

## Project Update: November 2021

❖ Considering project activities since previous update in July 2021, we were focused on:

-After spawning *Umbra krameri* we took care of the hatched individuals (males and females were transferred to one aquarium to prevent cannibalism), and young individuals were left in the aquariums where they hatched. Favourable conditions were maintained in the aquaria, which included daily monitoring of water temperature, oxygen concentration, pH and electrical conductivity.

- During the past months, the Center for Fisheries and Applied Hydrobiology "Mali Dunav" of the Faculty of Agriculture has excavated and prepared an outdoor pool/lake, which imitates the natural habitat of *Umbra krameri* for later spawning and fish farming in natural conditions.
- A permit was obtained from the Ministry of Environmental Protection of the Republic of Serbia and the Provincial Institute for Nature Protection of Serbia for the return of *Umbra krameri*, which were obtained by spawning in previous months in laboratory conditions in the area of the Special Nature Reserve "Kraljevac".
- 15 individuals that hatched in aquaria, as well as adult individuals that were caught at the beginning of the project (three females and nine males) were returned to the area of the Special Nature Reserve "Kraljevac" to the same place from which they were collected.
- Also, field research was continued on sites for which there were literature data on previous findings of *Umbra krameri* on them as well as on sites whose hydromorphological and physicochemical characteristics correspond to known *Umbra krameri* sites in Serbia to determine the potential presence of the species and taking material for genetic analysis. Also, macrozoobenthos and macrophyte material were collected at these sites. Field research was conducted at five localities (canal near Aradac, canal north of Kikinda, Mesić stream, canal near Kraljevec and canal near Sonta).
- During the past months, it has been continued with the promotion of the project and education of both older and younger people at the sites where *Umbra krameri* was found, as well as the education of children from primary schools and students. Lectures were held at the Center for Fisheries and Applied Hydrobiology "Mali Dunav" of the Faculty of Agriculture, which was attended by students of the Faculty of Agriculture and Forestry from Belgrade. Also, several lectures were held, which were attended by pupils from several Belgrade primary schools.
- During the return of the individuals to nature, material dedicated to the realisation of the project "Towards in situ and ex situ conservation of the European mudminnow (*Umbra krameri*) in Serbia" was recorded, which was broadcast as part of the show "Hunting and Fishing" on Radio Television of Serbia, television with a national frequency.



Lecture at the Center for Fisheries and Applied Hydrobiology "Mali Dunav" for children from primary school.



Lecture in the Special Nature Reserve "Kraljevac".



Lecture at the Center for Fisheries and Applied Hydrobiology "Mali Dunav" to students of the Faculty of Agriculture.



Lecture at the Center for Fisheries and Applied Hydrobiology "Mali Dunav" to students of the Faculty of Forestry.



Excavation of the pool/lake in the Center for Fisheries and Applied Hydrobiology "Mali Dunav".



Preparation of the pool/lake as a natural habitat of *Umbra krameri* species.



Extraction of individuals from the aquarium.



Transfer of individuals to the Special Nature Reserve "Kraljevac".



Adults ready to return to original habitat.



Return of adults.



Young individuals ready for release to natural habitat.



Return of young individuals.



Field research at potential sites.



Part of the team that participated in the project.