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RARE TAXA IN THE GENUS *EUPHRASIA* L. FROM LOWLAND SOUTH-EASTERN TASMANIA

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INTRODUCTION

In the last ten years much work has been done by Barker (1982, 1987) to describe the taxonomy of the genus *Euphrasia* L. of which there are currently 21 species recognised in Australia. Some of these are named only informally and some are split into many subspecies. Many of these taxa are very attractive herbaceous wildflowers.

Tasmania is well represented by having eight species of *Euphrasia* L., two of which are represented by eight or nine subspecies. Four of these species are restricted to lowland habitats in the south-east of Tasmania, with a subspecies of another species also so restricted. Most of these five taxa are geographically very limited, with some being known from very few sites. In this paper I review the five taxa restricted to lowland south-eastern Tasmania and provide details of recent observations and searches.

The five taxa which I discuss fall into two groups. *E. phragmostoma* W. R. Barker and *E. amphisysepala* W. R. Barker are in the section *Phragmostomae*, while *E. semipicta* W. R. Barker, *E. sp 'Southport'* and *E. gibbsiae* Du Ritz ssp. *psilantha* (FvM.) W.R. Barker are in section *Striatae*. The section *Phragmostomae* is endemic to Tasmania and comprises only two species on the cliffs of the Tasman Peninsula. Section *Striatae* is mostly confined to Tasmania and is well represented on Tasmania's mountains.

E. phragmostoma W. R. Barker

E. phragmostoma is a perennial herb with large uniformly cream flowers. The plant is straggly and brittle, growing to about 40cm in height, but usually less. Many flowering stems grow erect from prostrate main stems, in common with many Tasmanian species of *Euphrasia*.

E. phragmostoma has been collected most often from cliff edges. Its known distribution extends from Fortescue Bay to the Chasm at Cape Pillar with an old collection from a "mountain top" at Marion Bay.

I first noted *E. phragmostoma* near sea level on the eastern side of Bivouac Bay on 29 January 1984. At this time there was no flowering material. Subsequently on 4 October 1986 I collected flowering material from a large group of plants growing in recently burned rocky bushland just above the coastal rocks. One plant was seen emerging from a crevice in the rocks below the general level of vegetation. Some of the plants collected at this time were described as first-year plants while others were second-year plants (Barker, 1987).

On 18 August 1990 I again visited the site where I had collected *E. phragmostoma* in 1986. By this time the coastal scrub had regrown into a very dense thicket and there was no sign of *E. phragmostoma*. It would appear that the earlier flush of growth was brought on by the fire and another fire may be required for the reappearance of the species at this site.

E. amphisysepala W. R. Barker

Barker (1982) noted in his description of *E. phragmostoma* that an unusual specimen had been found on Cape Hauy which did not match most of the other collections of this species.

On 25 May 1986 I was climbing down to the bottom of the chasm on the track to Cape Hauy when Mrs Sue Collier noted a *Euphrasia* near the rim of the chasm. This plant was subsequently described as *E. amphisysepala*. Less than five plants were located and only one plant was in flower. Flowers were white with prominent red stripes and a yellow blotch in the throat. The plant differed in several other respects from *E. phragmostoma*, although they were similar in having long awns on two of the four stamens.

On 4 October 1986 I visited the same site to collect more flowering material and conduct a search for more plants. A scrubby search around part of the rim of the chasm revealed approximately 20 plants, some of which endured dense shade under shrubs. A search along the south-facing coastal cliff edge near the

Cape revealed no further plants.

On 9 September 1989 I followed a new track to Mt Fortescue. This follows the cliff edge about 1.5km south-west of Cape Hauy. Along this stretch of the cliff edge there are several plants of *E. amphisysepala* restricted to very shady crevices near the top of the cliffs. No flowering material was seen on this occasion, nor on 1 April 1990.

E. semipicta W. R. Barker

E. semipicta is easily the most common of the species described in this paper, despite being described as "known from only a few localities in the eastern half of the Tasman Peninsula" by Barker (1982). Most plants that I have seen have pink-mauve flowers, but white flowers have also been recorded. The flowers form a dense spike at the end of a stem with widely spaced leaves in the upper part.

This species has been collected from Port Arthur south to Hurricane Heath near Cape Pillar. It is also found in the vicinity of Fortescue Bay near the two species in section *Phragmostomae*. An outlying population is found south of Port Arthur in the vicinity of Mount Brown. Part of this population appears to have been overlooked previously. These are distinctively miniature plants found around the cliff edge of Mount Brown itself. These plants nestle down in the shelter of dolerite stones in their very exposed habitat.

Euphrasia sp. 'Southport'

Euphrasia sp. 'Southport' had been collected only three times until recently. In 1855 and 1856 two collections were made by Charles Stuart. In 1958 Dr Winifred Curtis collected the species again. All of these collections had been from Southport. This species has small pink-mauve flowers which have the appearance of being only partly open.

On 11 November 1986 I led a group of 11 on a Hobart Walking Club trip to the Labillardiere Peninsula on Bruny Island. Mrs Hilary Goodwin observed a *Euphrasia* beside the track in a clump of *Melaleuca squarrosa*. I returned to collect and photograph this specimen which I judge to be *Euphrasia* sp. 'Southport' as described by Barker (1982).

On 23 October 1988 I returned to the same area near the end of the Peninsula. My wife and I conducted an extensive search of an area of low heathland beside the track. We located about ten plants of the same species we had seen two years

earlier. I made three collections of these plants. Unfortunately all of the collections from Bruny Island have been misplaced despite lodgement at the Tasmanian Herbarium.

On 8 January 1989 my wife and I visited an area near Southport where we had previously located the population of *Euphrasia* sp. 'Southport' discovered by Dr Winifred Curtis in 1958. Despite an extensive search we were only able to find about four plants beside an old 4WD track deeply shaded by *Melaleuca squarrosa*. Only one was in flower, which I collected. The identity of this has been confirmed as *Euphrasia* sp. 'Southport' by Dr W. R. Barker (pers. comm., 1990).

***E. gibbsiae* Du Ritz ssp. *psilantha* (FvM.) W.R. Barker**

E. gibbsiae ssp. *psilantha* is a distinctive subspecies which had most recently been collected in 1855 by Charles Stuart at "South Port". It is an erect herb with branches well above ground level and typical white *Euphrasia*-like flowers with purple striations.

On 12 September 1985 while walking in the Southport Lagoon Wildlife Sanctuary south of the Lagoon Mrs Sue Collier noticed a *Euphrasia* in flower. It was growing in a flat swampy area with water lying on the surface of nearby ground. The vegetation was sedgeland with scattered shrubs. Since this was an unusual place to find such a plant she and I searched for further plants without success. This proved to be the first collection of *E. gibbsiae* ssp. *psilantha* for 130 years.

Thinking that September was rather early to find this species in such a cool wet area I conducted a further search for plants 1 November 1986. On this occasion I did not find a single plant.

On 26 September 1987 I led a group of 23 members of the Hobart Walking Club to the same place to conduct a more extensive search. The group spread out and systematically walked through the target area. We discovered approximately 25 plants in the vicinity.

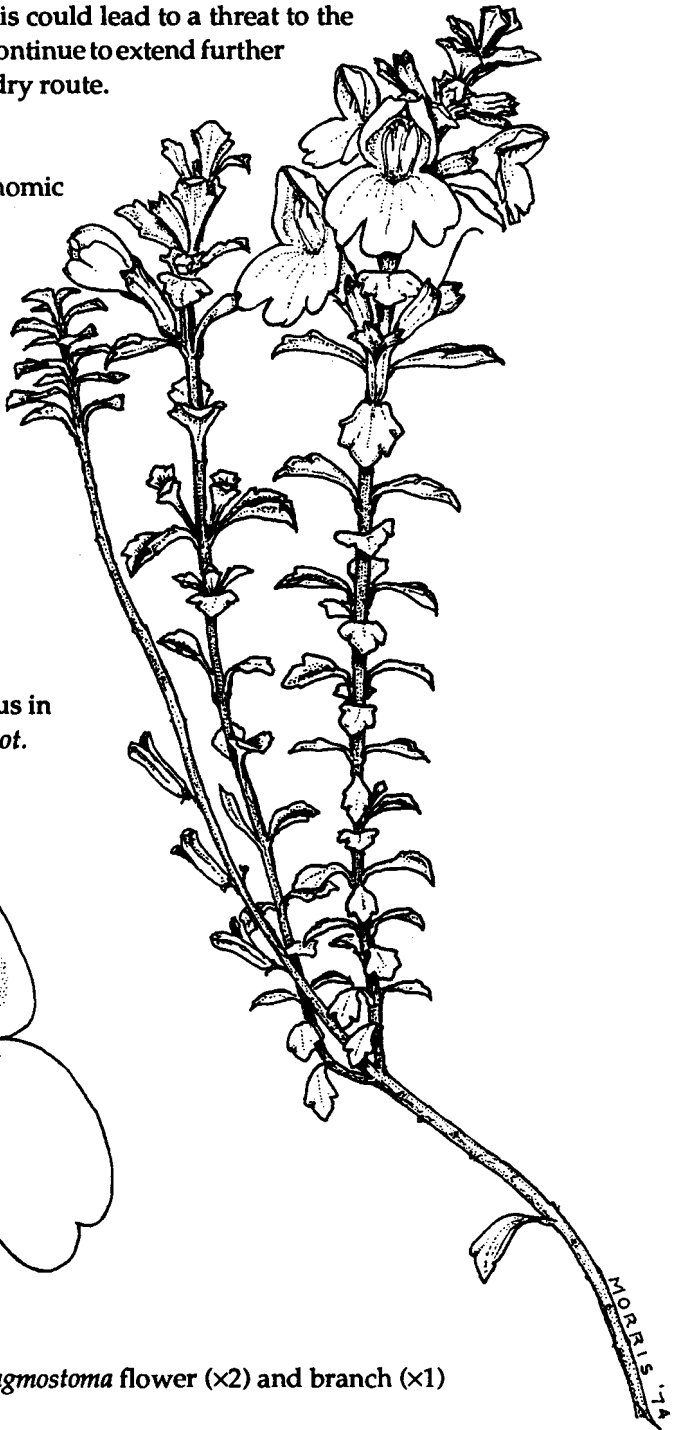
CONCLUSION AND DISCUSSION

There are a remarkable number of extremely rare taxa in the genus *Euphrasia* in lowland south-eastern Tasmania. Fortunately most of these exist in reserves of some sort. The only site which is unreserved is the Southport location of *Euphrasia* sp. 'Southport'. The habitat of *E. gibbsiae* ssp. *psilantha* is in the Southport Lagoon Wildlife Sanctuary, but there is evidence of substantial 4WD

activity in the vicinity. This could lead to a threat to the habitat if the wheel tracks continue to extend further as drivers strive to find a dry route.

REFERENCES

- Barker, W.R. (1982) Taxonomic studies in *Euphrasia* L. (Scrophulariaceae). A revised infrageneric classification, and a revision of the genus in Australia. *J. Adelaide Bot. Gard.* 5:1—304.
- Barker, W.R. (1987) Taxonomic studies in *Euphrasia* L. (Scrophulariaceae). V. New and rediscovered taxa, typifications, and other notes on the genus in Australia. *J. Adelaide Bot. Gard.* 10(2):201—221.



Euphrasia phragmostoma flower (×2) and branch (×1)

BOOK REVIEWS

South-West Tasmania — A Natural History*by Ken Collins*

Heritage Books, Hobart, 1990, 368pp, RRP \$39.95

Reviewed by Jamie Kirkpatrick

The preservation of the South-West has been a preoccupation of many Tasmanians and Australians for several decades. Several books have played a major part in the largely successful battles to prevent all sorts of economic despoilation of this remote and beautiful region. *The South West Book* edited by Helen Gee and Janet Fenton, *The World of Olegas Truchanas* and *Wild Rivers*, with its magnificent photographs by Peter Dombrovskis, have all influenced the public, reinforced the conservationists, and helped shift reluctant politicians. The major role of *South-West Tasmania* by Ken Collins should be to help consolidate the gains made over the last thirty years by providing a resource that makes the natural wonders of the South-West readily accessible to the moderately educated public.

Ken has produced a major review of contemporary natural historic information on the South-West, profusely illustrated with coloured photographs, maps and line drawings, and capable of being used as an excellent guidebook to the natural features and walking routes.

The first half of the book covers geology, geomorphology, prehistory, European exploration, flora, fauna and vegetation. Discussion of the biological features is divided by major vegetation types, such as buttongrass moorland and the alpine zone. Scientifically satisfying reviews are interspersed with guides to particular features, including many for which there are no other ready sources. The guides are, of necessity, incomplete, but will help the visitor identify many geomorphological, geological and archeological features, plants and animals, including spiders, snails and fungi. There are remarkably few factual mistakes, although some are surprising, such as the misidentification of *Acacia sophorae* as *Acacia mucronata* on p. 147.

The guide to routes and features for the visitor is divided up by walking routes. Each section consists of a topographic map showing the routes, thick and thin vegetation, a description of the route, and maps, words, photographs and diagrams of interesting features seen on the way. A particular pleasing emphasis in this section is on minimum impact and safe bush recreation. Unlike other authors of guides Ken Collins has taken great care to ensure that his book does not lead to the development of new tracks or routes, by covering only those

already established.

This book is without doubt the most useful single volume to carry on a walk in south-western Tasmania. It will be well worth the effort to keep its 368 A5 glossy pages separated from the elements.

*Worms to Wasps: an illustrated guide to
Australia's terrestrial invertebrates*

by Mark S. Harvey & Alan L. Yen

Oxford University Press, 1989, 201pp, RRP \$17.95

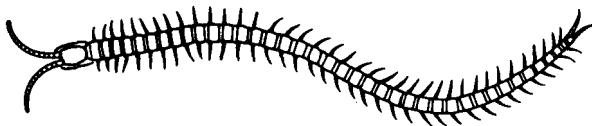
Reviewed by P.B. McQuillan

This attractive paperback is an illustrated guide to 68 orders of Australia's terrestrial invertebrates.

A simple to use dichotomous key helps the user determine the appropriate phylum or order. Jargon is kept to a minimum, but a glossary at the back of the book can be consulted as necessary. The bulk of the book then describes each order in some detail, with a brief description and notes on habitat, feeding, life history and further reading. The page opposite this text is occupied by a large scale line-drawing of a representative of the order in question. The illustrations, by Graham Milledge, are of a high standard.

To cover such a vast subject area such a book can only scratch the surface. My main criticism is that, because of the rigid format, some orders with only one species are accorded the same space as, for example, beetles with 20,000 species. Orders, such as true bugs, which have a diversity of body shape, would have been better served by a number of smaller illustrations to give a more complete representation. Also, no larval forms are illustrated, although the reader is referred to an actual size silhouette alongside each diagram.

In summary, this is a useful book which fills the need for much more accessible reference literature to our enormous invertebrate fauna.



PORCUPINEFISH PREDATION AT WOODY ISLAND, PITTWATER

by *L.E. Wall*

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In August 1990 Mr G. Prestedge of Midway Point, advised of a number of skins of porcupinefish well above the tide line on Woody Island, approximately 15 km. east of Hobart.

Shortly afterwards Mr Prestedge took me in his boat to the island where we had no difficulty in finding a number of skins, some but not all having been turned inside out. As reported, all were some distance above the water line and all were under trees. There was no doubt in my mind that the fish had been caught by White-breasted Sea Eagles which visit the island fairly frequently, and taken to a convenient perch to be eaten at leisure.

Three species of porcupinefish are recorded from Tasmania. The largest is only rarely found in shallow waters and has very long spines. Although a specimen was not collected, there seems no doubt that the observed fish were not of this species as their spines are too long and surrounding waters are all shallow. The Three-barred porcupinefish is common in tropical and subtropical water but only recorded from Flinders Island in Tasmania. It has well-defined dark vertical banding which was not evident on the specimens seen. The third Tasmanian species, evidently the one seen, is known as the Globefish. It is of shorter length than the two previous species, has quite long spines and frequents sheltered rocky reefs in shallow water.

The flesh of all of the above fish is claimed to be poisonous. This would tend to conflict with the evidence that, as some of the fish had been turned inside out, eagles or other animals such as water rats had eaten them. Alternatively, it is possible that the flesh loses its toxicity after death or that the predator has some way of neutralising the poison before digesting it.

