

## A lectotype and new combination in *Hypocalymma* (Myrtaceae: Chamelaucieae)

*Hypocalymma* (Endl.) Endl. was first described as a section of *Leptospermum* J.R.Forst. & G.Forst. (Endlicher 1837) and shortly afterwards raised to the generic level (Endlicher 1840). It was based on the two species now known as *H. angustifolium* (Endl.) Schauer and *H. robustum* (Endl.) Lindl. In their recent review of the genus, Strid and Keighery (2002) recorded *H. angustifolium* as the type species, but they did not lectotypify it nor refer to any previous lectotypification. As *H. robustum* appears to be a better match for the protologue, that species is selected here as the lectotype.

Strid and Keighery (2002) greatly increased the number of named taxa in *Hypocalymma* by describing nine new species and two new subspecies. It is now evident that one of their new subspecies, *H. strictum* subsp. *elongatum* Strid & Keighery, is more distinctive than previously thought as it differs from *H. strictum* Schauer subsp. *strictum* in its ovule number. Both taxa have a two-locular ovary but whereas subsp. *strictum* has three ovules per loculus, subsp. *elongatum* has only one ovule per loculus. A new combination is made to raise subsp. *elongatum* to the species level and a key to all members of the genus with a two-locular ovary is provided to assist with their identification. The description of this taxon was prepared from herbarium specimens, with all measurements recorded from well pressed, fully mature organs.

### Lectotypification and new combination

**Hypocalymma** (Endl.) Endl., *Gen. Pl.* 16, 1230 (1840). – *Leptospermum* sect. *Hypocalymma* Endl., *Enum. Pl. Nov. Holl.* 50 (1837). – *Baeckea* sect. *Hypocalymma* (Endl.) Baillon, *Hist. Pl.* 6, 358 (1876). *Type*: *Leptospermum robustum* Endl. [= *Hypocalymma robustum* (Endl.) Lindl.], lectotype, here chosen.

*Notes.* As explained above, one of the two species listed by Endlicher (1837) needs to be chosen as the lectotype for *Hypocalymma*. On morphological grounds the second species, *H. robustum*, would seem to be a better choice as the characters given by Endlicher (1837: 50, footnote) to separate his new group from the typical section of *Leptospermum* were ‘ovario 2loculari (?) staminibus subexertis, et foliis oppositis’. *Hypocalymma robustum* matches this description in all respects, whereas *H. angustifolium* differs in having a three-locular ovary.

The decision to designate *Hypocalymma robustum* as the type of the genus is also in agreement with Schauer (1844). In his sectional classification, he placed *H. robustum* in *H.* sect. *Eucalyymma* Schauer together with several species characterized by two 3-ovulate loculi, whereas *H. angustifolium* was placed in sect. *Astrocallymma* Schauer along with another species with three 1-ovulate loculi. At that time, the prefix *Eu* was generally applied to the taxonomic group considered to be the true or original part of the genus, although it was the usual practice to attach the prefix to the full generic name. All such names are invalid according to the current code of nomenclature (Art. 21.3, McNeil *et al.* 2006), although it is not clear whether this article applies to sect. *Eucalyymma* since it omits the first part (*hypo-*) of the generic name. Either way, sect. *Eucalyymma* must now be known as sect. *Hypocalymma* since the name of a subdivision of a genus that includes the type must repeat the generic name unaltered (Art. 22.2, McNeil *et al.* 2006).

**Hypocalymma elongatum** (Strid & Keighery) Rye, *comb. et stat. nov.*

*Hypocalymma strictum* subsp. *elongatum* Strid & Keighery, *Nord. J. Bot.* 22: 560–561 (2002). *Type*: 1.5 km north-east of Wellstead along highway to Jerramungup, Western Australia, 16 March 1983, *A. Strid* 22469 (*holo*: PERTH 01945114; *iso*: B, C, G, K, MEL, MO, P all *n.v.*).

*Shrub* 0.3–1.6 m high, one record describing it as erect, compact and with a rounded canopy. *Young stems* glabrous, 4-angled, with well spaced leaves, with most of the lower internodes on each branchlet 6–12 mm long. *Petioles* more or less absent. *Leaf blades* linear or long-linear in outline, 20–32 mm long, 0.5–1 mm wide, 0.5–0.9 mm thick, concolorous, glabrous, entire; apical point 0.4–1 mm long. *Peduncles* 1–1.5 mm long, all or mostly 2-flowered. *Secondary peduncles* 0.1–0.3 mm long. *Bracts and bracteoles* caducous or deciduous, commonly 1.2–3 mm long, acute or acuminate. *Pedicels* 0–0.5 mm long. *Flowers* 8–9 mm diam.; floral tube 1.1–1.4 mm long, rugose-pitted. *Sepals* 1.1–1.5 mm long, obtuse, with a somewhat herbaceous base and a broad scarious margin; herbaceous base dotted with oil glands. *Petals* 3–3.5 mm long, pink, not persistent in fruit. *Stamens* approximately 35–55 in 2 series, united at base for 0.5–0.9 mm. *Ovary* 2-locular; ovules 1 per loculus, erect. *Style* 4.6–5.2 mm long; base not in a depression. *Fruit* half or over half superior, compressed, *c.* 3 mm long, *c.* 3.5 mm wide, *c.* 2.5 mm deep. *Seeds* more or less reniform including a large inner protrusion, 1.6–1.7 mm long; testa brown, pitted; inner protrusion pale, with a bubbly appearance.

*Selected specimens examined.* WESTERNAUSTRALIA: [precise localities withheld for conservation reasons] Wellstead area, 17 Nov. 1979, *E.J. Croxford* 677 (PERTH); E of Manypeaks, 27 May 1964, *A.S. George* 6263 (PERTH); Hamilla Hill Nature Reserve, 17 Apr. 2003, *M. Hislop* 2924 (PERTH); Wellstead area, 16 Nov. 1985, *J.M. Powell* 3276 & *M. Hardie* (PERTH); 10 miles [16 km] S of Ellen Peak 1 May 1966, *K.R. Newbey* 2432 (PERTH); Kojaneerup West Rd, NE of Albany, 27 Feb. 1982, *M. Sherwood* 627 (PERTH); W of South Talyuberlup Track, 20 March 1989, *R.T. Wills* 972 (PERTH).

*Distribution and habitat.* Occurs in the region surrounding Stirling Range, from Hamilla Hill Nature Reserve east to Wellstead, in the south-west of Western Australia. Recorded in sandy soils, sometimes overlying laterite, commonly with *Banksia* and/or *Eucalyptus*.

*Phenology.* Flowers mainly from March to May, also recorded from October to November.

*Conservation status.* Recently listed as Priority Three under the Department of Environment and Conservation's Conservation Codes for Western Australian Flora. This species is known from at least five localities over a range of about 90 km, including a nature reserve.

*Affinities.* Closely related to *Hypocalymma asperum* Schauer, *H. jessicae* Strid & Keighery and *H. strictum*, differing from all three species in its longer leaves, with a more prominent apical point 0.4–1 mm long, and tending to be a taller shrub. *Hypocalymma jessicae* occurs east of the range of *H. elongatum* in rocky habitats, and has more densely clustered leaves, usually with a distinct petiole 0.4–1.3 mm long. It usually has the same ovule number as *H. elongatum* but its leaves are usually thicker than they are wide whereas those of *H. elongatum* are usually wider than thick. The leaves of *H. elongatum* are also more acutely angled along the margins.

The other two species differ from *H. elongatum* in having three ovules per loculus. Both are predominantly summer-flowering, whereas *H. elongatum* appears to flower mainly in spring and autumn. These differences in flowering time may be important in maintaining the reproductive isolation of

*H. elongatum* and may greatly reduce the likelihood of its being collected simultaneously with one of the other species. The only clear record of coexistence comes from notes on a specimen (*M. Hislop* 2924) collected at Hamilla Hill, where *H. elongatum* was ‘growing in same area as *H. asperum* but with latter not flowering’.

*Hypocalymma asperum* overlaps markedly in its geographic range with each of the other three species but differs from all of them in having protruding oil glands, with radiating projections like a star, on its young stems and leaves. Differences in habitat preferences may also be important in this plant group, with *H. strictum* possibly rarely co-occurring with related species because of its greater tendency to occur in damp habitats.

*Notes.* Additional fruiting material is needed for *Hypocalymma elongatum* as mature seeds have only been recorded from the *J.M. Powell* 3276 & *M. Hardie* specimen. The species also needs to be surveyed to assess its conservation status.

**Key to the species of *Hypocalymma* with a 2-locular ovary**

- 1. Leaves 50–70 mm long. Petals white or cream. Ovules 8–11 per loculus. (Murchison River area) ..... **H. longifolium**
- 1: Leaves 8–25 mm long. Petals pale to deep pink. Ovules 1–3 per loculus
  - 2. Flowers solitary in the axils. Petals 9–13 mm long. Ovules and seeds horizontal. (Cockleshell Gully to Lake King) ..... **H. puniceum**
  - 2: Flowers paired in all or most of the axils. Petals 3–5.5 mm long. Ovules and seeds erect
    - 3. Ovules 1 per loculus
      - 4. Shrub up to 1.6 m high; branchlets with well spaced, more or less sessile leaves. Largest leaves 20–32 mm long. (Eastern edge of Stirling Range and Wellstead) ..... **H. elongatum**
      - 4: Shrub 0.3–1 m high; branchlets with densely clustered leaves usually with a petiole 0.4–1.3 mm long. Largest leaves 7–15 mm long. (Ravensthorpe Range to Fitzgerald River National Park) ..... **H. jessicae**
    - 3: Ovules 2 or 3 per loculus
      - 5. Leaves 15–30 mm long, 1.2–3 mm wide, distinctly wider than thick. Petals medium to deep pink, 4–5.5 mm long. (Moore River to Walpole) ..... **H. robustum**
      - 5: Leaves 3–20(–25) mm long, 0.6–1 mm wide, very thick. Petals pale to medium pink, 3–4 mm long
        - 6. Young stems glabrous. Leaves 6–25 mm long, glabrous
          - 7. Leaves densely clustered on the branchlets, usually with a petiole 0.4–1.3 mm long. Peduncles 1–1.5 mm long. (Ravensthorpe Range to Fitzgerald River National Park) .... **H. jessicae**
          - 7: Leaves not densely clustered on the branchlets, more or less sessile. Peduncles up to 1 mm long. (Augusta to Ravensthorpe Range and Hopetoun) ..... **H. strictum**
        - 6: Young stems with star-like protruding oil glands. Leaves 3–9(–13) mm long, with stellate protrusions like those on the stems. (Lake Grace to Stirling Range to Cape Arid) ..... **H. asperum**

### Acknowledgements

This research was supported by funding from the Australian Biological Resources Study. I am grateful to Juliet Wege and Paul Wilson for advice on nomenclature.

### References

- Endlicher, S.L. (1837). Myrtaceae. *In*: Endlicher, S.L., Bentham, G., Fenzl, E. & Schott, H.W. *Enumeratio plantarum*. pp. 46–51. (Fr. Beck: Vindobonae.)
- Endlicher, S.L. (1840). *Genera Plantarum*. Part 16. (Fr. Beck.: Vindobonae.)
- McNeill, J., Barrie, R.R., Burdet, H.M., Demoulin, V., Hawksworth, D.L., Marhold, K., Nicolson, D.H., Prado, J., Silva, P.C., Skog, J.E., Wiersema, J.H. & Turland, N.J. (eds) (2006). *International Code of Botanical Nomenclature (Vienna Code) adopted by the Seventeenth International Botanical Congress Vienna, Austria, July 2005*. *Regnum Vegetabile* vol. 146. (A.R.G. Gantner: Ruggell, Liechtenstein.)
- Schauer, J.C. (1844). Myrtaceae RBr. *In*: Lehmann, J.G.C. (ed.) *Plantae Preissianae*. Vol. 1, pp. 96–158. (Meisner: Hamburg.)
- Strid, A. & Keighery, G.J. (2002). A taxonomic review of *Hypocalymma* (Myrtaceae). *Nordic Journal of Botany* 22: 535–572.

### Barbara Rye

Western Australian Herbarium, Department of Environment and Conservation,  
Locked Bag 104, Bentley Delivery Centre, WA 6983