

WESTERN AUSTRALIAN DEPARTMENT OF AGRICULTURE

POISON PLANTS OF WESTERN AUSTRALIA

BERRY POISON
SPIKE POISON
HOOK-POINT POISON
SCALE-LEAF POISON





POISON PLANTS OF WESTERN AUSTRALIA

The toxic species of the genera
Gastrolobium and *Oxylobium*

BERRY POISON (*Gastrolobium parvifolium* Benth.)

SPIKE POISON (*Gastrolobium glaucum* C. A. Gardn.)

HOOK-POINT POISON (*Gastrolobium hamulosum* Meissn.)

SCALE-LEAF POISON (*Gastrolobium appressum* C. A. Gardn.)

By T. E. H. APLIN, Botanist

This article deals with four species which, apart from spike poison, may be distinguished by their small leaf size. Scale-leaf poison is found in the Irwin district, and the other three are present in the Avon district.

BERRY POISON

BERRY POISON, which has a berry-like, globular pod about the size of a pea, is a shrub about two feet high. The branches are erect, and the upper ones are often clustered. The leaves are somewhat crowded, overlapping, and usually in whorls of three, but sometimes irregularly arranged. The young branches are clothed with dense, short, white, spreading hairs.

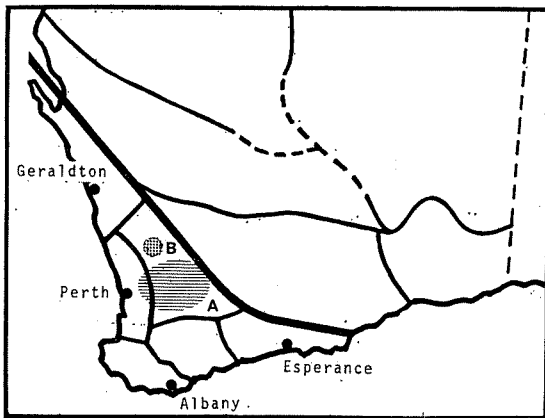
Berry poison is found from York and the Dale River eastwards to Kellerberrin, Bruce Rock and Corrigin. It is associated with wandoo woodland in the Darling Range and with sandplain formations at the eastern end of its distribution range. It is usually found on gravelly-clay soils.

The leaves of berry poison are oblong to elliptical, short stalked, and either blunt at the apex or with a minute, but not

sharp, point. They are blue-green, with conspicuous net veins, and rarely exceed a quarter of an inch in length. The botanical name derived from the Latin



Leaves of berry poison



Distribution of—(A) berry poison, (B) spike poison

parvus, small, and *folium*, a leaf, is in allusion to the small leaf found on berry poison. The brown, spreading stipules disappear as the leaves mature.

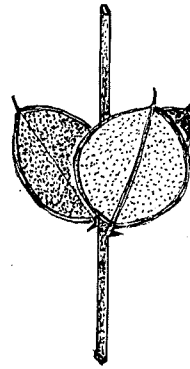
The flowers of berry poison are borne in terminal racemes, which are usually about one and a half inches in length—much longer than the uppermost leaves. The axis of the raceme and the flower-stalks are covered with dense, minute, spreading, white hairs. The calyx is hairless except for the lobes which are fringed with minute, woolly hairs. The two upper calyx lobes are united almost to the top.

The petals are yellow or orange-yellow suffused with purple and are about twice as long as the calyx. The ovary is covered densely with silky hairs. The pod which is borne on a stalk, is hairless and globular with a fine point formed from the base of the style.

SPIKE POISON

SPIKE POISON, which like scale-leaf poison has a limited distribution, is found on gravelly rises in the Wongan Hills district and is associated with sandplain scrub formations. It is a compact shrub with many stems arising from a woody stock.

The botanical name is derived from the Greek *glaukos*, becoming sea-green or bluish-green, and refers to the blue-green or almost grey colour of the leaves which are erect and borne in whorls of three.



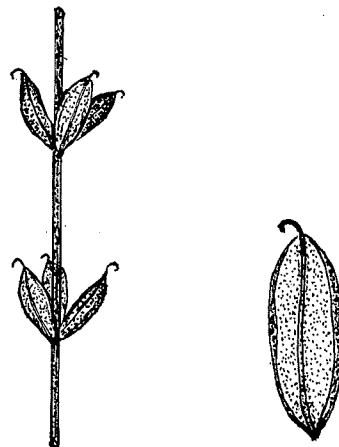
Leaves of spike poison

The leaves are less than half an inch long, and roughly circular. They are flat, rather thick and rigid and blunt at the apex, but with a fine, rigid point. The stipules are small and black.

The common name, spike poison, refers to the long, compact, spike-like racemes which terminate the branchlets and protrude well above the foliage. The flowers are rather small. The pedicel, calyx and ovary are silky hairy. The stalk of the ovary is long, thick and devoid of hairs.

HOOK-POINT POISON

HOOK-POINT POISON is found from north of Moora southwards to Calingiri and Wongan Hills. It is a shrub rarely more than 18 inches high with branchlets covered with short dense, white, spreading



Leaves of hook-point poison



BERRY POISON

Berry poison, *Gastrolobium parvifolium* Benth., is a small shrub usually associated with wandoo on gravelly-clay soils. It is found from York and Beverley eastwards to Kellerberrin and Corrigin. Berry poison is a highly toxic species to which serious stock losses have been attributed.



SPIKE POISON

Spike poison, *Gastrolobium glaucum* C. A. Gardn., is a small compact shrub found on gravelly soils in the Wongan Hills district and associated with scrub heath formation. Spike poison derives its common name from the compact spike-like racemes which protrude above the foliage.



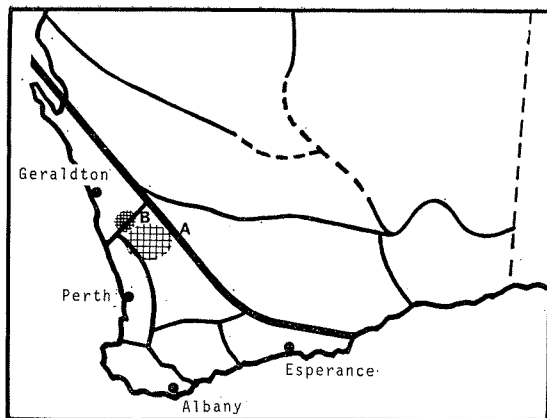
HOOK-POINT POISON

Hook-point poison, *Gastrolobium hamulosum* Meisn., is a low shrub found on gravelly soils or on quartzite ridges from north of Moora eastward to Wongan Hills. The common name refers to the hooked point at the apex of the leaf. This species is becoming rare because of clearing of land.

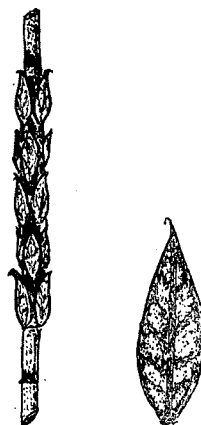


SCALE-LEAF POISON

Scale-leaf poison, *Gastrolobium appressum* C. A. Gardn., was discovered after it had been involved in sheep mortalities in the Gunyidi area where it appears to be localised. It is a low densely branched shrub, with leaves flat to and overlapping each other on the stem like fish scales.



Distribution of—(A) hook-point poison, (B) scale-leaf poison



Leaves of scale-leaf poison

hairs. It is found on gravelly soils, sometimes overlain with sand, and on quartzite ridges.

The leaves of hook-point poison are borne in whorls of three and occur at well spaced intervals. They are less than half an inch long, and elliptical in outline, with a hooked point at the apex. Hence the botanical name derived from the Latin *hamulosus*, which means beset with small hooks.

The flowers are larger than the leaves, and are borne in whorls of three racemes at the ends of the branches. The calyx is silky hairy with long hairs. The calyx lobes are deeply divided, tapering into fine points.

SCALE-LEAF POISON

SCALE-LEAF POISON is a plant of limited distribution, being found on gravelly hillocks in the Gunyidi district north of Watheroo. It is a densely branched shrub, little more than 12 inches high, with the younger branches densely clothed with white hairs.

The leaves of scale-leaf poison are borne in whorls of three, with one whorl alternate to and overlapping the next whorl like the scales of a fish. (Hence the name scale-leaf poison). The overlapped leaves are closely pressed against the stem. The short stalked, leathery leaves are roughly lance-shaped, and the pointed apex ends in a fine sometimes slightly hooked spine. The leaves are about a

quarter of an inch long, concave above, prominently net veined, devoid of hairs and pale in colour. There are no stipules.

The flowers are borne in racemes at the ends of the branchlets. The flower-stalks are silky hairy. The calyx is devoid of hairs, and about a quarter of an inch long, with the three lower lobes lance-shaped and pointed at the apex. The petals are orange-yellow and purple in colour. The silky hairy ovary is borne on a stalk.

TOXICITY

Morrison (1910) listed berry poison as a toxic species. Herbert (1921) listed hook-point poison as a poisonous plant and stated that it was toxic when at the flowering stage. Gardner (1942) when describing spike poison stated that it was toxic to stock. Gardner (1964) when describing scale-leaf poison stated that it was a confirmed toxic species.

In common with most toxic species of the genus *Gastrolobium*, three of these four species have been found to contain mono-fluoroacetic acid, which is closely related to the rabbit poison "1080".

Air-dried samples of berry poison have been shown to contain up to 300 parts per million of "1080" equivalent, spike poison up to 200 parts per million and hook-point poison up to 100 parts per million. Scale-leaf poison has not yet been tested for mono-fluoroacetic acid but it is more than likely that this toxic principle is also present in this species.

Toxic plants containing mono-fluoro-acetic acid are much more dangerous when growth activity is taking place. Plants like berry poison, hook-point poison, scale-leaf poison and spike poison are therefore most hazardous to stock when new shoots appear or when in the flowering and fruiting stage. It is probable that plants like berry poison, hook-point poison and scale-leaf could still be present in locations now being converted to farm lands. Spike poison on the other hand is of very limited significance.

Farmers and graziers should learn to recognise these poison plants and avoid exposing stock to the hazards they present.

The eradication of poison plants, right down to the last bush, is essential before any land is utilised for stock raising activities.

To be certain of the identity of poison plants, specimens of suspected plants should be submitted to the Officer in Charge, Botany Branch, Department of Agriculture, Jarrah Road, South Perth, for identification and comment.