

Stichaster australis, were clearly observed clinging to the rocks at low tide, while John Morton bravely demonstrated the nipping ability of the grapsid crab, *Leptograpsus variegata*.

Thanks to the weather, the beauty of the coastline, Ewen Cameron's leadership, and John Morton's wonderful guidance and commentary, a great day was had by all.

***Gastrodia* aff. *sesamoides* in Auckland City**

P. J. de Lange

Sometimes our less common indigenous plants can turn up in the most unexpected places. For example, my discovery of what was once considered a seriously threatened sedge, *Fimbristylis squarrosa* growing in the cracks of the tiles within the garden bar of my old student post-lecture haunt at the Hillcrest Tavern, Hamilton. Or the time when I discovered *Hypolepis dicksonioides* pushing up through the asphalt by the wharf off Lambton Quay, Wellington City (now, alas, an ugly shopping complex). Since I moved to Auckland in September 1993 I have found further oddities in unexpected places, and one of these I discuss in some detail here.

During December 1994 while heading down Symonds Street toward the University, I discovered a few metres north of the City Street / Symonds Street intersection, just before the entrance way to a large underground carpark (adjacent the Prudential Building), a small flowering patch of the pot bellied orchid *Gastrodia* aff. *sesamoides*. The orchids were growing beneath a planting of pin oak (*Quercus palustris*) and river oak (*Casuarina cunninghamiana*), within a thick leaf mulch of mainly the latter species. So novel was this find that it took a further 10 metres of amble for my brain to fully comprehend what I had just seen. It is not, after all, everyday one finds a saprophytic orchid such as this growing less than 1 metre from a crowded Auckland City pavement!

Returning to the site I began a thorough search of the area which soon revealed eight stems, five in flower, three in bud. Each stem bore between 3 and 5 flowers, these were pinkish white and pleasantly scented. I returned the following day to photograph these, and noted with some asperity a novel threat to this population in the form of some particularly pungent stomach ejecta (vomit) artistically "placed" upon one of the better specimens. Such is I guess, the risks of an orchid opting for a life in the streets of inner Auckland!

I am aware that elsewhere in the country *Gastrodia* spp., occasionally occur within urban areas and many of these occurrences are associated with exotic plantings e.g., the NZFRI campus, Rotorua (E. K. Cameron *pers. comm.*, 1994), or along the banks of the Avon River in Christchurch (B. P. J. Molloy *pers. comm.*, 1994). What sets the Auckland City location for the *Gastrodia* aff. *sesamoides* apart from these is that the plants occur in a highly developed environment (concrete, steel and asphalt abound), without any obvious seed source from which these plants could have arisen. Indeed the orchids' location within the main commercial sector of Auckland City means that any pre-settlement indigenous vegetation is not exactly common nearby, let alone any form of post-settlement indigenous forest. So whence came the seed?

From examination of the herbarium holdings of *Gastrodia* at AK and AKU it would appear that this genus has never been that common in the mainland Auckland region. Only two species of *Gastrodia* have been recorded from the region, *G.* aff. *sesamoides* and *G. minor*. In AK and AKU there are 7 collections of *G.* aff. *sesamoides* from 4 locations spanning the last 64 years. The only ones which are probably still extant are those from North Woodhill (AKU 19090, AK 179251) as these were collected from protected areas of indigenous vegetation in 1986 and 1987 (E. K. Cameron *pers. comm.*, 1994). *Gastrodia minor* on the other hand, is presently known from just one location: Spragg's Bush, in the Waitakere Ranges (AK 151985, AKU 13618). While *Gastrodia* species can be notoriously cryptic, the local presence of a strong botanical community specialised in searching for the elusive (e.g. *Yuania*), should have revealed further sites for *Gastrodia* around Auckland by now if their perceived scarcity was the result of having been simply overlooked.

So returning to the original question, “whence came the seed?” Simply put - I don't know.

Maire tawake at Browns Bay, Auckland

Ewen Cameron and Marjorie Cutting

Site Description

On the 25 of May and 17 June 1995 in the company of Vic Lange, we inspected the vegetation on part of the Newbegin Block, an area proposed for subdivision in Browns Bay on Auckland's North Shore. Each inspection was for about 1.5 hours. On the first trip we entered the regenerating bush from Helvetia Drive and proceeded down to the gully in the south west corner of the block where there are at least 35 maire tawake (see Appendix for scientific plant names) up to 10 m tall in the wetland at the bottom of the narrow gully (map reference R10 653 955 c. 40 m asl.). On the second trip we proceeded from the back of 9 Helvetia Drive, north-eastwards down the valley, above the proposed road route, to the raupo swamp on the Robinson Block (a second proposed subdivision area) and returned, more or less, up the stream to the main maire tawake site.

Locally, maire tawake is the main emergent tree standing between 8-10 m tall (with 13 maire tawake in this upper size range; the largest diameter was 49.5 cm taken at 40 cm from the ground, the trunk divided above this height). Their air-breathing roots (pneumatophores) appear as pale, branched stems protruding up to 40 cm above the ground. Seedlings are locally common. The main associated trees in the canopy are cabbage trees, putaputaweta, tree fuchsia and pate. There is a mature nikau and several seedlings. Shrubs of kanono and hangehange are common. The large sedge, *Gahnia xanthocarpa* dominates the ground; a large lily, *Astelia grandis* and flax are present as well as ferns (kiokio, gully fern) and tree ferns (wheki, mamaku). Two climbers are common, kiekie and supplejack. There are two main weeds present: pampas grass and wild ginger. Pampas grass should die out with shading, the ginger requires careful weeding and probably herbicide treatment to eradicate.

The gully is surrounded by manuka and to a lesser extent kanuka, 2-7 m tall, in a mainly “gumland” association on the clay soils. Typical gumland species seen included: shrubs - kumarahou, tainui, *Dracophyllum sinclairii*; ferns - *Gleichenia microphylla*, *Lindsaea linearis*, *Paesia scaberula*; monocots - *Lepidosperma australe*, *Schoenus tendo*; *Gahnia setifolia*, *Dianella nigra*, *Morelotia affinis*; herbs - *Centella uniflora*.

Weeds such as wattle species, gorse, needlebush, pampas grass and pine trees (2 species) are common and conspicuous in this seral association, but with time they would die out as they cannot regenerate in the shade. Because of their longevity the pines should be ring-barked. The relatively short-lived gorse and wattle will actually assist the regenerating natives they are amongst by their nitrogen fixing roots and canopy which will open with age, encouraging the natives to replace them. The area is quite diverse in native species, 65 were encountered during our brief visits (see Appendix).

Stream Below the Maire tawake

The vegetation of the stream area from the lowest maire tawake down to the upper margin of the raupo swamp on the Robinson Block (some 100 m) is rather shrubby and open in places. There is a mixture of native and introduced species. Some of the native species present further up the valley are scattered along the stream margin, e.g. hangehange, mahoe, mamaku, wheki, cabbage trees, kiokio and gully ferns with tall trunks. An area of raupo was also present (c. 20 m x 10 m). Maire tawake and *Astelia grandis* appeared to be absent. Wild ginger, pampas grass and black wattle were locally common. The vegetation along this stream section is much younger than the maire tawake sites higher up the valley.