A new New Zealand orchid near Levin

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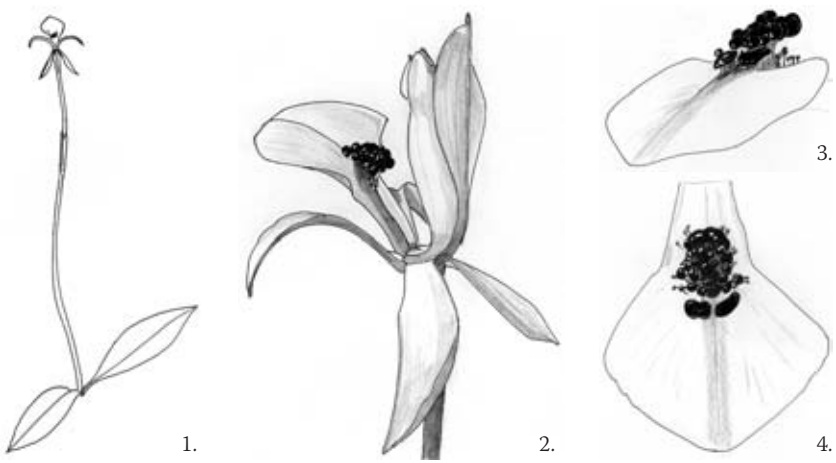
On 11 September 2002, Forest and Bird member Leita Chrystall was walking in a Horowhenua pine plantation, when she spotted an orchid she had never seen before. It turned out to be the Australian *Chiloglottis trapeziformis*. After the original find members of the Levin Native Flora Club made several visits to the area in an attempt to find answers for the two most asked questions: (1) How did it get there? and (2) How does it multiply?

They found it growing in 17 patches quite separate from each other and mostly circular in shape, one as large as 5 × 4 metres, but down to 0.5 × 0.4 m. The area covered 100 × 50 metres. The plant was growing in mature pine plantation adjacent to the Tasman Sea and most patches were growing on or near decayed pine logs from past thinning or felling. Several patches had *Chiloglottis cornuta* growing in the immediate vicinity. The flowers in each patch were similar in shape, colour and size. There were differences in flower size, colour and markings in flowers from different patches.

The flowers rise from a pair of leaves usually with one slightly larger than the other, with stems varying from 70 mm to 140 mm above leaf. The flower buds enlarge and burst open at the top of the stem. The flowers are long lasting and after reaching maturity the dorsal sepal and column close up. In a number, the flower stems wilted before the flower finished, perhaps the result of the very dry conditions. The flower dropped from the peduncle at the leaf bract. Very occasional seed pods were observed.



Figs 1–4. *Chiloglottis trapeziformis.* 1: Plant; 2: Flower; 3, 4: labellum.

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R.H. Matthews discovered similar plants near Kaitaia in 1900, but there have been no reliable reports in New Zealand since. It is significant that both localities are on the west coast and in the path of the southwesterly winds. Cheeseman described the Kaitaia plants as *Chiloglottis formicifera* but doubt has been expressed whether these specimens are *C. formicifera*. Lucy Moore in Flora 2: p113 (1970) cited Matthews specimens in WELT and CHR and stated that they vary in detail from Fitzgerald's illustration. Brian Molloy, who has carefully examined all the NZ specimens, says they are all *C. trapeziformis*; he doubts if we have ever had *C. formicifera* in NZ. A chromosome count of the Levin plants showed $2n = 40$, the same as Australian plants (P. de Lange, pers. comm).

This is an orchid of southeast Australia. It is distinguished by the trapeziform (kite-shaped) labellum with its compact central group of calli and bare anterior expansion. R.D. FitzGerald described the species in 1877, and his description and plate clearly set out the differences between *C. formicifera* and *C. trapeziformis*. In Australia *Chiloglottis* are pollinated exclusively by small wasps of the subfamily Thynninae. There are no thynnid wasps in New Zealand.

C. trapeziformis appears, like *C valida*, to be a vagrant orchid which, lacking its insect pollinator, spreads vegetatively here; the presence of several discrete patches at one site, with different flowering times, different colour and patterns of labellar calli, suggests occasional crossing with seed dispersal over some metres. The different flowering times among the colonies may on the other hand simply result from variation in light intensity.

Events have overtaken *C. trapeziformis*: the timber company has felled the forest and the original colony no longer exists. Orchid enthusiasts have transplanted plants to many private (and with permission, some public) sites in New Zealand, including the Iwitahi Native Orchid Reserve where it appears to be surviving. The Australian orchidologists David Jones and Mark Clements have recently renamed the plant *Myrmechila trapeziformis*.