Acta Bot. Neerl. 26(6), December 1977, p. 493–495.

SOME TYPIFICATIONS AND A NEW SUBGENUS OF LOPHOCOLEA (DUM.) DUM. (HEPATICAE)

D. A. J. VOGELPOEL

Biologisch Centrum, Vakgroep Plantensystematiek, Haren (Gr.)

The present paper is preliminary to a monographic treatment of the genus *Lophocolea* (Dum.) Dum. in Europe. The main purpose is to make the lectotypes and the new subgenus *Microlophocolea* (Spruce) Vogelpoel available for use in floras and other publications. The citation of herbaria is according to HOLMGREN & KEUKEN (1974). Material studied by the author is indicated by a note of exclamation (!).

1. **Lophocolea bidentata** (L.) Dum. *Recueil Observ. Jung.:* **17**. Tournay 1835. Basionym: *Jungermannia bidentata* Linné (1753): 1132.
Lectotypus nov.: Great Britain: OXF, Herbarium specimens to Dillenius, Hist. Musc.: 487: Lichenastrum no. 11 tab. 70 fig. 11. Oxford 1741 (!). *Isolectotypus:* H-SOL (Isoviita 1970) (!).
The herbarium of Linné in LINN (!) does not contain original material of *Lophocolea*. Four synonyms are cited by LINNÉ (1753): Michelius, Nov. Plant. Gen. 8, Jungermannia Ordo 6 no. 3 tab. 5 fig. 12, Florence 1729; Dillenius (1741); Vaillant, Botan. Paris. : 99 tab. 19 fig. 8, Leiden & Amsterdam 1727; Morison (Bobart), Plant. Hist. Oxon. 3:627, Sect. 15 tab. 6 fig. 47, Oxford 1699. The herbarium of Michelius in FI (!) contains good material with perianths and young male branches. The herbarium of Dillenius in OXF contains excellent and abundant material with sporophytes and antheridia in an autoecious position. The duplicate in H-SOL contains rather scanty material with perianths. The herbarium of Vaillant in P was not available for study but a duplicate in H-SOL (!) contains some stems with perianths. The herbarium of Morison in OXF (!) contains three collections, two of which are *Chiloscyphus polyanthus* (L.) Corda, whereas the third is morphologically identical with the other syntypes of *Jungermannia bidentata* L. Because the Morison collections are heterogeneous they are to be rejected as syntypes. The herbarium of Dillenius in OXF contains the best material and moreover there is an isotype available in H-SOL. Therefore Dillenius' collections are the best choice for a lectotype. All *Lophocolea* specimens in the herbaria mentioned are morphologically very closely related and all do fall within the circumscription of *Lophocolea cuspidata* (Nees) Limpricht (1876): 303. None of all the syntypes falls within the circumscription of *Lophocolea bidentata* Limpricht (1876): 301 (non (L.) Dum. 1835). Therefore the interpretation of Limpricht (1876) has to be rejected, and *Lophocolea bidentata* Limpr. has to be considered as a later homonym.

2. **Lophocolea bidentata** (L.) Dum. var. **latifolia** (Nees) Rabenh. Hep. Eur. Exs.: 133. Leipzig 1860. Basionym: *Lophocolea latifolia* Nees (1836): 334 (excl. ?β *cuspidata* Nees ex Gott., Lindenb. & Nees. Synops. Hep.: 161. Hamburg 1845 = *Lophocolea bidentata* (L.) Dum. var. *bidentata*).
Lectotypus nov.: Salzburg, Austria, leg. Funck: W, Hb. Lindenb. Hep. no. 4198 (manu Nees) (!). *Isolectotypus:* BM, Hb. Hampe (!).
The herbarium of Nees in STR does not contain original material of *Lophocolea latifolia*. Lindenberg Hep. no. 4198 has been annotated by NEES (1836) and later by LIMPRICHT (1876), SCHIFFNER (1910) and MUELLER (1954). The latter three authors consider *Lophocolea latifolia* Nees to be a synonym of *Lophocolea bidentata* Limpr. (non (L.) Dum.). *Lophocolea latifolia* Nees is in fact a good variety of *Lophocolea bidentata* (L.) Dum.

3. **Lophocolea heterophylla** (Schrad.) Dum. Recueil Observ. Jung.: 18. Tournay 1835.
Basionym: *Jungermannia heterophylla* Schrad. Journ. für die Bot. (1): 66. 1803.
Lectotypus nov.: Germany: LINN, Hb. Smith no. 32 (!).
Isolectotypus: S, Hb. F. Web. (!); S, Hb. Sw. (!); W, Hb.
Lindenb. Hep. no. 4227 (!), no. 4236 (!).
The herbarium of Schrader in LEN (!) does not contain original material of *Jungermannia heterophylla*. The above types all have been sent to the herbaria mentioned by Schrader himself and are annotated "Jungermannia heterophylla mihi spec. nov.". The collection in LINN is the largest and best developed one, with sporophytes and antheridia in a paroecious position, but no doubt exists about the identity of the cited isotypes. The collection in LINN has been used as basis for the description and drawing in HOOKER (1812): 31. The description and drawing are copied or cited in many later works, e.g. EKART (1832): 41.

4. **Lophocolea** subgenus **Microlophocolea** (Spruce) Vogelpoel stat. nov.
Basionym: *Lophocolea* § (series) *Microlophocolea* Spruce. Trans. Proc. Bot. Soc. Edinb. 15:426. 1885.
Lectotypus (GROLLE 1976: 262) *Lophocolea liebmanniana* Gott.
Subgenus *Microlophocolea* differs from subgenus *Lophocolea* by the smaller size of the plants, the inconspicuously bidentate leaves with irregularly dentate or serrulate margins, the tiny median leaf cells (12–25 μm) with slightly incrassate cell-walls and small trigones, by large mamillate spines on many cells either of perianth and bracts or throughout the whole plant and by the inflated perianth. The subgenus *Microlophocolea* consists of one or two dozen mainly tropical species, the most common pantropical species being *Lophocolea muricata*. In Europe the only species is *Lophocolea fragrans*. All species of this group are closely related, but they share all characters with the subgenus *Lophocolea* which differentiate the genus *Lophocolea* (Dum.) Dum. from the other genera of the *Lophocoleaceae* (Joerg.) Vand. Bergh. Therefore, *Microlophocolea* has to be maintained, perhaps provisionally, within the genus *Lophocolea* (Dum.) Dum., pending a monographic treatment of this genus.

ACKNOWLEDGEMENTS

I thank dr. C. van den Hoek for critical reading of the manuscript. I am especially grateful to dr. R. Grolle for the advice in both nomenclatural and taxonomic problems. For permission to study herbarium specimens I express my gratitude to the curators of the herbaria of BM, FI, H, LINN, OXF, S and W.

REFERENCES

EKART, T. P. (1832): *Synopsis Jungermanniarum in Germania Vicinisque Terris Hucusque Cognitarum*. Coburg.

GROLLE, R. (1976): Verzeichnis der Lebermoose Europas und benachbarter Gebiete. *Feddes Repert.* **87**: 171–279.

HOLMGREN, P. K. & W. KEUKEN (1974): *Index Herbariorum Part I. ed. 6. Regnum Vegetabile 92*, Oosthoek, Utrecht.

HOOKER, W. J. (1812): *British Jungermanniae* fasc. 1–8. London.

ISOVIITA, P. (1970): Dillenius' Historia Muscorum. *Acta Bot. Fenn.* **89**: 1–28.

LIMPRICHT, G. (1876): Lebermoose in: COHN, F., *Kryptogamen-Flora von Schlesien* I: 225–352. Kern, Breslau.

LINNÉ, C. VON (1753): *Species plantarum*. Salvius, Stockholm.

MUELLER, K. (1951–1958): Die Lebermoose Europas, in: RABENHORST, L., *Kryptogamenflora*, ed. 3, bd. **6**. Kummer, Leipzig. (Lophocolea p. 594–607, 1954).

NEES VON ESENBECK, C. G. (1836): *Naturgeschichte der Europaïsche Lebermoose II*. Berlin.

SCHIFFNER, V. (1910): Kritische Bemerkungen über die europaïschen Lebermoose. VI. Sitzber. in *Lotos* **1910**: 72–76, 87–104.