



The KLG Project:

Goodeid Conservation in Hungary



BY MARK LIZICZAI

In September 2013 a new fish conservation project was started in Mosonmagyaróvár, which is a nice town located in Hungary, near to the Austrian and Slovakian border. Its name is KLG Goodeid Project and it was established in a secondary grammar school. The project's name is made up by the abbreviation of the school's name (Kossuth Lajos Gimnázium) and the scientific name of Mexican Splitfins.

Goodeidae is the scientific term of a family of Mexican livebearers living in highland streams, creeks, springs and lakes. Unfortunately most of them are endangered or critically endangered, and some of them have already become extinct in the wild by now. There is also an extinct species, *Characodon garmani*. We know about 40 described species of Goodeids, but there are some variations under research and may become distinct representatives.



Project leaders József Bacher and Mark Liziczai © Doloresz Török

The breeding-facility that has been built in our high school encompasses more than forty aquariums, in which about twenty different species of Goodeids are bred. Our initiative is very unique because we are the first and only school in Central-Europe where these fish are kept, bred and protected, and maybe we were the first school in the whole world which started a conservation project like ours (since we are working on it, there were some other schools in Europe and in America which started or planning to start similar programs). Apart from Kossuth Lajos High School, Goodeids are kept by a university in Mexico, by some zoos and aquariums and of course by a number of private breeders.

Our aim is not only to keep and breed these fish efficiently, but also to strengthen the aquarium populations. Therefore, our surplus is given to other breeders for free. If it is possible, we gladly give fish to breeders living in different countries, because it's very important to breed as many of these fish as possible. Since we have started the project, we sent fish to five different countries. It would be nice to help any re-introduction or semi-captive breeding projects like the ones in Mexico. Another very important mission of ours is to make these fish better known by aquarists.

Our school and project became member of Goodeid Working Group as the first school in the world. Goodeid Working Group, which was founded in May, 2009, is a special, worldwide organization that has a major part in preserving Splitfins. Haus des Meeres in Vienna, which is a kind of breeding center of these fish, is also among our supporters. They gave us the aquariums and equipment we needed as well as the fish. Our personal supporter is Michael Koeck, who is a biologist curator at Haus des Meeres and founder of the GWG. Furthermore, the



Ilyodon whitei

© Mark Liziczai



Xenophorus captivus

© Anton Lamboj



Chapalichthys pardalis

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well-known JBL GmbH sent us several times equipment and fish food to help our researches and work.

Our most important supporters in Hungary are the Hungarian Aquaristic Society and the only aquaristic journal called 'Akvárium Magazin'. We are grateful for any help, because we are an absolutely non-profit organization.

At the moment we are breeding eighteen species of Goodeids of which some are in a real danger! In the near future we are planning to extend our collection with two or three new species.



Aquariums for Mexican Splitfins

© Doloresz Török

Some of our fish are extinct in the wild! One of them is *Zoogoneticus tequila*. Its re-introduction was started in spring 2015 in Mexico. Hopefully the populations will be stable and this lovely species will be found again in the wild in the future. *Skiffia francesae* is quite well-known, but also extinct in the wild. According to the IUCN Red List it disappeared for decades. The third one of the Goodeids, that cannot be found in the wild anymore and that we are breeding, is *Skiffia spec. Sayula*. This is considered to be a very interesting member of the family, that hasn't got a valid scientific name, but it almost certainly belongs to *Skiffia francesae*. It was collected in the Cuyacapán spring, which has completely dried out a couple of years ago. It is a quite new representative because it is known only for a few years now.

Unfortunately there are several critically endangered species that are on the brink of extinction in the wild. One of them is *Ameca splendens*, which is a nice Goodeid. For a long time it was said to be extinct, but fortunately it isn't!

We know three species of the genus *Zoogoneticus* (*Z. purhepechus*, *Z. quitzeensis*, and *Z. tequila*) and we usually breed all of them at our breeding station. Two of them are critically endangered, while *Z. tequila* is extinct in the wild. The populations of the two critically endangered species (*Z. purhepechus* and *Z. quitzeensis*) are declining, and they are becoming rarer.

There are many other highly endangered Goodeids we are breeding. We keep for example *Ataeniobius toweri*, *Chapalichthys pardalis*, *Ilyodon cortesae* and *Neotoca bilineata*. Some of our fish are said to be endangered, near threatened or vulnerable, like *Allodontichthys tamazulae* and *zonistius*, *Skiffia multipunctata*, *Ilyodon whitei* and *Xenotoca eiseni*. We have to take care of these fish, because they can become critically endangered or extinct in the wild anyway. To prevent this situation, we focus on breeding these species as well. More common species that we are keeping are for example *Ilyodon furcatus*.



Ilyodon furcidens

© Mark Liziczai



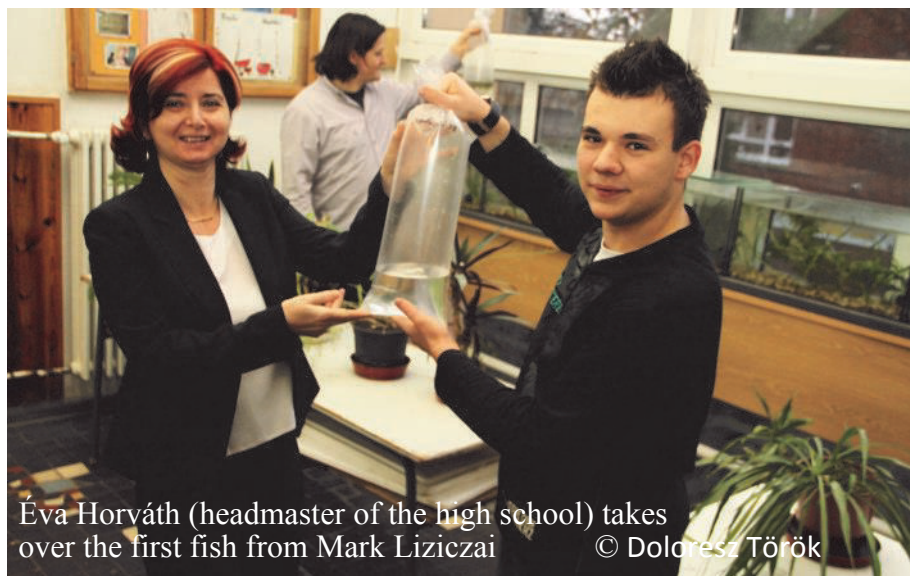
Xenotoca variata

© Mark Liziczai

and *Xenotoca variata*. The newest species at our breeding facility is the wonderful *Girardinichthys multiradiatus*.

Our project is playing an important role in teaching, since with the help of it we are able to show the students the protection of different species in practice. They can look after the fish, pupils can feel that they are helping in their conservation and of course they will learn a lot about fish and biology, so their ecological understanding can be influenced in a positive way. Our school has some other programs that students can attend and help in conserving our environment. For example, we are planting some trees and bushes. Students frequently travel to nearby forests and they study endangered plant species. Some of them are being kept in the garden of our school, and we do researches as well, for example with high protected and endangered orchid species. Moreover, we look after birds, for example in winter. Because the grammar school is surrounded by trees, pines, bushes and flowers, we have many birds outside; sometimes rare species come to visit us as well. It is an important exercise to look after and help them!

Since October, 2013 our school has a modern, well-equipped laboratory, which makes the teaching of science subjects like Biology, Chemistry or Physics much easier and more spectacular than before. Our school laboratory is regularly visited by students from more than eleven local and nearby schools. I have to mention how advantageous and useful it is, so hundreds of other students can



Éva Horváth (headmaster of the high school) takes over the first fish from Mark Liziczai © Doldresz Török

also see these rare fish and can learn a lot about the protection of nature. In this laboratory we are doing some research with fish as well, first of all with *Poecilia wingei*. For some years I have been studying how human sexual steroid hormones, like estrogen, influence the sex ratio of the offspring. These hormones are used by women in some medicines and get out to the wild waters, rivers without filtering them out from sewage. We do a lot of other researches. For example we are studying the nutrition biology of Goodeid species, to find the best food for aquarium fish. With the help of this research we will be able to use the best food which will help to have more healthy fish, because it is very important to breed more from the rarest species. But there are many other investigations in the lab, for example with water-chemistry or the earlier mentioned rare orchids. Apart from our fish, several other types of animals are used in Biology classes. Students (and even teachers) love these creatures, so keeping different animals in the lab is a good opportunity to call students' attention to the diversity of life. We keep, for example, hamster, degu, woodland dormouse, Brazilian tarantula, leopard gecko, green water dragon, several species of exotic turtles, corn snake, frogs, and some invertebrates (crabs, shrimps and snails). We are working with many other kinds of fish as well, and show some very interesting biotopes. With them we are able to teach the students how important it is to protect our planet and how exciting creatures are living underwater all over the world. We keep a lot of tropical fish species in the lab and in the research center, for example blind cave tetras, black ghost knifefish, hatchetfish, *Polypterus bichir*, upside-down catfish, loaches, mudskipper gobies, rare 'not-Goodeid' livebearers like *Phallichthys*, *Brachyrhaphis*, *Limia* or *Flexipenis*; endangered Asian fish and we have a natural biotope of the River Danube near our town.



A pair of *Ameca splendens*

© Réka Horváth



Feeding the animals of our Research Centre

© KLG Photo Group

We have already given lectures about our project and about Goodeids at international exhibitions, sales and conferences and shown exhibitions with living toothcarps. Since the project was established in September, 2013 we have given about 150 fish to breeders and experts. We have already bred about fifteen species, for example *Allotoca meeki*, which is one of the rarest fish of the family Goodeidae. The first Hungarian-bred fry of *A. meeki* was born in May 2013 in our breeding facility.

The managers of the project are József Bacher and Márk Liziczai. We are available on our website, www.klggoodeid.aweb.tk or on our Facebook-site, or you can send us an e-mail to klg.goodeid@gmail.com.

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