### Outlineoffungi.org - Note 957 Sinuicella

## Web-links: Index Fungorum, Facesoffungi, MycoBank, GenBank

#### Sinuicella D.F. Stone, McCune & Miądl.

Sinuicella was introduced as a monotypic genus to accommodate S. denisonii D.F. Stone, McCune & Miadl. as the type species based on distinct phylogenetic, morphological and ecological characteristics (Stone et al. 2021). The species showed a similar superficial appearance to Leptogidium thalli such as dichotomously branching thalli and interlocking cells forming the nearly smooth cortex (Muggia et al. 2011). At the microscopic level, the species exhibited similarity to Leptogidium contortum in a Nostoc-containing cyanolichen with cortical cells shaped like jigsaw puzzle pieces but differs in the habitat as the species of Sinuicella was reported on the soil and the latter occurs on trees in the USA. The species differs from other similar species such as L. contortum and L. dendriscum in the presence of a cNostoc photobiont and the latter showed Rhizonema as a photobiont (Lücking et al. 2009, Cornejo et al. 2016). The genus formed a strong monophyletic clade between Solorina and Peltigera within Peltigeraceae in the combined multigene phylogenetic analysis based on ITS, SSU and LSU sequence data. The placement was further supported in the morphological characters including the pronounced hemiangiocarpous development of the apothecia (Henssen 1981), and the presence of the peltigera-type ascus apex (Honegger 1978, Bellemère and Letrouit-Galinou 1981), strong amyloid ring and ascospores morphology. Pycnidia were not observed (Stone et al. 2021). The taxonomic placement of Sinuicella is in Peltigeraceae, Peltigerales, Lecanoromycetes, Pezizomycotina and Ascomycota.

### References

- Bellemère A, Letrouit-Galinou MA. 1981 The Lecanoralean ascus: an ultrastructural preliminary study. In Reynolds DR (ed.), Ascomycete Systematics. The Luttrellian Concept. New York, Heidelberg & Berlin: Springer-Verlag 54–69. https://link.springer.com/chapter/10.1007/978-1-4612-5844-5 5
- Cornejo C, Nelson PR, Stepanchikova I, Himelbrant D, Jørgensen PM, Scheidegger C. 2016

   Contrasting pattern of photobiont diversity in the Atlantic and Pacific populations of *Erioderma pedicellatum (Pannariaceae)*. Lichenologist 48, 275–291. https://doi.org/10.1017/S0024282916000311
- Henssen A. 1981 The lecanoralean centrum. In Reynolds DR (ed.), Ascomycete Systematics. The Luttrellian Concept. New York, Heidelberg & Berlin: Springer-Verlag 138–232.
- Honegger R. 1978 The ascus apex in lichenized fungi I. The *Lecanora, Peltigera* and *Teloschistes*-types. Lichenologist 10, 47–67. https://core.ac.uk/download/pdf/85216472.pdf
- Lücking R, Lawrey JD, Sikaroodi M, Gillevet PM, Chaves JL, Sipman HJ and Bungartz F. 2009 – Do lichens domesticate photobionts like farmers domesticate crops? Evidence from a previously unrecognized lineage of filamentous cyanobacteria. American Journal of Botany 96, 1409–1418. <u>https://doi.org/10.3732/ajb.0800258</u>
- Muggia L, Nelson P, Wheeler T, Yakovchenko LS, Tønsberg T, Spribille T. 2011 Convergent evolution of a symbiotic duet: the case of the lichen genus *Polychidium* (Peltigerales, Ascomycota). American Journal of Botany 98, 1647–1656. <u>https://doi.org/10.3732/ajb.1100046</u>
- Stone DF, McCune B, Pardo-De la Hoz CJ, Magain N, Miadlikowska J. 2021 *Sinuicella denisonii*, a new genus and species in the *Peltigeraceae* from western North America. The Lichenologist 53(2), 185–192.

# https://doi.org/10.1017/S0024282920000584

# Entry by

**Vinodhini Thiyagaraja**, CAS Key Laboratory for Plant Biodiversity and Biogeography of East Asia, Kunming Institute of Botany, Chinese Academy of Science, Kunming 650201, Yunnan, People's Republic of China; Department of Entomology and Plant Pathology, Faculty of Agriculture, Chiang Mai University, Chiang Mai 50200, Thailand; Center of Excellence in Fungal Research, Mae Fah Luang University, Chiang Rai 57100, Thailand.

(Edited by Kevin D. Hyde & Maryam Tavakol Noorabadi)

Published online 2 April 2024