

Outlineoffungi.org - Note 1109 *Asterocalycella*

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Asterocalycella Höhn. ex R. Kirschner

Asterocalycella was erected by Kirschner et al. (2019) as a nom. nov. for the illegitimate *Asterocalyx* Höhn. 1912 (non *Asterocalyx* Ettingsh. 1888, fossil *Dioscoreaceae*), with the type species *A. mirabilis* (Höhn.) R. Kirschner. Only two species have been described in *Asterocalyx* or *Asterocalycella*, but genetic and morphological variation among specimens that have been sequenced show there are several additional undescribed species in this fern-inhabiting genus. ITS sequences from specimens from Australia (MH578457), New Zealand (MH578456) and Taiwan (MK088084) differ sufficiently to suggest they are different species. The New Zealand and Australian specimens differ also in ascus and ascospore size, and somewhat in macroscopic appearance (P.R. Johnston, unpubl. data). Spooner (1987) noted that the Australian specimen he examined was morphologically somewhat different from the type specimen from Java. Kirschner et al. (2019) reported specimens with white as well as with the more typical dark-colored apothecia, suggesting more than one species in Taiwan. There appears to be a set of closely related, undescribed *Asterocalycella* species on ferns in Australasia and tropical Asia. Only rDNA sequences are available for *Asterocalycella*; an unpublished analysis based on concatenated SSU, ITS and LSU sequences (MH578566, MH578456, MH587169) show a strongly supported relationship with *Godroniaceae* but lifestyle (saprobic on tree ferns) is very different to other genera in this family (pathogens of angiosperms and gymnosperms), so this position needs confirming with additional genes.

References

- Kirschner R, Lee PH, Huang YM. 2019 – Diversity of fungi on Taiwanese fern plants: review and new discoveries. *Taiwania* 64(2), 163–175.
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- Spooner BM. 1987 – *Helotiales* of Australasia. *Geoglossaceae, Orbiliaceae, Sclerontinaceae, Hyaloscyphaceae*. *Bibliotheca Mycologica* 116, 1–711.

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