Nuytsia
The journal of the Western Australian Herbarium

Volume 37: 51–84
Published: 6 March 2026
https://doi.org/10.58828/nuy01104

Taxonomic changes in six Western Australian genera of subtribe Hysterobaeckeinae (Myrtaceae: Chamelaucieae)

Barbara L. Rye

Western Australian Herbarium, Biodiversity and Conservation Science,
Department of Biodiversity, Conservation and Attractions,
Locked Bag 104, Bentley Delivery Centre, Western Australia 6983
Email: Barbara.Rye@dbca.wa.gov.au

Abstract

Taxonomic changes in six Western Australian genera of subtribe Hysterobaeckeinae (Myrtaceae: Chamelaucieae). *Nuytsia* 37: 51–84 (2026). Six genera belonging to the subtribe Hysterobaeckeinae Rye & Peter G.Wilson of Myrtaceae tribe Chamelaucieae DC. are updated to allow a more comprehensive coverage of them in the electronic *Flora of Australia*. The anther morphology of these genera is described, and the distinguishing characteristics of their diaspores are discussed and illustrated. Six poorly known, geographically restricted new species are described for the genera *Anticoryne* Turcz., *Babingtonia* Lindl., *Scholtzia* Schauer and *Tetrapora* Schauer as *A. pallinup* Rye, *A. vallicola* Rye, *B. latifolia* Rye, *S. hortiorum* Rye, *S. nolba* Rye and *T. ostentata* Rye, and one better known, but still geographically restricted, species is named *S. viatica* Rye. In *Hysterobaeckea* (Nied.) Rye, a species that had previously been included under *Malleostemon* J.W.Green with the phrase name *M.* sp. Officer Basin (D. Pearson 350) is described as *H. uniloculata* Rye, expanding the definition of *Hysterobaeckea* to include a 1-locular ovary, and a second new species is named *H. lubrica* Rye. One new species of *Malleostemon* is named as *M. sparsus* Rye now that additional material is available for it, although it may prove to be a hybrid. *Scholtzia umbellifera* F.Muell. and *S.* sp. Folly Hill (M.E. Trudgen 12097) are reduced to synonymy under *S. obovata* (DC.) Schauer, and the subspecies of *S. brevistylis* Rye are abandoned. Two phrase-named taxa under *Baeckea* L. are transferred to the appropriate genera to become *Babingtonia* sp. Dandaragan (G. Paczkowska s.n. PERTH 08245606) and *Tetrapora* sp. Youndegin Hill (A.S. George 15772). The new combination *Tetrapora leptophylla* (Turcz.) Rye is made based on *Harmogia leptophylla* Turcz., with lectotypifications for both this name and its synonym *Baeckea floribunda* Benth. Lectotypes are also nominated for *Babingtonia camphorosmae* (Endl.) Lindl., *Scholtzia eatoniana* (Ewart & Jean White) C.A.Gardner, *S. involucrata* (Endl.) Druce and *S. laxiflora* Benth. New or updated species keys and new descriptions of previously named species or genera are included where appropriate. The ten newly named species occur in the southern half of Western Australia and nine of them have conservation priority, including one that is presumed to be extinct.

Introduction

The preparation of flora treatments for twenty-one genera of the Myrtaceae tribe Chamelaucieae DC. is currently underway for a *Flora of Australia* project supported by the Australian Biological Resources Study. About half of these genera belong to the large subtribe Hysterobaeckeinae Rye & Peter G.Wilson, in which many unnamed species and taxonomic problems remain, particularly among the species and genera occurring in south-western Australia. The goal of this paper is to resolve some of these issues in six genera (*Anticoryne* Turcz., *Babingtonia* Lindl., *Hysterobaeckea* (Nied.) Rye, *Malleostemon* J.W.Green, *Scholtzia* Schauer and *Tetrapora* Schauer) to permit a more accurate and comprehensive treatment of each genus in the electronic flora.

ISSN 2200-2790 (Online)
https://florabase.dbca.wa.gov.au/nuytsia/

A re-evaluation of morphological characters combined with the evidence provided by recent molecular studies, especially Nge *et al.* (2025), has been helpful for resolving the placement of some south-western species with unusual characters and for testing generic boundaries within the subtribe. Fruit and seed characters are of particular importance in defining genera in the subtribe, which has a great diversity of diaspores. Stamen characters, especially anther morphology, are also of great importance.

It appears that the evolution of indehiscent fruits has been strongly selected for within tribe Chamelaucieae, since approximately 70% of the species and subspecies have a nut, multilocular indehiscent fruit or partially indehiscent (i.e. heterocarpidic) fruit, rather than the ancestral capsule. Five of the subtribes, including the largest one, Chamelauciinae Rye & Peter G.Wilson, consistently have a nut with a terminal style. Subtribe Hysterobaeckeinae is the second largest subtribe and the only one that has all four main kinds of fruit, the most common being the capsule, which has been retained in about 66% of its species. Of the six genera treated here, *Anticoryne* and *Tetrapora*, together with a majority of the species within *Babingtonia* and *Hysterobaeckea*, have 2- or 3-valvate capsules, with a variety of crustaceous (hard-coated) seeds (Figure 1), whereas *Malleostemon* and *Scholtzia*, and just a few species of *Babingtonia* and *Hysterobaeckea*, have indehiscent fruits (Figure 2) enclosing membranous (soft-coated) seeds.

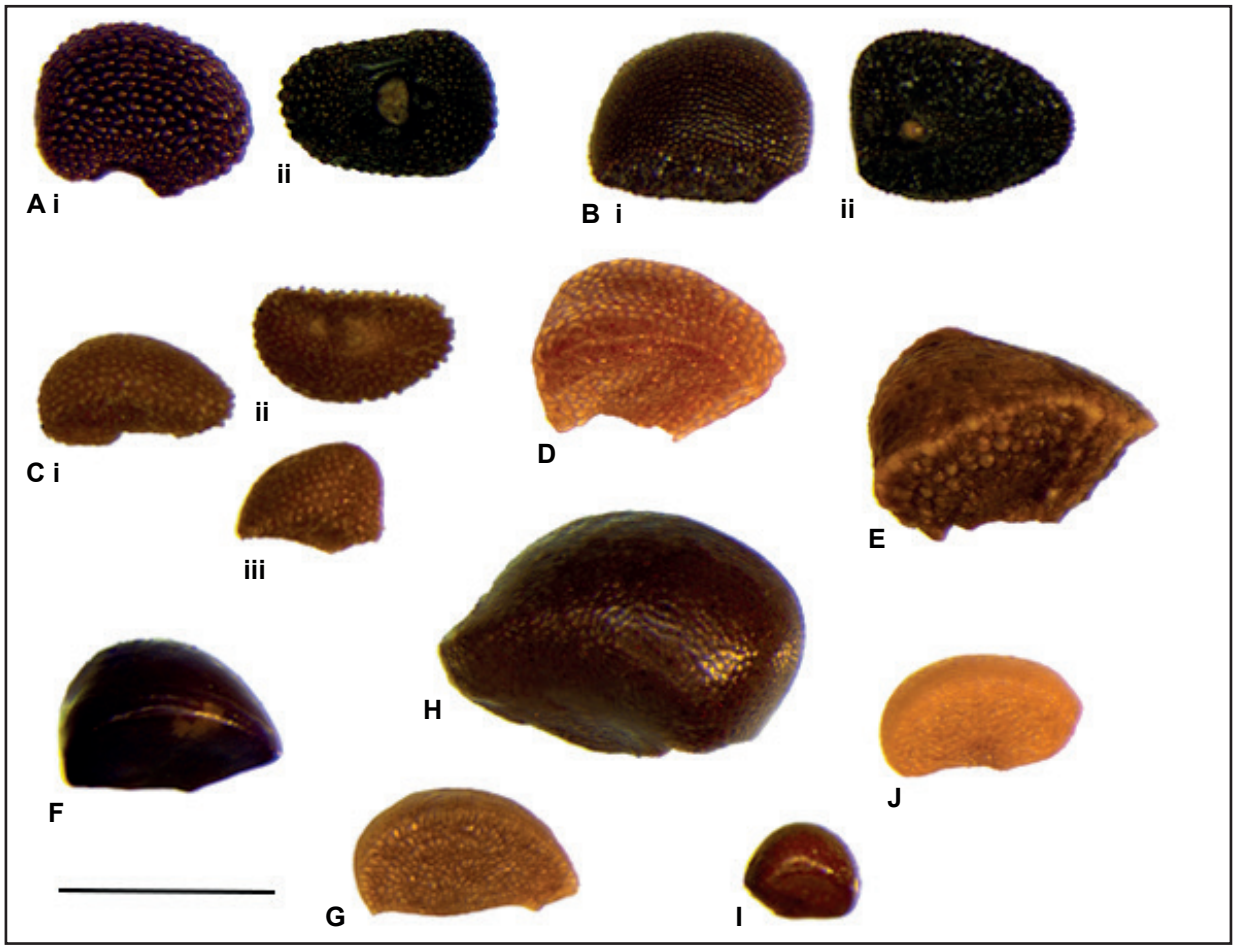

Figure 1. Seed images for capsulate species, taken from lateral view, with the *Anticoryne* species also taken from the inside view (ii) to show the small hilum. A – facetted, tuberculate, almost black seed of *Anticoryne melanosperma*; B – facetted, colliculate, almost black seed of *A. ovalifolia*; C – facetted, partially tuberculate, dark brown seed of *A. vallicola* plus a smaller, infertile seed (i.e. chaff piece) (iii); D – strongly facetted, brown seed of *Babingtonia latifolia*; E – strongly facetted, dark brown seed of *B. pelloeae*, showing raised edges along the boundaries of the facets and a colliculate-rugose lateral facet; F – strongly facetted, glossy, almost black seed of *Hysterobaeckea lubrica*; G – strongly facetted, brown seed of *H. pterocera*; H – facetted, glossy, almost black seed of *H. tuberculata*; I – scarcely facetted, thin-coated, smooth, dark brown seed of *Tetrapora floribunda*; J – somewhat facetted, thin-coated, brown seed of *T. tenuiramea*. Scale bar = 1 mm. Photographs by Katherine Downes from *J.A.Cochrane* JAC 839 (A), *T. Erickson* TEE 230 (B), *H. Steedman s.n.* (C), *F. Hort & B. Hort* 2234 (D), *A. Crawford* 902 (E), *A. O'Connor & V. Longman* FF 532 (F), *A.S. Weston* 14813 (G), *T.R.N. Lothian* 3827 (H), *P. Armstrong s.n.* PERTH 06389554 (I) and *M.E. Trudgen* 23376 (J).

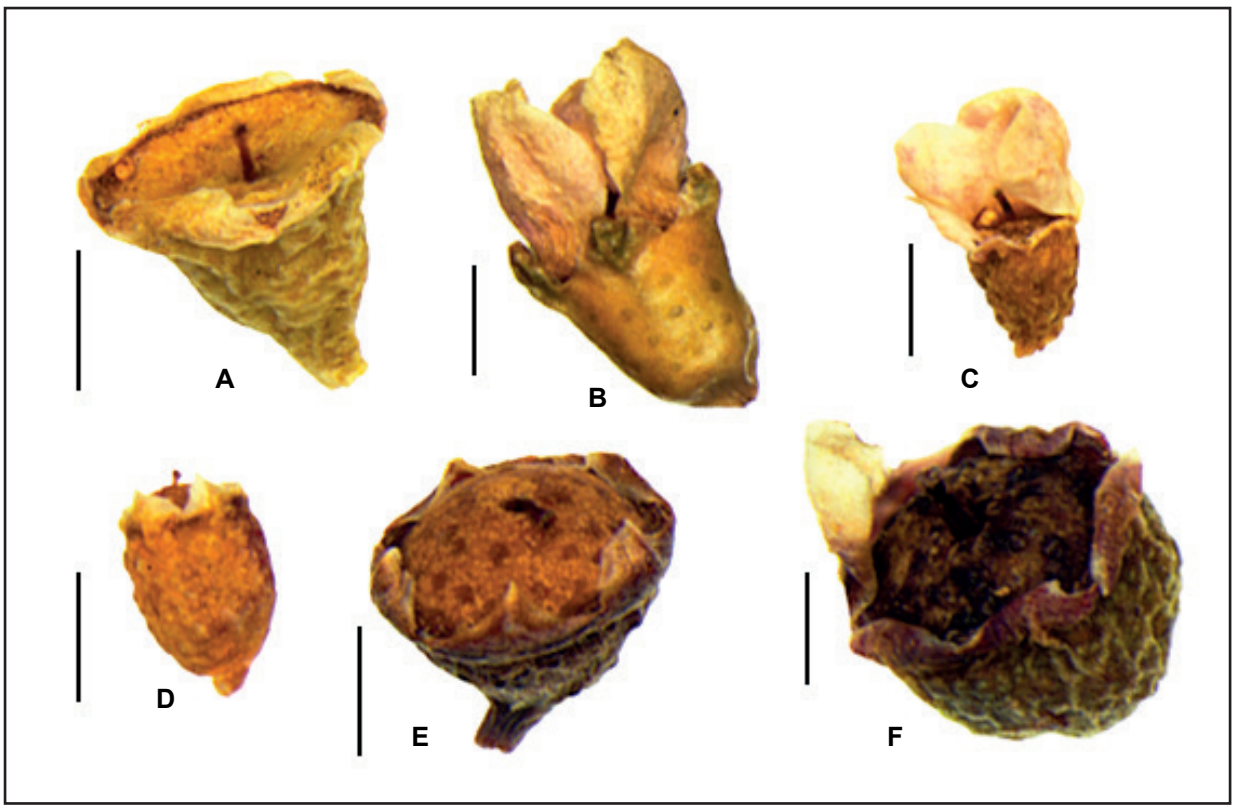

Figure 2. Diaspore images for species with indehiscent fruits, all with persistent small sepals, the larger petals mostly already shed. A – 2-locular indehiscent fruit of *Hysterobaeckea occlusa*; B – nut of *Malleostemon roseus*; C – nut of *M. tuberculatus*; D – 2-locular indehiscent fruit of *Scholtzia brevistylis*; E – 3-locular indehiscent fruit of *S. nolba*; F – 3-locular indehiscent fruit of *S. viatica*. Scale bars = 1 mm. Photographs by Katherine Downes from *D. Brinsden* 1 (A), *J.M. Fox* 88/366 (B), *I. Johnson & N. McClaren* I+N 0723 (C), *A. Crawford* ADC 2722 (D), *Mrs E. Place s.n.* (E), *T.J. Alford* 251 (F).

Evidence for the recent origin of the three derived fruit types within the Hysterobaeckeinae is their presence within some genera that mostly have capsules (including the two genera noted above, *Babingtonia* and *Hysterobaeckea*) or their presence in clades that contain both indehiscent-fruited genera and very closely related, capsulate genera. In Nge *et al.* (2025: Figure 3) the following species with fully or partially indehiscent fruits were each placed closest to species with capsules: *'Malleostemon'* sp. Adelong (G.J. Keighery 11825), *'Scholtzia'* sp. Geraldton (F. Lullfitz L 3216), *'Baeckea' robusta* F.Muell. and *'M.'* sp. Officer Basin (D. Pearson 350). These four species do not match the morphology of the genus in which they were then placed; this is being remedied for one of them, *M.* sp. Officer Basin, by its transfer here to *Hysterobaeckea*. All species with indehiscent fruits in subtribe Hysterobaeckeinae have their style inserted in a cylindrical hole in the summit of the fruit, as in the ancestral capsule, rather than being terminal as in all subtribes that consistently have a nut; this is another indication that these indehiscent fruits are only recently derived within the Hysterobaeckeinae.

The approximately 190 species of subtribe Hysterobaeckeinae have a derived anther type in which the connective gland is fused to other parts of the stamen, and there is commonly a 90° bend between the anther (including its connective gland) and the filament below. There is great variation in the size and degree of protrusion of the connective gland and in the overall shape of the anther.

Further publications dealing with members of subtribe Hysterobaeckeinae will be needed to deal with some thirty Western Australian species still listed under *Baeckea* L. on *Florabase* (Western Australian Herbarium 1998–) that require re-allocation to appropriate genera as well as a couple of species misplaced under *Malleostemon* and *Scholtzia*. *Baeckea s. str.* has a long distribution that extends from southern China south to Tasmania but it is absent from all central and western parts of the Australian mainland. It differs from all members of subtribe Hysterobaeckeinae in having a dorsifixed versatile anther with a free connective gland.

Update to *Anticoryne* Turcz.

The south-western Australian genus *Anticoryne* was treated as a synonym of *Baeckea* for more than 135 years before being reinstated in 2003 and revised in 2017 (see Rye 2017b). In the revision, it was considered to comprise just three species; however, recent molecular sequencing (Nge *et al.* 2025) indicated that an unnamed species known as *Baeckea* sp. Stirling Range (H. Steedman s.n. 03/1933) was nested within *Anticoryne*. That species had previously been considered for inclusion in *Tetrapora* but did not match the genus convincingly because its seeds were strongly facetted and partially tuberculate. The recent molecular results place *Anticoryne* and *Tetrapora* as sister genera. Both genera have 3-valvate capsules and anthers with little or no protrusion of the connective gland beyond the thecae. The inclusion of *B.* sp. Stirling Range in *Anticoryne* means that the genera can still be separated by their seed morphology, with *Tetrapora* having a thin, rather smooth seed coat (Figure 1I, J) and *Anticoryne* a thicker seed coat that is noticeably colliculate to tuberculate on the inner surfaces (Figure 1A–C). Another unnamed species from near the south coast is more difficult to place because its seeds have not been seen, but it is very similar to *B.* sp. Stirling Range in its anther morphology. Consequently, both taxa are described here as species of *Anticoryne*. They differ from previously named *Anticoryne* species in commonly having multiple flowers per peduncle, so the generic description needs to be updated to record the peduncles as 1–6-flowered. Other adjustments needed include a greater range of stamen numbers and seed sizes. *Anticoryne* now comprises five species and its distribution extends from the Hyden area south-west to the Stirling Range and south-east to Fitzgerald River National Park.

Key to species of *Anticoryne*

1. Peduncles 1–6-flowered, always with some of them multi-flowered. Flowers 6–8 mm diam. Stamens 10–12

2. Leaves not clustered, obovate, 2–3 mm wide. Peduncles 5–9 mm long, exceeding the pedicels (Pallinup River area) ..... **A. pallinup**

2: Leaves tending to be clustered, linear in outline, 0.5–0.8 mm wide. Peduncles 0.5–2 mm long, shorter than the pedicels (Stirling Ra.) ..... **A. vallicola**

1: Peduncles 1-flowered. Flowers 10–16 mm diam. Stamens 12–45

3. Peduncles up to 0.5 mm long, exceeded by the 1.3–2.5 mm long pedicels. Seeds scarcely facetted, tuberculate (Hyden–Dongolocking NR–near Forrestania) ..... **A. melanosperma**

3: Peduncles 2.5–7 mm long, usually exceeding the 1–5 mm long pedicels. Seeds strongly facetted, colliculate on inner surfaces, fairly smooth on outer surface

4. Leaves 1.2–2.3 mm wide, ± entire. Stamens 20–45 (Fitzgerald River NP) ..... **A. diosmoides**

4: Leaves 2–4 mm wide, with coarse laciniae up to 0.2 mm long. Stamens 12–17 (Fitzgerald River NP) ..... **A. ovalifolia**

Anticoryne pallinup Rye, *sp. nov.*

Type: Pallinup River, Western Australia [precise locality withheld for conservation reasons], 5 November 1976, *K.R. Newbey* 5012 (*holo*: PERTH 06707424; *iso*: CANB, K, MEL, NSW).

Baeckea sp. Pallinup River (K.R. Newbey 5012), Western Australian Herbarium, in *Florabase*, https://florabase.dbca.wa.gov.au/ [accessed 6 June 2025].

Shrub 0.3–0.6 m high, 0.05–0.3 m wide. *Young stems* smooth. *Leaves* antrorse or appressed, not in fascicles. *Petioles* 0.4–0.7 mm long, mostly well defined. *Leaf blades* often somewhat recurved, obovate, 4–6 mm long, 2–3 mm wide, concolorous, denticulate or minutely erose; abaxial surface shallowly convex, usually flattened or grooved along the midvein, with 3 main rows of oil glands on each side of midvein, the rows closest to the midvein with 6–8 glands; adaxial surface shallowly concave; apical point absent. *Peduncles* borne at 1 or 2 consecutive nodes, 5–9 mm long, 3–6-flowered. *Basal bracts* 1.5–3 mm long.

Pedicels 2–4 mm long. *Flowers* 7–8 mm diam. *Hypanthium* campanulate, 1–1.5 mm long, 2.2–2.5 mm wide, fairly smooth; free part 0.3–0.4 mm long. *Sepals* depressed ovate, 0.4–0.6 mm long, 1.4–1.8 mm wide, strongly ridged, entire. *Petals* 3–3.5 mm long, white, entire. *Stamens* 10–12, with 1–3 opposite each sepal, often in the arrangement 3,2,1,3,1 when ten. *Longest filaments* 0.9–1.1 mm long. *Anthers* globular, *c.* 0.3 mm long, *c.* 0.3 mm wide, with a pale-coloured patch where the connective gland is located. *Ovary* densely glandular on summit; ovules 6–8 per loculus. *Style c.* 1.1 mm long; stigma capitate, *c.* 0.2 mm diam. *Fruits* unknown.

Diagnostic features. This species has the smallest sepals in the genus (0.4–0.6 mm long). Other important characters: leaf blades obovate, ciliolate; peduncles 5–9 mm long, 3–6-flowered; and stamens 10–12.

Other specimens examined. Only known from the type.

Distribution and habitat. Recorded in a tall open shrubland of *Eucalyptus decipiens* on sandy soil near the lower Pallinup River in the Esperance Plains bioregion.

Phenology. Apparently flowers during October and November, based on the single collection from early November.

Conservation status. Recently listed as Priority One under Conservation Codes for Western Australian Flora (Western Australian Herbarium 1998–), as *Baeckea* sp. Pallinup River (K.R. Newbey 5012). It is known from a single locality, where it was described as being ‘common in a single patch’.

Etymology. Named to reflect the only known locality of this species near Pallinup River. The epithet is formed as a noun in apposition.

Affinities. This species is similar to *A. vallicola* Rye in flower size and number and in its anther morphology but is distinguished by its broader leaves and longer peduncles (see key).

Notes. Dense clusters of flowers appear to terminate the flowering branches but are actually formed from multi-flowered peduncles in the upper axils.

Anticoryne vallicola Rye, *sp. nov.*

Type: Stirling Range, Western Australia, March 1933, *H. Steedman s.n.* (*holo*: PERTH 07202717; *iso*: K 000065838).

Baeckea sp. Stirling Range (H. Steedman s.n. 03/1933), Western Australian Herbarium, in *Florabase*, https://florabase.dbca.wa.gov.au/ [accessed 6 June 2025].

Illustration. Drawing on the holotype, presumably by Charles Gardner, which shows ten stamens in the arrangement 3,2,1,3,1.

Shrub size and form unknown. *Young stems* smooth at first. *Leaves* antrorse or patent, tending to be clustered. *Petioles* 0.5–0.8 mm long, mostly well defined. *Leaf blades* linear in outline, 5–8.5 mm long, 0.5–0.8 mm wide, 0.5–0.8 mm thick, concolorous, entire; abaxial surface deeply convex, with the larger oil glands commonly in 2 main rows on each side of midvein, the rows closest to the midvein with 9–14 glands; adaxial surface shallowly concave or flat; apical point minute or up to *c.* 0.1 mm long. *Peduncles* borne at 1–7 consecutive nodes, 0.5–2 mm long, mostly 3-flowered. *Largest bracts or bracteoles* 0.8–1.4 mm long, sometimes persistent in fruit. *Pedicels* 3–5 mm long. *Flowers* 6–7 mm diam. *Hypanthium* campanulate-urceolate (cup-shaped with a flared apex), 1.2–1.5 mm long, 1.7–2 mm wide, rugose-pitted; free part *c.* 0.3 mm long. *Sepals* depressed ovate, 0.6–0.8 mm long, 1.2–1.8 mm wide, strongly ridged, entire. *Petals c.* 3 mm long, white, entire. *Stamens* 10 or 11, with 1–3 opposite each sepal,

often in the arrangement 3,2,1,3,1. *Longest filaments* 0.8–1.5 mm long. *Anthers* globular, 0.2–0.4 mm long, *c.* 0.3 mm wide from front view; thecae *c.* 0.2 mm high, usually reddish brown to maroon; connective gland protruding by *c.* 0.1 mm, usually paler than the thecae. *Ovary* glandular on summit; ovules 5–7 per loculus. *Style* 1.6–2.2 mm long; stigma capitate, less than 0.1 mm diam. *Fruits* 2/3–3/4 inferior, *c.* 1.5 mm long, *c.* 1.5 mm diam. *Seeds* distinctly facetted, 0.6–0.7 mm long, 0.4–0.5 mm wide, 0.4–0.5 mm thick, medium brown, deeply colliculate on curved surface, with lateral surfaces ± tuberculate, without any obvious inner surface. (Figure 1C)

Diagnostic features. Distinguished by the following combination of characters: leaves clustered, entire, with a blade 5–8.5 mm long; peduncles 0.5–2 mm long, mostly 3-flowered; stamens 10 or 11; ovules 5–7 per loculus; and seeds deeply colliculate on curved surface, with lateral surfaces ± tuberculate.

Other specimens examined. WESTERN AUSTRALIA: [locality withheld for conservation reasons] *s. dat.*, *G. Maxwell s.n.* (MEL 0072902).

Distribution and habitat. Restricted to the Esperance Plains bioregion, in or just south of the Stirling Range, recorded in valleys and possibly near a spring.

Phenology. Flowers and fruits recorded in March.

Conservation status. Listed as Priority Two under Conservation Codes for Western Australian Flora (Western Australian Herbarium 1998–) as *Baeckea* sp. Stirling Range (H. Steedman s.n. 03/1933). Both collections probably came from the area that is now Stirling Range National Park, but recent searches for the species have been unsuccessful, raising the possibility that it is extinct.

Etymology. From the Latin *vallis* (valley) and *-cola* (-dweller), referring to its record from valleys.

Affinities. This very distinctive, but poorly known, species shows some similarities to *A. melanosperma* Rye, especially in having pedicels that are consistently longer than the peduncles and having tuberculate seeds, but it differs in having fewer stamens and having the tubercles restricted to the lateral surfaces of the seed (Figure 1Ci, ii), whereas *A. melanosperma* is tuberculate on the dorsal and lateral surfaces of the seed (Figure 1A). Note that the chaff piece (infertile seed) of *A. vallicola* (illustrated in Figure 1Ciii) lacks tubercles. *Anticoryne vallicola* appears to be most similar to *A. pallinup*, differing as discussed under that species.

Update to *Babingtonia* Lindl.

Babingtonia is a south-western Australian genus that was previously considered to extend from near Binnu south to Dunsborough and south-east to the Mount Barker area (Rye 2017b: Figure 1). Most *Babingtonia* species have a 3-valvate capsule, but there are two species that have a nut, making this one of the few genera to have more than one fruit type. In a revision of its core group of 11 species, Rye (2015b: 227) noted the possible need to expand the circumscription of the genus to include new species, and one such species was later described as *B. peteriana* Rye (Rye 2020), bringing the number of species recognised in the genus to 12. One further unnamed species implicated in the molecular data of Rye *et al.* (2020) as being closely related to the core species is described here. It extends the distribution of *Babingtonia* more than 40 km northwards and raises the number of species to 13.

Expanding the circumscription of *Babingtonia* beyond its core group makes recognition of the genus more complicated, but *Babingtonia* can still be distinguished from all other members of the subtribe by a combination of characters. All of the named species currently included in the genus have 3–26 stamens with a broad, flattened filament, the connective gland either not protruding or with its protruding part shorter than the thecae, and 4–16 ovules per loculus. Several unusual characters occur within *Babingtonia*, with every species having at least one of them: connate stamens; helmet-like anthers with little or no protrusion

of the connective gland; and raised margins on strongly facetted seeds, as shown for *B. pelloeae* Rye (Figure 1E). Of these unusual characters, the most widespread in the genus is the helmet-like anther (see Rye 2015b: Figures 2B–D, 3C). Most species have no protrusion of the connective gland while the rest have the connective gland protruding only very shortly at the base of the thecae or protruding for a shorter distance than the length of the thecae. Another character found in a majority of the species is a low-growing habit, which may be combined with tuberculate young stems or densely clustered leaves. Most species also have sepals with a strongly ridged, incurved keel.

Further work is needed to assess the variants of *B. grandiflora* (Benth.) Rye and the status of specimens provisionally identified as *B.* aff. *cherticola.* Another possible new species, currently listed by a phrase name under *Baeckea*, is considered to belong to *Babingtonia* but is too poorly known for its taxonomic status to be assessed and so is transferred here into the genus as *Babingtonia* sp. Dandaragan (G. Paczkowska s.n. PERTH 08245606). Once the generic boundaries of *Babingtonia* have been better established, the generic description can be revised and a sectional classification established, since the genus will then encompass considerably more morphological diversity than when its core group was revised.

Addition to the key to species of *Babingtonia*

The following two couplets need to be added at the beginning of the key in Rye (2015b: 228):

A: Leaves very broadly obovate or depressed cordate to transversely reniform, 4–6 mm wide (W of Binnu) ..... **B. latifolia**

A. Leaves linear in outline or narrowly obovate to elliptic, 0.3–1.3(–1.6) mm wide

B. Stamens connate at the base. Hypanthium and outer surface of sepals with many long projections (Morawa area–near Three Springs)..... **B. peteriana**

B: Stamens free. Hypanthium and outer surface of sepals lacking elongated projections

Babingtonia camphorosmae (Endl.) Lindl. in J. Lindley (ed.), *Bot. Reg.* 28: t. 10 (1842); *Baeckea camphorosmae* Endl. in S.F.L. Endlicher, E. Fenzl, G. Bentham & H.W. Schott, *Enum. Pl.*: 51 (1837). *Type*: 'King Georges Sound. (Hügel.)' [Fremantle to Darling Range, Western Australia, November–December 1833, *K.A.A. von Hügel s.n.*] (*lecto*, here designated: W 0009018; *isolecto*: K 000843435).

Typification. The specimen at W is annotated '*Baekea* [sic] *camphorosmae* n. sp.' by Endlicher and is more complete than the K specimen, so it is designated as the lectotype. The specimen at K is annotated 'Herb. Mus. Vind. 1837' by Bentham and is likely to be original material that he acquired from Vienna, as noted in the preface to *Flora Australiensis* (Bentham 1863: 11*). The locality is given as 'King Georges Sound' on the lectotype and in the protologue, although this is presumed to be an error since this species does not occur in the Albany region (Western Australian Herbarium 1998–). Before visiting Albany in early 1834, Hügel made collections from Fremantle and the Darling Range (see George 2009), a region where this species has been frequently recorded.

Babingtonia latifolia Rye, *sp. nov.*

Type: west of Binnu, Western Australia [precise locality withheld for conservation reasons], 5 February 2004, *A. Chant s.n.* (*holo*: PERTH 06235131; *iso*: CANB).

Baeckea sp. Western Australia (J. Drummond s.n.), G. Paczkowska & A.R. Chapman, *West. Austral. Fl.: Descr. Cat.* p. 348 (2000); Western Australian Herbarium, in *Florabase*, https://florabase.dbca.wa.gov.au/ [accessed 6 June 2025].

Shrub c. 1.8 m high, width not recorded, single-stemmed at base. *Young stems* smooth (not tuberculate). *Leaves* antrorse to patent. *Petioles* 0.5–1.1 mm long, well defined. *Leaf blades* broadly cordate to transversely reniform, 2.5–3.5 mm long, 4–6 mm wide, concolorous, entire; abaxial surface convex

basally and keeled distally, dotted with numerous widely spaced oil glands; adaxial surface concave or partially concave, often with a narrow groove along the centre, with less obvious oil glands; apical point absent. *Peduncles* borne at 6–20 consecutive nodes, 2–5 mm long, 1-flowered. *Bracteoles* narrowly ovate, 1.5–2 mm long, acute, scarious, often red-tinged, prominently keeled, shed before fruits form. *Pedicels* 0.5–1 mm long. *Flowers* 7–10 mm diam. *Hypanthium* hemispheric, 1.5–2 mm long, 3–4 mm wide, rugose-pitted; free part 0.7–1 mm long. *Sepals* depressed ovate, often appearing almost absent from side view, 0.5–0.6 mm long, 2–2.6 mm wide, largely herbaceous, with a strongly ridged, incurved keel, entire; petaloid margin 0.25–0.4 mm wide, reddish. *Petals* 3–4 mm long, white. *Stamens* 19–22, in a circle. *Longest filaments* 1.2–1.5 mm long, usually 0.3–0.4 mm wide but up to 0.8 mm wide when two stamens united, pale. *Anthers* 0.6–0.7 mm long, *c.* 0.35 mm wide from front view, often dark pink to red; thecae *c.* 0.4 mm long; visible part of connective gland *c.* 0.3 mm long, pale at first but becoming small and dark. *Ovary* inferior, with summit raised into a small cone at middle, 3-locular; placentas distinctly stalked; ovules 7–9 per loculus. *Style c.* 3.3 mm long, becoming largely enclosed when the summit of fruit expands upwards to form a large cone; stigma capitate, 0.15–0.2 mm diam. *Fruits c.* 1/2-inferior or slightly more superior, *c.* 4 mm long, *c.* 4 mm diam., rugose-pitted below a smooth section; summit broadly conic, obtusely 3-lobed, with large glands. *Seeds* strongly facetted, with thin margins that project slightly, 1.2–1.3 mm long, 0.8–1 mm wide, 0.6–1 mm thick, pale brown, colliculate. *Chaff pieces* numerous, often facetted but with acute or obtuse margins, medium brown, colliculate. (Figure 1D)

Diagnostic features. Readily distinguished from all species currently included in *Babingtonia* by its very broad leaves, which are broader than long, and its more northern distribution. Other important characters include the broadly conical apex to its fruit.

Selected specimens examined. WESTERN AUSTRALIA: [localities withheld for conservation reasons] 2 Feb. 2005, *A. Crawford* 902 (PERTH); 3 Dec. 2004, *A. Crawford & A. Chant* ADC 813 (PERTH); *J. Drummond s.n.* (MEL 0076332); 24 Sep. 2002, *M.E. Trudgen* MET 21699 (AD, NSW, PERTH).

Distribution and habitat. Known from one population west of Binnu in the Geraldton Sandplains bioregion and from an old collection of unknown location, recorded in yellow sand in *Banksia* high shrubland.

Phenology. Flowers recorded from November to February and fruits from December to February.

Conservation status. Listed as Priority One under Conservation Codes for Western Australian Flora (Western Australian Herbarium 1998–) as *Baeckea* sp. Western Australia (J. Drummond s.n.).

Etymology. From the Latin *latus* (wide) and *-folius* (-leaved), referring to the broad leaves.

Notes. The new species was placed sister to samples of three *Babingtonia* species (*B. camphorosmae, B. cherticola* Rye & Trudgen and *B. triandra* Rye & Hislop) in 2017; while this phylogeny has not been published, the relevant molecular data were used to produce a simplified figure showing genera and subtribes (Rye *et al.* 2020: Figure 1). *Babingtonia latifolia* has anthers that are quite similar to those of the species already (Rye 2015b) included in *Babingtonia*, with its thecae closely united into a pouch-like, somewhat helmet-shaped structure *c.* 0.4 mm long, but with a more obviously protruding connective gland.

The apex on the fruit of the new species protrudes further and appears more angular than in most previously included members of the genus and is perhaps most similar to the fruit apex of *B. fascifolia* Rye.

Babingtonia sp. **Dandaragan (G. Paczkowska s.n. PERTH 08245606)**

Baeckea sp. Dandaragan (G. Paczkowska s.n. PERTH 08245606), Western Australian Herbarium, in *Florabase*, https://florabase.dbca.wa.gov.au/ [accessed 6 June 2025).

Notes. This taxon is known from a single fruiting collection made in the Dandaragan area (*G. Paczkowska s.n.* 18/3/2003), where it was recorded in white sand over laterite. Flowers have not been seen but a few old petals on the fruiting material collected in March are *c.* 3 mm long. It appears from this very limited material that the ovary is 2- or 3-locular, with 2–6 (mostly 3 or 4) ovules per loculus, which suggests that it differs from previously named members of the genus. It appears most likely to belong to the *B. grandiflora* complex.

Update to *Hysterobaeckea* (Nied.) Rye

Hysterobaeckea is a widespread southern Australian genus that is unusual in having a suite of species in the arid zone. Most of its species are Western Australian but the genus extends east to near Bendigo in Victoria, and inland to north of the MacDonnell Ranges, Northern Territory. One important characteristic of *Hysterobaeckea* is that its stamens are geniculate at the summit of a narrow filament, with the connective gland protruding below the base of, and usually much longer than, the thecae. Most members of the genus, such as *H. pterocera* Rye (Figure 1G), have 3-valvate capsules containing strongly facetted seeds, with the outer surface usually smooth, but there is one species, *H. occlusa* Rye, with a 2-locular, indehiscent fruit (Figure 2A) and a new species believed to have a nut. There is also one somewhat anomalous capsulate species from South Australia, *H. tuberculata* (Trudgen) Rye, which has exceptionally large seeds that are not as strongly facetted (Figure 1H).

A new arid zone species from the Northern Territory, *H.* sp. Mt Zeil (D.E. Albrecht 8650), is described as *H. oreophila* Albr. & Rye in this issue (Albrecht & Rye 2026) and two Western Australian arid-zone taxa are described here as *H. lubrica* Rye and *H. uniloculata* Rye. These new species match almost all of the characters previously recorded for the genus (Rye 2015a, 2018) but *H. lubrica* differs from previously described species in having almost sessile flowers, although a reduced peduncle and pedicel are still present, and *H. uniloculata* differs in having a 1-locular ovary. The description of *Hysterobaeckea* given in Rye (2018) needs to be amended so that the ovary is described as 1–3-locular.

One problem encountered with many arid zone species of *Hysterobaeckea* and related genera is that most specimens are sterile, making it difficult to provide an adequate botanical description for them. Fortunately, one of the two new *Hysterobaeckea* species described here is known from many collections. The other one is very poorly known, but molecular data (Nge *et al.* 2025) placed it within a clade of *Hysterobaeckea* samples.

Although there are currently only 14 species recognised in *Hysterobaeckea*, a paper in preparation on six species with a muricate indumentum will raise the generic total to 20 species. The only named member of this group, *'Baeckea' muricata* C.A.Gardner, was recently placed sister to samples from six *Hysterobaeckea* species (Nge *et al.* 2025).

Key to species currently included in *Hysterobaeckea*

1. Ovary 1- or 2-locular

2. Ovary 1-locular. Leaves 2–2.3 mm wide, often wider than long (near Plumridge Lakes NR–Queen Victoria Spring NR, W.A.) ..... **H. uniloculata**

2: Ovary 2-locular. Leaves 0.4–1.2 mm wide, longer than wide

3. Leaves not tuberculate; apical point 0.3–0.5 mm long. Bracteoles 0.6–0.8 mm long. Sepals 0.3–0.4 mm long, not tuberculate. Fruits indehiscent (Robinson Ra. area–Weld Ra.–near Leonora–S of Warburton, W.A.)..... **H. occlusa**

3: Leaves prominently tuberculate; apical point absent or less than 0.2 mm long. Bracteoles 1.5–1.8 mm long. Sepals *c.* 1 mm long, tuberculate towards the base. Fruits dehiscent by 2 valves (Everard Ra.–E of Maralinga, S.A.)..... **H. tuberculata**

1: Ovary 3-locular

4. Peduncles and pedicels both reduced, 0–0.6 mm long (near Montague Ra.–near Agnew & Queen Victoria Spring NR–near Barlet Bluff, W.A.).....**H. lubrica**

4: Peduncles (1–)1.5–26 mm long, usually much longer than the pedicels, which are up to 5.5 mm long

5. Leaves without an apical point or with a mucro up to 0.1 mm long

6. Leaves with adaxial groove absent or only in basal half of blade. Sepals with a laterally projecting dorsal ridge, which is about as deep as long or not much longer than deep. Ovules 9–13 per loculus (E of Hyden, W.A.)..... **H. pterocera**

6: Leaves with adaxial groove usually well developed, extending for most of length of blade. Sepals with little or no ridge in many cases, the ridge (when present) either thick or protruding apically as a horn, always longer than deep. Ovules usually 14–21 per loculus but down to 11 in *H. glandulosa*

7. Oil glands obvious on peduncles, pedicels and outside of flowers (present on hypanthium and sepals). Mature style 1.9–2.2 mm long. Ovules 11–15 per loculus (Karlgarin Hill area, W.A.)..... **H. glandulosa**

7: Oil glands usually not obvious on peduncles, pedicels and outside of flowers. Mature style 2.5–4.5 mm long. Ovules 14–21 per loculus (Diemals Stn area–Comet Vale area –Mt Moore–Taylor Rock, W.A.)..... **H. ochropetala**

5: Leaves with an apical point 0.3–2.5 mm long

8. Fruits 1.7–2.2 mm wide, 1.5–1.9 mm long. Occurring in the Northern Territory (Mt Zeil area, N.T.) ..... **H. oreophila**

8: Fruits 3–6 mm wide in all species, 2.5–5 mm long or (in *H. behrii*) *c.* 2 mm long. Occurring in Western Australia, South Australia or Victoria

9. Leaves with an abaxial groove but no adaxial groove

10. Peduncles 1.5–3 mm long. Pedicels 0.5–1.7 mm long. Petals 2.5–4 mm long (Mt Churchman–near Norseman, W.A.).....**H. petraea**

10: Peduncles 4–7 mm long. Pedicels 2–4.5 mm long. Petals 4–5 mm long (Peak Charles NP, W.A.)..... **H. graniticola**

9: Leaves with a narrow or line-like adaxial groove

11. Stamens 9–12. Mature style 0.8–1.5 mm long. Occurring in south-eastern Australia (Eyre Peninsula, S.A.–near Bendigo, Vic.)..... **H. behrii**

11: Stamens usually 13–26 but down to 10 in *H. longipes*. Mature style 2.3–3.7 mm long. Occurring in south-western Australia

12. Sepals very prominently horned. Leaves 2.5–3.5 mm long; apical point usually 0.3–1(–1.5) mm long (Die Hardy Ra.–Woongaring Hills–Bungalbin Hill, W.A.)..... **H. cornuta**

12: Sepals sometimes prominently ridged but not horned. Leaves up to 15 mm long, rarely shorter than 3 mm long; apical point 0.7–2.5 mm long

13. Leaves 9–15 mm long; adaxial groove usually open although still narrow. Sepals rather petaloid, not ridged or horned and without obvious glands; apex very obtuse (Buntine–near Wyalkatchem, W.A.)..... **H. longipes**

13: Leaves (2–)3–9 mm long; adaxial groove usually closed and line-like. Sepals reduced and mostly herbaceous or larger and with obvious oil glands, usually ridged; apex obtuse to acute, sometimes with a point (Pindar–Mollerin–Remlap Stn–Narembeen, W.A.).....**H. setifera**

Hysterobaeckea lubrica Rye, *sp. nov.*

Type: Mulga Rocks, Officer Basin, Great Victoria Desert, Western Australia, 19 June 1985, *A.S. Weston* 14813 (*holo*: PERTH 01777564).

Baeckea sp. Great Victoria Desert (A.S. Weston 14813), Western Australian Herbarium, in *Florabase*, https://florabase.dbca.wa.gov.au/ [accessed 6 June 2025].

Baeckea sp. Sandstone (C.A. Gardner s.n. 26 Oct. 1963), G. Paczkowska & A.R. Chapman, *West. Austral. Fl.: Descr. Cat.* p. 348 (2000); Western Australian Herbarium, in *Florabase*, https://florabase.dbca.wa.gov.au/ [accessed 6 June 2025].

Shrub 0.2–1 m high, width not recorded. *Young stems* smooth (not tuberculate). *Leaves* antrorse or appressed, sometimes widely antrorse or patent when densely arranged. *Petioles* 0.2–0.35 mm long, well defined. *Leaf blades* linear to narrowly oblong or almost elliptic in outline, 1.5–4 mm long, 0.4–1.2 mm wide, 0.4–0.7 mm thick, obtuse, concolorous, entire; abaxial surface deeply convex but flattened along the middle and often grooved down the centre, with 1 or 2 main rows of oil glands on each side of midvein, the rows closest to the midvein with 3–5 glands, the oil glands sometimes very prominent; adaxial surface slightly convex to slightly concave, without a groove or with a groove only in the basal half, the oil glands not obvious; apical point recurved, 0.1–0.2(–0.25) mm long. *Peduncles* borne at 1–3(–5) consecutive nodes, almost absent to 0.5 mm long, 1-flowered. *Bracteoles* 1.5–3.5 mm long, prominently keeled, often persistent in flower; apical point 0.1–0.25 mm long. *Pedicels* almost absent to 0.6 mm long. *Flowers* 5–7 mm diam. *Hypanthium* broadly obconic, 1–1.7 mm long, 2.5–3.5 mm wide, somewhat 5-ribbed or 5-lobed, dotted with oil glands; free part 0.5–1 mm long. *Sepals* depressed ovate, strongly ridged or shortly horned, 0.5–1 mm long, 1.1–1.5 mm wide, entire, the keel incurved. *Petals* 2–2.5 mm long, white or possibly sometimes pink. *Stamens* (10–)12–19(–21), with 1–5 opposite each sepal. *Longest filaments c.* 0.7 mm long. *Anthers* 0.3–0.4 mm wide from front view; thecae 0.2–0.3 mm long; visible part of connective gland 0.3–0.45 mm long. *Ovary* inferior, 3-locular; ovules 6–9 per loculus. *Style* 1.5–1.9 mm long; stigma ± peltate, 0.15–0.25 mm diam. *Fruits c.* 1/2 inferior, 2–2.5 mm long, 2.5–3.5 mm diam. *Seeds* strongly facetted, 1–1.3 mm long, 0.5–0.7 mm wide, 0.6–0.8 mm thick, very dark brown to ± black, smooth. (Figure 1F)

Diagnostic features. Distinguished from other species of *Hysterobaeckea* by its shorter peduncles, which are almost absent to 0.5 mm long. Other important characters: leaves with adaxial groove absent or only in basal half of blade, with an apical point 0.1–0.25 mm long; ovary 3-locular; ovules 6–9 per loculus; and seeds very dark brown to ± black, smooth.

Selected specimens examined. WESTERN AUSTRALIA: *c.* 6.5 km SW of White Well, which is 26 km SE of Leinster on Goldfields Hwy, 24 June 2004, *P. Armstrong* PA 07 (PERTH); 2 km S of Passey's Bore, Black Range Station, 15 Apr. 2004, *D.J. Edinger* DJE 4015 A *& G. Marsh* (PERTH); Tropicana, Great Victoria Desert, 19 Nov. 2008, *R. Haycock* 844 RH-06 (PERTH); 26 km N of Streich Mound, Queen Victoria Spring Nature Reserve, 25 Apr. 1990, *D.J. Pearson* DJP 793 (PERTH); adjacent to Vermin Fence running between Mount Magnet–Sandstone road and Barrambie Station, 7 Apr. 2009, *T. Phillips* TP 003 (PERTH); 31.7 km W of Agnew towards Sandstone, 26 Oct. 1996, *R. Schuh & G. Cassis* 96-19 (PERTH); NE of Snake Corner (between Queen Victoria Spring Nature Reserve and Plumridge Lakes Nature Reserve), 12 Feb. 2006, *C. Slee* 654-099 (PERTH).

Distribution and habitat. The currently known distribution of *H. lubrica* has a disjunction of *c.* 300 km between a north-eastern area that includes Sandstone in the Murchison bioregion and a south-western area in the Great Victoria Desert bioregion. Whether this is a true reflection of the species distribution or results partly from a paucity of botanical collecting in the intervening area is uncertain. In the north-west, *H. lubrica* extends from near Montague Range south-west to the Sandstone area and south-east to the Agnew area, occurring in orange or red sand in low eucalypt woodland, sometimes with *Aluta maisonneuvei* subsp. *auriculata* and *Enekbatus eremaeus*. In the south-east, *H. lubrica* extends from Queen Victoria Spring Nature Reserve north-west to near Barlet Bluff and is also recorded from much further north in Black Range Station, usually in yellow to red sand with eucalypts and/or *Acacia* and *Triodia*, sometimes with *Thryptomene biseriata*.

Phenology. Probably flowers and fruits opportunistically throughout the year.

Conservation status. This species was listed as Priority Three under Conservation Codes for Western Australian Flora (Western Australian Herbarium 1998–) as *Baeckea* sp. Sandstone (C.A. Gardner s.n. 26 Oct. 1963) but now with the addition of many more localities no conservation coding will be required (Tanya Llorens pers. comm.).

Etymology. From the Latin *lubricus* (smooth, slippery), referring to the very smooth seeds.

Affinities. The South Australian arid-zone species *H. tuberculata* is similar to *H. lubrica* in its habitat, low ovule numbers and smooth, dark seeds (Figure 1H). *Hysterobaeckea tuberculata* sometimes has a line-like adaxial groove on its leaves but sometimes the groove is absent or only in the basal half of the blade as in *H. lubrica*. *Hysterobaeckea tuberculata* also has shorter peduncles (1–1.3 mm long) than most members of the genus, although still distinctly longer than those of *H. lubrica*. However, it is readily distinguished from *H. lubrica* by its 2-locular ovary and tuberculate stems, leaves and fruits, and it has distinctly larger seeds than all other members of the genus.

Notes. The first collection of *H. lubrica*, made near Sandstone in 1963, had narrow leaves. Two broad-leaved specimens from the Great Victoria Desert had been collected by 2004, when Malcolm Trudgen applied two phrase names to these arid-zone specimens, one for each region. Since then, many additional collections have been made. While all recent collections from the Great Victoria Desert have short, relatively broad leaves, the more recently collected specimens from the Sandstone area show the full range of leaf widths known in the species and some specimens have both narrow and broad leaves.

Very few specimens have open flowers. The flower colour sometimes appears yellowish on the dried material and is only recorded twice on the specimen labels, once as ‘white’ and the other time as ‘white to pink’.

Hysterobaeckea uniloculata Rye, *sp. nov.*

Type: SE of Officer Basin, Great Victoria Desert, Western Australia [precise locality withheld for conservation reasons], 9 December 1987, *D.J. Pearson* DJP 350 (*holo*: PERTH 03138003; *iso*: CANB 465754 *n.v.*, PERTH 01205994).

Malleostemon sp. Officer Basin (D. Pearson 350), G. Paczkowska & A.R. Chapman, *West. Austral. Fl.: Descr. Cat.* p. 390 (2000); Western Australian Herbarium, in *Florabase*, https://florabase.dbca.wa.gov.au/ [accessed 6 June 2025].

Illustration. Drawings on *D.J. Pearson* DJP 350 (PERTH 01205994).

Shrub 0.5–1.3 m high, width not recorded. *Young stems* smooth (not tuberculate). *Leaves* antrorse. *Petioles* 0.1–0.4 mm long, usually well defined. *Leaf blades* very broadly obovate to depressed obcordate, 1.6–2.3 mm long, 2–2.3 mm wide, up to 0.6 mm thick, with thick margins, concolorous, entire; abaxial surface convex, often with a groove along the centre for most of length, distally keeled, with prominent oil glands often forming low, broad tubercles, in usually 3 or 4 main rows on each side of midvein, the rows closest to the midvein with 3–6 glands; adaxial surface concave to almost flat, with numerous small oil glands; apical point 0–0.2 mm long. *Peduncles* borne at 1–3 consecutive nodes, 0.8–1.5 mm long, 1–3-flowered; secondary axes ± absent or short. *Bracteoles* 2–2.5 mm long, keeled, probably persistent at anthesis; apical point 0.2–0.5 mm long. *Pedicels* ± absent or short. *Flowers* not seen after anthesis. *Hypanthium* cup-shaped, *c.* 1.5 mm long, *c.* 1.6 mm wide, rugose-pitted or -wrinkled, not ribbed, dotted with small oil glands; free part 0.4–0.5 mm long. *Sepals* depressed ovate, 0.8–1.3 mm long, 1.4–1.6 mm wide, entire, keeled, the outer ones often with a horn or apical point 0.2–0.3 mm long. *Petals c.* 1.5 mm long in late bud but not seen at maturity, white or pink on outer surface. *Stamens* 10–13, probably with 1–3 opposite each sepal. *Longest filaments c.* 0.5 mm long. *Anthers* 0.35–0.4 mm wide from front view; thecae *c.* 0.2 mm long; visible part of connective gland 0.35–0.4 mm long. *Ovary* inferior, 1-locular;

summit flat, glandular; ovules 5 or 6. *Style c.* 0.5 mm long in late bud, not seen at maturity. *Fruits* unknown but evidently indehiscent.

Diagnostic features. Unique in having a unilocular ovary and unusual in having its leaves much wider than thick.

Selected specimens examined. WESTERN AUSTRALIA: [localities withheld for conservation reasons] 7 Sep. 1992, *D.J. Pearson* DJP 2805 (PERTH); 9 Dec. 2008, *S. Reiffer* SRE 015 (PERTH); 9 Apr. 2006, *C. Slee* 666-134 (PERTH); 31 Jan. 2010, *A. Storey* AGAA 0094 (PERTH).

Distribution and habitat. Recorded in the Great Victoria Desert bioregion from north of Plumridge Lakes Nature Reserve south-west to Queen Victoria Spring Nature Reserve, on yellow sand dunes.

Phenology. Possibly flowers opportunistically throughout the year but so far only recorded in December.

Conservation status. Listed as Priority Two under Conservation Codes for Western Australian Flora (Western Australian Herbarium 1998–) as *Malleostemon* sp. Officer Basin (D. Pearson 350).

Etymology. From the Latin *unus* (one) and *loculatus* (having locules), referring to the unilocular ovary.

Notes. As this very distinctive species has only been collected in a vegetative state or in bud, its description is incomplete. Most species in tribe Chamelaucieae have an indehiscent fruit, especially in the arid zone; having an indehiscent fruit is probably of adaptive advantage in dry habitats where seeds need to survive long periods before there is sufficient rainfall for germination to be viable. Indehiscent fruits are usually 1-locular and there are no Western Australian species known to have a 1-locular dehiscent fruit, so it appears safe to assume that *H. uniloculata* has an indehiscent fruit, i.e. a nut. Dehiscent fruits are commonly retained on specimens long after the seeds are released, but no attached fruits are present on any of the *c.* 30 herbarium collections of *H. uniloculata* at PERTH, which is also a good indication that its fruits are indehiscent.

Recent molecular sequencing (Nge *et al.* 2025: '*Malleostemon* sp. Officer Basin') showed that this species is nested within *Hysterobaeckea*. Previously, *H. uniloculata* was included in *Malleostemon* because of its unilocular ovary, but the species is atypical of that genus in its occurrence within the southern arid zone, in having horned sepals, and in having a cup-shaped hypanthium that lacks the ribs found in most *Malleostemon* species.

Only one of the previously named species of *Hysterobaeckea* has an indehiscent fruit. The indehiscent-fruited *H. occlusa* (Figure 2A) is a widespread arid-zone species, which differs from *H. uniloculata* in having a 2-locular ovary and narrower leaves. Hence *H. uniloculata* is the only member of the genus believed to have a nut.

Update to *Malleostemon* J.W.Green

Malleostemon is a mid-western to south-western Australian genus of about 15 species, extending from near Minilya River in the Pilbara south to near Kondinin. It is the only named genus of the Hysterobaeckeinae in which all species have a nut, i.e. a unilocular indehiscent fruit, which is shown for *M. roseus* (E.Pritz.) J.W.Green (Figure 2B) and *M. tuberculatus* (E.Pritz.) J.W.Green (Figure 2C). Its stamens have a narrow filament and an obvious connective gland that is longer than or about as long as the thecae. The anthers dehisce by two pores or short slits that diverge basally.

In the last treatment that added new species (Rye 2016), four *Malleostemon* phrase names were retained for taxa that were then known from just a single collection at PERTH. One of those taxa, *M.* sp. Yalgoo Road (Morawa Tree Committee 329), is now known from three specimens and is described here as

M. sparsus Rye, whereas *M.* sp. Moonyoonooka (R.J. Cranfield 2947), *M.* sp. Woodacurrie Rd (S. Patrick 3364) and *M.* sp. Woolgorong Station (M. Officer 100) remain extremely poorly known.

In 2016 there were also two better collected taxa that were not described because they were atypical of the genus *Malleostemon*. One of those is described above as *Hysterobaeckea uniloculata*. The other, *M.* sp. Adelong (G.J. Keighery 11825), does not fit readily into any of the currently published genera but was placed sister to a clade containing a sample identified as *Baeckea elderiana* E.Pritz. and the eastern Australian genus *Kardomia* Peter G.Wilson in Nge *et al.* (2025).

Updated key to species of *Malleostemon*

1. Stamens (4–)5–13, with 1 opposite each sepal or in antisepalous groups

2. Hypanthium with a broad, truncate base. Stamens (5–)7–13, with 1–4 opposite each sepal. Seeds broader than long, transversely reniform (Mullewa–E of Burma Road NR) ..... **M. nephroideus**

2: Hypanthium tapering at base. Stamens 4–7, in most species consistently 5, with 1 opposite each sepal, never consistently 7. Seeds (where known) longer than broad, commonly obovoid or broadly so

3. Leaves densely clustered; adaxial surface with widely separated margins. Bracteoles 1.4–1.8 mm long, persistent. Sepals 0.5–0.9 mm long (Kojareena–Arrino area) ..... **M. decipiens**

3: Leaves not clustered; adaxial surface with margins pinched in to form a line-like groove along the middle. Bracteoles 0.4–1.3 mm long, shed in bud or flower. Sepals 0.25–0.5 mm long

4. Longest leaves with an apical point (0.5–)0.7–1.2 mm long. (Eurardy Bush Heritage Reserve–Raeside Soak–near Kondinin) ..... **M. tuberculatus**

4: Longest leaves not pointed or with a point up to 0.2 mm long

5. Stamens 4–7, with 0–2 opposite each sepal. Petals *c.* 2 mm long (E of Binnu–N of Morawa–Kirkalocka Stn area) ..... **M. sparsus**

5: Stamens 5, with 1 opposite each sepal. Petals 1.2–1.5 mm long (Kalbarri NP) ..... **M. pustulatus**

1: Stamens 3–10, all ± antipetalous or with 5 antipetalous and the others antisepalous

6. Leaves peltate, fully herbaceous. Mature style 1.3–2.2 mm long (including hidden base), inserted in a distinctly raised area at centre of ovary summit (near Hamelin Pool–Billeranga Hills–Coolgardie) ..... **M. peltiger**

6: Leaves not peltate, with a scarious margin. Mature style 0.4–1.6 mm long, not in a raised area, somewhat to very eccentric in fruit

7. Bracteoles with broad, deeply denticulate-laciniate margins. Stamens 3–5, all ± antipetalous. Mature style 0.4–0.8 mm long

8. Hypanthium 1.7–2 mm long, well exposed (Toolonga NR–Nerren Nerren Stn area) ..... **M. nerrenensis**

8: Hypanthium 1–1.5 mm long, largely hidden by bracts

9. Leaf blades 0.9–1.5 mm long. Sepals strongly incurved in flower and fruit (Cooloomia NR–Murchison House Stn) ..... **M. microphyllus**

9: Leaf blades 1.3–2.3 mm long. Sepals erect to widely spreading in flower and fruit (Murchison House Stn–Nerren Nerren Stn–Watheroo) ..... **M. hursthousei**

7: Bracteoles with entire or denticulate margins. Stamens 5–10, with up to half of them antisepalous. Mature style (where known) 0.7–1.6 mm long

10. Hypanthium 5-angled (pentagonal in transverse section)

11. Leaves obovate or broadly obovate in outline, somewhat keeled; adaxial surface concave or broadly hollowed. Scurfy ovary wall not detaching from hypanthium to enclose the seeds and chaff (near Toolonga NR–near Mullewa) ..... **M. pentagonus**

11: Leaves oblong to obovate in outline, not keeled; adaxial surface flat. Scurfy ovary

wall separating from hypanthium to enclose the seeds and chaff in a free globular structure (near Hamelin Pool–Yorkrakine–Coolgardie) ..... **M. roseus**

10: Hypanthium terete, sometimes with 5 main protruding ribs

12. Peduncles ± absent, each axil 1-flowered. Sepals widely spreading in fruit

13. Bracteoles 1.2–2 mm long. Ovules 6–9, never uniformly 6 (near Minilya River–Kennedy Ra.–Talisker Stn) ..... **M. minilyaensis**

13: Bracteoles 2–3.5 mm long. Ovules 4–6, mostly 5 or 6 (Toolonga NR–Mullewa) ..... **M. uniflorus**

12: Peduncles 1–4 mm long, 1(–3)-flowered. Sepals erect in flower and fruit

14. Bracteoles shed in bud or flower, 1.2–1.8 mm long. Pedicels 0.5–1 mm long. Petals white (Useless Loop–Coburn Stn) ..... **M. pedunculatus**

14: Bracteoles persistent, 1.5–2.3 mm long. Pedicels 0–0.5 mm long. Petals pink (Kalbarri NP–near Binnu)..... **M. costatus**

Malleostemon sparsus Rye, *sp. nov.*

Type: east of Kirkalocka Station, Western Australia [precise locality withheld for conservation reasons], 30 August 1995, *S. Toole* SLT 7 (*holo*: PERTH 04622561; *iso*: CANB).

Malleostemon sp. Yalgoo Road (Morawa Tree Committee 329), Western Australian Herbarium, in *Florabase*, https://florabase.dbca.wa.gov.au/ [accessed 6 June 2025].

Shrub commonly 1.5–2 m high, one record of 1.5 m wide, base not recorded. *Young stems* smooth (without tubercles). *Leaves* antrorse or appressed. *Petioles* 0.25–0.3 mm long, well defined. *Leaf blades* narrowly obovate to narrowly oblong in outline, 3–3.5 mm long, 0.7–0.9 mm wide, 0.4–0.6 mm thick, concolorous, entire; abaxial surface deeply convex but flattened somewhat along the centre, often with a narrow groove along the midvein, with 1 or 2 main rows on each side of midvein, the rows closest to the midvein with 4–6 glands; adaxial surface shallowly concave or ± flat, with a line-like groove along the centre; apical point 0.1–0.15 mm long. *Peduncles* borne at 1–4 consecutive nodes, 2–3 mm long, 1–3-flowered; secondary axes 0–0.5 mm long. *Largest bracts or bracteoles* 0.9–1.1(–1.8) mm long, acute, scarious, prominently keeled, shed in bud or flower. *Pedicels* 0–0.3 mm long. *Flowers* 4.5–5.5 mm diam. *Hypanthium* obconic, ± terete (not 5-angled), with 5 fairly prominent antisepalous ribs and sometimes with shorter antipetalous ones, with scattered oil glands and often somewhat rugose between the ribs, 1.8–2.2 mm long, 1.5–2 mm wide; free part 0.2–0.4 mm long. *Sepals* depressed ovate, 0.45–0.7 mm long, 0.7–1 mm wide, largely herbaceous, with a ridged keel, ± entire. *Petals* 1.9–2.1 mm long, white, shed in bud or flower. *Stamens* 4–7, with 0–2 opposite each sepal, sometimes sufficiently irregularly arranged to appear to have an occasional stamen opposite a petal, but on one specimen mostly 5 with 1 opposite each sepal. *Longest filaments* 0.5–0.6 mm long. *Anthers* 0.35–0.4 mm long; connective gland 0.2–0.25 mm long. *Ovary* with some glands on summit; ovules 6–8. *Style* 0.6–0.7 mm long, eccentric; stigma capitate, less than 0.1 mm diam. *Fruits* inferior, not seen at maturity, apparently 1-seeded.

Diagnostic features. Distinguished by the following combination of characters: leaves not clustered, with an apical point 0.1–0.15 mm long; hypanthium fairly prominently 5-ribbed; petals 1.5–2.2 mm long; and stamens 4–7 per flower, with 0–2 opposite each sepal.

Other specimens examined. WESTERN AUSTRALIA: [localities withheld for conservation reasons] 22 Sep. 1993, *Morawa Tree Committee* 329 (PERTH); 13 Sep. 2018, *R. Simkin* RS 2071 (PERTH).

Distribution and habitat. Known from three scattered localities, one east of Binnu, one near Kirkalocka Station and one north of Morawa, Western Australia. Recorded in yellow sand over laterite in tall shrubs over low open shrubland, in yellow soil with scrub, and in sand in *Acacia* shrubland. At the first locality, two species of *Acacia*, *Melaleuca nematophylla*, *Allocasuarina*, *Homalocalyx aureus*, *Darwinia capitellata* and *Hibbertia* were present. Near Kirkalocka Station, *Malleostemon roseus* apparently co-

occurred with *M. sparsus* but possibly favoured a slightly different habitat. The third locality is a reserve at which both *M. roseus* and *M. tuberculatus* have been recorded but there is no indication of whether or not these taxa co-occurred with *M. sparsus*.

Phenology. Flowers recorded from late August to late September.

Conservation status. Listed as Priority One under Conservation Codes for Western Australian Flora (Western Australian Herbarium 1998–) as *Malleostemon* sp. Yalgoo Road (Morawa Tree Committee 329).

Etymology. From the Latin *sparsus* (scattered, strewn) as the few known localities are widely spaced.

Affinities. Like *M. nephroideus* Rye, this taxon usually has a variable number of stamens per flower, with all of them antisepalous, but with fewer of them than in *M. nephroideus*. Sometimes it matches *M. tuberculatus* in having five stamens with one opposite each sepal, but it differs from that species in having only a very short apical point on its leaves.

Notes. *Malleostemon* sp. Yalgoo Road (Morawa Tree Committee 329) was established as a phrase name in 1996 based on the earliest collection made in 1993, which remains the only specimen to ever have been housed under that name. Recently a similar specimen has been incorporated into the PERTH collection and a third specimen found amongst the numerous boxes of *M. tuberculatus* specimens.

The flowers of one collection of *M. sparsus* were described as pink and white, but which part was pink was not indicated. The specimen used to create the phrase name *M.* sp. Yalgoo Road differs from the other two in usually having five stamens with one opposite each sepal, although it may occasionally have four or six stamens or five that are somewhat less regularly arranged. The other specimens have more variable numbers of stamens per flower and also variable numbers of stamens (0–2) opposite sepals of individual flowers.

The very scattered occurrence of *M. sparsus* raises the possibility of its being of hybrid origin. All three localities are within the distributions of two common species, *M. roseus* and *M. tuberculatus*, the former differing from *M. sparsus* in characters such as its persistent bracteoles and shallow, five-angled hypanthium, the latter differing in characters such as its leaves having a longer petiole and longer apical point and its more scarious sepals (see Table 1). Taken together there is a possibility that those two very different species could account for the characters found in *M. sparsus*, so further studies are needed to explore this possibility. Whether or not it has a hybrid origin, *M. sparsus* is well worth naming since it has now been recorded several times and it does differ from both possible parent species in having the hypanthium more prominently ribbed.

Update to *Scholtzia* Schauer

With at least 40 species, *Scholtzia* is the largest genus belonging to the subtribe Hysterobaeckeinae and has one of the longest distributions, extending from north of Carnarvon south to Cookernup, west of Yarloop. Its fruits are always indehiscent and in most taxa are multilocular, but in two species most of the fruits are 1-locular, i.e. nuts. The stamens have a narrow filament and a somewhat 2-lobed anther with two pores or short, more or less vertical slits, and with a basally protruding connective gland.

In the widespread *S. obovata* (DC.) Schauer complex, the circumscription of *S. obovata* is expanded here to include two additional synonyms, and two named subspecies and an unnamed western variant within *S. brevistylis* Rye are re-examined. Two new species named here are known from only one or two collections each but are very distinctive morphologically. A third species that was previously not named because of its inclusion within the taxonomically difficult *S. laxiflora* Benth. complex is also named, as it is readily distinguished from all other variants, but the remaining members of the *S. laxiflora* complex still need attention.

Table 1. Comparison between *Malleostemon sparsus* and two associated species.

	M. roseus	***M. sparsus***	***M. tuberculatus***
Height (m)	0.5–2.5(–3)	1.5–2	(0.5–)1–3
Petiole length (mm)	0–0.3	0.25–0.3	0.5–1
Blade oil glands per row	3–6	4–6	5–8
blade length (mm)	1–2.5	3–3.5	3–8
blade width (mm)	0.5–1	0.7–0.9	0.4–0.7
thickness	wider than thick	wider than thick	as thick as wide
apical point (mm)	absent	0.1–0.15	(0.5–)0.7–1.2
Peduncles nodes occupied	1–3	1–4	2–15
length (mm)	0.7–3	2–3	1–5
flowers per peduncle	1–3	1–3	1–6
Bracteoles persistence	persistent	shed	shed or persistent
length (mm)	0.8–2	0.9–1.1(–1.8)	0.5–1.3
Pedicels length (mm)	0–0.5	0–0.3	0–0.5
Flower diam. (mm)	4.5–6.5	4.5–5.5	3–4.5
Hypanthium shape TS	pentagonal	± terete	terete
length (mm)	1.5–2.5	1.8–2.2	0.8–1.5
free part length (mm)	0.3–0.5	0.2–0.4	0.1–0.4
longitudinal ribs	often somewhat 5-ribbed	prominently 5-ribbed	not ribbed
Sepal length (mm)	0.4–0.7	0.45–0.7	0.3–0.5
texture	largely herbaceous	largely herbaceous	largely scarious
Petal colour	pale to medium pink	white	white to medium pink
length (mm)	1.5–3.3	1.9–2.1	0.7–1.5
Stamen number	5–10	4–7	5
filament length	0.6–0.8	0.5–0.6	0.35–0.6
Anthers	1-locular	not recorded	2-locular
length (mm)	0.35–0.5	0.35–0.4	*c.* 0.25
connective gland length (mm)	0.2–0.25	0.2–0.25	0.1–0.15
Ovule number	4–6	6–8	6–8
Style length (mm)	0.8–1.4	0.6–0.7	0.35–0.5
Fruits shape	5-angled	unknown	terete
texture	smooth	unknown	rugose-tuberculate
length (mm)	2–3	unknown	1.2–1.5

The main group that is still unresolved in *Scholtzia* is the *S. involucrata* (Endl.) Druce complex, which currently includes two phrase names, *S.* sp. Jurien (R.J. Cranfield & P.J. Spencer RJC 8443) and *S.* sp. Wongonderrah (M.E. & M.R. Trudgen MET 12000).

Key to the named species and subspecies of *Scholtzia*
*Taxa keyed more than once

1. Stamens (10–)15–30, in a continuous circle, with antipetalous as well as antisepalous stamens

2. Ovary 3-locular; ovules 1 per loculus. Erect shrubs to 2.5 m high, occurring north of Geraldton

3. Peduncles 7–15 mm long, 5–15-flowered. Sepals 0.4–0.7 mm long (Coolcalalaya–Nolba area)..... **S. nolba**

3: Peduncles 0–0.5 mm long, 1-flowered. Sepals 0.7–1.3 mm long (Binnu area) ..... **S. uniflora**

2: Ovary 2-locular; ovules 2 per loculus, superposed. Mostly prostrate or low-growing shrubs but with one variant of *S. involucrata* to 3 m high, occurring south of Geraldton

4. Leaves markedly laciniate-ciliate; longest cilia 0.4–0.8 mm long (near Lancelin–N of Seabird–Moore River NP)..... **S. laciniata**

4: Leaves ciliate to entire; cilia (when present) to 0.4 mm long

5. Peduncles 3–7-flowered. Outer sepals scarious throughout, not ridged (near Three Springs–Cookernup)..... **S. involucrata**

5: Peduncles 1–3-flowered, never consistently 3-flowered. Outer sepals with a herbaceous base that is longitudinally ridged

6. Leaves ± as wide as thick, with margins poorly defined (rounded) and entire except for a few apical teeth. Flowers usually borne at 2–7 consecutive nodes (S of Meckering–Youndegin area) ..... **S. eatoniana**

6: Leaves usually wider than thick, angled on each edge to form distinct margins, often denticulate along most or all distal parts of margins. Flowers borne at up to 35 nodes, rarely all at fewer than 8 consecutive nodes

7. Peduncles 1–3-flowered, never uniformly 1-flowered. Leaves ovate to linear, 3.5–10 mm long

8. Leaves flat, with the longest cilia or lacinia 0.2–0.4 mm long. Petals 3.5–4.5 mm long. Longest stamens with a filament *c.* 3.3 mm long. Occurring on the Darling Range (Bickley)..... **S. hortiorum**

8: Leaves usually somewhat thickened on a fold, entire or denticulate-ciliolate. Petals 2.5–3 mm long. Longest stamens with a filament 1.8–2.4 mm long. Occurring on the northern sandplains (S of Eneabba–near Moore River) ..... **S. teretifolia**

7: Peduncles all or almost all 1-flowered. Leaves obovate to broadly elliptic or narrowly obovate to linear, 1.2–5 mm long

9. Peduncles 3–7 mm long. Mature style 2.5–3.4 mm long. Leaves entire or with longest cilia to 0.1 mm long (Gunyidi–Dalwallinu) ..... **S. quindecim**

9: Peduncles 1–3.5 mm long. Mature style 1.5–2.3 mm long. Leaves with longest cilia 0.1–0.3 mm long

10. Leaves narrowly obovate to linear, 1.2–3 mm long. Hypanthium distinctly 5-ribbed, each rib connecting to a marked ridge on the base of a sepal. Stamens 15–20 (Lake Indoon–Eneabba–near Winchester)..... **S. chapmanii**

10: Leaves obovate to broadly elliptic, 2.5–4.5 mm long. Hypanthium not appearing 5-ribbed, the sepals only moderately ridged at base. Stamens 11–17 (E of Walkaway)..... **S. prostrata**

1: Stamens 3–12(–14), grouped opposite the sepals, with no antipetalous stamens

11. Ovules 1 per loculus

12. Leaves rather densely covered by fairly uniform oil glands on abaxial surface; foliar

colleters to 0.6 mm long on each side of the petiole of young leaves. Sepals fairly erect in flower and fruit

13. Leaves broadly to depressed obovate, 0.5–2.5 mm long, usually with midvein not noticeably raised or only at apex. Peduncles 3–14-flowered (Coburn Stn–near Binnu)..... **S. oleosa**

13: Leaves narrowly to broadly obovate, 2.5–5 mm long, usually with a raised midvein extending along about half or more of the lamina. Peduncles mostly 9–23-flowered (Tamala Stn–Yerina Springs)..... **S. capitata**

12: Leaves sparsely to moderately densely covered by oil glands on abaxial surface; foliar colleters minute or absent. Sepals usually not erect, somewhat to markedly incurved in flower and fruit, spreading in a few species

14. Hypanthium wrinkled-rugose or reticulate, with sunken areas irregular in shape and not strictly associated with oil glands

15. Flowers borne at 5–42 consecutive nodes on most branchlets and mostly or all occurring well below the branchlet apex (i.e. not all in terminal clusters). Most flowers with 4–6 stamens and a 2-locular ovary, and all with sepals of fairly uniform length (Kojarena–Winchester) ..... **S. multiflora**

15: Flowers borne at 1–5(–8) consecutive nodes on most branchlets, either all in terminal clusters or at very few nodes. Flowers not matching above choice in all characters, most commonly by having 6–11 stamens or a 3-locular ovary

16. Leaf blades 2–7.5 mm long, 2–4 mm wide

17. Leaves 3–7.5 mm long, scarcely thickened, green. Petals 1.5–2.5 mm long (Binnu area–Canning River)..... **S. laxiflora**

17: Leaves 2–4 mm long, thickened, somewhat glaucous. Petals 2.5–3.5 mm long (Eurardy Stn area)..... **S. viatica**

16: Leaf blades 1–2.5 mm long, 0.8–2.1 mm wide

18. Peduncles 3–5 mm long, 3–7-flowered. Flowers most commonly with a 3-locular ovary and 5 stamens

19. Leaf blades obovate, 0.8–1.4 mm wide. Hypanthium 0.7–0.9 mm long. Petals 1–1.2 mm long (Dongara–Drovers Cave NP)..... **S. calcicola**

19: Leaf blades broadly obovate, 1.3–2.1 mm wide. Hypanthium 1.2–1.4 mm long. Petals 1.3–1.6 mm long (Coburn–southern Zuytdorp Cliffs)..... **S. corrugata**

18: Peduncles 0.4–2.3 mm long, 1–3-flowered. Flowers either mostly with a 2-locular ovary or mostly with more than 5 stamens

20. Inner sepals much larger than outer ones. Stamens 3–6 (East Yuna NR–Wicherina area) ..... **S. inaequalis**

20: Inner sepals not markedly different from outer ones. Stamens mostly 6–11 (N of Eurardy Stn–Indarra) ..... **S. truncata***

14: Hypanthium rugose-pitted, each pit circular around a sunken oil gland

21. Peduncles 3.5–14 mm long, 3–12-flowered

22. Petioles absent or to 0.25 mm long. Occurring in non-saline habitats (Morawa area)..... **S. subsessilis***

22. Petioles 0.3–0.7 mm long. Occurring in subsaline habitats

23. Stamens 5–8. Ovary 2-locular in all or most flowers (Yenyening Lakes NR area)..... **S. halophila** subsp. **meridionalis**

23: Stamens 7–12. Ovary 2–4-locular, most specimens with about half or most flowers 3-locular

24. Inner sepals 1–1.4 mm long (Mortlock River branches)..... **S. halophila** subsp. **mortlockensis**

24: Inner sepals 0.5–0.7 mm long (near Coorow–Tammin area)..... **S. halophila** subsp. **halophila**

21: Peduncles 0.4–2.5(–3.5) mm long, 1–6-flowered

25. Ovary 3-locular. Mature style 0.9–1.6 mm long

26. Peduncles at least 2.5 mm long, 3–6-flowered (Morawa area) ..... **S. subsessilis***

26. Peduncles 0.5–2(–2.3) mm long, 1–3-flowered (N of Eurardy Stn–Indarra) (N of Eurardy Stn–Indarra) ..... **S. truncata***

25: Ovary 1- or 2-locular. Mature style 0.45–0.8 mm long

27. Inner sepals petal-like (white), 0.6–1.2 mm long, spreading in fruit (Northampton–Corrigin–Anderson Rocks) ..... **S. uniovulata**

27: Inner sepals more translucent than petals, 0.3–0.6 mm long, erect or incurved in fruit (Coomallo NR–Moore River) ..... **S. parviflora**

11: Ovules 2 per loculus, superposed

28. Ovary 3-locular in all or most flowers or (in *S. oligandra*) sometimes 2-locular in up to half of the flowers

29. Stamens 5–8, commonly 5 with 1 opposite each sepal. Ovary 2-locular in up to half of the flowers. Mature style 0.6–0.9 mm long (Kalbarri NP–Shoal Point) ..... **S. oligandra**

29: Stamens usually 8–14, rarely 6 or 7 (but then with mature style 1–1.6 mm long), with 0–4 opposite each sepal. Ovary 3-locular in all or nearly all the flowers. Mature style 0.7–1.6 mm long

30. Peduncles 0.4–6(–10) mm long, 1–3-flowered

31. Leaves markedly laciniate-ciliate; longest cilia 0.2–0.4 mm long. Peduncles 0.4–2.1 mm long. Stamens 6–10 (W of Binnu–N of Irwin River) ..... **S. ciliata**

31: Leaves entire, denticulate or ciliolate; longest cilia less than 0.2 mm long. Peduncles 2–6(–10) mm long. Stamens 10–14 (Maya–Tammin area) ..... **S. drummondii**

30: Peduncles 4–25 mm long, mostly 3–15-flowered

32. Bracts 2–5.5 mm long. Petals 2.5–3.5 mm long. Largest stamens usually with a filament 1–1.3 mm long (Kalbarri NP–Binnu area–Howatharra) ..... **S. spatulata**

32: Bracts 0.9–1.8 mm long. Petals 1.5–2.5 mm long. Largest stamens usually with a filament 0.4–0.7 mm long (E of Geraldton–Watheroo NP) ..... **S. trilocularis**

28: Ovary 1- or 2-locular in all or most flowers

33. Leaves orbicular-cordate or very broadly ovate to depressed obovate, all or most broader than long

34. Leaves sessile, somewhat stem-clasping at base, 1.3–1.8 mm long, 1.5–2.5 mm wide (Eurardy Stn) ..... **S. peltigera**

34: Leaves distinctly petiolate at base, 2.2–7 mm long, 2.5–9 mm wide

35. Flowers borne at 1–4 consecutive nodes. Mature style 0.8–1.4 mm long (Kalbarri NP–N of Yuna) ..... **S. cordata**

35: Flowers mostly borne at 5–30 consecutive nodes. Mature style 0.3–1 mm long

36. Stamens always or mostly 6–10 per flower, with 1–3 opposite each sepal. Bracts 0.6–1.6 mm long. Mature style 0.45–1 mm long

37. Leaf blades very broadly obovate, with lateral veins usually obscure. Peduncles 2–4 mm long. Petals persistent in fruit (Kalbarri area) ..... **S. bellairsiorum**

37: Leaf blades orbicular-cordate, with lateral veins clearly visible. Peduncles 5–15 mm long. Petals shed in fruit (Murchison River–near Balline Homestead) ..... **S. uberiflora**

36: Stamens always or mostly 5 per flower, with 1 opposite each sepal. Bracts 1.3–3 mm long. Mature style 0.3–0.4 mm long

38. Bracts 1.3–1.8 mm long. Ovary 1-locular (Ajana–Greenough) ..... **S. pentamera** subsp. **pentamera**

38: Bracts 2–3 mm long. Ovary 2-locular (Moresby Ra.).....**S. pentamera** subsp. **collina**

33: Leaves of varied shape, all or most longer than broad

39. Hypanthium 1.8–2.5 mm long, 5-ribbed throughout or in distal half (N of Carnarvon–near Wanagarren NR).....**S. obovata**

39: Hypanthium 0.8–1.8(–2) mm long, rugose to smooth

40. Petioles 0.1–0.35 mm long

41. Leaves with a recurved apex produced into a minute point. Hypanthium 1.5–2 mm long (Meadow Stn area).....**S. recurva**

41: Leaves with a straight apex and no point (except sometimes in the youngest leaves of *S. thinicola*). Hypanthium 0.8–1.5 mm long

42. Peduncles 0.7–4 mm long, 0.5–0.7 mm wide. Sepals with a herbaceous base that is longitudinally ridged (near Yandi Stn–W of Mullewa).....**S. thinicola**

42: Peduncles 5.5–13 mm long, 0.15–0.35 mm wide. Sepals scarious throughout, not ridged

43. Leaves ± obovate, 0.6–1 mm wide. Secondary axes to 2.5 mm long (Kalbarri NP).....**S. tenuissima**

43: Leaves obovate to broadly elliptic, 1–1.5 mm wide. Secondary axes to 0.7 mm long (E of Binnu).....**S.** sp. **Whelarra (M.E. Trudgen 12018)**

40: Petioles 0.4–1.1 mm long

44. Stamens 4–6, usually 5, with no stamens opposite one or two sepals of each flower (E of Mingenew–Nebroo NR–near Coorow).....**S. brevistylis**

44: Stamens 6–11, mostly more than 6, with at least one stamen opposite each sepal

45. Leaves denticulate-ciliolate (sometimes becoming entire as they age). Inner sepals 1.3–2.5 mm long (Kalbarri NP).....**S. kalbarri**

45: Leaves entire. Inner sepals to 0.75 mm long

46. Outer sepals broadly or very broadly ovate, 0.3–0.5 mm long, smooth or shortly ridged (Kalbarri NP–E of Balline).....**S. longipedata** subsp. **longipedata**

46: Outer sepals mostly depressed ovate, (0.4–)0.5–0.75 mm long, with base distinctly ridged (East Yuna NR–Eradu).....**S. longipedata** subsp. **procera**

Scholtzia brevistylis Rye, *Nuytsia* 30: 45–46 (2019); *Scholtzia brevistylis* Rye subsp. *brevistylis*, *Nuytsia* 30: 46 (2019). *Type*: 'Yandanooka' [Mingenew], Western Australia [precise locality withheld for conservation reasons], November 1998, *R. Soullier* 646 (*holo*: PERTH 05447860; *iso*: CANB, K 001590356, MEL 2502996).

Scholtzia brevistylis subsp. *prowaka* Rye, *Nuytsia* 30: 46–47 (2019). *Type*: east of Carnamah, Western Australia [precise locality withheld for conservation reasons], 7 September 2006, *M. Hislop, P. Aynsley & J. Borger* MH 3650 (*holo*: PERTH 07403267; *iso*: CANB, K 001392856, MEL 2475642).

Shrub 0.6–2.5 m high, commonly 0.9–2 m wide. *Leaves* antrorse to patent. *Petioles* 0.4–0.7(–0.8) mm long, well or moderately defined. *Leaf blades* obovate, 2–4.5 mm long, 1–2.2 mm wide, concolorous, entire or denticulate, the margins (on young leaves) sometimes markedly incurved (at least towards the base); abaxial surface convex with the centre often somewhat flattened, usually grooved along midvein towards the base, the oil glands usually in 2 main rows on each side of midvein, the rows closest to the midvein with 4–7 glands; adaxial surface concave; apical point absent. *Peduncles* borne at

5–11 consecutive nodes, 1–2(–3) mm long, 0.25–0.3 mm wide, mostly 3–5-flowered, the flower clusters in a raceme-like arrangement 10–60 mm long, always with some clusters over 20 mm long, usually well below the end of the branchlet; secondary axes to 0.5 mm long. *Basal bracts* 0.7–1.5(–2) mm long, not persistent. *Pedicels* 0.2–0.6 mm long. *Flowers* 2.75–3.25 mm diam. *Hypanthium* campanulate with basal half somewhat dorsiventrally compressed, 0.8–1.3 mm long, 1.2–1.3 mm wide, smooth to somewhat glandular-rugose; free part 0.2–0.3 mm long. *Sepals* very broadly or depressed ovate, 0.3–0.6 mm long, 0.5–1 mm wide, the outer ones often with a green ridge; petaloid margin 0.15–0.35 mm wide, entire. *Petals* 1.2–1.35 mm long, white or pale pink, shed in fruit. *Stamens* 4–6, with 0–2 opposite each sepal (usually 5 in the arrangement 2,1,0,2,0). *Longest filaments* 0.15–0.2 mm long. *Anthers* 0.15–0.2 mm long. *Ovary* inferior, 2-locular; ovules 2 per loculus. *Style* 0.3–0.6 mm long; stigma capitate, < 0.1 mm diam. *Fruits* 2/3–3/4 inferior, 1.3–1.5 mm long, 1–1.2 mm wide; summit rugose; sepals erect or incurved. *Seeds* 1–1.3 mm long, 0.5–0.6 mm wide. (Figure 2D)

Diagnostic features. Among the species that have a 2-locular ovary and 2 ovules per loculus, *S. brevistylis* is distinguished by the following combination of characters: petioles 0.4–0.8 mm long; leaf blades obovate, 2–4.5 mm long, longer than broad; and stamens 4–6, usually 5, with no stamens opposite one or two sepals of each flower.

Other specimens examined. WESTERN AUSTRALIA: [localities withheld for conservation reasons] 24 June 2008, *J. Borger* IB 246-08 (CANB, NSW, PERTH); 17 Nov. 2009, *J. Borger* NR21 5 (PERTH); 10 Dec. 2015, *A. Crawford* ADC 2722 (PERTH); 16 Nov. 1996, *A. Carr* 383 (PERTH); 2 Dec. 1999, *S.J. Patrick* 3358 A (NSW, PERTH).

Distribution and habitat. Occurs from east of Mingenew south-west to Nebroo Nature Reserve and south-east to near Coorow, Western Australia. Recorded in varied habitats including sandplain with yellow or red sand, red-brown loam, claypan, the margins of granite outcrops or associated with damp depressions, often recorded with *Allocasuarina*, *Eucalyptus* or *Grevillea*.

Phenology. Flowers and mature fruits recorded October–December.

Conservation status. To be listed as Priority Three under Conservation Codes for Western Australian Flora (Tanya Llorens pers. comm.). Previously listed as Priority One and Priority Two as *S. brevistylis* subsp. *brevistylis* and *S. brevistylis* subsp. *prowaka*, respectively (Western Australian Herbarium 1998–).

Etymology. From the Latin *brevis* (short) and -*stylis* (-styled), as this is one of the *Scholtzia* species that have particularly short styles.

Notes. This species often has its young leaves somewhat pinched inwards towards the base. Previously two subspecies were recognised, with a further variant of the species left unnamed. Reassessment of the variants suggests that the unplaced variant tends to bridge the small morphological gap between the named subspecies and hence they have been abandoned.

Scholtzia eatoniana (Ewart & Jean White) C.A.Gardner, *Enum. Pl. Austral. Occ.*: 95 (1931); *Baeckea eatoniana* Ewart & Jean White, *Proc. Roy. Soc. Victoria* 21(2): 540–541 (1909). *Type*: Youndegin, Western Australia, 1894, *A. Eaton s.n.* (*lecto*, here designated: MEL 2192083; *isolecto*: MEL 2192082, NSW 122986 *n.v.* [missing], PERTH 08245649).

Typification. The name *Baeckea eatoniana* was attributed to Mueller, whose annotations are present on MEL 2192082. Both that sheet and MEL 2192083 were viewed and annotated by Ewart and White. PERTH 08245649 is a small fragment procured by Gardner for his personal herbarium and is of unknown origin despite the ‘ex Museo botanico Berolinensi’ label: Gardner is believed to have used these labels for material acquired from other herbaria (see Wege & Rye 2024). MEL 2192083 is selected as an appropriate

lectotype since it is the most complete material. This is in agreement with Malcolm Trudgen's annotation of MEL 2192083 as the lectotype in 2012, although he never formalised this choice.

Scholtzia hortiorum Rye, *sp. nov.*

Type: Bickley, Darling Range, Western Australia, *s. dat.* [probably December 1919 or January 1920], *W.H. Loaring s.n.* (*holo*: PERTH 06165184).

Scholtzia sp. Bickley (W.H. Loaring s.n. PERTH 06165184), Western Australian Herbarium, in *Florabase*, https://florabase.dbca.wa.gov.au/ [accessed 6 June 2025].

Shrub probably low-growing but size not recorded. *Leaves* antrorse, often widely so. *Petioles* 0.3–0.6 mm long, fairly well defined. *Leaf blades* ovate to linear-elliptic, 4–10 mm long, 0.8–1.6 mm wide, concolorous, irregularly denticulate to ciliate, the longest teeth or cilia 0.2–0.4 mm long; abaxial surface shallowly convex or flat, not obviously keeled, with oil glands in 1 or 2 main rows on each side of midvein, the rows closest to the midvein with *c.* 10 glands; adaxial surface shallowly concave or flat; apical point absent or < 0.2 mm long. *Peduncles* borne at 5–13 consecutive nodes, 1.5–3 mm long, *c.* 0.5 mm wide, mostly 1–3-flowered, the flowers or flower clusters in a short to very long raceme-like arrangement; secondary axes ± absent. *Basal bracts* 1–2 mm long, apparently shed after anthesis. *Pedicels* 0.3–0.7 mm long. *Flowers c.* 7 mm diam. *Hypanthium* campanulate, *c.* 1.5 mm long, *c.* 2.5 mm wide, somewhat rugose; free part *c.* 0.5 mm long. *Sepals* depressed ovate, 0.8–1.2 mm long, 1.3–1.8 mm wide, the herbaceous base prominently ridged; scarious margin 0.4–0.5 mm wide, denticulate. *Petals* 3.5–4.5 mm long, white, entire or partially denticulate. *Stamens* 24–27, in a circle. *Longest filaments c.* 3.3 mm long. *Anthers* 0.3–0.35 mm long. *Ovary c.* 1/2 inferior, 2-locular; ovules 2 per loculus. *Style c.* 3.2 mm long; stigma ± capitate, *c.* 0.15 mm diam. *Fruits* unknown.

Diagnostic features. Among the species that have a prostrate habit and 2 ovules per loculus, *S. hortiorum* is distinguished by its 1–3-flowered peduncles and its ovate to linear-elliptic, 4–10 mm long leaves. Other important characters: petals 3.5–4.5 mm long; stamens 24–27, in a circle; ovary *c.* 1/2 inferior, 2-locular; and style *c.* 3.2 mm long.

Other specimens examined. Known only from the type.

Distribution and habitat. Known from Bickley on the Darling Range, Western Australia, the habitat not recorded. W.H. Loaring's collections at PERTH are mostly from between June 1919 and January 1920, and comprise 23 species of herbs and shrubs, including the rare species *Acacia anomala*, with the locality always given as Bickley.

Phenology. Probably flowers during the summer months like related species of *Scholtzia*.

Conservation status. Listed as Extinct in Western Australia (State of Western Australia 2025) as *S.* sp. Bickley (W.H. Loaring s.n. PERTH 06165184).

Etymology. Named after Fred, Jean and Bert Hort in appreciation of the enormous amount of time they spent searching unsuccessfully for this lost species. It was through their efforts that the species has been listed as Extinct.

Notes. This species was treated in *Flora of the Perth Region* as an atypical variant of *S. teretifolia* Benth. that had larger flowers and more markedly denticulate or ciliate leaves (Rye 1987: 424). Later the taxon was given a phrase name and treated as a distinct species. It belongs to the *S. eatoniana* species group.

Scholtzia involucrata (Endl.) Druce, *Rep. Bot. Soc. Exch. Club Brit. Isles* 4(Suppl. 2): 645 (1917); *Baeckea involucrata* Endl. in S.F.L. Endlicher, E. Fenzl, G. Bentham & H.W. Schott, *Enum. Pl.*: 51 (1837). *Type*:

'King Georges Sound. (Hügel.)' [Fremantle to Darling Range, Western Australia, November–December 1833, *K.A.A. von Hügel s.n.*] (*lecto*, here designated: W 0047026; possible *isolecto*: W 0047025).

Typification. The specimen at W that is annotated by Endlicher is designated as the lectotype; it is unclear whether he viewed the other specimen. The type locality is assumed to be an error since *Scholtzia* does not occur near King George Sound. As per the type of *Babingtonia camphorosmae*, Hügel is thought to have made this gathering during his visit to parts of the Swan River Colony that are closer to Perth.

Scholtzia laxiflora Benth., *Fl. Austral.* 3: 69 (1867); *Baeckea laxiflora* (Benth.) F.Muell., *Syst. Census Austral. Pl.*: 54 (1882). *Type*: between Moore and Murchison rivers, Western Australia, 1853 [1850–1851], *J. Drummond* 6: 64 (*lecto*, here designated: K 000357113 image!; *isolecto*: MEL 2194354 image!, NSW 454822 image!, P 05263018 image!, PERTH 01631926 [ex K]).

Typification. The type gathering is part of James Drummond's Sixth Collection, made between Dandaragan and the lower Murchison River in 1850–1851 (see George 2009). The duplicate in Hooker's Herbarium at K was viewed by Bentham for *Flora Australiensis* and bears his descriptive annotations. Charles Gardner subsequently acquired two fragments from this duplicate during his term as Australian Botanical Liaison Officer in 1937, which are now at PERTH. There is no evidence that any of the remaining duplicates were seen by Bentham. The specimen at Kew is selected as an appropriate lectotype since it is the most complete material.

Scholtzia nolba Rye, *sp. nov.*

Type: Coolcalalaya, Western Australia [precise locality withheld for conservation reasons], 9 October 2024, *D. Coultas & L. Ramrath* DCLR-OPP83 (*holo*: PERTH 09946063; *iso*: CANB, K, MEL).

Scholtzia sp. Nolba (E. Place s.n. Jan. 1964), Western Australian Herbarium, in *Florabase*, https://florabase.dbca.wa.gov.au/ [accessed 6 June 2025].

Shrub apparently tall, with open branching. *Leaves* antrorse or ± patent. *Petioles* 1–1.3 mm long, well defined. *Leaf blades* very broadly or depressed obovate, 3–6 mm long, 4–6 mm wide, concolorous, entire, the apex tending to be recurved; abaxial surface convex, often with a flattened section along midvein that contracts distally into a ridge, dotted with numerous small oil glands; adaxial surface concave; apical point absent. *Peduncles* borne at 2–6 consecutive nodes, 7–15 mm long, 0.5–0.7 mm wide, 5–15-flowered, the flower clusters in a short raceme-like arrangement; secondary axes 0.8–1.5 mm long. *Basal bracts* 1.5–2 mm long, caducous. *Pedicels* 0–0.4 mm long. *Flowers* 5–7 mm diam. *Hypanthium* shortly obconic, *c.* 1.4 mm long, *c.* 2 mm wide, wrinkled-rugose; free part *c.* 0.35 mm long. *Sepals* depressed ovate, 0.5–0.6 mm long, 1–1.2 mm wide, largely scarious to petaloid, entire. *Petals* 2–2.5 mm long, white, entire, shed in fruit. *Stamens* 15–18, in a circle. *Longest filaments* 0.6–0.7 mm long. *Anthers* 0.3–0.4 mm long. *Ovary* inferior, 3-locular; ovules 1 per loculus. *Style c.* 1.7 mm long; stigma ± capitate, *c.* 0.1 mm diam. *Fruits c.* 2/3 inferior, *c.* 2.2 mm long, *c.* 2.3 mm diam.; summit smooth; sepals erect but with scarious margins incurved. *Seeds* 1–1.2 mm long, *c.* 0.75 mm wide. (Figure 2E)

Diagnostic features. Among species that have a 3-locular ovary and 1 ovule per loculus, *S. nolba* is distinguished by the following combination of characters: peduncles 7–15 mm long, 5–15-flowered; and stamens 15–18, in a circle. Other important character: sepals 0.5–0.6 mm long.

Other specimen examined. WESTERN AUSTRALIA: Nolba, Jan. 1964, *E. Place s.n.* (PERTH).

Distribution and habitat. Recorded from near Coolcalalaya and Nolba, Western Australia, the former locality on the crest of a dune with yellow-orange sand, in a tall shrubland.

Phenology. Flowers recorded in October and January. Fruits recorded in January.

Conservation status. Listed as Priority One under Conservation Codes for Western Australian Flora (Western Australian Herbarium 1998–) as *Scholtzia* sp. Nolba (E. Place s.n. Jan. 1964). *Scholtzia nolba* appears to be vulnerable, but the recently discovered population is in a poorly known area with difficult access, so further survey could reveal additional populations.

Etymology. Named after the oldest known locality, Nolba. The epithet is formed as a noun in apposition.

Affinities. This very distinctive species is similar to *S. uniflora* Rye in having fruits that are largely inferior and broad, with a convex, very smooth summit. *Scholtzia nolba* differs from *S. uniflora* in having 5–15-flowered peduncles 7–13 mm long (vs. 1-flowered peduncles 0–0.5 mm long) and sepals 0.5–0.6 mm long (vs. 0.7–1.3 mm long).

Scholtzia obovata (DC.) Schauer, *Linnaea* 17: 241 (1843); *Baeckea obovata* DC., *Prod.* 3: 230 (1828). *Type citation*: 'in Novâ-Hollandiâ ad Portem regis Georgii. (v. s.)'. *Type collection*: [probably Shark Bay area, Western Australia], *s. dat.* [1803?], *Anon s.n.* [ex *B. Delessert* herbarium] (*lecto*: G 00486349, designated by B.L. Rye, *Nuytsia* 28: 162 (2017); possible *isolecto*: G 00418258).

Scholtzia umbellifera F.Muell., *Fragm.* 4(26): 75 (1864); *Baeckea umbellifera* (F.Muell.) F.Muell., *Syst. Census Austral. Pl.*: 54 (1882). *Type*: Champion Bay, Western Australia, *s. dat.*, *P. Walcott s.n.* (*holo*: MEL 2194022).

Scholtzia leptantha Benth., *Fl. Austral.* 3: 69 (1867); *Baeckea leptantha* (Benth.) F.Muell., *Syst. Census Austral. Pl.*: 54 (1882). *Type citation*: 'W. Australia. Seashore, Sharks' Bay, *Milne*, also in Herb. R. Brown from *Herb. Mus. Par.*'. *Type collections*: Shark Bay, Western Australia, [March–June 1857], *W.G. Milne s.n.* (*lecto*: K 000357120, designated by B.L. Rye, *Nuytsia* 28: 162 (2017); *isolecto*: K 000357121); [Western Australia], *s. dat.*, *Anon s.n.* [R. Br. herbarium ex P] (*syn*: BM *n.v.*).

Scholtzia sp. Folly Hill (M.E. Trudgen 12097), Western Australian Herbarium, in *Florabase*, https://florabase.dbca.wa.gov.au/ [accessed 6 June 2025].

Illustrations. W.E. Blackall & B.J. Grieve, *How Know W. Austral. Wildfl.* 3A: 71 (1980) as *S. umbellifera* and *S. leptantha* [but stamen illustration for the latter is inaccurate].

Shrub 0.4–1.5 m high, 0.3–4 m wide. *Leaves* mostly widely antrorse or patent. *Petioles* 0.3–0.8 mm long, well defined. *Leaf blades* narrowly to broadly obovate, (1.5–)2.5–4.5(–5) mm long, 1.3–3 mm wide, concolorous, often denticulate-ciliolate; abaxial surface somewhat rounded to flattened for most of its length, sometimes keeled distally along midvein, with numerous small oil glands in *c.* 4 main rows on each side of midvein; adaxial surface concave; apical point absent or to 0.1 mm long. *Peduncles* borne at 1–4(–6) consecutive nodes, the longest ones 3–13 mm long, 0.3–0.5 mm wide, 5–21-flowered, the flower clusters in a dense group or short raceme-like arrangement; secondary axes to 1.3 mm long. *Basal bracts* 1–2.5 mm long, persistent in flower and sometimes in fruit. *Pedicels* mostly 0.5–1.5 mm long. *Flowers* 3–4.2 mm diam. *Hypanthium* obconic with basal half dorsiventrally compressed, 1.8–2.5 mm long, 1.2–1.5 mm wide, 5-ribbed throughout or at least in distal half and on herbaceous base of each sepal; free part 0.3–0.45 mm long. *Sepals* depressed ovate, 0.3–0.6 mm long, 0.6–0.8 mm wide, largely scarious or petaloid but thick and herbaceous on basal part of midvein, entire or denticulate. *Petals* 1.3–1.6 mm long, white or pale pink, persistent and sometimes becoming deep pink in fruit. *Stamens* 7–12, with 1–3 opposite each sepal. *Longest filaments* 0.4–0.7 mm long. *Anthers* 0.2–0.3 mm long. *Ovary* inferior, 2-locular; ovules 2 per loculus. *Style* 0.7–1.4 mm long; stigma capitate, up to 0.1 mm diam. *Fruits* 2/3–3/4 inferior, 1.7–2.3 mm long, 1.2–1.3 mm wide; summit somewhat rugose; sepals erect. *Seeds* 1.4–1.5 mm long, 0.7–0.75 mm wide.

Diagnostic features. Among species that have a 2-locular ovary and 2 ovules per loculus, *S. obovata* is distinguished by the following combination of characters: leaves all or mostly longer than broad;

peduncles borne at 1–4(–6) consecutive nodes; hypanthium 1.8–2.5 mm long, 5-ribbed throughout or at least in distal half; and stamens 7–12, with 1–3 opposite each sepal.

Selected specimens examined. WESTERN AUSTRALIA: Kalbarri National Park, S of Wittecarra Gully, Jan. 1969, *J. Bannister s.n.* (PERTH); Kojarena Rd, 600 m S of Geraldton–Mount Magnet Rd, E of Geraldton, 5 Dec. 2005, *M. Hislop* 3551 (PERTH); 2.45 km E of Wongonderrah Rd and Munbinea Rd intersection, *c.* 21 km S of Munbinea Rd and Cervantes Rd intersection, 29 km NE of Cervantes, 15 Nov. 2011, *B. Morgan* BMor 1453 (PERTH).

Distribution and habitat. Extends from Miaboolia Beach, north of Carnarvon, south to near Wanagarren Nature Reserve, Western Australia, on coastal sand dunes, sand over limestone and other coastal habitats, mostly in low coastal vegetation, and further inland on other sandy sites.

Phenology. Flowers mainly from August to December. Fruits mainly recorded from October to January.

Conservation status. A widespread species that is not considered to be at risk.

Etymology. From the Latin *obovatus* (inverted egg-shaped, i.e. widest above the middle), referring to the obovate leaves.

Notes. *Scholtzia obovata* has a 600 km long, largely coastal distribution that is similar to that of the *Thryptomene dampieri* Rye complex (see Rye 2024: Figure 4). Despite its long distribution, *S. obovata* lacks any clearcut geographical variants. Two important characteristics of this species are the presence of five longitudinal ribs on the hypanthium and the usual restriction of peduncles to only 1–4 consecutive nodes. Sometimes there are several patches of fertile nodes separated by sterile nodes, resulting in more than one cluster of flowers along those stems.

Previously, *S. obovata* was reinstated to replace the more recent name *S. leptantha* Benth., and it was noted that specimens housed under a second published name, *S. umbellifera* F.Muell., tended to have narrower leaves and a longer style (Rye 2017a). New measurements of mature styles show that they are very variable throughout the distribution and cannot be used to distinguish the specimens placed under the two current names. Other characters, such as leaf width and peduncle length, also vary considerably throughout the distribution, although the average peduncle length and leaf width are somewhat smaller in the far south than in the far north.

Several specimens from the Coburn Station area that have been housed under the name *Scholtzia* sp. Folly Hill (e.g. *C. Hancock s.n.* 18 Sep. 2019, *N.H. Speck* 875 and *M.E. Trudgen* 12141) have exceptionally small leaves, with a maximum length of 1.5–2 mm. These small leaves resemble the immature leaves found on some other specimens, having no or scarcely any petiole and just a few oil glands, which look large in comparison with the size of the leaf and are more closely spaced than normal. In contrast, the specimen on which the phrase name is based, *M.E. Trudgen* 12097, is from a distant location and has the typical adult leaves found in *S. obovata*. However, all specimens of *S.* sp. Folly Hill are typical of *S. obovata* in their inflorescences and floral morphology. Consequently, *S.* sp. Folly Hill is also here reduced to synonymy under *S. obovata* and the small leaf size of the Coburn Station specimens is incorporated into the species description above.

Scholtzia viatica Rye, *sp. nov.*

Type: south of Eurardy, Western Australia [precise locality withheld for conservation reasons], 3 July 1976, *M.E. Trudgen* 1685 (*holo*: PERTH 06165141; *iso*: CANB, K, MEL).

Scholtzia sp. Murchison (M.E. Trudgen 1685), Western Australian Herbarium, in *Florabase*, https://florabase.dbca.wa.gov.au/ [accessed 6 June 2025].

Shrub 0.5–2 m high, 0.5–3 m wide. *Leaves* antrorse to patent. *Petioles* 0.4–1.1 mm long, well defined. *Leaf blades* broadly to depressed obovate, 2–4 mm long, 2.3–3.3 mm wide, thickened, somewhat glaucous, concolorous, entire; abaxial surface convex with the centre often somewhat flattened along midvein towards the base, the oil glands commonly in 2 main rows on each side of midvein, the rows closest to the midvein with 3–6 glands; adaxial surface concave; apical point absent. *Peduncles* borne at 1–4 consecutive nodes, 1.5–4 mm long, 0.35–0.5 mm wide, 1–3-flowered, the flower clusters usually in a globular group that is often terminal; secondary axes ± absent. *Basal bracts or bracteoles* 1.2–2.3 mm long, shed in bud or flower. *Pedicels* 0.4–1.6 mm long. *Flowers* 6–8 mm diam. *Hypanthium* campanulate, 1.5–2.2 mm long, 2–2.2 mm wide, densely wrinkled-rugose; free part *c.* 0.5 mm long. *Sepals* depressed ovate, 0.5–0.9 mm long, 1.4–1.7 mm wide, largely petaloid, the outer ones often with a basal green ridge, entire. *Petals* 2.5–3.5 mm long, pale to medium pink, shed in fruit. *Stamens* (5–)6–10, with 0–3 opposite each sepal (if 10 then usually in the arrangement 3,2,1,3,1). *Longest filaments* 0.7–1 mm long. *Anthers c.* 0.3 mm long. *Ovary* inferior, 3-locular; ovules 1 per loculus. *Style* 1.2–1.5 mm long; stigma peltate, 0.2–0.25 mm diam. *Fruits c.* 3/4-inferior, 2–2.3 mm long, 2.2–2.3 mm wide; summit somewhat rugose; sepals incurved. *Seeds* not seen at maturity. (Figure 2F)

Diagnostic features. Among the species that have a 3-locular ovary and 1 ovule per loculus, *S. viatica* is distinguished by the following combination of characters: leaf blades broadly to depressed obovate, 2–4 mm long, thickened, somewhat glaucous; hypanthium densely wrinkled-rugose; and stamens usually 6–10, with 0–3 stamens opposite each sepal.

Selected specimens examined. WESTERN AUSTRALIA: [localities withheld for conservation reasons] 17 Aug. 1993, *R.J. Cranfield & D. Kabay* 8744 (NSW, PERTH); 22 Aug. 1961, *C.A. Gardner* 13307 (PERTH); 26 Sep. 1962, *M.E. Phillips* WA/62 1341 (CBG); 29 Aug. 2003, *Wildflower Society of W.A.* EURA 14 (AD, PERTH).

Distribution and habitat. Extends along North West Coastal Highway from the northern boundary of Eurardy Station south to about 10 km north of the Murchison River, Western Australia. Occurs in yellow sand; recorded with a variety of shrub species mostly belonging to the Proteaceae and Myrtaceae.

Phenology. Flowers and fruits recorded from late June to October.

Conservation status. Recently listed as Priority Two under Conservation Codes for Western Australian Flora (Western Australian Herbarium 1998–), as *Scholtzia* sp. Murchison (M.E. Trudgen 1685). This geographically restricted species was not previously considered to be at risk because some of its localities were mis-mapped, suggesting it had a much greater range, almost 120 km long and about 45 km wide. Correction of the latitudes and longitudes recorded for these specimens has reduced the known distribution to a much narrower area that is only about 30 km long.

Etymology. From the Latin *viaticus* (relating to a journey, or (botanical) growing along roads or paths; see Stearn 1992), as all collections of this species have been made along North West Coastal Highway either from roadside localities or from a reserve, Eurardy Station, that is accessed from this highway.

Notes. This species belongs to the *S. laxiflora* complex, which needs further study. Its distribution begins *c.* 30 km north of the distribution of the remainder of the *S. laxiflora* complex and it is readily distinguished by its more thickened and glaucous leaves and by its larger petals. Some of the southern variants of the *S. laxiflora* complex also have more numerous flowers per peduncle than in *S. viatica*.

Update to *Tetrapora* Schauer

Tetrapora is a south-western Australian genus that has never been revised. It was reinstated by Rye and Trudgen (2012), who published new combinations for three named species within the genus and drew attention to problems with the syntypes cited for two of the published names, *Baeckea floribunda*

Benth. and the earlier-named *Harmogia leptophylla* Turcz. They avoided lectotypifying either name as not all syntypes had been viewed and there was confusion regarding the James Drummond collection numbers cited for both names. This problem is resolved here by nominating lectotypes and making the new combination *T. leptophylla*. Rye and Trudgen (2012) did not provide a generic description so one is given here.

Tetrapora leptophylla is typical of the genus in its habit (Figure 3A), and in most characteristics of its flowers and leaves, but is unusual in having an ellipsoid (rather than more globular) anther shape (Figure 3B). A new species that has anthers of a similar shape to those of *T. leptophylla* is described below. It is presumed to belong in *Tetrapora* because of its similarities to *T. floribunda* but cannot be described fully as there are no fruits and seeds present. As seed morphology (see discussion under *Anticoryne* above) is important in distinguishing the genus *Tetrapora* (Figure 1I, J) from *Anticoryne* (Figure 1A–C), molecular sequencing would be useful to check the placement of this new species within *Tetrapora*.

The type species of the genus, *T. preissiana* Schauer, is a widespread and very variable taxon that has many collections. Specimens with the broadest and least thickened leaves have been housed under the phrase name *Baeckea* sp. Youndegin Hill (A.S. George 15772) for some time, but some specimens under this name or under *T. preissiana* appear to be intermediate in their morphology. A detailed study of the variation within the *T. preissiana* complex is needed to determine how many taxa should be formally recognised. As an interim measure to ensure its correct generic placement, the phrase name is transferred into *Tetrapora*.

Tetrapora Schauer, *Linnaea* 17: 238 (1843). *Type*: *Tetrapora preissiana* Schauer.

Shrubs small. *Leaves* opposite, decussate, shortly petiolate, with the blade dorsiventrally compressed or about as thick as wide, ± concolorous, not or scarcely pointed. *Peduncles* 1–21-flowered; secondary axes ± absent. *Bracts and bracteoles* somewhat scarious, caducous in bud to persistent in late flower. *Pedicels* long. *Hypanthium* broad. *Sepals* 5, much shorter than the petals, not horned. *Petals* 5, usually white (rarely pale pink). *Stamens* 3–14, all or mostly antisepalous, of variable number within each species except in the regularly 5-staminate *T. glomerata. Filaments* incurved, narrow, tapering from the base to the apex. *Anthers* ± globular or ellipsoid including the non-protruding connective gland, with closely fused thecae, dehiscent by 2 terminal pores. *Ovary* inferior, 3-locular; placentas peltate; ovules 2–12 per loculus, variable in number within each species and never uniformly 2, radially arranged. *Style* with base deeply inset into a cylindrical depression extending from the summit of the ovary to the level of the placentas; stigma small. *Fruits c.* 1/2 inferior or largely inferior, 3-valvate, thin- or very thin-walled. *Seeds* thinly crustaceous, sometimes facetted but not strongly so, 0.4–1.1 mm long, pale to very dark brown; testa smooth.

Size and distribution. *Tetrapora* has five named species and is widespread in the south-west of Western Australia but does not reach any part of the west coast. It is known from the Avon Wheatbelt, Coolgardie, Esperance Plains, Geraldton Sandplains, Jarrah Forest, Mallee and Swan Coastal Plain bioregions.

Etymology. From the Greek *tetra-* (four) and *poros* (passage or pore), possibly referring to the anthers having 4 lobes, although their pollen is released via only two pores.

Affinities. A single sample of *Tetrapora* (*T. preissiana*) was placed sister to *Anticoryne* samples in a recent molecular phylogeny (Nge *et al.* 2025), and the two genera appear to be very closely related (see discussion under *Anticoryne* above). The main difference is in seed morphology, which is shown for *T. floribunda* (Figure 1I) and *T. tenuiramea* (S.Moore) Trudgen & Rye (Figure 1J).

Another genus that could be confused with *Tetrapora* is *Austrobaeckea* because it has a similar overall appearance and overlaps in distribution. *Austrobaeckea* differs from *Tetrapora* in having the connective gland becoming hollowed after the anther sheds its pollen and in having stamen arrangements (with

respect to the five sepals in ten-staminate flowers) mostly 2,2,2,2,2 or 3,2,2,2,1 rather than 3,2,1,3,1 as shown for *Tetrapora* in Figure 3B.

Key to species of *Tetrapora*

1. Peduncles 1-flowered (Bencubbin–near Hyden)..... **T. tenuiramea**

1: Peduncles up to 21-flowered, never consistently 1-flowered

2. Stamens 5, regularly arranged with 1 opposite each sepal. Anthers becoming almost black. Leaves entire, not in fascicles. Ovules 2–6 per loculus (Collie–Fitzgerald River NP) ..... **T. glomerata**

2: Stamens 2–14, irregularly arranged in groups opposite the sepals. Anthers pale-coloured to dark purplish. Leaves either in fascicles or ciliolate to denticulate on upper margins. Ovules 4–11 per loculus

3. Leaves clustered, entire or scarcely denticulate. Anthers ellipsoid

4. Leaf blades 1.3–2.3 mm long. Peduncles 1.3–3 mm long, 1–3-flowered (Wongan Hills area)..... **T. leptophylla**

4: Leaf blades 3–4 mm long. Peduncles 5–7 mm long, 3–10-flowered (possibly near Kellerberrin)..... **T. ostentata**

3: Leaves not clustered, ciliolate to denticulate. Anthers globular

5. Leaf blades very thick, 1–2.3 mm long, mostly 0.4–0.8 mm wide but often with a few broader ones also present. Peduncles 0.8–1.5 mm long, 1–4-flowered (Winchester area–Stirling Ra.–Cape Arid NP)..... **T. preissiana**

5: Leaf blades not very thick, 1.7–3.5 mm long, usually 1–1.5 mm wide. Peduncles 1–3 mm long, 3–8-flowered (mainly near Calingiri–Wandoo NP–near Tammin)..... **T.** sp. **Youndegin Hill (A.S. George 15772)**

Tetrapora leptophylla (Turcz.) Rye, *comb. nov.*

Harmogia leptophylla Turcz., *Bull. Cl. Phys.-Math. Acad. Imp. Sci. Saint-Pétersbourg* 10: 330 (1852); *Baeckea leptophylla* (Turcz.) Domin, *Věstn. Král. České Společn. Nauk. Tř. Mat.-Přír. 1921–1922*, 2: 82 (1923). *Type citation*: 'Drum. V, n. 35 (ex parte) et 37'. *Type collections*: Swan River [south-west Western Australia, probably the Wongan Hills area], *s. dat.* [probably late 1844], *J. Drummond* 3: 37 (*lecto*, here designated: KW 001001291; *isolecto*: K 000821738, MEL 0072744, NSW 139892, PERTH 01605550); Swan River [south-west Western Australia, possibly from Brogden], *s. dat*. [probably 1843–1844], *J. Drummond* 35 ex parte (*syn*: KW 001001292).

Baeckea floribunda Benth., *Fl. Austral.* 3: 87 (1867); *Tetrapora floribunda* (Benth.) Trudgen & Rye, *Nuytsia* 22: 396 (2012). *Type citation*: 'W. Australia, *Drummond*, *n.* 9, 138, *and 3rd Coll. n.* 37'. *Type collections*: Swan River [south-west Western Australia, probably the Wongan Hills area], 1845 [probably late 1844], *J. Drummond* 3: 37 (*lecto*, here designated: K 000821738; *isolecto*: KW 001001291, MEL 0072744, NSW 139892, PERTH 01605550); Swan River [south-west Western Australia], *s. dat*. [1842?], *J. Drummond* 138 (*syn*: K 000567181, K 000567182, K 000821689, MEL 0072743, NSW 1058390) = *Tetrapora preissiana* Schauer; [south-west Western Australia], *s. dat*., *J. Drummond* 9 (*syn*: MEL 0072742) = *Scholtzia drummondii* Benth.

Shrub 0.4–1.2 m high, 0.2–0.8 m wide. *Leaves* antrorse, in fascicles. *Petioles* 0–0.2 mm long. *Leaf blades* ± oblong or oblong-elliptic in outline, 1.3–2.3 mm long, 0.5–1 mm wide, 0.3–0.5 mm thick, denticulate to entire; abaxial surface deeply convex, sometimes somewhat ridged along midvein, with oil glands in 1–3 main rows on each side of midvein, the rows closest to midvein with 3–6 glands; adaxial surface flat or shallowly concave; apical point ± absent. *Peduncles* borne at 1–4(–6) consecutive nodes, 1.3–3 mm long, 1–3-flowered. *Basal bracts or bracteoles* 1–1.5 mm long. *Pedicels* 3–4.5 mm long. *Flowers* 7–7.5 mm diam. *Hypanthium* 0.7–1.3 mm long, 2–2.3 mm wide; free part *c.* 0.25 mm long. *Sepals* depressed ovate, 0.8–1 mm long, 1.3–1.6 mm wide, white with a green or reddish ridged base, laciniate-

denticulate. *Petals* 2.7–3.2 mm long, white. *Stamens* 9–12 (usually 10), with 1–3 opposite each sepal, often 10 in the arrangement 3,2,1,3,1. *Longest filaments* 0.7–0.9 mm long. *Anthers* ellipsoid, 0.35–0.4 mm long, 0.2–0.25 mm wide, with a yellow connective gland bordered by maroon thecae. *Ovary* 3-locular; ovules mostly 9–11 per loculus. *Style* 1.1–1.3 mm long. *Fruits* 1.5–1.7 mm long, 2–2.5 mm diam. *Seeds* weakly facetted, 0.4–0.5 mm long, *c.* 0.3 mm wide, 0.35–0.4 mm thick, dark brown. (Figure 3)

Diagnostic features. Distinguished from *T. preissiana* and other previously named species in having ellipsoid rather than globular anthers. Other important characters: leaf blades 1.3–2.3 mm long; peduncles 1.3–3 mm long, 1–3-flowered.

Selected specimens examined. WESTERN AUSTRALIA: [localities withheld for conservation reasons] Oct. 1932, *R.B. Ackland s.n.* (AD); Aug. 1928, *C.A. Gardner s.n.* (PERTH); 7 Nov. 1983, *G.J. Keighery s.n.* (PERTH); 30 Oct. 2017, *J.A. Wege 2049* (BRI, CANB, NSW, PERTH).

Distribution and habitat. Occurs mainly in the Wongan Hills area, possibly extending north to near Morawa, Western Australia, recorded mainly in yellow sand, sometimes over laterite, in low shrubland or

Figure 3. *Tetrapora leptophylla* from the Wongan Hills area. A – habit; B – flower, with ten stamens in the arrangement 3,2,1,3,1; C – branchlets with decussate leaves. Photographs by Juliet Wege, voucher *J.A. Wege* 2049.

low woodland with *Banksia*.

Phenology. Flowers and fruits recorded from October to December.

Conservation status. Recently listed as Priority Two under Conservation Codes for Western Australian Flora (Western Australian Herbarium 1998–), as *Tetrapora floribunda*.

Typification of Harmogia leptophylla. Turczaninow (1852: 330) based his species *H. leptophylla* on two specimens he mistakenly described as coming from Drummond's fifth collection, although he correctly wrote it as Drummond's third collection on his herbarium label for the type specimens. Marchant (1990: 125, Table 1) gave the correct numbering for this species and also corrected various other discrepancies with numbers cited in Turczaninow's papers. One of the syntypes of *H. leptophylla* is given as 35 (ex parte), which suggests it was part of, or mixed in with, the collection used for the holotype of *Astartea muricata* Turcz., although the *Astartea* collection number was also mistakenly given by Turczaninow (1852: 334) as 25 (ex parte) rather than 35 (ex parte) (see Rye 2013: 250). The known distribution of *Astartea muricata* extends from east of Brookton south to the Arthur River and Dumbleyung, and the locality on the type is given as 'Brogden', so one of the syntypes of *H. leptophylla* might also have been collected there. A second possibility is that the syntype was made from a different locality and accidently mixed in with the *Astartea* collection.

Three pieces are mounted on the sheet at KW that is annotated by Turczaninow as '*Harmogia leptophylla* Turcz. Nova Hollandia Drumond coll: III n 35. 37.' All pieces are of a similar length and have plenty of flowers attached, but the specimen on the right side, which has a tag with the number 37 attached, has more numerous leaves than the other two. There is no number attached on the central and left pieces, making it uncertain whether either piece is actually number 35 or just a second piece of the number 37 collection. The central piece differs from the other two pieces in having several apparently mature fruits attached at the top in addition to flowers, but this does not mean that it could not be from the same collection as one of the other two pieces. Fruits are not mentioned in the protologue but their presence raises the possibility that Turczaninow recorded an incorrectly low stamen number from an old flower that had already lost some of its stamens. His description of the species having only eight stamens and *c.* eight ovules per loculus is not a good match for the *T. leptophylla* description given above (based on the number 37 collection and recent collections at PERTH), which indicates that most flowers have ten stamens and ovule numbers per loculus are mostly 9–11.

The epithet *leptophylla* selected by Turczaninow seems very odd for a species that does not have narrow or thin (i.e. unthickened) leaves. It seems to conflict with the author's own description of the leaves as 'minutis oblongis ellipticisve subtriquetris, facie planis aut concavis, dorso convexis carinatisve' (Turczaninow 1852: 330), a description that tallies well with the one provided above: leaf blades ± oblong or oblong-elliptic in outline, 1.3–2.3 mm long, 0.5–1 mm wide, 0.3–0.5 mm thick, with the adaxial surface flat or shallowly concave and the abaxial surface deeply convex. However inappropriate the epithet appears, the protologue is consistent with the leaf morphology of the Drummond number 37 syntype despite being somewhat inaccurate regarding stamen number and ovule number.

In view of the uncertainty as to the collection numbers of two of the pieces, it is safest to nominate the single piece numbered 37 as the lectotype. This piece is suitable in terms of its high numbers of flowers and leaves, and also has the advantage of having duplicates known in other herbaria.

Typification of Baeckea floribunda. Of the three Drummond numbers cited in the protologue of *Baeckea floribunda*, number 9 is a *Scholtzia*, while numbers 138 and 3: 37 are two different species of *Tetrapora*.

J. Drummond 9 (MEL 0072742) is a non-flowering specimen of *Scholtzia drummondii* Benth. with just a few fruits attached. It is similar to *T. leptophylla* in leaf length and petal size and could be mistaken for it on a superficial examination. Had this specimen been in full flower, its shorter pedicels (*c.* 0.5 mm long

vs. *c.* 3 mm), fewer ovules (2 per loculus vs. 9–11 per loculus) and other differences would have been clear.

J. Drummond 138 (K 000567182, MEL 0072743) matches *T. preissiana* in having globular anthers. The locality of this specimen and its date of collection are unknown, but it matches some specimens in the *T. preissiana* complex that have larger flowers with more numerous stamens (8–10) than usual. A single flower bud with eight stamens was found to have eight ovules in each ovary loculus, both numbers being lower than normally found in *T. leptophylla*.

J. Drummond 3: 37 matches specimens of *T. leptophylla* from Wongan Hills. Drummond collected from the Wongan Hills area in September and October 1842 with Gilbert (second collection) and in October and November of 1844 on his third collection (Erickson 1969). Since the species is not known from any other localities visited by Drummond during his third collection, it seems very likely this syntype is from Wongan Hills. The flowering time of the Wongan Hills populations also coincides well with the months Drummond was in that area. There are a further four sheets of this *Tetrapora* species at MEL labelled *J. Drummond s.n.* (MEL 0076430, 0076433, 0076446, 0076516) and it is possible these were collected earlier when Drummond went to Wongan Hills with Gilbert in 1842.

In justifying his recognition of *B. floribunda* as a distinct species rather than treating it as a variety of *B. pentandra* F.Muell. (a combination of the two species now known as *T. preissiana* and *T. glomerata* Turcz.), Bentham (1867: 87) emphasised its shorter, thicker leaves and the presence of larger flowers with stamens that 'appear to be always 10' (see the 10-staminate flower in Figure 3B, which also shows the ellipsoid anther shape that distinguishes the Wongan Hills species from *T. preissiana*). Bentham also noted that the new species had 8–10 ovules compared to the 4–6 in *B. pentandra*, a difference that excludes *T. glomerata* but does not completely exclude *T. preissiana*. Of the listed syntypes, *J. Drummond* 3: 37 matches the protologue best in terms of its leaves, flower size and stamen number. It is therefore selected here as the lectotype. The poor *J. Drummond* 9 material is clearly unsuitable for lectotypification. The other rejected candidate for lectotypification, *J. Drummond* 138, must have been used for Bentham's description of leaves on the 'main luxuriant branches' as 'linear-distant and appressed', a character that is present in both *T. glomerata* and *T. preissiana*.

Tetrapora ostentata Rye, *sp. nov.*

Type: Kings Park Wildflower Show [possibly ex Kellerberrin area], Western Australia, 28 September 1978, ?*A.M. Coates* S 4407 (*holo*: PERTH 06707335; *iso*: CANB, K, MEL).

Baeckea sp. Wildflower Show (?A.M. Coates S 4407), Western Australian Herbarium, in *Florabase*, https://florabase.dbca.wa.gov.au/ [accessed 6 June 2025].

Shrub size not recorded but with apparently erect flowering stems at least 0.4 m long. *Young stems* with scattered oil glands. *Leaves* closely antrorse or appressed on fast-growing shoots, in dense fascicles on other stems. *Petioles* 0.4–0.6 mm long, well defined. *Leaf blades* very narrowly obovate to linear in outline, 3–4 mm long, 0.3–0.6 mm wide, 0.3–0.4 mm thick, entire; abaxial surface deeply convex or convex, often grooved along the midvein, with 1 or 2 main rows of oil glands each side of midvein, the rows closest to the midvein with 7–9 glands; adaxial surface concave or almost flat; apical point less than 0.1 mm long or absent. *Peduncles* borne at 2–5 consecutive nodes, 5–7 mm long, 3–10-flowered. *Largest bracts* 2.5–3 mm long. *Pedicels* 2.5–4 mm long. *Flowers* 7–8 mm diam. *Hypanthium* very broadly campanulate, 1.5–2 mm long, *c.* 2.3 mm wide, with numerous oil glands; free part 0.5–0.6 mm long. *Sepals* broadly or very broadly ovate, 0.8–1.3 mm long, 1–1.5 mm wide, strongly ridged, entire. *Petals* 3–3.5 mm long, white, entire. *Stamens* 8–10, 1–3 opposite each sepal, often in the arrangement 3,2,1,3,1 when ten. *Longest filaments* 1–1.2 mm long. *Anthers* ellipsoid, 0.5–0.6 mm long, *c.* 0.3 mm wide, dark-coloured with a pale dorsal patch where the connective gland is located. *Ovary* 3-locular, with a concave summit; ovules 7–10 per loculus. *Style* not seen at maturity, probably at least 1 mm long. *Fruits and seeds* unknown.

Diagnostic features. Distinguished by the following combination of characters: leaves clustered, entire; peduncles 5–7 mm long, 3–10-flowered; and stamens 8–10.

Other specimens examined. Known only from the type.

Distribution and habitat. Collected in the south-west of Western Australia, possibly near Kellerberrin. Its habitat is unknown.

Phenology. The flowering period includes September to October based on a single collection dating from late September.

Conservation status. Recently listed as Priority One under Conservation Codes for Western Australian Flora (Western Australian Herbarium 1998–), as *Baeckea* sp. Wildflower Show (?A.M. Coates S 4407). This species may be extinct but since its locality is uncertain there remains a possibility that it will be recollected.

Etymology. From the Latin *ostentatus* (exhibited, displayed), related to its having been exhibited to the public.

Affinities. *Tetrapora ostentata* has ellipsoid anthers that are similar in shape to those of *T. floribunda* (Figure 3B), but it differs in its larger leaves and longer peduncles with more numerous flowers (see key).

Notes. *Tetrapora ostentata* was exhibited in a Kings Park Wildflower show in 1978, and a specimen was kept because it looked distinctive. Unfortunately, the collector's name, the habitat where this specimen was gathered and the precise locality were not recorded, but a possible locality of Kellerberrin is written on the sheet. As Anne Coates (pers. comm.) was the Kings Park employee responsible for getting the specimen mounted, her name was placed on the label.

Tetrapora sp. **Youndegin Hill (A.S. George 15772)**

Baeckea sp. Youndegin Hill (A.S. George 15772), Western Australian Herbarium, in *Florabase*, https://florabase.dbca.wa.gov.au/ [accessed 6 June 2025].

Conservation status. Listed as Priority Two under Conservation Codes for Western Australian Flora (Western Australian Herbarium 1998–) as *Baeckea* sp. Youndegin Hill (A.S. George 15772).

Notes. This taxon belongs to the widespread *T. preissiana* complex, which needs more study to determine whether *T.* sp Youndegin Hill is sufficiently distinctive to be recognised as a species or subspecies. *Tetrapora* sp. Youndegin Hill tends to have broader, less thickened leaves and longer peduncles with more numerous flowers than *T. preissiana s. str.* (see species key above), and it has a wider range for the number of stamens, which may be up to 14 per flower. Although specimens of the two taxa at the extremes of their variation look very different and could easily be treated as distinct species, there are numerous intermediate specimens, some of which vary in their leaf and peduncle morphology in different portions of the same plant.

Acknowledgements

This project was supported by funding from the Australian Government through the Australian Biological Resources Study National Taxonomic Research Grants Program. The idea for a paper dealing with multiple genera came from Kelly Shepherd. I am very grateful to Juliet Wege for her photographs and other work on the images, and other assistance such as advice on lectotypification, Ben Anderson for his helpful comments, and Katherine Downes for taking the seed and fruit images and for her editorial support.

References

Albrecht, D.E. & Rye, B.L. (2026). A new desert mountain endemic from central Australia: *Hysterobaeckea oreophila* (Myrtaceae: Chamelaucieae). *Nuytsia* 37: 45–50.

Bentham, G. (1863). Preface. *In*: *Flora Australiensis*. Vol. 1. pp. 1*–18*. (Reeve & Co.: London.)

Bentham, G. (1867). Myrtaceae. *In*: *Flora Australiensis*. Vol. 3. pp. 1–289. (Reeve & Co.: London.)

Erickson, R. (1969). *The Drummonds of Hawthornden*. (Lamb Paterson Pty. Ltd.: Perth.)

George, A.S. (2009). *Australian Botanist's Companion*. (Four Gables Press: Kardinya, Western Australia.)

Marchant, N.G. (1990). The contribution of the Russian botanist Turczaninov to Australian plant taxonomy. *In*: Short, P.S. (ed) *History of systematic botany in Australasia*. pp. 121–130. (Australian Systematic Botany Society Inc.: Victoria.)

Nge, F.J., Biffen, E., Rye, B.L., Wilson, P.G., van Dijk, K., Thiele, K.R., Waycott, M. & Barrett, M.D. (2025). Australian biogeography, climate-dependent diversification and phylogenetics of the spectacular Chamelaucieae tribe (Myrtaceae). *Australian Systematic Botany* 38: SB24014. doi:10.1071/SB24014.

Rye, B.L. (1987). Myrtaceae (excluding *Eucalyptus*). *In*: Marchant, N.G., Wheeler, J.R., Rye, B.L., Bennett, E.M., Lander, N.S. & Macfarlane, T.D. (eds) *Flora of the Perth Region*. Vol. 1. pp. 377–429. (Western Australian Herbarium, Department of Agriculture: Perth, Western Australia.)

Rye, B.L. (2013). A revision of the south-western Australian genus *Astartea* (Myrtaceae: Chamelaucieae). *Nuytsia* 23: 189–269.

Rye, B.L. (2015a). Recognition of *Hysterobaeckea* as a genus of Myrtaceae tribe Chamelaucieae. *Nuytsia* 25: 209–218.

Rye, B.L. (2015b). A revision of the south-western Australian genus *Babingtonia* (Myrtaceae: Chamelaucieae). *Nuytsia* 25: 219–250.

Rye, B.L. (2016). An update to the taxonomy of some Western Australian genera of the Myrtaceae tribe Chamelaucieae. 4. *Malleostemon*. *Nuytsia* 27: 103–120.

Rye, B.L. (2017a). New lectotypes and synonyms in the Western Australian genus *Scholtzia* (Myrtaceae: Chamelaucieae). *Nuytsia* 28: 159–167.

Rye, B.L. (2017b). Revision of the south-western Australian genus *Anticoryne* (Myrtaceae: Chamelaucieae). *Nuytsia* 28: 205–215.

Rye, B.L. (2018). An update to the taxonomy of some Western Australian genera of Myrtaceae tribe Chamelaucieae: 5. *Hysterobaeckea*. *Nuytsia* 29: 75–107.

Rye, B.L. (2019). An update to the taxonomy of some Western Australian genera of Myrtaceae tribe Chamelaucieae. 6. *Scholtzia*. *Nuytsia* 30: 33–86.

Rye, B.L. (2020). *Babingtonia peteriana* (Myrtaceae: Chamelaucieae), an ornate novelty from south-western Australia. *Nuytsia* 31: 29–33.

Rye, B.L. (2024). New taxa and a key for *Thryptomene* (Myrtaceae: Chamelaucieae: Thryptomeninae). *Nuytsia* 35: 101–135.

Rye, B.L. & Trudgen, M.E. (2012). Seven new combinations for Western Australian members of Myrtaceae tribe Chamelaucieae. *Nuytsia* 22: 393–398.

Rye, B.L., Wilson, P.G., Heslewood, M.M., Perkins, A.J. & Thiele, K.R. (2020). A new subtribal classification of Myrtaceae tribe Chamelaucieae. *Australian Systematic Botany* 33: 191–206.

State of Western Australia (2025). Biodiversity Conservation (Listing of Native Species) (Flora) Order 2025. *Western Australian Government Gazette* 2025(78): 1070–1075.

Stearn, W.T. (1992). *Botanical Latin: History, Grammar, Syntax, Terminology and Vocabulary*. 4th edition. (David & Charles Publishers: Newton Abbot, England.)

Turczaninow, N. (1852). Myrtaceae xerocarpicae, in Nova Hollandia a cl. Drumond lectae et plerumque in collectione ejus quinta distributae, determinatae et descriptae. *Bulletin de la Classe Physico-Mathématique de l'Académie Impériale des Sciences de Saint-Pétersbourg* 10: 322–346.

Wege, J.A. & Rye, B.L. (2024). Typifications in *Malleostemon*, *Micromyrtus*, *Scholtzia* and *Thryptomene* (Myrtaceae) and a hybrid designation. *Nuytsia* 35: 77–81.

Western Australian Herbarium (1998–). *Florabase—the Western Australian flora.* Department of Biodiversity, Conservation and Attractions. https://florabase.dbca.wa.gov.au/ [accessed 6 June 2025].