

## *Haradaea afromontana*, comb. nov. (Microbotryaceae)

Cvetomir M. Denchev

Institute of Life Science and Natural Resources, Korea University, Seoul 136-701, Korea (e-mail: cmdenchev@yahoo.co.uk)

Received 2 December 2006 / Accepted 16 December 2006

**Abstract.** A new combination of *Microbotryum afromontanum* on *Cerastium afromontanum* in *Haradaea* is proposed.

**Key words:** Caryophyllaceae, *Haradaea*, *Microbotryum*, smut fungi

Recently, it has been demonstrated that the genus *Microbotryum* should be reduced only to the group of the anthericolous species (incl. *M. majus*) on Caryophyllaceae (Almaraz *et al.* 2002; Denchev *et al.* 2006; Kemler *et al.* 2006). For accommodation of the seed-destroying species of *Ustilago* on Caryophyllaceae, a new genus, *Haradaea*, was described (Denchev *et al.* 2006) uniting seven species: *H. alsineae* (G.P. Clinton & Zundel) Denchev & H.D. Shin, *H. arenariae-bryophyllae* (Vánky) Denchev & H.D. Shin, *H. duriaeana* (Tul. & C. Tul.) Denchev & H.D. Shin, *H. holostei* (de Bary) Denchev & H.D. Shin, *H. jehudana* (Zundel emend. Denchev) Denchev & H.D. Shin, *H. moenchiae-manticae* (Lindtner) Denchev & H.D. Shin, and *H. nivalis* (Liro) Denchev & H.D. Shin. Additionally, *Ustilago moehringiae* Togashi & Y. Maki has also been transferred in *Haradaea*, viz. *H. moehringiae* (Togashi & Y. Maki) Denchev (Denchev *et al.* in press).

Vánky (2006: 50) described a new species of *Microbotryum*, *M. afromontanum*, on *Cerastium afromontanum* T.C.E. Fr. & Weimark (Caryophyllaceae) from Ethiopia. As this species is also a seed-destroying species on members of the Caryophyllaceae, similar in its symptoms and morphology to other species of *Haradaea*, we propose its transferal to this genus.

*Haradaea afromontana* (Vánky) Denchev, *comb. nov.*

Basionym: *Microbotryum afromontanum* Vánky, *Mycotaxon* 95: 50, 2006.

For its description and illustrations see Vánky (l.c.).

In the article establishing *Haradaea* (Denchev *et al.* 2006), the results of Almaraz *et al.* (2006), based on ITS rDNA, were taken into consideration and cited. After the publication of *Haradaea*, however, it was learned that the sequences that they reported as being from *Ustilago duriaeana* were, in fact, those of *Cryptococcus* spp. due to contamination (Ch. Roux, pers. comm.). Nevertheless, the results from the investigated sequences of the other specimens in this article, as well as those in Kemler *et al.* (2006), confirm the proposal that *Microbotryum* should be restricted to the group of anthericolous species on Caryophyllaceae. On the basis of our current knowledge the seed-destroying species on Caryophyllaceae should not be treated as species of either *Ustilago* or *Microbotryum*, as they have been traditionally and in many

recent literature sources (cfr Vánky 1994, 1998), but as members of either *Haradaea* or *Baubinus* (Denchev *et al.* in press). Definitive assignments, though, must await further molecular and/or ultrastructural investigations.

**Acknowledgements.** The author gratefully acknowledges Dr Royall T. Moore (University of Ulster, Coleraine, Northern Ireland, UK) for reading the manuscript; Prof. Christophe Roux (University of Toulouse, France) for valuable information and comments provided for the author's disposal; and Dr Paul Kirk (CABI, Bioscience, UK) for comments on the validly publishing of *Baubinus*. This work was supported by The Korea Research Foundation and The Korean Federation of Science and Technology Societies Grant funded by Korea Government (MOEHRD, Basic Research Promotion Fund).

### References

- Almaraz, T., Roux, Ch., Maumont, S. & Durrieu, G. 2002. Phylogenetic relationships among smut fungi parasitizing dicotyledons based on ITS sequence analysis. – *Mycological Research* 106: 541-548.
- Denchev, C.M., Moore, R.T. & Shin, H.D. 2006. A reappraisal of the genus *Baubinus* (Microbotryaceae). – *Mycologia Balcanica* 3: 71-75.
- Denchev, C.M., Kakishima, M., Shin, H.D. & Lee, S.K. In press. Notes on some Japanese smut fungi. III. *Ustilago moehringiae*. – *Mycotaxon*.
- Kemler, M., Göker, M., Oberwinkler, F. & Begerow, D. 2006. Implications of molecular characters for the phylogeny of the Microbotryaceae (Basidiomycota: Urediniomycetes). *BMC Evolutionary Biology* 6 [http://www.biomedcentral.com/1471-2148/6/35 (viewed on line on 9 May 2006)].
- Vánky K. 1994. *European smut fungi*. Stuttgart, Jena, New York, Gustav Fischer Verlag.
- Vánky, K. 1998. The genus *Microbotryum* (smut fungi). – *Mycotaxon* 67: 33-60.
- Vánky, K. 2006. Taxonomic studies on Ustilaginomycetes. – 26. – *Mycotaxon* 95: 1-65.