

## Correct author citations for some upper rank names of liverworts (*Marchantiophyta*)

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Documentation is provided to support the correct author citation for ten upper rank names of liverworts that have hitherto been cited incorrectly. In addition, the use of parenthetical author citations is clarified.

**KEYWORDS:** author citations, liverworts, *Marchantiophyta*, suprafamilial names, taxonomy

### INTRODUCTION

The *International Code of Botanical Nomenclature* (McNeill & al., 2006) only governs nomenclature above the rank of family to a limited degree, which has resulted in a lack of stability for upper rank names. For example, priority is not mandatory (Article 11.10) although it is suggested that authors follow that practice when the name is based upon a generic name (Recommendation 16.B). Furthermore, suprafamilial names do not follow the principle of typification unless they are based upon a legitimate generic name (Article 10.7) in which case they are automatically typified (Article 16.1). The trend now is to use a legitimate generic name as the stem for upper rank names, e.g., *Marchantiophyta* rather than *Hepaticophyta* (e.g., Kenrick & Crane, 1997; Heinrichs & al., 2005; He-Nygrén & al., 2006). Valid publication of names above the rank of family is, however, governed by Article 32.1, which automatically entails fulfilling not only the provisions of Articles 16–17, governing the form of such names, but also those of Articles 33–45 as they pertain to “names.” While the latter articles apply mostly to the rank of family and below, Article 36 does not specify rank but reads “name of a new taxon” in requiring that a Latin description or diagnosis, or reference to an effectively published one, be provided for valid publication after 1 January 1935. In many cases, upper rank names have been proposed without meeting that requirement. These are not, therefore, validly published names.

Routine citation of the author(s) of a name is not required according to Article 46.1. However, the practice of citing the author(s) that validly published a name has become more customary and seems desirable for precision (e.g., Forrest & Crandall-Stotler, 2005; Frey & Stech, 2005). While Article 49.1 deals with the citation of parenthetical authors, it applies specifically to the rank of genus and below. Such citations are involved only with the author(s) of a basionym, i.e., the name- or epithet-bringing synonym. This was emphasized in a recent paper

by Ochyra & al. (2006) when dealing with the citations for some names of *Bryophyta*. There has been a general misconception regarding the application of parenthetical authors that was clarified at the Vienna Congress. Added to the *Vienna Code* (McNeill & al., 2006) was Article 49.2 stating: “Parenthetical authors are not to be cited for suprageneric names.” This is because such names cannot have a basionym as defined in Article 49.1 and thus, names above the rank of genus cannot have a parenthetical author(s). For example, we validly published the family name *Petalophyllaceae* (Crandall-Stotler & al., 2002) by reference to the Latin description of the name *Petalophylloideae* R.M. Schust. (Schuster, 1991). However, we incorrectly treated that subfamily name as a basionym. Instead, it is solely a replaced stem-bringing name, formed from the genus name *Petalophyllum*. The correct citation is simply *Petalophyllaceae* Stotler & Crand.-Stotl., without a parenthetical author and not “(R.M. Schust.) Stotler & Stotler-Crandall” as originally indicated.

Crosby & Engel (2006) produced an index cataloging all liverwort and hornwort names published between 1 January 1975 and 31 December 2000, updating the final part of *Index Hepaticarum* (Geissler & Bischler, 1990), which had a closing date of 31 December 1974. Additionally, Crosby & Magill (2005, 2006) have amended that nomenclator through 2005. One of the works treated by them was a little known syllabus by Doweld (2001) who proposed a novel upper rank classification of land plants. [Note that according to Schmid (2004) only 200 copies were issued.] Recently, a brief paper by Gao & al. (2005) presented a radical new classification of liverworts with seven new upper rank taxa; none of the names applied to them were validly published because they lack descriptions. These publications, plus the recent paper on the correct author citations for class and some subclass names of mosses (Ochyra & al., 2006) have prompted us to provide equivalent information for the liverworts in order to document correct authors where discrepancies exist.

## NOMENCLATURE

Phylum *Marchantiophyta* Stotler & Crand.-Stotl. in A.J. Shaw & B. Goffinet, *Bryophyte Biol.*: 63. 2000 – Type: *Marchantia* L.

*Marchantiophyta* was validly published (Crandall-Stotler & Stotler, 2000) by reference to the Latin description of *Hepatophyta* in Stotler & Crandall-Stotler (1977: 425), a designation formed from an illegitimate generic name, *Hepatica* Adans. non Mill., and hence not validly published under Article 16.1, cross-referenced in Article 32.1(c) of the *ICBN* (McNeill & al., 2006). *Marchantiophyta* phylum nov. is redundant in Doweld (2001) who established a later isonym by likewise citing the Latin description in Stotler & Crandall-Stotler (1977) for his proposed “new name.”

Because *Hepatica* Adans. is an illegitimate later homonym there cannot be any automatically typified names based on it according to Articles 16.1(a) and 32.1(c). Consequently, any use of rank terminations with the stem “*Hepatic-*” such as *Hepaticophyta*, *Hepaticophytina*, *Hepaticopsida* or *Hepaticaceae* is inappropriate. *Hepaticae*, always with this termination, is a descriptive name that according to Article 16.1(b) “may be used unchanged at different ranks.” Traditionally it has been used as a class name (vide McNeill & al., 2006: Art. 13.1(c), 13 Ex.1, 53 Ex.18).

Class *Marchantiopsida* Cronquist, Takht. & W. Zimm. in *Taxon* 15: 132–133. 1966 (“*Marchantiatae*”) – Type: *Marchantia* L.

In an annotation to *Marchantiopsida* (Stotler & Crandall-Stotler, 1977) we wrote “stat. nov.” and circumscribed this class to include the identical taxa as the subclass *Marchantiidae* Engl. However, we failed to provide a Latin diagnosis or give a direct reference to Engler, who provided an extensive description in German in Engler & Prantl (1893). Doweld (2001) satisfied the requirements for valid publication of this class name by a footnote reference to the Latin description of *Hepatophyta* in Stotler & Crandall-Stotler (1977). He also gave direct reference to “*Marchantiidae*, Engler, 1893, *in* Engler & Prantl, *Nat. Pflanzen-fam.* I, 3, 91–92: 1, 5 (“*Marchantiales*”).” This is a validly published automatically typified name and publishing *Marchantiopsida* as a stat. nov. for it could likewise constitute valid publication. Following publication of our revised classification of liverworts (Crandall-Stotler & Stotler, 2000), the late R. Grolle (pers. comm.) brought to our attention that the class *Marchantiopsida* had been proposed earlier by Cronquist & al. (1966) with direct reference to “ordo *Hepaticae* Juss. 1789, *Gen. pl.* 7 p.p.”; the authors indicated “pro parte” since they did not include the hornworts in this class. Not only did Jussieu (1789) provide

a description of the natural order *Hepaticae* (= family under Article 18.2), he included the genus *Marchantia*. The direct reference by Cronquist & al. (1966) constitutes valid publication, rendering “*Marchantiopsida* Doweld” (2001) a later isonym (Art. 6 Note 2).

**Subclass *Treubiidae*** Stotler & Crand.-Stotl., **subcl. nov.** – Type: *Treubia* K.I. Goebel

“*Treubiidae* He-Nygrén, Juslén, Ahonen, Glenny & Piippo” was not validly published since no Latin description or diagnosis was provided or referenced (He-Nygrén & al., 2006). *Treubiidae* is here validly published with reference to the Latin description of *Treubiales* by Schljakov in *Bot. Zhurn. (Moscow & Leningrad)* 57: 499–500. 1972.

**Subclass *Haplomitriidae*** Stotler & Crand.-Stotl., **subcl. nov.** – Type: *Haplomitrium* Nees

The same situation exists for this subclass as *Treubiidae* above. No Latin description or diagnosis or reference to one is given (He-Nygrén & al., 2006) to validly publish “*Haplomitriidae* He-Nygrén, Juslén, Ahonen, Glenny & Piippo”. *Haplomitriidae* is here validly published with reference to the Latin description of *Haplomitriales* by Schljakov in *Bot. Zhurn. (Moscow & Leningrad)* 57: 499. 1972.

Superorder *Jungermannianae* Schljakov in *Bot. Zhurn. (Moscow & Leningrad)* 57: 501. 1972 – Type: *Jungermannia* L.

Obviously, Frey & Stech (2005) overlooked the valid publication of this superorder by Schljakov (1972) as did Crosby & Magill (2006). “*Jungermannianae* W. Frey & Stech, superord. nov.” is redundant in Frey & Stech (2005: 69), who established a later isonym that has no nomenclatural status.

Order *Haplomitriales* H. Buch ex Schljakov in *Bot. Zhurn. (Moscow & Leningrad)* 57: 499. 1972 – Type: *Haplomitrium* Nees

Stotler & Crandall-Stotler (1977) ascribed the name *Haplomitriales* to Bold (1973) being unaware that Buch (1936) had already proposed that ordinal name, albeit with a Finnish diagnosis only. Furthermore, Schljakov (1972) had ascribed the name to Buch and provided a Latin diagnosis to validly publish it, rendering “*Haplomitriales* Bold ex Stotler & Crand.-Stotl.” a later isonym, which has no nomenclatural status. If *Haplomitriales* and *Calobryales* are considered to comprise a single order, which follows contemporary thought, then the preferred ordinal name would be *Calobryales*, as shown below, in accordance with Rec. 16B of the *ICBN*.

Order *Calobryales* Hamlin in *Rec. Domin. Mus.* 7: 315. 1972 – Type: *Calobryum* Nees

Smith (1938) was the first to actually use *Calobryales* as an ordinal name. Although earlier Campbell (1920: 12) had written that “perhaps an order *Calobryales*, should be established,” he never did so. Even 20 years later, in his *Evolution of Land Plants* Campbell (1940: 73) still hesitated to recognize the order, and wrote that three orders “... may be recognized, and possibly a fourth, *Calobryales*, might be added.” This name was later validly published with a Latin description by Hamlin (1972), at approximately the same time that Schljakov validly published *Haplomitriales*. As Grolle (1983: 44) pointed out though, the date of issue on the Hamlin paper was 28 March, while the Schljakov paper was not issued until sometime in April. The recent citation “*Calobryales* Campb. ex Schuster (1966, p. 629)” in Schuster (2000) is incorrect since Schuster (1966) never validly published that name.

Order *Pelliales* He-Nygrén, Juslén, Ahonen, Glenny & Pippo in *Cladistics* 22: 27. 2006 – Type: *Pellia* Raddi  
*Pelliales* was initially used by Frey & Stech (2005) who wrote “*Pelliineae* R.M. Schust. ex Schljakov stat. nov.” However, they failed to provide the reference to the Schljakov publication in order to validly publish this name. He-Nygrén & al. (2006) proposed both the order *Pelliales* and subclass *Pelliidae* with direct reference to the Latin diagnosis of Schljakov (1972: 500) for both names.

Order *Metzgeriales* Chalaud in *Ann. Bryol.* 3: 41. 1930 – Type: *Metzgeria* Raddi

In a previously proposed system of classification (Crandall-Stotler & Stotler, 2000) we cited Schljakov (1972) as the author of *Metzgeriales* because he provided a Latin diagnosis. Prior to that diagnosis in his publication (Schljakov, 1972: 500), Schljakov wrote “Ordo *Metzgeriales* Chalaud, 1930, *Ann. Bryol.*, 3: 41, sine descr. lat.” Through a lapsus, we overlooked the fact that the date 1930 preceded the 1 January 1935 requirement for a Latin description or diagnosis (Article 36.1). The treatment in Chalaud (1930) consisted of a single sentence: “J’ai désigné très généralement les *Jungermanniales anacrogynes* sous le nom de *Metzgeriales*,” an admittedly terse diagnosis. Nonetheless, it is adequate, contrary to the argument by Schuster (1992: 287), who disregarded it and credited the first diagnosis to Schuster (1953).

Following his brief diagnosis of *Metzgeriales*, Chalaud (1930) cited “Underwood 1894” parenthetically. That reference is not relevant at the rank of order since Underwood (1894: 361) considered the “*Jungermanniaceae anacrogynae* of Leitgeb and Schiffner” to comprise the family *Metzgeriaceae*.

Suborder *Jungermanniiineae* R.M. Schust. ex Stotler & Crand.-Stotl. in *Bryophyte Biol.*: 64. 2000 – Type: *Jungermannia* L.

Our treatment of this taxon (Crandall-Stotler & Stotler, 2000) was said to be redundant in Crosby & Engel (2006) who listed “*Jungermanniiineae* subord. R.M. Schuster, J. Hattori Bot. Lab. 26: 231. 1963” as a validly published name. However, the Latin diagnosis on page 231 in Schuster (1963) is for valid publication of the name *Pleuroziinae* R.M. Schust., not *Jungermanniiineae*. Thus, Schuster did not validly publish the name.

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