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**A PUTATIVE HYBRID BETWEEN *CALADENIA DILATATA*
VAR. *CONCINNA* AND *C. PATERSONII* VAR. *PATERSONII*
(ORCHIDACEAE)**

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Abstract

A naturally occurring putative hybrid between *Caladenia dilatata* R. Br. var. *concinna* H. M. Rupp and *C. patersonii* R. Br. var. *patersonii* (Orchidaceae) is reported from Port Vincent, Yorke Peninsula, South Australia. The parents and putative hybrid are illustrated and their differences tabulated.

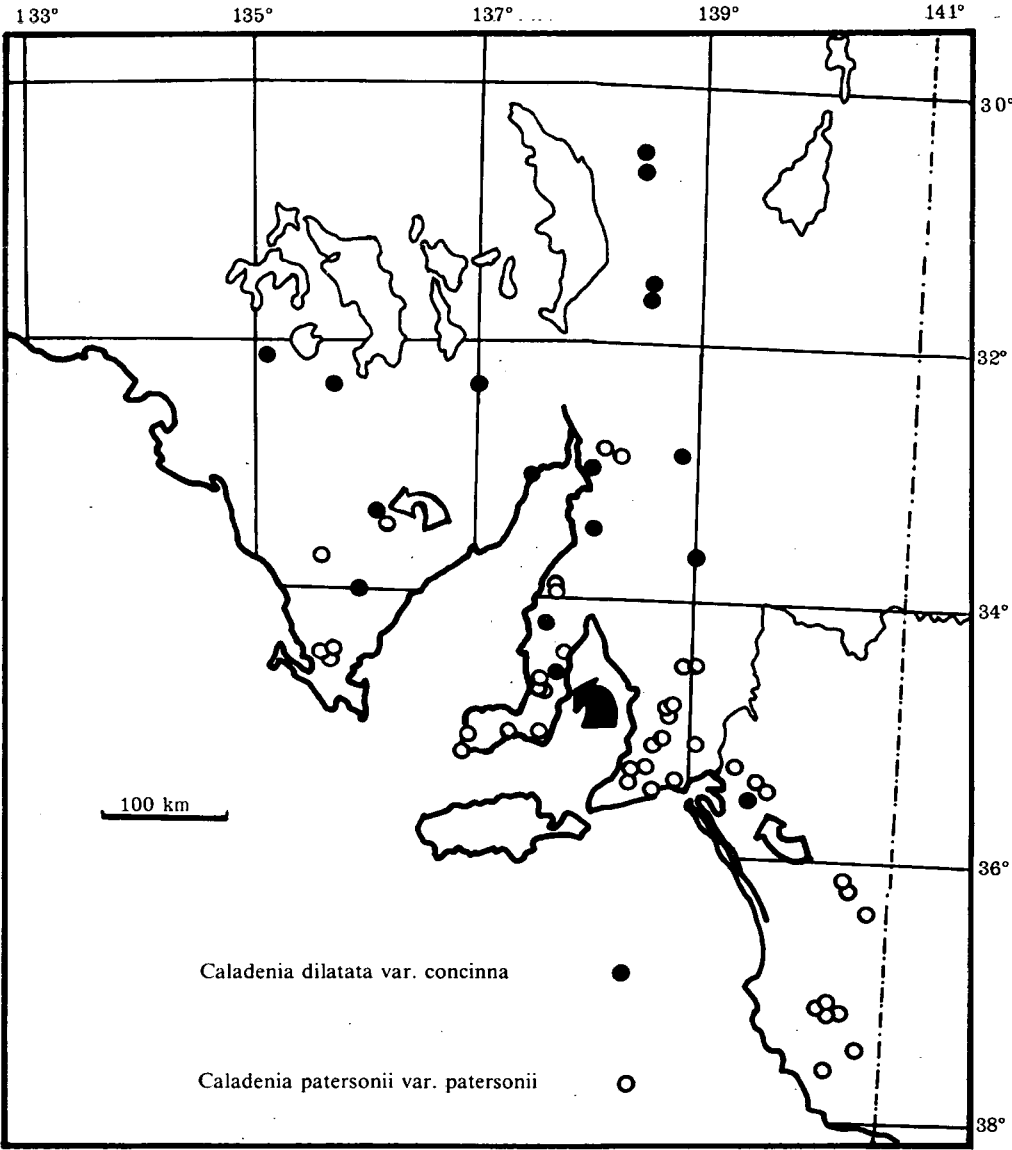
An apparent hybrid between *Caladenia dilatata* R.Br. (1810) var. *concinna* H. M. Rupp (1929) (syn. *C. toxochila* Tate, 1889) and *C. patersonii* R.Br. (1810) var. *patersonii* was collected, together with its putative parents, by R. Bates at Port Vincent (South Australia) on 28 August, 1976. He has also seen what he believes to be similar hybrids elsewhere in South Australia (Eyre Peninsula and east of Lake Alexandrina). See Map 1.

At Port Vincent both the putative parents are extremely common throughout an area of bush some 50-100 hectares in extent, and the apparent hybrid is also quite plentiful (probably in excess of 100 plants). It is possible that back-crossing has occurred but further field-work is needed.

Observations in the field suggest that hybrids do not occur in places where larger-flowered plants of *C. patersonii* grow with *C. dilatata* var. *concinna*. Large-flowered forms of *C. patersonii* occur in isolated populations over much of the range of the species in South Australia and have been found growing with *C. dilatata* var. *concinna* in northern Yorke Peninsula and south-east of Port Augusta. It has been observed that the same insects (Muscidae) visit flowers of widely differing sizes, but only come into contact with and remove the pollinia of flowers within a limited size-range.

Hybrids between the same pair of species have been recorded in Victoria by Willis (1962) and by Jones and Muir (1969), but in neither publication was it indicated to which varieties the putative parents belonged.

Table 1 indicates some of the more important differences, particularly in colour and size, between the specimens collected of the parents in the Port Vincent area and shows the extent to which the hybrid has intermediacy between the parents. The sample from which these measurements were taken is small, consisting only of specimens selected from the Port Vincent populations, and a few plants would deviate slightly from the ranges indicated. Other significant features, which are illustrated in Fig. 1, are the development of a caudiform appendage on the perianth segments, the shape of the calli on the labellum and the shape of the outline and of the margin of the labellum. The parts illustrated are typical of the species and the hybrid at Port Vincent, except that the labellum of *C. dilatata* var. *concinna* is not usually so deeply lobed.



Map 1. Distribution of *C. dilatata* var. *concinna* and *C. patersonii* var. *patersonii*. The black arrow indicates the source of the material illustrated. White arrows indicate other localities where similar hybrids are considered to occur.

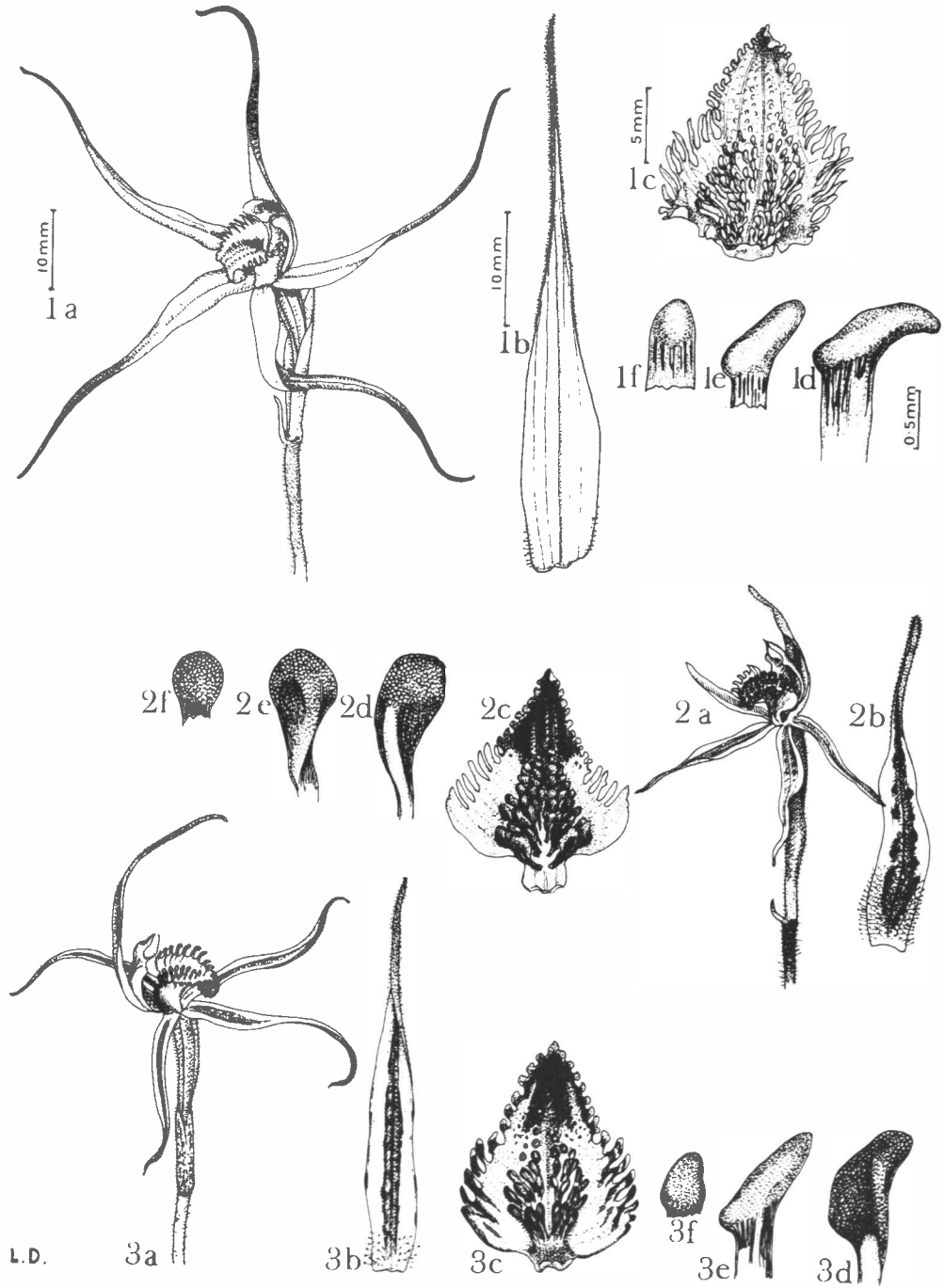


Fig. 1-3 1. *Caladenia patersonii* var. *patersonii*; 2. *Caladenia dilatata* var. *concinna*; 3. Putative hybrid between *Caladenia patersonii* var. *patersonii* and *C. dilatata* var. *concinna*. (a. flower; b. dorsal sepal; c. labellum; d. basal callus; e. central callus; f. apical callus; organs of each species to comparable scales.) Illustration by L. Dutkiewicz.

Voucher specimens

SOUTH AUSTRALIA. Yorke Peninsula Region; Port Vincent, 22°44'S; 137°50'E, R. Bates s.n. (AD97629190). This sheet includes specimens of the putative hybrid and of the parents.

Table 1. Characters by which *Caladenia patersonii* var. *patersonii* and *C. dilatata* var. *concinna* differ and the state of these characters in the putative hybrid.

	<i>C. dilatata</i> var. <i>concinna</i>	Putative hybrid	<i>C. patersonii</i> var. <i>patersonii</i>
Length of dorsal sepal	20-25 mm	28-35 mm	40-45 mm
Length of lateral sepals	18-20 mm	25-35 mm	45-50 mm
Length of lateral petals	14-17 mm	19-28 mm	36-48 mm
Labellum length x breadth	10-12 x 9-11 mm	10-14 x 9-13 mm	13.5-16 x 11-12 mm
Labellum colour	greenish with maroon-purple tip	yellow green with purple tip	cream-white
Colour of other perianth segments	greenish-yellow with conspicuous maroon stripe reaching the base of the glandular tips (veins dark purple)	yellowish-green with purple stripe not reaching the base of the caudiform tips (veins purple)	whitish-cream without central stripe (veins purple)
Calli at base of labellum	clavate, slightly bent (entirely maroon-purple)	clavate, more bent than in <i>C. dilatata</i> (entirely maroon-purple)	bent at nearly a right-angle (purple with white top)
Calli behind base of labellum	remaining fairly straight at all distances behind base of the labellum (purple with white tip)	becoming more bent and white-topped just behind the base of the labellum, similar to <i>C. patersonii</i> , and then becoming, less bent and entirely maroon-purple further from the base of the labellum	gradually becoming less bent away from the base of the labellum (purple with white top)

References

- Brown, R. (1810). "Prodromus Florae Novae Hollandiae et Insulae Van-Diemen". (Richard Taylor & Co: London).
- Jones, D. L. & Muir, T. B. (1969). In Nicholls, W. H. "Orchids of Australia." (Nelson: Melbourne).
- Rupp, H. M. (1928). Notes on *Corybanthes* and some species of *Pterostylis* and *Caladenia*. *Proc. Linn. Soc. NSW* 53: 551-554.
- Tate, R. H. (1889). Definitions of four new species of South Australian plants. *Trans. Roy. Soc. SA* 12: 129-131.
- Willis, J. H. (1962). "A Handbook to Plants in Victoria", vol. 1. (Melbourne University Press: Carlton).