1-1-1969

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.)

T E H Aplin

Follow this and additional works at: https://researchlibrary.agric.wa.gov.au/journal_agriculture4

Part of the Plant Biology Commons, and the Veterinary Toxicology and Pharmacology Commons

Recommended Citation

Aplin, T E H (1969) "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.)," Journal of the Department of Agriculture, Western Australia, Series 4: Vol. 10 : No. 12 , Article 8.

Available at: https://researchlibrary.agric.wa.gov.au/journal_agriculture4/vol10/iss12/8

This article is brought to you for free and open access by Research Library. It has been accepted for inclusion in Journal of the Department of Agriculture, Western Australia, Series 4 by an authorized administrator of Research Library. For more information, please contact jennifer.heathcote@agric.wa.gov.au, sandra.papenfus@agric.wa.gov.au.
IMPORTANT DISCLAIMER

This document has been obtained from DAFWA's research library website (researchlibrary.agric.wa.gov.au) which hosts DAFWA's archival research publications. Although reasonable care was taken to make the information in the document accurate at the time it was first published, DAFWA does not make any representations or warranties about its accuracy, reliability, currency, completeness or suitability for any particular purpose. It may be out of date, inaccurate or misleading or conflict with current laws, polices or practices. DAFWA has not reviewed or revised the information before making the document available from its research library website. Before using the information, you should carefully evaluate its accuracy, currency, completeness and relevance for your purposes. We recommend you also search for more recent information on DAFWA's research library website, DAFWA's main website (https://www.agric.wa.gov.au) and other appropriate websites and sources.

Information in, or referred to in, documents on DAFWA's research library website is not tailored to the circumstances of individual farms, people or businesses, and does not constitute legal, business, scientific, agricultural or farm management advice. We recommend before making any significant decisions, you obtain advice from appropriate professionals who have taken into account your individual circumstances and objectives.

The Chief Executive Officer of the Department of Agriculture and Food and the State of Western Australia and their employees and agents (collectively and individually referred to below as DAFWA) accept no liability whatsoever, by reason of negligence or otherwise, arising from any use or release of information in, or referred to in, this document, or any error, inaccuracy or omission in the information.
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.)

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
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...
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, *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, *Gastrolobium hamulosum* Meissn., 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, *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.
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-fluoroacetic 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.
Save your feeding efforts for your sheep—not worms.

Play safe with 'Nilverm'.

Lack of feed lowers resistance and makes sheep more susceptible to worm infestations. It's a hand to mouth existence. Don't let your efforts (or your money) go to waste. Let your sheep make maximum use of all available feed by controlling worms now.

Trail or block feeding, or small amounts of green pick at watering places cause sheep to gather in the same vicinity day after day. Heavy concentration of droppings can result in heavy worm infestations after moisture from light rain or dew. With less resistance, because of drought conditions, sheep suffer more severely from the effect of worms.

Rid them of these parasites now. Use 'Nilverm' GL or Injection. Both effectively control all major worms.

Worm control during a drought is recommended by the Western Australian Department of Agriculture in their Bulletin No. 3676.

ICI

Imperial Chemical Industries of Australia & New Zealand Ltd.
What's your loss in plant wear and tear?

That much!

With Mobil Lubricants you effectively reduce this loss.
How?

**Delvac 20W-40 engine oil:**
With Delvac, you get fast starts from cold, improved wear resistance for cylinders and heavily loaded parts.
And you buy only one oil instead of several.
In 4, 13 and 45 gallon drums.

**Mobilube GX80-90 transmission oil:**
Mobilube gives easier gear changing in all weathers. Gives top protection for gear boxes, final drives and worm drives. In quart, gallon, 4-gallon containers. 13 and 45 gal. drums.

**Mobilgrease MP chassis grease:**
This multi-purpose grease protects chassis, wheel bearings, universal joints and water pumps.
Mobilgrease has high water ash-out resistance, high load-carrying capacity and excellent shock-load displacement resistance.
In 1 lb. cartridges, 5 lb. tins, 45 lb. pails, 110 lb. kegs and 400 lb. drums.

**Rust and Corrosion:**
For a protective coat against rusting or corrosion, use PRESERVAC OPAQUE; suitable on all external surfaces where protection is required.
Whatever your lubrication requirements, Mobil can simplify them and effectively reduce plant wear and tear.
Contact your local Mobil agent.

Please mention the "Journal of Agriculture of W.A." when writing to advertisers.