



## Article

### *Sphaerolejeunea* (Lejeuneaceae, Porellales) is a synonym of *Lejeunea*

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#### Abstract

Phylogenetic analyses of a three marker dataset of Lejeuneaceae (chloroplast genome *rbcL* gene and *trnL*-F region, and nuclear ribosomal ITS1-5.8S-ITS-2 region) show the presence of the monospecific genus *Sphaerolejeunea* in a robust subclade of *Lejeunea*. We treat *Sphaerolejeunea* as a synonym of *Lejeunea*, and propose a new name for *Sphaerolejeunea umbilicata*, *Lejeunea drehwaldii*.

**Key words:** Jungermanniopsida, liverwort, Neotropics, taxonomy

#### Introduction

Spruce (1884) in his outstanding treatment of Lejeuneaceae accepted only two genera, *Myriocolea* Spruce (1884: 305) and *Lejeunea* Libert (1820: 372), the latter subdivided in 39 subgenera. Most of them were elevated to genus rank by Schiffner (1893), and additional genera were newly established (e.g., Piippo 1986, Schuster 1994, Reiner-Drehwald 2000), leading to the recognition of about 90 genera in Lejeuneaceae (Gradstein et al. 2003). More than sixty of them include species placed in *Lejeunea* by Spruce (Gradstein et al. 2004).

However, after an era in which numerous genera were separated from *Lejeunea*, the recent trend goes to a wider genus concept. Several genera were recently synonymized with *Lejeunea*, namely *Crossotolejeunea* (Spruce 1884: 161) Schiffner (1893: 127) and *Dactylolejeunea* Schuster (1971: 341) (Reiner-Drehwald & Goda 2000), *Amphilejeunea* Schuster (1978: 431) and *Cryptogynolejeunea* Schuster (1994: 215) (Reiner-Drehwald 2005a), *Di cladolejeunea* Schuster (1994: 220) (Reiner-Drehwald 2005b), *Echinocolea* Schuster (1963: 125) (Ilkiu-Borges 2005), *Neopotamolejeunea* Reiner-Drehwald (2000: 449) (Gradstein & Reiner-Drehwald 2007), *Inflatolejeunea* Arnell (1953: 173), *Macrolejeunea* (Spruce) Schiffner in Engler & Prantl (1893: 118) (Reiner-Drehwald & Schäfer-Verwimp 2008), and *Amblyolejeunea* Jovet-Ast (1948: 24) (Zhu & Cheng 2008).

*Sphaerolejeunea* Herzog (1938: 88) was set up for a single species, *S. umbilicata* Herzog (1938: 88) and based on a single specimen collected by E.P. Killip in 1922 in the Andes of Colombia. This epiphyllous species stands out by leaf lobes bordered by several rows of hyaline cells, basally leafless gynoecial branches and perianths lacking both a beak and keels. These perianths hardly exceed the surrounding vegetative leaves (Herzog 1938) and open in an umbilicus at their dorsal side (Reiner-Drehwald & Drehwald 2002).