Phylogenetic position of Antarctic piscicolid leeches

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Fish leeches (Hirudinea) in Antarctica occur in marine habitats. Some members of the family are restricted to the Southern Ocean only and have not been recorded from other parts of the world (Utevsky 2007). Our study is focused on piscicolid leeches from notothenioid fishes in Prince Gustav Channel (Weddell Sea, Antarctica) to report their species composition and phylogenetic position in polar areas.

Our material was measured and documented by light microscope as well as scanning electron microscopy. Phylogenetic analyses were performed combining nuclear 28S rRNA gene portion, mitochondrial nicotinamide adenine dinucleotide dehydrogenase subunit one (ND1) and cytochrome oxidase subunit one (COI) fragments.

Totally, 23 specimens belonging to four species have been collected from *Trematomus bernacchii* (prevalence 33%, intensity of infection 1-4), *T. hansoni* (6%, 1-3), and *Notothenia coriiceps* (7%, 1). Leeches specimens were identified as representatives of four different genera: *Notothenibdella* (Piscicolinae), *Trulliobdella* (Piscicolinae), *Moorebdellina* (Pontobdellinae), and *Crangonobdella* (Platybdellinae) from which two of them are already described species (*T. capitis* and *N. sawyeri*) and the rest is considered as new for science. They differed in host body localization (gills or under gill lids, skin and fins).

Phylogenetic reconstruction of piscicolids in polar areas placed collected species into three different clades and confirmed previous suggestions about polyphyly of subfamily Platybdelinnae and historical connections between Arctic and Antarctic leeches. Moreover, our results show low support in the deeper-levels of most of the clades indicating still high portion of undescribed species richness together with missing molecular data. Global phylogenetic interactions of piscicolids in order to reveal origin of selected leeches species in Antarctica.

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Key words: ectoparasite, Antarctica, Hirudinea, *Trematomus*, *Notothenia*

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