

Calotrope

***Calotropis procera* (Aiton) Aiton f.**

Family: Apocynaceae (was Asclepiadaceae)

Names:

Calotropis is from the Greek words meaning 'beautiful' and 'keel of a boat' and refers to the scales in the flowers.

Procera is from the Latin words 'in favour of' and 'wax' referring to the waxy appearance of the plant.

Calotrope is from the genus name.

Other Names:

Alarka

Cabbage tree

Calotropis

Indian Milkweed

Kings Crown Kapok

Madar

Rubber tree

Rubber bush

Summary:

A small tree or coarse shrub to 4 m tall with waxy leaves that have a tuft of hairs at the base of the mid vein. Lots of white milky sap is exuded when the plant is damaged. It has scented, purple and white, somewhat tubular flowers with fruit like, small cabbages. The many seeds have a silky tuft of hairs.

Description:

Cotyledons:

Two.

Leaves:

Oval, broad and flat in opposite pairs. Thick and hairless apart from a basal tuft. Each pair at right angles to those below. Waxy. Grey-green to blue green with indented bases.

Stipules -

Petiole - None.

Blade - Thick. Egg shaped. 50-150 mm long x 40-100 mm wide. Tip pointed.

Notched at the base where it clasps the stem. Stiff tuft of hairs at the base of the midrib. Grey green.

Stems:

2000-4000 mm tall. Branched from the base at times and branched higher up. Weak and straight to crooked. Waxy. Copious milky sap exuded when injured. Grey-green. Smooth. Crooked. Soft, thick, corky bark.

Flower head:

In groups (umbels) of up to 15 flowers in the upper leaf axils. Outer flowers develop first and inner ones don't develop fully.

Flowers:

25 mm wide, scented and white with a deep purple blotch at the base of each petal. Waxy texture.

Bracts - Deep purple bracts between the petals and stamens. Tubular. 5 lobed. 20-30 mm wide. Scented. No milky sap.

Ovary -

Sepals -

Petals - Deep purple bracts between the petals and stamens. Tubular. 5 lobed. 20-30 mm wide. Scented.

Stamens -

Anthers -

Fruit:

Long and balloon like. Follicle (bladdery pod). Grey-green. 75-120 mm long and almost as wide. Rounded at the base. Tip pointed. Numerous (350-500) seeds are released when the ripe pod bursts.

Seeds:

Brown. Flattened. Tuft of long, white, silky hairs at top.

Roots:

Taproot, 3000-4000 mm deep. Shallow spreading woody laterals with latex filled canals and a starchy centre that produce suckers when injured.

Key Characters:**Biology:****Life cycle:**

Seed germinates from October to December with tropical rain and it makes rapid growth in the wet season. Flowers occur in August to October when the plant is probably two years old. Flowers stay open for 10-12 days. Fruit is set from September to November and has many seeds. They ripen from November to February then burst to release seeds. New growth and suckering is stimulated by the break of each season in October to December.

Physiology:

Salt tolerant.

Root stocks tolerate fire and drought.

Reproduction:

Reproduces by seed and suckers.

Flowering times:

July to October mainly but can flower at any time of year. Fruit mainly ripens from November to February.

Seed Biology and Germination:

Prefers to germinate in light conditions and seed germination is inhibited in shaded conditions.

Seed normally germinates readily.

Good germination occurs in alternating temperatures of 40/20 degrees C and 36/21 degrees C.

Vegetative Propagules:

Crowns and roots form suckers. Broken stems may take root and regenerate.

Hybrids:

Allelopathy:

Population Dynamics and Dispersal:

In 5 years one WA infestation grew from 20ha to over 5000ha.

Seeds are spread by wind and water or mud attaching to passing animals and vehicles. Localised spread is from suckering of the roots and crowns and seedling recruitment.

Earthmoving equipment is a major means of spreading rootstocks and seeds.

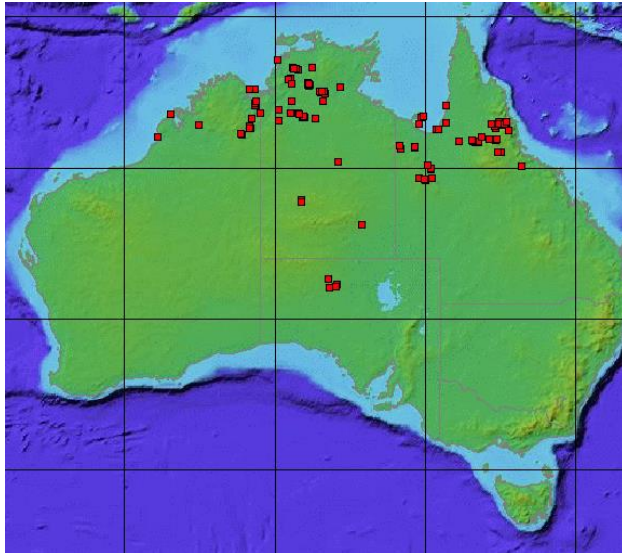
Origin and History:

North Africa, Arabia, Tropical Asia.

Probably introduced to Queensland as an ornamental or in camel saddle packing during the gold rushes. Recorded as naturalised in Queensland in 1935.

Distribution:

NT, QLD, SA, WA.



Courtesy Australia's Virtual Herbarium.

Habitats:

Climate:

Warm dry areas of monsoonal tropics and sub-tropics.

Soil:

Prefers sandy soils and alluvial flats along rivers.

Plant Associations:

Prefers open overgrazed situations and areas that are disturbed.
Grasslands and disturbed bushland.

Significance:

Beneficial:

Used in folk medicine in Africa and Asia.
Seed hairs are used as a substitute for Kapok.
Bark is used to make cords and fishing nets.
The high energy latex has potential as a fossil fuel substitute.
Ornamental.
Used by aboriginals for timber.

Detrimental:

Weed of roadsides, watercourses, disturbed areas and pastures.
Forms dense thickets on alluvial flood plains.
Spreads rapidly.
Unpalatable.
Reduces grazing potential of the land.
Hinders mustering.

Toxicity:

May cause contact dermatitis.

Reported to be toxic to sheep and goats but deaths are rare in Australia due to its unpalatable nature.

Cattle graze it without any apparent ill effects.

Contains digitalis type cardiac glycosides.

Causes vomiting in birds eating butterflies reared on Calotrope.

Symptoms:

Latex causes blistering of sensitive skin areas such as the vagina, prepuce or glans penis.

Treatment:

Avoid exposing sensitive skin to Calotrope sap.

Legislation:

Noxious weed of WA and NT.

In WA it is a declared plant north of the 26th parallel except in the Kimberley.

Management and Control:

Seed is spread by wind and water or mud attached to animals and machinery.

Local spread is by seed and suckering from the roots and crowns. Individual plants can be mechanically removed provided the majority of the roots are also removed to a depth of 200 mm. Repeated spraying with picloram plus 2,4-D provides good control. Repeated cultivation provides good control.

Buffel grass (*Cenchrus ciliaris*) inhibits the growth of Calotrope and could be sown as part of a pasture in infested areas.

Thresholds:**Eradication strategies:**

Spray with 2,4-D + picloram to control mature plants and seedlings. Plants need to be thoroughly wetted.

Herbicide resistance:**Biological Control:**

Research into biological control is continuing.

Related plants:

Calotropis gigantea has similar flowers but they don't have a purple blotch on the petals. In Australia it is a garden ornamental and does not appear to set seed and is spread by cuttings and hasn't become invasive. It is larger being up to 4500 mm tall

Plants of similar appearance:

Procera gigantea is the old name for *Calotropis gigantea*.

Bibliography:

A.P.B. (1978) Advisory Leaflet No. 36

A.P.B. (1994) Infonote 9/94.

Everist, S.L. (1974). Poisonous Plants of Australia. (Angus and Robertson, Sydney). P99.
Photo.

Lamp, C. and Collet, F. (1990). A Field Guide to Weeds in Australia. (Inkata Press, Melbourne).

Lazarides, M. and Hince, B. (1993). CSIRO handbook of economic plants of Australia. (CSIRO, Melbourne). #231.2.

Parsons, W.T. and Cuthbertson, E.G. (1992). Noxious weeds of Australia. (Inkata Press, Melbourne). P173-175.

Acknowledgments:

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