

Thornapple

Sandy Lloyd, Research Officer, South Perth

What you need to know about thornapple

Most species of thornapple originated in the tropics. There are five species of thornapple (*Datura* spp.) found in Western Australia. They are in the nightshade family Solanaceae which includes many weeds such as blackberry nightshade (*Solanum nigrum*) and the declared plant, apple of Sodom (*Solanum linnaeanum*). The nightshade family also includes many native *Solanum* species as well as valuable crop plants such as potatoes (*S. tuberosum*) and tomatoes (*Lycopersicon esculentum*). Thornapples are closely related to the toxic garden plant, angel's trumpet *Brugmansia* sp. (formerly known as *Datura* sp.). Many members of the nightshade family, including thornapples, are toxic.

There are at least five closely related species of thornapple in Western Australia. All species occur in scattered outbreaks, mainly along the coast from Shark Bay to Esperance, but also in vacant lots in the Perth metropolitan area and in creek beds or other summer-moist places in the pastoral areas. These thornapple species are declared plants in Western Australia. Landholders who have thornapple on their property are under a legal obligation to destroy it and to prevent it spreading to other properties.

Why thornapple matters to you

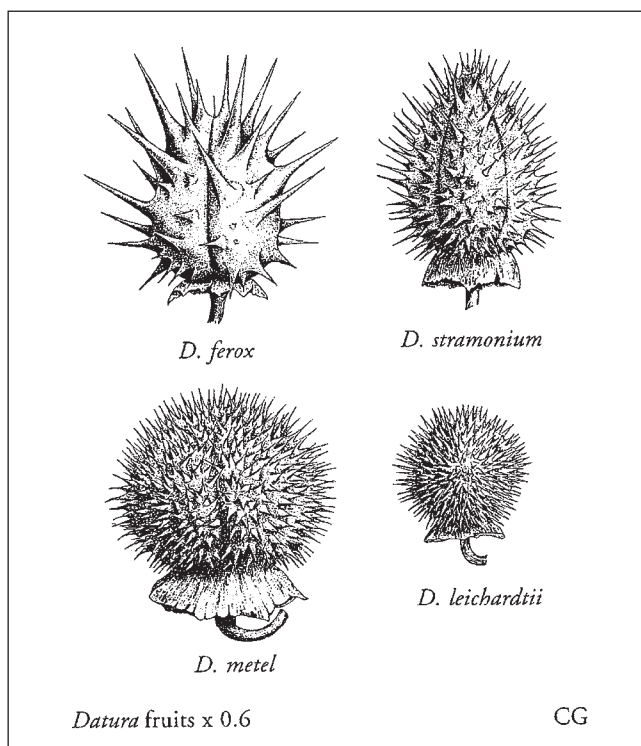
All five thornapples found in Western Australia contain several poisonous alkaloids. The seeds are the most toxic part of the plant. Children have reportedly been poisoned by eating the immature green seeds. The plants are seldom grazed by stock because of their bitter taste, unpleasant smell and spiny seed pods. Animal deaths are usually due to eating contaminated hay, chaff or silage. Thornapples also compete strongly with pasture plants for light and moisture. In a confined space, such as in a car, the fumes given off by fresh thornapple foliage or flowers can cause headache or nausea. When collecting samples for identification, put them in a container or in the boot. Wear rubber gloves if handling thornapple plants, and wash hands thoroughly before eating.

Life history

Thornapple is a vigorous summer-growing annual plant. Seeds germinate in late spring and early summer. It grows over summer, and flowers and seeds given



Thornapple bush on a fenceline



sufficient soil moisture. Seed can be spread for long distances in hay or chaff and as a seed contaminant of summer crops such as maize.

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Description

Thornapple plants are usually dense, thick-stemmed shrubs about 60 to 90 cm high. The large leaves are up to 20 cm long, grey-green with a wavy margin. The flowers are erect and trumpet-like. Seeds are produced in hard, prickly, rounded seed capsules, 2.5 to 5 cm in diameter. Each capsule has four compartments containing many seeds. Thornapple seeds are brown to black, 3 to 5 mm long, flat and round, or possibly kidney-shaped. Suspect seeds can be submitted to the AGWEST Plant Laboratories for identification (Tel. 9368 3721; there is a fee for this service).



Datura stramonium

Common thornapple (*D. stramonium*) has whitish-pink flowers and forms seed pods about 2.5 cm in diameter. The seed pods have prickly spines and are held erect on short stalks.

Fierce thornapple (*D. ferox*) forms large plants with creamy white flowers. The large egg-shaped seed pods are 4 to 5 cm long and bear several coarse spines up to 3 cm long.

Downy thornapple (*D. innoxia*) has a drooping seed pod about 4 cm in diameter covered with dense prickles.

Mexican thornapple (*D. leichhardtii*) was mistakenly thought to be a native plant for many years, but it is actually of Mexican origin. It is naturalised in the Australian tropics. It has smaller flowers than the other thornapples. The seed pod is drooping, 3 to 4 cm in diameter and covered with short slender spines.



Datura leichhardtii

Hairy thornapple (*D. metel*) has large white flowers. Its leaves and stems are covered with soft hairs, in contrast to the other species which are nearly hairless. The seed pod is large and globular, about 5 cm in diameter, drooping and covered with prickles.



Datura ferox fruit with seeds

What you can do about thornapple

Prompt action is required to eradicate isolated patches of thornapple and to prevent the weed from becoming established in new areas. You can obtain control advice by telephoning your local Department of Agriculture and Food Biosecurity Officer or by going to www.agric.wa.gov.au and typing "thornapple" in the search box.

Practise good biosecurity to avoid introducing thornapple or other weeds to your property and to avoid poisoning livestock. Take particular care to buy fodder that does not contain unwanted weeds. It is an offence under the *Agriculture and Related Resources Protection Act 1976* to sell or transport hay or other materials containing declared plants – offences can be reported to the nearest office of the Department of Agriculture and Food.

Do not allow contractors with dirty machinery to work on your property – if necessary provide a washdown area so they can clean their equipment.

For identification of weed specimens, please take a sample to your nearest Department of Agriculture and Food office, or post it to AGWEST Plant Laboratories (Tel. 9368 3721) or the Pest and Disease Information Service (Tel. 9368 3666), both at Locked Bag 4, Bentley Delivery Centre WA 6983.

Further reading

Everist, S.L. (1974). *Toxic plants of Australia*, Angus and Robertson. London. Revised edition 1981 (out of print).

Hussey, B.M.J., Keighery, G.J., Cousens, R.D., Dodd, J. and Lloyd, S.G. (1997). *Western Weeds – a guide to the weeds of Western Australia*, Plant Protection Society, Perth.

Parsons, W.T. and Cuthbertson, E.G. (2000). *Noxious Weeds of Australia*. CSIRO Publishing.

Two very useful webpages for weed information are the Weeds CRC (Cooperative Research Centre) webpage www.weeds.crc.org.au and the Weeds Australia webpage www.weeds.org.au