A new species of *Chamaescilla* (Anthericaceae) from Western Australia

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Abstract

Keighery, G.J. A new species of *Chamaescilla* (Anthericaceae) from Western Australia. *Nuytsia* 13 (3): 475–478 (2001). The genus *Chamaescilla* F. Muell. ex Benth. is currently considered to consist of four species, and a key to these taxa is provided. *Chamaescilla versicolor* (Lindl.) Ostenf. is reinstated and the new species *Chamaescilla gibsonii* Keighery is described.

Introduction

Chamaescilla F. Muell. ex Benth. (Anthericaceae) is a very distinctive small genus endemic to southern Australia. The genus was treated for "Flora of Australia" by Henderson (1986) who recognized two species, one of which had three varieties. However, he noted that the genus required further study and that herbarium collections were often difficult to place. Members of the genus show extensive chromosomal variation (Keighery 1984) and, while they are very distinctive when alive, many herbarium collections of them lack information and parts of the plant most useful for correct placement.

Western Australia is the centre of diversity for the genus and current field studies indicate that at least four species can be recognized in this region. One of these taxa was reduced to a variety (*Chamaescilla corymbosa* var. *latifolia*) by Henderson (1984), but is herein reinstated as a distinct species (*C. versicolor*). A very distinctive species of *Chamaescilla* located in claypans is described herein as a new species.

The taxonomic changes made here are the result of intensive floristic and reserve surveys of the Swan Coastal Plain (Gibson *et al.* 1994; Keighery 1999). This is the fourth in a series of papers investigating taxonomic problems indicated by these surveys. The first dealt with a new subspecies of *Lambertia* (Keighery 1997), the second with *Diplopeltis huegelii* (Keighery 1998) and the third with a new subspecies of *Isotropis* (Keighery 2000).

A key is given to all of the species currently recognized in the genus. Further studies are being undertaken on the variation in *Chamaescilla corymbosa* (R. Br.) F. Muell ex Benth. and the status of the two remaining varieties in that complex.

Taxonomy

Key to the species of *Chamaescilla*

1. Leaves spirally twisted, usually closely appressed to soil ..... **C. spiralis**
1. Leaves not spirally twisted, usually erect and spreading
   2. Each shoot (ramet) with 1 or 2 leaves. Flowers deep blue ..... **C. versicolor**
   2. Each shoot with 5–15 leaves. Flowers pale blue
      3. Inflorescence conic-paniculate, of more than 20 flowers ..... **C. gibsonii**
      3. Inflorescence corymbose-paniculate, of less than 20 flowers ..... **C. corymbosa**

Chamaescilla gibsonii Keighery, *sp. nov.*

Differt a *Chamaescilla spirali* floribus pallide caeruleis, foliis erectis non spiraliter contortis.

Typus: Waterloo, 33°20'S, 115°45'E, Western Australia, 20 September 1983, *G.J. Keighery* 6837 (*holo:* PERTH 01967029).

Tuberous rhizomatous *herb*, forming dense clumps of 5–12 ramets. *Tubers* numerous, 12–30 mm long, *c.* 4 mm wide, white. *Leaves* 15–22 per shoot, erect or spreading; sheath hyaline, 30–35 mm long, forming a dense hair-like covering of the rhizome after leaf death; lamina linear-lanceolate, 40–120 mm long, 2–3 mm wide, pale green, not discolorous. *Inflorescence* a dense thyrsoid panicle, 12–26 flowered; scape erect, glabrous, 200–300 mm long. *Pedicels* subtended by 1 or 2 small ovate to triangular bracts. *Perianth segments* spreading, equal, obovate, 6–8 mm long, pale blue, prominently 3-nerved. *Stamens* shorter than perianth segments, anther bright yellow. *Capsule* obcordate, 7–12 mm long, the lobes laterally compressed. (Figure 1)

Selected specimens examined (12 seen, all PERTH). WESTERN AUSTRALIA: 1 mile [1.6 km] S of Mogumber siding, 25 Sep. 1965, *A.S. George* 6839; Waterloo, 20 Oct. 1983, *G.J. Keighery* 6837; Symmonds Block, Tuart forest, SW of Ludlow (33° 37' 30" S, 115° 27' 42" E), 15 Sep. 1994, *G.J. Keighery* 13582; Kooljenerrup nature reserve, SW of Pinjarra, 20 Sep. 1995, *G.J. Keighery* 14216; Capel, 24 Sep. 1948, *R.D. Royce* 2688; Muchea, Oct. 1928, *H. Steedman s.n.*

Distribution. Recorded from Mogumber to Busselton on the Swan Coastal Plain.

Habitat and phenology. Occurs in fresh water claypans (vernal pools) usually under *Melaleuca lateritia* or *Melaleuca viminea* shrubland. Like other members of this genus, plants die down to a persistent rootstock over summer. Resprouting occurs after the claypans begin to flood after the heavy winter rains. Flowering occurs when the pans are beginning to dry in spring, but still contain standing water, from September to October. Mature fruits and seeds are found in December.

Conservation status. CALM Conservation Codes for Western Australian Flora: Priority Three. On the Swan Coastal Plain this species has been recorded from five actual or proposed reserves (Keighery 1999). Although the species is widespread and present in several conservation reserves, most of these populations are small and under a variety of threats.

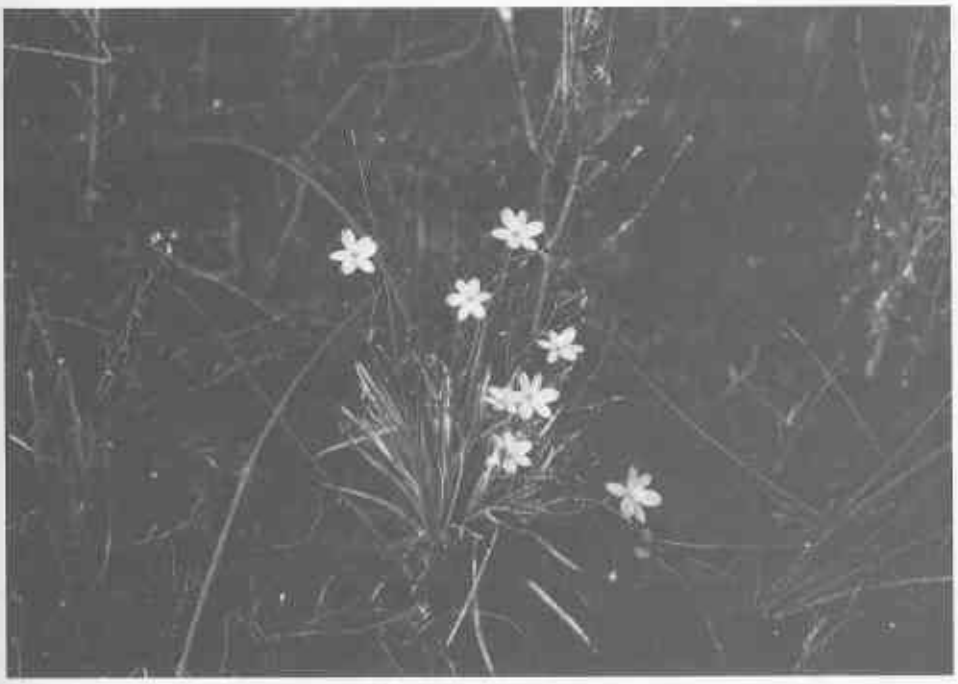

Figure 1. Photograph of the type plant of *Chamaescilla gibsonii* at Waterloo.

Etymology. The specific name commemorates Neil Gibson, Botanist with the Department of Conservation and Land Management, who has added greatly to our knowledge of the flora of the Swan Coastal Plain.

Notes. This species was previously included under *Chamaescilla spiralis* (Endl.) F. Muell. ex Benth., which is a dryland species, only occurring marginally around wetlands, with dark green spirally twisted leaves that are appressed to the ground, and dark blue flowers. In contrast *C. gibsonii* has pale green straight leaves that are held erect, hence emergent out of the shallow water in which it grows, and pale blue flowers. Plants of *C. gibsonii* form dense clumps unlike the evenly spaced plants found in populations of *C. spiralis*. The two species are geographically separated, with *C. spiralis* occurring in the wheatbelt, ranging from Wongan Hills in the north, south to the Stirling Range, west to Rocky Gully and east to Esperance.

Chamaescilla versicolor (Lindl.) Ostenf., *Kongel. Danske Vidensk. Selsk. Biol. Meddel.* 3: 20 (1921). – *Caesia versicolor* Lindl., Sketch Veg. Swan River Colony lvii (1840). – *Caesia corymbosa* var. *versicolor* (Lindl.) Baker, *J. Linn. Soc. Bot.* 15: 361 (1876). *Type:* Swan River, [Western Australia], 1839, *J. Drummond s.n.* (*holo:* CGE *n.v.*, photo seen).

Caesia spiralis var. *latifolia* F. Muell., Fragm. 7: 68 (1870). – *Chamaescilla corymbosa* var. *latifolia* (F. Muell.) R.J.F. Hend., Fl. Australia 45: 290 (1987). – *Type:* near Puttingup [near Cranbrook], Western Australia, *G. Maxwell* (*holo:* MEL).

Distribution and habitat. This species is very widespread on heavy soils in the south-west of Western Australia. Currently the biological survey of the Agricultural zone and Herbarium records show it extending from Kalbarri inland to Morawa south to Perth, south-east to Lake Grace and inland to Merredin.

Conservation Status. This widespread taxon is not considered to be at risk.

Notes. This species was treated as *C. corymbosa* var. *latifolia* by Henderson (1987). However, at Talbot Road Reserve on the eastern side of the Swan Coastal Plain, where both taxa have been recorded (Keighery & Keighery 1993), they coexist without any intergradation. *Chamaescilla corymbosa* occurs on sandy soils in *Banksia* woodland and heathland and *Chamaescilla versicolor* occurs on loams and clay soils in Wandoo woodland, while both occur in Marri woodland on duplex soils.

The taxonomy of the *Chamaescilla corymbosa* complex requires further study. Small plants of this taxon in Western Australia have been named as *Chamaescilla paradoxa* (Endl.) Domin. This name (at variety level) has been attached to the small-flowered variant of *C. corymbosa* by Henderson (1987). This taxon is probably closer to *C. versicolor* and may prove to be the specific name for many Western Australian plants currently referred to *C. corymbosa*, which was named from New South Wales.

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