

Livebearer News

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BRITISH LIVEBEARER ASSOCIATION



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Data Protection Act

In order to comply with the requirements of the Data Protection Act, we need to inform members that their name, address, email address and telephone number are being maintained on a database, the purpose of which is for the distribution of their Association's magazine and to inform members of forthcoming events. This information will not be provided to any other organization for any purpose whatsoever without prior consultation. The Association agrees to remove any details at a member's request.

Committee

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Editorial

I would like to start this editorial by thanking several people who have contributed. Thank you to Kees de Jong for his article about his trip to Mexico. Thank you to Simon Bayley for translating Kees's article. Thank you to Ulrike Korte for her article on the livebearing halfbeaks, which I personally know very little about. Thank you to Arjan de Graaf for giving permission to use the photos and notes that he first posted on "Facebook". And most of all, thank you to Dan Fromm for his thoughts on conservation and for knocking my efforts into shape before they are sent out. I hope that you find plenty below to interest you.

A plea for help! Can you help us at the Bristol show? A couple of the usual stalwarts can't make it and this leaves us short of people to run the auction. Would you be happy to act as runners, taking fish to the people who have bought them? That would help greatly. Would you like to join the committee? The post of Chairman is currently vacant but anyone who would like to join in the committee meetings and express their views on the way that we do things or make suggestions for improvements is welcome.

There are many reasons for the BLA to exist, including the sharing of information and the friendships formed between aquarists who like livebearing fish. I suspect that for most people, the main reason they for remaining as members of the BLA are the auctions that we hold where surplus fish can be moved on to new homes and new fish can be bought.

Another of the stated aims of the BLA is to contribute to the conservation of the fish species that we like to keep. And I think that we do contribute insofar as we give money to organisations like the Goodeid Working Group, Xiphophorus Working Group and Tropiquaria. Can we do more? Well in my opinion, simply breeding endangered species and moving them on within the BLA helps keep some species going. So I read the piece from Dan Fromm, below, with a sinking heart. Are the professional organizations as poor as Dan believes at keeping species for the long term. Well, some are and some aren't. The US Fish and Wildlife Service allowed the Amistad gambusia, *Gambusia amustadensis*, to become extinct whilst in their care but Tropiquaria, Chester Zoo, the Haus des Meeres in Vienna and others are doing sterling work. These organisations, however, often rely on a small number of dedicated and highly knowledgeable staff and if they leave

What more can *we* do? We can donate to the work that Michael Köck is doing in Mexico – see "A plea from Michael Köck", later in this newsletter. Our own Nigel Hunter has over one hundred tanks and keeps and breeds around eighty species, some of which are to be found nowhere else in the UK – but the amount of work involved for him is not sustainable in the long run. We could each take it upon ourselves to choose a few species and keep them going forever, dedicating multiple tanks to them to guard against the loss of all the fish in a tank when a heater fails or some other disaster befalls a tank. We could also attend the meeting in Padova, Italy, in July to which we are invited – see the invitation in the "Diary Dates" section at the end of this newsletter.

Snippets

In the December newsletter I asked how members would feel about being contacted by members of the BLA committee to find out which species of livebearer you keep. I have had a few very positive responses and also the email below:

“Dear members of the conservation breeding projects of the ÖVVÖ, dear breeders,
At the outset, we would like to express our sincere gratitude for your invaluable contribution as breeders of endangered species. Your dedication, your time, and your expertise form the foundation of our conservation breeding projects. These projects would not be possible in this form without your personal commitment – for this, you deserve our heartfelt thanks and our deepest appreciation.

Conservation breeding is not only a contribution to the protection of individual species, but also a clear commitment to responsibility, sustainability, and expert animal husbandry. This dedication demonstrates the important role that organized breeding plays in the companion animal sector – both in Austria and in the respective home countries of our members.

In this context, we would also like to highlight the important role of associations. While membership in an association is not a mandatory requirement for participation in conservation breeding projects, associations nevertheless make an indispensable contribution: They pool expertise, create structures, promote exchange, and represent the interests of responsible animal owners to the outside world.

We are currently facing intense discussions in Europe regarding pet ownership. New, sometimes far-reaching restrictions and threatened bans affect almost all aspects of pet ownership and are putting particular pressure on associations. Therefore, strong solidarity, mutual support, and a broad base of dedicated supporters behind the scenes are all the more important today. Only in this way can we make our collective commitment visible, provide expert evidence, and justify it in the long term.

Their involvement in conservation breeding projects is an essential part of this collaborative work. They all contribute to ensuring that responsible breeding, species conservation, and expert animal husbandry will continue to have a voice in the future.

In conclusion, we would like to wish you and your families a peaceful Christmas season, relaxing holidays, a happy New Year, and much health, success and confidence for the coming year.

Thank you again for your commitment, loyalty and valuable contribution.

Best regards

Dipl. Ing. Andreas Schramm, President ÖVVÖ”

ÖVVÖ is Österreichischer Verband für Vivaristik und Ökologie (Austrian Association for Vivaristics and Ecology.)

Editor's comment

It seems that, once again, those people who are against the keeping of any pets at all want to bring in an “allowed list”. It would then become illegal to keep the great majority of the species that we have. This ignores the fact that we keep a number of species which are extinct in the wild and only exist because we make the effort to keep them going. I will publish any details of the proposed “allowed list” when I have them and then we had better be prepared to start battling to be allowed to keep all of the other species which won't be on that list.

Conservation? The counsel of despair

By Dan Fromm

In his editorial in *Livebearers* #84 (December, 2025) Greg Roebuck reported on efforts to preserve fishes, especially poeciliids and goodeids, threatened with extinction in the wild. Although some of these efforts are aimed at trying to prevent or reverse habitat modification where the fish exist, Greg focused on maintaining captive stocks of species at risk or even extinct in the wild.

Conservation of wild stocks and captive maintenance are both noble causes. I have serious doubts about them. In addition, given the spread of byzantine permitting procedures and controls at airports, I believe that maintaining captive stocks of all livebearers is more important for the hobby than supporting conservation of fish in the wild. For us, conservation should begin at home.

My field experience gives me no confidence in efforts to undo habitat destruction, including pollution abatement. It is true that in some places, e.g., Coclé province, Panama, a change in agricultural practice – replacement of cattle ranching by chicken production – has allowed forests to start returning. This may improve environmental conditions for fishes, in particular by reducing the risk that small streams will dry up. This will make life easier for fishes that are small stream specialists. Against this, many forms of habitat destruction, e.g., mining desert aquifers, seem irreversible. And, for all I know, chicken manure may be more toxic than cow manure.

Poeciliids and goodeids are new world fishes. Goodeids occur only in Mexico. The poeciliids we keep come from North America, Central America, the Antilles and northern South America. As far as I know few southern cone poeciliids are now in the hobby.

Fancy *Poecilia* (guppies, mollies) and *Xiphophorus* are bred commercially in the US and in the far East, possibly elsewhere. Most of the mollies and *Xiphophorus* seem to be hybrids. As far as I know no goodeids are bred for the pet trade. Aquarists keep them and non-commercial poeciliids going in captivity. Home breeders seem to distribute their livebearers primarily through club auctions. In the US aquabid.com is another venue for home breeders

to find buyers for their fish. However, I have the impression that only a handful of breeders use it.

I believe but can't document as well as I'd like that only aquarist-collectors have been responsible for introducing goodeids and non-commercial poeciliids to the hobby. Casual importation, not the pet trade, has been the best source of these fishes.

At present casual exportation of fishes from Central American countries is impossible. Permits to collect, export licenses and animal health certificates are very hard to get and there are controls at airports. The pet trade is not active there so aquarist-collectors can't piggyback their finds on commercial shipments. We're not going to get new stocks from Central America of fishes we already have or of fishes new to the hobby. I'm very aware that European hobbyists still smuggle fish out of Mexico. This can't go on forever. Given current conditions in Cuba, Haiti and Venezuela we can't get anything from those countries now and the future is bleak. Casual exportation of fish from the southern cone doesn't work either.

A few entomology sites post long but incomplete lists of national permitting authorities with brief reports on the ease of getting collecting permits and export licenses. See, e.g., <https://www.theskepticalmoth.com/collecting-permits/>. This news is discouraging and the trend is towards more discouraging.

The late Paul Loiselle retired as Curator, Freshwater Fishes, the New York Aquarium. In retirement he stayed in contact with his counterparts in other public aquariums. His comments on their success at maintaining captive stocks of endangered freshwater fishes were consistently very negative. Scathing, even. To be fair, public aquariums lack tank space, staff with relevant expertise, and incentives for long-term maintenance of fish, endangered or not.

Paul was more hopeful about the ability of serious aquarists to maintain captive populations of fishes that are endangered in the wild or no longer available. I fear his hope is misplaced. Few of us have enough tanks to dedicate space to species maintenance. We all want to keep "new" fish. This requires space, so we're under internal pressure to free tank space by eliminating "old" fish. In addition, flock breeding, the lazy aquarist's way of keeping a species going, is risky. All too often, sooner or later the flock will contain only one sex. The right way to keep poeciliids going, by getting fry from a young female every six months or so, is work. Few of us, including me, start new broods consistently, even with fish that consistently – there's that word again – eat their young.

We in the US have an organization -- <https://caresforfish.org/> -- that promotes maintenance of captive stocks of fish species that are endangered or extinct in the wild. Paul Loiselle was one of CARES' gurus and has told me repeatedly that the organization sees all fish species not in the pet trade as endangered in captivity. CARES' Priority List isn't consistent with this.

Some of our local aquarium societies' Breeders Award Programs offer what look like incentives to keep and breed fish on CARES' priority list. BAPs give participants BAP points for breeding fish; breeding a fish on CARES' priority list gets more points than

breeding a fish that isn't on their list. This offers incentives for, um, manipulation. One character I know won his club's coveted, by him, at least, breeder of the year award by breeding only CARES species. He no longer has any of them. BAPs give points for just one breeding of a species. After that participants have no incentive to breed the fish again. Instead they clear out the fish for which they've just received BAP points to make room for fishes they haven't bred yet.

Photos from *Arjan de Graaf*

The following photos of *Poeciliopsis balsas* and the paragraph which follows them were originally posted by Arjan on his "Facebook" page, "Alderhandt fish for hobby", and are reproduced here with his kind permission.



Poeciliopsis balsas, 1 male and 3 females arrived yesterday and are placed in the new planted tank. At the moment that seems the best place for them.

According to the literature they are difficult to maintain and prone to diseases.

This group seems happy so far and started consuming the morning microworms without a problem. In an hour or so, they will get their first BBS feeding. I am hopeful they will do fine.

Next step: waiting for fry.

Mexico 2025: Kauar Tikuri

By *Kees de Jong*. Text and photos by the author.

Translated by Google Translate, with help from *Simon Bayley*.

Mexico is known as the land of livebearing fish, and that's why I've visited it many times. It's a vast country, and livebearing fish are found in many places. The advantage of this is that there's always a place I haven't visited yet, where a species often lives that I haven't seen in the wild before.

During my trip to Mexico in October-November 2025, the emphasis wasn't on visiting habitats. Maintaining contacts and visiting interesting places were a key part of this trip, which I made with my son, Age.

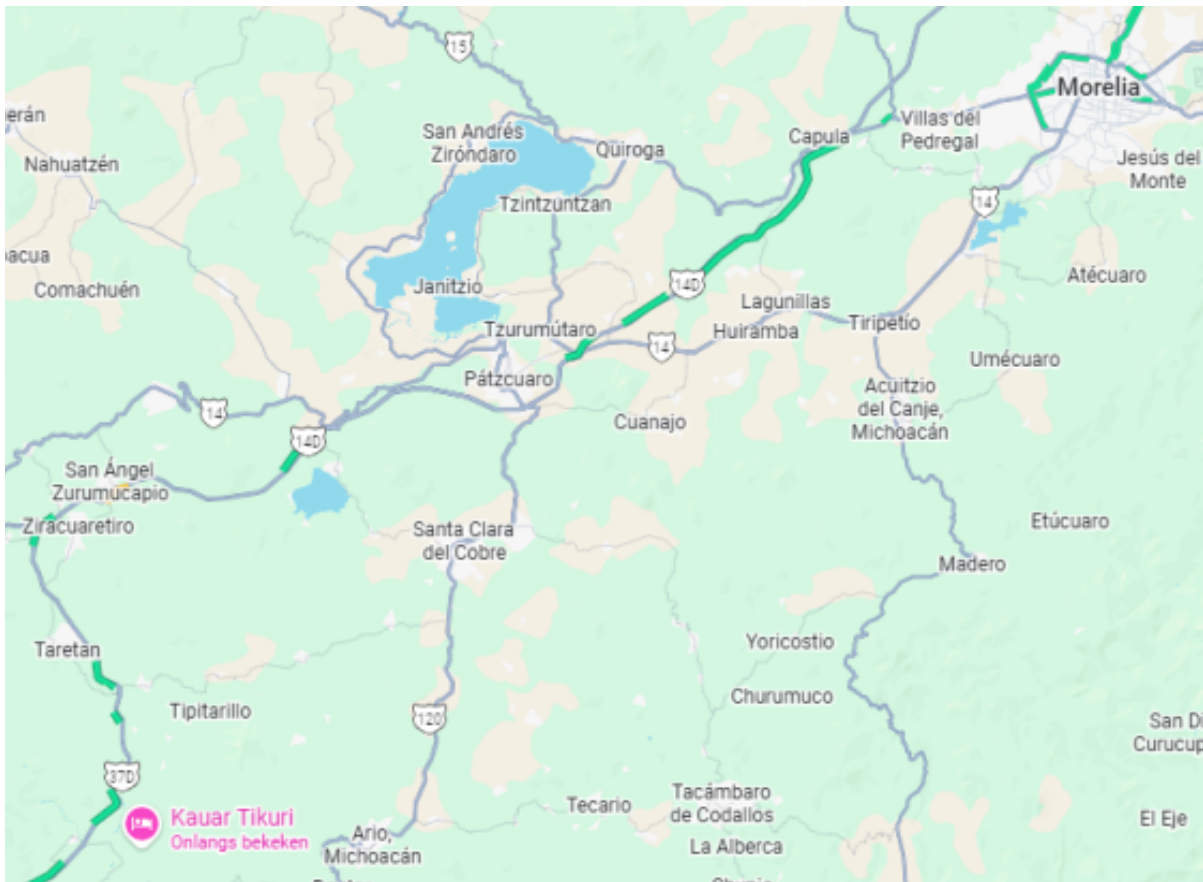
An attempt to visit the type locality of *Xenotoca eiseni* in the state of Nayarit and then head towards the coast to collect *Poeciliopsis prolifica* failed. Local farmers demanded a higher price for their products and had blocked the road to enforce this. As a result, we were forced to stand hemmed in for hours between a large number of trucks and cars. As darkness fell, mosquitoes emerged and the temperature dropped. The forced overnight stay was so gruelling that we returned to Morelia the next day after an "escape." Looking back, it was an exciting story, but at the time, it was extremely frustrating.



The frustrating traffic jam.

To Kauar Tikuri

On October 30, 2025, we visited Kauar Tikuri. This place is known for its hot springs. There's an ecotourism centre there where you can also stay overnight.



From Morelia to Kauar Tikuri

Since it's only a two-hour drive from Morelia, we decided to limit our visit to one day. After a two-hour drive from Morelia, Omar Domínguez, Michael Köck, Erwin Raddax,, and I arrived in the area. We were able to drive on a paved road for the first part of the trip, while the last part was unpaved. Along the way, we passed numerous avocado plantations established on the mountainsides. Because growing this fruit is lucrative, avocados are also called "green gold." Unfortunately, cultivation requires a lot of water, which has a major impact on the environment. Apparently, some of the trade in this fruit has fallen into criminal hands.

After leaving the main road, we were stopped by the police, but Omar explained that we were visiting the area from the university. We were then able to continue without any problems. While driving along the dirt road, we saw black iguanas about a meter long on the walls along the roadside, as well as the ground squirrels that live in the region. Most of the land in this area is used for agriculture. Mangoes are also grown there, and a small teak plantation is scattered here and there.

After requesting and receiving permission to fish in the recreation area at the entrance, we were allowed to enter. You could access the area via narrow paved paths, and after a while

you have to go across the suspension bridge. As we walked, we saw large white butterflies and large dragonflies flying around.



The suspension bridge over the river at the beginning of the park.

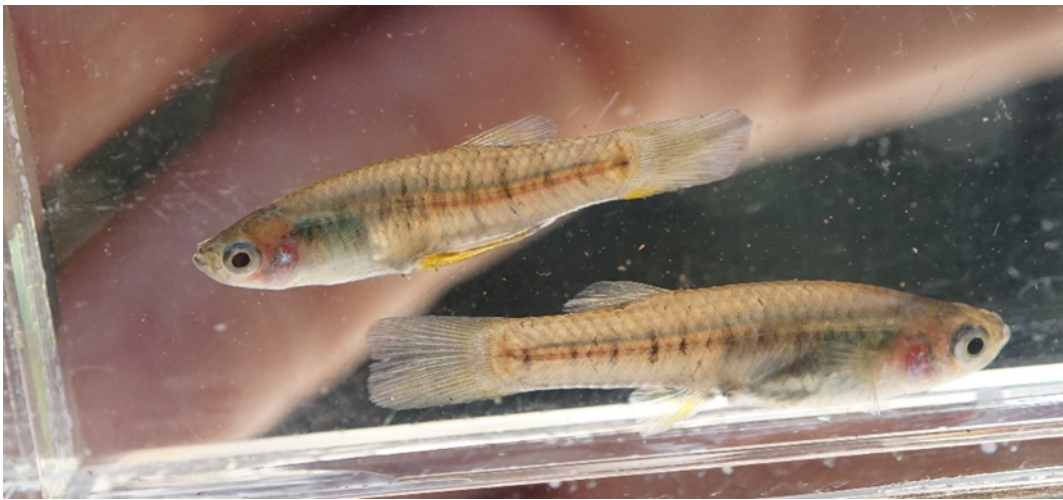
There were a few visitors in the park at the time of our visit. A few guests were using the hot springs and bathing by a small waterfall. A woman in a festive dress was having her picture taken. The entire area is a maze of streams and water features, and the paved and raised path makes it easy to walk around.



The area is dotted with small and large streams. Concrete paths have been constructed between all these streams, making the area easily accessible.

In a slow-flowing side stream, we caught fish with both a handnet and a trap. It was a good result that we quickly caught several specimens of *Poeciliopsis balsas*. These small livebearing toothcarps are rarely kept, and this was the first time I have caught them. They are small fish, with females growing to a maximum of 4 centimeters in length. The slimmer males remain smaller. Both sexes have up to eight small transverse stripes on the sides of their bodies. They have a black spot on the caudal peduncle. Females have a dark spot around the genital opening. Males have a long gonopodium with a curve at the tip. Because the base of the anal fin can be yellow, the gonopodium is also yellow in some males.

The dorsal fin has little colour or markings. The black stripes fade when the fish become uneasy. Hubbs described the species in 1926 and named it after the Balsas River, the watershed where it originates.



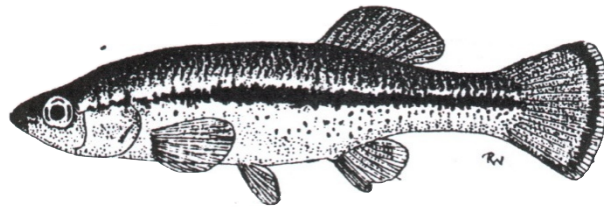
Poeciliopsis balsas.

We also caught introduced guppies at this location. The males were very small, a maximum of two centimeters, and the females about twice as large. The males had simple markings and short fins, resembling the wild form. The females were completely colourless with a gravid spot. In the water, the guppies swim near the surface, while the *P. balsas* swims in the lower layers. We caught several young *Ilyodon whitei*, which are easily recognizable by their elongated bodies and a row of black spots.



Besides streams, there are also pools in various places where the water flows more slowly. The temperature depends on the proximity of thermal springs.

Farther along in the recreation area, we saw some hot springs and a small pool about fifty centimeters deep. A few people were bathing here, but after they left, we were able to snorkel in the water. As I stood among the rocks, large *Ilyodon whitei* nibbled at my feet and legs. We also saw many *Astyanax aeneus* swimming here. The resident cichlids (*Amphilophus istlanus*) were shy and stayed near the rocks.



The goodeid *Ilyodon whitei*. (Drawing Ruud Wildekamp)



The presence of thermal springs gave this pool a high temperature. The cichlids quickly hid among the rocks and were impossible to catch with the seine.

Next to the pond was a smaller body of water that, due to the proximity of a thermal spring, had a high temperature. Michael and Omar caught several mollies and a small cichlid there. The remaining cichlids immediately dove between the rocks and were then impossible to catch with a seine. Unfortunately, we didn't have an electro-fishing rig with us, otherwise we probably would have managed to catch them.



A male molly from this site. The anchor worms (*Lernea*) are visible on the underside of the body near the anal fin.

The male short-finned mollies had a black and yellow marking on the dorsal fin and some dark bands on the back of the body. There were also small orange spots on the body. The tail fin was yellowish. Some of the fish were infested with anchor worms. I don't yet know these mollies' exact name.



A female of the molly from the site.

After enjoying a waterfall like true bathers, we decided to catch a few more *Poeciliopsis balsas* with our handnet. After bagging them, it was time for a good meal at the restaurant. Afterwards, we drove back to Morelia, arriving a little over two hours later. We could look back on an interesting and relaxing day, catching a few fish in beautiful surroundings.



Ordering a good meal after a great day. From left to right: Michael, Age, Erwin, and Omar.



A pair of *Poeciliopsis balsas* in the aquarium.



This is where they come from: Kauar Tikuri in Mexico.

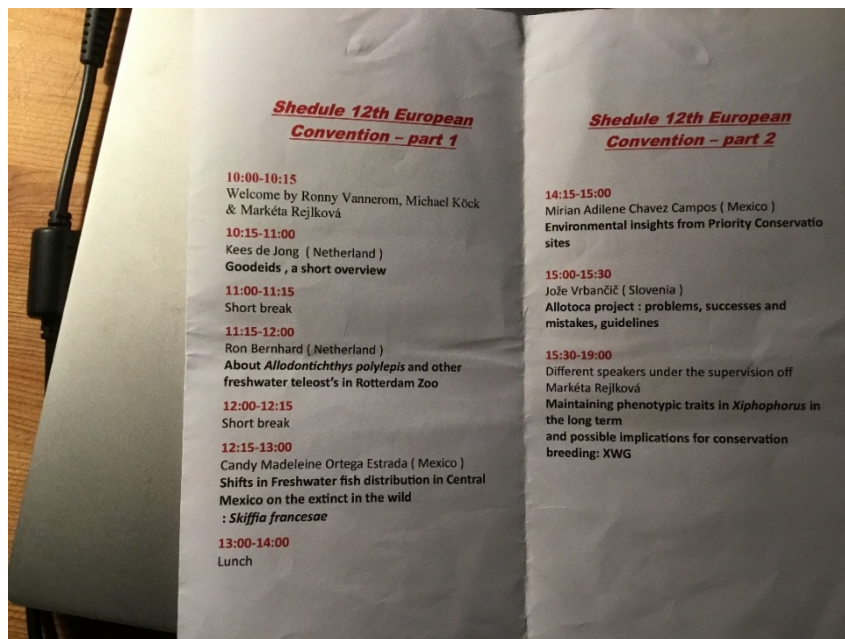
Report on the 2025 Goodeid Working Group / Xiphophorus Working Group Convention - Gent, Belgium

Words and photos: *Clive Walker*

The 12th GWG including XWG and hosted at the meeting rooms of Aquarium Club Aquarianen Gent, founded 1963, was a busy, informative and impressive event. The club's rooms included several fish tanks, a bar, kitchen and toilets plus lots of enthusiasts.



From the left: Ronny Vannerom, Michael Kock & Marketa Rejlkova.



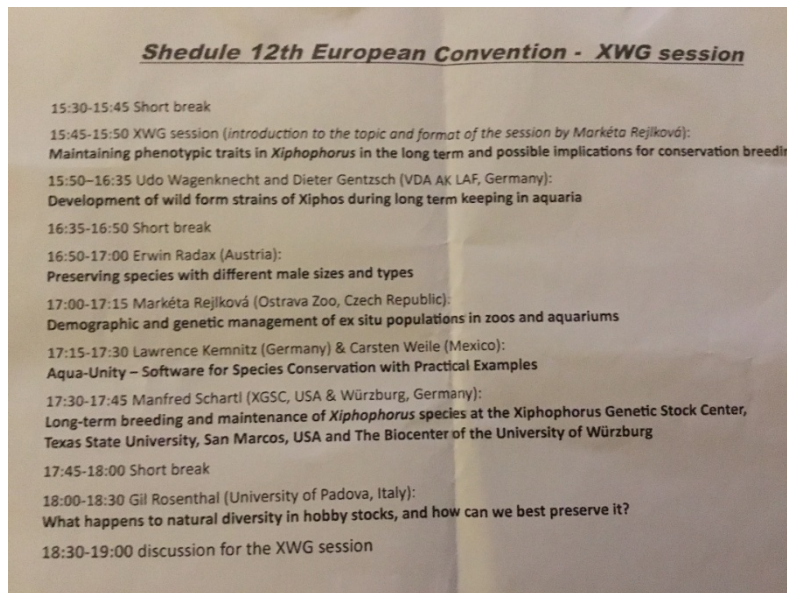
The schedule



As Jose says, very good lectures from our Mexican speakers, Miriam and Candy.

Photo taken in the Botanical garden hothouse.

Some interesting *X. helleri* in the pond, front half orange, rear half red.



As can be seen from the schedule we were kept very busy over a long day. There was a lot to take in both before and after lunch.

I must compliment the spoken English of the speakers. My knowledge of other languages is limited to ordering drinks and food. My main knowledge of foreign language is the scientific names of our fish. Not something to be proud of.



There is a lot happening in Mexico at the moment, getting local support is essential for conservation.

Thanks to Aquarianen Gent for use of their wonderful meeting rooms and for the excellent buffet lunch they served on Saturday.

A plea from Michael Köck:

Drive Goodeids Forward – Plan G Mexico, a successful conservation plan to save Mexico's Goodeid fishes launched on Monday, February the 2nd, a Crowdfunding campaign to buy a new car: <https://www.crowdify.net/en/project/drive-goodeids-forward>

Your support is urgently needed!

Valued members of my network and friends, our world is at a crossroads. While we all notice when butterflies and birds vanish and our world becomes quieter and less colourful, biodiversity in lakes and rivers is disappearing unnoticed and unheard. The death beneath the water's surface is silent and inconspicuous.

Plan G Mexico is restoring threatened waterbodies in the central highlands of Mexico and, together with representatives of the Mexican civil society, authorities, universities, NGOs, and zoos, is saving what are probably the most extraordinary representatives of its fish fauna: Mexican Goodeids, a small group of freshwater fish that, due to their unique reproductive behaviour, can rightly be called the most human-like of all fish. The female fish become pregnant, supply their offspring with oxygen and food in the womb, and give birth to their offspring after a two-month pregnancy. In a world where they face multiple man-made threats, they ultimately depend on our help to survive as species.

At the moment, we are working at eight different project sites, some of them more than 5 hours away from our base. The project tasks include, in addition to habitat restoration and cooperation with the local population, the reintroduction of species already extinct in the wild and environmental education activities.

With your generous support, you would be enabling us to purchase a vehicle that will allow us to continue traveling to our widely scattered project locations in the future. You are filling a gap that has opened up despite considerable financial support for our projects from zoos and NGOs, and you are covering a significant portion of our basic costs. Without your crucial help, we would not be able to continue all the important projects currently being carried out by Plan G Mexico in the foreseeable future.

Please share the Link of this campaign with your network to increase the impact.

With this in mind, once again, a heartfelt “thank you” to all of you. Let's drive Mexican Goodeids forward—together!

From another post by “Alderhandt's Fish for Hobby”

Xiphophorus sp from the Rio Marisco; there seems to be an ongoing debate whether this is a *hellerii* or a *mayae*.

I got them as *mayae* and I am not expert enough to say which is right.

But they have become massive! One of the biggest swordtails I have ever kept.



Our own Bill Galbally replied:

Definitely not *X. mayae*. We need to ask Alain Grioche for his expert opinion. But I am convinced *helleri* not *mayae*. Wrong colour, wrong shape, & wrong pattern for *mayae*.

There were other replies also but maybe I should just leave you to look at “Facebook” if you are interested.

Goodeid conservation at Tropiquaria Zoo

Many BLA members will be aware that we have donated money to Tropiquaria Zoo in Somerset to help with the conservation work that goes on there. Below is part of a post by Shaun Stevens who is in charge of the aquarium there.

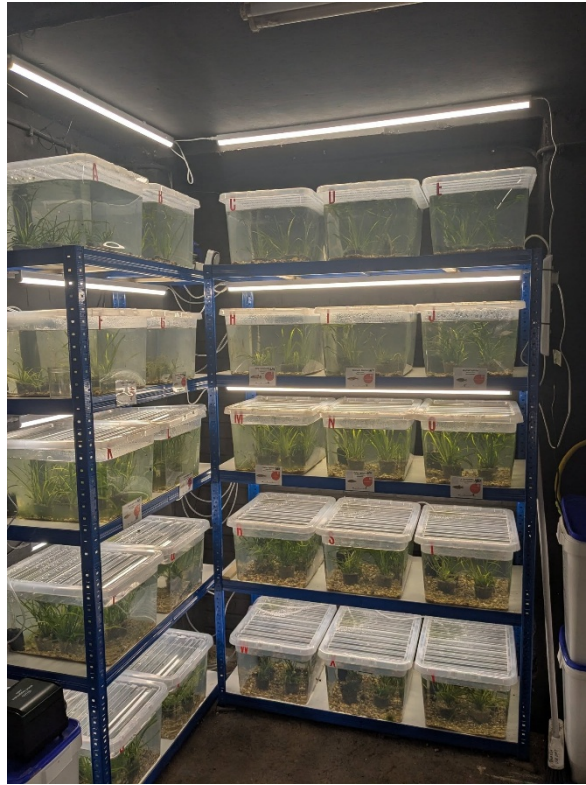


Photo: Shaun Stevens

Many of our regular visitors and supporters will know that in spite of our small size, we do punch above our weight when it comes to fish conservation in our Aquarium. However, having the largest breeding programme of Mexican goodeids outside of Mexico itself, does come with a few drawbacks. Mainly the cost.

But we are extremely lucky that not only do we have great sponsors like [NT Labs](#) who supply us with the bulk of our fish food, but we are also supported by the fish keeping hobbyists around the country.

We recently received an extremely generous donation from the [Association of Aquarists](#) which has enabled us to increase and improve our fish breeding programme to over 150 tanks. Including this new set up, which we are using already to raise small groups of fry.

None of this conservation work could be done without the generosity of businesses and the public alike. We thank you all.

Livebearing Halfbeaks (Part III)

The genus *Nomorhamphus* (Part I)

How Philippine *Dermogenys* became *Nomorhamphus*

By *Ulrike Korte*

There is a close relationship between the clades of the genus *Dermogenys* presented in part I and II of this halfbeak series and the genus *Nomorhamphus*.

As mentioned before, livebearing halfbeaks are restricted to regions in Southeast Asia and their habitats have some peculiarity in common: they all lie in territories which are classified as hotspots of biodiversity. Because of past tectonic activities and other phenomena during early earth history, these zones reveal a striking diversification in evolution of species combined with high endemism.

Only 2,3% of the surface of our earth are designated biodiversity hotspots and four of these are to be found in the Southeast Asian region, known among scientists by the names of Indo-Burma, Sundaland, Wallacea and the Philippines.

In the past, it was easy for aquarists to distinguish between the genus *Dermogenys* and the genus *Nomorhamphus*. In general, livebearing halfbeaks with a long beak, the elongate lower jaw, have been defined as *Dermogenys* while those showing only a short appendage or no beak at all as belonging to the genus *Nomorhamphus*. The last comprehensive study of both genera by Amy Meisner (2001), however, focuses among other traits especially on two discriminating characters: contrary to *Nomorhamphus*, males within the genus *Dermogenys* possess a geniculus, that is a minuscule modification at the curvature along the second anal-fin ray which looks like a tiny knee. On the other hand, an identifying mark of the genus *Nomorhamphus* are their oval lacrimal whereas in *Dermogenys* and other halfbeaks the lacrimal is round.

These are indicators for genus determination the normal aquarist is not able to discern and the only possibility for him to warrant recognition would be to dissect the respective fish.

Classification of livebearing halfbeak species remains a taxonomic challenge and up to now – though in the last two decades there have been quite a number of original descriptions of hitherto not described or even not yet detected species – no further encompassing revision of all the livebearing halfbeaks has been carried out.

Even among scientists there is ambiguity concerning the issue whether the genera *Dermogenys* and *Nomorhamphus* should not be reunited in one and the same genus.

The islands of the Philippines are home to a host of populations of livebearing halfbeaks which formerly were all assigned to the genus *Dermogenys*.

In the wake of research findings, some of them have been transferred to the genus *Nomorhamphus*.

This holds for *Nomorhamphus pectoralis* (synonym *Dermogenys pectoralis*), *Nomorhamphus manifesta* (synonym *Dermogenys viviparus*), *Nomorhamphus rossi* (*Dermogenys sp.*), *Nomorhamphus vivipara* (synonym also *Dermogenys viviparus*), all four of them from the Philippine island of Luzon, *Nomorhamphus pinnimaculata* from the Philippine island of Leyte and *Nomorhamphus philippina* (synonym *Dermogenys philippina*) from the Philippine island of Cebu and Mindanao. Most of the Philippine species display a conspicuous elongate beak except for *Nomorhamphus pectoralis* and *Nomorhamphus philippina* with a somewhat shorter lower jaw.

As noted in part II of our halfbeak series in the foregoing issue of this aquarium magazine reproductive strategies in livebearing halfbeaks have been classified in five types (Meisner and Burns 1997, Meisner 2001).

In comparison with the genus *Dermogenys* we discussed in our prior sequences, research studies on specimens of *Nomorhamphus pectoralis*, *N.manifesta*, *N.rossi* and *N.pinnimaculata* revealed some interesting feature in the ongoing evolution concerning their reproduction biology which concomitantly is the main characteristic of species with the type III form of halfbeak viviparity.

For more insight, let's clarify the respective reproductive patterns of the *Dermogenys pusilla* - clade practising type I form of halfbeak viviparity and the *Dermogenys orientalis*-clade featuring type II form of halfbeak viviparity.

Besides sperm storage, a property innate to all livebearing halfbeaks, both clades of *Dermogenys*, the *Dermogenys pusilla*-clade and the *Dermogenys orientalis*-clade, share one common feature; their entire embryonic development takes place within the follicle = their entire gestation is intrafollicular, They hatch from their egg integument only in the moment of parturition.

And yet-, the embryonic development of both *Dermogenys* clades differs in several vital characteristics.

-Females of the *Dermogenys orientalis* group show superfetation which means that there are at the same time several broods of different age and corresponding different developmental stage in the ovaries.

In the *Dermogenys pusilla* group, superfetation does not occur. The embryos in the ovaries are all of the same age and in the same state of development.

-Embryos in the *Dermogenys orientalis* group do not dispose of any noteworthy yolk reserve. Embryos in the *Dermogenys pusilla* group are endowed with a large amount of yolk.

-To ensure nutrient uptake from the maternal organism to fetus, in the *Dermogenys orientalis* clade the fetal belly-sac and the entire embryonic surface are covered by a conspicuous epithelium and are heavily vascularized.

Dermogenys pusilla clade embryos possess only low epithelium with some vascularization.

-In relation to their overall organism, embryos of the *Dermogenys orientalis* clade show a heavy disproportional growth of some organs like their belly sac and their pericardial sac. Thus, they benefit from a larger surface of vascularized epithelium to cope with fetal demand for maternally derived nutrients. At a later stage of development these organs return to their appropriate normal size.

This is a biological phenomenon called hypertrophy and will occur in strenuous times when the organism is overstressed.

In *Dermogenys pusilla* embryos these organs are only slightly expanded.

If we now compare *Dermogenys* from the *orientalis* group (type II form of halfbeak viviparity) with the *Nomorhamphus* species from the Philippines herein discussed (type III form of halfbeak viviparity), which formerly were allocated to the genus *Dermogenys*, both types exhibit the same characteristics – superfetation, no noteworthy yolk reserve, conspicuous epithelium on belly sac and embryonic surface in conjunction with heavy vascularization as well as hypertrophied belly and pericardial sacs. So there seem to be far more commonalities between reproduction patterns of *Dermogenys orientalis* (type II) and *Nomorhamphus* (type III) species than between *Dermogenys orientalis* and *Dermogenys pusilla* (type I) species, though the latter belong to the same genus. Even embryonic gestation in both types (type II and type III) is intrafollicular – however, in type III at least until a late fin-bud stage...

With their fin development starting, embryos of the Philippine *Nomorhamphus* species leave their follicles and transit into the motherly lumen where they continue their maturation until parturition.

Throughout this last period of maturation in which the embryos are free-swimming in the ovarian lumen, they retain their large hypertrophied pericardial sac and the conspicuous epithelium covering belly sac and embryonic surface. The hypertrophied organs will only regress to normal size when embryos are fully developed and ready for being born.

With this evolutionary step in halfbeak biology we witness nature's first approach from embryonic development in the follicle to embryonic development free-swimming in the lumen.

Embryos with no or no sufficient yolk reserve need structures to guarantee nutrition transfer from the maternal organism. In the follicle, this was granted by the growth of a heavily vascularized epithelium and enlarged organic surfaces. In intraluminal gestation, however, embryos with such thick skin tissues and an oversized heart sac seem to be unique among

livebearing bony fishes as it is the only scientifically known instance of this case. The late transition from follicle to the lumen may be the cause for the upkeep of these structures as a means for maternal-fetal nutrition transfer during the last phase of maturation.

More current reproductive structures familiar to some aquarists that function likewise are the trophotaeniae as seen in *Goodeids* or a branchial placenta as seen in *Jenynsia* species.

Among fifteen families containing livebearing species the majority practises intraluminal gestation. Only a minority of three of them exhibit intrafollicular gestation. Interestingly enough, one of these three minority families are the *Poeciliidae*, a family most popular and appreciated in the aquaristic scene. Here ovulation occurs simultaneously with parturition. A great deal of aquarists will have observed the phenomenon of the newborn guppy with its coiled body posture in the momentum of birth – a natural effect induced by the hatchling's prior position in the egg. Newborn halfbeaks with intraluminal development, on the contrary, in the moment of birth appear always elongate and never coiled.

Regarding these findings, in all halfbeak species placed in the genus *Dermogenys*, development of embryos is strictly intrafollicular whereas species placed in the genus *Nomorhamphus* manifest to a greater or lesser extent embryonic development in the lumen.

In this context, the Philippine halfbeaks may be considered as obviously a primitive form of beginning intraluminal gestation.

In correlation with enhanced female reproduction patterns, evolution of spermatogenesis has advanced reciprocally. Instead of loose sperm released in the water column, to avoid losses, in halfbeak viviparity several variations of sperm packaging were approached.

Research on the genus *Zenarchopterus*, the estuarine halfbeak I introduced in the foregoing sequel, documented six variations of sperm packaging mechanisms. The diversification found in the respective morphology of these different sperm bundle types indicates that sperm packaging originally evolved in *Zenarchopterus*, the halfbeaks in which females are internally inseminated and lay fertilized eggs – the preliminary stage of consecutive evolving viviparity.

While in *Zenarchopterus* arrangement of spermatids is still somewhat unorganized, in *Dermogenys* and *Nomorhamphus* spermatids are evenly arranged and often come in several layers.

Further studies conducted on sperm morphology have discovered that another characteristic coincides with the classification into the genera *Dermogenys* and *Nomorhamphus* besides intrafollicular embryonic development in *Dermogenys* and intraluminal embryonic development in *Nomorhamphus*: Species assigned to the genus *Dermogenys* produce large sperm bundles (large sperm bundle type) whereas species ranged in the genus *Nomorhamphus* have small sperm bundles (small sperm bundle type). This holds also for the Philippine halfbeaks whose sperm bundle morphology is identical to our traditional

Nomorhamphus species. Thus, these findings support equally ranking them within the genus *Nomorhamphus*.

Scientific research concerning taxonomic determination is predominantly based on museum vouchers. Aquarists, however, tend to live specimens and there is not much chance for them to reliably identify their fish on the grounds of morphological data.

That is why in our study group halfbeaks in general go by the name of their collection site or at least of their country of origin as is the case of halfbeaks depicted herein and conform to the genera treated in this chapter. For want of accurate taxonomic determination we assume the names by which they formerly have been introduced into the aquaristic hobby.

Thanks to scientific scrutiny we have gained considerable knowledge concerning our halfbeaks' biology and *Nomorhamphus* are a genus with most intriguing features we will learn more about in a later sequel.



Photos: *Karl Korte*.



Zenarchopterus dunckeri; anal fin of the female.



Zenarchopterus dunckeri; anal fin of the male.



Blue halfbeak, *Dermogenys viviparus*. Photo Harro Hieronimus.



Dermogenys cottei, female. Photo Frank Schäfer.



Dermogenys sp “Red fin Sulawesi”, female. Photo *Frank Schäfer*.



Dermogenys siamensis collected in Petchaburi Province, Ben Laem District.
Photo *Frank Schäfer*.



Filler: Costa Rican *Poecilia* Dan Fromm photo

Can you help identify these platies?

Photos: *Brian Dent*

BLA member and new committee member Brian Dent bought these platies at either Bristol or Basingstoke last year but needs help to identify them. If you know the identity of these fish then please get back to me and I will pass the information on to Brian.



Diary dates

BLA events:

1. 19th April 2026, Bristol

Spring meeting and auction.
Hengrove Community Centre,
Fortfield Road,
Bristol,
BS14 9NX

If you would like to sell fish in the auction, you will need to get an auction letter in advance. To do so, please email the auction manager, Steve, at:

BLA-Auction@outlook.com

Refreshments including sandwiches and tea/coffee will be available. For more details, see the BLA website and “Facebook” page.

2. 7th June, Basingstoke

Livebearer Show and Auction

Kempshott Village Hall,
Stratton Park,
Off Pack Lane,
Basingstoke
RG22 5HN

Doors open at 10.30 am

Guest speaker / Q & A Session,
Eddie Wade memorial show,

Livebearer auction,

Sales / Trade tables,

Raffle,

Hot and cold drinks, cakes and sandwiches available.

The show will be conducted under A of A rules. For the classes to be judged please see the BLA's website.

3. Summer meeting #2, TBA, Carlisle.

4. Autumn Convention, 24th and 25th October, Shenstone, Nr Lichfield, Midlands, WS14 0LT.

Other events:

3rd International Convention of the Goodeid Working Group in Comala, Colima, Mexico; 19th to 24th April, 2026. For more details of this event please see [the website of the Goodeid Working Group](#). A number of BLA members will be attending.

June 25th to 28th

The American Livebearer Association's annual convention will take place in Lexington, Kentucky, with the 12th convention of the North American Goodeid Working Group, and annual conventions of the American Cichlid Association and the International Betta Congress. For more details see <https://livebearers.org/convention/2026-convention>.

An invitation from Markéta Rejlková:

Dear Xipho friends,

Since this year's GWG meeting is taking place in Mexico, it might seem that we will not be meeting in Europe in 2026. The opposite is true. All Xipho (and other livebearers!) breeders are cordially invited to a special meeting. Please feel free to share the invitation in your circles.

Aquarium Hobbyists Invited to the 12th International Conference of Poeciliid and Goodeid Biologists

Aquarium hobbyists with an interest in livebearing fishes and freshwater fish conservation are invited to participate in the 12th International Conference of Poeciliid and Goodeid Biologists, to be held July 16–18, 2026, in Padova, Italy.

The first day of the conference (Thursday, July 16) will feature a Hobbyist–Scientist Forum, which is free and open to all. This forum is dedicated to fostering dialogue and collaboration between aquarium hobbyists, zoos and aquariums, and researchers, recognizing the critical role hobbyists play in advancing our understanding of livebearer biology and supporting their long-term conservation.

The forum is intended not only for those currently working with poeciliids and goodeids, but for aquarium hobbyists interested in freshwater fish conservation more broadly, creating space to learn from one another across taxa and traditions. Individuals and organizations will have the opportunity to introduce themselves and share the work they do, helping to build connections and identify pathways for collaboration.

A central theme of the forum will be open, candid discussion about both the opportunities and challenges of conservation collaborations, especially in light of the recent IUCN resolution “Scaling collaborative action for threatened freshwater fishes through ex situ conservation.” This resolution explicitly calls for more systematic approaches to ex-situ conservation and for stronger integration of aquarium hobbyists into conservation science and action.

We hope that the forum will reflect the interests and priorities of the broader livebearer community. Hobbyists are invited to provide feedback on discussion topics, as well as to propose presentations. Potential topics include, but are not limited to: maintaining genetically and phenotypically diverse stocks, sharing best practices in husbandry, breeding, and record-keeping, and aligning ex-situ conservation efforts with in-situ conservation goals. Participants will also receive updates on current field conservation, recovery, and reintroduction projects involving endangered poeciliids and goodeids.

Hobbyists who wish to provide feedback or propose a presentation can do so through a short survey, separate from the conference registration: <https://forms.gle/...7M8>. There are two presentation options:

- “What We Do” session: short (approximately 3-minute) informal presentations introducing relevant activities of individuals, aquarium clubs, or other organizations.
- Formal presentations: longer talks requiring a proposed title and brief summary.

Proposals will be reviewed based on relevance, available time slots, and the goal of assembling a balanced and diverse program.

If you’d like to attend, please register through the conference website: <https://pogobio2026.weebly.com/>. All attendees, including those joining only the Hobbyist–Scientist Forum on July 16, must register. Participation in the scientific sessions on July 17–18 additionally requires payment of the conference registration fee.

We hope this meeting will serve as a platform for meaningful exchange, mutual learning, and the start of sustained collaborations that strengthen conservation outcomes for livebearing fishes and freshwater biodiversity worldwide.

With best wishes,

Markéta Rejlková, Gil Rosenthal, and Michi Tobler