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A taxonomic revision of order Pilisuctorida (Ciliophora, Apostomatia) with keys to the subordinate taxa

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Abstract

The article is to present a review of the taxonomic literature of pilisuctorid ciliates and new data from samples taken in Ukraine and Mexico. In order to contribute to the knowledge of this specialised ciliate group, the present article contains the general characteristics of order Pilisuctorida members, information on morphology and life cycles of all its representatives and some own data on distribution of three species of genus *Conidophrys* in Ukraine and Mexico. The taxonomic composition of this order, and diagnoses of all taxa are also included, as well the keys to the taxa.

Key words: Ciliates, pilisuctorids, systematics, taxonomy, hosts, Ukraine, Mexico

Introduction

The order Pilisuctorida Jankowski, 1966 is included in subclass Apostomatia Chatton et Lwoff, 1928, its members are parasites mainly of crustaceans, and their trophonts are located beneath of the cuticle or attached to setae of crustacean hosts feeding of their interstitial fluid.

With the exception of freshwater amphipod crustaceans in Mexico (Mayén-Estrada and Aladro-Lubel 2004), and crustaceans of Crimean Mountains of Ukraine (Dovgal and Boshko 2007) records, pilisuctorid ciliates species are symbionts of marine organisms.

The group includes 7 species, and several problems concerning aspects such as systematic and nomenclature of this group of ciliates exist (Jankowski 2007). Moreover, species identification is problematic, and often is based rather on host specificity than on morphological characters of the ciliate (Dovgal 2007), and consequentely keys for pilisuctorid ciliate taxa has not been developed yet.

However, we believe that host specificity of pilisuctorids is not so strict, as it had been assumed by some authors, and methods of taxa identification based on morphology are necessary.

The goal of the present work is to present a review of the taxonomic literature of pilisuctorid ciliates and new data from samples taken in Ukraine and Mexico, with the objective of revising the taxonomy of the group and proposing a morphological key for identification of species.

Material and methods

We reviewed all available literature to obtain the pilisuctorid species records and taxonomy. Additionally, new data are provided, this is the case of Ukranian crustaceans which were collected with a mesh net or by manual sampling in marine shores or riversides, at seven points:1) Crimea coast of the Black Sea, near Karadag reserve; 2) Crimea coast of the Black Sea near Lazurnoye village; 3) stream near cave Skelskaya (Crimea); 4) Pridorozhnoe village, Dzankoj region (Crimea); 5) Arabatskaya spit near Strelkovoe village; 6) Sivash Gulf of Azov Sea (Arabatskaya spit near preserve Arabatskij, Crimea); 7) Kamysh-Burun bay of the Black Sea. Crustaceans were separated, fixed

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