

**TIPIFICATION OF *BRACHYTHECIUM SALEBROSUM* VAR.
POLYOICUM AND NOMENCLATURAL CHANGES OF TWO TAXA IN THE
BRACHYTHECIACEAE (MUSCI) FOR MEXICO ¹**

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ABSTRACT

A lectotype is chosen for *Brachythecium salebrosum* var. *polyoicum* and the variety is raised to species rank. A new combination is made for *Rhynchostegium pulchellum* var. *praecox*.

KEY WORDS: Musci, Brachytheceaceae, *Brachythecium*, *Rhynchostegium*, México

My studies of the Brachytheceaceae for México have prompted the following typification and nomenclatural changes.

Brachythecium polyoicum (Thér.) McFarland, *stat. nov.* BASIONYM: *Brachythecium salebrosum* (Web. et Mohr) B.S.G. var. *polyoicum* Thér., Smithsonian Misc. Collect. 85(4):36. 1931. TYPE: MEXICO. Puebla: Vicinity of Puebla, Hacienda Batán, 2150 m., XII 1908, *Bros. G. Arsène 2937*. (LECTOTYPE *des. mihi*. PC[!]; Isolectotypes (paratypes): C[!], F[!], FH[!], H-BR[!], NY[!], PC[!], UPS[!], and US[!])

¹A portion of a dissertation entitled "Revision of *Brachythecium* [Musci] for Mexico, Central America, South America, Antarctica and Circum-subantarctic Islands" submitted by the author to the Graduate School of The University of Tennessee at Knoxville in partial fulfillment of the requirements for the Doctor of Philosophy Degree in Botany.

TYPIFICATION

I have located and examined ten isotypic *Brachythecium salebrosum* var. *polyoicum* Thér. specimens, one each in the herbaria at C,F,FH,H-BR,NY,UPS, and two each at PC and US. I designate one of the specimens at PC as the lectotype, identified by the following labeling data: "*Brachythecium salebrosum* (Hfm.) Br. Eur. var. *polyoicum* Thér. v. n." This specimen is consistent with the protologue description and derived from Thériot's herbarium. The remaining PC and other isotypic specimens may be regarded as isolectotypes (paratypes).

COMMENTS

Thériot (1931) recognized this polygamous biotype as a variety of *Brachythecium salebrosum* (Web. & Mohr) B.S.G., an autoicous species, on the basis of greater gametophyte similarity rather than relating it to other synoicous and polyoicous brachythecia known to him at that time "*B. acutum*, *B. conostomum*, and *B. mildeanum*." The occurrence of polygamy in specimens of *B. salebrosum* from North America north of México has been documented by Grout (1928) [as *Brachythecium acutum* (Mitt.) Sull.], Crum & Anderson (1981) and observed by me. Similarly, polygamy in European specimens of *B. salebrosum* has been documented by Warnstorf (1906), Podpera (1954), and Smith (1978). Because of the low frequency with which this character occurs in *B. salebrosum*, most recent authors have not given taxonomic status to specimens with this character.

Brachythecium salebrosum var. *polyoicum* occurs only in Puebla and Veracruz, México. It appears isolated considerably south of Canadian or U.S. populations of polygamous *B. salebrosum*. Of the eight specimens known from México, five are demonstrably polygamous and bear low papillae (becoming prominent at the base of the capsule) along the setae. I consider this combination of characters and the distributional isolation of the Mexican plants sufficient cause for elevating this taxon to species level.

Brachythecium polyoicum is morphologically similar to *B. salebrosum* and thus belongs in the section *Salebrosa*.

Rhynchostegium pulchellum (Hedw.) H. Robins. var. **praecox** (Hedw.)

McFarland *comb. nov.* BASIONYM: *Hypnum praecox* Sw. *ex* Hedw., *Spec. Musc.* 249. 11-15. 1801. \equiv *Eurhynchium praecox* (Hedw.) De Not. *in* Picc., *Comm. Critt. Ital.* 1(4):284. 1863. \equiv *Rhynchostegium praecox* (Hedw.) De Not., *Cronac. Briol. Ital.* 2:11. 1867. \equiv *Rhynchostegium strigosum* (Web. et Mohr) De Not. var. *praecox* (Hedw.) Anzi, *Mem. R. Ist. Lombard. Sc. Lett. Cl. Mat. Nat.* 13:343. 1875. \equiv *Eurhynchium*

strigosum (Web. et Mohr) B.S.G. var. *praecox* (Hedw.) Husn., *Musc. Gall.* 334. 1893. \equiv *Eurhynchium strigosum* (Web. et Mohr) B.S.G. ssp. *praecox* (Hedw.) Kindb., *Canad. Rec. Sc.* 6:22. 1894. \equiv *Eurhynchium pulchellum* (Hedw.) Jenn. var. *praecox* (Hedw.) G.N. Jones, *Res. Stud. State Coll. Washington* 1(4):170. 1930.

Hedwig's original description of *Hypnum praecox* was taken from a Swedish collection. After validation, this taxon has been reassigned within *Eurhynchium* and *Rhynchostegium* at the species, subspecies, and varietal levels by various authors (see synonymy). The shift of this taxon between these two genera is symptomatic of a generic quandary that has occurred in the literature over the past 150 years for taxa in Brachytheciaceae with rostrate opercula. The genera involved are *Eurhynchium*, *Oxyrrhynchium*, *Platyhypnidium*, and *Rhynchostegium* and more recently *Steerecleus* H. Robinson (1987). These genera are weakly delimited and species overlap between genera occurs.

Eurhynchium is sometimes reserved for terrestrial species with short apical cells whereas *Platyhypnidium* is used for aquatic forms. *Oxyrrhynchium* has been used for species with broad leaves, rough setae, and dioicous inflorescences. *Rhynchostegium* has had assorted applications with no consensus of use. *Steerecleus* was established to represent those taxa which lack short apical cells, have poorly differentiated alar cells, and smooth setae.

Rhynchostegium pulchellum var. *praecox* is a new combination I am proposing to unify my concept of eight taxa (seven species and this variety) as they occur in México. These taxa are characterized by rostrate opercula, smooth laminal cells, costae ending in a dorsal spine, and lacking heterophylly. *Rhynchostegium* has nomenclatural priority over the other allied genera and combinations in *Rhynchostegium* for the seven species have been validly effected by previous authors.

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