

REMARKABLE METAMORPHOSIS OF  
THELYMITRA PAUCIFLORA Cheesem. (not of R. Br.)

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The plant which we in New Zealand have, since Cheeseman's paper in Trans. N.Z. Inst. 48: 1916 p.214, been accustomed to call T. pauciflora; a plant with blue flowers, a deeply cleft, bright yellow mid-lobe to the column-wings and sparse white tufts (which do not overlap) of lateral cilia; is actually an unstable epharmone of T. longifolia Forst., and will, under suitable conditions, revert to the latter species.

At the beginning of 1982 I was asked to send tubers of the Auckland form of T. pauciflora to Botany Division, Christchurch, for chromosome counting. Accordingly in April 1982 I brought in a clump of roadside plants, just beginning to show their leaves, planted them into a single, 150 mm clay pot, marked with an aluminium label stamped with the number 15, and wrote the details into my card system. There were no other thelymitras in the coolhouse at that time, so that there was absolutely no possibility of a mix-up. In October 1982 these plants came into flower, typical (N.Z.) pauciflora, blue flowers, cleft yellow mid-lobe &c. I lifted 2 plants from the pot, and despatched them, tubers and flowers together, to Christchurch. I left the remaining 5 plants in the pot, still with their #15 label. They died off for the summer and came up again in April 1983 with the same leaf form as before. They appeared to be thriving and in due season developed flower spikes, which opened on 15 October 1983 as normal T. longifolia; white flowers, brown cucullate mid-lobe with truncate yellow tip and overlapping, dense white tufts of lateral cilia. The #15 label still firmly in place.

My cool-house is dug into a slope and below ground level at one end. It also has a built-in fish pond and waterfall which tend to make it damp and humid. The lighting is indirect and registers only 61% of the outside light value. I am inclined to credit (blame?) the reversion to these conditions, but whatever factors triggered off the change, the change itself is beyond dispute.

It is fortunate for taxonomy, since we are dealing with the type of the genus, that the climax-form of the series is still T. longifolia Forst., a robust but not necessarily tall plant, with white flowers and the characteristic longifolia column, and a flat, deflexed, ribbed leaf up to 25 mm wide by 360 mm long. Small plants may be found in both forms, with narrow-erect sheathing leaves and sometimes only a single flower. The blue flowered pauciflora form does not (in Auckland) seem to develop beyond the semi-erect, sheathing leaf stage.

I would suggest deleting T. pauciflora from the New Zealand orchid flora and amending the description of T. longifolia to include the alternative column-form. The complex in the broad sense is notoriously variable in colour and minor form, and these variations have been discussed in detail by Dr Moore in Flora of New Zealand 2: 1970, p.130.

This discovery drew my attention to 2 other Auckland species which are associated with the longifolia complex, intermedia and aemula. In November 1982, in the course of collecting for Christchurch, I found a colony of 10 flowering plants of T. intermedia which I staked for reference. I lifted 2 of the plants, sent 1 to Christchurch for chromosome counting and kept the other in cultivation. On 1 November 1983 the potted plant flowered as T. aemula. I immediately rushed out to the coast to look at my marked colony. Every flower on each of the 8 plants had the aemula column-structure. Vegetatively they hadn't changed at all. The earlier and valid name intermedia Bergg. 1878, belongs in this case to the unstable form, while the climax form, aemula Cheesem. 1919, is the synonym.

I have no idea of the relationship between this 2-form group and the larger longifolia complex, if indeed they are related. It will be interesting to see if any other New Zealand species prove to be unstable