Data: Diversity of Fish parasites of the Penzhina River (Kamchatka Krai, Russia)

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Abstract

The study of the fauna of fish parasites helps to understand the ways of formation of ichthyofauna and obtain a more complete knowledge of the biodiversity of the aquatic ecosystem as a whole. Parasitologically, the Penzhina River, one of the largest and most inaccessible rivers in the Russian Far East, remained poorly studied for a long time. Penzhina is characterized by an unusually extended mouth area, its estuary is distinguished by extremely high tides, up to 13.0 m, which is the highest tide in Russia. Rich ichthyofauna (21 species of fish and cyclostomes) and a variety of hydrological conditions favor the formation of a diverse fauna of fish parasites in the Penzhina River. The published parasitological data was still fragmentary and concerned few host species, so it is significantly broadened by the authors’ findings and observations. The paper provides information on 122 species of fish parasites in the lower reaches and estuary of the Penzhina River, and Penzhinskaya Bay.

Keywords

freshwater and marine fish parasites, infusoria, myxosporidia, helminths, bullhead, minnow, ninespine stickleback, Penzhina River, downstream, hypertidal estuary, basin of the Sea of Okhotsk, Kamchatka, North-East Asia

Methods

This data set was collected from a combination of field and laboratory research, and analysis of published data. Fish were sampled by sweep net for juveniles with size 3x8 m in the Penzhina downstream in 0-75 km upward from the mouth in July 2015. The samples for parasitological analysis were collected from 184 fish specimens including the Kolyma sculpin, common minnow, young of different species of whitefishes, grayling, and ninespine stickleback. Laboratory parasitological analysis of fish included standard procedure for examining fins, gills and all internal organs of fish to detect parasites (Hoffman, 1999). The parasites were quantified by their prevalence (i.e. percentage of hosts infected by parasites), intensity (range, mean) (number of parasites per infected host), and abundance (number of parasites per host) according to the calculation method (Bush et al., 1997). In addition, all available materials of other authors on fish parasites of the Penzhina River and Penzhinskaya Bay were studied.

Usage Notes

The study of the collected data makes it possible to analyze the structure of the fish parasite assemblages of the Penzhina River and determine the leading factors of their formation. The work will be useful for specialists in the study of the fauna of fish parasites in hypertidal and other estuaries.

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