



Notes on the
Biology and Phytogeography of Western Australian Plants.
Part I : Olacaceae.

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Abstract:

The Olacaceae of Western Australia consist of four species found in the Northern and South Western Botanical Province. All are hemiparasitic shrub, insect pollinated. The sole species examined is self sterile.

To be quoted as:

Keighery, G.J. (1979 unpublished) Notes on the Biology and Phytogeography of Western Australian Plants. Part I : Olacaceae. Kings Park and Botanic Garden, West Perth, Western Australia. 6005.

Introduction:

The Olacaceae are a small family of approximately 120 species, chiefly tropical and subtropical in distribution. In Australia one genus, Olax is found throughout the Continent.

The South West appears to be a major centre for the group, two species, namely O. phyllanthi and O. aff benthamiana are endemic to this region.

All species are hemiparasitic, soft wooded shrubs with glaucous foliage. New growth is green but upon maturity becomes grey/green.

Breeding Systems:

Olax benthamiana was studied at City Beach. Flowers do not possess a noticeable scent, but produce copious amounts of nectar which is held on hairs in the throat of the flower (fig. 1, a). The flower is markedly protandrous, the stamens withering before maturation of the style (fig. 1, cand d). Flower life is brief, from 2 to 3 days.

Pollination is achieved by bombyllid flies, wasps and rarely native bees.

This species is not self fertile, 47 gneitogamous (self) pollinations on 3 bushes set no fruit.

Fire:

Olax is frequently encountered after fires, since at least O. benthamiana is killed by fire, this is probably due to enhanced seedling survival.

Fruits:

The seed is a large drupe, with a fleshy red or orange covering. Dispersal is presumably by birds but observations are lacking.

Notes on Individual Species:

OLAX

O. aphylla R. Br.

Erect open shrub, to 1.5m., ?
sandstone

O. benthamiana Miq.

Single stemmed but low branched erect shrub
(rarely prostrate) to 2m., foliage pale green
or glaucous, fls. cream or white, 3-10.
yellow sand over clay, lateritic, sand or clay
stable dunes, limestone

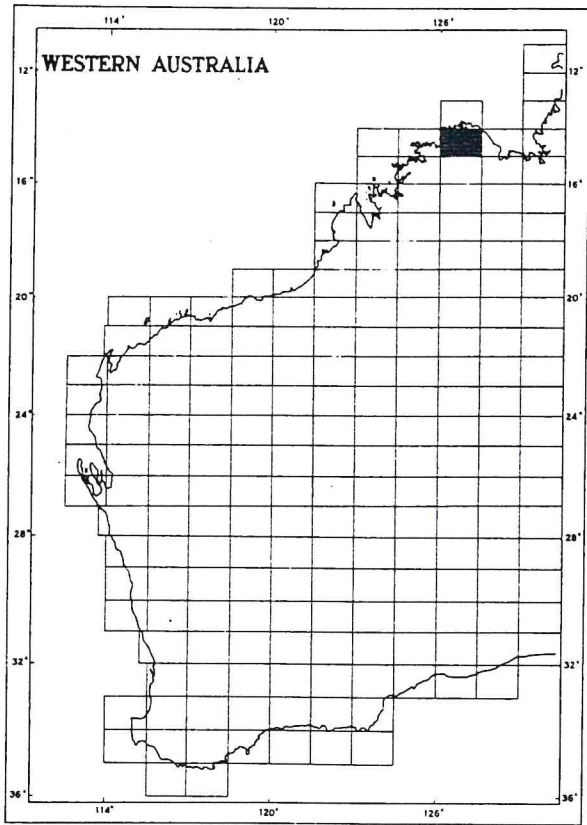
O. aff benthamiana

? single stemmed but much branched slender shrub,
to 1m., fls greenish-yellow or white, 3-6,
sand over clay, limestone sand, sand.

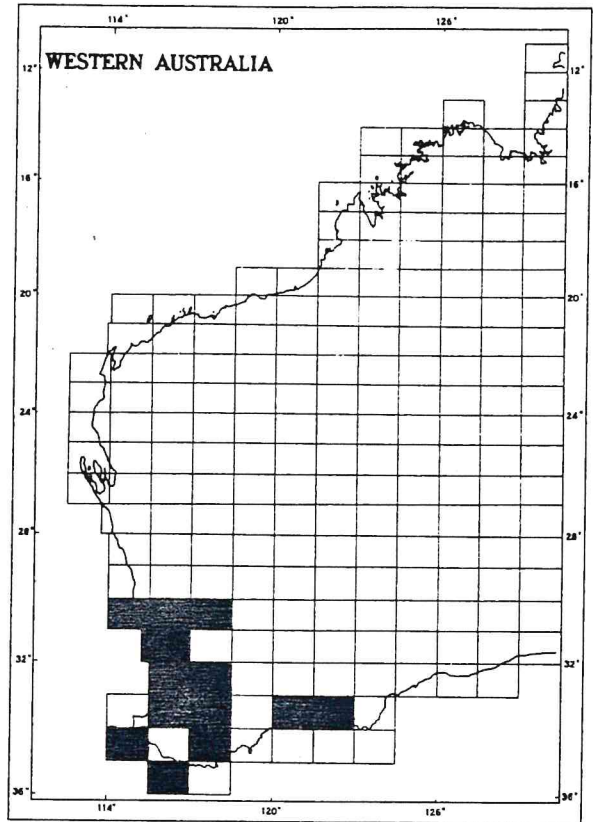
(differs in slender habit, much larger leaves
which are not overlapping).

O. phyllanthi R.Br.

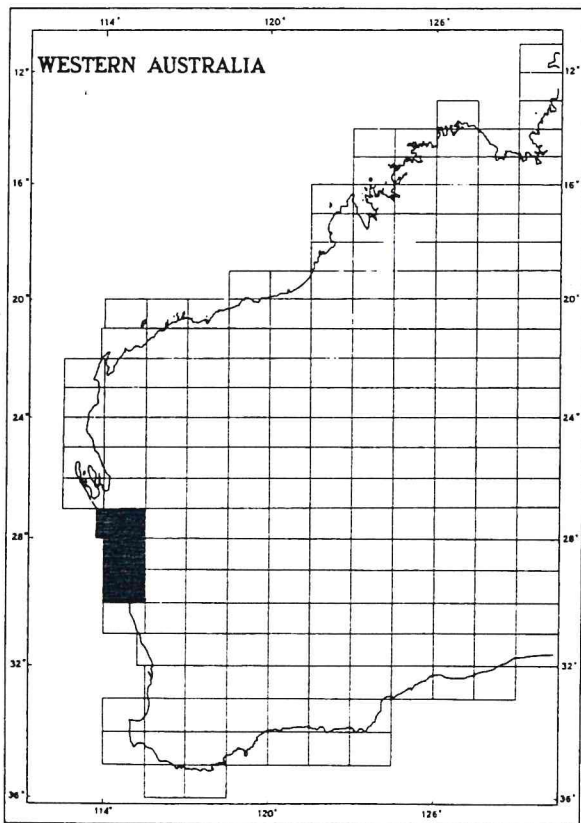
Erect broomlike shrub, to 1m., foliage glaucous,
fls white, 2-10.
sandy soils, coastal dunes, granitic loam.



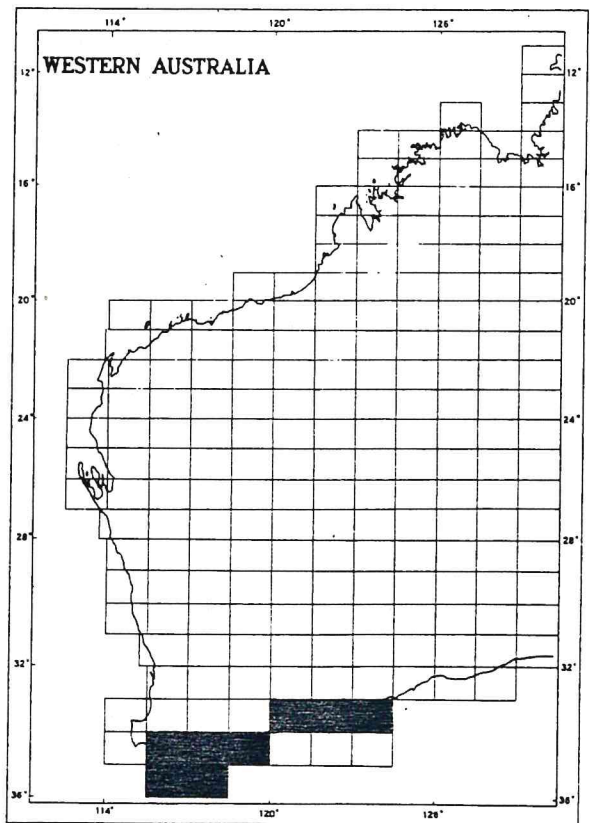
Olax aphylla



Olax benthamiana



Olax aff benthamiana



Olax phyllanthi

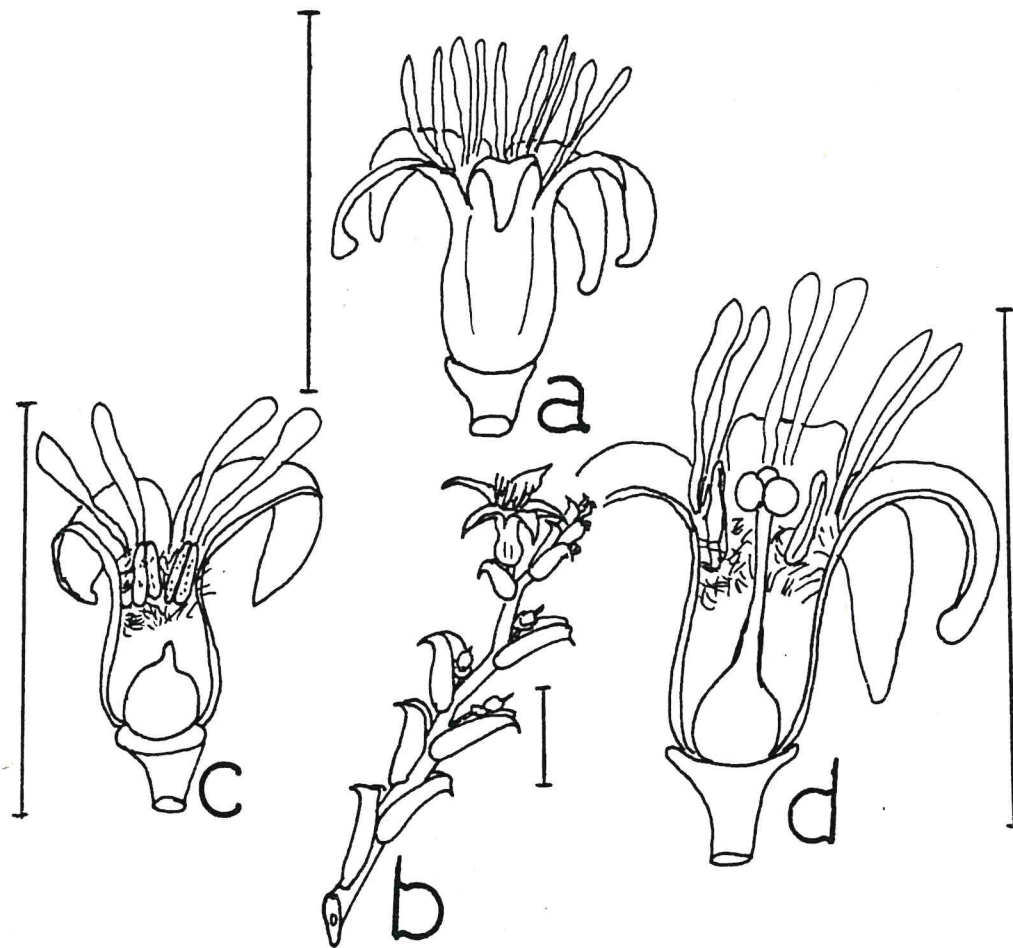


Figure 1 : Olax benthamiana.

- a: flower
- b: flowering branch
- c: young open flower showing dehiscing anthers
- d: older flower with mature stigma

scale bar = 5mm.