



EUROPEAN UNION OF AQUARIUM CURATORS

REPORTING FORM

FOR *IN SITU* CONSERVATION PROJECTS FUNDED in 2021

1 TITLE OF PROJECT

Conservation of *Profundulus oaxaca* in one of its habitats.

2 NAME OF APPLICANT

Dr. Daniel Abed-Navandi

INSTITUTION

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DATE OF REPORT:

03.03.2023

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)

2 Streams of the community "Jalapa del Valle", District of Etna, Oaxaca, Mexico. At: 17° 4'0.59"N and 96°53'36.75"W

4 PROJECT START AND END DATES:

June 2021-June 2023

5 PROJECT CO-ORDINATOR, ADDRESS AND INSTITUTIONAL AFFILIATION

(IF DIFFERENT FROM APPLICANT)

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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)

Oaxacan Killifish (*Profundulus oaxacae*)

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

Data deficient

CITES NO

APPENDIX

9 PROJECT BACKGROUND

The Initiative "Rescatando a *Profundulus oaxacae*" was born in 2014 with the discovery of a new population of this species in a stream in the community of San Lorenzo Cacaotepec. In that year Dr. Emilio Martínez Ramírez, who is the specialist on fish from Oaxaca, considered it a species on the verge of extinction since the populations that it had registered until a year before had disappeared due to alterations of their habitats.

Specimens were collected to be placed in a Biotope aquarium, as a strategy for the community to learn and understand their biological, ecological, and biocultural heritage value. This was supported by the local authority, and this aquarium was awarded first place in international biotope aquarium competitions. Tubs and fish tanks were installed where later tests were carried out to find out more data about its basic biology such as embryonic development, growth, estimation of reproductive age. Biology students were incorporated for the development of professional residencies.

A new population of *P. oaxacae* has been found within its own area of distribution in better conditions. Since 2016 additionally *Profundulus mixtlanensis* has been reproduced in captivity, obtained from a new population of this recently described species.

10 WAS THE OVERALL PROJECT PURPOSE FULFILLED?

Yes

11 WHAT OBJECTIVES WERE MET?

A Biotope aquarium in the Palace of the Municipal Agency was erected and several workshops and training courses were performed, the project was additionally presented in an international aquaristic magazine and on an international conference about conservation of Mexican Freshwater Fishes in Oaxaca by the end of November 2022. Three underground dams in the catchment of the small creek in Jalapa del Valle have been built to increase the retainment of water in this catchment, reforestation actions were performed out of the same reason and a dust road was built to be able to water the reforested area. Ex situ breeding of this species started.

WHAT OBJECTIVES WERE NOT MET?

The species has not yet been introduced into the second possible habitat as the focus has been kept on the existing habitat in Jalapa del Valle.

12 WHAT PROJECT ACTIVITIES WERE UNDERTAKEN?

- 1 – An aquarium for Oaxacan Killifish has been erected in the Palace of the Municipal Agency.
- 2 – Four Workshops for local people have been performed about water quality and wastewater treatment as well as about the species.
- 3 – Two training courses were held about careful acting in the habitat of the fish and about correct fertilizing of plants to prevent eutrophication of aquatic habitats.
- 4 – Articles and speeches on international level were written respectively held.
- 5 – Three underground dams above the fish habitat were built to retain the rainwater longer in the catchment.
- 6 – A slope has been reforested, also to retain the rainwater longer in the catchment.
- 7 – A dust road of 500m was built to be able to water the reforested slope during the dry season in the first years.
- 8 – twelve individuals were included into an ex situ breeding project.
- 9 – Eight artificial ponds were bought to start the ex situ breeding.

13 WHAT OUTCOMES WERE ACHIEVED DURING THE COURSE OF THE PROJECT?

The ex-situ breeding of the species started successfully, meanwhile there are four ponds with offspring of the twelve individuals (total number about 200). The underground dams led to a longer availability of rainwater in the catchment (a rough estimation for 2022 talks about 3 weeks compared to the year before). The first reforestation failed due to an unexpected dry period without possibility to water the planted trees. The new dust road helped to successfully keep the young trees of the second charge alive (all trees – only local wild trees were used - were donated by a local tree nursery).

ARE ANY ONGOING?

The ex-situ breeding is ongoing, additionally the community focuses on more slopes to reforest in 2023. Workshops and training courses are ongoing, and it is planned to reintroduce the species in the second habitat where it previously occurred but disappeared as mentioned in the project application.

DID ANY EXPECTED OUTCOMES FAIL?

The first reforestation action failed due to an unexpected drought but has been repeated. As all trees were donated, the only additional costs that were previously not expected was the dust road that has been built (approximately Euros 2.000.-).

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

Yes, the community of Jalapa del Valle participated on all levels, from the Comisariado down to school children. The community is very active in nature conservation and will continue in saving this fish species as well as in reforestation activities.

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

Members of the city council of Oaxaca de Juárez and representatives of the Mexican government participated in a conference where this project has been presented and the secretary of environment of Oaxaca de Juárez is in permanent contact with both co-ordinators.

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

The only NGO involved has been the Fundación Alfredo Herp Helú Oaxaca (<https://fahho.mx/>) that focuses on reforestation projects. All the trees used for reforestation actions have been donated by FAHHO and will continue, so the relationship was encouraging and satisfying.

17 TOTAL PROJECT BUDGET AND EXPENDITURE (IN EUROS)

Budget: 10.000.-, Expenditure: 10.000.-

18 AMOUNT OF MATCHING FUNDS

SPENT: 5.000.-

19 AMOUNT SPENT FROM EUAC FUNDS: 5.000.-

20 EXPENDITURE BREAKDOWN (IN EUROS)

TRAVEL	1.500.-
SALARIES	
ACCOMMODATION	
EQUIPMENT	2.000.-
COMMUNICATION	1.500.-
MISCELLANEOUS	
TOTAL	5.000.-

21 PUBLICATIONS PRODUCED AS A RESULT OF THE PROJECT

Several Youtube videos: <https://www.youtube.com/@ProfundulusConservation>
