

Project Update: June 2018

During the active season from March to May 2018 we were doing field trips with the goal to find new sites where European common spadefoot toads exist in Bosnia and Herzegovina, researched the Podrašnica site and collecting the morphometric, morphology data and tissue samples from Čardak site for skeleto-chronology method which allows us to determine the age structure of chosen population.



Figure 1. Čardak locality; a) underwater amplexus *P. fuscus*, b) downloading the data logger data collecting for the water habitat, c) early spring (15th March) water level – confirmation of *P. fuscus* mating call and amplexuses, d) male individual *P. fuscus* in natural habitat

During the field research in 2018 we confirmed the Obratil, 1969 old scientific data of persistence of species *Pelobates fuscus* on Bardača lake site. Obratil found European common spadefoot toad in the digestive system of a night heron, which data we took with caution since the bird could easily migrate and eat the found individual at the other side of the Sava River (Croatia). After the research and gathering the data at the Podrašnica locality (flora of the area, geographic data, physical parameters) we may conclude that the area is not suitable as potential habitat for this species. Also, we did not manage to confirm the presence of the species at the site.



Figure 2. Podrašnica locality: unsuitable terrestrial habitat with dense flora and humid soil, and water habitat – many springs forming small streams with running and cold water (13 °C at the time when Posavina population was breeding), not suitable for *P. fuscus* breeding and life cycle

Many individuals were observed during the mating period and many egg clutches were found in the shallow part of the water at the Čardak locality. Four of those clutches were separated from the water body for weight measure, egg counting and morphological description of the clutches. All egg clutches were unharmed and tadpoles hatched after several days.



Figure 3. The morphology and meristic research of *Pelobates fuscus* egg clutches.

In collaboration with Science faculty, Department of Biology, University of Banja Luka and Veterinarian Institute "Vaso Butozan" Banja Luka, we are working on skeleto-chronology preparation of the samples. The team leader Ana Ćurić has been educated to work on the whole process of preparation (fixation and calcification, chemical processing, embedding, facing and sectioning, staining, mounting and reading the sections). Unfortunately not every sample succeed the process since the samples are very small, fragile and for the best results we need to get the cut from the diaphysis of second metacarpus, second phalanx. By now we have proceed samples from 30 individuals. During the sampling we are avoiding juvenile individuals.



Figure 4. Skeletochronology tissue preparation process (cutting on microtome and drying)

Educational part of the project continues during the whole project. New lectures were held in high schools in Banja Luka and Sarajevo, with promoting the tadpole life cycle leaving the rollup before and after the lecture, which gave us a great results and student interest in our work. Important lecture has been held on Science Faculty, Biology and Ecology Department, University of Banja Luka, and for the results the students were introduced with ability of science work and our herpetological NGO is richer with new young members with high motivation.

Figure 5. Rollup installed at Science Faculty, University of Banja Luka



Also, we had a meeting with President of the local community Čardak, which is the most important locality from the beginning of the projects. We introduced the President with our conservation idea of the habitat and persisting species which gave us a positive reaction. Next step during the project will be the meeting with local community Čardak-Kornica and consulting with Republic Institute for Cultural, Historical and Nature Heritage of Republic of Srpska. By the end of the project the site will be richer with the new educational

boards with the story of the habitat importance and local herpetofauna (with last project results that this area is inhabited with 45 % off all herpetofauna in Bosnia and Herzegovina).