
News and Notices

Newsletter Exchanges

The IGS will exchange newsletters with other clubs and organizations interested in gobies. If you belong to a group interested in exchanging newsletters, send an email to the editor. We can also offer reduced subscriptions to members of a club if the newsletters are all sent to the same address.

Notice to Authors

We consider articles on any aspect relating to gobies (suborder Gobioidae); their care and breeding in captivity, their natural history, etc. If we print an article, the author receives credit towards a one year IGS membership. Photograph submissions are also welcomed.

Classifieds

If you would like to place a goby-related ad in our quarterly newsletter, send or email it to us and we will print it in the next issue.

Comments, Please

We'd like your comments! How do you rate our topic selection, writing quality, and overall quality of our newsletter (and society)? What do you like? What do you dislike? What would you like us to do differently? What topics would you like us to cover in future issues? Please email comments to the editor <naomi@gobiidae.com> or write to:

International Goby Society
P.O. Box 329
Richland Center, WI 53581

The Journal of the International Goby Society

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all plants were either directly or indirectly swapped with other hobbyists. I also have several outdoor ponds of various sizes and most of them are overgrown with plants that are a source if needed.

Food - Basic flake once or twice a day with extra meats, fish, prawn etc. added when I am preparing meals for myself.

Frequency of cleaning - Maintenance consists of irregular vacuuming and water changes with associated cleaning of the glass. The *Vallisneria* and *Hydrilla* need thinning every 6-8 weeks as they tend to send out runners all over the place. At the same time I clip off the top 8-10 inches of the bunch plants and replant them to avoid that "leggy" look.

Other notes of interest - The gudgeons are 4 males and 2 females. Currently the males tend to occupy territories across the front and take turns at flashing their colours. Sometimes just the fins are red; other times almost the whole fish will be bright red. Some of the fish were collected from various creeks in the nearby countryside (gudgeons and local rainbowfish) but most came from the club auctions. Most have been in the tank for at least 2-3 years.

Tips - Plants need enough substrate, enough light (5 tubes on this tank and at least 12 hours of light per day). The fish (and food) provide the fertilizer; plants need the water changes as much as the fish do. In the early stages, put in as many plants as you can to make sure excess nutrients are used up and aren't available to grow algae.

Send us photos and a description of your tank. If we print yours (and we probably will), you will receive an extra year’s membership to the Society.



Goby Tanks

Owner: Dr. Bruce Hansen of Petrie, Queensland

Tank size - 5' long x 3' wide x 20" high

Equipment - Full-length backdrop filter (drinking straws medium) powered by a powerhead along the RH wall.

Gobies - 1 crested mud goby (*Cryptocentroides cristatus*) and 6 Empire gudgeons (*Hypseleotris compressus*).

Other inhabitants - A school of various Australian and New Guinean rainbowfishes, a few Siamese algae-eaters and bristle-nosed catfish.

Plants - The foreground plants are Crypts (2 *wendtii* varieties) and *Anubias nana*; midground are some *Echinodorus amazonicus* and scattered around the perimeter are groups of *Vallisneria*, *Rotala rotundifolia*, *Ludwigia repens*, *Hygrophila difformis*, *Hygrophila corymbosa* and *Hydrilla verticillata*. I also attach small bits of *Vesicularia*, *Bolbitis* and *Microsorium* to the styrofoam backdrop and driftwood; these are often removed and given away or moved to other tanks. Currently

Editor's Introduction

Recently we have had some articles on native Australian gobies, but there are also gobies in North America (especially on the East Coast) that make excellent aquarium inhabitants. A few months ago, Jim Van Tassell (who studies the systematics and ecology of the seven-spined gobies, including *Gobiosoma*) sent me some small live *G. ginsburgi*, that had been collected on Long Island. *G. ginsburgi* is very similar to *G. bosc* (the naked goby) but can be distinguished by the presence of two basicaudal scales. (It can be very difficult to spot those scales on a live, wiggling fish!)

Jim sent them to me overnight and they arrived the next day, all four in good condition. I quickly set up two five gallon tanks, one for each pair, of strongly brackish water. The fish set-



Photo by Jim Van Tassell

tled down without trouble in the new tanks. Their behavior was very typical of the behavior that endeared gobies to me in the first place; they set up small territories, greedily ate all variety of food, and displayed a range of interactions. Before a month had passed, I found a little nest of goby eggs in the corner of the glass, behind a rock.

Naomi Delventhal

March 2003

To join the IGS send dues (\$12 a year) to:
International Goby Society, P.O. Box 329, Richland Center,
WI 53581, USA

Cover photo: A pink-spotted shrimp goby (*Cryptocentrus leptocephalus*) peaking out of its burrow.

Goby Queries

Mystery Goby

Q. I was in PetCo yesterday and guess what they had, gobies! I picked up two knight gobies and one mystery goby that I was hoping you might help identify. He/she is about 3 inches long, with a body shape similar to *Rhinogobius wui*, pale gray (but so is the substrate), and with small beautiful iridescent blue (turquoise) spots spaced evenly and running laterally throughout the body, with the same color behind the gills. The eyes are close together and raised, similar to a frog/mudskipper. Any ideas? Can you shed some light of the parameters of its ideal environment? Thanks in advance for your assistance.

Anthony Alessandro

A. *Your description sounds just like a certain small goby (reportedly originating in India) that dealers have been calling "dwarf neon goby" or some variation of the name. I sent some specimens of this to Helen Larson, who identified them as belonging to the genus Amoya. Unfortunately this is a group that is very poorly understood by taxonomists, so further identification won't be possible for at least a while.*

They are very easy to feed and seem to enjoy flakes as well as live food. Apparently they are very susceptible to bacterial infection, especially after shipping and during the acclimation process. However, they respond well to a nitrofurazone/furazolidone based medication (such as "Jungle Fungus Eliminator.") In pure freshwater (such as in most petshop tanks) I have observed them to be delicate and easily subject to shock, but in slightly brackish (about 20% seawater) water

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Photo by
Naomi
Delventhal

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Amoya sp. ("dwarf neon goby")

they are more robust. I haven't tried keeping them with knight gobies, but the combination would probably work.

Catalina Gobies

Q. I am interested in keeping a pair of Catalina gobies. I've read they need chillers but was told they can be kept in reef tanks. Is there any consensus on the proper temperature? Also, do they pair up like clownfish? Any other information would be appreciated.

A. *Yes, coming from the California coast, Catalina or blue-banded gobies (Lythrypnus dalli), do require lower temperatures than do most of the tropical reef fish sold for aquariums; in warm water their life expectancy is greatly reduced. You can use a chiller to cool the water, or you can keep them in an unheated basement, as I do. In any case, try to keep the temperature between 55 and 72 degrees (it may vary seasonally). Pairs do very well in tanks as small as ten gallons. You can*

decorate the tank with rock structures and small shells, around which they will set up small territories with a favorite cave . They readily eat a variety of small dry, live, and (thawed) frozen foods.



Lythrypnus dalli

Catalina gobies are hermaphrodites. They are rather interesting in that they are capable of sex-reversal in either direction. For that reason, they are relatively easy to pair up in captivity. When selecting a pair, choose the fish with the greatest difference in size. Usually the largest, dominant, fish (if not already a male) “becomes” a male, and the smaller fish remains a female. In my experience, fish of equal size will also pair up, but tend to quarrel a bit more at first, as though they are arguing over who gets to be the male! If you feed them well and provide suitable spawning sites (rock overhangs and snail shells are favorites) they may begin spawning within a couple of weeks. The larvae are tiny and difficult to raise.

For more technical information on the reproductive biology of this interesting little fish, please see Dr. Colette St. Mary’s home page. She has done extensive work on Lythrypnus dalli (as well as other Lythrypnus species) and has several papers available in pdf format.

<http://www.zoo.ufl.edu/stmary/cstmpubs.htm>



Photo by Akinori Kamiya

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***Periophthalmus argentilineatus* featured in the literature:**

Compiled by Richard Mleczko

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Goby on a Cup

By Naomi Delventhal

Last summer I took a weekend trip to Chicago and visited some of my favorite places – the Shedd Aquarium, the Field Museum, and Chinatown. Chinatown appeals to me because fish are a very important component of East Asian culture, diet, and even art. In Chicago's Chinatown most of the people speak Cantonese and there are many small gift shops, restaurants, and grocery stores specializing in East Asian foods. There are always interesting fish-related items to look at or eat; if you want fresh fish you can buy live *Tilapia* from large aerated tanks, or if you prefer you can try dried fish, squid, octopus and other seafood, sometimes prepared with sesame seeds – very delicious!

On this particular visit I was browsing one of the larger gift shops, admiring Chinese vases of all sizes with goldfish and lily pads painted on them. A miniature violin no more than four inches long caught my eye; it seemed so realistic I almost thought I could play it. The shop also had a display of tiny delicate shrimp sculptures that looked nearly alive. But the most delightful item I found was a Japanese tea cup decorated with different types of fish and their names in Japanese. On the very bottom I was startled to see what looked like a goby.

I glanced at the *hiragana* (one of the Japanese syllabaries) characters on the side. They read *haze* (pronounced "hah zeh"), which is the Japanese name for goby!

The goby is on the bottom ►



Goby News

Goby Microhabitats

Many small reef gobies are known to have very specialized microhabitats. In the past, these gobies were collected with ichthyotoxins (such as rotenone), and many of the microhabitats remained completely unknown.

Recently, the importance of finding these small habitats has been emphasized. In a study by Mike Taylor and Jim Van Tassell, published in December's issue of *Copeia*, scuba divers surveyed a wide range of habitats near Jamaica and Grand Cayman, to determine the microhabitats of several *Elacatinus (Tigrigobius)* species. Instead of using ichthyotoxins, they used squirt bottles of mild anesthetics (dilute quinaldine sulfate and clove oil), which caused disturbed fishes to exit their burrows, but did not actually anesthetize them.

Using this method, they were able to define the microhabitat of 2 species and study the differences of microhabitat use in a third. *E. gemmatum* juveniles and adults were found only in



Tigrigobius gemmatum lives in burrows drilled by a chiton (*Choneplax lata*). Photo by Jim Van Tassell.



Photo by Jack Randall

Southern Japanese Islands, Indonesia, Borneo, Philippines, New Guinea, Australia and Oceania as far east as Tonga and the Solomon Islands. It has a wider distribution than any other mudskipper species.

Distinguishing features: The first dorsal fin is of moderate size and tends to be convex in shape. It has a white edge followed by a black horizontal stripe; the rest of the fin is pale red and covered in white spots. The second dorsal fin has a red edge followed by a horizontal black stripe. The rest of the body is brown with many small white spots on the head and body. Numerous silvery white vertical stripes can be seen on the side of the body.

Physical characteristics: Typically the length ranges from 4 to 15 cm, and the weight from 0.6 to 20 g. First dorsal fin has 11 to 16 spines; second dorsal fin has 10 to 13 elements. Anal fin has 9 to 12 elements.

Sexual dimorphism: None.

Aquarium suitability: Very good; this is probably one of the most frequently kept species.

Mudskippers - The *Periophthalmus* Species Part 2

Periophthalmus argentilineatus

By Richard Mleczko
richard.mleczko@ga.gov.au

Species identification: Valenciennes 1837.

Species name: The name *argentilineatus* is from the Latin *argentum* (meaning silver), and *lineatus* (meaning lined), in reference to the vertical silver lines on the side of the body.

Other names used: *Periophthalmus dipus*, *Periophthalmus dipes*, *Periophthalmus sobrinus*, *Periophthalmus vulgaris*, *Periophthalmus vulgaris notatus*, *Periophthalmus vulgaris regius*, *Periophthalmus vulgaris ceylonensis*, *Periophthalmus dipus parvus*, *Periophthalmus dipus angustiformis*, *Periophthalmus argentilineatus striopunctatus*, *Euchoristopus kalolo regius*.

Common names: Barred mudskipper, Silver-lined mudskipper, Big-fin mudskipper, Katamto (Swahili), Bia (Philippines), Bwaxit (New Caledonia), Iga kukula mana (Solomon Is.), Ikan tembakul (Malaysia), Minami-tobihaze (Japanese).

Distribution: Brackish mangrove and nipa palm areas from the Southern Red Sea and east coast of Africa. Also Madagascar, Seychelles, Pakistan, Sri Lanka, Malaysia,



Tigrigobius pallens lives beneath coral heads. Photo by Jim Van Tassell.

the burrows drilled by a certain species of chiton (*Choneplax lata*) as it feeds on a certain species of red coralline algae (*Porolithon pachydermum*). *E. pallens* was found most frequently under small coral heads, and often in the same type of chiton burrow as *E. gemmmatus*. The habitat of *E. dilepis* varied, depending on the degree of degradation of the reef area; coral heads, sponges, or encrusted limestone was used.

For more information see:

Taylor, M.S. and J.L. Van Tassell. 2002. Observations on Microhabitat Utilization by Three Widely Distributed Neotropical Gobies of the Genus *Elacatinus*. *Copeia*, 2002(4) p. 1134-1136.



The microhabitat of *Tigrigobius dilepis* varies. Photo by Jim Van Tassell.

The Shortest of Them All

By Dr. Rick Winterbottom

Senior Curator, Centre for Biodiversity Conservation Biology,
Royal Ontario Museum, Toronto, Canada. <rickw@rom.on.ca>

The shortest vertebrate in the world, a coral reef dwelling goby named *Trimmatom nanus*, was described from specimens from the Chagos Archipelago, central Indian Ocean, in 1981. The longest specimen measured 10.2 mm in standard length (SL - from the tip of upper jaw to the end of the caudal fin skeleton). Females ready to spawn by the time they reach 8.7 mm SL, and a specimen of this length had 54 mature tiny eggs, which were a scant 0.25 mm in diameter.

Trimmatom nanus has subsequently been identified from the Maldives all the way eastward across the Indo-Pacific to the Society Islands. Interestingly, it has not yet been found to the west of the Chagos/Laccadive Ridge in the Indian Ocean.

This species is a full 2mm shorter than the previous title holder for the category of shortest vertebrate - another goby named *Pandaka pygmaea* found in the mangrove habitats of south-east Asia. While two millimeters seems a ridiculously small difference, it actually represents a 20% decrease in length!! To gain a better idea of just how small these fishes are, we can calculate that a five gallon bucket could contain three-quarters of a million of them, or, to bring in a gastronomic angle, you would need 3,674 individuals to supply a single quarter-pounder goby burger!!



Trimmatom nanus, the shortest described vertebrate

Trimmatom nanus seems to be most common on the deeper reefs of coral atolls, usually at depths of 20-40 m. Although it has been found on coral reefs fringing continental islands and coasts, it seems to be relatively rare in these environments. As in many reef gobies, the diet consists of tiny planktonic crustaceans wafted onto the reef by prevailing water currents. The body of these minute fishes is translucent, heavily mottled with red pigment. Although a new genus was described to contain *Trimmatom nanus* and a second new species (*T. officius*, also from the Chagos Archipelago), there are now seven species included in *Trimmatom*, with at least that many undescribed species awaiting description (primarily from the coral reefs of the Pacific).

However, it seems that *Trimmatom nanus*'s reign as the world's shortest vertebrate will soon come to an end. Dr. Yuji Ikeda (of the Biological Laboratory, Imperial Palace, Tokyo) has shown me specimens of an even smaller reef goby that has ripe eggs at about 6 mm SL - 25% shorter than *Trimmatom nanus*. He and his colleagues plan to describe this new fish, and, when they do, it will become the world's shortest vertebrate.

Rick Winterbottom was one of the authors of the original description of Trimmatom nanus. - Ed.