



Clarification of the confusion surrounding the generic name *Bryomorpha* Harv. (Asteraceae: Gnaphalieae), and the new genus *Muscosomorpha* J.C.Manning

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The monotypic genus *Bryomorpha* Harv. is found to be homotypic with *Klenzea lycopodioides* Sch.Bip., which is considered to be a later synonym of *Dolichothrix ericoides* (Lam.) Hilliard & Burt, and *Bryomorpha* is thus a synonym of *Dolichothrix*. The new genus *Muscosomorpha* J.C.Manning is proposed to accommodate the species previously included in *Bryomorpha* as *B. aretioides* (Turcz) Druce, along with the new combination *M. aretioides* (Turcz) J.C.Manning.

Keywords: Africa; classification; illegitimate superfluous name; nomenclature; taxonomy.

Introduction

The genus *Bryomorpha* Harv. (1863) was established for a single, dwarf species of Gnaphalieae (Asteraceae) from the mountains of the Western Cape, with a characteristic cushion-forming habit, ericoid foliage and radiate capitula. The new name *B. zeyheri* Harv. (1863) provided for the only (thus type) species in his new genus is unfortunately an illegitimate superfluous name for both *Helichrysum aretioides* Turcz. (1851) and *Klenzea lycopodioides* Sch.Bip. (1843) since Harvey (1863) cited both of these names in synonymy (Turland et al. 2017: ICN, Art. 52). The first of these names is typified by *Zeyher 2908*, which was rather vaguely said to come from the Table and Hottentots Holland mtns, and the latter by *Krauss s.n. [610]* from the mountains (possibly the Kammanassie Mtns) inland of George. In the protologue to *Bryomorpha*, Harvey (1863) also cited a third specimen, *Roser 42* from the Riviersonderend Mtns above Genadendal.

Druce (1911) recognised that *B. zeyheri* was a superfluous name for *H. aretioides* since both names cited *Zeyher 2908* as the type and he therefore provided the combination *B. aretioides* (Harv.) Druce, overlooking the nomenclatural issues raised by Harvey's (1863) inclusion of the earlier *K. lycopodioides* in synonymy. The nomenclatural priority of *K. lycopodioides* was finally identified by Levyns (1942), who concurred with Harvey (1863) that all three names seemed to apply to the same species and accordingly provided the combination *B. lycopodioides* (Sch.Bip.) Levyns as the correct name for the taxon.

This is where matters remained until Koekemoer (2011) realised that not one but two quite distinct species were involved, and that the type of *K. lycopodioides* was in fact conspecific with *Dolichothrix ericoides* (Lam.) Hilliard & Burt (1981). The confusion between *K. lycopodioides* and *H. aretioides* is difficult to explain as the former has appressed, scale-like leaves and discoid capitula,

as was highlighted by Koekemoer (2011), who also provided detailed descriptions of both taxa. Koekemoer (2011) accordingly placed *K. lycopodioides* in synonymy under *D. ericoides* and recognised the later combination *B. aretioides* (Harv.) Druce as the correct name for the illegitimate *B. zeyheri* Harv., and the type of the genus *Bryomorpha*.

Unfortunately, Koekemoer (2011) incorrectly identified *Roser 42* (TCD) as the holotype of *B. zeyheri* and so overlooked the nomenclatural implications for the genus *Bryomorpha* of the illegitimacy of the name *B. zeyheri*. These were identified by Rafaël Govaerts, principal contributor to the World Checklist of Selected Plant Families at Kew, and are addressed here.

Results and nomenclature

Firstly, the type of *Bryomorpha* is not *B. aretioides* but is in fact *B. zeyheri* and thus *K. lycopodioides*. This is by reason of *B. zeyheri* being an illegitimate superfluous name for *K. lycopodioides* (Turland et al. 2017: ICN, Art. 52.1). A name, unless conserved (Art. 14) or sanctioned (Art. 15), is illegitimate and is to be rejected if it was nomenclaturally superfluous when published, i.e. if the taxon to which it was applied, as circumscribed by its author, definitely included the type of a name that ought to have been adopted, or of which the epithet ought to have been adopted, under the rules. The possible argument that Harvey (1863) excluded the type of *K. lycopodioides* from his circumscription of *B. zeyheri* and thus from *Bryomorpha* (Turland et al. 2017, ICN: Art. 7.5) is refuted by his words “Schultz (Bip.) places this plant in his genus *Klenzea*” (Harvey 1863: line 34). The type of both *B. zeyheri* and thus of the genus *Bryomorpha* is thus *Krauss 610*, which is the type of *K. lycopodioides*. In consequence of this, the genus *Bryomorpha* becomes a nomenclatural synonym of *Dolichotheix*.

Furthermore, the name *Bryomorpha* Harv. (1863) is antedated by the very similar *Bryomorpha* Kar. & Kir. (1842) (Caryophyllaceae), which, although not strict homonyms, might be considered confusingly similar (Turland et al. 2017, ICN: Art. 53.2 Ex. 8). Harvey (1863) was evidently unaware of this when he described *Bryomorpha*, but although he pointed it out later (Harvey 1894), the implications on the legitimacy of the name have escaped attention until now.

Molecular analyses (Bayer et al. 2000; Bengston et al. 2011) place *Dolichotheix* in a clade with *Lachnospermum* Willd., *Metalasia* R.Br., *Phaenocoma* D.Don. and other satellite genera, whereas *Bryomorpha aretioides* is retrieved as a member of a separate clade that includes *Amphiglossa* DC., *Disparago* Gaertn., *Elytropappus* Cass. and *Stoebe* L. Following the current taxonomy,

therefore, it is necessary to recognise a new genus for *B. aretioides*, and the generic name *Muscosomorpha* is proposed here, along with the new combination *M. aretioides*.

The new genus *Muscosomorpha*

Muscosomorpha J.C.Manning, *gen. nov.* *Bryomorpha* sensu Koekemoer in *Bothalia* 41: 325 (2011), non Harv. (1863). Type species: *M. aretioides* (Turcz.) J.C.Manning

[*Bryomorpha* sensu Harv., *Thesaurus Capensis* 2 : 33 (1863), pp., excluding type *Klenzea lycopodioides*]

Dwarf, cushion-forming shrublets. Leaves ascending-incurved, imbricate, linear, adaxial surface tomentose with longitudinally striate hairs, adaxial surface lachnate. Capitula heterogamous, terminal, 1 to 3 at branch tips, partially concealed among leaves. Involucral bracts multiseriate, outer bracts ovate, foliaceous distally, inner bracts linear to narrowly oblong, scarious, rounded apically with large lateral wings clasping florets. Receptacle alveolate. Ray florets 6 or 7, female, lamina 3-lobed, white. Style branches obtuse, sweeping hairs not tufted. Disc florets 7 to 9, bisexual, corolla purple. Anthers basally tailed. Style branches truncate, sweeping hairs tufted. Cypselas terete, laevigate; pappus setae ± 15 to 30, free, barbed in lower four fifths, densely plumose distally, occasionally interspersed with clavate cells.

M. aretioides (Turcz.) J.C.Manning, *comb. nov.* *Helichrysum aretioides* Turcz. in *Bulletin de la Société Impériale des Naturalistes de Moscou* 24: 79 (1851). *Bryomorpha aretioides* (Turcz.) Druce in *Second Supplement to Botanical Society & Exchange Club of the British Isles, Report for 1916*, 4: 611 (1917). Type: South Africa, Western Cape: summits of Table and Hottentots Holland mtns, *Zeyher 2908* (KW-1000916, holo.-image!; K-415093-image!, P-21335 and 21336-images!, PRE!, S-06-14625-image!, SAM!, TCD, iso.).

Etymology: From the Latin *muscosus* moss-like, alluding to the cushion-forming habit and to the generic name *Bryomorpha* that was previously used by Harvey (1863).

New synonyms in *Dolichotheix*

Dolichotheix Hilliard & Burt in *Botanical Journal of the Linnean Society* 82: 221 (1981). Type species: *D. ericoides* (Lam.) Hilliard & Burt

Bryomorpha Harv., *Thesaurus Capensis* 2 : 33 (1863) [non *Bryomorpha* Kar. & Kir. (1842)], *syn. nov.*; Harv. in *Flora Capensis* 3: 277 (1894). Type: *B. zeyheri* Harv., nom. illeg. = *B. lycopodioides* (Sch.Bip.) Levyns

D. ericoides (Lam.) Hilliard & Burt in *Botanical Journal of the Linnean Society* 82: 221 (1981). *Xeranthemum ericoides* Lam., *Encyclopédie méthodique. Botanique* 3: 240 (1789). Type: South Africa, Western Cape: Cape of Good Hope, *Sonnerat s.n.* (P-LAM, holo.). [For full synonymy see Koekemoer (2011: 325).

Klenzea lycopodioides Sch.Bip. in Walpers, *Repertorium botanices systematicae* 2: 973 (1843). *Bryomorpha zeyheri* Harv., *Thesaurus Capensis*

2: 33, t. 51 (1863), nom. illeg. superfl. *Bryomorpha lycopodioides* (Sch.Bip.) Levyns in *Journal of South African Botany* 8: 283 (1942). Type: South Africa, Western Cape, Oudtshoorn (3322): inter rupes summo montium prope Roodewal, dist. George in Promontorio bonae spei [among rocks on mountain summit near Roodewal, George Dist., Cape of Good Hope], Jan 1839, *Krauss 610* (P-21330, holo.-image!; P-21329-image!, TUB-005310)-image!, iso.).

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