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 the Association's magazine and to inform members of forthcoming events. This information will not be provided to any other organisation for any purpose whatsoever without prior consultation. The association agrees to remove any details at a member's request.

Committee:

Editorial

I have got to start by thanking Dan Fromm. He has very kindly sent me, not just the letter that you can see below, but also articles on freshwater stingrays and *Gambusia beebei* and a bon-bon (poster) showing the poeciliids of Panama. Without Dan's help this would have been a very thin newsletter indeed! So please, BLA members, get writing! Any subject, any species of livebearer, collecting, keeping, breeding, I don't mind. Don't worry about spelling etc – that is my job.

And then I must thank Steve Oliver, our new(ish) Chairman. He has put a huge amount of time and effort into organising the events for the forthcoming year. This is going to be our most ambitious year in my time in the BLA, with four events planned in different areas of the country. The first two events, in April and June are to be held in Bristol and Basingstoke, respectively. In July we are heading for Carlisle. This will be the first event that we have ever held in this area, the idea being to give livebearer enthusiasts form the north of England and from Scotland a venue that they can reach more easily that the south of England. Then in October our autumn show and convention is to be held in the Midlands – hopefully the majority of BLA members will be within easy reach of the venue, just off the motorway system. It would be really good if as many of you as possible could attend these events. If you do manage to get there, please do come and say hello. I just love chatting to other fishkeepers about what they keep and how they can be successful in breeding their charges.

Wishing you all the best for the coming year,

Greg Roebuck

A letter from Dan Fromm in response to the article about the Genus *Limia* by Kees de Jong

Dear Editor,

I'm writing to correct what I see as a mistake in LN #70 part II. Photo #7 on p. 45 is captioned "*Limia grossidens* male." I beg to differ. It is a photo of a fine male *L. nigrofasciata*.

Adults of the two species aren't that hard to tell apart. Male *L. nigrofasciata* have a sigmoidal pre-dorsal profile. That's the hump from which the fish gets its common name Humpbacked *Limia.*

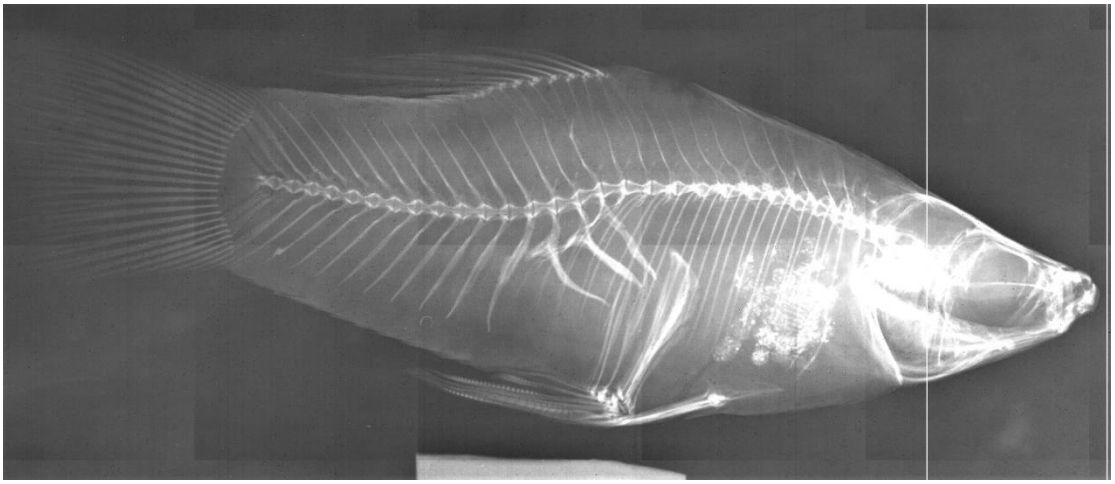
Male *L. grossidens* have a straight pre-dorsal profile, i.e., no hump.

Both sexes of *L. grossidens* have prominent chins. And, as the description says, few large teeth, "13-15 in the outer row of each jaw." *L. nigrofasciata* have at least 25 teeth in both outer rows. Counting teeth requires at least 25x magnification, is much easier with preserved than with live specimens.

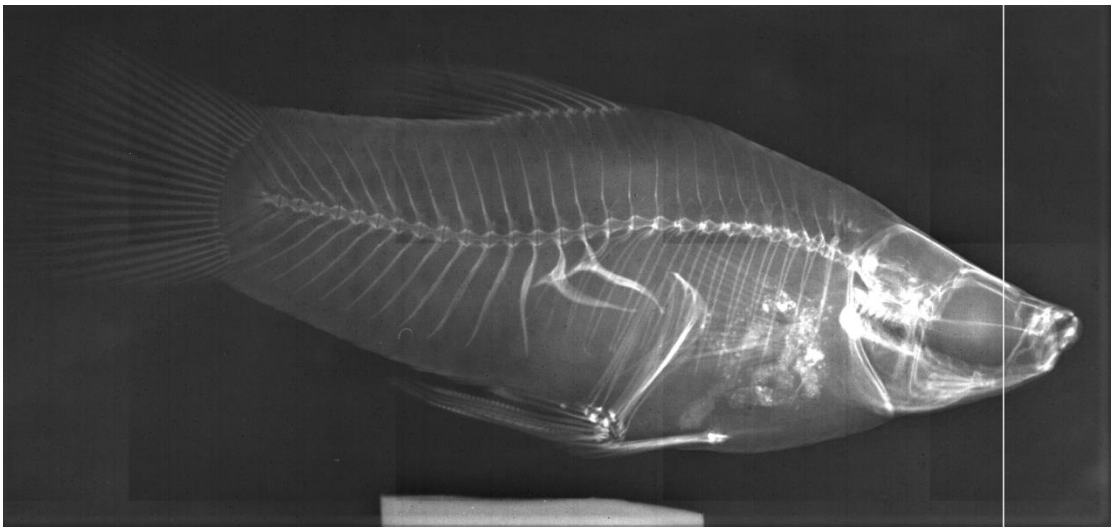
I've attached two radiographs of male *L. grossidens* that I, Ken Lazara and Bill McNiff collected from Lake Miragoâne in January 1986. I identified these fish for ANSP in the spring of '86; my IDs have since been confirmed by Carlos Rodriguez and Steve Walsh. I've also attached scans of Kodachrome slides of live fish I shot in the field.

Limia grossidens female; large chin. *Photo sent to me by Dan Fromm*

"*Limia grossidens* male; staight pre-dorsal profile, bulbous chin." *Photo sent to me by Dan Fromm*



Anomalous *Limia grossidens* male ANSP 163405_1; straight pre-dorsal profile, steeply inclined mandible and three, not two, gonapophyses. This character is not rare in *Limia* species on the Tiburon Peninsula. *Dan Fromm radiograph courtesy of The Academy of Natural Sciences of Drexel University.*



Normal *Limia grossidens* male ANSP 163405_2; note the straight pre-dorsal profile and steeply inclined mandible. *L. mandibularis* is not the only *Limia* with this character. *Dan Fromm radiograph courtesy of The Academy of Natural Sciences of Drexel University.*

Best regards,

Dan Fromm

An email from Ray Van Veen

Newish BLA member *Ray Van Veen* very kindly sent me the following email :-

I was reading the Final section of the December issue of "Livebearer News" and you had a discussion regarding brine shrimp.

Well I want to give you my input. I have been using eggs from BRINE SHRIMP DIRECT in Utah for as long as I can remember; more than 30 years, very happy with them, I use about a lbs a month. I have two hatcheries going all the time and alternate daily so my hatches are 48 hours apart when I collect. I feed brine shrimp exclusively with addition of some garden worms ones a week frozen blood worms and or frozen daphnia every third day. I am lucky enough that I was able to find a pond that has live daphnia at the moment so I can count on that till at least April. I do have to drive 60 km one way to get there so it gets expensive but fish love it.

The hatcheries I use are also from BRINE SHRIMP DIRECT and are self-contained add water artemia and some bubbles for 48 hours. My room temp is a constant 70 F Which is 21 C.

I am Dutch but now living in the USA for many moons but I try to attend the DUTCH KFN convention when I can and be there in April and usually bring two cases 24 cans off Brine Shrimp Direct 90 % hatch to Holland and they are gone within 5 min when I arrive. I usually bring Janwillem Hoetmer a case for himself (he is a good friend of mine).

So that is my story, lets keep the dialogue coming,

Thanks,

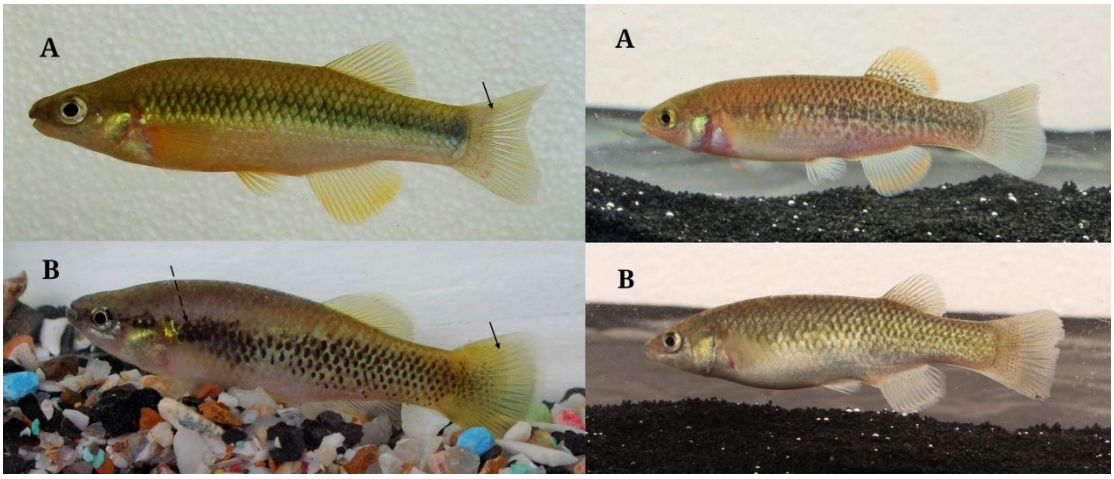
Ray

Many thanks from me, Ray, and I would love to hear more from you. Greg R.

Snippets

1. In early December I called in on Becky Goodwin at Chester Zoo to collect some of the surplus *Xenotoca doadrioi* that needed a new home. There followed an hour or more of conversation with Becky – and I could have easily stayed and nattered for much longer. During our conversation Becky mentioned that she had been present at the release, on the 4th November, of 1000 golden skiffia, *Skiffia francesae*, into the Rio Teuchitlan. This is one of my favourite species. I read about it being collected and then found to be extinct before I had even laid eyes on any *goodeid*. I just hope that the release is as successful as the release of the cresent zoe, *Zoogoneticus tequila*, has been. Thanks to Clive Walker for sending me the issue of "The Stream", the digital magazine of SHOAL, which gives more information about the release.

2. At the GWG meeting in Vienna last year the genus *Profundulus* was the subject of one of the talks. Apparently this genus is the most closely related killifish to the *Goodeids.* Erwin Radax, from Austria shared the following on "Facebook" :-



"Published in Neotropical Ichthyology journal - Until recently, the genus *Profundulus* was classified in two subgenera, *Profundulus* and *Tlaloc*, the sole members of the family Profundulidae. Newly discovered molecular data have been used to justify the elevation of these subgenera to genera. For each genus, description and distribution ranges are provided as well as a key for identification of the species. Open-access - https://www.scielo.br/j/ni/a/fNsQDJQMCgzh7Xyv6YDvHXg/ "

The fish in the photos above certainly look very similar to many of the *Goodeids*.

3. Many years ago I spotted some *Neotoca bilineata* in an aquarium shop in London, bought a pair and brought them home successfully. They were just the third species of *Goodeid* that I had ever managed to find. They were kept at tropical temperatures as I didn't know any better, never bred and died after a year or so. I have been on the lookout for the species ever since. So thanks to whoever it was brought some to the auction at the Autumn Convention last year. I bought two pairs and they quickly bred and the young are growing on nicely. If there is a species that you would like to get hold of? Then drop me a line and I will include your wish-list in a future newsletter. Alternatively, come along to the meetings that we have planned for later in the year and see if any of the species that you want turn up in the auction – you never know your luck!

Biology, husbandry, and reproduction of freshwater stingrays. By *Ronald G. Oldfield* and kindly sent to me by Dan Fromm

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Oldfield, R.G. 2005. Biology, husbandry, and reproduction of freshwater stingrays II. *Tropical Fish Hobbyist*. 54(1): 110-112.

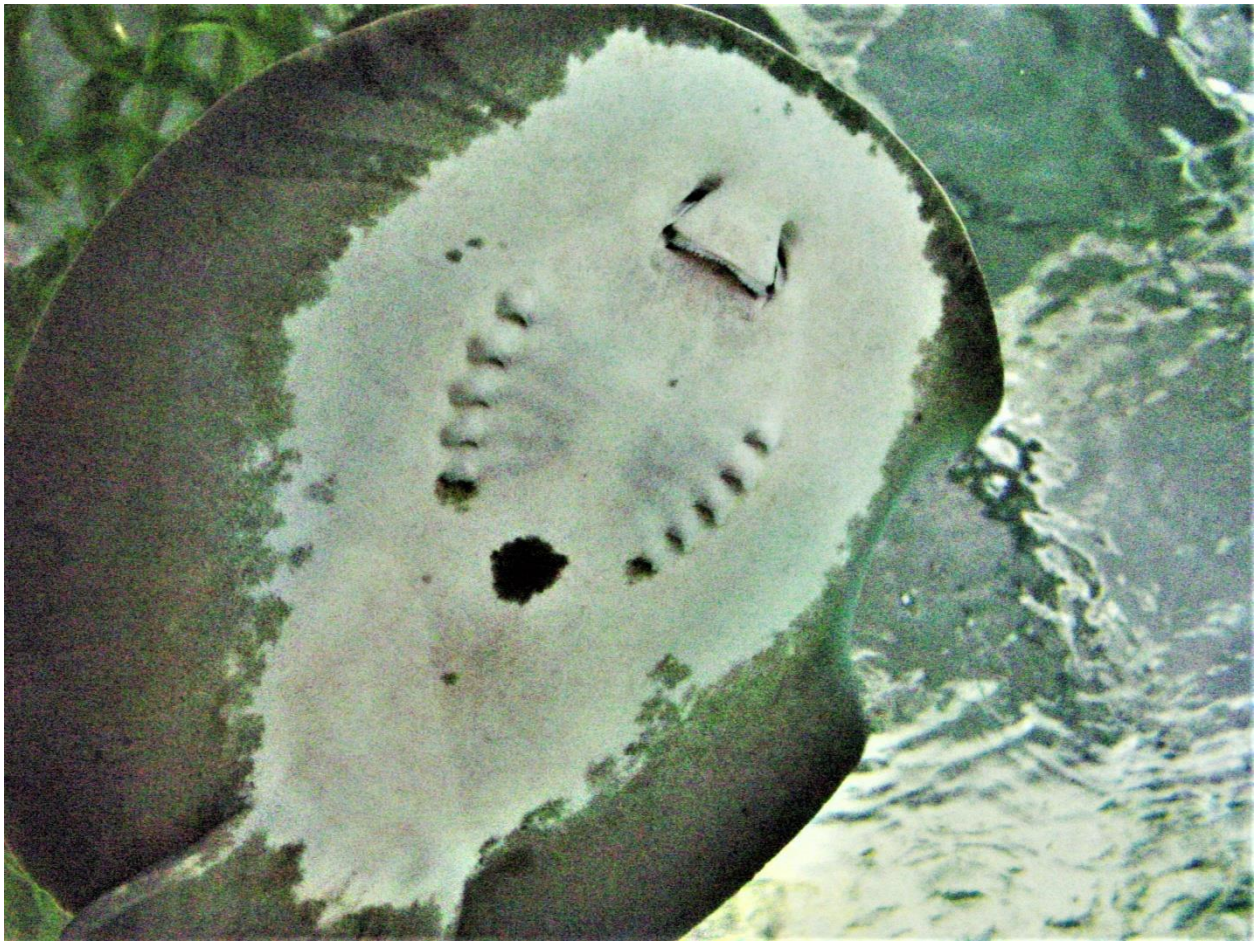
Introduction

In the freshwater aquarium, stingrays are among the most desired of unusual pets. Although a couple of species have been commercially available for some time, they remain relatively uncommon in home aquariums. They are often avoided by aquarists due to their reputation for being fragile and difficult to maintain. As with many fishes that share this reputation, it is partly undeserved. A healthy ray is a robust animal, and problems are often due to lack of a proper understanding of care requirements.

In the last few years many more species have been exported from South America on a regular basis. As a result, many are just recently being captive bred for the first time. These advances will be making additional species of freshwater stingray increasingly available in the near future. This article answers this newly expanded supply of wild-caught rays and an anticipated increased availability of captive-bred specimens by discussing their general biology, husbandry, and reproduction in order help ray owners have the best experience possible with these fascinating animals.

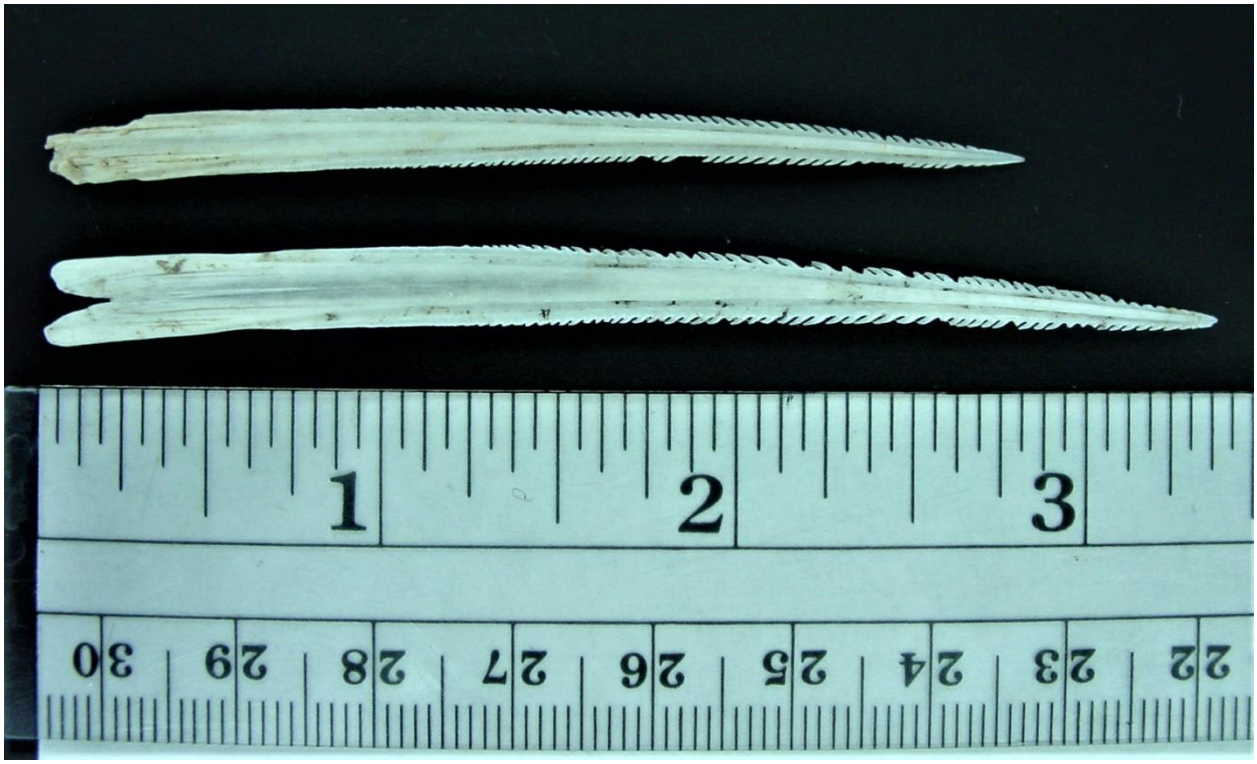
General biology

Stingrays and sharks have cartilaginous skeletons, and are classified together in the class Chondrichthyes. This group includes around 1000 species in two subclasses: Elasmobranchii, sharks and rays, and Holocephali, the chimerae. Chondrichthyes arose in the Silurian period approximately 450 million years ago, around the same time as bony fishes. Within the Elasmobranchii, recognizably modern sharks had arisen by the Jurassic period, and rays and skates, the order Rajiformes, had evolved by the end of the Cretaceous period. Rajiformes con-tains about 456 species and differs from sharks by having their pectoral fins fused to the sides of their heads and by having ventral rather than lateral gill slits. Rajiformes contains two suborders. Rajoidei, the skates, inhabit deep water and high latitudes and reproduce by laying eggs. Myliobatoidei, the stingrays, generally inhabit tropical inshore waters, reproduce by giving birth, and usually have stingers attached to their tails. This barb is a modified placoid scale (the type of scale covering elasmobranchs), and is periodically shed. It is covered with toxic epidermal tissue and can be very dangerous.



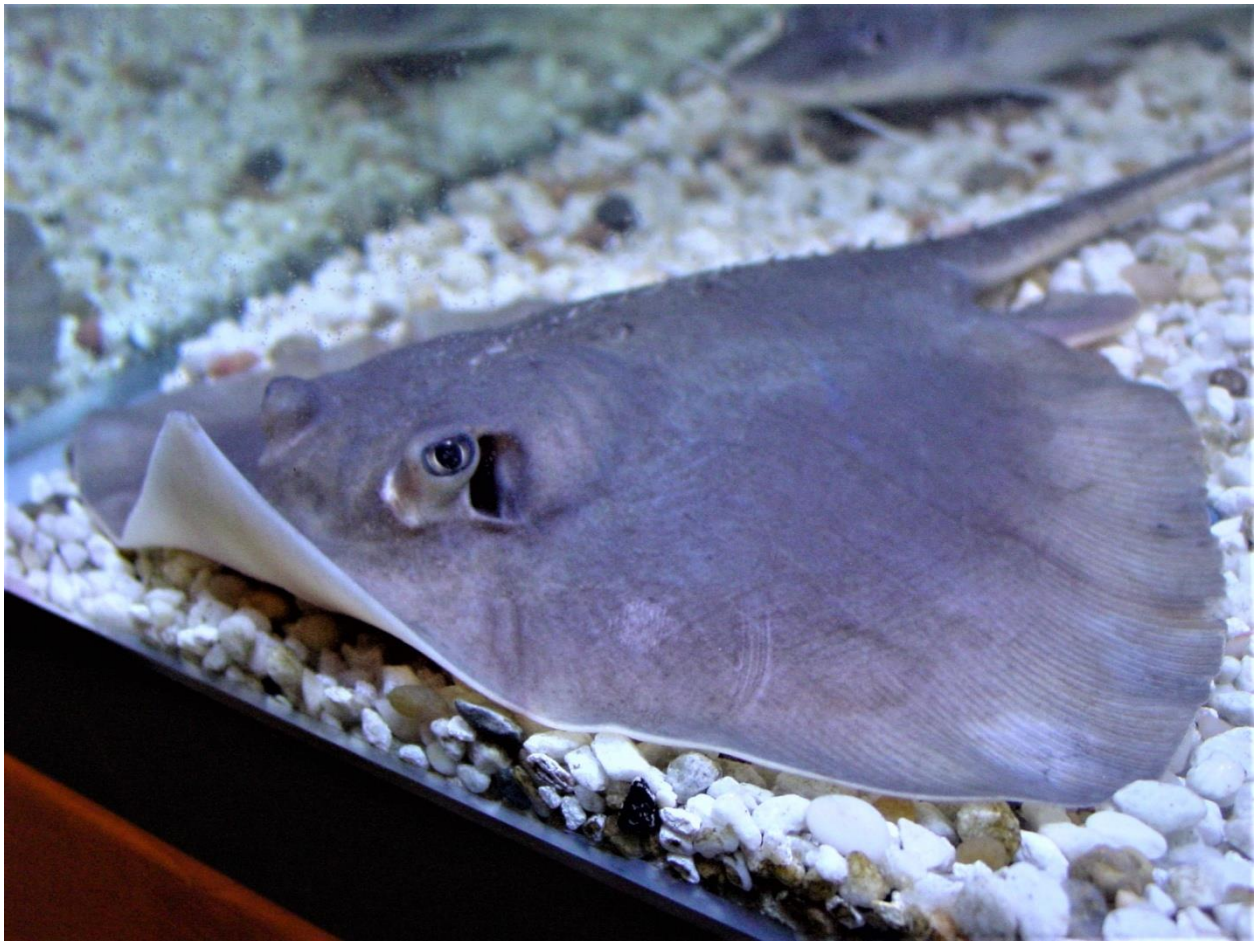
The underside is one of the most entertaining aspects of a stingray. In an aquarium it is possible to see the gill slits and watch it eat, as can be seen in this *Potamotrygon motoro*.

Both sharks and rays are primarily marine. Only about 5% of all elasmobranchs are freshwater. Although bull sharks and sawfishes are well known for spending time in freshwater, some rays are completely adapted to it and spend their entire lives inland. Two families contain truly freshwater rays. One of these, Dasyatidae, contains many species that are primarily marine, but a few species that have apparently independently invaded and adapted to freshwater. These include about four species from each of the genera *Dasyatis* and *Himantura*. The family of South American stingrays, Potamotrygonidae, contains 40 valid species and is the only elasmobranch family in which all species require freshwater.



A stingray will thrust its barb into the skin of whatever steps on it or otherwise molests it. The barb is not filled with venom, it is actually the skin surrounding it that is toxic.

Many dasyatids regularly enter and may reproduce in freshwater. Species restricted to freshwater include *Dasyatis garouaensis* and *D. ukpam* from Africa, *D. laosensis* from the Mekong River, one undescribed *Dasyatis* sp. from China, and a few *Himantura* species in Asia. *Himantura fluviatilis* can grow up to 600 kg and over 2 m across. One freshwater dasyatid population occurs in Florida. It is actually a landlocked population of the Atlantic stingray, *Dasyatis sabina*. The Atlantic stingray is very common in the southeastern U.S. and sometimes ventures into freshwater. In fact, some have been caught 200 miles up the Mississippi River. Individuals native to the St. John's river in Florida, however, spend their entire lives in freshwater. The Atlantic stingray is offered in pet shops somewhat frequently. I have never heard of one of these rays sold as a freshwater animal in the pet trade to do well after retail purchase. They seem to eat, but appear stressed and thin before eventually dying within a couple of weeks. It seems likely that these rays are not the freshwater animals of the St. Johns River, but are captured from other locations and are not completely adapted to freshwater.



The Atlantic stingray, *Dasyatis sabina*, is generally a saltwater ray, although some regularly enter freshwater. Those in the St. John's River in Florida spend their entire lives in freshwater.

Potamotrygonidae currently contains 38 species of *Potamotrygon* and also *Paratrygon aiereba* and *Plesiotrygon iwamae*. In addition, undescribed species have reached the aquarium trade, being referred to by common name only, like 'pearl ray' and 'P-14'. Unfortunately, the misapplication of species names is a real problem. De Carvalho has described how even the most complete book on freshwater rays, Ross' Freshwater Stingrays from South America is fraught with misidentifications and he has pointed out the need for more work on their systematics in order to better understand their evolutionary relationships and assign appropriate taxonomy. Compagno and Cook have discussed Potamotrygonid distributions and body sizes. *Potamotrygon motoro,* one of the most common freshwater stingrays in the aquarium hobby, has the broadest distribution, occurring in six countries and 7 river systems in South America. Four species, *P. ocellata*, *P. magdalenae, P. schuemacheri* and the popular *P. leopoldi* from the Xingu River drainage in Brazil have small distributions and are restricted to one country or river system. Six are 'dwarf' species with maximum sizes between 23 and 29 cm disk width (DW). These include *P. humerosa, P. magdalenae, P. orbignyi, P. schuemacheri*, *P. yepezi*, and *P. signata*. The others get a little larger, generally around 40 cm, with only two species, *Paratrygon aiereba* and *Potamotrygon brachyura*, being exceptionally large (80-90 cm). All are incapable of living in saltwater. They have lost the ability to concentrate urea in the blood like other elasmobranchs do to counteract the high concentration of ions in saltwater, and they lack rectal glands, another

elasmobranch osmoregulatory adaptation. The maximum salinity they can with-stand is 15 ppt (parts per thousand). Pure seawater is 35 ppt.

***Potamotrygon leopoldi* might be the most striking of all the potamotrygonids.**

Most freshwater rays available in the pet trade are potamotrygonids, and in the remainder of this article I will relate two experiences I have had keeping them.

General husbandry: 'tea-cup ray' case study

Some people believe that rays need to be kept on sand, or in bare bottom tanks. This was the impression that I was under when I was managing the aquarium room of a pet shop in 1991. At that point I had never kept a ray, and decided to order one for the store. I got the cheapest, most readily available ray, a small tan 'tea-cup' ray. Considering the uncertainty regarding potamotrygonid taxonomy, I am unsure of the true identity of this animal. I believe it was *P. magdalenae*, often incorrectly called *P. reticulatus* (another species entirely, and now syno-nymized with *P. orbignyi*) in the pet trade. I housed it on white sand, alone in a 110 l (29 gallon) tank equipped with a sponge filter. Although rays are common in sandy areas in the wild it is important to note that Ross reported that sand may actually be too sharp and irritate some rays.

The white sand beaches of Alter do Chao on the Rio Tapajos in Brazil are crawling with stingrays. *Potamotrygon humerosa,* P-14, and the pearl rays come from this river.

The aquarium room was kept at 26° C (78° F), so an aquarium heater was not necessary. Heaters must be employed only with plastic heater guards or be restricted to the sump of an external filter. There are no intensely hot objects in a ray's natural environment, and they tend not to react immediately to the touch of a hot heater. Rays can become seriously burned by remaining in contact with heaters. Plastic heater guards are available commercially, and although they will reduce the efficiency of a heater by approximately 1° C, it is a small price to pay for the ray's safety. Another option is to make one yourself by drilling holes into a piece of PVC pipe.

In the wild stingrays generally eat snails and other invertebrates. I fed the *P. magdalenae* live ghost shrimp, which were eagerly consumed, but can be very costly when purchased in small quantities at local pet shops. Being obtained in this manner they might only be suitable for occasional treats. It may require a special arrangement with a pet shop or a connection to a distributor to provide the quantities necessary for ghost shrimp to become a primary ingredient in the diet of a captive stingray. I was successful at keeping this animal under these conditions for a few months until it sold, and the customer that purchased it was successful in maintaining it for a long period (final disposition unknown).

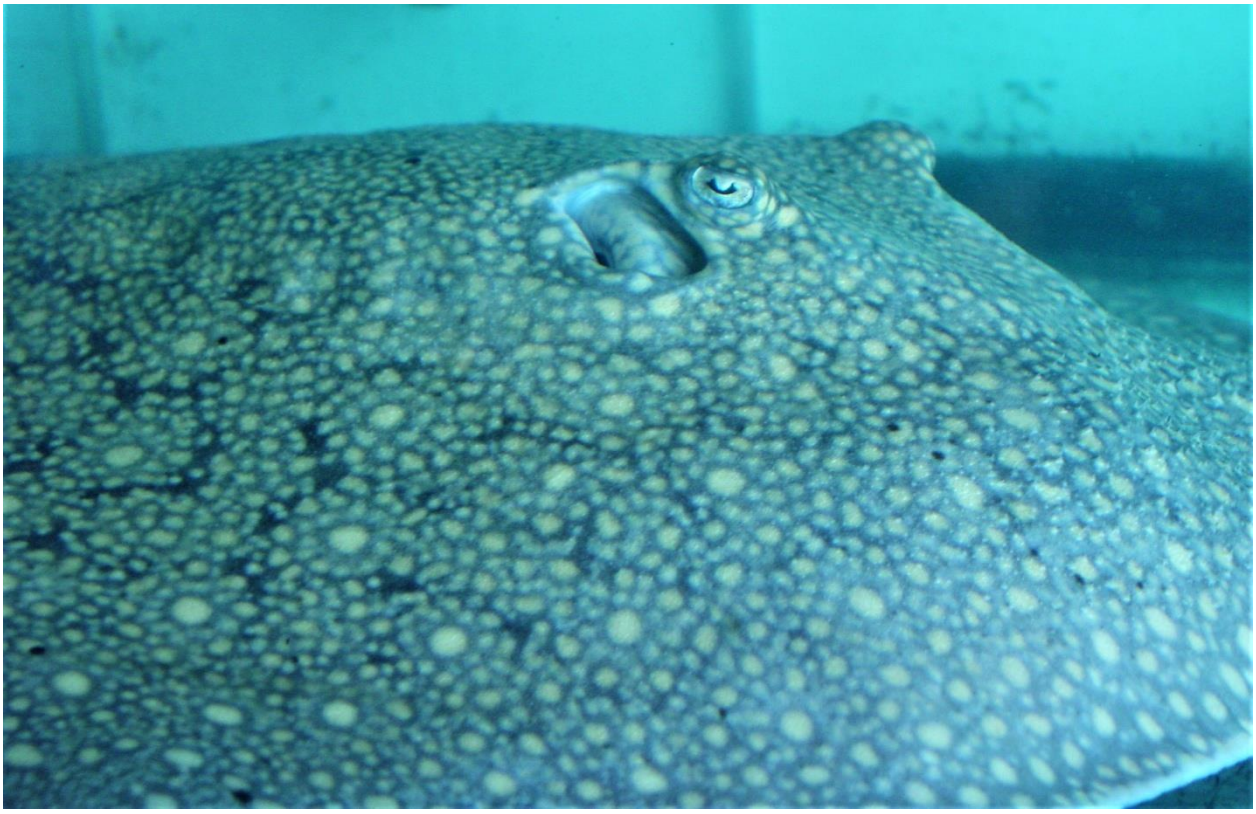
Breeding: background

Saltwater rays are common in, and have reproduced in, zoos and public aquariums. Southern stingrays, *Dasyatis americana*, common in tropical and subtropical waters of the western Atlantic, produced 47 litters and a total of 199 pups at the National Aquarium in Baltimore between March 1994 and March 1999. As in potamotrygonids, females grow larger than males; males mature at 51 cm DW, females at 75-80 cm. Females were chased and copulated with by males immediately to within hours after giving birth. The North Carolina Aquarium at Fort Fisher and the College of Veterinary Medicine at North Carolina State University recently bred yellow stingrays, *Urobatis jamaicansis*, native to the southern East coast of the United States. In captivity live delivery is rare in this species, as females usually resorb the pups. The aquarium injected an inducing hormone into a pregnant female to stimulate live delivery of pups, and on November 18, 2003 five pups were born.

De Carvalho pointed out the need for captive breeding of potamotrygonids. It is unknown what effects threats like collecting for the pet trade and environmental degradation might be having on natural populations because they are not monitored. Although captive bred *P. motoro* are fre-quently available, other species are just recently reproducing in captivity.

Potamotrygonids also have a history of breeding in zoos. The motoro stingray was first bred in captivity in 1969 at the Belle Isle Aquarium in Detroit, Michigan. Six batches of pups were produced from the original pair between 1969 and 1977. Sibling pups went on to reproduce in 1981. Fertilization occurred at 43 months, and birth at 46 months of age. Size at maturity for males was estimated to be 20-25 cm DW and for females 24-32 cm DW. Gestation was thought to be a little over 3 months. Males would mate with more than one female, but only with one at a time. Litter size of captive motoros averaged 3.3 (ranging between 2 and 5), and was less than that of wild motoros (6.3, 6-7), and wild *P. constellate* (then identified as *P. circularis*: 5.8, 4-11). In captivity, 9 of ten conceptions occurred between September and March, when the water temperature was at its lowest (24° C). Captive born pups' disks measured between 83 mm and 107.5 mm wide.

Breeding of other South American rays has progressed at a surprisingly slow rate, and only in the last few years have many other species begun to reproduce in public aquariums. In 1999, Ross summarized some cases of captive breeding that had occurred up to that time, including three species bred in public aquariums: *P. magdalenae* (Belle Isle Aquarium), *P. leopoldi* (Aquarium of the Americas), and *P. motoro* (Exotarium Frankfurt), and three by an independent aquarist: *P. motoro*, *P. leopoldi*, and *P. hystrix*. Zoos have since been breeding more species in captivity. The Audubon Aquarium of the Americas began a breeding program in 1993 and has produced 275 pups from four of the five different species it maintains, including *P. leopoldi*, *P. castexi* (otorongo ray), and the reportedly first captive breeding of *P. henleii*. Breeding behavior was observed in *P. menchacai* (tiger ray), which had never bred in captivity. The Smithsonian National Zoological Park is also breeding *P. castexi*. In the spring of 2001 they acquired four wild-caught individuals. In three years, one pair produced 28 offspring. One of the offspring then hybridized with an unidentified *Potamotrygon* sp. also in the exhibit.



The Otorongo ray *Potamotrygon castexi* is relatively rare and expensive, yet beautiful.

Independent aquarists are also proving successful at breeding potamotrygonids. A. J. and Bobby Town recently produced nine pups in five batches from a breeding trio of *P. magdalenae*. One female was around 3 years old and 25.4 cm DW and 53 cm total length (TL). The other female and the male were both approximately two and a half years old; the female 28 cm DW and 58 cm TL and the male 20 cm DW and 43 cm TL. As in *P. motoro*, gestation was approximately 90 days. There were 1-3 pups per batch, each about 8 cm DW, 18 cm TL. The pair was fed almost exclusively Canadian night crawlers with occasional live minnows, frozen shrimp, and live ghost shrimp. The pups would not eat anything but live blackworms or ghost shrimp, except one which took frozen bloodworms. Hobbyists have also been successful with other species. As recently as late 2004, European aquarists had reproduced exotic rays like *P. scobina*, the undescribed P-14: *P.* 'Itaituba', and the 'pearl ray'.

Breeding: *Potamotrygon motoro* case study

The motoro is still the ray most often bred in captivity. I know of at least half a dozen indepen-dent aquarists that have bred this species. Here I will relate the breeding activities of my pair.

In November, 2002 I received two wild-caught Peruvian motoro stingrays from a commercial importer. One was female and the other male – easily identified by the presence of claspers. Claspers are special structures on the pelvic fins that are used to inseminate females. Also, as adults, males tend to be a light tan color, whereas females are darker brown. I placed the pair into a 454 l aquarium, with the water temperature kept at 26° C. Water quality was maintained with a partial undergravel filter powered by a powerhead, and three power filters. The gravel was vacuumed and partial water

changes done weekly. Rays must be given special attention when first imported to ensure successful acclimation to captivity. Most important of the differences between their wild and captive conditions will be the types of food available to them. Starving fish before transcontinental shipment to reduce the production of waste during transport is com-mon practice, so getting an animal eating as soon as possible is very important to make sure that it remains (or becomes) healthy. Accomplishing this can be a problem if it does not recognize the offered items as food. The best food to offer immediately after receipt is live blackworms. A ray will usually recognize these worms as food and begin eating immediately. The worms can be expensive through local pet shops (up to $3 per 'ounce', which is often an arbitrary measure, largely dependent on which employee is helping you). However, it may be worth it for the convenience if you are lucky enough to be near a store that regularly carries them. Another option is to order them directly from a producer. This can be much easier than it sounds. The price will be about $25 *[editor's comment: ~ $50 in 2022]* for one pound, including next day delivery 2000 miles away. This is about the right amount to order if you have stingrays. You will be amazed at how many worms are in one pound.

Reproduction data for some potamotrygonids. Superscripts indicate references. DW = disk width (cm) at first reproduction for females (f), and males (m). # pups = the mean number of pups per litter, with the range of litter sizes observed in parentheses.

Species	Environment	DW(f)	DW(m)	Gestation	# Pups	Pup DW, cm
'P-14' (Itaituba)[1]	captive	?	?	>2.5 mon.	3	10-11
P. aiereba[2]	wild	37	>41	?	1-2	?
P. constellata[3]	wild	35-45	32-42	?	5.8 (4-11)	10-12
P. hystrix[6]	captive	38	15	?	5	6
P. magdalenae[4]	wild	17-21	17-19	?	2	10
P. magdalenae[5]	captive	25-28	20	90 days	1.8 (1-3)	8
P. motoro[3]	wild	24-32	?	?	6.3 (6-7)	?
P. motoro[3]	captive	33-35	20-25	>3 mon.	3.3 (2-5)	8-11
P. orbignyi[2]	wild	19	23	?	1-2	10

These wild-caught Peruvian *Potamotrygon motoro* poduced several litters of pups. The female is the darker colored individual (left) and the male is lighter (right).

When *Potamotrygon motoro* pups are first born their coloration has a washed-out appearance, but it becomes very distinct within a few months and remains so for several years. The color then fades again as the rays grow old.

After generously offering blackworms to the rays for a few days until they were eating well, I began to introduce more cost-effective foods like chopped pollock and

shrimp from a local supermarket. I generally thawed my frozen fish and shrimp through several soaks in water before feeding, which may have helped to remove excess oils or residues before placing them into the aquarium. Other frozen decapods like krill and mysids were also used, as were frozen blood-worms, and live leafworms and nightcrawlers. The rays seemed to prefer some of these foods over others, ranked from most to least favorite: live blackworms, live earthworms, frozen bloodworms, frozen mysis, frozen shrimp, frozen pollock, frozen krill, frozen whiting. Many people apparently train their rays to eat from their hands, however, I did not attempt this.

Quantity of feeding is another issue. I have heard of rays being maintained healthy on two feedings per week. However, Ross emphasized the need to feed rays often. He feeds his rays 2-3 times per day. My pair of motoros always appeared to be hungry, so I fed them between ⅓ and ½ pound of food once per day. I observed incredible growth under this diet. When I obtained the rays in November of 2002, the female was about 20 cm DW, and the male slightly smaller. By July of 2003, the female had grown to around 36-38 cm. At this time the pair were moved to a 596 l (157 gallon) steel vat (229 x 60 x 43 cm). By April of 2004 the female's disk was 46 cm wide and she was 60 cm in length, and the disk of the male was about 38 cm wide. Due to the hazard involved with obtaining accurate measures, these are only approximate. Even under this feeding regimen, the rays sometimes attacked fish that were housed with them, even if the target was obviously too large for them to eat. Once a large red hook silver dollar had its face chewed off and on another occasion a 15 cm long Midas cichlid had its operculum and gills scraped off of one side of its head after being newly admitted to the rays' vat.

The rays got along fine with other fish that were at least half their size. Ross stated that loricariid catfishes have been known to chew on rays. However, after seeing them housed together in large public aquariums, I decided to try it myself. I maintained a large rhinoceros pleco (*Ptery-goplichthys scrophus)* and adonis pleco (Acanthicus adonis) with these rays without incident. A large arowana, a red bellied pacu, and various large neotropical cichlids: chocolate, uaru, oscar, severum, and red devil and Midas cichlids also shared their aquarium or vat at various times. I have seen some cichlids behave aggressively toward them, biting the edge of the disk. Although tears will heal, careful observations should be made after choosing new tank mates.

It was after they were placed into the vat that the pair began breeding. On December 30, 2003 I found 2 small pups (2.5-4 cm DW) stillborn in the vat. Subsequent litters turned out much better. Five pups were born in each of the following two batches, occurring on April 12, 2004, and July 25, 2004, and were much larger (13-15 cm DW) than the stillborn pups. The second of these two batches produced a couple of abnormalities. One pup died a couple days after birth, although it appeared healthy. Another was born as a 'Batman' ray. The pectoral fins had failed to fuse together in front of its head in early development. Its snout was free, and its pectoral fins pro-jected forward on each side. I was worried that without a complete disk the ray might not be able to create enough suction to pull worms out of the gravel. To my surprise, the ray did fantastic, eating healthily, growing rapidly, and developing a nice color pattern.
Another batch of seven healthy, normal pups was born on November 17, 2004. The parents apparently mated at night for the few days immediately after the births, as evidenced from bite marks on the posterior margin of the female's disk. These bites usually caused no damage to the female, although once there was a notch in the disk that healed uneventfully.

I mentioned above that I housed these rays on gravel. I noticed that public aquariums employ gravel substrates in their ray tanks, and this is the approach I took. My rays did fine on the round 'river gravel' available at quarries and home-improvement stores. Ross does not recommend large, deep gravel for ray pups, because they will not have the power to suck food out of it like larger individuals. This may be the case, but if you feed the pups often enough and periodically stir the gravel this will not be an issue. In fact, live blackworms may initially escape the rays and colonize the substrate. If rays are the right size in proportion to the size and depth of the gravel to only extract worms that are near the surface, this worm colony may serve as a continual food source from which the rays can freely forage. This constant food opportunity seems particularly suitable to behaviorally enrich rays, since they are often cruising the tank searching for food when they are not being fed.

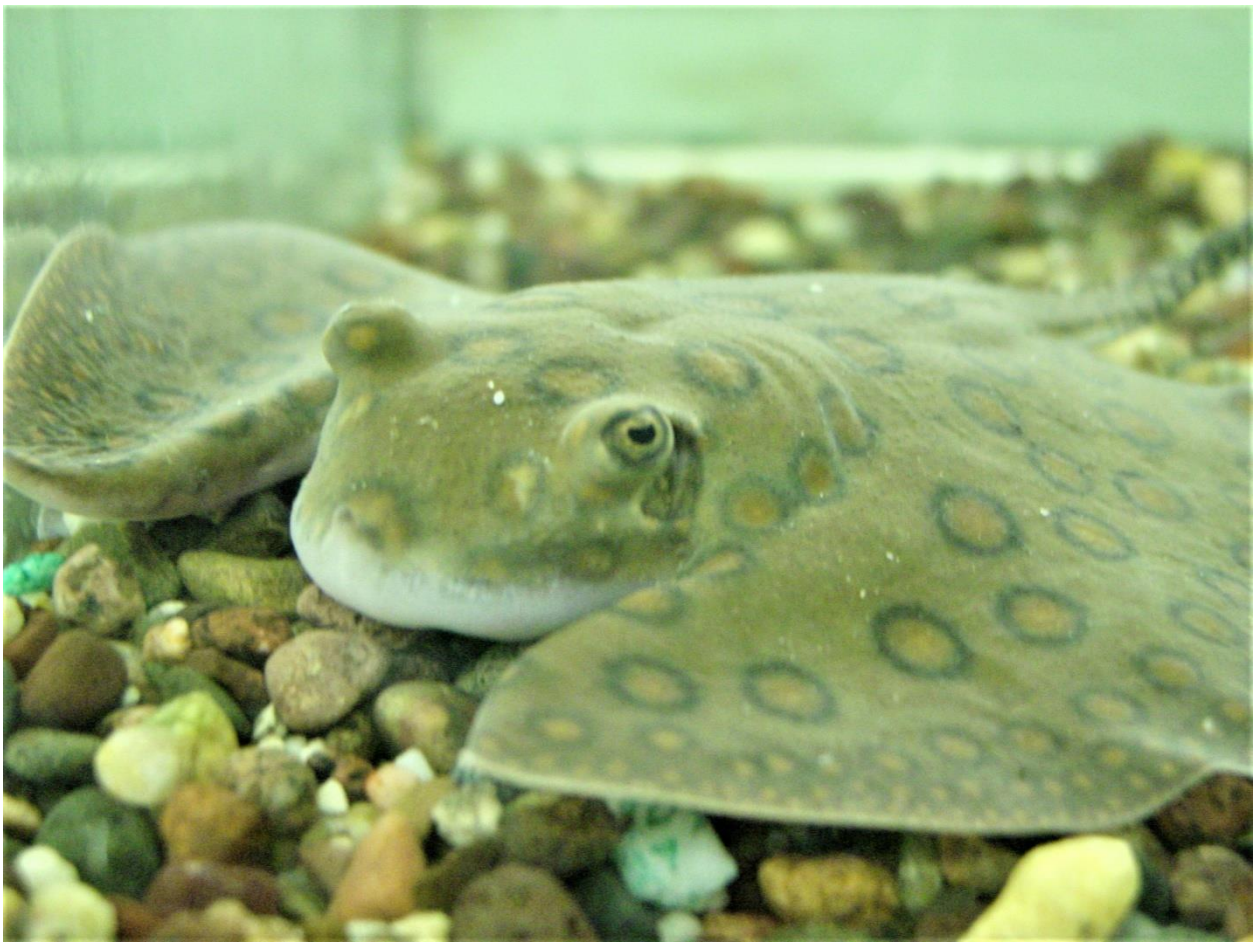
Newborn male pups have small claspers. As the animal reaches sexual maturity they will undergo considerable growth and development.

Newborn pups have a small structure on the underside of the disk, probably used in obtaining nutrients from the mother. In motoros it is lost after the first several days.

Adult rays generally get along fine with their offspring. However, Bill Gillies of Detroit had one occurrence where a father apparently cannibalized 7 of his offspring from a 9-pup litter, after which he stopped eating and died as well. After each birth, I removed the pups from the pair within a day or two. Although I did not expect any real problems from the parents, there were other large fish in the vat. Plus, I wanted to closely monitor the pups' feeding. This required moving the pups, which can be quite a challenge considering the danger of the barb. It is possible to be stung and endure little harm. A Brazilian friend of mine has been stung by wild stingrays on two occasions and never even went to a doctor. However, in the aquarium literature there are frightening photographs of very serious injuries caused by stings. It is definitely a good idea to seek medical attention if stung.

Care must be taken not to get the barb caught in a net. The best method for moving rays is to scoop them up in plastic containers. If no appropriate containers are available and a net must be used, a very fine mesh (often white) aquarium net works best for small rays, and a large-mesh (3+ cm) landing net used for fishing works best for large rays. If the barb does get caught in a net, the best action to take is to calmly lay the net into the tank without hanging up the ray, and it might work itself loose. In November 2004 I displayed the breeding pair and three pups at America's Family Pet Expo in Detroit. When packing up for the return trip the barb of the male of the pair got caught in a thick net. I cut most of the net off so the ray was free. However, after a few

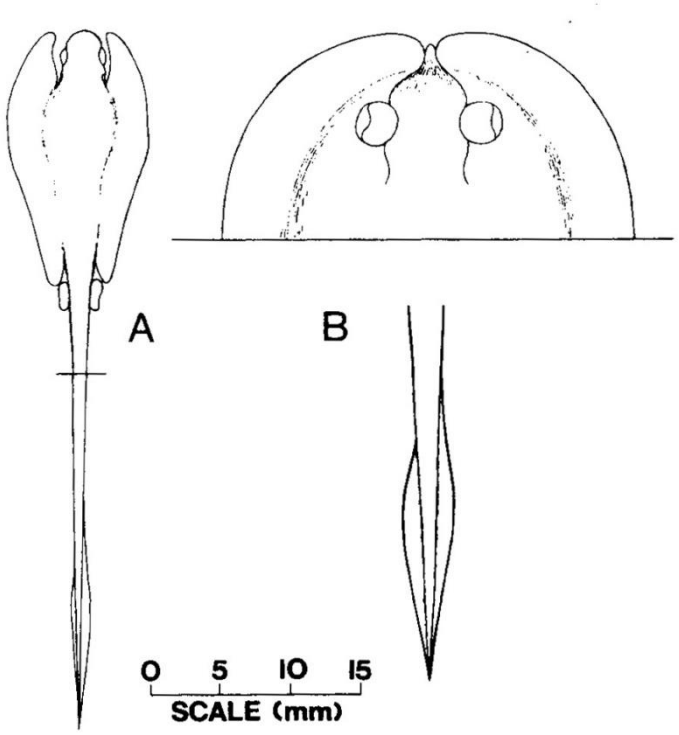
days the remaining scrap of net was still attached. I suspected that it might have been irritating the tail. I scooped the ray into a shallow container and anesthetized it. Upon examining the tail I noticed that the area around the piece of net was a deep red. With the ray unresponsive I was able to remove the scrap. I think that the tail would probably have become infected had I not removed it.



The so-called 'Batman' stingray morphology. The disk failed to fuse in front of the head during embryonic development of this *Potamotrygon motoro*.

One final note must be made about water quality. Rays grow to be large animals, and have tremendous appetites. Even a large tank provides a small volume of water relative to the size of an adult ray. Add to this the fact that their main food is raw meat, and there is a recipe for poor water quality. The water in my ray vat always appeared clear and clean, never yellowish or cloudy. Water changes had continued on the weekly schedule after transfer to the vat. However, when I removed the pair and got them into the bare bottom tank at the Pet Expo it was easy to see large, red, open sores present on their undersides. Both the Ross book and Gillies indicated that the cause was high ammonia levels, although this seemed impossible to me. When the Expo was over I moved the rays to a 950 l bare bottom fiberglass tub. For two weeks I performed daily water changes and occasionally treated the water with commercial slime stimulator and ammonia remover. After this time the sores had healed. Although I do not have enough information to draw a strong conclusion, I am suspicious that although keeping rays on gravel may normally be harmless, it may have been a contributing factor in the development of the sores – adding mechanical irritation to chemical irritation. The bottom line is that special care must be taken concerning water

quality. The paradigm that I had developed after 26 years of keeping cichlids and other, smaller, bony fishes simply did not apply to the conditions under which I was keeping the rays.



A stingray's pectoral fins begin separate (A, early fetus) and then fuse in the front (B, medium fetus) before birth to form a disk. Reproduced from: *Environmental Biology of Fishes* Vol. 9, 1983, pg.18, Reproduction and development of the South American fresh-water stingrays, *Potamotrygon circularis* and *P. motoro*, Thorson, T.B., Langhammer, J.K., and M.I. Oetinger, Fig. 3, © 1983 Dr. W. Junk Publishers, The Hague with kind permission of Springer Science and Business Media.

Freshwater rays make fascinating pets. However, maintenance practices must be slightly enhanced compared to those used in keeping typical freshwater fishes. A ray's eventual size must be considered before purchase, as a very large tank will be required. The cost of food and the intensive labor required for food preparation and water changes should also be thoughtfully considered. However, if you are ready to take on these responsibilities, a stingray may be one of the most rewarding pets you will ever own.

References

Burr, B. M. and L. M. Page. 1991. A Field Guide to Freshwater Fishes: North America North of Mexico. Houghton-Mifflin. New York.

Compagno, L. J. V. and S. F. Cook. 1995. The exploitation and conservation of freshwater elasmobranchs: status of taxa and prospects for the future. In: The Biology of Freshwater Elasmobranchs. M. D. Oetinger and G. D. Zorzi (eds.). *Journal of Aquariculture and Aquatic Sciences*. 7: 62-90.

Cottrell, L. 1976. Breeding a real problem fish: The freshwater stingray Potamotrygon laticeps. *Tropical Fish Hobbyist*. July, 1976: 89-98.

De Carvalho, M.R. 2001. Freshwater stingrays from South America (Book Review). *Copeia*. 2001: 1167-1169.

Helfman, G. S., Collette, B. B., and D. E. Facey. 1997. The Diversity of Fishes. Blackwell Science. Malden, Massachusetts.

Henningsen, A.D. 2000. Notes on reproduction in the southern stingray, *Dasyatis americana*
(Chondrichthyes: Dasyatidae), in a captive environment. *Copeia*. 2000(3): 826-828.

Lasso, C. A., A. Rial B., and O. Lasso-Alcalá., 1997. Notes on the biology of the freshwater stingrays *Paratrygon aiereba* (Müller & Henle, 1841) and *Potamotrygon orbignyi* (Castelnau, 1855) (Chondrichthyes: Potamotrygonidae) in the Venezuelan Llanos. *Aqua. Journal of Ichthyology and Aquatic Biology*. 2:39-52.

Piermarini, P. M. 2000. Florida's freshwater stingrays. *Ecoflorida Magazine*. Summer: 28-30.

Ross, R. A. 1999. Freshwater stingrays from South America. Aqualog Verlag. Rodgau, Germany.

Teshima, K. and K. Takeshita. 1992. Reproduction of the freshwater stingray, *Potamotrygon magdalenae* taken from the Magdalena River system in Colombia, South America. *Bulletin of the Seikai National Fisheries Research Institute*. 70: 11-26.

Thorson, T.B., Langhammer, J.K., and M.I. Oetinger. 1983. Reproduction and development of the South American freshwater stingrays, *Potamotrygon circularis* and *P. motoro*. *Environmental Biology of Fishes*. 9: 3-24.

Thorson, T. B., Langhammer, J. K., and M. I. Oetinger. 1988. Periodic shedding and replacement of venomous caudal spines, with special reference to South American freshwater stingrays, *Potamotrygon* spp. *Environmental Biology of Fishes*. 23: 299-314.

California Academy of Sciences fish catalog, http://www.calacademy.org/research/ichthyology/catalog/fishcatmain.asp viewed Feb. 2005

Fishbase, http://www.fishbase.org/NomenClature/ScientificNameSearchList.cfm viewed Feb. 2005

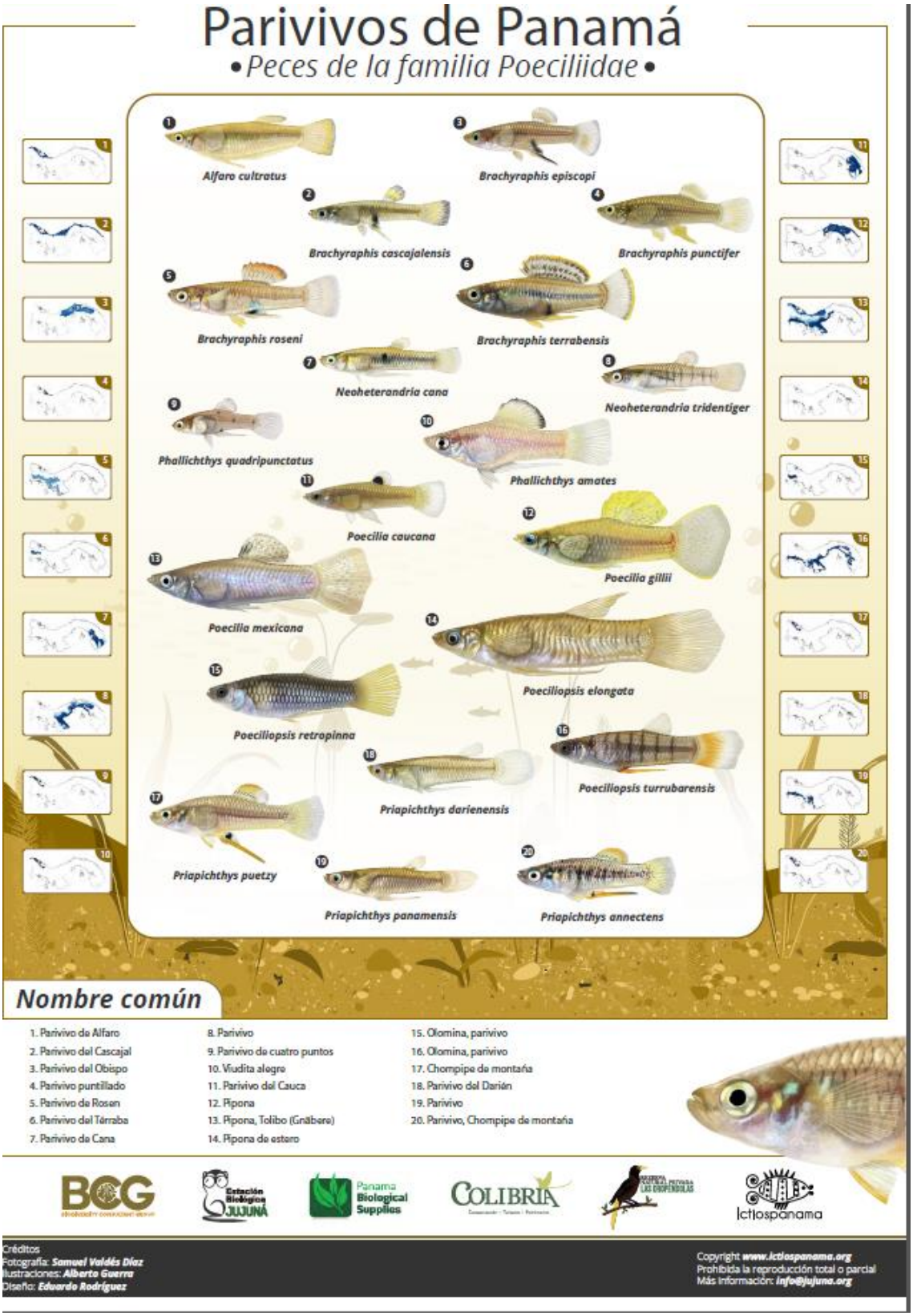
Zilman, F**.,** http://www.freshwaterstingray.nl/ viewed Feb. 2005

Addendum

Along with three other BLA members I recently visited Pier Aquatics, Wigan – and they had freshwater stingrays for sale.

This is one of them. Another below :-

Two different species, both interesting fish. [One of them was *Potamotrygon histrix* – but I didn't note down which one, sorry!] I would love to hear if any BLA member keeps them. Oh, and the price?.....£300 each !!!



https://www.jujuna.org/product-page/afiche-parivivos-de-panam%C3%A1-peces-de-la-familia-poeciliidae To download, you'll have to set up an account and login. The poster is free. Be warned, the file is enormous (~ 174 mb).

Thanks again to Dan Fromm for sending me this bon-bon (poster).

And this reminds me : has anyone seen any Merry widow , *Phallichthys amates* for sale recently? I haven't seen any for years.

Conservation status of *Gambusia beebei*

By Daniel W. Fromm

Gambusia beebei Myers 1935, known only from Lake Miragoâne, Haiti, is a puzzle. I've been able to find evidence, mainly in the form of museum specimens, of twenty collecting trips to the lake. The earliest was around 1912, the most recent two were in 2019. G. beebei were collected and deposited in museums four times, in 1927, twice in 1936, and in 1951.

The only *Gambusia* collected from Lake Miragoâne before 1972 were beebei. I believe that *G. beebei* was last collected in 1951.

Other *Gambusia* species were collected from the lake in 1972, 1978, 1979, 1986 and twice in 2019. Putative *G. dominicensis* in 1972, the others are all cataloged as *G. hispaniolae*. Ten of the twenty collecting trips deposited no *Gambusia* specimens in museums or didn't mention catching them in articles reporting on the trips.

In 2001 Radda and Schneider collected a fish that Meyer (2015) figured as *G. beebei*. The photograph isn't convincing. The head is too small, the snout too short.

Rodriguez et al. (2021) report reported collecting G. beebei. Their figure shows fish that seem to be *G. hispaniolae*. Small heads, short snouts, and the male's gonopodium is wrong for *G. beebei*.

The only *Gambusia* collected from Lake Miragoâne before 1972 are *G. beebei*. The only *Gambusia* collected from the lake from 1972-on are hispaniolae. This suggests that *G. hispaniolae* somehow got there between 1951 and 1972 and replaced *G. beebei*. That *G. hispaniolae* replaced *G. beebei* is a surprise. How the replacement occurred is a mystery.

There is other incomplete and inconclusive evidence that **G. beebei** disappeared from the lake after 1951. While working up ANSP 77217, a lot of *Limia nigrofasciata*, another Miragoâne endemic, collected by Audant and Woodward in 1936, I noticed that nearly all of the specimens had chewed and regenerated tails. So does a female figured by Regan 1913; see "1." in his plate CI. Specimens in UF 110856, a lot of *L. nigrofasciata* collected in 1951, have severely chewed tails that haven't regenerated.

Some but not all of the lots of *L. nigrofasciata* collected before 1951 that I examined have specimens with chewed tails. *G. beebei* had to have been present in the lake

when they were collected, so it clearly hasn't been a tail biter at all times everywhere in the lake.

Limia melanonotata collected with *G. hispaniolae* in the Cul de Sac plain and Valle de Neiba make it clear that at some times in some places, but not always or everywhere, *G. hispaniolae* is a tail biter. However, none of the *L. nigrofasciata* collected since 1951 that I've examined (all post-'51 lots in AMNH, ANSP and UF) has a chomped tail. *G. hispaniolae* doen't seem to be a tail biter in Miragoâne.

What has become of the Miragoâne tail biter? The likely answer, which I strongly hope is incorrect, is that *Gambusia beebei* is extinct.

Supporting data: museum specimens etc. summarized

When fish were collected from Lake Miragoâne, Haiti and which *Gambusia* were collected						
year	date	collectors	*Gambusia*	catalog #	number of specimens	
					beebei	other
~1912		German(s), name(s) unknown				
1917		J. Henderson, Bartsch				
1927		W. Beebe, J. Tee-Van	*G. beebei*	lost	67	
1933		R. M. Bond				
1935		A.S. Pinkus				
1936	5-Mar	A. Audant	*G. beebei*	AMNH 47920	2	
1936	19-Apr	A. Audant & S. Woodward	*G. beebei*	ANSP 85988	99	
1949		Anthony Curtiss				
1951		L. Rivas, L. Bonnefil, S. Lin	*G. beebei*	USNM 203162	164	
1953		D. S. Erdman				
1956		H. R. Axelrod				
1972		R. G. McLean	*G. dominicensis*	USNM 246522		1
1978		Fred Thompson, L. Franz	*G. hispaniolae*	UF 30425		40
1979		Fred Thompson, L. Franz	*G. hispaniolae*	UF 110970, -1		70
1979		Luis Rivas. G. Hanek, A. Hebert				
1986		D. Fromm, K. Lazara, W. McNiff	*G. hispaniolae*	ANSP 148845, -6, -7, -8		363
1989		P. V. Loiselle				
2001		D. Isla				
2019		P. Chakrabarty, D. Elias et al.	*G. hispaniolae (?)*	?		?
2019		R. Rodriguez S. et al.	*G. hispaniolae*	SNM 87021		?

Three of the four collections of *G. beebei* have the fish in quantity. It wasn't rare when Beebe and Tee-Van, Audant and Woodward, and Rivas, Bonnefil and Lin collected it. Fowler (1937), writing about Audant and Woodward's collection, characterized it as "abundant." When these groups were at Miragoâne *G. hispaniolae*, if present, was very rare.

At least three of the seven post-1951 collections of *G. hispaniolae* from Lake Miragoâne have it in quantity. *G. beebei*, if present after 1951, is very rare. I hope it is still there in locations that collectors haven't been able to access.

Relying on museum catalogs and trip reports for evidence of a fish's presence in a location is somewhat risky. Museum collection managers sometimes misidentify fish they accession and catalog. Collectors don't always capture specimens of every species present at a site. They don't always preserve everything they catch. They don't always mention everything they caught in published reports on their work. And their eyeball identifications in the field are sometimes incorrect. However, museum catalogs and trip reports are all the information available.

Identifications

I find it difficult to disagree with Rivas' identification of his 1951 Miragoâne *Gambusia* as *G. beebei*. His redescription and figures are very similar to Myers (1935)'s original description.

Mary Rauchenberger worked over the *Gambusia* that I, Lazara and McNiff deposited in ANSP. She identified all of our Miragoâne and Cul-de-Sac specimens as *G. hispaniolae.*

I've examined all of Audant and Woodward's G. beebei and all of my, Lazara and McNiff's *G. hispaniolae* from Miragoâne, ours from the Cul-de-Sac plain of Haiti and ANSP specimens from the Dominican Republic. Having seen specimens of both species and read the descriptions (Myers (1935), the original *G. beebei* description; Rivas (1969), *G. beebei* redescription; Fink (1971), *G. hispaniolae* description), I find it hard to confuse the two.

I haven't examined McLean's putative *G. dominicensis* but Diane Pitassy of USNM kindly sent me a photograph of it. It is a female whose first dorsal ray is above its last anal ray; this is true of all of the *G. hispaniolae* I've examined. Until proven otherwise McLean's putative *G. dominicensis* is *G. hispaniolae*. It places the first collection of *G. hispaniolae* from Miragoâne in 1972.

Rodriguez-Silva et al. (2021) reported collecting *G. beebei* in 2019 at six of their seven Lake Miragoâne stations. They didn't state how many specimens of each species in the lake they collected but their *Gambusia* probably isn't rare. They published photographs of preserved specimens and of a cleared and stained gonopodium. Their gonopodium photo is inconsistent with Myers (1935)'s and Rivas (1969)'s line drawings and with Audant and Woodword's specimens in ANSP. Their fish pictures also don't match Myers' line drawings, Rivas' photographs or Audant and Woodword's specimens. Their gonopodium is a good match to Fink (1971)'s line drawing of a *G. hispaniolae* gonopodium and to the *G. hispaniolae* I've examined. I very much want Rodriguez-Silva et al.'s rediscovery of *G. beebei* to be real, deeply regret that they seem to have mistaken *G. hispaniolae* for *G. beebei,*

Images, female *G. beebei* and a putative *G. dominicensis* from Lake Miragoâne:

The figures below are photographs of specimens collected in April, 1936 by Audant and Woodward, now in ANSP, and line drawings from the description. ANSP material conforms well to the description.

***Gambusia beebei* ANSP_85988_I Female, 46.7mmSL. Kyle Luckinbill photo courtesy of the Academy of Natural Sciences of Drexel University**

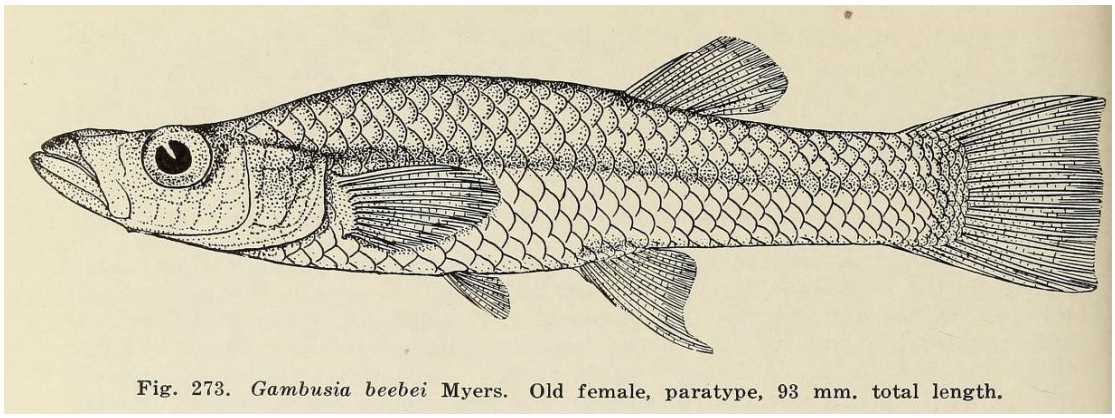


Fig. 273. *Gambusia beebei* Myers. Old female, paratype, 93 mm. total length.

***Gambusia dominicensis* USNM 246522. Diane Pitassy photo courtesy of the Smithsonian Institution**

Images, male *Gambusia beebei*:

***Gambusia beebei* ANSP_85988_II 46.7mmSL. Kyle Luckinbill photo courtesy of the Academy of Natural Sciences of Drexel University**

Unfortunately ANSP 85988 dried completely and were later rehydrated. As a result the specimens are somewhat distorted. Their corneas are white because they were first preserved in ethanol. They are quite soft, so they may never have been fixed in formalin. I see them as candidates for DNA extraction.

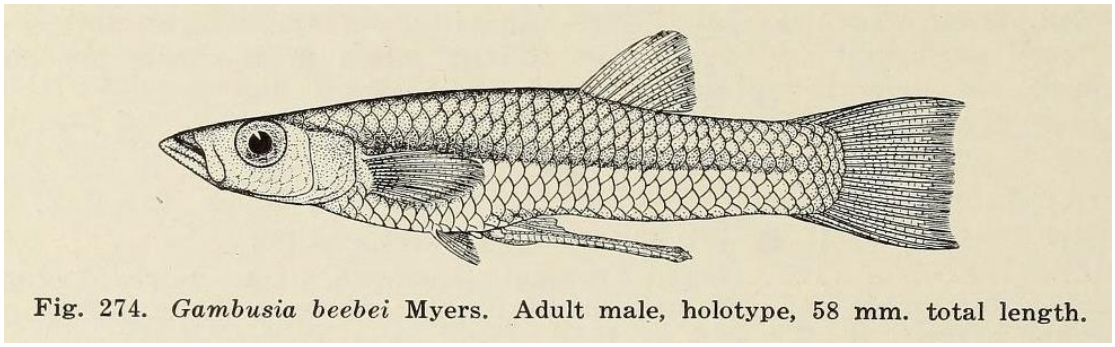


Fig. 274. *Gambusia beebei* Myers. Adult male, holotype, 58 mm. total length.

Images, 2019 collections:

Rodríguez et al. (2021)'s putative *G. beebei.* I see them as *G. hispaniolae*. The lower specimen may be an immature male. Anal rays 3, 4 and 5 seem be be elongating.

The Rodríguez et al. (2021) specimens shown above were also first preserved in ethanol, presumably to preserve their DNA.

A *Gambusia* collected at Miragoâne in 2019 by Prosanta Chakrabarty and party. It looks like *G. hispaniolae* to me. Diego Elías photo, courtesy of Prosanta Chakrabarty

Gonopodia; *G. beebei:*

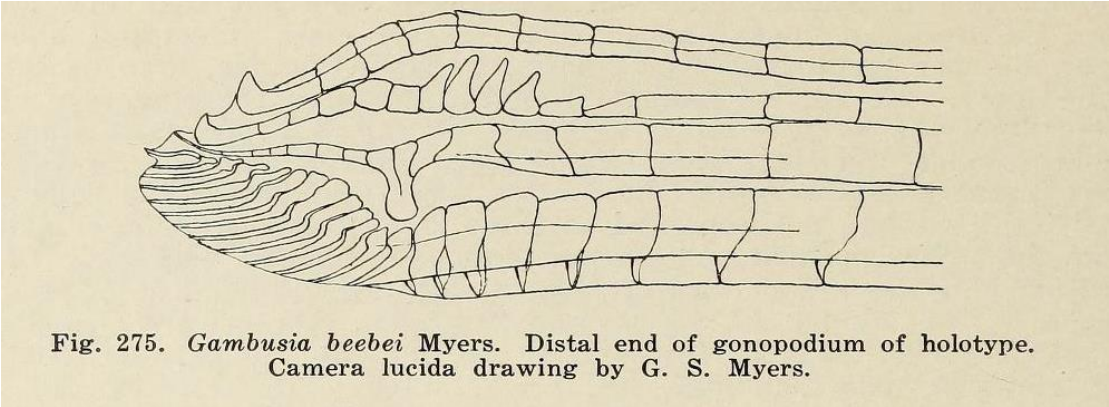
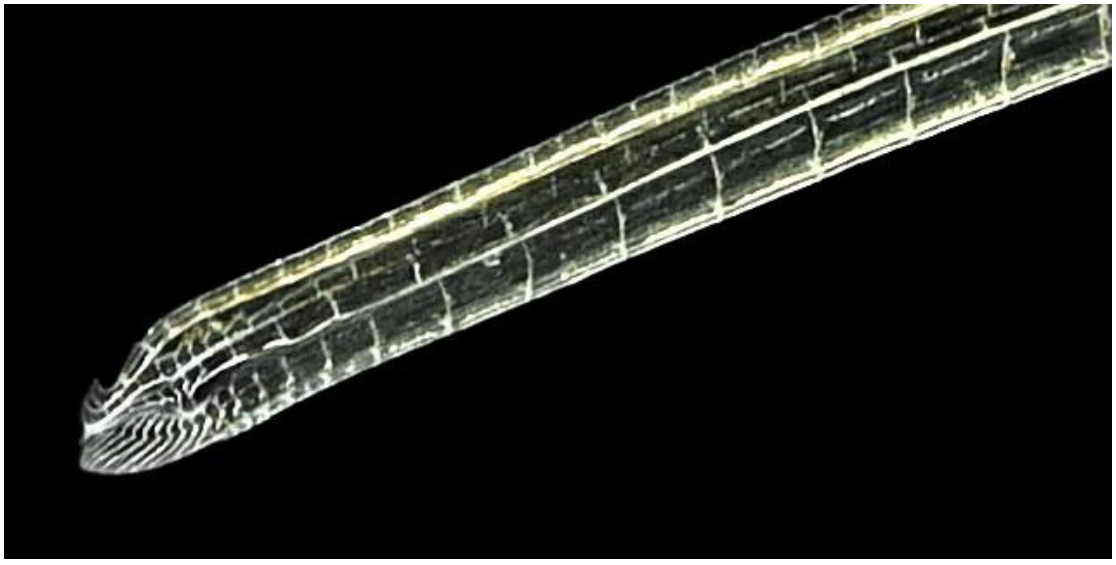
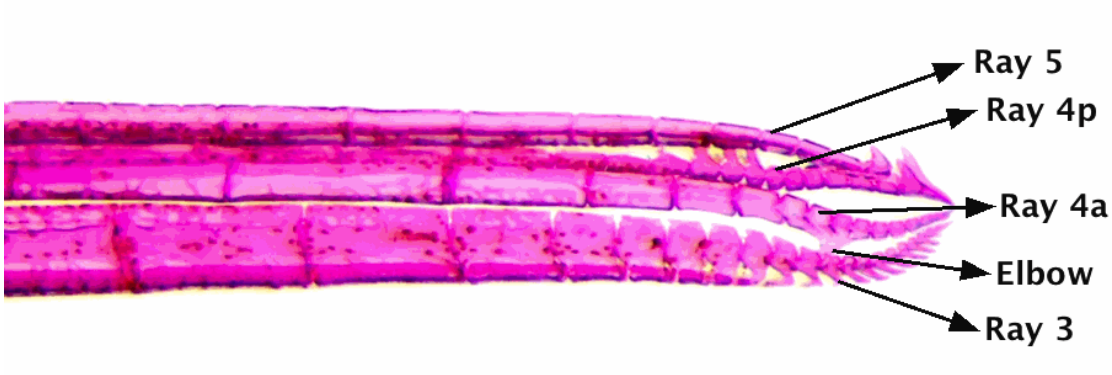


Fig. 275. *Gambusia beebei* Myers. Distal end of gonopodium of holotype. Camera lucida drawing by G. S. Myers.



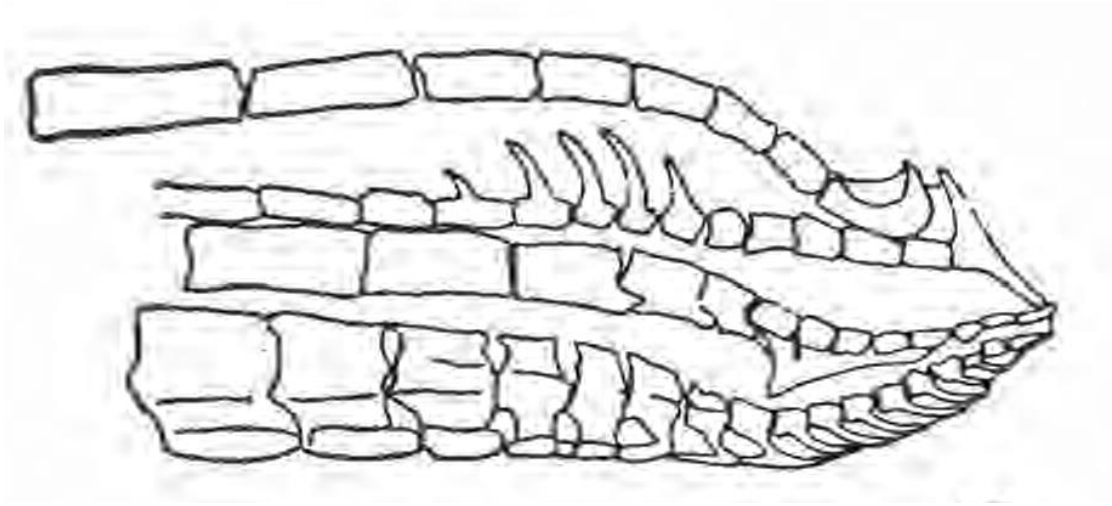
Distal end of gonopodium of*Gambusia beebei* ANSP_85988_II 46.7mmSL. Kyle Luckinbill photo courtesy of the Academy of Natural Sciences of Drexel University, much enlarged. It is a good match to the holotype.

Gonopodia, *G. hispaniolae:*



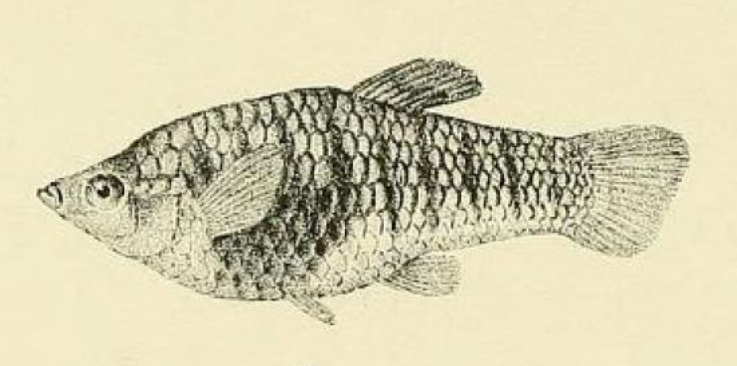
Rodríguez et al. 2021 putative *G. beebei* gonopodium.

I see it as a *G. hispaniolae*. The terminal segments of Ray 3 are nothing like those of *G. beebei*. Neither is the Ray 4a elbow. Both are good matches to Fink's line drawing and to specimens in ANSP.



Fink (1971)'s line drawing of the distal end of the *G. hispaniolae* holotype's gonopodium.

***Limia nigrofasciata*, with tails chomped and not:**



Regan (1913) Plate CI, probably collected in 1912.

***Poecilia nigrofascaiata* ANSP 77217-1, collected in 1936. Kyle Luckinbill photo, courtesy of the Academy of Natural Sciences of Drexel University.**

***Limia nigrofasciata* ANSP 169471-13, collected in 1986. Kyle Luckinbill photo, courtesy of the Academy of Natural Sciences of Drexel University.**

The first two figures above show wild *L. nigrofasciata* with very asymmetric tails, the third shows one with a slightly asymmetric tail. This is the normal unchomped condition.

Acknowledgements:

I thank K. Lazara and W. McNiff, who accompanied me on a 1986 trip to Haiti, helped me in the field and shared common expenses. Thanks also to Kyle Luckinbill of ANSP, Diane Pitassy of USNM and Diego Elías, now at the Field Museum, for photographs. Museum catalog records were found in fishnet2.net, and invaluable resource..

Literature cited:

Fink, W. 1971. A Revision Of The Gambusia nicaraguensis Species Group (Pisces:Poeciliidae). Publications Of The Gulf Coast Research Laboratory Museum 2:47-77, June 18, 1971 https://aquila.usm.edu/gcrl_publications/1/

Fowler, H. 1937. A Collection of Haytian Fishes Obtained by Mr. Stanley Woodward. Proceedings of The Academy of Natural Sciences LXXXIX. https://www.jstor.org/stable/4064266?refreqid=excelsior%3A78cf530e3fcfdde2854ed43ce484da14

Myers, G. S. 1935. An annotated list of the cyprinodont fishes of Hispaniola, with descriptions of two new species. Zoologica, New York, vol. 10, no. 3, pp. 301-316. https://www.biodiversitylibrary.org/item/207852 The original description of G. beebei.

Regan, C. T. 1913. A revision of the cyprinodont fishes of the subfamily Poeciliinae. Proceedings of the Zoological Society of London 1913 (pt. 4) (art. 58): 977-1018, Pls. 99-101 https://www.biodiversitylibrary.org/item/99805

Rivas, L. 1969. A Revision of the Poeciliid Fishes of the Gambusia punctata Species Group, with Descriptions of Two New Species. Copeia, Vol. 1969, No. 4 (Dec. 5, 1969), pp. 778-795. https://www.jstor.org/stable/1441802 This paper contains a redescription of G. beebei.

Rodriguez-Silva, R., J. Josaphat, P. Torres-Pineda and I. Schlupp. 2021. Annotated List Of Livebearing Fishes (Cyprinodontiformes: Poeciliinae) From Lake Miragoane In Southwestern Haiti, Hispaniola. Novitates Caribaea 17: 147–162. https://www.researchgate.net/publication/348614657_Annotated_list_of_livebearing_fishes_Cyprinodontiformes_Poeciliinae_from_Lake_Miragoane_in_Southwestern_Haiti_Hispaniola

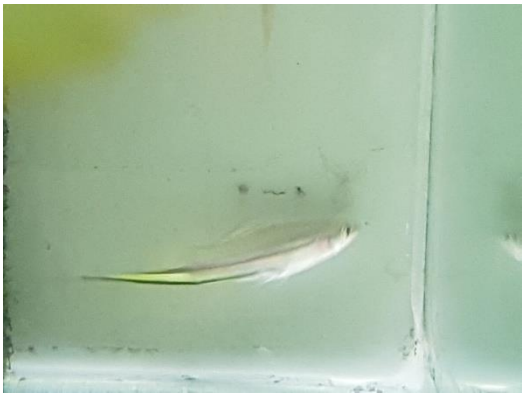
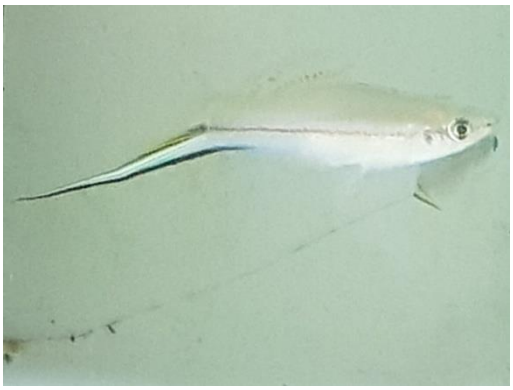
Photos

Xiphophorus milleri : Unspotted form from Catamaco Lake *Photo : Nigel Hunter*

Poecilia catamaconis, also from Catamaco Lake *Photo : Nigel Hunter*

Psuedoxiphophorus jonesi Photo : *Nigel Hunter*

P. jonesi, female. Photo : *Nigel Hunter*

Two male swordtails from the same location . Photos : *Nigel Hunter*

A young *Characodon audax.* Photo : *Holly Walford*

Female *Xenotoca doadrioi* San Marcos Photo : *Holly Walford*

Skiffia multipunctata : Photo by Holly Walford, posted on Facebook.

Poecilia wingeii *From Nigel Hunter*

Am I being too suspicious of the Campona strains, varieties that are around. No other Poecilid shows so many variations from wild stock so quickly and frequently. It is as though alien Poecilid genes were recently introduced and they are still sorting themselves out.

To compound the issue all these separate varieties/strains are now nothing more than line bred strains without the genetic diversification of the wild stocks
The Cumana location that has been around for many years has not shown much variation if any over many years in controlled environments.
Even wild guppy strains are pretty uniform.

A reply from *Fred Poeser*

Hi Nigel, The natural variation in *P. wingei* is indeed staggering. One explanation for the enormous diversification is the character displacement found on the Paria Peninsula… producing naturally occurring 'different' phenotypes together with the more common guppy phenotypes (of *P. wingei*!). And, obviously, not all strain are kept 'pure', mix up inevitably happen…

And an extra comment from *Jef Pedro* :-
I kept all the fish you mention. The problem with wild strains is they are getting more uniform over the years. Because as breeders we only select the ones we like. We are bottlenecking genetics in our fishrooms. I know *wingei* breeders that work different and mix the types with each other in one tank. They will like an campoma bridge tank with all the types collected at that spot on that time frame. IMO wild guppies that are caught as an side-catch are very variable, but because of our selecting hand in the breeding process they are getting more uniform.

A few thoughts on *Allodontichthys polylepis*

By Greg Roebuck

Back in 2016, I took part in the Goodeid Working Group trip to Mexico, surveying and collecting *Goodeid* species. One of the target species was *Allodontichthys polylepis* and to search for it we visited the Arroyo Dávalos. *A. polylepis* had not been seen in this stream for 14 years, including during a survey undertaken by members of the US section of the Goodeid Working Group. The weather was hot, around 36°C, the water was very warm and I didn't expect to see any fish in it at all. However, we quickly caught some *Ilyodon furcidens* and then the electrofishing gear turned up a stunning male *A. polylepis*. In the bright sunshine his colours really glowed. Since he was the only one of his species that we caught he was released again but I have long wanted to keep his species.

Michael Kock with the beautiful male *A. polylepis.* Photo : *Greg Roebuck*

Fast forward to last year and our own Nigel Hunter received some *A. polylepis* from the breeding project at Rotterdam zoo. Typical of Nigel, he soon had them breeding like rabbits and brought some along for a display tank at the Basingstoke meeting. At the end of that meeting Nigel gave me a bag of ten young fry, though unfortunately only seven made it home alive. When I confessed this to Nigel he gave me another ten at the September meeting in Derbyshire! All of these young fish grew on very quickly and soon started breeding. Now this species has a bad reputation for preying on its own young – so is it best to remove a gravid female to a separate tank or to try to catch the young as soon as they are born? Mine went into a 120cm tank with a power filter [to create a bit of current], some bog-wood with plants (*Anubias*) attached, and lots of rounded stones on the bottom [to create hiding places]. I don't remove a gravid female to a separate tank and plenty of young seem to survive.

However, I do seem to lose adult fish at regular intervals. Not sure why. I do plenty of water changes , including siphoning all the mulm from the bottom of the tank. The fish get a good quality flake and most days get brine shrimp also. What I have noticed is that the fish like it warm. During the cold

weather in December my fish room got very cold and the temperature in the *A. polylepis* tank dropped to around 15°C. The fish stopped feeding and a heavily gravid female dropped eight fry – all dead. In January another female dropped dead fry. As I write this [mid-February] another female is heavily gravid and I am keeping my fingers crossed!

Excuse my poor quality photo – the best of a very poor bunch.

Diary dates

Sunday April 23rd 2023

Venue : Hengrove Community Centre
Fortfield Road
Bristol
BS14 9NX

What's happening :-

- Livebearer show
- Auction
- Sales tables
- Raffle
- Hot and cold drinks, cake (etc) available.

Sunday June 18th

Venue : Kempshott Village Hall,
Pack Lane
Basingstoke
Hampshire
RG22 5HN

What's happening :-

Livebearer show,
Livebearer auction
Sales tables,
Fancy guppy show (run by FGUK)
Raffle
Hot and cold drinks, food, available.