A310 Phylogenetic Classification of the Order Aphyllophorales Based on Nuclear Small Subunit Ribosomal RNA Gene Sequences

Seon Young Kim* and Hack Sung Jung
Department of Microbiology, College of Natural Sciences, and Research Center for Molecular Microbiology, Seoul National University

Monophyletic grouping of the order Aphyllophorales was performed based on nuclear small subunit ribosomal RNA gene sequences. Eighteen out of 23 families suggested by Donk were subject to the study. Almost all the families were unnatural and polyphyletic. Based on both molecular data and morphological characters, a new classification system is suggested as follows. Hyphodermataceae, Phanerochaetaceae, Fomitopsidaceae, Laetiporaceae, Amylostereaceae, Cystostereaceae, Stereaceae, Hericiaceae, Podoscyphaceae, and Chaetodermataceae are either newly suggested or emended from previous family circumscriptions. The Polyporaceae s. s. is suggested from previous huge and polyphyletic family. The Hymenochaetaceae is emended to include *Trichaptum* which has the same imperforate parenthosomes. The Botryobasidiaceae was separated from the Corticiaceae s. l. Molecular data elucidated that amyloidity of spores, spore surface ornamentation, type of nuclear spindle body, parenthosome structure, hyphal system, and type of rot were important characters in the taxonomy of the order Aphyllophorales.

A311 Phylogeny of *Ganoderma*

Soon-Gyu Hong* and Hack Sung Jung
Department of Microbiology, College of Natural Sciences, and Research Center for Molecular Microbiology, Seoul National University

Phylogenetic relationships among 13 species and 36 strains of *Ganoderma* were inferred using sequences of mitochondrial small subunit ribosomal RNA. *Ganoderma* was grouped into four major groups. The first group was consisted of *G. lucidum* (from Korea and Japan) and *G. meredithae* and *G. oerstedii* (from Argentina). The second group was consisted of *G. lucidum* (from North America and Taiwan), *G. resinaceum* (from South America, North America and Europe), *G. subamboinense* var. *laevisporum*, and *G. pfeifferi*. The third group was consisted of *G. tsugae* (from North America), *G. valesiacum* (from Europe and North America), *G. oregonense* (from North America) and *G. lucidum* (from Europe). The fourth group was consisted of *G. applanatum* (from Japan and Europe) and *G. colossus* (from North America). From above results, it is suggested that *G. lucidum* from East Asia should be delimited from American and European species as a new variety and named *G. lucidum* var. *orientalis*. And *G. lucidum* from America could be a synonym with *G. resinaceum*. But *G. oregonense*, *G. tsugae* and *G. valesiacum* couldn't be distinguished in view of phylogeny and it is concluded that they should be grouped into a single species.