Inf.EUROBATS.StC21.2 (1 June 2023)

21th Meeting of the Standing Committee

Videoconference, 29 June 2023

Summary Report on the Outcomes of EPI projects funded in 2022

1. Monitoring of SARS-CoV-2 in European bat species, conducted by the Research Institute of Wildlife Ecology, University of Veterinary Medicine, Austria

The main goal is to retain the bat monitoring and conservation activities and to show that the SARS-CoV-2 pandemic is the best proof of the necessity for the recreation of sustainable human and ecosystem health and for enhancing the protection of wildlife in its natural and undisturbed habitat, away from close human contact.

The project aims at sampling viruses from bats in several European countries using non-invasive sampling methods. Samples should include oral and rectal swab samples, guano (fecal) samples, and organ samples from dead bats (only by authorized veterinarians).

The collected samples are to be analysed with validated molecular methods (real time quantitative RT-PCR) in the participating countries, or, after transport to the responsible laboratory, in Austria. Several European countries, such as Germany, the Netherlands, Switzerland, have already tested a batch of bat samples. Data from those countries has been collected. All bat researchers and virologists from European countries have been contacted to collect more data about the analyses of the bat samples.

The project is ongoing. In addition to the samples being collected, analysed and validated, a publication including all stockholders will be published in a high-ranking peer-reviewed journal and the guidelines for bat handling will be updated.

2. **Research of the climate of Uvir cave as a basis for protection of the largest colony of the western barbastelle bats in the Dinarides, Bosnia and Herzegovina, conducted by the Center for Karst and Speleology, Sarajevo**

The goals of the project were to identify micro-climatic conditions in Uvir cave near the town of Kladanj in Central Bosnia. During the winter monitoring in 2021, a large colony of the western barbastelle bat was discovered in the cave, with a minimum of 263 animals in several small groups along the cave channel that was under the influence of ice. It is the largest known hibernation colony of this species in the Dinarides and the surroundings. Data loggers were installed in 2022 to measure the temperature and humidity along the cave's passage at the places where bat colonies hibernate at cold and warm conditions during the winter. The species that occurred in Uvir cave in 2022 were *Barbastella barbastellus*, *Miniopterus schreibersii*, *Rhinolophus ferrumequinum* and *Rhinolophus euryale*.

A regional meeting of researchers, bat workers, and volunteers from Slovenia, Croatia, Serbia, as well as local representatives of Bosnia and Herzegovina was organised. 19 presentations on research and protection of bats in the region were conducted during this meeting. A visit to Uvir cave was organized for meeting's participants for exchanging opinions on its best possible conservation. The monitoring of bats and microclimate in Uvir cave will be continued in the following years.

3. **Using molecular techniques to develop and inform on the distribution of medium-sized horseshoe bats (Serbia, Romania, United Kingdom), conducted by the Vincent Wildlife Trust, United Kingdom**

This project is also ongoing. The team aims to produce a comprehensive updated distribution map for each bat species in Romania and Serbia; and recruit new collaborators and funding to continue informing on the distribution of these species in the Balkan countries. Field work for this project began in February 2022 where the project partners started to collect samples in some hibernation sites. This was followed in July and August 2022, with members of staff from the Vincent Wildlife Trust joining the project partners in both Serbia and Romania to assist with the field work. The sampling protocol was based on the current protocol used on lesser and greater horseshoe bats.

In total, 10 sites in Romania and 8 sites in Serbia were sampled, amounting to 141 samples that need to be analysed. The first set of primers designed showed mixed

results. Although they gave good results for the species that they were targeting, they also produced later amplification products for the related species. These cross-reactivity products occurred when tested against DNA extracted from tissue (high concentration of DNA), and they occurred quite late in the reaction. Although this may not be an issue with less DNA obtained from droppings, it remains a serious limitation. Preliminary results from the project were presented at the Romanian Bat Conference in October 2022. Several social media posts promoting the project were published via VWT and project partners social media accounts. The project also featured in the 2022 VWT newsletter:

(https://www.vwt.org.uk/wp-content/uploads/2022/11/2022VWTNewsletterDecWeb.pdf)