

Nakazawaea tricholomae sp. nov. , a novel ascomycetous yeast species isolated from two mushrooms in China

Min Liu¹, You-Liang Jiang¹, and Qi-Ming Wang¹

¹Hebei University College of Life Sciences

April 4, 2023

Abstract

Two new yeast strains designated as 20-27-1 and 20-28 were isolated from the fruiting body of *Tricholoma gambosum* and *Marasmius maximus*, respectively, which were collected in Wudaogou, Weichang county, Chengde area, Hebei Province, China. Analysis of the sequences of the D1/D2 domains of the large subunit (LSU) rRNA gene and the internal transcribed spacer (ITS) regions showed that the two new strains differed from each other by one nucleotide substitutions in the D1/D2 domains and were identical in the ITS regions. The combined ITS and D1/D2 sequences phylogenetic analysis showed that the two strains were closely related to *Nakazawaea ernobii* and *Nakazawaea holstii* and differed from them by 99.3% (substitution: deletion 3: 1) and 98.7% (substitution: deletion 6: 1) similarity in D1/D2 domains, respectively. About 97.1% similarity of ITS sequences was presented between the two new strains and the two known species. Physiologically, those two new strains differed from *N. ernobii* and *N. holstii* by assimilation of melibiose, inulin, D-glucosamine, soluble starch and DL-lactate. The phenotypic and phylogenetic analyses indicated that those two strains represent a novel species of the genus *Nakazawaea*. Therefore, the name *Nakazawaea tricholomae* sp. nov. was proposed for those two strains. The holotype is deposited in China General Microbiological Culture Collection Center as CGMCC 2.7006^T. The new species name is registered in Fungal Names as FN 571492.

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