**Polycephalomyces yunnanensis** (Hypocreales), a new species of *Polycephalomyces* parasitizing *Ophiocordyceps nutans* and stink bugs (hemipteran adults)

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**Abstract**

*Polycephalomyces yunnanensis* is described as a new species that parasitizes *Ophiocordyceps nutans* and stink bugs (hemipteran adults). It is characterized by the production of a viscous mass at the apex of its synnema, and it has two types of conidia (α- and β-conidia) and phialides (α- and β-phialides). A morphological and ecological investigation revealed that *P. yunnanensis* is distinct from any known species in the genus. Phylogenetic analyses based on the ITS and 5-locus (nrSSU, nrLSU, tef-1α, rpb1 and rpb2) data supported the treatment of this fungus as a distinct species.

**Key words:** Ecology, morphology, phylogenetic analyses, synnemata

**Introduction**

The genus *Polycephalomyces* Kobayasi was established based on the species *P. formosus* Kobayasi (1941: 245) and the diagnostic characteristic of highly branched synnemata (Kobayasi 1941). *Polycephalomyces ramosus* (Peck) Mains(1948: 414) and *P. cylindrosporus* Samson & H.C. Evans (1981: 297) were later added (Mains 1948, Samson et al. 1981). Seifert (1985) recognized four species: *P. formosus*, *P. ramosus*, *P. cylindrosporus* and *P. tomentosus* (Schrader) Seifert (1985: 175). Species in this genus were characterized by white synnemata that may brown with age, with slimy yellow conidial masses, small conidia, terminal awl-shaped phialides or acropleurogenously developing phialides. Bischoff et al. (2003) segregated *P. tomentosus* from *Polycephalomyces* and transferred it to the genus *Blistum* Sutton.


During the investigation of *Ophiocordyceps nutans* (Pat.) G.H. Sung, J.M. Sung, Hywel-Jones & Spatafora (2007: 45), a synnematous fungus was identified that parasitizes the stromata of *O. nutans* and stink bugs. It was collected...