

terminal appendages; filament collar 0.5–0.6 mm long; stylar arms half clavate, 1–1.5 mm long, with half-clavate, sterile, apical appendages bearing botuliform papillae above the stigmatic lines. *Achene* flattened obovoid, 2.4–3.5 × 0.8–1 mm, light brown, sericeous with duplex hairs, 5-ribbed; base more or less acute, with conspicuous, central carpopodium. *Pappus* 2-seriate; bristles 39–52, more or less equal to the disc corolla in length, and an outer row of short bristles. Figure 6.

DISTRIBUTION: Restricted to the vicinity of Geehi Reservoir on the Southern Tablelands of New South Wales (Figure 4).

HABITAT: Montane sclerophyll forests with *Eucalyptus delegatensis* R. Baker, on steep slopes.

FLOWERING PERIOD: November to February.

AFFINITIES: The presence of stellate hairs on the vegetative parts of *Olearia lasiophylla* is typical of *Olearia* sect. *Asterotriche* Archer ex Benth. (Bentham 1867), where this species would seem best placed. Its affinities appear to lie with *O. stellulata* (Labill.) DC., from which it is readily distinguished: the leaves of *O. stellulata* are glabrous or subglabrous adaxially and minutely grey-tomentose abaxially; its heads are in leafy, paniculate conflorescences and are 11–23.8 mm diam. The more widespread *O. stellulata* is found on the North, Central and South Coast and Tablelands of New South Wales, and in the Victorian and Tasmanian Alps.

NOTES: Specimens of this species have been placed under *O. stellulata* in herbaria.

CONSERVATION STATUS: This species has a maximum geographic range of about 15 km, is confined to the Kosciusko National Park and was last collected in 1972. It appears to warrant category 2KC of Briggs & Leigh (1988).

ETYMOLOGY: The specific epithet refers to the loosely hairy leaves characteristic of this taxon, from Greek *lasio-*, woolly and *-phylla*, leaved.

OTHER SPECIMENS EXAMINED: NEW SOUTH WALES: Southern Tablelands: 6.7 km SW of Geehi Reservoir Substation, *P.N. Martensz* 583, Feb 1972 (CANB); Pinnacle Track, above Geehi, *M.E. Phillips* 3517, Nov 1958 (NSW).

***Olearia minor* (Benth.) Lander, stat. et comb. nov.**

BASEONYM: *Olearia pimeleoides* var. *minor* Benth. (1867: 479); Ewart (1931: 1114); Black (1965: 870); Jessop (1984: 67).

TYPE CITATION: 'Murray desert, *F. Mueller*; Rotton Island, *Wilhelmi*.'

LECTOTYPE (here designated): SOUTH AUSTRALIA: Murray: Murray River, *F. Mueller s.n.*, – (lecto K) — see Typification.

LECTOPARATYPES: SOUTH AUSTRALIA: Eyre Peninsula: Boston Island, [*J.F.C.*] *Wilhelmi s.n.*, – (MEL 1543742); Boston Island, [*J.F.*] *J.C. Wilhelmi s.n.*, 1851 (MEL 1543738, p.p.). Murray: Murray Desert, *F. Mueller s.n.*, – (MEL 1543743). — see Typification.

MISAPPLIED NAMES: *Olearia floribunda* auct. non (J. Hook.) Benth.: Wakefield (1956: 96); Willis (1973: 693), p.p.— see Notes.

Olearia brachyphylla auct. non (F. Muell. ex Sonder) Wakef.: Cooke in Jessop & Toelken (1986: 1477, fig. 671a), p.p. — see Notes.

Shrub to 1.5 m. *Vestiture* of stems, leaves and involucre bracts of multicellular, uniseriate, simple or sometimes dendritic, eglandular hairs and scattered multicellular, biseriate, capitate, glandular hairs. *Stems* ascending, greyish green becoming dark brown, pannose with eglandular and glandular hairs. *Leaves* alternate, scattered,

sessile; lamina flat, obovate or elliptic, 1.5–8 x 1–2.5 mm, discolorous, adaxially green and subglabrous, abaxially grey-lanate; texture subcoriaceous; venation indistinct; base attenuate; margin entire, revolute; apex broadly acute or rounded, mucous. *Heads* terminal, solitary or in clusters of 2 or 3, subsessile, conspicuously radiate, 11.6–22 mm diam.; disc 4–7 mm diam. *Involucre* conic; bracts 4–5-seriate, 1.9–5.3 x 0.7–1.5 mm. *Outer involucre bracts* ovate, carinate; stereome pale green or yellow and densely lanate centrally to apically abaxially; margin chartaceous or membranous, slightly fimbriate; apex acute or rounded, ciliate. *Inner involucre bracts* linear or narrowly elliptic, somewhat carinate; stereome green, subglabrous to densely lanate apically; margin membranous, entire; apex acute or rounded, fimbriate. *Receptacle* weakly convex. *Marginal florets* 7–12, female, uniseriate; corolla radiate, 5.7–10.7 mm long; tube with eglandular hairs scattered apically; ligule elliptic or obovate, 3.8–7.5 x 1–2.5 mm, white, glabrous, minutely 3-lobed or sometimes emarginate apically; stylar arms filiform, 1.2–1.8 mm long. *Disc florets* 6–13, bisexual; corolla infundibular, 3.8–6 mm long, yellow, with eglandular and glandular hairs scattered apically; lobes 5, narrowly triangular, 0.9–1.8 mm long; anthers 1.3–1.9 mm long, obtuse to minutely sagittate, and shorter than filament collar basally, with triangular or obovate, sterile, terminal appendages; filament collar 0.3–0.5 mm long; stylar arms 1–1.7 mm long, with half-conic, sterile, apical appendages bearing botuliform papillae. *Achene* narrowly ellipsoid or obovoid, 0.8–1.7 x 0.3–0.6 mm, pale brown, subglabrous or densely glandular; carpodium conspicuous, oblique. *Pappus* 1–2(3)-seriate; bristles 37–65, barbellate, more or less equal to the disc corolla in length, and (rarely) a third outer series of much shorter bristles.

DISTRIBUTION: South Far Western Plains of New South Wales; Melbourne, North Central, Mallee, Wimmera and South West Study Areas of Victoria; Nullarbor, Flinders Ranges, Eastern, Eyre Peninsula, Northern Lofty, Murray, Yorke Peninsula, Southern Lofty, Kangaroo Island and South Eastern Regions of South Australia; the Eucla and Helms Districts of the Eremaean Botanical Province and the Roe District of the South-West Botanical Province of Western Australia (Figure 4).

HABITAT: In red-brown loam or yellow-brown sand, on dunes or rocky slopes over sandstone or limestone, amongst mallee or open shrubland.

FLOWERING PERIOD: June to November.

TYPIFICATION: Although the specimen at K chosen as the lectotype is labelled 'Murray River' it is clearly annotated by Bentham '*Olearia pimeleoides* var. *minor*'. A small, supplementary label reads: 'FLORA AUSTRALIENSIS, Named by Mr. Bentham.'

The lectoparatype held at MEL bearing the locality 'Murray Desert' is annotated simply '*Eurybia*'; the reverse of its label has been initialled by Bentham.

One of the lectoparatypes of *Olearia pimeleoides* var. *minor*, collected at Boston Island by J.F.C. Wilhelmi (MEL 1543742), bears a label annotated '*Eurybia pimeleoides* var.'; the reverse of its label has been initialled by Bentham; an apparent duplicate of this (MEL 1543738 p.p.) bears a label annotated '*Eurybia* s', also initialled on the reverse by Bentham; both specimens are clearly conspecific with the lectotype. However, a further lectoparatype held at K bearing the same collecting details and annotated by Bentham as '*Olearia pimeleoides* var. *minor*' is clearly referable to *O. exiguifolia* (F. Muell.) F. Muell. ex Benth. I can find no reference to a locality named 'Rotton Island' either in gazetteers or on any of the labels of the 12000 or so specimens of *Olearia* examined in the course of my studies on this genus, thus I take it for a simple transcription error for Boston Island, situated off Port Lincoln in South Australia.

AFFINITIES: The presence of intricate dendritic hairs on the vegetative parts of *Olearia minor* is typical of *Olearia* sect. *Eriotriche* where this species would seem best retained.

Its affinities appear to lie with *O. pimeleoides* (DC.) Benth. sens. strict. from which it is readily distinguished: the leaves of *O. pimeleoides* are 3-25 x 1-6.5 mm; its heads are pedunculate (with peduncles to 85 mm long) and are 20.5-30 mm in diameter, with 8-25 ray florets and 14-29 disc florets. *O. pimeleoides* sens. strict. is found extensively in New South Wales, southern Queensland, Victoria, South Australia and Western Australia.

NOTES: Specimens of *Olearia minor* have been a source of much confusion in the literature where they have been placed under various species in *Olearia* sect. *Eriotriche*, notably *O. brachyphylla*, *O. floribunda*, and *O. pimeleoides*. In herbaria they have also been placed under *O. exiguifolia* and *O. iodochroa* (F. Muell.) F. Muell. ex Benth.

Cooke (in Jessop & Toelken 1986: 1477-8) has interpreted *Olearia brachyphylla* very broadly, synonymizing under it both *O. exilifolia* (F. Muell.) Benth. and *O. pimeleoides* var. *minor*. I have circumscribed *O. brachyphylla* more narrowly, uniting it with *O. exilifolia* but maintaining *O. pimeleoides* var. *minor* as a distinct taxon worthy of specific rank. *O. minor* is not at all easily confused with *O. brachyphylla*. Notably, the leaves of *O. brachyphylla* are oblong, 2-3 x 0.5-1 mm and incurved; and its heads are 3-4 mm in diameter with 2-3 ray florets and 3-4 disc florets. *O. brachyphylla* is disjunct in its distribution, occurring in the Eyre Peninsula, Murray, South Eastern and Southern Lofty Regions of South Australia, and in the Eyre District of the South-West Botanical Province of Western Australia.

Wakefield (1956: 96) and Willis (1973: 693) included specimens of *Olearia minor* under *O. floribunda*. Willis suggested that these may be of hybrid origin: I can see nothing to support this contention. *Olearia minor* is readily distinguished from *O. floribunda*. The leaves of the latter are crowded and 0.3-1 mm wide with flat margins; its heads are 8-13 mm in diameter with 3-7 ray florets and 3-9 disc florets, and they are arranged in exceedingly dense, leafy, paniculate conflorescences; its pappus comprises 27-37 long bristles with an outer row of much shorter bristles. *O. floribunda* is widely distributed on the Central and South Western Slopes, Southern Tablelands and South Western Plains of New South Wales; the Eastern Highlands and West Gippsland Coastal Plain of Victoria; the Eastern, Eyre Peninsula, Murray, South Eastern, Southern Lofty and Yorke Peninsula Regions of South Australia; and in Tasmania.

Willis (1973: 692) notes under *Olearia iodochroa* 'mauve-headed populations' from the Brisbane Ranges of Victoria, referred here to *O. minor*, suggesting that these may have arisen as a result of hybridism between *O. pimeleoides* and *O. ramulosa* (Labill.) Benth. Like those of many Astereae, the white ligules of the ray florets of this suite of specimens sometimes dry mauve; however, there is nothing on their labels to suggest that they exhibit this colour in life. Again there is nothing to suggest that *O. minor* is of hybrid origin: *O. minor* is easily distinguished from *O. iodochroa*. The leaves of the latter are densely yellowish lanate abaxially; its involucre bracts have characteristically dark purple margins; its heads have 15-20 ray florets. *O. iodochroa* is confined to the Southern Tablelands of New South Wales and the Eastern Highlands of Victoria and does not overlap geographically with *O. minor*.

For the differences between *O. minor* and *O. pimeleoides* see the diagnosis and Affinities above.

CONSERVATION STATUS: This species is very widely distributed across southern arid Australia, occurs in several National Parks, and is well collected. It is considered neither rare nor endangered.

ETYMOLOGY: The specific epithet refers to the heads of this taxon, which are noticeably smaller than those of *O. pimeleoides*, from which it has been segregated.

OTHER SPECIMENS EXAMINED: NEW SOUTH WALES: South Far Western Plains: Balranald, *T.P. Lucas* 66, 1878 (MEL, PERTH); Paika [Lake]–Balranald, [*T.P. Lucas*] 66, Aug 1878 (MEL); 28 km W of Euston, *W.E. Mulham s.n.*, Oct. 1978 (NSW). VICTORIA (selection from a total of 60): Melbourne: Brisbane Ranges, *J. Anderson* 320, Nov 1968 (AD, MEL). Mallee: Wentworth, *Mrs Farr s.n.*, – (MEL); 5 miles [8 km] E of Peebinga, *J.H. Willis s.n.*, Aug 1955 (MEL). South West: Mt Richmond National Park, *R.J. McHugh s.n.*, Mar 1975 (MEL). SOUTH AUSTRALIA (selection from a total of 226): Nullarbor: 4 miles [6 km] SW of Maralinga, *L.D. Williams s.n.*, Aug 1977 (AD). Murray: Pinnaroo, *J.B. Cleland s.n.*, Aug 1927 (AD). South Eastern: Biscuit Flat, Comaum, *C.R. Alcock* 175, Nov 1969 (AD). WESTERN AUSTRALIA: South-West Botanical Province: Roe District: Mt Ragged, *S.T. Brooks s.n.*, 1889 (MEL). Eremaean Botanical Province: Helms District: 2.4 km W of 'Nippon Junction', *D.J. Pearson* 442, June 1988 (PERTH). Eucla District: 'Eucla', *J. Richards s.n.*, 1877 (MEL); 100 miles [161 km] E of Madura Pass, *s. coll.*, – (NSW 180795).

***Olearia montana* Lander, sp. nov.**

Species nova *Oleariae stellulatae* affinis sed flosculis numerosioribus radiatis (17–28 cf. 11–16) et discis (15–13 cf. 9–14) praeclare distinguitur.

TYPE: NEW SOUTH WALES: Southern Tablelands: Tinderry Mountains, *T.G. Hartley* 13407, October 1971 (holo CANB; iso CHR, K, NSW, PERTH).

Shrub to 2 m high. *Vestiture* of stems, abaxial surfaces of leaves and involucre bracts tomentose with multicellular, stellate hairs. *Stems* ascending, smooth, yellowish brown becoming greyish brown, striate. *Leaves* alternate, scattered, divergent, petiolate; petiole stout, to 5 mm long; lamina flat, elliptic, 13–43 x 7–18 mm, discolorous, green and subglabrous adaxially, pale-brown-tomentose abaxially; texture subcoriaceous; venation distinct, reticulate; base obtuse or rounded; margin serrate, flat; apex obtuse, mucous. *Heads* in paniculate cymes, pedunculate, radiate, 18–27 mm diam.; disc 6–9 mm diam. *Peduncle* to 15 mm long, with several leaf-like bracts grading into those of the involucre. *Involucre* hemispheric; bracts 3–4-seriate, 4.2–6.6 x 0.9–2.0 mm. *Outer involucre bracts* triangular, flat; stereome yellowish brown, uniformly densely stellate-tomentose, with uniseriate, capitate glandular hairs scattered basally; margin chartaceous, purple, ciliate; apex acute. *Inner involucre bracts* narrowly linear or triangular, flat; stereome pale green, densely stellate-tomentose centrally to apically, with scattered glandular hairs centrally; margin membranous, entire, fimbriate apically; apex acute. *Receptacle* convex. *Marginal florets* 17–28, female, uniseriate; corolla radiate, 9.5–12.8 mm long; tube with stellate hairs and multicellular, biseriate, simple, eglandular hairs scattered centrally to apically; ligule narrowly elliptic, 6–9 x 1.8–2.8 mm, mauve, glabrous; apex minutely 2-lobed; stylar arms narrowly filiform, 1.3–1.8 mm long. *Disc florets* 15–31, bisexual; corolla infundibular, 5.3–7 mm long, purple, with multicellular, uniseriate, simple, eglandular hairs scattered centrally-apically; lobes 5, narrowly triangular, 1.1–1.6 mm long; anthers 2–2.3 mm long, sagittate and shorter than the filament collar basally, with triangular terminal appendages; filament collar 0.3–0.4 mm long; stylar arms 1–1.9 mm long, with half-conic apical appendages bearing botuliform papillae. *Achene* narrowly obovoid, flattened, 1.3–2.4 x 0.5–0.8 mm, dark brown, glabrous, 6-ribbed; base acute with conspicuous, oblique carpopodium. *Pappus* multiseriate; bristles 35–71, minutely barbellate, subequal to the disc corolla, with an outer series of 10–35 shorter bristles. Figure 7.

DISTRIBUTION: Occurs in the Tinderry Range, Brindabella Range and Scabby Range on the Southern Tablelands of New South Wales (Figure 4).

HABITAT: In dry shallow soils over granite, on rocky slopes amongst sclerophyll forest and *Eucalyptus rossii* woodland.