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Systematic studies on ciliates (Alveolata, Ciliophora) in China: progress and achievements based on molecular information

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Abstract

Due to complex morphological and convergent morphogenetic characters, systematics of ciliates has long been ambiguous. Since 1990, Laboratory of Protozoology, Ocean University of China, in collaboration with other research groups worldwide, has carried out a series of integrative investigations on ciliate systematics. To date, genomic DNA has been extracted from about 1700 ciliate strains, and phylogenetic analyses have been performed for two thirds orders. Main findings are: 1) Classifications of about 50 hypotrichous species have been resolved, although the monophylies of three hypotrichous orders remain unconfirmed; 2) Euplotia and two orders and all seven families within them are monophyletic assemblages; 3)