

gen sulfide accumulated in bottom sediments of leaf litter buffer zones during autumn, especially in *A. negundo* leaf litter zone.

Generally, differences in the amount of microorganisms and intensity of organic matter mineralization processes in *A. negundo* and autochthonous trees leaf litter buffer zone suggest that the replacement of riparian native species by invasive may cause changes in organic matter processing and bioproductivity in the littoral zone of the water body. Eutrophication and siltation processes in *A. negundo* leaf litter buffer zone may occur faster than in other river coastal areas due to the peculiarities of leaf fall and more intensive OM mineralization processes.

Gudzinskas, Z. Conspectus of alien plant species of Lithuania. 8. *Aceraceae*, *Balsaminaceae*, *Elaeagnaceae*, *Geraniaceae*, *Hippocastanaceae*, *Linaceae*, *Lythraceae*, *Onagraceae*, *Oxalidaceae*, *Rutaceae*, and *Vitaceae*. Botanica Lithuanica? 1998. 4 (4). P. 363–377.

## **GENETIC STRUCTURE OF THE INVASIVE MUSSEL *DREISSENA POLYMORPHA* (PALLAS) FROM LATVIAN LAKES**

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Zebra mussels are alien invaders that have rapidly become established in European waterbodies. *Dreissena polymorpha* is first recorded in Latvia since 1942 (Pilāte et al., 2014). Mussels are significantly impacting aquatic ecosystems, altering nutrient flow, decimating native mussel populations.

Mollusc *Dreissena polymorpha* is characterised by a wide genetic variation which enables it to spread over large areas and occupy a variety of habitats.

Mussels were investigated from 4 Latvian lakes, namely Svente, Riču, Drīdzis, and Rāzna. This study examined the invasions genetic diversity among different populations of zebra mussels using DNA microsatellite analysis. 6 polymorphic microsatellite loci for dreissenid mussels were developed and tested (DpolA6, DpolB9, Dpo101, Dpo221, Dpo260 and Dpo272). The within population genetic variation indices; number of alleles (NA), frequencies of alleles per locus, expected (He) and observed (Ho) heterozygosity, and the fixation index (Fst) were estimated in GenAlEx 6.41.

Allelic diversity was high at all described loci, ranging from 10 to 15 alleles per locus. As ideal populations do not exist in nature, some deviations from the expected heterozygosity level are considered normal for a stable natural population. Such deviation from the expected level of heterozygosity

in all investigated populations was noticed. Mean observed heterozygosity per locus was 0.53 and mean expected heterozygosity was 0.88 per locus. Allelic variation was high in all investigated populations. Frequencies of alleles per locus varied. Differentiation of the populations evidenced by pairwise *F<sub>st</sub>* value. Fixation of 1 or 2 alleles were detected in all loci in all populations.

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## **OCCURRENCE AND POPULATION STRUCTURE OF *PONTOGAMMARUS ROBUSTOIDES* G.O. SARS, 1894 IN THE PĻAVIŅAS RESERVOIR OF THE DAUGAVA RIVER (LATVIA)**

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The Ponto-Caspian gammarids and mysids were considered and introduced as valuable fish food during the Soviet time in Latvian inland waters. Introduction was realized with *P. robustoides*, *Chaetogammarus warpachowskyi* G.O. Sars, 1987, *Paramysis lacustris* (Czerniavsky, 1882), and *Limnomysis benedeni* Czerniavsky, 1882. The introduction of gammarids was accomplished in Ķegums Reservoir in 1965, 1966 (Bodniece 1976; Kachalova and Lagzdin 1968). Today, investigations of amphipods and mysids in Latvian inland waters mainly are depending on environmental monitoring program of Latvia. According to results, *P. robustoides* is occurred both in the Ķegums Reservoirs, and in Pļaviņas Reservoir and also Riga Reservoir (Grudule et al. 2007; Grudule unpublished data). The aim of this study was to show how widely *P. robustoides* occurred in the Pļaviņas Reservoir of the Daugava River and to give insight into population structure. The investigation of Ponto-Caspian gammarid *P. robustoides* in the Pļaviņas Reservoir in Latvia was done in July and September, 2015. Qualitative sampling of gammarid was done by a handle net (25 x 25 cm, 500 µm) in the littoral parts of the reservoir and the mouth of small tributary Pikstere up to 0,5–1 m depth. In general, during study ~ 22 km long stretch was inventoried. *P. robustoides* was occurred in 11 sampling sites in the reservoir. The populations of *P. robustoides* consisted of both adult and juvenile specimens. In July, the large size specimens within macrophytes and medium size specimens within filamentous algae was the largest frequency. In September the ratio between specimens by size equalize, and within filamentous algae small