Current characteristics of the status of aquatic oligochaetes and assessment of the invasive potential of *Branchiura sowerbyi* Beddard, 1892 in Bulgarian surface water bodies

Galia Georgieva-Mladenova

PhD Thesis

Summary

This work presents generalized research on species composition, distribution and ecology of the oligochaete fauna (Annelida: Oligochaeta) in Bulgaria. The first detailed mapping of the species distribution was made. The first invasiveness screening and risk assessment of the alien species *B. sowerbyi* in Bulgaria were made.

Bulgarian oligochetes' taxa list was represented with 88 species belonging to 9 families and 42 orders. *Piguetiella blanci* Piguet, 1906 was reported for the first time in the Bulgarian fauna. The distribution of the aquatic oligochets in the main catchment areas of Bulgaria was analyzed. It has been established that cosmopolitan and common oligochaete species are distinctive of the Bulgarian surface water bodies. The endemism of aquatic oligochaetes is not common, therefore only isolated localities of rare species can be distinguished. The summarized data from the dominant analysis showed a predominance of the groups "sparce" - 20 species and "rare" - 45 species.

The faunistic survey of aquatic oligochaetes in Bulgaria showed greater species diversity in the main streams of large rivers, as well as in the middle and lower reaches, than in the tributaries. Comparison of the species composition of the studied water bodies showed higher similarity (*QS*) between water bodies with similar hydrological and hydromorphological characteristics and large tributary systems. The correlation between the values of selected environmental factors and species distribution of aquatic oligochaets was studied. Only for a few species a strong correlation between the values of water temperature, dissolved oxygen, alkalinity and altitude was determined.

The oligochaete community of some ephemeral water bodies in Bulgaria was studies. The results showed difference between the structure of the community in livers and lakes but always the first inhabitants are family Naididae, followed by tubificids.

Invasiveness screening and risk assessment of the alien species *B. sowerbyi* showed that currently the species has now invasive potential in Bulgaria. The first web-based digital database on Oligochaeta Limicola in Bulgaria was published.