

JOURNAL of the ADELAIDE BOTANIC GARDENS

AN OPEN ACCESS JOURNAL FOR AUSTRALIAN SYSTEMATIC BOTANY

flora.sa.gov.au/jabg

Published by the

STATE HERBARIUM OF SOUTH AUSTRALIA

on behalf of the

BOARD OF THE BOTANIC GARDENS AND STATE HERBARIUM

© Board of the Botanic Gardens and State Herbarium,
Adelaide, South Australia

© Department of Environment, Water and Natural Resources,
Government of South Australia

All rights reserved

State Herbarium of South Australia
PO Box 2732
Kent Town SA 5071
Australia



Board of the
Botanic Gardens and
State Herbarium



Eremophila tietkensis F.Muell. & Tate (Myoporaceae), a misinterpreted species

R.J. Chinnock

State Herbarium of South Australia,
Hackney Road, Adelaide, South Australia 5000
Email: chinnock.bob@saugov.sa.gov.au

Abstract

Although *Eremophila tietkensis* has been considered synonymous with *E. latrobei*, recent investigations have shown that it was misinterpreted and is a distinct species. The reasons for this misinterpretation are given and a description and notes on the species provided.

History

Recently, when finalising work on a loan from the National Herbarium of Victoria (MEL) of *Eremophila* before its return, I came across a specimen mixed in with a large number of *E. latrobei* specimens, which was quite different. There was affixed to the sheet one of Mueller's distinctive blue *Phytologic Museum of Melbourne* labels. In Mueller's handwriting was *E. tietkensis* and what appears to be in another hand "Central Australia, 1889". A small label with slits in it, which was obviously originally attached to the single branch portion, had written on it in pencil "Laura Vale, Beetsen's Hills". This was a previously overlooked specimen. Since *E. tietkensis* had been considered a synonym of *E. latrobei*, someone, at some stage, placed the collection with specimens of this species.

Tietkens was part of an expedition exploring and prospecting in the MacDonnell Ranges and presumably after the expedition the plant specimens were given to Professor Tate who then forwarded duplicate material to Baron von Mueller. As no specimen of *E. tietkensis* (sensu Mueller) is held at the State Herbarium of South Australia (AD), Tate presumably forwarded the only material to Mueller. Mueller and Tate published an account of the plants, collected by Tietkens, in 1889 in the *Transactions of the Royal Society of South Australia*. Presumably Tate read the paper at the meeting, as was the custom at that time, to the Society members on April 1st 1890. In this paper, details of locations where Tietkens had collected were provided and the species listed by family. Six new species including *E. tietkensis* are formally described. Two locations, Laura Vale and Mt Sonder were listed for *E. tietkensis*. Interestingly, they actually listed seven species as new but one of them, *Eriocaulon graphiticum*, was never described in the paper nor elsewhere.

One might consider that since Smith had lectotypified on a Mt Sonder specimen, this would be the end of the

matter, however, from the specimens in AD and (MEL,) I believe that Tate and Mueller had different concepts of *Eremophila tietkensis*. Furthermore, I am of the opinion that accounts of new species in the paper were prepared entirely by Mueller in Melbourne and that Tate had not seen the Laura Vale specimen at least after it was forwarded to Mueller. Certainly by 1894 Tate considered *E. tietkensis* merely a form of *E. latrobei*. On one MEL sheet with two collections made by Tate in Central Australia at Illawarta (terete-leaved form) and Illpilla (broad-leaved form), Mueller had written on a label "*E. latrobei* var. = *E. tietkensis*". On another label associated with these collections he stated "This in my judgement is a canescent broad leaved state of *E. latrobei*".

Mueller certainly saw a specimen of "*E. tietkensis*" of Tate's broader concept collected by Tietkens at Mt Sonder and this specimen appears to me to be part of the same gathering as the AD collection labelled by Tate as *E. tietkensis*. Mueller, in his own hand, identified the specimen as *E. latrobei*. Thus Mueller had identified specimens collected by Tietkens at Mt Sonder as *E. latrobei* while Tate in Adelaide had identified them as *E. tietkensis*.

Mueller was the authority on *Eremophila* and by 1890, when he described *E. tietkensis*, he had already published accounts of forty-two new species, and in addition, one jointly with Augustus Oldfield (1859) and three species through George Bentham in *Flora Australiensis* in 1870, who attributed the species to him. His concepts of species in *Eremophila* were sound and he certainly knew *E. latrobei* very well. Mueller had previously described this species in 1859 and he had many specimens of this common plant at his disposal by 1889. He had Graff illustrate two variants in *Myoporinous Plants* (1886). He would not have included the two discordant elements from Laura Vale and Mt Sonder in the preparation of a description of a new species, especially since he knew *E. latrobei* so well,

and indeed had labelled his specimen from Mt Sonder as that species. I presume therefore that the reference to *E. tietkensis* from Mt Sonder was on the advice of Tate or, added by Tate when he received the paper from Mueller for presentation to the Royal Society.

With the Laura Vale specimen to hand, I have re-examined the protologue of *E. tietkensis* and conclude that the description was based entirely upon the Laura Vale specimen.

In the description of *E. tietkensis* provided in the paper, there are a number of important features given that indicate that it was based entirely on the Laura Vale specimen. Leaves are described as “elongate to narrow-lanceolar, entire but somewhat flexuose and gradually tapering to the apex, slightly decurrent into a rather conspicuous petiole”. The leaf size range is given as “two to three inches long” (50–75 mm), “half to two-thirds inches wide” (12.5–17 mm). In contrast, the material from Mt Sonder has linear leaves, abruptly tapering towards the apex and there is no well-defined petiole. Leaf size varies from 20–40 mm long and 1.5–2.5 mm wide. Leaf margins are entire, distinctly thickened and non-undulate in this particular case.

Another important feature mentioned which again indicates that Mueller based the species on the Laura Vale specimen is that the ovary is given as “imperfectly beset with glandular, very minute hairlets”. The ovary of *E. tietkensis* possesses this feature but *E. latrobei*, including the material from Mt Sonder, is glabrous.

Eremophila tietkensis F.Muell. & Tate has long been treated as a synonym of *E. latrobei* F.Muell., and when I published an account of the South Australian Myoporaceae in 1986, I followed Smith (1975) in placing the name in synonymy under *E. latrobei*. Smith lectotypified *E. tietkensis* upon a collection made by Tietkens on Mt Sonder, Northern Territory in 1889, held at Melbourne (MEL), and a duplicate of this collection held at the State Herbarium of South Australia, labelled *E. tietkensis* in Tate’s handwriting, confirmed that it was indeed *E. latrobei*. Smith did, however, allude to a second collection made at Laura Vale in the Northern Territory, with leaves about 1.5 cm wide. As Mueller based his account of *E. tietkensis* on the single specimen from Laura Vale held at Melbourne, this specimen is treated as the holotype. The specimen from Mt Sonder, upon which Smith lectotypified *E. tietkensis* is not considered type material as it does not agree with the protologue. The reference to Mt Sonder for *E. tietkensis* in the paper by Mueller and Tate (1890), is presumed to have been added by Tate when he received the paper from Mueller, or by Mueller on Tate’s authority.

Taxonomy

Eremophila tietkensis F.Muell. & Tate

Trans.Roy.Soc.South Australia 8: 109 (1890). — **Type:** Laura Vale, Northern Territory, [June] 1889, *W.H. Tietkens s.n.* (holotype: MEL 82820).

E. pachomai Chinnock ex Paczkowska & A.R.Chapman, W. Austral. Fl. Descr. Cat. 339 (2000), nom. inval. (manuscript name).

Rounded to flat-topped shrub 1–2 (–3) m tall with branches and leaves clothed in a persistent fine grey, appressed, tomentum of simple hairs. Leaves alternate, scattered, distinctly petiolate; petiole 6–12 mm long, lamina ovate to lanceolate, acute to attenuate, margins entire, surfaces smooth, (21–) 30–72 (–91) × (4–) 6–17 (–20.5) mm. Flowers 2–4 per axil, pedicellate. Sepals 5, imbricate, subequal, elliptic to oblanceolate, broadly acute to obtuse with a mucro, 7.5–12 (–15.5) × 1.5–6 mm, often enlarging after flowering and then veins prominent, broadly acute to obtuse with a mucro; outer surface pubescent or rarely almost glabrous, hairs appressed, eglandular and shorter erect glandular ones, margins very densely pubescent; pinkish-purple. Corolla 22–28 mm long, pale lilac to pale mauve or white tinged lilac, outer surface of lobes and tube with scattered appressed eglandular hairs; inner surface of lobes glabrous, tube woolly below lobes of upper lip and medial lobe of lower lip and around stamen bases; lobes obtuse. Stamens 4, included; filaments with long eglandular hairs towards base, glabrous above; anthers glabrous. Ovary ovoid-oblong, 4-locular with 2 ovules per locule, densely glandular-puberulous with scattered or numerous longer eglandular hairs; style eccentric, glabrous or with a few scattered simple eglandular hairs in distal part and glandular hairs at base. Fruit dry, woody, ovoid-conical more or less beaked, ribbed, 6–7 × 3–4.5 mm; exocarp adhering to endocarp, glandular-puberulous but usually with some longer eglandular hairs, occasionally resinous; endocarp vertically ribbed, splitting into 4 segments towards apex. Seed unknown.

Notes

Eremophila tietkensis is a very variable species widespread throughout Western Australia but extending just over the border into the Northern Territory. The occurrence at Laura Vale is consistent with the known distribution of this species.

Eremophila tietkensis is closely allied to *E. platycalyx* and *E. macmillaniana* but is easily distinguished from these species by having 2–4 flowers in the axils and numerous branches arising from near ground level. Commonly the corolla is pale lilac or white tinged lilac but very rarely it may be purple spotted on the outside. Although the leaves are typically long and lanceolate in form, very small ovate-leaved forms, which may represent a distinct subspecies, occur in the northern part of the species range east of the Great Northern Highway in the Great Sandy Desert.

Apart from the type collection, *E. tietkensis* has only recently been re-discovered in the Northern Territory. In October 2000, Peter Latz collected the species west north-west of Kintore and more recently in August 2003, David Albrecht and Peter Latz found it on the Brown’s Bore–Kintore Track, south south-east of Johnstone Hill. According to David Albrecht (pers.comm. 2004)

the Laura Vale site is geographically between these two locations. All three locations are very close to the Western Australian border and it is unlikely that any collection was ever made at Mt Sonder, which is situated much further east.

Additional specimens of E. tietkensis cited

NORTHERN TERRITORY: *D.E. Albrecht & P.K. Latz 10477*, Browns Bore, Kintore track, c. c. 16 km SSE of Johnstone Hill, 17 Aug 2003 (AD); *P.K. Latz 17052*, 24 Oct 2000, 28 km WNW of Kintore (AD).

References

- Bentham, G. (1870). Myoporineae. In *Flora Australiensis*, Vol. 5. (L. Reeve: London).
- Black, J.M. (1929). *Flora of South Australia*, Part 4. (Govt Printer: Adelaide).
- Black, J.M. (1957). *Flora of South Australia*, Part 4. 2nd edn. (Govt Printer: Adelaide).
- Chinnock, R.J. (1986). *Myoporaceae*. In Jessop, J. & Toelken, H (Eds.). *Flora of South Australia*, Vol. 3. (Govt Printer, Adelaide).
- Mueller, F. (1859). Report on the plants collected during Mr Babbage's expedition into the north-west interior of South Australia in 1858, p. 17 (Govt Printer: Melbourne).
- Mueller, F. (1886). *Descriptions and illustrations of Myoporinous plants of Australia II. Eremophila latrobei* Pl. XXXI. (Govt Printer: Melbourne).
- Mueller, F & Tate, R (1890). List of plants collected during Mr Tietkens' expedition into Central Australia, 1899. *Trans. Roy. Soc. S. Austral.* 13: 94–109.
- Oldfield, A. & Mueller, F. (1859). *Eremophila Clarkei*. In Mueller, F., *Fragmenta Phytologiae Australiae* 1: 208. (Melbourne).
- Smith, L.S. (1975). The genus *Eremophila* (Myoporaceae) in Queensland with notes on the genus *Myoporum*. *Contr. Qld Herb.* 19: 20–22.