

Notes on some Australian *Triglochin* (Juncaginaceae) annuals: typification and nomenclature

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Abstract

Type material of *Triglochin calcitrapa* Hook. var. *pedunculata* Buchenau and *T. calcitrapa* Hook. var. *sessiliflora* Buchenau is discussed and lectotypes are chosen for both varietal names. The var. *pedunculata* is placed in synonymy under *T. isingiana* (J.M.Black) Aston, *stat. nov.*, and the var. *sessiliflora* is considered a synonym of the autonym *T. calcitrapa* Hook. var. *calcitrapa*. A further collection cited under *T. calcitrapa* Hook. by Buchenau is placed within an informally named taxon *Triglochin* sp. A (Aston ms.). The varieties *T. calcitrapa* var. *isingiana* J.M.Black and *T. centrocarpa* Hook. var. *longicarpa* Ostenf. are raised to specific rank as *stat. nov.* Reference is made to the exclusion of *T. racemosa* Endl. from *Triglochin* L. and from Juncaginaceae.

The gender treatment of *Triglochin* in published works has varied, but throughout this paper it is treated as feminine in accordance with a definitive ruling of the ICBN (McNeill *et al.*, 2006, Art. 6.2 Ex. 5).

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Introduction

Several nomenclatural changes for annual taxa of *Triglochin* native to Australia involve explanations of type material, selection of lectotypes and change of status. Information concerning these is published here as a pre-cursor to the account of Juncaginaceae (Aston ms.) accepted for the forthcoming volume 39 of the *Flora of Australia* series.

Nomenclature and Typification

Triglochin calcitrapa Hook., *Icon. Pl.* 8:t.731 (1845), var. *calcitrapa*

[autonym established by publication of *T. calcitrapa* var. *pedunculata* Buchenau, *q.v.* below]. *Triglochin centrocarpa* var. *calcitrapa* (Hook.) Benth., *Fl. Austral.* 7: 167 (1878).

Holotype: Swan River, W.A., 1845, *J.Drummond 17*; K *n.v.* (photo MEL); isotype: MEL.

Triglochin calcitrapa var. *sessiliflora* Buchenau in H.G.A.Engler, *Pflanzenr.* Heft 16, IV.14: 12 (1903), *nom. illeg.*, *nom. inval.*, *pro parte*, as to Drummond 17 only.

Lectotype (here chosen): Swan River, W.A., 1845, *J.Drummond 17*; K *n.v.* (photo MEL); isolectotype: MEL.

Buchenau divided *Triglochin calcitrapa* into two varieties which he named var. *sessiliflora* and var. *pedunculata*. He cited three collections, including the type of the species name (*Drummond 17*), without clearly designating which collection referred to each variety. However, from his descriptions and an accompanying note it is evident that he included *Drummond 17* within his var. *sessiliflora*. The name *T. calcitrapa* var. *sessiliflora* Buchenau must therefore be a synonym of the autonym *T. calcitrapa* var. *calcitrapa* (McNeill *et al.*, 2006, Art. 26.1), and is both illegitimate and invalid because it is based on the same type as that of the autonym (McNeill *et al.*, 2006, Art.52.1 & 26.2).

In addition to *Drummond 17* Buchenau also cited "Stirlingsberge" [Stirling Range], W.A., without collector or date, and Mt Lyndhurst, S.A., *M.Koch 268* under *T. calcitrapa*. The latter collection has sessile fruits

and would have been included by Buchenau under *T. calcitrapa* var. *sessiliflora* but it correctly belongs with a taxon which is to be circumscribed as *Triglochin* sp. A in the forthcoming volume 39 of the *Flora of Australia*.

The collection from "Stirlingsberge" is the only one of the three cited by Buchenau which could possibly have been placed by him under his var. *pedunculata* and it should be considered the type collection of that variety. I have not seen Buchenau's authentic material (B, destroyed in fire of 1943?) but a collection by F. Mueller previously housed at MEL under *T. calcitrapa* [sens. lat.] may be duplicate material. The collection is labelled in Mueller's hand "... north of Stirlings Range ..., Oct. 1867" and has pedicellate fruits. It agrees with another collection at MEL, Yallingup Cave, W.A., 26–27 Sept. 1914, C.H. Ostenfeld 141–142, which has Ostenfeld's determinavit as *T. calcitrapa* var. *pedunculata* Buchenau. Ostenfeld's determination of his own collection as Buchenau's taxon could be expected to be correct as in *Dansk Bot. Ark.* 2 (8): 31 (1918) Ostenfeld states that he had access to the material in Berlin used by Buchenau. Both the Mueller and the Ostenfeld collections are placed by the current author under *Triglochin isingiana* (see below).

Triglochin sp. A (Aston ms.) and *T. isingiana* (see both below) have been included within *T. calcitrapa* in most state floras. However, *T. calcitrapa* Hook. sens. str. is confined to south-western Western Australia.

***Triglochin calcitrapa* var. *pedunculata* Buchenau in H.G.A. Engler, *Pflanzenr. Heft 16, IV.14: 12* (1903).**

Lectotype (here chosen): "Stirlingsberge" [Stirling Range], W.A., s. dat., coll. not stated [F. Mueller?]; B n.v. [not extant?]; possible isolectotype: North of Stirlings Range, Oct. 1867, F. Mueller, MEL.

From three collections cited by Buchenau under *T. calcitrapa*, the "Stirlingsberge" collection is the only one which can be considered as the type collection of *T. calcitrapa* var. *pedunculata*. The variety is here placed as a synonym of *T. isingiana*, q.v. below. See full explanation above under *T. calcitrapa* var. *calcitrapa*.

In the *Australian Plant Name Index* (APNI), Chapman (1991) included *T. calcitrapa* var. *pedunculata* Ostenf. and stated that C.E.H. Ostenfeld's name was both invalid and a *nomen nudum*, being based only on a

figure without diagnosis or description. Chapman's reference for listing this name is *Dansk Botanisk Arkiv* 2(8), t. IV fig.7 (1918), a figure which is included in a revision by Ostenfeld of Western Australian *Triglochin* (op.cit., p.30-39). However, it is clear from this publication that Ostenfeld did not designate the name attributed to him in APNI but was instead referring to the name already designated by Buchenau. Under *T. calcitrapa* Hook., Ostenfeld referred on page 33 to both varieties "*α*, *sessiliflora* Buchenau" and "*β*, *pedunculata* Buchenau". His caption to the figure cited in APNI is "*T. calcitrapa*, var. *pedunculata*, from W.A., Yallingup Cave", and indicates simply that the figure is drawn from Ostenfeld's own collection from Yallingup Cave which Ostenfeld had identified as Buchenau's variety. This interpretation is further supported by the Ostenfeld collection from Yallingup Cave held at MEL and bearing Ostenfeld's identification of *T. calcitrapa* var. *pedunculata* Buchenau (see under *T. calcitrapa* var. *calcitrapa* above).

***Triglochin calcitrapa* var. *sessiliflora* Buchenau.**

This name should be considered a synonym of the autonym *Triglochin calcitrapa* var. *calcitrapa*, q.v. above.

***Triglochin isingiana* (J.M.Black) Aston, stat. nov.**

Triglochin calcitrapa Hook. var. *isingiana* J.M.Black, *Fl. S. Australia* edn 2 (1), 50 (1943). *T. elongata* Ising, *Trans. Roy. Soc. S. Australia* 56: 183 (1933), nom. illeg., non Buchenau (1903). Type citation: "Central Australia, Coglein Creek, August 26, 1931, No. 2,409".

Holotype: Coglein Creek, Central Australia, N.T., 26 Aug. 1931, E.H. Ising 2409 (AD).

T. calcitrapa var. *pedunculata* Buchenau, q.v. above.

Black published *Triglochin calcitrapa* var. *isingiana* and cited it as a "n. comb." for Ising's name *T. elongata*, which Black realised was illegitimate. Eichler (1965) later pointed out that Black's name was a new varietal name, not a new combination. As Black explicitly indicated that his var. *isingiana* was a "n. comb.", it can be assumed that he was intending to create a new name (*nomen novum*) as an "avowed substitute" for Ising's illegitimate name. The type of Black's new varietal name, although not stated by Black, must be the type of the substituted name (McNeill et al., 2006, Art. 7.3).

Black gave only "Diamentina River and Central Australia" for collections on which he based his variety, but although the collectors were not specified these two collections are readily identified in AD among the *ex herb.* J.M. Black material. There, two collections are mounted on the same sheet, the holotype (from Coglin Creek, Central Australia) and another collection (Flood plain of Diamentina River at Pandi Pandi, S.A. 18 Aug. 1934, *J.B. Cleland s.n.*), with relevant handwritten annotations by Black. The holotype has the characteristic fertile carpels each with all 4 basal spines and the basal membrane well-developed, as described by both Ising and Black. The fertile carpels of the additional Diamentina River collection used by Black have the 2 down-pointed spines and their connecting membrane near-absent.

The type sheet has been annotated by Hj.Eichler on 3 Dec. 1957 with "Coglin Creek is near Charlotte Waters and the locality where Mr Ising collected is near the railway line". This information would have been obtained by personal communication with Ising, and places the type locality approximately 25°55'S, 134°43'E.

***Triglochin longicarpa* (Ostenf.) Aston, stat. nov.**

Triglochin centrocarpa var. *longicarpa* Ostenf., *Dansk Bot. Ark.* 2(8): 35 (1918).

Holotype: Watheroo Rabbit Fence, W.A., Sept. 1905, *M.Koch*; ?*C n.v.*; **isotype:** MEL, NSW, PERTH.

Ostenfeld wrote that the material of Koch's collection which he saw was "a specimen sent from the Nat. Herb. of New South Wales". This was apparently retained by Ostenfeld and should be in Copenhagen.

***Triglochin racemosa* Endl. in J.G.C.Lehmann, *Pl. Preiss.* 2: 54 (1846).**

Lectotype: Rottneest Island, W.A., *s. dat.*, *J.A.L.Preiss* 2407, LD; **isolectotypes:** M, MEL MO, *fide* E.M.Watson *Fl. Australia* 45: 470 (1987).

Endlicher described the species without seeing fruits, and his assignment of it to *Triglochin* was due to a misidentification. The name must be excluded from *Triglochin* and from Juncaginaceae. O.W.Sonder, *Linnaea* 28: 224 (1856), considered the species to be undeveloped *Anthericum semibarbatum* R.Br. [= *Bulbine semibarbata* (R.Br.) Haw., Liliaceae]. Watson,

loc. cit., agreed with Sonder's identification and gives 5 Aug. 1839 as the date of the Preiss collection.

***Triglochin* sp. A (as in Aston ms., for *Fl. Aust.* vol. 39)**

Triglochin calcitrapa var. *sessiliflora* Buchenau in H.G.A.Engler, *Pflanzenr.* Heft 16, IV.14: 12 (1903), *pro parte*, as to Mt. Lyndhurst, S.A., 1898, *M. Koch* 268 only (MEL, NSW), excluding lectotype (see above under *T. calcitrapa* var. *calcitrapa*).

References

- Eichler, H. (1965). *Supplement to J.M. Black's Flora of Australia (second edition, 1943-1957)*. Government Printer: Adelaide.
McNeill, J. et al., eds, (2006). *International Code of Botanical Nomenclature (Vienna Code)*. Gantner Verlag: Liechtenstein.