



PHYTOTAXA

11

Early Land Plants Today: Taxonomy, systematics and nomenclature of Gymnomitriaceae

JIRÍ VÁŇA¹, LARS SÖDERSTRÖM², ANDERS HAGBORG³,
MATT VON KONRAT³ & JOHN J. ENGEL³

¹Charles University, Department of Botany, Czech Republic; email: vana@natur.cuni.cz

²Department of Biology, Norwegian University of Science and Technology, Trondheim, Norway; lars.soderstrom@bio.ntnu.no

³Department of Botany, The Field Museum, 1400 South Lake Shore Drive, Chicago, IL 60605–2496; mvonkonrat@fieldmuseum.org,
hagborg@pobox.com



Magnolia Press
Auckland, New Zealand

JIŘÍ VÁŇA, LARS SÖDERSTRÖM, ANDERS HAGBORG, MATT VON KONRAT & JOHN J. ENGEL
Early Land Plants Today: Taxonomy, systematics and nomenclature of Gymnomitriaceae
(*Phytotaxa* 11)

80 pp.; 30 cm.

18 November 2010

ISBN 978-1-86977-599-5 (paperback)

ISBN 978-1-86977-600-8 (Online edition)

FIRST PUBLISHED IN 2010 BY

Magnolia Press

P.O. Box 41-383

Auckland 1346

New Zealand

e-mail: magnolia@mapress.com

<http://www.mapress.com/phytotaxa/>

© 2010 Magnolia Press

All rights reserved.

No part of this publication may be reproduced, stored, transmitted or disseminated, in any form, or by any means, without prior written permission from the publisher, to whom all requests to reproduce copyright material should be directed in writing.

This authorization does not extend to any other kind of copying, by any means, in any form, and for any purpose other than private research use.

ISSN 1179-3155 (Print edition)

ISSN 1179-3163 (Online edition)

Table of contents

Abstract	3
Introduction	3
Taxonomic history	5
Contemporary Taxonomy and Systematics	6
Monographs and Revisions	7
Morphology	8
Chemistry and cytology	8
Distribution	8
Ecology	10
Conservation	10
Methodology	13
Gymnomitriaceae H.Klinggr.	13
<i>Acrolophozia</i> R.M.Schust.	13
<i>Apomarsupella</i> R.M.Schust.	14
<i>Gymnomitrium</i> Corda	16
<i>Herzogobryum</i> Grolle	27
<i>Marsupella</i> Dumort.	28
<i>Nanomarsupella</i> R.M.Schust.	47
<i>Nothogymnomitrium</i> R.M.Schust.	48
<i>Paramomitrium</i> R.M.Schust.	48
<i>Poeltia</i> Grolle	48
<i>Prasanthus</i> Lindb.	48
Excluded taxa	49
Synopsis	52
Summary of all names	54
Acknowledgements	69
References	69

Abstract

There remains a critical need to synthesize the vast amount of nomenclatural, taxonomical and global distributional data for liverworts. This is fundamental in taxonomists' efforts towards developing a working list of all known plant species under the auspices of the Convention on Biological Diversity (CBD) as well as having far reaching implications and applications, including providing a valuable tool for taxonomists and systematists. We here provide the first synthesis of the taxonomy, systematics, and nomenclature of the family Gymnomitriaceae. The family is here conservatively treated to include ten genera representing 73 accepted species. We propose 149 new synonyms, 102 of them for validly published names. Significantly, we briefly discuss recent developments based on molecular studies and we predict future investigations will dramatically redefine the family. Detailed taxonomy and nomenclature is treated for almost 800 names associated with the family. Noteworthy remarks on various aspects of the distribution, ecology, conservation, and biology of members of the family are also included.

Key words: synonymies, check-list, *Acrolophozia*, *Apomarsupella*, *Gymnomitrium*, *Herzogobryum*, *Marsupella*, *Nanomarsupella*, *Nothogymnomitrium*, *Paramomitrium*, *Poeltia*, *Prasanthus*

Introduction

Recently there has been a major international effort to synthesize the vast amount of nomenclatural, taxonomical and global distributional data for Marchantiophyta (Söderström *et al.* 2008, von Konrat *et al.* 2008, 2009). An introduction to the project, including overall project objectives, detailed description of standards used and applied, and discussion on the critical need for synthesizing data is outlined in Söderström *et al.* (2008) and von Konrat *et al.* (2010). We here provide the first synthesis of the taxonomy, systematics, and nomenclature of the family Gymnomitriaceae H.Klinggr. This has been a collaborative effort between Jiří Váňa, who is a leading authority with many publications on the family (e.g., Váňa 1976b, c, 1999, 2003, Váňa