

THE PERSISTENT ORCHID, *GASTRODIA CUNNINGHAMII*

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There have been repeated sightings of the potato orchid, *Gastrodia cunninghamii*, in and around Christchurch over the years, especially in Hagley Park and in the Botanic Gardens (see, for example, No. 12 of this Journal, 1978). Recent sightings of this orchid in Hagley Park continue the record there of this interesting and distinctive saprophytic (or parasitic?) plant, which is well described and illustrated in the New Zealand orchid literature.

In December 1992, Simon Heppelthwaite alerted me to a vigorous colony of *G. cunninghamii* growing on the bank of the Avon River in Little Hagley Park, near the base of a large oak (*Quercus robur*). The other ground plants of note were the Chilean brome grass (*Bromus lithobius*), and a sedge of the *Carex geminata* complex. Representative flowering stems of *G. cunninghamii* were collected for the Landcare Research herbarium (CHR 508995). Although no detailed notes were taken, about 40 flowering stems of the orchid were counted.

Previous gatherings of this species from Christchurch, now held in the Landcare Research Herbarium, include: CHR 221686, Hagley Park, W.G. Brockie, 5 January 1938; CHR 269268, Hagley Park, H. Talbot, Dec. 1945; CHR 314685, Botanic Gardens, W.R. Sykes, 13 Dec. 1975. Brockie's collection was made "at foot of large oak (*Quercus robur*)", while Bill Sykes gathered his "at base of Lombardy poplar". Talbot gave no specific site details for his collection.

I did not revisit the Little Hagley site in 1993, but I understand from Simon Heppelthwaite, who did, that no flowering stems of *G. cunninghamii* emerged. However, I did return in December 1994, but despite careful searching over a period of several weeks, not one flowering stem of the orchid was seen. I concluded, tentatively, that either the colony had died, or the rhizomes were still building up their reserves depleted by the 1992 flowering. Nevertheless, I resisted the temptation to dig a hole in the area of the colony to find out one way or another, which was just as well.

In December 1995, I was alerted to the re-appearance of *G. cunninghamii* on precisely the same site by Remco Baars who knew about the colony, and found the orchids while monitoring native plants established in 1992 along this section

of the Avon River bank. On 13 December I visited the site and counted 23 flowering stems at various stages of growth, and spread over about 2 metres. The colony occupies a relatively narrow strip, flat to gently sloping, between the base of a large oak tree and the river bank. The area is reasonably secure from trampling, although it may eventually become overgrown with *Carex geminata*, which would be detrimental to the orchid. The reduced number of stems in 1995 (23) compared with about 40 in 1992 suggests that conditions may have become less favourable.

I was also alerted to a smaller colony of *G. cunninghamii* further upstream and almost opposite the Millbrook Reserve. At this site I counted seven flowering stems spread unevenly over several metres at the bases of a large ash (*Fraxinus excelsior*) and a multi-stemmed clump of sycamore (*Acer pseudoplatanus*). The stems of the orchid had emerged through a ground cover of *Acaena novae-zelandiae* and *Rytidosperma clavatum*. This rather loose colony is also situated on a narrow strip of sloping land between the base of the trees and the river, and is even more secure against trampling.

Significantly, this last site must be very close to the one “just on opp. side of Avon River from Millbrook Reserve” where Brockie collected his specimen in 1938, 57 years earlier. We have no way of knowing whether the orchid has persisted in this general area from seed dispersed from local colonies, or from further afield. Certainly, *G. cunninghamii* is self-pollinating and self-fertilised, and one flowering stem is capable of producing large quantities of seed. On the other hand, we know little about this orchid’s rhizome behaviour or the longevity of individual colonies.

For the best part of 60 years, at least, this highly modified stretch of the Avon River has proved suitable for the establishment and growth of *G. cunninghamii*. The local habitats of the orchid, though few in number, are thinly vegetated at present, and relatively safe from people pressure and grass mowing. However, they will need to be kept free of rank growth of ground cover plants which seem to be detrimental to the orchid’s well-being.

G. cunninghamii and other species of *Gastrodia* are non-green orchids and are very dependent on specific fungi associated with their rhizomes. Not surprisingly, they are extremely difficult if not impossible to grow in cultivation. The exotic trees associated with the Hagley Park are all deciduous and shed large quantities of leaves annually. The decay of these leaves, and the organic cycle within the trees’ root zones, probably provide the right fungal environment for *G. cunninghamii*.

Now that we know where these two colonies are, attempts to disturb them physically should be discouraged. It will be interesting to observe the behaviour of these orchids over the next few years, in particular their periodicity of flowering, and their longevity. The “field plots” are in place; all they need now is sympathetic management and diligent monitoring.

RANUNCULUS ON MOUNT HUTT

Awesome
 a flower
 alone
 on a shingle
 slide
 a scree
 so
 grey and
 hard it's
 a wonder to
 survive
 at all
 fragile
 brilliant
 in the summer
 sun an
 orb
 of golden
 yellow