

Taxonomic revision of *Orientophila*

Akira Hashimoto, Moriya Ohkuma

RIKEN BioResource Research Center, Japan

Purpose: *Orientophila* (Teloschistaceae, Teloschistales) is characterized by crustose thallus with or without lobes, paraplectenchymatous cortex, zeorine ascomata, polardiblastic ascospore. Since the establishment of this genus, nine taxa have been described from Asian coasts. Although the genera was established based on tree topologies generated in previous molecular studies, morphological features to distinguish related genera is still not explored and needed revision. The main objectives of the present study were to establish a taxonomic framework within *Orientophila*.

Methods: A total of nine specimens were used for morphological observations and phylogenetic analyses. Phylogenetic analyses based on ITS, partial LSU, and partial mtSSU regions were conducted using ML and Bayesian methods.

Results: We found several cryptic species that were morphologically similar to *O. dodongensis*. These species could be separated on the number of apical cell, branching pattern of paraphysoid, and size and septum thickness of ascospore, and these features seem to be informative for species delimitation within this genus.

Conclusions: An expanded generic concept of *Orientophila* is considered to accommodate species having non-seashore habitats, non-saxicolous species that were traditionally especially emphasised as a useful character for genetic circumscription in lichenized fungi. Although the thickness and differentiation of thallus were unstable characteristics depending on different conditions (i.e., substrate and environment), their peridial features, such as the existence of the anthraquinones layer, positions of algae, the contexture of the peridium were always stable at even on different conditions. These anatomical feature could be useful for generic circumscriptions.