

## The identity of *Restio curvulus* Nees and lectotypifications of some Australian Restionaceae

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### Abstract

*Restio curvulus* Nees (1840) has been considered to be a name of uncertain application as no type was known for it, but is now identified as homotypic with *Calorophus densus* Lindl. & Nees (1846), a synonym of *Loxocarya cinerea* R.Br. The authority for *C. densus*, whether Lindl. & Nees or Lehm. & Nees, is discussed. Lectotypes are designated for *Calorophus gracillimus* F.Muell. (current accepted name *Empodisma gracillimum* (F.Muell.) L.A.S.Johnson & D.F.Cutler), *Hypolaena pubescens* (R.Br.) Nees var. *hirsuta* Nees (currently not distinguished within *H. pubescens*), *Lepidobolus chaetocephalus* F.Muell. ex Benth., *Lepidobolus drapetocoleus* F.Muell. ex Benth., *Lepyrodia anarthria* F.Muell. ex Benth., *Lepyrodia heleocharoides* Gilg, *Lepyrodia monoica* F.Muell., *Lepyrodia muelleri* Benth., *Restio chasmatochloa* F.Muell. (currently considered a synonym of *Chordifex laxus* (R.Br.) B.G.Briggs & L.A.S.Johnson).

### The identity of *Restio curvulus* Nees

*Restio curvulus* Nees, in *The Annals and Magazine of Natural History* 6: 45–51 (1840), was published in a paper that provides identifications, including many new names, for specimens collected by Ronald Gunn in Tasmania (pages 45–48) and James Drummond in southern Western Australia (pages 48–51). The latter section is headed ‘B. DRUMMONDIANÆ; ad Flumen Cygnorum lectæ’. The paper was communicated to the journal ‘by Professor Lindley’ and most of the collections are represented in the Lindley Herbarium at Cambridge, England (CGE). However, no specimen identified as *R. curvulus* has been located in CGE and Nees (1846) did not refer to *Restio curvulus* in his later and more extensive treatment of many Restionaceae in *Plantae Preissianae* edited by J.G.C. Lehmann (1846–47).

I recently noted that a specimen of *Loxocarya cinerea* in Berlin (B100278837) is labelled by Nees ‘*Restio curvulus*’ but the epithet is crossed out and ‘*densus*’ written by Nees above it. Also in Nees’s hand, the label continues ‘L. et N. ♂ Swan River WA Drummond in Herb. Lindl.’ The sheet is the type of *Calorophus densus* Lindl. & Nees, described in *Plantae Preissianae* 2: 67 (1846); it bears a ‘Typus!’ label and was labelled by Gilg as *Loxocarya densa* (Nees) Benth.

The description of ‘*Calorophus densus* L. et N.’ is identical to the description by Nees (1840) of *Restio curvulus* apart from the addition of the few words italicized here: ‘culmis *subspungiosus* apice ramosis fastigiatis, ramulis *subcompressis* curvatis apice spiciferis, spicis masculis approximatis (paucis) sessilibus oblongo-lanceolatis, bractearum mucrone recto squamis cuspidatis *fuscis* vaginisque nudis, his mucronatis, perianthiis (♂) 6-glumibus.’

I conclude that, along with a change in generic position, Nees has replaced *curvulus* with the epithet *densus* in his 1846 publication, just as he replaced the name in annotating the specimen (B100278837). A type has therefore been located for *Restio curvulus* and it is identified as a synonym of *Loxocarya cinerea* R.Br.

Since there is no reference to *Restio curvulus* Nees in the protologue of *Calorophus densus* Lindl. & Nees, the latter is not based on the former and is not illegitimate. Similarly, *Hypolaena densa* (Lindl. & Nees) Mast. and *Loxocarya densa* (Lindl. & Nees) Benth., *Flora Australiensis* 7: 241 (1878) are not illegitimate. All these names are considered to be synonyms of *Loxocarya cinerea*, rather than of *Desmocladius virgatus* Benth., where they have customarily been placed.

The authority given in the protologue of *Calorophus densus* in *Plantae Preissianae* is ‘L. et N.’ but it is unclear whether ‘L.’ refers to Lindley or to Lehmann or to another. Other Restionaceae names ascribed to ‘L. et N.’ in *Plantae Preissianae* are *Lepyrodia macra* Nees, *Anarthria grandiflora* Nees and *Leptocarpus canus* Nees, but these were each described previously by Nees (1840) alone, in the same paper as *Restio curvulus* Nees, communicated by Lindley and typified by collections in Lindley’s herbarium. Other new names published by Nees in *Plantae Preissianae* are given with the authority ‘N. ab E.’ [i.e. Nees von Esenbeck], with no mention of Lehmann as editor of the volumes. I consider that, although the different name ‘*Restio curvulus*’ was included in the 1840 paper, ‘L. et N.’ as the authority for *C. densus* probably refers to Lindley, rather than to Lehmann. I have therefore adopted ‘Lindl. & Nees’ as the authority, rather than ‘Lehm. & Nees’ as used in some listings. Both Bentham (1878) and Masters (1878) when publishing combinations based on *Calorophus densus* attributed it to Nees alone, not indicating an identity for ‘L.’ in this context. A scan (perhaps not fully exhaustive) of the index of *Plantae Preissianae* volume 2 did not show any other taxa, in addition to these four, with the authority ‘L. et N.’

### Lectotypifications of some Australian Restionaceae

***Calorophus gracillimus*** F.Muell., *Fragmenta phytographiae Australiae* 8: 88 (1873). [Currently accepted name = *Empodisma gracillimum* (F.Muell.) L.A.S.Johnson & D.F.Cutler.] Published by Mueller as *Calostrophus gracillimus*, using an orthographic variant of the generic name.

**Type citation:** ‘Ad sinum regis Georgi; F. M. Ad flumen cygnorum; L. Preiss.’

**Lectotype here designated:** K G S [King George’s Sound], [Mueller], ♂ ♀ (MEL 14947). Isolecto: ♂ ♀ K000873601, ♀ MEL14950, 14954, ♂ 14952–3, 14956, 15108, ♂ P00748711. The lectotype has numerous female flowers on one piece and very few male flowers on the other.

**Residual syntypes:** Guildford [as Guilford or inter oppidula Perth et Guildford on some specimens], *Preiss 1711*, 14.9.1839 ♂ (B100278874, BM, LD1522988, MEL14955–6, 14963, MO, P748711).

Mueller’s citation ‘Ad flumen cygnorum; L. Preiss’ may possibly have interpreted ‘Swan River’ sufficiently widely to include also ‘prope urbiculam Albany *Preiss 1714*’ (BM, LD1812881, MEL14957, 14960–62, 14964, P748712). However, Mueller specified only the male material of Preiss’s collections whereas some sheets of *Preiss 1714* include both male and female pieces.

***Hypolaena pubescens*** (R.Br.) Nees var. *hirsuta* Nees in Lehmann, *Plantae Preissianae* vol. 2: 69 (1846). [This variety is currently not distinguished within *H. pubescens*.]

**Type citation:** ‘... supra oppidum Perth m. Septembri a. 1839, et ... haud longe ab ora maris (Perth) m. Septembri a. 1939, ... prope fontem Preiss’swell, Darling’s-range, m. Jan. 1840 ... [*Preiss*] No. 1721 ♂ et 1716 ♂ (cum *Caloropho aspero* ♂) et 1692’.

**Lectotype here designated:** supra oppidum Perth, *Preiss 1721* ♂ (LD1651945).

Supposed replicates of *Preiss 1721* (♂ BM000991386 and ♀ MEL14851) are species of *Desmocladius* and not conspecific with the lectotype. *Preiss 1716* is also a mixed collection, as noted by Nees, consisting of the lectotype of *Calorophus asper* Nees (lectotypified in *Telopea* 8: 26 (1988), left hand specimen of LD1651881, isolecto BM000991385), together with *Desmocladius flexuosus* (R.Br.) B.G.Briggs & L.A.S.Johnson. *Preiss 1692*, prope fontem Preiss’swell (LD1812945) has been identified as *Loxocarya cinerea* R.Br.

***Lepidobolus chaetocephalus*** F.Muell. ex Benth., *Flora Australiensis* 7: 245 (1878). [*L. chaetocephalus* is a currently accepted name.]

**Type citation:** ‘W. Australia. Swan River, *Drummond, 1st coll. and n. 954*; Murchison River, *Oldfield*’.

*Lepidobolus chaetocephalus* F.Muell. (Mueller 1873: 84), nom. invalid, provisional name. Specimen cited: Drummond 954 ♂. [Another collection cited by Bentham, Murchison R., Oldfield (♂, ♀ MEL14719, 14727), is also mentioned by Mueller but not clearly identified by him as the same species as the Drummond collection.]

**Lectotype here designated of *Lepidobolus chaetocephalus*** F.Muell. ex Benth.: *J. Dr.[Drummond] 945* ♂ (MEL14729). The lectotype sheet has Mueller's extensive descriptive notes. Isolecto: B100278868, K; Nouvelle Hollande occidentale, R. des Cygnes, Drummond 954, 1843 ♂ (P00748696).

**Residual syntypes:** Murchison R., Oldfield ♂, ♀ (MEL14719, 14727); Oolingarra, Murchison R., W. Austr. Oldf. [Oldfield] ♂ (K000873574–5).

*Lepidobolus drapetocoleus* F.Muell. ex Benth., *Flora Australiensis* 7: 244 (1878). [*L. drapetocoleus* is a currently accepted name.]

**Type citation:** 'Victoria. Glenelg River, Robertson; Grampians, F. Mueller. S. Australia. Onkaparinga River, F. Mueller'.

*Lepidobolus drapetocoleus* F.Muell. (Mueller 1873: 84), nom. invalid., provisional name. Specimens cited: ad bases montium Grampians, F. Mueller; prope flumen Onkaparinga, F. Mueller.

**Lectotype here designated of *Lepidobolus drapetocoleus*** F.Muell. ex Benth.: Victoria, east bank Glenelg River, Robertson ♂ (K000873577).

**Residual syntypes:** Grampians, Dr ferd Mueller ♂ (K000873576); inter Onkaparinga flumen & Villunga [= Willunga] oppidulum, Mar [18]47 ferd Mueller ♂, ♀ (MEL707400–1); Grampians or Onkaparinga River, F. von Mueller ♂, ♀ (BM000991280–1).

A specimen at K is selected since, although the name was provided by Mueller, the description is largely the work of Bentham. The Grampians specimen (K000873576) is avoided since a packet of flowers on the sheet is labelled 'fl all monstrous'; as described by Bentham 'Some specimens probably female but diseased have broader spikelets enclosing an utricle filled with the black granules of a fungus.' [Such fungus-affected plants are usually male.]

*Lepyrodia anarthria* F.Muell. ex Benth., *Flora Australiensis* 8: 216 (1878). [*L. anarthria* is a currently accepted name.]

*Lepyrodia anarthria* F.Muell. (Mueller 1873: 73) nom. invalid, provisional name.

**Citations:** Bentham cited '*Anarthria gracilis*, Nees in Sieb. Pl. Exs. n. 50; Kunth, Enum. iii. 478, but not of R. Br.' Bentham also cited this collection as 'N. S. Wales. Port Jackson, or Blue Mountains, Sieber. Possibly a variety of *L. gracilis*, but the half dozen specimens I have seen in different herbaria are all without sheathing scales as in *Anarthria*, ...' Mueller (loc. cit.) had similarly referred to '*Anarthria gracilis* (Kunth Enum. iii. 478 non R. Br.)'. Kunth cited both the Sieber specimen distributed as *Agrostotheca* number 50 and a gathering by Urville.

**Lectotype here designated of *Lepyrodia anarthria*** F.Muell., ex Benth.: [New South Wales], N. Holl. [New Holland], Sieber, *Agrostotheca* 50 (K000873644). Isolectotypes: BM, LD1524205, MEL 14538, MEL707402, NY00259486, P00748639–40.

A specimen at K is selected since, although the name was provided by Mueller, the description is largely the work of Bentham. The lectotype is labelled '*Lepyrodia anarthria* F v Muell.' by Bentham and on the sheet are sketches of dissected flowers.

*Lepyrodia heleocharoides* Gilg, *Botanische Jahrbücher für Systematik, Pflanzengeschichte und Pflanzengeographie* 35: 87 (1904). [*L. heleocharoides* is a currently accepted name.]

**Type citation:** 'in distr. Darling pr. Parkerville ... (D. [Diels] 1996; E. Pritzel Pl. Austr. occ. 171 ♀, 172 ♂)'

**Lectotype here designated:** W. Australia, westlich von Parkersville [Parkerville], Diels 1996, 27 Dec 1900 [labelled in error 1901, other sheets are labelled 1900] ♂ (B100278846). The sheet is named and signed by Gilg and dated 1904, the year the name was published. It bears a 'L. Diels' label but is also labelled '[E. Pritzel No. 172]' so the widely distributed Pritzel 172 may be regarded as isolectotype material. Isolecto: Pritzel 172 ♂ (B100278846–7, BM, E00689626, GH, K000873618, MO, NSW91578, US).

**Residual syntypes:** Parkersville [Parkerville, or on some sheets 'Darling Range'], Pritzel 171, Dec 1900 [1901 on some sheets] ♀ (B100278848, BM, E00689626, K000873617, MO, NSW91577, P00748645, PERTH01050567).

***Lepyrodia monoica*** F.Muell., *Fragmenta phytographiae Australiae* 8: 76 (1873). [*L. monoica* is a currently accepted name.]

**Type citation:** ‘In Australia occidentali; J. Drummond (447)?’

**Lectotype here designated:** [In Australia occidentali; 1849, *J.Drummond*] 447, (MEL14666). The lectotype has dissected flowers and notes in a packet. Isolecto: (MEL14664, MEL14665 misread as 247 instead of 447; B100278844, BM991340, BM991337–8, K000873626, P00748648). Most of the MEL, B and BM specimens were (incorrectly) labelled by Mueller ‘probably from the vicinity of the River Murchison’.

***Lepyrodia muelleri*** Benth., *Flora Australiensis* 7: 215 (1878). [*L. muelleri* is a currently accepted name.]

**Type citation:** ‘Victoria. From Port Phillip to Gipps’ Land, *F. Mueller*. Tasmania. South Esk River, *C. Stuart*. S. Australia. Near Mt Gambier, *F. Mueller*.’

**Lectotype here designated:** Gipps Land, *ferd. Mueller*, monoecious (K000873636). Annotated as *Lepyrodia scariosa* by Mueller and *Lepyrodia muelleri* Benth. by Bentham, the lectotype was received at K in 1867 and also has some descriptive notes and sketches of a glume and ovary. Isolecto: inter fl. Latrobe and Merrimans creek, Gippsland, 26 April [18]53, *Dr M. [Mueller]* (MEL707416).

**Residual syntypes:** Port Phillip to Gipps [Gipps] Land & near Mt Gambier, (BM000991329); Port Phillip, *ferd. Mueller* (K000873638, MEL707415); South Esk river, *C. Stuart* (K000873637, MEL707414); Tasmaniae, *Stuart*, 1848 (MEL707413); near Mount Gambier, *Mueller* (MEL707412).

***Restio chasmatocheus*** F. Muell., *Fragmenta phytographiae Australiae* 8: 71 (1873). [Currently accepted name = *Chordifex laxus* (R.Br.) B.G.Briggs & L.A.S.Johnson.]

**Type citation:** ‘Ad Toovey; G. Maxwell. Ad flumen Tone; A. Oldfield.’

**Lectotype here designated:** Toovey, *G. Maxw [Maxwell]* ♂ (MEL14758). Isolecto: Toovey, (MEL14760), Round Swamp (Toovey), [*Maxwell*], 24 Feb 1872 (MEL14761).

**Residual syntype:** W. Aust, Tone R., *Oldf [Oldfield]* 726 ♂ (MEL14759, B\_10\_0296970).

The lectotype was labelled *Restio chasmatocheus* by Mueller and bears several normally developed male spikelets, whereas the isolectotypes and the B residual syntype bear enlarged galled male spikelets. Indeed, Mueller annotated MEL14760 as ‘monstr’ [monstrous].

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