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WESTERN AUSTRALIAN DEPARTMENT OF AGRICULTURE

POISON PLANTS OF WESTERN AUSTRALIA

WODJIL, KITE LEAF, ROE'S and GRANITE POISONS

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POISON PLANTS OF WESTERN AUSTRALIA

The toxic species of the genera Gastrolobium and Oxylobium

WODJIL POISON (*Gastrolobium floribundum* S. Moore)

BREELYA OR KITE-LEAF POISON (*Gastrolobium laytonii* J. White)

ROE'S POISON (*Oxylobium spectabile* Endl.)

GRANITE POISON (*Oxylobium graniticum* S. Moore)

By T. E. H. APLIN, B.Sc., Botanist

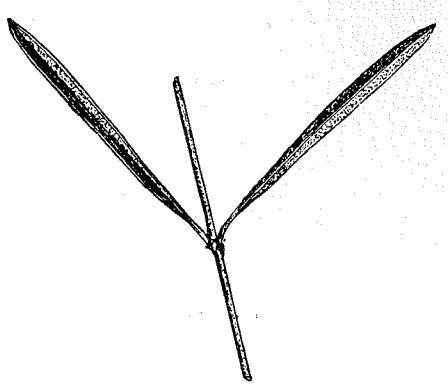
THIS article deals with four species which are found in the pastoral area although three of them are also present in the agricultural area.

WODJIL POISON

WODJIL POISON derives its common name from its association with wodjil, *Acacia spp.* and other sandplain vegetation. It normally occurs on gravelly soils which may be overlain with yellow sand. Wodjil poison is a shrub, from two to three feet in height or exceptionally up to four or five feet tall, with usually yellowish, erect branches. It is found from Perenjori southwards and eastwards to Southern Cross.

The leaves of wodjil poison are in opposite pairs at intervals only slightly less than the length of the leaves which are from one and a half to two and a half inches long. The leaves are narrow, on short stalks which briefly continue down the stem, typically parallel-side and blunt at the apex, folded or concave, above straight or slightly curved inwards (never curved outwards as in cluster poison) and pale yellowish-green in colour. There is a a form of wodjil poison, found east of Narembeen, which has broader, shorter leaves. The erect, black and rigid stipules are broken off above the basal portion.

The botanical name derived from the Latin *floris,* flower, and *abundus,* abounding in, is in reference to the large number of flowers which are borne in elongated



Leaves of wodjil poison

Wodjil poison, *Gastrolobium floribundum* S. Moore, is found on yellow sandy soils from Perenjori to Narembeen. The leaves are narrow and pale yellowish-green. A highly toxic plant.

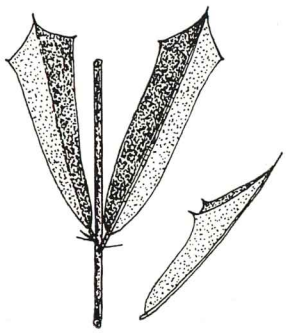
racemes, usually about as long as the leaves, and which are both terminal and in the axils of the upper-most leaves. The axis of the racemes, the pedicels and the calyces are covered with short spreading hairs. The flowers are borne in pairs along the axis of the raceme. The calyx teeth are very short, the upper two being more united than the lower three. The petals are pale yellow suffused with red. The ovary and young pod are densely hairy.

BREELYA

BREELYA or *KITE-LEAF POISON* is a shrub which, in sheltered locations, attains a height of 18 feet. It is more commonly from four to 10 feet in height. Breelya is usually associated with granite rocks and more particularly in sheltered declivities with a southern aspect. To the west of its range, in the agricultural area, it may be seen on gravelly rises as a small shrub. Breelya is found in the Weld Range, north-west, of Cue, to the breakaway country eastwards from Meekatharra and Lawlers, westwards to the Ninghan Hills, near Paynes Find, and to Perenjori.

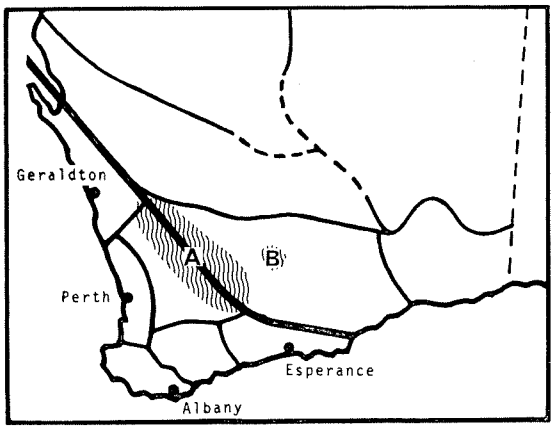
The leaves of breelya are wedge-shaped, terminating in a triangular apex, and is more or less in the shape of a kite. Its alternative common name kite-leaf poison alludes to the shape of the leaf. The leaf shape varies from the conventional kite-shaped to oblong, but the apex remains triangular or very rarely truncated.

The relatively small flowers are borne in racemes which are long and loose. The botanical name commemorates Layton, whose identity is unknown.

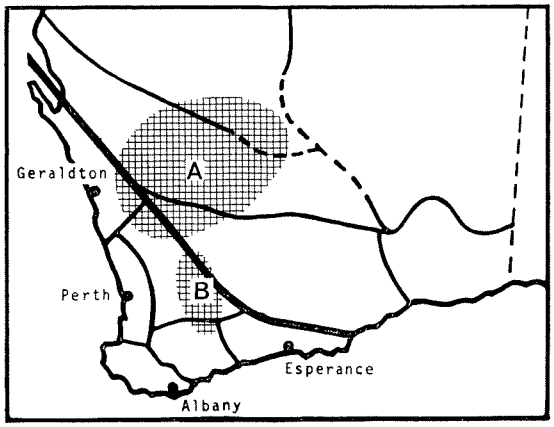


Leaves of breelya

Breelya, *Gastrolobium laytonii* J. White, is found mainly near granite rocks from Latham to Lawlers. The leaves are generally kite-shaped. A highly toxic plant.



Distribution of—(A) wodjil poison, (B) granite poison



Distribution of—(A) breelya or kite-leaf poison, (B) Roe's poison

ROE'S POISON

ROE'S POISON, so called because it was first collected by J. S. Roe at or near Emu Hill near Narembeen in 1836, is a shrub, which varies in height from two to eight feet according to location, with erect stems which are densely branched and foliaged, but which may become straggly in open situations. Roe's poison is found from Kununoppin to Muntadjin southwards to near Lake Grace. It is only found associated with granite outcrops.

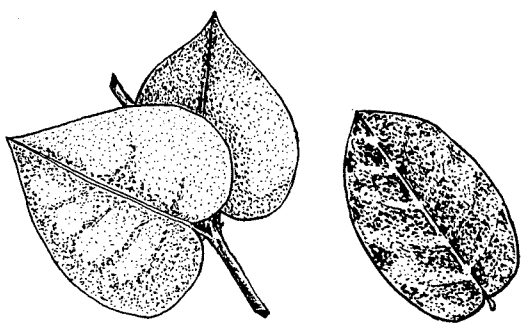
The leaves of Roe's poison are heart-shaped, with the rounded end towards the base, borne in opposite pairs, and short-stalked. The leaves are sometimes oblong but the base remains indented. The leaves are one to two inches long, conspicuously net-veined with fine veins and are a rich deep green to a blue-green in colour.

The large flowers are borne in short terminal racemes. The pedicels are about as long as the calyces. The calyx is hairless except sometimes for a short woolly fringe on the lobes. The petals are a rich yellow. The stipules are erect and rigid and become brittle with age. The pods are black when ripe, hard and pointed, about half an inch long, hairless and usually contain about six seeds. The botanical name derived from the Latin *spectabilis,* notable or worth seeing, refers to the attractive appearance of this species.

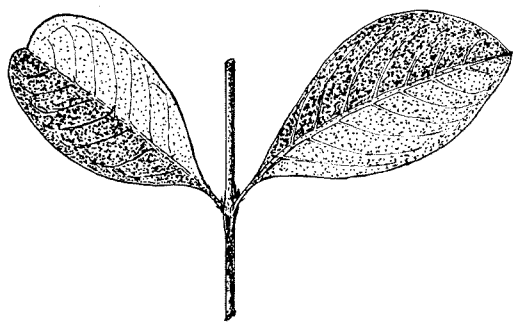
GRANITE POISON

GRANITE POISON, as its common name implies, is a shrub which is confined to granite rocks. The botanical name derived from the Latin is one that is applied to plants growing on granite rocks. Granite poison is a shrub from three to eight feet in height, with erect branches and purple branchlets. It is found in the Coolgardie and Kalgoorlie districts.

The leaves of granite poison are borne in opposite pairs, rather thick, conspicuously net-veined, flat, one and a half to two inches in length and are deep green to grey-green. The leaves are ovate taper-

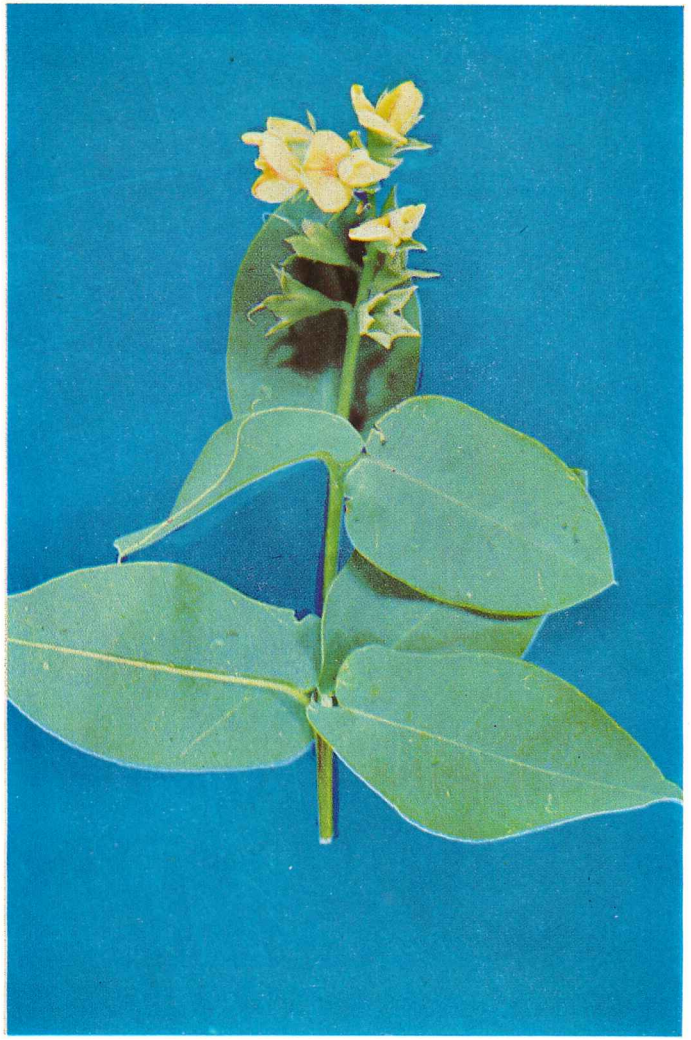


Leaves of Roe's poison



Leaves of granite poison

Granite poison, *Oxylobium graniticum* S. Moore, is associated with granite rocks and found only in the Kalgoorlie and Coolgardie districts. A highly toxic plant.



Roe's poison, *Oxylobium spectabile* Endl., is associated with granite rocks and found from Kununoppin to Lake Grace. The petals are a rich yellow. A highly toxic plant.

ing into a leaf-stalk and usually rounded or slightly notched at the apex.

The flowers of granite poison are in large, elongated racemes. The calyx is hairless except for a minute fringe to the lobes. The petals are yellow and deep red. The pods are woody, stalked, hairless, usually half an inch in length, purplish-black when ripe and contain six seeds.

TOXICITY

Breelya was first recorded as a toxic plant in the Murchison district in 1854 by Robert Austin. Herbert (1921) described experiments conducted by Morrison in 1900 using granite poison. The plant had been reported to have poisoned camels in the Coolgardie district. Carne, Gardner and Bennetts (1926) included wodjil poison in their list of poisonous plants. Gardner (1937) described wodjil poison as an extremely virulent species. Gardner and Bennetts (1952) included Roe's poison in their list of toxic plants.

An attempt to isolate the toxic principle in granite poison was made by Bottomley in 1948-49. McEwan (1964) characterised the toxic principle of wall-flower poison as mono-fluoroacetic acid. Almost simultaneously and independently the same toxic principle was shown by Cannon to be present in box poison and rock poison. Aplin (1967) reported the presence of the toxic principle in breelya, wodjil poison and Roe's poison.

Wodjil poison has been shown to contain up to 1,350 parts per million of the toxic principle in terms of its sodium salt "1080" the well-known rabbit poison. Granite poison has been shown to contain up to 900 parts per million in the leaf and 1,240 parts per million in the flowers while breelya and Roe's poison have been shown to contain up to 500 and 400 parts per million respectively. All these plants are therefore highly lethal to livestock.

These plants are considered to be most toxic when new shoots appear or when in flowering and fruiting stage. The toxic principle being a stable compound remains present in dried plants. Plants destroyed by cutting or grubbing should therefore be heaped and burnt rather than left lying in the paddock for stock to consume.

Farmers, graziers and pastoralists should learn to recognise poison plants as they occur in their district and avoid exposing stock to the hazards presented by them. If in doubt as to the identity of a poison plant, do not hesitate to submit specimens of suspected plants to the Officer-in-Charge, Botany Branch, Department of Agriculture, Jarrah Road, South Perth, for identification and comment.

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