

Conservation status

This species has been recommended for inclusion on the *Declared Rare and Priority List* of the Department of Conservation and Land Management as a Priority 1 taxon.

Priority 1 - Poorly Known Taxa. 'Taxa which are known from one or a few (generally <5) populations which are under threat, either due to small population size, or being on lands under immediate threat, e.g. road verges, urban areas, farmland, active mineral leases, etc., or the plants are under threat, e.g. from disease, grazing by feral animals, etc. May include taxa with threatened populations on protected lands. Such taxa are under consideration for declaration as 'rare flora', but are in urgent need for further survey.'

Flowering

Flowers from late July to September.

Fruiting

There is little information available on the fruiting phenology of this species. In December 1996 most of the plants in the Goodlands population were sterile, only a few along a diffuse drainage line producing pods (and these occurred in great abundance). However, the pods frequently contained aborted seeds, perhaps due to unfavourable seasonal conditions (the same thing happened in many other acacias in the region that year).

Because pods are borne sub-terminally on the densely-foliaged branchlets they are rather difficult to collect by hand without considerable loss of seed.

There are about 65 000 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

Propagate from seed.

Informal germination tests, using various hot water treatments, were conducted by Angela Waters (Kalannie Tree Supplies). Excellent results were obtained by either soaking the seed overnight in just-boiled water before sowing, or by boiling the seed for 3 minutes prior to soaking. Untreated seed failed to germinate or showed a very low germination response.

Revegetation

This rare species would appear to have limited scope for use in revegetation. However, it might be useful for soil stabilisation of granite rocks. It could also be considered for use as a low visual screen.

Utilisation

Erosion control. See Revegetation above.

Visual screen. See Revegetation above.

Ornamental. This species would appear to have potential as an ornamental for planting in semi-arid areas. It has large showy spikes which appear in winter and early spring. Also, it has unusually long phyllodes which do not readily detach from the branches and which undergo a colour change as they die (see Description above).