CONTENTS

Introduction v
Prioniaceae 1
  Prionium 2
Map 6
Index 7

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INTRODUCTION

_Species Plantarum_ aims to provide in concise format, and with standardised data fields, basic taxonomic information on the vascular plants of the world, including accepted names and synonyms with bibliographic data, types of names, keys and descriptions from family to varietal levels, geographical distributions, ecological information and other related matters, and to publish it in both hard copy and electronic form.

The format of the _Species Plantarum_ is based on that of _Flora of Australia_, with some departures made necessary by the different scale of the project. Initially at least, the series is being edited and published for the Species Plantarum Project and IOPI by the Australian Biological Resources Study (ABRS), producers of _Flora of Australia_.

Treatments are contributed on a voluntary basis. Each part of _Species Plantarum_ is intended to provide a complete account of a family, subfamily, large genus or other related taxonomic group. While treatments of small families may be shorter, it is intended that contributions will, in general, cover at least 50 to 100 species. The taxonomy adopted is that of the author, although the family delimitations recommended are initially those of R.K. Brummitt, _Vascular Plant Families and Genera_ (1992). The order of taxa within families, genera and species in the _Species Plantarum_ is intended to reflect natural relationships, so far as this is possible in a linear sequence.

Maps are provided for each species, or in those cases where infraspecific taxa are recognised, for each of the terminal taxa. Distribution maps are based on those in S. Hollis & R.K. Brummitt, _World Geographical Scheme for Recording Plant Distributions_ (1992), and the 'countries' adopted are those of Level 3 and 4 of that work. Description of distribution follows the same work, with a two-digit code for regions and a three-letter code for the 'country'. Upper case letters for the 'country' indicate native distribution; lower case letters indicate that the taxon is only present in that 'country' as an introduced and naturalised plant. If a taxon is extinct in a 'country', this is indicated by a dagger. Distribution of species as cultivated plants is not included.

Misapplied and invalid names are, in general, omitted. Journal titles are abbreviated according to G.D.R. Bridson & E.R. Smith, _Botanico-Periodicum-Huntianum / Supplementum_ (1991). Book titles are abbreviated according to F.A. Stafleu & R.S. Cowan, _Taxonomic Literature_ (2nd edn) Vols 1–7, and _Supplements_ (1976–), except that upper case initial letters are used for proper names and significant words. Authors of plant names are abbreviated according to R.K. Brummitt & C.E. Powell, _Authors of Plant Names_ (1992).

A separate part, _Introduction to the Series_, provides a history of the project, a glossary, guide for contributors and key to the conventions used in describing distribution. These resources will also be available on the World Wide Web, initially through the ABRS site (currently http://www.anbg.gov.au/abrs/flora/spplant/spplant.htm) with links from the IOPI site (currently http://life.csu.edu.au/iopi/iopihome) and others.

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Editor
Canberra, 2001
PRIONIACEAE

S.L. Munro¹, J. Kirschner² & H.P. Linder¹


Type: Prionium E.Mey.

Perennial hygrophytes; rhizome aerial, woody, suberect, later decumbent, often branched, covered with fibrous remains of old leaf bases, with adventitious roots at nodes. Leaves numerous, tristichously inserted in dense terminal rosettes; leaf sheath short, closed, later dissected; blade rigid, tough, glaucous, long acuminate, V-shaped in the middle, triangular near apex in T.S.; margins and keel with upward-pointing prickly serrulation; prickles multicellular; vascular bundles numerous, in one row, later with figure-of-eight-shaped air-canals; stomata paracytic in slight longitudinal furrows. Inflorescence a terminal, much branched panicle; branchlets bearing many flowers; lateral branchlets subtended by funnel-shaped bracts sheathing at base; bract blade reduced to scariose linear-triangular projection or ± lanceolate. Floral bracteoles absent. Flowers hermaphrodite. Perianth glumaceous; tepals 6, free, ±equal, ±coriaceous, to 4 mm long. Stamens 6; anthers basifixed, tetrasporangiate, dehiscence lateral; filaments glabrous; microsporogenesis simultaneous; pollen in tetrads, trinucleate. Ovary superior, trilocular, ±ovoid. Ovules numerous, bitegmic, crassinucellate, anatropous; embryo sac of Polygonum-type; placentation axile; endosperm helobial. Style absent; stigmas three, papillose. Capsule ±obovoid, loculicidal, many-seeded. Embryo of the Onagrad type with Juncus variation. Seeds minute; seed coat developed from both integuments; outer seed coat loose; appendages absent.

The family contains a single species, Prionium serratum, limited in its distribution to the South Western Cape, NE Eastern Cape (Pondoland) and southern Kwazulu-Natal, South Africa. Restricted to streams and river margins on oligotrophic soils.

Prionium was previously included in the Juncaceae from the earliest authors to Buchenau (1875, 1888, 1890), Cutler (1969) and Simpson (1995). It was also suggested to have affinities to Restionaceae (De Laharpe, 1825) and Thurniaceae (Chase et al., 2000). Cutler (1965) was the first to suggest that the strange leaf anatomy of Prionium warranted its removal from the Juncaceae. Plunkett et al. (1996) presented a phylogeny of the Cyperales based on rbcL sequence data in which the Juncaceae including Prionium were paraphyletic, the Cyperaceae falling between that genus and the rest of the Juncaceae. Prionium has a bizarre growth form relative to the Juncaceae, a peculiar leaf anatomy, the presence of flavone c-glycosides in its tissues (Williams & Harborne, 1975) and carpels fused in the ovary region only (i.e. style lacking). These features, in addition to the basal position of Prionium in Juncales, led Munro & Linder (1998) to remove Prionium from Juncaceae and to recognise a new family, Prioniaceae.


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**PRIONIUM**

*Prionium* E. Mey., *Linnaea* 7: 130 (1832)

**Type:** *Prionium palmita* (Licht.) E. Mey.


**T:** *Prionoschoenus serratus* (L.f.) Kuntze.

A monotypic genus, confined to South Africa.

*Prionium serratum* (L.f.) Drège ex E. Mey., *in* J.F. Drège, *Zwei Pflanzengeogr. Dokum.* 10 (1843)


Glabrous perennials to 3 m, forming thickets across rivers. Woody rhizomes 2–6 (–8) cm in diam., erect, later decumbent, branching basally or (in older plants) also distally, covered with old persistent blackish fibrous net-like remains of leaf bases. Roots stout, to c. 4–5 mm in diam., containing much aerenchyma. Leaf: sheath short with margins membranous, abruptly narrowing in the blade; blade rigid, glaucous, to c. 80 (–100) cm long, c. 0.7–2.0 cm wide, gradually narrowing to subobtuse tip; margins and keel prickly, upwardly serrulate. Inflorescence an erect terminal much branched panicle to 0.5 m in height, *±* narrowly ovoid in outline; flowering branchlets 6–8 cm long, subtended by funnel-shaped *±* entire bracts with open blade to one side; bracts larger towards the base of the branch and present at nodes of stem; bract sheath base noduliform, with sheath constituting up to one third of total bract length. Flowers solitary or in c. 2 or 3-flowered loose clusters; peduncles c. 0.5–1.0 mm. Tepals *±* equal, glabrous, *±* ovate, 2.9–3.8 (–4.0) mm long, c. 1.1–1.4 mm wide, straw-brown to light brown, *±* coriaceous; outer tepals keeled, slightly cucullate near apex and apiculate; inner tepals *±* flat to slightly cucullate near apex; margins very narrow, distally *±* broader, *±* membranous, not distinct. Stamens 6, *±* equaling perianth at the beginning of anthesis, later exserted up to 1–1.5 mm; anthers (0.9–) 1.0–1.3 mm long; filaments elongating, 1–2 (–2.5) mm long; stigmas sessile, thick, 0.3–0.5 mm long. Capsule *±* oblong-ovoid to subglobose, *±* oblong, shorter or slightly shorter than perianth, pale brown to brown; capsule segments c. 1.7–2.2 mm long, c. 1.5 mm wide; macro to 0.1 mm long. Seeds obliquely oblong-ovoid, c. 0.8–1.0 mm long, 0.25–0.30 mm wide, slightly curved on one side; outer seed coat loose, cell outlines clearly visible on surface; appendages absent. Chromosome number unknown (numerous, very small chromosomes). Fig. 1 and cover.
PRIONIACEAE (*Prionium*)

Endemic in South Africa (Cape Provinces and Kwazulu Natal), extending from Gifberg in the South Western Cape to Port Edward in Southern Kwazulu-Natal. 27: CPP, NAT. *Prionium serratum* forms dense, monospecific stands, usually in the beds of streams and rivers. The clumps of rhizomes trap soil and detritus, thereby building up river beds, ameliorating flooding events, and filtering water. Map 1.

27. CAPE PROVINCES: Kogelberg St. Forest, Palmiet R, F.J.Kruger 143 (NBG); Fransch Hoek Mtns, 11 Dec. 1934, Hafström (S); below the top of Franschoek Pass, J.P.H.Acocks 3852 (S); Camps Bay, near Blinkwater Stream, O.Almborn 360 (LD); Berg River near Paarl, J.F.Drége a (K); Duivenhoks River, H.P.Linder 5891 (BOL); Klein Bosch River, Tsitsikamma district, H.G.Fourcade 366 (BOL); Cape, Albany, Howieson's Port, Cheadle 736 (K); Eastern Cape, Stormsrivier, 830 m, 15 xi 1894, F.R.R.Schlechter 5987 (PRC). KWAZULU-NATAL: St Michaels-on-Sea, R.G.Strey 8288 (K); Port Edward, R.G.Strey 7764 (K).

APPENDIX

*Prionium palmita* (Licht.) E. Mey., *Linnaea* 7: 131 (1832).

T: [South Africa], Cape, Table Mountain, [C.F.]Ecklon; neo: S, here nominated.
Figure 1. Prionium serratum. A, base of leaf rosette (young plant; in older specimens rootstock much stouter); B, lower part of inflorescence with sheathing bract; C, branch of inflorescence; D, terminal flower clusters; E, flower; F, exterior tepal; G, gynoecium; H, capsule segment with a septum; I, seeds; J, leaf apex; K, a section of the middle part of leaf (A–K, J.P.H.Acocks 3852, S). Scale bars: A = 12 mm; B, C, J, K = 30 mm; E–H = 2 mm; I = 1 mm. Drawn by Ms E. Smrčinová.
PRIONIACEAE (*Prionium*)

MAPS

Number in brackets refers to page on which the taxon is described.
1. Prionium serratum (2)
PRIONIACEAE

INDEX

Accepted names are in roman, synonyms and doubtful names in italic.

Principal page references are in bold, figures in italic.

Acorus L. 2
palmita Licht. 2
Juncus L. 2
serratus L.f. 2
subg. Prionoschoenus Rchb. 2
Prioniaceae S.L.Munro & H.P.Linder I
Prionium E.Mey. 2
palmita (Licht.) E.Mey. 2, 4
serratum (L.f.) Drège ex E.Mey. 2, 4, 6
Prionoschoenus [Reichenb. ex] Kuntze 2
serratus (L.f.) Kuntze 2