II. WORKSHOP ON INVASIVE SPECIES:
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Habitat size and salinity mediated distribution of invasive *Gambusia holbrooki* and endangered *Aphanius transgrediens* in freshwater springs of lake Acıgöl in Turkey

Baran Yoğurtçuoğlu*, F. Güler Ekmekçi

Hacettepe University, Faculty of Science, Department of Biology, Hydrobiology Section, 06800 Beytepe, Ankara, Turkey

*corresponding author: yokbaran@gmail.com

The distribution pattern of invasive species has drawn by both intrinsic (e.g. physiology) and external (e.g. environmental) factors. To understand the driver(s) of distribution of invasive *Gambusia holbrooki* and critically endangered *Aphanius transgrediens* in Acıgöl, we examined the relation between some critical habitat parameters and fish abundances. Acıgöl (Turkey), the only distribution area of *A. transgrediens*, is a groundwater-dependent ecosystem and its wetland area is consisting of several freshwater springs issuing from a major fault line. To test the association between habitat parameters (water temperature, salinity, dissolved oxygen, pH, flow rate, habitat size, substrate structure and macrophyte density) and fish abundances (CPUE Data) Spearman's rank correlations (rho) were calculated. Data sets were then transformed to resemblance matrixes and RELATE analysis was used to test for hypothesis of no relation between two sets of multivariate samples. According to the results, habitat size and water salinity explained much of the variation in species distribution pattern. As a conclusion, *A. transgrediens* could survive in relatively larger springs (>1000 m^2 surface area), where there is a chance of using different microhabitats, and in high sodium sulfate salinity due to their higher tolerance. On the other hand, *G. holbrooki* was affected negatively from high salinity and took advantage of habitat shrinkage by outcompeting the native *A. transgrediens*.

Keywords: invasive species, habitat use, Acıgöl, mosquitofish, introduction