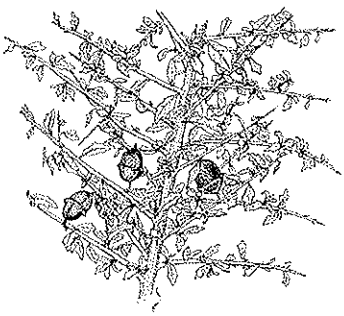
F - FLORA

GRANITITES – A PLANT OF THE 'FOREVER HILLS'

On some granite outcrops in the central and eastern Wheatbelt and into the Goldfields, occurs a small, dense, spiny shrub with an interesting history – *Granitites intangendus*. It appears, perhaps, that it is a survivor from that wet period 40 million years ago that was discussed in WW last October.



Granitites is not spectacular to look at. It is dense and spiny, with tiny pinkish-white flowers well hidden in the bush. The fruits, though small, are quite distinctive, superficially resembling little black acorns, containing seeds with bright red arils. Little is known about its natural history, but other south-west plants with red arils rely on ants to disperse the seeds. The ants carry them away and eat the fatty arils, but cast the seeds onto their underground waste dumps, perfectly positioned away from other predators, ready to be stimulated into growth by chemicals in the smoke of a bushfire. Maybe this also happens with *Granitites*?

The plant is a member of the Buckthorn family, Rhamnaceae, which has a number of species spread throughout the south-west of WA, mostly growing in harsh laterite or sandplain environments. This plant was first named *Pomaderris intangenda* by Baron von Mueller in 1876, from a specimen collected at Mt Ridley, north of Esperance. Later, in 1899, S. Moore named a specimen from Donkey Rocks at Goongarrie, *Cryptandra petraea*. As the first name given, *Pomaderris intangenda* it remained, until Herbarium botanist Barbara Rye started to study the plant, and realized that it wasn't closely related to the south-west Rhamnaceae at all; its closest relative is a genus called *Alphitonia*, a tropical, rain forest genus. So she called it *Granitites intangendus* – 'granitites' because it grows on granite. Genetic studies confirmed this relationship.

What does this mean in evolutionary terms?

In the Cretaceous and Tertiary eras, some 40-30 million years ago, when south-west WA was further south, it was colder and wetter. The vegetation was temperate rainforest. But sticking up out of that rainforest were granite hills, just as they stand up like islands amid the wheatfields today. *Granitites* is found only on the

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highest of these hills, eg Billycatting, Nungarin Rock, The Humps and the aforementioned Mt. Ridley. Rowl Twidale and Jenny Bourne have shown that these outcrops have stood out from the surrounding plain since at least the Cretaceous (see WW 8/2) – in other words, they have been 'forever hills'.

So it seems likely that *Granitites* evolved as a specialist in the difficult granite rock habitat all those millions of years ago, and has managed to hang on in a drying landscape because run-off from the rock concentrates water at its roots.

Another fascinating relictual genus that helps to confirm south-west WA's 'biodiversity hot spot' status.

Penny Hussey

Illustration: Margaret Pieroni
Full reference list available – Ed.