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Seed Notes for Western Australia

No. 17 *Hibbertia*

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This issue of **Seed Notes** will cover the genus *Hibbertia*.

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Hibbertia

The genus *Hibbertia* is named after the 18th and 19th century English patron and merchant, George Hibbert, whose herbarium was presented to the Linnaean Society. The genus is known as the guinea flower because of its round yellow or golden flowers. They are of good horticultural value although few species are known in cultivation.

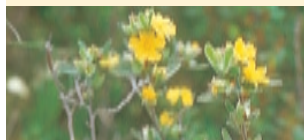


Typical yellow flower of an *Hibbertia*.

Photo – Andrew Crawford

Description

Hibbertia species (family Dilleniaceae) are small to medium shrubs, sometimes prostrate but rarely twiners. The leaves are simple and alternate, the flowers mostly yellow, although they may be white or orange in a few cases (*H. stellaris*). The flowers have five sepals and five petals. Plants of the different species range in habit, foliage and flowering time. They are generally bushy, although there are a few straggly species that can be induced to climb (e.g. *H. scandens*) or used as groundcovers (e.g. *H. glossuralifolia*).



Above left: *Hibbertia porongurupensis*.

Photo – Anne Cochrane

Left: *Hibbertia stellaris*.

Photo – Andrew Crawford



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Geographic distribution and habitat

Hibbertia is a large genus with more than 150 species. Most of these are endemic to Australia, the remainder found in Madagascar, New Caledonia, New Guinea and Fiji. Most of the Australian species are found in Western Australia. Most species are found in temperate areas, with a few being found in arid or mountainous environments.

They tend to inhabit low shrub heathlands and sandplains, as well as open forest and woodland. They grow in a range of soil types, from sands to gravels to clay loams. They can be found in both well-drained sites and in swampy locations. It is thought that the genus is susceptible to the root fungus disease, *Phytophthora cinnamomi* in areas of high rainfall.



Approximate distribution of *Hibbertia* in Australia.



Above: *Hibbertia montana*.

Photo – Sue Patrick

Reproductive biology

Beetles and hoverflies pollinate the flowers of the genus *Hibbertia*. It is possible that the aril of the *Hibbertia* seed is attractive to ants and seed-eating rodents and that insects may eat the seed.

Seed collection



Above: Assessing *Hibbertia porongurupensis* for seed production.

Photo – Ellen Hickman

The fruit of *Hibbertia* are capsular containing two to five shiny brown seeds with jagged seed coverings. It is often hard to find sufficient seed to collect as the fruits are prone to insect damage and also to poor seed set. The capsules will dry out once the fruit are ripe and the seed will start to release. This usually happens in mid to late summer after spring flowering, and it is necessary to coordinate seed collection with seed release. Fruits can be bagged with stockings or muslin to ensure that some seed is collected.

Below: *Hibbertia*. Photo – Andrew Crawford



Seed quality assessment

Within the fruits of *Hibbertia* there are often aborted or malformed seeds. The good seed are plump, rounded, very hard and may be darker than the smaller seed that is unlikely to be viable. Discard any that appear damaged or brittle.



Above: *Hibbertia porongurupensis*.
Note the fatty aril on the top end of the seed.

Photo – Anne Cochrane

Seed germination

Growing *Hibbertia* from seed tends to be difficult and most plants are grown from cuttings. Seed is dormant, but it is possible to germinate seed by removing the seedcoat, which may contain a germination inhibitor. It is easier to remove the hard seed coat after the seed has been soaking in water for several hours or has been incubated on filter paper or agar for a few days to soften the seed coat. Incubation of the seed on the naturally-occurring growth hormone, gibberellic acid, at 25mg per litre can assist germination as it is reported that embryo immaturity is also a cause of dormancy.

It is possible that burning litter on top of a fire resistant pot may crack the seed coat and stimulate germination.



Above: *Hibbertia porongurupensis* seed germinating.

Photo – Anne Cochrane

Below: The vivid orange flowers of *Hibbertia stellaris*. Photo – Andrew Crawford





Above: *Hibbertia enervia*.

Photo – Sue Patrick

Recommended reading

Cochrane, A., Kelly, A., Brown, K. and Cunneen, S. 2002. Germination characteristics of rare and threatened flora from the south-west of Western Australia: an important prerequisite of the recovery process. *Ecological Management and Restoration*, 3, 1, 45–58.

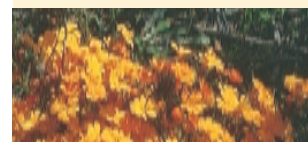
Elliot, W. R. and Jones, D. L. 1984. *Encyclopaedia of Australian Plants Suitable for Cultivation*. Volume 5. Lothian Publishing, Melbourne.

Schatral, A., Osborne, J. M. and Fox, J. E. D. 1997. Dormancy in seeds of *Hibbertia cuneiformis* and *H. huegelii* (Dilleniaceae). *Australian Journal of Botany* 45, 6, 1045–1053.

Sharr, F. A. 1978. *Western Australian Plant Names and their Meanings. A Glossary*. University of Western Australia Press, Perth.



Seed Notes for Western Australia



These **Seed Notes** aim to provide information on seed identification, collection, biology and germination for a wide range of seed types for Western Australian native species.

THREATENED FLORA



SEED CENTRE

They have been written and compiled by Anne Cochrane, Manager of DEC's Threatened Flora Seed Centre.

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The **Seed Notes** are available from www.naturebase.net

Seed Notes

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