

## OREOPORANTHERA, A NEW ZEALAND "ENDEMIC" PLANT GENUS DISCOVERED IN TASMANIA

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(with one text-figure)

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Recent collections near Mt Anne in southwestern Tasmania have extended the known range of the previously monotypic New Zealand endemic genus *Oreoporanthera* to this island. The Tasmanian plants differ from New Zealand's *O. alpina* in a number of floral and vegetative characters and are considered to represent a new species *O. petalifera*. Like *O. alpina*, *O. petalifera* is found on calcareous montane outcrops and the two are clearly closely allied.

**Key Words:**- Poranthereae (Euphorbiaceae), *Oreoporanthera*, Tasmania.

### INTRODUCTION

In 1969 Hutchinson provided a synthesis of his 50 year's study of the family Euphorbiaceae. He recognised and described 40 Tribes. One of the smaller ones was Tribe 9, Poranthereae Muell.-Arg. containing only the type genus *Poranthera* Rudge with 9 species, and the newly recognised monotypic genus *Oreoporanthera* Hutch. based on *Poranthera alpina* Cheesem. of New Zealand. *Oreoporanthera* was distinguished from *Poranthera* by being dioecious instead of monoecious, by having its flowers arranged singly in the axils of the upper leaves instead of in heads, by its strictly opposite leaves with strongly recurved margins, and by its flowers, which lacked petals in both sexes and a vestigial ovary in the males. The new genus has been accepted subsequently by Mark & Adams (1973) and (tentatively) by Moore & Irwin (1978).

*Oreoporanthera alpina* is confined to a small number of mountain tops in the northwestern corner of the South Island of New Zealand where it is described as coming from open subalpine communities between 1000 and 1800 m altitude amongst limestone, marble or granite rocks.

### DESCRIPTION AND DISCUSSION

Recently, one of us (J.B. Davies) found a plant similar to *O. alpina* on karst formations on a ridge (known unofficially as the 'North East Ridge') of Mt Anne in southwestern Tasmania between 800-1000 m above sea level. The top of the ridge is predominantly covered by dwarf subalpine rain-forest less than about 6 m in height, dominated by

*Nothofagus cunninghamii*, *Richea pandanifolia* and *Athrotaxis selaginoides*. This dense vegetation is dissected by a series of knife-blade outcrops of dolomite and a number of deep sink holes. *Oreoporanthera* grows as mats up to about 0.2 m in diameter exploiting cracks and crevices on these exposed outcrops. Associated species include *Dichosciadium ranunculaceum*, *Oreomyrrhis gunnii*, *Senecio pectinatus* var. *pectinatus* and a number of ferns including *Cystopteris filix-fragilis*, *Grammitis armstrongii* and *Asplenium trichomanes*. Unusual grasslands develop on the steep slopes of the sinkholes. They are dominated by *Poa labillardieri* and include *Danthonia hibernae-fortunae*, *Poa gunnii*, *Agrostis billardieri* var. *filifolia*, *Agrostis aemula* and *Trisetum spicatum*.

Comparison of the Tasmanian specimens with descriptions, illustrations and specimens of *O. alpina* revealed that our plant, although very similar in many respects to the New Zealand species, differed in a number of characters. The habit of the plant is generally more lax with usually longer internodes and thinner stems which often lack the longitudinal flecks of purple pigmentation present in *O. alpina*. By contrast *O. alpina* has more erect stems, all except the youngest somewhat inflated or succulent, with the leaves usually more or less crowded towards the ends of the branches. The Tasmanian plants apparently die back each year to a small woody rootstock, whereas the stems of *O. alpina* seem more woody and possibly persist longer. The stipules of the New Zealand plant are more coriaceous than ours. However, the most important differences lie in the flowers. Like *O. alpina*, our plants are dioecious, but differ in that

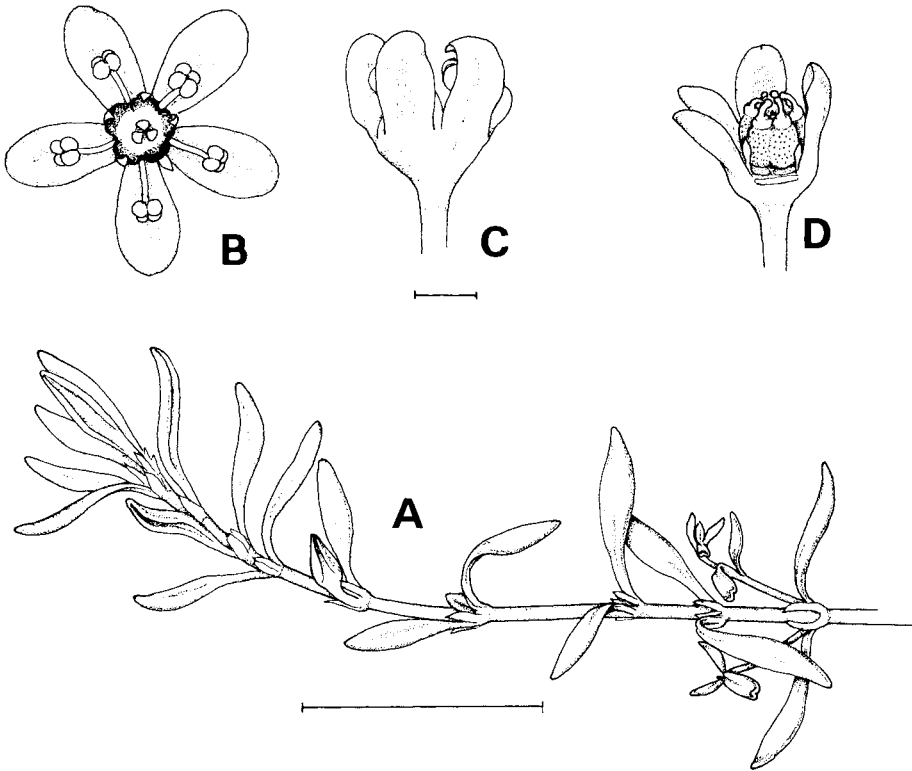


FIG. 1 — *Oreoporanthera petalifera*. A. Habit of vegetative branch. B. Male flower seen from above, showing vestigial ovary. D. Male flower with sepals closed. C. Female flower, one sepal removed, showing petals, and ovary at an early stage of development towards fruit. Bar scales represent 10 mm (A) or 1 mm (B-D). (A-C from Davies 31, D from Buchanan & Davies 3725).

both the male and female flowers possess small white lanceolate petals, shorter than the sepals. We believe that these differences justify recognition of the Tasmanian plants as a distinct species, described as follows.

*Oreoporanthera petalifera* Orchard & Davies,  
sp. nov.

Herbae perennes *O. alpinam* simulans, sed habitu laxiore, caulibus gracilioribus, stipulis mollibus albis, et petalis lanceolatis florum masculinorum et femineorum, differt.

Typus: J.B. Davies 31, N.E. ridge of Mt Anne, Tasmania, 31. xii. 1984.

Holotypus: HO 88949. Isotypi: CHR, MEL.

Decumbent perennial herb; stems annual, dying back to a slightly woody base, 0.2–0.3 m long, 1 mm diam., freely branched, scrambling over rocks and adjacent plants. Leaves opposite, subglossy above, lanceolate, 6–7 mm long, 1.0–1.7 mm

wide, tapering into a short petiole at base, margins revolute almost to the midrib. Stipules herbaceous, white, obliquely ovate to falcate, 0.8–1.1 mm long, 0.5 mm wide, degrading on older branches. Plants dioecious, flowers unisexual, borne singly in the axils of the upper leaves. Male flowers on pedicel 1.3–2.0 mm long; sepals 5, white with greenish central band, oblong to oblanceolate, 1.8–2.0 mm long, 1 mm wide, abruptly tapered to obtuse apex or rounded; petals 5, white, lanceolate, 0.6 mm long, 0.25 mm wide, erect, finally becoming incurved between stamens; stamens 5, opposite sepals, filaments 1.2 mm long, slightly incurved, terete, anthers yellow, 4-celled, depressed globular, 0.3 mm long, 0.4 mm diam., opening by terminal pores; ovary vestigial, 3-lobed, white to greenish, c. 0.3 mm diam.; disk green, 5-lobed, with one lobe at base of each petal. Female flowers on pedicel 1.6–2.5 mm long; sepals 5, greenish white, linear-oblong, 1.6–2.2 mm long, 0.6 mm wide, rounded at tip; petals 5, hyaline, linear to lanceolate, 0.4 mm

long, 0.15 mm wide; ovary globular 0.6 mm diam., styles divided to base and apparently 6; disk green, broadly 5-lobed. Fruit depressed globular 1.2 mm long, 2.0 mm diam., 6-seeded, explosively loculicidal, leaving a persistent columella on the pedicel/perianth remains. Seed pale orange brown with a white tessellated pattern superimposed, smooth.

### Distribution

Known only from the dolomite ridge running north and northeast of Mt Anne in southwestern Tasmania at altitudes between 800 and 1000 m above sea level, but locally abundant. Flowering December, fruiting in June. Other specimens known: *Buchanan & Davies 3725*, north-east ridge of Mount Anne, 29.vi.1984 (HO); *Buchanan 5101, 5102, 5103, 5116, 5117, 5119*, north-east ridge of Mount Anne, 31.xii.1984 (HO, 5117 also CANB); *Davies s.n.*, Mt Anne, 18.vi.1984 (HO 78671).

### STATUS OF THE GENUS OREOPORANTHERA

Discovery of this species makes a re-examination of the limits and status of the genus *Oreoporanthera* necessary. *O. petalifera* is clearly closely related to *O. alpina* yet it disagrees with Hutchinson's description of the genus in having *Poranthera*-like petals in the male and female flowers, and in having a distinct vestigial ovary in the male flowers. (In fact, Hutchinson was mistaken in believing that *O. alpina* lacked a vestigial ovary in the male flower. Although small, it is certainly present, and is clearly illustrated in Moore & Irwin (1978).) Furthermore Hutchinson's character of flowers solitary in the axils for *Oreoporanthera* vs in terminal heads for *Poranthera* seems to be only a matter of degree. In the *Poranthera* species that we have examined the terminal heads consist of tightly packed single flowers each subtended by a green leaf-like floral bract, and can consequently be interpreted as only condensed versions of the situation in *Oreoporanthera*.

However, despite these discrepancies, *Oreoporanthera* as a genus of two species can still be adequately separated from *Poranthera* s. str. on three characters: its dioecy, and the fact that its leaves are strictly opposite in arrangement and have strongly recurved margins. The specialised subalpine habitat favoured by the two *Oreoporanthera* species provides a confirmatory indication that they are different from species of *Poranthera* which (with the exception of *P. microphylla*) are predominantly lowland plants.

### ACKNOWLEDGEMENTS

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