

## *EPACRIS LIMBATA* SP. NOV., A LOCALISED HEATH FROM EASTERN TASMANIA

by Kristen J. Williams and Fred Duncan

(with one plate)

A description is given of *Epacris limbata* sp. nov., a new species of heath known from three locations on Tasmania's eastern coast. Notes on taxonomic affinities and habitat of the species are presented.

**Key Words:** *Epacridaceae*, *Epacris*, endemic species, Apsley River, Tasmania.

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### INTRODUCTION

A new endemic species of *Epacris* was discovered in the course of ecological surveys conducted in the Apsley River catchment in the East Coast botanical region (Orchard 1988) of Tasmania. *Epacris limbata* sp. nov. is an addition to a growing list of plant species restricted to localised dry sclerophyll habitats (Kirkpatrick *et al.* 1980, Kirkpatrick & Brown 1984). The following is a description of the species, which is illustrated in plate 1.

### TAXONOMY

#### *Epacris limbata* K.J. Williams et F. Duncan sp. nov.

Frutex erectus c. 0.5–2(–3) m altus, caulibus longis, gracilibus; ramuli puberuli pilis adpressis longis vel brevibus, vetustiores asperi pilis sparsis. Folia cinereo-viridia, patentia versus extramitates ramorum aggregata sed in ramis vetustioribus absentia vel sparsa. Lamina late ovata, acuminata, 4.3–8.1 mm longa, 3.0–5.6 mm lata, concava, supra glabra praeter pilos paucos breves basi dispositos; subtus nervis 5–7; costa distaliter carinata; basis cordata, amplexicaulis; margo anguste hyalinus, minute serrulatus, 0.1–0.3 mm latus; apex pungens, 0.4–1.2 mm longus; petiolus 0.4–0.9 mm longus, 1.0–1.8 latus, cauli appressus dense villosus. Flores solitarii, axillares, in capitula foliata 50–400 mm longa, versus extremitates ramulorum aggregati; pedicelli 1.2–2.4 mm longi. Bractee 9–24, 0.6–3.8 mm longae, 0.3–1.6 mm latae, ovatae vel late lanceolatae, ciliolatae, acuminatae, translucentes, saepe suffosae roseae. Sepala ovata-elliptica, acuminata, translucencia vel alba, rosea suffusa, 3.4–5.2 mm longa, 1.1–1.8 mm lata; margo ciliatus. Corolla alba, campanulata; tubus 2.2–3.4 mm longus, calyce brevior; lobi lati ovati, acuti, 3.0–5.8 mm longi, 2.2–4.3 mm lati, tubo longiores.

Stamina exserta, antheris 1.0–2.0 mm longis, filamentis 0.8–1.5 mm longis. Ovarium 0.8–1.4 mm latum, 0.6–1.2 mm longum; nectarium e squamis 5, obtusis, triangularibus, constatum, 0.2–0.5 mm longum; stylus 0.9–1.3 mm longus, versus basim paulo tumidus; stigma antheras non attingens.

#### Typus

Australia, Tasmania: 2 km north of Apsley River Gorge in dry sclerophyll forest, 240 m a.s.l., F. Duncan & K.J. Williams s.n. 18.xi.1987. Holotypus: HO 119706.

#### Description

An erect shrub 0.5–2(–3) m high, with long, slender stems; branchlets pubescent with long or short appressed hairs; older stems rough, with few scattered hairs. Leaves grey-green, spreading, crowded towards the ends of the branches, but absent or scattered on older stems. Lamina broadly ovate-acuminate, 4.3–8.1 mm long, 3.0–5.6 mm wide, concave; upper surface glabrous except for a few short hairs at the base; under surface with 5–7 veins; midrib keeled distally; base cordate, stem-clasping; margin narrowly hyaline, minutely serrulate, 0.1–0.3 mm wide; apex pungent, 0.4–1.2 mm long; petiole densely villous, 0.4–0.9 mm long, 1.0–1.8 mm wide, appressed to the stem. Flowers solitary, axillary, crowded, forming leafy heads c. 50–400 mm long, towards the end of the branches; pedicels 1.2–2.4 mm long. Bracts 9–24, 0.6–3.8 mm long, 0.3–1.6 mm wide, ovate to broadly lanceolate, ciliolate, acuminate, translucent, streaked with pink. Sepals ovate-elliptical, acuminate, translucent to white, streaked with pink, 3.4–5.2 mm long, 1.1–1.8 mm wide; margin ciliate. Corolla white, campanulate; tube 2.2–3.5 mm long, shorter than the calyx; lobes broadly ovate, acute 3.0–5.8 mm long, 2.2–4.3 mm wide, longer than the tube. Stamens exserted, anthers 1.0–2.0 mm long, filaments 0.8–1.5 mm long. Ovary 0.6–1.2 mm long, 0.8–1.4 mm wide; nectary of five bluntly triangular scales,

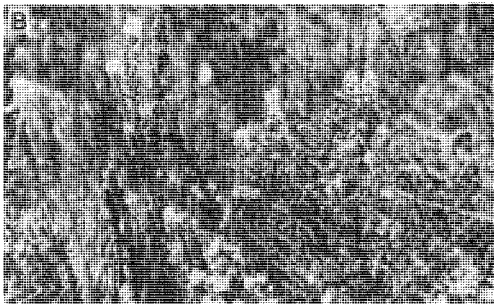
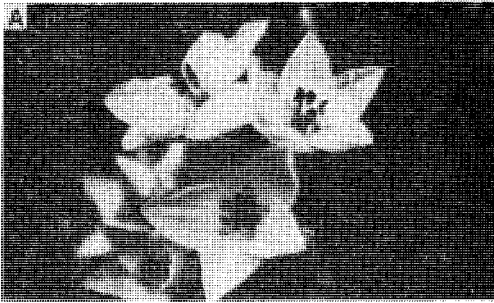


PLATE 1

(A) Flower detail. Note exerted anthers and absence of protruding stigma. (B) Habit of *Epacris limbata* sp. nov. showing the long leafy inflorescences.

0.2–0.5 mm long, reaching one-third to half the length of the ovary; style 0.9–1.3 mm long, slightly swollen toward the base; stigma below the anthers.

Detail of the flower showing the exerted anthers and absence of a protruding stigma illustrated in plate 1A.

The species name is derived from the latin *limbatus* (bordered by a different colour) and refers to the distinct hyaline margin which can be observed on the leaves.

#### Distribution and Ecology

*Epacris limbata* is known from three populations, all of which are restricted to the ecotonal margins of marshes of the East Coast botanical region of Tasmania where sedgy *Eucalyptus ovata* woodlands grade into heathy forests dominated by *E. amygdalina* and/or *E. tenuiramis*. The relationship between these communities in the Douglas and Apsley River catchments is described by Duncan (1983). The understorey of this ecotonal vegetation is diverse with species characteristic of both the sedgy and heathy forests being present. The more abundant or prominent species growing with *Epacris limbata* include *Banksia marginata*, *Leptospermum scoparium*,

*Hibbertia riparia*, *Melaleuca gibbosa*, *Boronia pilosa*, *Xanthorrhoea australia*, *Lomandra longifolia*, *Lepidosperma filiforme*, *L. inops* and *Patersonia fragilis*. All three sites occur close to the geological contact between sediments and Jurassic dolerite. This may be related to the unusual plant associations recorded at these sites. An example of the habitat and growth form of *E. limbata* is given in plate 1B. The ecology of *E. limbata* will be examined in more detail in a subsequent paper.

#### Specimens Examined

Tasmania: *East Coast* — F. Duncan and K.J. Williams s.n. (HO119705, 119704, 119703, 119701); F. Duncan s.n. (HO119702). [Further details of specimens listed in this paper, e.g. collecting site and date, are available from the Herbaria noted or from the Royal Society of Tasmania Library (Archives), GPO Box 1166M, Hobart, Tasmania, Australia 7001. *Ed.*]

#### DISCUSSION

*Epacris limbata* has its closest affinity with the inland form of *E. marginata*. Both species have a short style and exerted anthers. Leaves are crowded towards the ends of the branches, are shortly stalked and have distinct hyaline or scarious margins. However, *E. marginata* is a stout, rigid and much-branched shrub, whilst *E. limbata* attains a taller and finer stature. The older stems of *E. marginata* are noted for their raised, rounded leaf scars, whilst the older stems of *E. limbata* are comparatively smooth. The leaves of *E. marginata* arch inward and spread widely, whereas those of *E. limbata* are semi-erect to spreading and arch outwards, particularly toward the tip. The flowers of *E. marginata* are clustered for short lengths below the tips of the branches, whereas those of *E. limbata* form long leafy heads. The sepals of *E. limbata* are acute, generally longer than those of *E. marginata* which are blunt (Curtis 1963), and exceed the length of the corolla tube. *Epacris limbata* has some vegetative resemblance to *E. heteronema*, *E. gunnii* and *E. microphylla* in having ovate to broadly ovate, cordate, acuminate leaves with hyaline or scarious margins, but differs from these species in its floral morphology. For example, *E. heteronema* has almost sessile anthers, *E. gunnii* and *E. microphylla* have anthers at the throat of the corolla tube, whilst the anthers of *E. limbata* are exerted.

Two other epacrids, *E. apsleyensis* and *E. grandis*, have been described recently from the Apsley River area (Crowden 1986). *Epacris limbata* is readily differentiated from both species by its cordate leaves with hyaline margins, and by several floral characters. The anthers of *E. apsleyensis* are enclosed within the

corolla tube, whereas those of *E. limbata* are distinctly exerted. *Epacris apsleyensis* flowers in winter and *E. limbata* flowers from mid-Spring to Summer. *Epacris grandis* shares a similar flowering period with *E. limbata* but differs in possessing hirsute bracts and being generally larger than *E. limbata* in all floral parts.

*Epacris limbata* occurs in the same general area as *E. lanuginosa* and *E. tasmanica*, but is easily distinguished from both species by its long, dense flower heads and its diagnostic leaf morphology. A specimen with floral and vegetative characteristics intermediate between *E. limbata* and *E. lanuginosa* was collected from the margins of *Eucalyptus ovata* woodland, in which *Epacris lanuginosa* was a prominent member of the understorey.

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