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Morphological plasticity of pumpkinseed (*Lepomis gibbosus*, Linnaeus 1758) within the epigenetical context

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Pumpkinseed is one of the most succesful fishes amongst the species introduced to Europe. Recently, non-native pumkinseed has been reclassified as invasive in Slovakia. Although no significant negative impact of pumkinseed on local fish fauna in Slovakia has been found yet, it can potentially affect density of autochtonous species. One of the effective methods for understanding the problems associated with invasive species, is epigenetical analysis of their biological traits (morphological, ecological, ontogenetical, etc.). Our previous study revealed that developmental patterns and external morphology in native Canadian pumpkinseed from the River Otonabee were closer to pumpkinseed from the River Danube (Slovakia) than to those from Canadian Lake Looncall. This suggests that, in the pumpkinseed examined, ontogenetic changes in external shape depend on environmental conditions (epigenetical information) rather than on geographical and genetical isolation, possibly as a function of epigenetical mechanisms usually expressed in creating both altricial and precocial forms within and/or among populations. In the present study, this hypothesis is tested by examination of further non-native populations. External morphology of English (Tanyards fisheries pond near Brighton), Slovenian (pond near Maribor and thermal lagoon near Čatež) and Slovak (gravel pit Veľké Čunovo) pumpkinseeds was examined using both triple regression analysis (distance-based measurements) and geometrical analysis (coordinates-based measurements) within an ontogenetical aspect. Results are compared with previously examined native Canadian (River Otonabee, Looncall

Lake) and non-native Slovak (River Danube) pumpkinseeds and discussed within epigenetical context. Further examination of early development, fecundity, number of spawning acts per season, parental care, egg size, age at maturation, etc., will follow.

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