

A new combination in *Cynodon* for *Brachyachne anisocarpa* (Poaceae)

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SHORT COMMUNICATION

Albrecht and McLay (2022) recently described a new species *Brachyachne anisocarpa* Albr. (Poaceae) from Western Australia and the Northern Territory, Australia. The authors make a case for including the species in *Brachyachne* (Benth.) Stapf even though that genus had been incorporated into *Cynodon* Rich. by Peterson *et al.* (2015). Part of the Albrecht and McLay (2022) case was that the inclusion of *Brachyachne* into *Cynodon* had not received universal acceptance within Australia. Currently this remains the case, as *Brachyachne* is still maintained as distinct in Queensland (Thompson *et al.* 2022; Council of Heads of Australasian Herbaria 2006–).

Other elements of the case for maintaining *Brachyachne* as separate from *Cynodon* were that the two genera are readily separated morphologically, their native ranges are geographically separate and the relationship between them was poorly resolved with available molecular data. The molecular assessment was based on the molecular phylogenetic analyses, using nuclear and chloroplast data, of Peterson *et al.* (2010, 2015) and Albrecht and McLay's (2022) own analysis, for which they added sequence data for two additional *Brachyachne* species including *B. anisocarpa*. In the more comprehensively sampled later two studies, *Cynodon* and *Brachyachne* formed separate groups but both formed a polytomy with *C. maritimus* Kunth, whose position thus left *Brachyachne* embedded in *Cynodon*. Albrecht and McLay (2022) considered that there was sufficient uncertainty about the position and current state of knowledge of *C. maritimus* that, along with the other grounds of their case, they felt that the formal inclusion of *Brachyachne* in *Cynodon* was premature. Thus, the new species was described in *Brachyachne*.

Cynodon maritimus was described from Peru, South America (Kunth 1816) but it is unclear whether the samples used by Peterson *et al.* (2015), from populations in the United States and the Caribbean that are at least sometimes currently placed under that name (including *C. maritimus* var. *vaginiflorus* Caro), match the type. Although the taxonomy of *C. maritimus* is unclear, the molecular vouchers are considered to conform morphologically to the traditional concept of *Cynodon* (P.M. Peterson, pers. comm.). *Cynodon* has often been considered an Old World genus (e.g. Clayton & Renvoize 1986; Harlan *et al.* 1970; Barkworth 2003) while others treat it as occurring in both eastern and western hemispheres without necessarily addressing its native status (Watson & Dallwitz 1992). Several species have been described as native to South America (Caro & Sanchez 1969, 1972; Caro 1983) and are currently accepted as such in that region (Salaria & Zanotti 2012; Peterson & Giraldo-Cañas 2022) but by others are treated as synonyms (mostly of *C. dactylon* (L.) Pers.), e.g. World Flora Online. The discrepancy between authors has meant that molecular phylogenetic studies of Chloridoideae or *Cynodon* (e.g. Peterson *et al.* 2010, 2015; Jewell *et al.* 2012) do not appear to be comprehensively representative of the genus world-wide, especially lacking adequate coverage of South America plants. The molecular results of Peterson *et al.* (2015) indicate that *C. maritimus* is distinct from *C. dactylon* and suggest that there are native South American *Cynodon*. Consequently, there may be justification in the view of Albrecht and McClay

(2022) that the position of *C. maritimus* remains unclear and requires further investigation. Despite this, *Brachyachne* species appear on current evidence to be embedded in *Cynodon* and there is therefore a need for a valid name for *B. anisocarpa* in *Cynodon* until further studies of relationships can be carried out.

For a species to be officially listed for Western Australia, it needs to be placed in an accepted genus. Since acceptance of the inclusion of *Brachyachne* in *Cynodon*, the former is no longer accepted in Western Australia, so the describing of *B. anisocarpa* in *Brachyachne* meant that it could not be included in the Western Australian plant census and hence appear in Florabase (Western Australian Herbarium 1998–). As the species is considered to warrant a conservation priority status in Western Australia (see below), a census listing is a necessary step for any conservation action or protection measure. Consequently, a new combination in *Cynodon* is provided here for *B. anisocarpa*.

Cynodon anisocarpus (Albr.) T.Macfarlane, *comb. nov.*

Brachyachne anisocarpa Albr., *Nuytsia* 33: 265–271 (2022). *Type*: Cultivated Australian National Botanic Gardens nursery, 28 February 2018, D.E. Albrecht 15234 (*holo*: CANB 905223 *n.v.*; *iso*: AD, BRI, DNA, K, MEL, NSW, NT, all *n.v.*, PERTH).

Other specimens. WESTERN AUSTRALIA: [localities withheld for conservation reasons] 18 Apr. 2024, N. Dakin WB41135 (PERTH); 25 Jun. 2023, J. Paterson WB41009 (PERTH); 26 Jun. 2023, J. Paterson WB41010 (PERTH); 20 Mar. 2024, J. Paterson WB41134 (PERTH); 24 Mar. 2024, J. Paterson WB41133 (PERTH); 1 Feb. 1980, R.J. Petheram 573B (NT *n.v.*).

Distribution. This species is currently known from the Northern Territory (Albrecht & McLay 2022) and six locations in Western Australia, one from the southeastern Kimberley region and five close together about 700 km south east in the Telfer area of the Great Sandy Desert.

Conservation status. To be listed as Priority One under Conservation Codes for Western Australian Flora (Tanya Llorens, pers. comm.). The few currently known locations, all outside of conservation reserves, and the uncommon habitat (Albrecht & McLay 2022) mean that *Cynodon anisocarpus* is poorly known and potentially at risk.

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