Olearia arborescens (Forst. f) Ckn. et Laing X ? *Celmisia* Species

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Seed collected by the Nordic Arboretum Expedition to New Zealand on 25th of February 1975 (Sondergaard 1977) in Temple Ski Basin, near Arthur's Pass, Canterbury, New Zealand. Elevation 900 m a.s.l. Motherplant *Olearia arborescens* (herbarium specimen number 25.02.75.22) in the reference herbarium at the Norwegian Arboretum, Milde.

The seed was registered as number 75.1286 in the arboretums' accession system and sown at Milde on May 28th 1975 (Anon 1976). In a month, 33 seedlings emerged. Most of these developed into typical *Olearia arborescens*, from which three are still kept under glass in the arboretum. However, five plants developed into something quite different from *Olearia arborescens*. Two of the aberrant plants flowered in 1978 and died shortly afterwards. A third plant died during the winter 1979. A fourth plant died in 1980. The last plant flowered in 1980 and again in 1984, 9 years old (photo p. 41).

This plant is now 25 cm tall, covered with more or less densely appressed lanate tomentum, bifurcated from the base. The stems are stiff and woody, 6-8 mm diameter, and invested in the upper half by persistent leafsheaths. Living leaves are closely imbricated and completely cover the stem on the upper 3-4 cm. The lamina is coriaceous, lanceolate, to 10 cm x 2.5 cm, acute, gradually narrowed to a 2 cm petiole, which again widens to a half embracing sheath. The upper surface is grey-green when the lamentum is rubbed away, and when it gradually disappears. The lower surface has a thicker appressed greyish-white tomentum (not satiny as in *Olearia arborescens* or *Celmisia coriacea*). Margins are apparently entire, but closer inspection reveals that it is distantly and inconspicuously toothed (as in *Olearia arborescens*). The midrib is prominent with 4-6 pairs of lateral veins, curving up at a narrow angle to the midrib and anastomosing near the margin (as in *Olearia arborescens*). Inflorescences are in 4 axillary upright corymbs, each with 4-10 capitulae. Peduncles have narrow leaflike bracts and pedicels with 2-4 scattered subulate bracts.

The capitula is 15 mm long, to 30 mm in diameter. Phyllaries are 25-30, imbricate, subulate, forming an involucre about 5 mm in diameter. Florets 40-50. Ray florets, 16-17, white, with 11-12 mm long, 2 mm broad ligule, pistillate. Disk-florets perfect, yellowish-white, 7 mm long, funnelform, 5-toothed. Stigmatic arms are flattened with acute, apparently receptive tips. The anthers are without tails, and sterile. Receptacle alveolate. Achenes 3.5 mm long slightly compressed, with short erect white hairs, and 8 longitudinal ribs. Pappus c. 6 mm composed of unequally long, finely barbellate yellowish-white hairs in 1 series.

The longest branch that produced flowers in 1980, carried no inflorescences in 1984.

There was much variation between the five plants, especially in form and hairiness of the leaves, from grey-green, long and rather slender lanceolate to ovate lanceolate, leathery with upper surfaces shining green. In the authors mind there is little doubt that these plants are hybrids between *Olearia arborescens* and a *Celmisia* species. No other genera in the Compositae (Asteraceae) could possibly enter into a hybrid with the characteristics described above.

Two species of *Celmisia* were collected in Temple Ski Basin on the 25th of February 1975. *Celmisia coriacea* (= *Celmisia semicordata*) and *Celmisia armstrongii*, and more species were seen in the area without having been recorded. Should the author propose a male parent, a qualified guess seems to be *Celmisia coriacea*.

The plants that died shortly after having flowered, seem to have inherited the relatively short (?) life cycle that prevails for the genus *Celmisia*, while the surviving plant seems to have inherited some of the longevity exhibited by *Olearia*. New adventitious shoots are generating from the base of this plant, and an attempt will be made to root some of these as cuttings.

Simpson & Thompson (1942) tentatively assigned the origin *Olearia avicenniifolia x Celmisia durietzii* to a plant collected by J. Speden above Arthur's Pass (Allan, 1961). This plant had thin, flaccid and somewhat viscid leaves and does not at all correspond to the plants described above.

Whatever species of *Celmisia* entered into the present hybrid, it seems to be the first time that this combination has been recorded and described. Both *Celmisia coriacea* and *Olearia arborescens* are grown in the glasshouse at the Norwegian Arboretum. *Olearia arborescens* has flowered several times. Artificial hybridization will be attempted next time both *Celmisia coriacea* and *Olearia arborescens* come into flower. If, and when, hybridization between *Olearia* and *Celmisia* is experimentally confirmed, the time will have come to name the new product - *Olmisia* or *Celaria*?

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References

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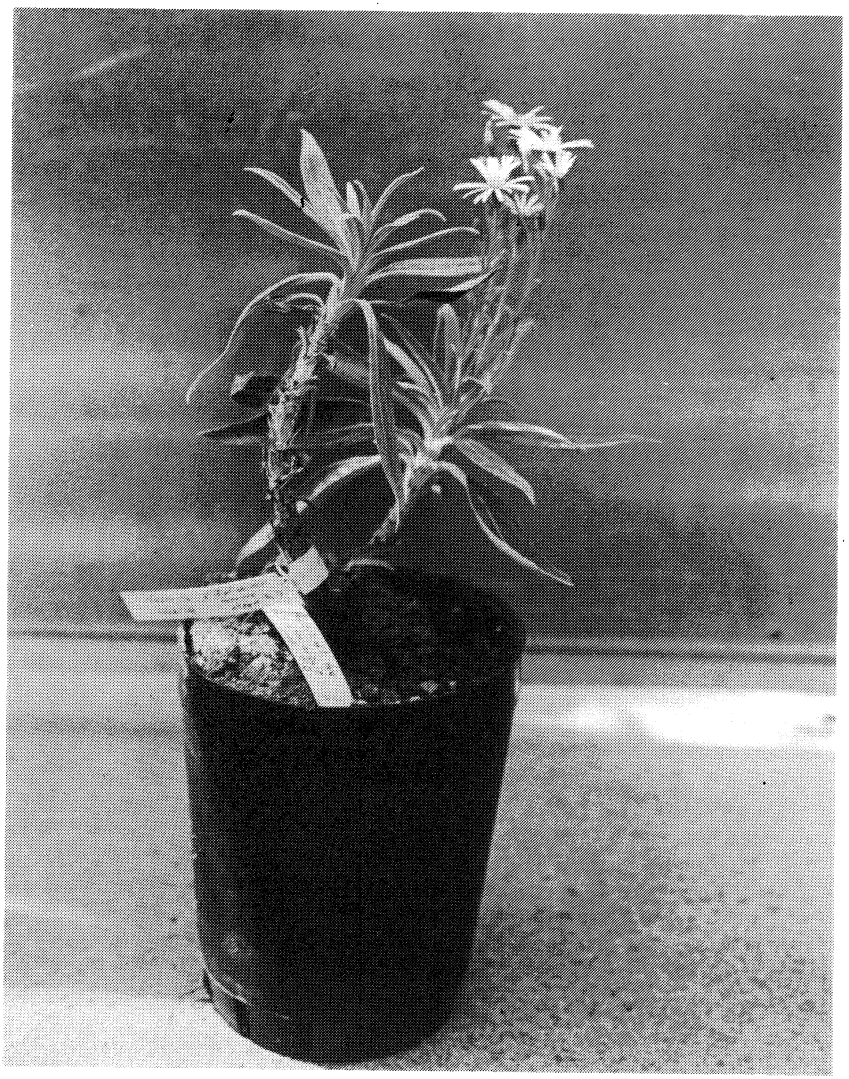

Olearia arborescens X ? *Celmisia* sp.