

Redescription and estimation of phylogenetic position of *Keronopsis helluo* Penard, 1922 from Antarctica and *Paraholosticha pannonica* Gellért and Tamás, 1959 from Alaska (Ciliophora, Hypotricha)

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## Abstract

Protozoa are one cell animals and estimated to have originated 1.5 million years ago on earth. Although protozoan ciliates are important ecological players in various habitats worldwide (Small and Lynn 1985), diversity and distribution of Antarctic ciliates have been little investigated and up to date only ca. 70 species are reported (Foissner, 1998; Jung et al., 2015). They can enter an inactive phase making cysts that protect the cell from the desiccation, frozen and extreme heat, etc.

To see what kind of ciliate exist and where they live in a barren Antarctic environment as well as their role in Antarctic ecosystem, we collected soils samples from 2014 to 2017 during summer activities which cover 200 sites on South Shetland Islands, Western Antarctica, Terra Nova Bay, Eastern Antarctica and Puntas Arenas, Chile. We mainly studied morphological classification, molecular

phylogeny, and ecological interaction of ciliate to their habitats. Then, we analysed genetic information using NGS (Miseq) for identifying presence of non-culturable ciliates and establishing ciliate communities and try to correlate them with environmental data further.

Up to now, we added over fourteen ciliates including three new Antarctic ones. Here, we introduced two little-known species of the Keronopsidae Jankowski, 1979, *Keronopsis helluo* Penard, 1922 as type species of the genus *Keronopsis*, and *Paraholosticha pannonica* Gellért and Tamás, 1959.