EUROPEAN UNION OF AQUARIUM CURATORS

REPORTING FORM

FOR CONSERVATION PROJECTS FUNDED IN

2022

1 TITLE OF PROJECT	Capacity building for conservation of endangered species of *Xiphophorus* in northeastern Mexico
2 NAME OF APPLICANT	Charles Fusari[1]/Markéta Rejlková[2]/Antonio Guzmán Velasco[3]
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DATE OF REPORT: 17.7.2023 *(the project is still running)*

PLEASE SEND YOUR REPORT TO ISABEL KOCH, SECRETARY-GENERAL OF EUAC
(ISABEL.KOCH@WILHELMA.DE)
AND COPY TO
João Falcato : jfalcato@oceanario.pt; Brian Zimmerman: bzimmerman@bzsociety.org.uk

3 LOCATION OF PROJECT (REGION & COUNTRY)
Mexico, states of Nuevo León and Coahuila

4 PROJECT START AND END DATES
January 2023 to December 2023

5 PROJECT CO-ORDINATOR, ADDRESS AND INSTITUTIONAL AFFILIATION
(IF DIFFERENT FROM APPLICANT)

Markéta Rejlková, Zoologická zahrada a botanický park Ostrava, Michálkovická 197, 710 00 Ostrava, Czech Republic

6 PROJECT TYPE
(TICK ANY COMPONENTS THAT APPLY)

☑ BIOLOGICAL/ECOLOGICAL RESEARCH
☐ VETERINARY/CONSERVATION MEDICINE
☐ ANIMAL WELFARE
☑ CAPTIVE BREEDING
☑ RE-INTRODUCTION/RE-STOCKING/TRANSLOCATION
☐ HUMAN-WILDLIFE CONFLICT
☑ EDUCATION/PUBLIC AWARENESS
☑ TRAINING/WORKSHOPS
☐ COMMUNITY-BASED/SOCIAL POLICY
☐ ECOTOURISM/SUSTAINABLE DEVELOPMENT
☐ SUSTAINABLE USE
☐ WARDENING/LAW ENFORCEMENT
☐ PROTECTED AREAS MANAGEMENT
☐ OTHER: _____

7 FOCAL SPECIES (COMMON AND SCIENTIFIC NAME)

- Monterrey platyfish *Xiphophorus couchianus*
- Muzquiz platyfish *Xiphophorus meyeri*
- Platyfish *Xiphophorus* sp. "Regio"
- Northern platyfish *Xiphophorus gordoni*

8 IUCN RED LIST STATUS (OR OTHER THREAT LISTING) OF FOCAL SPECIES

- *Xiphophorus couchianus* – **extinct in the wild**
- *Xiphophorus meyeri* – **extinct in the wild**
- *Xiphophorus* sp. "Regio" – **not evaluated (undescribed species)**
- *Xiphophorus gordoni* – **endangered**

CITES NO
APPENDIX

9 PROJECT BACKGROUND (200 words maximum)

This project builds on existing cooperation between zoos and private breeders in various European countries. Sufficiently large reserve populations have been built for two species that are extinct in the wild (*Xiphophorus couchianus* and *Xiphophorus meyeri*). The next logical step is to find and support a Mexican partner who will ensure the *ex situ* breeding in the original country of occurrence of these fish. This partner is the Centro de Resguardo para Peces en Peligro de Extinción (Conservation Centre for Fish in Danger of Extinction) which operates at the Universidad Autónoma de Nuevo León (UANL). This facility has sufficient space and holding capacity for the targeted breeding of endangered species but needs material assistance to improve life support system equipment as well as professional assistance to review collection plan and evaluate husbandry procedures for the long-term maintenance of the species.
In addition, this laboratory was previously also involved in habitat research for an undescribed species of the genus *Xiphophorus*. Its current status in the wild needs to be re-examined. Field research and communication with local authorities and the general public are also needed in the city of Múzquiz in Coahuila, the original site of *X. meyeri* (candidate for possible reintroduction).

10 WAS THE OVERALL PROJECT PURPOSE FULFILLED?

Yes, skills and interest of local institutions, authorities, students and the general public in the protection of endangered fish species from their region have been developed in what we feel is a long term project. We also set the foundation of a long term collaboration with local university and public aquarium towards the conservation of their local endangered freshwater fish species.,

11 WHAT OBJECTIVES WERE MET?

- review the current species list and develop collection plan for the lab at UANL – **in progress** (the review was carried out in June 2023, the collection plan is now being worked on)
- improve technical equipment of the facility – **done**
- contribute to increased productivity of insurance populations of *Xiphophorus* – **in progress** (we have provided the technical equipment, manuals and training and we continue with remote support and consultation)
- increase the number of student activities/projects focused on *Xiphophorus* – **done** (with follow-up actions still running)
- raise awareness among local communities about endangered fish species from their region – **done** (with follow-up actions still running)
- bring information on the current status of *Xiphophorus* sp. Regio – **done** (with follow-up actions still running)
- initiate necessary steps for the return of *Xiphophorus meyeri* back to Mexico and for eventual reintroduction in the future – **done** (with follow-up actions still running)

WHAT OBJECTIVES WERE NOT MET?

12 WHAT PROJECT ACTIVITIES WERE UNDERTAKEN?

- Regular online consultations to the management and employees of the laboratory (monthly, January – May). This included designing student activities and projects, some of which were later implemented.
- On-site visit in June – checking the collection of fish and discussing the proposed changes.
- Revision of the laboratory technical equipment, purchasing and installing new one.
- Training in disease treatment, buying and applying medications, development of a manual for basic treatment procedure and for aquarium husbandry of northern platyfish.
- Handing over measuring tools and instruction to use them.
- Training of students and other participants in the field research process (proper documentation, water testing and evaluation of other parameters, water sampling, determination of fauna and flora, collection and processing of e-DNA samples, photo and video documentation, underwater observations, fish collection and transport).
- Field trips to the habitats of *Xiphophorus* species in company of UANL staff and students.
- Assessment of the current status of *Xiphophorus* sp. Regio, undescribed species with extremely small distribution. Collection for establishing insurance population. Checking possible other locations nearby.
- A field visit around the city of Múzquiz to verify the extent of the area suitable for *Xiphophorus meyeri* and to determine the prospects for the drying up of the spring, which has been occurring for the last decades. Research of other potential localities in the area.
- A field visit to check the current population of *X. gordoni* and conditions of its environment. Visiting the Cuatrociénegas Biosphere Reserve with the students to increase their interest and motivation – this is worldwide unique place for freshwater fish conservation.
- Survey of former sites of *X. couchianus* to check the presence of non-native fish and other barriers to reintroduction. Sampling of *Xiphophorus* populations in the area.
- Initiation of a lecture event at UANL and inviting guest speakers from the field of freshwater fish conservation. This project's coordinator also made presentation about the joint efforts to save *Xiphophorus* in northeast Mexico.
- Educational activities for children at a primary school in the city of Múzquiz, where we are potentially considering the reintroduction of *X. meyeri*. The children know very well the swimming pool where the fish used to live in. The activities were prepared by the students.

13 WHAT OUTCOMES WERE ACHIEVED DURING THE COURSE OF THE PROJECT? IF THIS WAS AN EX SITU PROJECT ONLY, WHAT WERE THE BENEFITS TO THE SPECIES EX SITU AND IN SITU?

- The project completely verified the reasons for its necessity: the new management team of the Centro de Resguardo para Peces en Peligro de Extinción at UANL in fact needs professional and material help and consultations regarding the husbandry of species of the genus *Xiphophorus* (and not only those). Our colleagues from Mexico were generally impressed and would like to continue working with our guidance and focus more on species where they can contribute to their conservation.
- We found students who enjoyed our activities and are enthusiastic about working with local fish - from preparing and carrying out an educational event for children to working in the field. They plan to focus their thesis on endangered fish, preferably *Xiphophorus*.
- We have collected important data from the (former) location of all four focal species and investigated the potential sites of reintroduction of *X. meyeri*.
- We collected founder fish for the establishment of an insurance population of *X*. sp. Regio at UANL and we keep advising on the husbandry and population management.
- We started new collaboration with another partner from Mexico: Acuario INBURSA.

ARE ANY ONGOING?

All.

DID ANY EXPECTED OUTCOMES FAIL?

We hoped to find at the UANL facility some unique populations of *Xiphophorus* from few rare collections. This did not happen, the existing breeding of *Xiphophorus* before this project was negligible.

14 DID LOCAL PEOPLE/COMMUNITIES PARTICIPATE IN THE PROJECT? IF SO, WHO WERE THEY, HOW MANY PARTICIPATED AND WILL CONTINUED CONTACT BE MADE?

- UANL employees (4) participated in regular consultations. The same people also took part in the field work and also trainings in the aquarium facility together with other staff and students.
- In total, 11 employees (including part-time employees who are students of higher degrees) participated intensively along with 8 students of the lower degrees. Students are highly motivated to continue working with us and the contact is maintained. University staff is asking for further guidance.
- Around 100 students and lecturers of UANL and participants from the general public attended the lecture event, which we initiated (see above).
- Three local aquarists helped us to collect detailed information about the locations of *X.* sp. Regio and we will stay in contact..
- A team of students with us carried out activities for children in three classes (1st and 2nd grade children), for a total of about 70 children. The teachers and school management expressed interest in continuing similar presentations in the future.
- We have established contacts with the Kikapu tribe, under whose administration is a potential reintroduction site for *X. meyeri*. Long-term contact to gain access to the site is required and we will try to maintain it.

IF THERE WAS COLLABORATION WITH ANOTHER EUAC MEMBER OR AQUARIUM PLEASE PROVIDE DETAILS ON THE COLLABORATION.

Collaboration between Aquarium tropical and Ostrava Zoo was smooth and effective. Aquarium tropical sent experienced aquarist to help the project coordinator (from Ostrava Zoo) with the training of UANL staff and field work.

15 DID THE GOVERNMENT OF THE HOST COUNTRY RECEIVE INFORMATION ON THE PROJECT'S RESULTS?

The work in Mexico took place under the auspices of Laboratorio de Biología de la Conservación y Desarrollo Sustentable, Facultad de Ciencias Biológicas, Universidad Autónoma de Nuevo León, which ensured the necessary permits for field work with SEMARNAT (Secretaría de Medio Ambiente y Recursos Naturales) and maintains regular communication with them.

16 HOW DID THE RELATIONSHIP WITH OTHER NGOS WORK? WERE THERE ANY ISSUES?

This project benefited from the knowledge and experience in breeding of *Xiphophorus* spp. of private breeders associated in the Xiphophorus Working Group and also directly used the husbandry manual published by the conservation project "Xiphophorus – Northern Platyfish". We also hoped to meet the local aquarists organized in Comunidad Acuariofila Regiomontana, but this group is inactive after the Covid and only individual people were able to help us.

17 TOTAL PROJECT BUDGET AND EXPENDITURE (IN EUROS)

16,784.84 €

18 AMOUNT OF MATCHING FUNDS SPENT:

Project coordinator time – 3,500 € (Ostrava ZOO)
Project coordinator meals – 594 € (Ostrava ZOO)
Project support time – 3,500 € (Aquarium tropical)
Flight for project support – 1,000 € (Aquarium tropical)
Accommodation and PPI project support – 1,549 € (Aquarium tropical)

19 AMOUNT SPENT FROM EUAC FUNDS:

6641.84 €

20 EXPENDITURE BREAKDOWN (IN EUROS)

TRAVEL - Flight for project coordinator – 1162.07 € - Car rental, taxi, fuel – 1717 €	2,879.07 €
SALARIES - Consultation fees Omar Dominguez and Michael Köck	762.53 €
ACCOMMODATION	1,161.91 €
EQUIPMENT	1,784.33 €
MISCELLANEOUS – parc entrance fees	54 €
TOTAL	6,641.84 €

21 PUBLICATIONS PRODUCED AS A RESULT OF THE PROJECT

Markéta Rejlková: Peces perdidos del Noreste - salvando los peces platy juntos (oral presentation at 1st international forum “Cooperaciones internacionales a iniciativas locales: protección y conservación de los peces de agua dulce en México”, 1.6.2023, UANL, Monterrey, Mexico)

We are now working on publications (both printed and oral) together with the UANL staff and students and also on processing the scientific data. This section will be updated later.