

# New combinations arising from a new classification of non-African Restionaceae

Barbara G. Briggs and L.A.S. Johnson<sup>†</sup>

## Abstract

Briggs, Barbara G. and Johnson, L.A.S. (Royal Botanic Gardens, Mrs Macquaries Road, Sydney, NSW 2000, Australia) 1998. *New combinations arising from a new classification of non-African Restionaceae*. *Telopea* 8(1): 21–33. New combinations are made in accord with a new, broadly based classification of extra-African Restionaceae. These involve 39 Australian species, of which two extend to New Guinea and the Aru Islands, and one species in each of south-east Asia, New Zealand and Chile. The name *Baloskion* Raf. is adopted for eight eastern Australian species excluded from *Restio* Rottb. and *Desmocladus* Nees is adopted for a group of Western Australian species mostly transferred from *Loxocarya* R. Br. The previously monotypic genera *Meeboldina* Suesseng. and *Sporadanthus* F. Muell. are enlarged. Most other changes involve newly described genera. Four combinations replace illegitimate epithets, two new combinations are made at subspecific rank, and lectotypes are selected for 18 taxa.

## Introduction

A new classification of the genera and species of Australian Restionaceae has been developed through study of exomorphology, anatomy, pollen, seed ornamentation, and flavonoids, with associated DNA sequence studies in progress. The classification is outlined by Briggs and Johnson (1999) and Linder, Briggs and Johnson (1998). It has led to the recognition of 16 new genera (Briggs & Johnson 1998) and has shown that the species hitherto included in some of the genera are unnatural assemblages of taxa. The largest group of inappropriately placed species have until now been referred to *Restio* Rottb. These were thus given the name of a genus that, as now circumscribed (Linder 1984, 1985; Linder, Briggs & Johnson 1998; Briggs & Johnson 1999), is confined to Africa and Madagascar. In addition, the epithets in use in some combinations were illegitimate.

Forty two new combinations at specific rank are therefore provided here, together with two new subspecific combinations. This will validate many of the names used in the forthcoming book *Australian Rushes — Biology, Identification and Conservation of Restionaceae and allied families* (Meney & Pate (eds) 1999). In addition, there still remain 45 undescribed species that we recognise in Australian Restionaceae, on which manuscripts are being prepared.

Comparison of the features of the genera from which species have been removed and those in which they are now placed will indicate many of the reasons for the new placements. These features are summarised in Linder et al. (1998), Briggs and Johnson (1999) and, for the newly described genera, in Briggs and Johnson (1998). The new classification is, in general, supported by morphological and molecular cladistic studies (Linder et al. in press; Briggs et al. in press). It will also be outlined in the treatment in the *Flora of Australia* and future publications.

<sup>†</sup> Deceased 1 August 1997.

## New combinations and lectotypifications

Types of almost all taxa have been seen and will be cited in the treatment of Restionaceae in the *Flora of Australia*, now in preparation. Types are therefore cited here only for non-Australian species and in those cases where lectotypification is desirable. Unusually large numbers of lectotypifications have been called for, since both male and female plants have often been included in the type material of these dioecious species. Choice of lectotypes has taken into account agreement with the protologue and any comments therein, annotations by the author of the epithet and certainty as to the identity of the specimen. Priority has been given to specimens that exhibit a wide range of the features distinguishing the species and that are represented in several herbaria. Female specimens are often selected since they show more of the features characterising genera; but in some cases male specimens have been selected where they show more distinctive specific features or agree more closely with the protologue. Unless indicated otherwise, types cited here have been seen. Except for the basionym, synonyms are not generally listed, apart from instances where another name for the taxon has been in recent use. An index is provided of new combinations and cited synonyms.

### Acion

*Acion* B.G. Briggs & L.A.S. Johnson, *Telopea* 7: 353 (1998).

This Tasmanian genus consists of two species that were formerly included in *Restio*. Type species: *A. monocephalum* (R. Br.) B.G. Briggs & L.A.S. Johnson.

***Acion hookeri* (D.I. Morris) B.G. Briggs & L.A.S. Johnson, comb. nov.**

Basionym: *Restio hookeri* D.I. Morris in M.R. Banks et al. (eds), *Aspects Tasmanian Bot., Tribute to Winifred Curtis*: 33 (1991).

### Apodasmia

*Apodasmia* B.G. Briggs & L.A.S. Johnson, *Telopea* 7: 371 (1998).

A far-flung genus of three or four species: one (undescribed) in Western Australia and one recognised in each of south-eastern Australia (including Tasmania), New Zealand and Chile. *A. chilensis* and *A. similis* show such a close resemblance that their status requires further study. They are, however, maintained here as distinct species. Type species: *A. brownii* (Hook. f.) B.G. Briggs & L.A.S. Johnson, of south-eastern Australia.

***Apodasmia chilensis* (Gay) B.G. Briggs & L.A.S. Johnson, comb. nov.**

Basionym: *Schoenodum chilense* Gay, *Fl. chilena* 6: 152 (1854).

*Calopsis chilensis* (Gay) Steud., *Syn. pl. glum.* 2: 258 (1855).

*Leptocarpus chilensis* (Gay) Mast., *Monogr. Phan.* 1: 341 (1878).

Type: Chile: ad fluv Rio nigro Arigue, Chili, *Lechler 618* ♀ (P, ex Herb. Steudel). Probable iso: Chile, (K ex P, annotated with the name 'Gay' and originally determined *Schoenodum chilense*).

***Apodasmia similis* (Edgar) B.G. Briggs & L.A.S. Johnson, comb. nov.**

Basionym: *Leptocarpus similis* Edgar, *New Zealand J. Bot.* 6: 468 (1969).

Type: New Zealand: Brooklands lagoon, near mouth of Waimakariri R., north end opposite Spencer Park, *E. Edgar*, 20 Dec 1967 (CHR, not seen).

## Baloskion

*Baloskion* Raf., *Flora telluriana* 4: 32 (1838).

The name *Baloskion* is adopted for a group of eight eastern Australian species hitherto included in *Restio*. This usage was foreshadowed by Quirico and Briggs (1993). The extensive differences in anatomy between these and the African species that are correctly placed in *Restio* were noted by Cutler (1969). A distinctive feature of *Baloskion*, the adnation of the pedicel to the subtending glume, was clearly illustrated when its first species was described by Labillardière (1806, t. 227). All species require new combinations, the type species of *Baloskion* having only an illegitimate combination within that genus. Type species: *B. dichotomum* Raf., nom. illeg. = *B. tetraphyllum* (Labill.) B.G. Briggs & L.A.S. Johnson.

***Baloskion australe*** (*R. Br.*) B.G. Briggs & L.A.S. Johnson, **comb. nov.**

Basionym: *Restio australis* R. Br., *Prodr.*: 245 (1810).

Type citation: (*D.*) v.v.

Type: Tasmania: In summitate Montis Tabularis [Mt Wellington] prope fl. Derwent, *R. Brown* (*Bennett 5868*), Apr. 1804 ♂ (lecto, here selected, BM). Residual syntypes: inter Storm Bay passage, fl. Derwent, *R. Brown*, Apr. 1804 ♀ (BM); Derwent R., *R. Brown* (E); van D[iemens] Land, *R. Brown* ♂, ♀ (K).

***Baloskion fimbriatum*** (*L.A.S. Johnson & O.D. Evans*) B.G. Briggs & L.A.S. Johnson, **comb. nov.**

Basionym: *Restio fimbriatus* L.A.S. Johnson & O.D. Evans, *Contr. New South Wales Natl Herb.* 3: 210 (1963).

***Baloskion gracile*** (*R. Br.*) B.G. Briggs & L.A.S. Johnson, **comb. nov.**

Basionym: *Restio gracilis* R. Br., *Prodr.*: 245 (1810).

***Baloskion longipes*** (*L.A.S. Johnson & O.D. Evans*) B.G. Briggs & L.A.S. Johnson, **comb. nov.**

Basionym: *Restio longipes* L.A.S. Johnson & O.D. Evans, *Contr. New South Wales Natl Herb.* 3: 208 (1963).

***Baloskion pallens*** (*R. Br.*) B.G. Briggs & L.A.S. Johnson, **comb. nov.**

Basionym: *Restio pallens* R. Br., *Prodr.*: 245 (1810).

***Baloskion stenocoleum*** (*L.A.S. Johnson & O.D. Evans*) B.G. Briggs & L.A.S. Johnson, **comb. nov.**

Basionym: *Restio stenocoleus* L.A.S. Johnson & O.D. Evans, *Contr. New South Wales Natl Herb.* 3: 205 (1963).

***Baloskion tenuiculme*** (*S.T. Blake*) B.G. Briggs & L.A.S. Johnson, **comb. nov.**

Basionym: *Restio tenuiculmis* S.T. Blake, *Contr. New South Wales Natl Herb.* 4: 198 (1963).

***Baloskion tetraphyllum*** (*Labill.*) B.G. Briggs & L.A.S. Johnson, **comb. nov.**

Basionym: *Restio tetraphyllum* Labill., *Nov. Holl. pl.* 2: 77 (1806).

Type citation: in capite Van-Diemen.

Type: Tasmania: Van Diemen, *Labillardière* ♀ (lecto, here selected, P, photo NSW). Possible isolecto: in capite Van-Diemen ♀ (BM). Residual syntypes: Van Diemen, *Labillardière* ♂ (P, on same sheet as lecto); in capite Van-Diemen, *Labillardière* ♂ (BM); Nova Hollandia, *Labillardière* ♂ (K).

*Baloskion dichotomum* Raf., Flora telluriana 4: 32 (1838), nom. illeg.

Two subspecies are recognised:

**Baloskion tetraphyllum** (Labill.) B.G. Briggs & L.A.S. Johnson subsp. **tetraphyllum**

**Baloskion tetraphyllum** subsp. **meiostachyum** (L.A.S. Johnson & O.D. Evans) B.G. Briggs & L.A.S. Johnson, **comb. nov.**

Basionym: *Restio tetraphyllus* subsp. *meiostachyus* L.A.S. Johnson & O.D. Evans, Contr. New South Wales Natl Herb. 3: 220 (1963).

### Chaetanthus

*Chaetanthus* R. Br., Prodr. 251 (1810).

The transfer of two species from *Leptocarpus* enlarges this genus, which occurs in the south of Western Australia; it has hitherto included only a single species. Type species: *C. leptocarpoides* R. Br.

**Chaetanthus aristatus** (R. Br.) B.G. Briggs & L.A.S. Johnson, **comb. nov.**

Basionym: *Leptocarpus aristatus* R. Br., Prodr.: 250 (1810).

**Chaetanthus tenellus** (Nees) B.G. Briggs & L.A.S. Johnson, **comb. nov.**

Basionym: *Restio tenellus* Nees in Lehm., Pl. Preiss. 2: 57 (1846).

*Leptocarpus tenellus* (Nees) F. Muell., Fragm. 8: 90 (1873).

### Chordifex

*Chordifex* B.G. Briggs & L.A.S. Johnson, Telopea 7: 356 (1998).

A genus of 16 species in the south of Western Australia. Ten of the species were previously referred to *Restio*, while five are undescribed. Type species: *C. stenandrus* B.G. Briggs & L.A.S. Johnson.

**Chordifex abortivus** (Nees) B.G. Briggs & L.A.S. Johnson, **comb. nov.**

Basionym: *Restio abortivus* Nees in Lehm., Pl. Preiss. 2: 60 (1846).

**Chordifex amblycoleus** (F. Muell.) B.G. Briggs & L.A.S. Johnson, **comb. nov.**

Basionym: *Restio amblycoleus* F. Muell., Fragm. 8: 65 (1873).

Type citation: In Australia occidentali, *J. Drummond* 66.

Type: Western Australia: *Drummond* 66 ♂ (MEL 14733 lecto, here selected; iso K). Residual syntype: *Drummond* 66 ♀ (MEL 14730, iso K).

**Chordifex chaunocoleus** (F. Muell.) B.G. Briggs & L.A.S. Johnson, **comb. nov.**

Basionym: *Restio chaunocoleus* F. Muell., Fragm. 8: 64 (1873).

Type citation: In Australia occidentali, *J. Drummond* 948, 949.

Type: Western Australia: *Drummond* 949 ♀ (lecto, here selected, MEL 14744, iso MEL 14742, B, BM, E, K). Residual syntype: *Drummond* 948 ♂ (MEL 14743, MEL 14745, iso B, BM, E, K).

**Chordifex crispatus** (R. Br.) B.G. Briggs & L.A.S. Johnson, **comb. nov.**

Basionym: *Restio crispatus* R. Br., Prodr.: 246 (1810).

Type citation: (M.) v.v.

Type: Western Australia: Bay 1 [Lucky Bay], *R. Brown* ♂ (lecto, here selected BM; iso E, K (two sheets), MEL 14749, 14750, 15016, P). Residual syntype ♀ (BM, mounted on same sheet as lecto).

**Chordifex gracilior** (*F. Muell. ex Benth.*) *B.G. Briggs & L.A.S. Johnson, comb. nov.*

Basionym: *Restio gracilior* F. Muell. ex Benth., *Fl. austral.* 7: 226 (1878). Bentham's publication of Mueller's name (March 1878) predates that of Masters, *Monogr. Phan.* 1: 297 (June 1878).

Type citation: W. Australia, *Drummond n. 68* and *71*

Type: Western Australia: *Drummond 71* ♂ (lecto, here selected, K; iso MEL 14754; probable iso MEL 14752–3, 14755–7). Residual syntype: Swan River, *Drummond 68* ♂ (K).

**Chordifex isomorphus** (*K. W. Dixon & K. A. Meney*) *B.G. Briggs & L.A.S. Johnson, comb. nov.*

Basionym: *Restio isomorphus* K. W. Dixon & K. A. Meney, *Nuytsia* 9: 91 (1993).

**Chordifex laxus** (*R. Br.*) *B.G. Briggs & L.A.S. Johnson, comb. nov.*

Basionym: *Restio laxus* R. Br., *Prodr.*: 245 (1810) (*Restio*, species number 3), non *R. laxus* R. Br. op. cit. p. 246 (*Restio*, species 12). The latter was renamed *Restio diffusus* Sprengel, *Syst. Veg.* 1:185 (1824), see below under *Leptocarpus diffusus*.

Type: The type sheet (BM, photo NSW) may include both ♂ and ♀ pieces but this is not certain since the spikelets of males and females are externally similar. The sheet is marked ♂ but the protologue refers to the styles, implying the presence of females. No lectotypification is made here.

**Chordifex leucoblepharus** (*Gilg*) *B.G. Briggs & L.A.S. Johnson, comb. nov.*

Basionym: *Restio leucoblepharus* Gilg, *Bot. Jahrb. Syst.* 35: 88 (1904).

**Chordifex ornatus** (*Steud.*) *B.G. Briggs & L.A.S. Johnson, comb. nov.*

Basionym: *Restio ornatus* Steud., *Syn. pl. glumac.* 2: 256 (1855).

**Chordifex sphacelatus** (*R. Br.*) *B.G. Briggs & L.A.S. Johnson, comb. nov.*

Basionym: *Restio sphacelatus* R. Br., *Prodr.*: 245 (1810).

## Dapsilanthus

*Dapsilanthus* *B.G. Briggs & L.A.S. Johnson, Telopea* 7: 369 (1998).

A genus of four species; three in northern Australia and southern New Guinea (two of these also in the Aru Islands), as well as one in south-east Asia (Malaysia, Cambodia, Thailand, Vietnam and the south-eastern Chinese island of Hainan). Type species: *D. elatior* (*R. Br.*) *B.G. Briggs & L.A.S. Johnson*.

**Dapsilanthus disjunctus** (*Mast.*) *B.G. Briggs & L.A.S. Johnson, comb. nov.*

Basionym: *Leptocarpus disjunctus* Mast., *J. Linn. Soc. Bot.* 17: 344 (1879).

Type citation: in insula 'Phu', Cochin China, *Godefroy-Lebœuf 928*.

Type: Vietnam: Cochin-China, village de Bac, Ile de Phu Quoc, *Godefroy-Lebœuf 928*, Sep [18]78 ♀ (holo K). (The protologue describes the species as monoecious; it is in general dioecious. A possible isotype (P) is accompanied by the note 'lower spikelets ♀ upper ♂'.) We observed only ♀ flowers.

**Dapsilanthus ramosus** (*R. Br.*) *B.G. Briggs & L.A.S. Johnson, comb. nov.*

Basionym: *Leptocarpus ramosus* R. Br., *Prodr.*: 250 (1810).

Type citation: (T.) B. v.s.

Type: Queensland: Endeavour R., *Banks & Solander*, 1770 ♀ (lecto, here selected, BM; iso B, BRI, MEL 14439 p.p., NSW 78873). Residual syntype ♂ (BM, on same sheet as lectotype; iso MEL 14439 p.p., NSW 147064, P).

**Dapsilanthus spathaceus** (R. Br.) B.G. Briggs & L.A.S. Johnson, **comb. nov.**

Basionym: *Leptocarpus spathaceus* R. Br., Prodr.: 250 (1810).

Type citation: (T.) v.v.

Type: northern Australia: Iter Austral., *R. Brown* (Bennett No. 5874p.p.), 1802–5 ♀ (lecto, here selected, BM; iso BRI, K (2 sheets); probable iso MEL 15103 p.p. Residual syntype: Iter Austral., *R. Brown* (Bennett No. 5874p.p.), 1802–5 ♂ (BM, iso BRI, K; probable iso MEL 15103 p.p.).

*Leptocarpus schultzei* Benth., Fl. austral. 7: 237 (1878).

*Leptocarpus barbatus* K. Bakker, Fl. Males. ser. I, 5(4): 419 (1957).

Type: Aru Islands: P. Trangan, Cape Meroor, *Buwalda 5531*, 9 July 1938 ♂ (holo L; iso BO, GH, K).

### Desmocladus

*Desmocladus* Nees in Lehm., Pl. Preiss. 2: 56 (1846).

The name adopted for this genus, although published in 1846, was not taken into use until recently (Meney, Pate & Dixon 1996; Linder, Briggs & Johnson 1998; Briggs & Johnson 1999). The 15 species occur in the south of Western Australia, with one species also in Eyre Peninsula, South Australia. Except for *D. glomeratus* K.W. Dixon & K.A. Meney and *D. asper* (see below), all the described species were previously included in *Loxocarya* R. Br. which has markedly different features and is typified by *L. cinerea* R. Br. Nine of the species are undescribed. The type species is among those requiring a new combination; its previous combination under *Desmocladus* being illegitimate. Type species: *D. brunonianus* Nees, nom. illeg. = *D. fasciculatus* (R. Br.) B.G. Briggs & L.A.S. Johnson.

**Desmocladus asper** (Nees) B.G. Briggs & L.A.S. Johnson, **comb. nov.**

Basionym: *Calorophus asper* Nees in Lehm., Pl. Preiss. 2: 67 (1846).

Type citation: ... haud longe ab ore maris (Perth) m. Septembri a. 1839 [*Preiss 1716 p.p.*] et ... praedia rustica v. cll. Barker et Lennard m. April a. 1840 [*Preiss 1694*].

Type: Western Australia: *Preiss 1716 p.p.* ♂ (lecto, here selected, excluding material of *Hypolaena pubescens* under this number, LD; iso MEL 14861 p.p., MO, P). Residual syntype *Preiss 1694* ♂ (LD, MEL 14861p.p., BM, K, MO).

**Desmocladus fasciculatus** (R. Br.) B.G. Briggs & L.A.S. Johnson, **comb. nov.**

Basionym: *Restio fasciculatus* R. Br., Prodr.: 247 (1810).

*Desmocladus brunonianus* Nees in Lehm., Pl. Preiss. 2: 56 (1846), nom. illeg., based on *Restio fasciculatus* R. Br.

*Loxocarya fasciculata* (R. Br.) Benth., Fl. austral. 7: 242 (1878).

**Desmocladus flexuosus** (R. Br.) B.G. Briggs & L.A.S. Johnson, **comb. nov.**

Basionym: *Restio flexuosus* R. Br., Prodr.: 247 (1810).

*Loxocarya flexuosa* (R. Br.) Benth., Fl. austral. 7: 243 (1878).

Type citation: (M.) v.v.

Type: Western Australia: King George Sound, *R. Brown 1802–5* (Bennett No. 5849 p.p.) ♂ (lecto, here selected, BM, the lectotype consists of the fertile male specimens on the sheet, excluding the vegetative piece on right of sheet which may be an allied species of *Desmocladius*, and also the central specimen in the lower half of the sheet which is *Empodisma gracillimum* (F. Muell.) L.A.S. Johnson & D.F. Cutler.; isolecto BM).

***Desmocladius myriocladus*** (Gilg) B.G. Briggs & L.A.S. Johnson, **comb. nov.**

Basionym: *Loxocarya myrioclada* Gilg, Bot. Jahrb. Syst. 35: 90 (1904).

Type citation: in distr. Avon pr. Tammin ... (*D. 5070*); in distr. Eyre pr. Graspach ... flor. m. Nov. (*D. 5296*).

Type: Western Australia: Avon, Tammin, *L. Diels 5070*, 24 Nov. 1901 ♂ (lecto, here selected, B; iso NSW). The residual syntype (examined in B) is an allied undescribed species of *Desmocladius*. The lectotypification maintains the name for the more widespread and abundant species.

***Desmocladius virgatus*** (Benth.) B.G. Briggs & L.A.S. Johnson, **comb. nov.**

Basionym: *Loxocarya virgata* Benth., Fl. austral. 7: 242 (1878).

Type citation: W. Australia, *Drummond, n. 74* and *113*. 'Another 113 however of the same collector appears to be the male of some *Hypolaena*' (Bentham).

Type: Western Australia: Swan River, *Drummond 113p.p.* ♂ (lecto, here selected, annotated by Bentham as *Loxocarya virgata*, K, photo NSW). Residual syntype: Swan River, *Drummond 74* ♂ (K).

## Dielsia

*Dielsia* Gilg, Bot. Jahrb. Syst. 35: 88 (1904).

A distinctive monotypic genus of the south of Western Australia. The type species requires a valid combination.

***Dielsia stenostachya*** (W. Fitzg.) B.G. Briggs & L.A.S. Johnson, **comb. nov.**

Basionym: *Restio stenostachyus* W. Fitzg., Proc. Linn. Soc. New South Wales 28: 108 (1903).

Type citation: Burswood; in wet spots (♀; in March 1900) near Causeway, Perth (♂; April 1901; *W.V. Fitzgerald*).

Type: Western Australia: Causeway near Perth, *W.V. Fitzgerald*, April 1901 ♂ (lecto, here selected, NSW 91587; iso PERTH). Residual syntype: Burswood, E of Causeway, Perth, *W.V. Fitzgerald*, March 1901 ♀ (NSW 91959, iso PERTH) [this appears to be *Fitzgerald's* ♀ syntype, despite the discrepancy in date].

*Dielsia cygnorum* Gilg, Bot. Jahrb. Syst. 35: 88 (1904), nom. illeg.

Syntypes: Western Australia: in distr. Darling pr. Swan River (Bayswater), *Pritzel 304*, May 1901 ♂ (B, iso AD, E, K, MO, NSW, PERTH [labelled 340], US); *Diels 28166* 13 May 1901 ♀ (B, iso K).

## Harperia

*Harperia* W. Fitzg., J. W. Austral. Natural. Hist. Soc. 1: 34 (1904).

A genus of four species, one of them undescribed, in the south of Western Australia. Type species: *H. lateriflora* W.V. Fitzg.

**Harperia confertospicatus** (Steud.) B.G. Briggs & L.A.S. Johnson, **comb. nov.**

Basionym: *Restio confertospicatus* Steud., Syn. pl. glumac. 2: 256 (1855).

### Hypolaena

*Hypolaena* R. Br., Prodr.: 251 (1810).

A genus of eight species, three of them undescribed, in the south of Western Australia, one of them (*H. fastigiata* R. Br.) also occurring in eastern Australia from southern Queensland to South Australia and Tasmania. Lectotype species: *H. fastigiata* R. Br.

**Hypolaena humilis** (Gilg) B.G. Briggs & L.A.S. Johnson, **comb. nov.**

Basionym: *Leptocarpus humilis* Gilg, Bot. Jahrb. Syst. (1904: 89).

Type citation: in distr. Stirling pr. Cranbrook ... fl. m. Sept. (D. 4433).

Type: Western Australia: Cranbrook, *Diels 4433b*, 24.9.1901 ♀ (lecto, here selected, B; iso P). Residual syntype: Cranbrook, *Diels 4433a*, 24.9.1901 ♂ (B; iso P).

### Lepidobolus

*Lepidobolus* Nees in Lehm., Pl. Preiss. 2: 66 (1846).

A genus of eight species, two of them undescribed; one species including three subspecies (one undescribed). Seven species occur in the south of Western Australia and one (*H. drapetocoleus* F. Muell.) in the east of South Australia and in western Victoria. Type species: *L. preissianus* Nees.

**Lepidobolus preissianus** Nees in Lehm., Pl. Preiss 2: 66, (1846).

Note on typification: Preiss numbers 1755 and 1756 *ex parte* are given in the protologue as syntypes of the species and *Preiss 1757* as the type of var. *volubilis*. By contrast, Nees (in the index of collections) in Lehm., Pl. Preiss. 2: 408 (1846) and Masters, Monogr. Phan. 1: 347 (1878) list *Preiss 1757* as an example of the species and *Preiss 1756* as var. *volubilis*. The features of the specimens and Preiss's annotations of the sheets indicate that the collection numbers cited in the protologue are correct.

Type citation: In arenosis clivuli Bellevue ad flumen Cygnorum m. Augusto a 1839 et in ... dstrictus [districtus] York, m. Septembri a. 1839 ♂, ♀ *Preiss No. 1755 et 1756 ex parte*.

Type: Western Australia: Bellevue ... *Preiss 1755* p.p. ♀ (lecto, here selected, LD; iso MEL 14716 p.p.). Most sheets include ♂ and ♀ material (isolecto MEL 14711, ♀ material of MEL 14712–4 p.p.). Residual syntypes: *Preiss 1756* ♂, ♀ (LD; iso MEL 14714); ♂ material of *Preiss 1755* (MEL 14712–4, 14716 p.p.).

Two subspecies are recognised:

**Lepidobolus preissianus** subsp. **preissianus**

*Lepidobolus preissianus* Nees var. *preissianus*

**Lepidobolus preissianus** subsp. **volubilis** (Nees) B.G. Briggs & L.A.S. Johnson, **comb. et stat. nov.**

Basionym: *Lepidobolus preissianus* Nees var.  $\beta$  *volubilis* Nees in Lehm., Pl. Preiss. 2: 66 (1846).

Type citation: In districtu York cum No. 1756, *Herb. Preiss No. 1757*.

Type: Western Australia: *Preiss 1757*, 10 Sep [18]39 ♂ (LD; iso MEL 14715).



### Leptocarpus

*Leptocarpus* R. Br., Prodr.: 250 (1810: 250), (nom. cons.)

Currently the lectotype species of *Leptocarpus* is *L. aristatus* R. Br. but it is our intention to seek conservation of a new type to avoid change to the name of the most widespread of the species and to maintain the use of *Chaetanthus* R. Br. Our studies have led us to restrict *Leptocarpus*, if typified by *L. tenax* (Labill.) R. Br., to three species. All occur in the south of Western Australia, with *L. tenax* occurring also in eastern Australia from southern Queensland to South Australia and Tasmania.

***Leptocarpus diffusus* (Spreng.) B.G. Briggs & L.A.S. Johnson, comb. nov.**

Basionym: *Restio diffusus* Spreng., Syst. Veg. 1: 185 (1825) (*Restio laxus* R. Br., Prodr.: 246 (1810) (*Restio* species number 12) non R. Br., Prodr.: 245 (1810) (*Restio* species number 3)).

Type citation: (M.) v.v.

Type: Western Australia: 'King George III<sup>d</sup> Sd', R. Brown ♂ (BM; iso P). The BM sheet bears labels 'King George III<sup>d</sup> Sd' and 'Port Jackson', the latter stuck to a slip labelled '12' and 'Bennett 5860', both locality labels with '*Restio laxus*' in Brown's hand. The material appears to represent a single collection of this Western Australian species, and not to require lectotypification.

### Loxocarya

*Loxocarya* R. Br., Prodr.: 249 (1810).

A genus of five species, one of them undescribed, in the south of Western Australia. As noted above, five species previously referred to *Loxocarya* (although originally described under various genera) are now transferred to *Desmocladus*. Type species: *L. cinerea* R. Br.

***Loxocarya striata* (F. Muell.) B.G. Briggs & L.A.S. Johnson, comb. nov.**

Basionym: *Megalotheca striata* F. Muell., Fragm. 8: 99 (1873).

[*Restio megalotheca* F. Muell. ex Benth., Fl. austral. 7: 222 (1878), nom. illeg.]

Type citation: In Australiae plagis occidentalibus; J. Drummond.

Type: Western Australia: Drummond s.n. ♀ (lecto, here selected, MEL 14774; iso K). Residual syntypes: Drummond 186 ♀ (MEL 14776, 14778), 450 (MEL 14773, 14775). Probable isotypes: Drummond 950, 1843 ♂ (BM, E), Drummond 951, 1843 ♀ (GH, P), Swan R., Drummond 100 ♂ (K), Drummond 103 ♂ (E) ♀ (K).

### Meeboldina

*Meeboldina* Suess., Boissiera 7: 20 (1943).

This genus, of the south of Western Australia, was previously regarded as monotypic but is now enlarged by the transfer of four species from *Leptocarpus*. A further six species remain to be described. Type species: *M. denmarkica* Suess.

***Meeboldina cana* (Nees) B.G. Briggs & L.A.S. Johnson, comb. nov.**

Basionym: *Leptocarpus canus* Nees, Ann. Mag. Nat. Hist. 6: 50 (1841).

Type citation: ad Flumen Cygnorum lectae.

Type: *Drummond 1705* ex parte ♀ (LD; iso CGE). Residual syntype: *Drummond 1862* ♂ (LD; iso K).

*L. canus* was also published by Nees in Lehm. Pl. Preiss. 2: 64 (1846) with the citation 'L. et N.' [Lindl. & Nees] but with no reference to the earlier publication. The original publication of the basionym had Nees as author but was communicated to the journal by Lindley.

**Meeboldina coangustata** (Nees) B.G. Briggs & L.A.S. Johnson, **comb. nov.**

Basionym: *Leptocarpus coangustatus* Nees in Lehm., Pl. Preiss. 2: 65 (1846).

Type citation: ♂ In depressis uliginosis prope Halfwayhouse, Darling's-range, m. Septembri a. 1839 ..., *Preiss 1708*. ♀ In uliginosis planitie ad fluvium Cygnorum supra oppidulum Perth, m. Octobri a. 1839 ... *Preiss 1706*. *Drummond* in Herb. Lindl.

Type: Western Australia: ad fluvium Cygnorum supra oppidulum Perth, *Preiss 1706* ♀ (lecto, here selected, LD; iso MEL 14416, P). Residual syntypes: prope Halfwayhouse, Darling's-range, *Preiss 1708* (LD, B, P); Swan R., *Drummond*, 1839 ♀ (K).

**Meeboldina crassipes** (J.S. Pate & K.A. Meney) B.G. Briggs & L.A.S. Johnson, **comb. nov.**

Basionym: *Leptocarpus crassipes* J.S. Pate & K.A. Meney, *Telopea* 6: 658 (1996).

**Meeboldina scariosa** (R. Br.) B.G. Briggs & L.A.S. Johnson, **comb. nov.**

Basionym: *Leptocarpus scariosus* R. Br., *Prodr.*: 250 (1810).

### Sporanthus

*Sporanthus* F. Muell., *Trans. & Proc. New Zealand Inst.* 6: 389 (1874).

This was considered a monotypic New Zealand endemic until the relationship was recognised between *S. traversii* and the Australian species of *Lepyrodia* 'Group B' of Johnson and Evans (1963). *S. strictus* and one undescribed species occur in the south of Western Australia but the other five species now transferred occur in eastern Australia from southern Queensland to Tasmania and western Victoria. Type species: *S. traversii* (F. Muell.) F. Muell. ex Kirk.

**Sporanthus caudatus** (L.A.S. Johnson & O.D. Evans) B.G. Briggs & L.A.S. Johnson, **comb. nov.**

Basionym: *Lepyrodia caudata* L.A.S. Johnson & O.D. Evans, *Contr. New South Wales Natl Herb.* 3: 226 (1963).

**Sporanthus gracilis** (R. Br.) B.G. Briggs & L.A.S. Johnson, **comb. nov.**

Basionym: *Lepyrodia gracilis* R. Br., *Prodr.*: 247 (1810).

**Sporanthus interruptus** (F. Muell.) B.G. Briggs & L.A.S. Johnson, **comb. nov.**

Basionym: *Lepyrodia interrupta* F. Muell., *Fragm.* 8: 74 (1873).

Type citation: In insula Moreton's Island; *F.M.*

Type: Queensland: Moreton Island, *F. Mueller*, 1855 ♀ (lectotype, here selected, MEL 707408, iso MEL 707409–707411, BM, K). Residual syntype: ♂ (K, P).

**Sporanthus strictus** (R. Br.) B.G. Briggs & L.A.S. Johnson, **comb. nov.**

Basionym: *Lepyrodia stricta* R. Br., *Prodr.*: 248 (1810).

**Sporadanthus tasmanicus** (Hook. f.) B.G. Briggs & L.A.S. Johnson, **comb. nov.**

Basionym: *Lepyrodia tasmanica* Hook. f., Fl. Tasm. 2: 72 (1858).

Type citation: *Gunn*, 960, 1393.

Type: Tasmania: Detention R. nr Rocky Cape, *Gunn* 960, 16.12.[18]36 ♀ (lecto, here selected, K). Residual syntypes: Detention R., *Gunn* 960, 16.12.[18]36 ♂ (K); R.C. *Gunn* 960, 1837 ♂ (K); *Gunn* 960 (CGE ex Lindley); Tasmania, Lake St Clair, *Gunn* 1393, 7.1.[18]41 ♂ (K).

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