

THE RAINBOW TIMES

Volume 11/Number 1



Glossolepis species Lake Klye
photo by Gilbert Maebe

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FROM THE EDITOR . . .

Kevin Hosmer

February 1998

I want to thank those that responded to my plea for submissions in the last issue. I encountered difficulties getting various items to fit. I attempt to balance THE RAINBOW TIMES with Fish/Egg Listings. Part of the RSG's raison d'etre is to make fish available. This is the first time that I was in a position of incorporating listings in favor of another article. Consequently, I have a healthy start on issue 1102.

There are 69 members that have provided a viable e-mail address. An internet survey can become the basis for an article each issue - providing there is enough response. The first effort is within. Thank you to those that participated. In the event that members without internet access would like to participate, next issue's question is: Have you had a particularly negative or positive experience shipping/receiving rainbowfish? I am looking for a description of a specific experience. Please do not identify individuals involved other than yourself.

I would like to thank a new member, Jim Marsh, for becoming involved with the RSG. Upon completion of this issue, he will be assuming responsibility for maintaining our membership information and mailing labels. Jim has an extensive background in computer-related activities - both professionally and casually. Jim will also keep us posted on rainbowfish/web-related information.

I am rapidly approaching the point of wanting to turn over the editor's responsibilities. I believe that an organization only grows with new ideas and energy. Stagnation occurs when there is prolonged unchanging leadership and is only acceptable due to a lack of new member involvement. Please contact me if interested.

A new membership name & address listing is intended as an insert for the next issue. A complete article index should accompany this issue as an insert.

Please note your expiration code on your address label!

Expiration Code 1004 is **overdue** and will be removed from our mailing list.

Expiration Code 1101 is due **now**.

Please mail your membership dues immediately to ensure uninterrupted receipt of the Rainbow Times.

CHAIRMAN'S REPORT . . .

Gary Lange

I want to mention the passing of two great hobbyists that occurred in 1997. The first is Jare Sausaman, long time member of the RSG, avid supporter of the Aquatic Gardener's Association and avid collector of aquarium literature. Jare and others like him were one of the main reasons that I enjoy fish conventions so much. As a matter of fact he gave me a ride to my first convention in Jersey. His company and wisdom will be severely missed.

Ron Coleman was very large part of the American Killifish Association. He ran their membership list for as far back as I can remember. Ron had a wonderful spirit and put in more effort year after year than anyone that I've ever seen for both the AKA and his local killifish club. He will never be replaced. He was a great hobbyist.

When I visited Rosario LaCorte last year he lamented that it didn't seem like we were replacing the really dedicated hobbyists of the past with new ones. I hope that it's not the case but lately I've had to agree with him. Maybe it's the pressures of earning a living or just the increase in speed in which we now live our lives but it seems that fewer hobbyists want to really become involved in the organized hobby. (For those of you that don't know who Rosario LaCorte is, he collected extensively in South America during the fifties, sixties and seventies. He has several fish named after him and was instrumental in having the first cardinal tetras exported to the U.S., regardless of what you read in the "trade" magazines.)

Species Maintenance - Several of you have responded to Cary's request but we can really use some more help. If just one out of every 4 or 5 members would commit to keeping and breeding just one species we could ensure that we'll have these fish around in 10 years. Some of them might never be collected in the wild again. It was reported that Heiko revisited the collection sites of the Lake Wanam rainbow recently and was essentially unable to find any except for some very old adults. For those of you already in the program, keep up the good work. For those of you not in the program - why not consider making it your resolution for 1998 to keep and breed at least one species? If you get into the program, please seek out known strains of rainbows, never items found in pet stores unless you know that a proven source is providing their stock. I've heard some grumbling from a very small minority that even keeping and breeding one fish is too much to ask of our members! All they want to do is enjoy them, isn't that enough? Although how are longed lived, where are you going to get your next group of fish in 7-8 years if every one had that same attitude? Our large-scale breeders can't keep every single species. Often they are only keeping the most saleable fish. There are a lot of fish that are extremely desirable (like *M. parkinsoni*) but it doesn't sell well at a small size. If we don't get someone to

support these types of fish they will be lost. Please give it a try to support the rainbows!

Cary Hostrawser	caryho@ix.netcom.com
12920 Zachary Cr N	
Dayton, MN 55327	(612) 422-9446

Available

<i>C. bleheri</i>	\$5/fish	\$15/mop
<i>M. affinis</i> , Emas Lakes	\$5/fish	\$15/mop
<i>M. arfakensis</i>	\$5/fish	\$15/mop
<i>M. lacustris</i>	\$5/fish	\$15/mop
<i>M. papuae</i>	\$5/fish	\$15/mop
<i>M. praecox</i>	\$5/fish	\$15/mop
<i>M. splendida</i> , Utchee Creek	\$5/fish	\$15/mop
<i>M. trifasciata</i> , Moorehead River	\$5/fish	\$15/mop
<i>M. trifasciata</i> , Upper Coen River	\$5/fish	\$15/mop
<i>P. furcatus</i>	\$5/fish	\$15/dozen eggs
<i>P. gertrudae</i> , Giddy River	\$5/fish	\$15/dozen eggs
<i>P. gertrudae</i> , Goanna Lagoon	\$5/fish	\$15/dozen eggs
<i>P. paskai</i>	\$5/fish	\$15/dozen eggs
<i>P. tenellus</i> , Howard Springs	\$5/fish	\$15/dozen eggs

Glossolepis species Lake Klye possibly ready in late spring

Availability dependent upon the amorous intentions of the fish. Please contact me before ordering. Shipping for eggs is \$5 for up to three mops via Priority Mail. Shipping for fish is \$20 via Express Mail. Please return the container or send a container with the order. Please telephone or e-mail before ordering. I will ship on a "first come, first serve" basis and I will telephone you before shipping. Because of their rarity, I will direct the first *P. paskai* and *P. tenellus*, Howard Springs to those willing to participate in the RSG Species Maintenance Program with them. Both are producing very well so other requests can most likely be filled this spring.

1/25/98

Mach Fukada	fukada@hawaii.edu
1504 Alexander Street, #5	(808) 951-4536
Honolulu, HI 96822	(8:00 am to 8:00 pm Hawaii Standard Time (Pacific + 2 hours))

Available

<i>P. furcatus</i>	\$15/dozen eggs
<i>P. furcatus</i> (3 months old)	\$3 each
<i>P. signifer</i> Ross River F2	\$15/dozen eggs
<i>P. signifer</i> Ross River F@ 3 months old)	\$7 each
<i>P. connieae</i>	\$10/dozen eggs
<i>P. gertrudae</i> population ?	\$1 each

All are subject ot availability. Please contact me (e-mail preferred due to time differences) before ordering. Estimated shipping \$5 for Priority and \$18 Express mail. Please return container or send a container with order. One replacement vial of eggs will be provided for the cost of shipping should eggs fail. Fish are shipped at buyer's risk.

1/10/98

"Home of Rainbowfish" - Web site design and content by Adrian R. Tappin

Web Address: www.angfa.org/rainbowfish/home.htm (Australia web site)
www.ecn.net.au/~atappin/home.htm (U.S.A. mirror site)

About the Web Site -

There are a number of great sites on the worldwide web which feature Rainbowfish, but this is one of my personal favorites. This web site contains close to one hundred pages of information about Rainbowfish and how to maintain them in captivity. There are detailed descriptions of 35+ varieties of Rainbowfish plus some of the nicest color images you'll find on the web. The detailed species descriptions include such items as:

- Common and scientific name.
- When, where and who discovered the species.
- Maximum size, color, differences between male, females and related species.
- Natural environments and captivity requirements relative to general water conditions such as temperature, pH, general hardness and TDS.
- Feeding habits in the wild and recommended foods in captivity.
- Breeding and care of fry.

The easiest way to maneuver around this site is to take the Kangaroo Tour. Once you have started the tour, it will be hard to stop, so be prepared to spend some time absorbing the information and admiring the images. Don't forget to bookmark this site because it is updated on a regular basis so repeat visits are in order.

About Adrian R. Tappin -

Adrian was born and raised in Brisbane, Australia, and has been a keeper of fish for some 30 years. His first aquarium, a 50 liter/12 gallon tank, soon evolved into 60 tanks and the conversion of his garage into a dedicated fish room.

Adrian has kept both fresh and saltwater species, but eventually settled on Cichlids and Catfish. During the 70's he started collecting and keeping Rainbowfish. Currently, Adrian has some thirty tanks (8000 liters/1892 gallons) containing 40 different species of Rainbowfish and a variety of Catfish. As a breeder he has been involved in the breeding of over 300 different species of freshwater fish.

Adrian is technically astute when it comes to writing. His articles have been published in Australia and Internationally. He is also the editor of the ANGFA Bulletin.

Adrian has held numerous positions within various aquarium societies. He was a key contributor in the formation of the Australia New Guinea Fishes Association (ANGFA) and the Queensland Federation of Aquarium Societies. In 1996 he created the award winning "Home of the Rainbowfish" web site.

With all his accomplishments and contributions to the hobby, perhaps someday we will see a new variety of Rainbowfish named "Melanotaenia adriantappin" to honor Adrian and his work.

Please e-mail your comments or questions relative to this column to JLMARSH@hotmail.com

Gary Lange
2590 Cheshire
Florissant, MO 63033

gwlange@STLNET.com
(314) 837-6181
(7-10pm CST weekday & most weekends)

Available

<i>M. irianjaya</i>	\$15/mop
<i>M. trifasciata</i> "Canoe Creek"	\$15/mop
<i>M. arfakensis</i>	\$15/mop
<i>M. goldiei</i>	\$15/mop
<i>M. lacustris</i>	\$10/mop
<i>M. boesmani</i> ekk-will strain	\$10/mop
<i>M. herbertaxelrodi</i>	\$10/mop
<i>M. parkinsoni</i>	\$10/mop
<i>M. duboulayi</i> "Ocean Lake"	\$10/mop
<i>M. trifasciata</i> "Coen River"	\$10/mop
<i>C. sentaniensis</i>	\$10/dozen eggs

Not always reliable - call and ask

<i>M. praecox</i>	\$10/mop
<i>M. trifasciata</i> "Giddy River"	\$15/mop
<i>M. trifasciata</i> "Wonga Creek"	\$10/mop
<i>M. papuae</i>	\$10/mop
<i>M. splendida</i> "Utchee Creek"	\$20/mop
<i>Melanotaenia</i> "eachamensis"	\$15/mop
"Lake Euromo type"	

Shipping \$4/box, you keep styro. Please no orders over 4 species at a time OR list plenty of alternates as the bows don't all get amorous at the same time. Mops have at least 24 eggs in them will attempt to have 4 dozen eggs/mop.

OVER THE RAINBOW

Keeping & Breeding MacCulloch's Rainbowfish

by Spencer Glass

Since my article on the Dwarf Neon Rainbowfish, *M. Praecox*, (TFH, March 1997) I have received an incredible amount of response to this and other fish in the Rainbow family. No doubt these fish exhibit spectacular coloration, and if it weren't for the export limitations that predominate their area of residence, they would be even more popular here in the U.S. Another one of these gorgeous freshwater rainbows is the subject of this article.

Having read numerous issues of TFH over the last 20 years, I am still enthralled by the numerous articles on exploration. Of course, other magazines carry treatments on the fish themselves, but I have seen no other follow the treks of various explorers as they search the world over for new and exciting fish for us to keep. I have to admit that I am often quite envious when I not only read of their success, but their failures are just as evoking. It is this envy, however, that leads me to find alternate means of exploration. My means is nowhere near as exciting, but I find researching various geographical locations pretty damn interesting just the same.

My love for rainbowfish has opened my eyes to a world so far away. If I ever make it to places like Australia, Madagascar, Irian Jaya, and the like, it would be a dream come true. If I could only make one jaunt to the locale of one of the most beautiful of rainbows, *Melanotaenia maccullochi*, I would find myself visiting the lush jungles of Papua New Guinea (PNG). While I describe the care and breeding of this fish we'll take a look at its homeland as well.

Situated in the southwest Pacific is an island just north of Australia and just below the equator. It is the world's second largest island, although it is divided into two distinctly different territories, politically that is. The island is known as New Guinea. The two different factions are Irian Jaya, a province of Indonesia, and Papua New Guinea. PNG is independent and has been self governing since 1973. The relatively small area of 178,704 square miles is home to an island population topping 37 million. While today, PNG is no tourist mecca, the native islanders are known for their friendliness and hospitality toward the visitors they do receive.

There are an extreme number of cultural groups amongst the inhabitants of PNG. So many, the residents can lay claim to over 700 linguistic groups. In other words, each tribe has its own language. Western civilization has made its presence though, especially since World War II when Australian forces occupied the island. Aside from these many tongues, English is their official language. Several versions of Pidgin English are spoken as well. Cannibalism and headshrinking were once common parts of tribal rituals. The Aussies put an end

to **most** of these practices. Visitors, however, can be treated to mock versions of these events to many a gasp or squeal.

Why would there be such cultural diversity on one small island? Is New Guinea the melting pot of the south Pacific? Anthropologists have hypothesized that a group of Nigritoes migrated from Southeast Asia following the Ice Age some 20 - 25,000 years ago. Later, they say, migrations from Micronesians and Polynesians forced the Nigritoes into the mountains. There they splintered off into the many tribes that inhabit the island today.

While at first glance, we may think that these poor Papua New Guineans are mired in poverty, this is not exactly the case. The island is rich in commodities and amply farmed by its residents. Their spartan way of living is just part of their relaxed culture. Their main exports are the four C's: coffee, cocoa, copper and copra (dried coconut meat used to produce artery clogging coconut oil). Other commodities produced by the Papuans include: yams, sago palm, tapioca, sweet potatoes, coconuts as well as pigs and cattle.

As diverse as PNG is in cultural ethnicity, so too follows the terrain of the land itself. Island hopping is more easily accommodated by small plane, rather than by automobile. There is a modern airport in the capitol of Port Moresby and small planes can be chartered out of there. A road map of PNG would have more airstrips than roadways. The island is punctuated by low lying swampland encircled by two major mountain ranges: The Bismark and Owen Stanley. Their road building skills are still stunted compared to other major locales. Therefore traversing the land is often impossible; even with a 4-wheel drive vehicle.

Inasmuch as the people of the island are unique and assorted, so too is the terrain. Why then shouldn't the flora and fauna be the same? Obviously the reefs off of PNG abound, but the freshwaters of PNG are home to some rich fish life, sparkling with color and diversity too! A number of freshwater rivers flow through the mountains. You have the Sepik, Markham and Ramu rivers in the north, the Purari in the south, and another major river system in the southwest: the Fly River. This is where our journey takes us to discover the subject of this article, *Melanotaenia maccullochi*.

The Fly River borders on both Irian Jaya and Papua New Guinea. *M. maccullochi* has been collected on the PNG side of the river, but not the Irian Jaya side. Collectors suspect that they could be found in the Irian Jaya side of the river as well.

In addition to their habitat in New Guinea, another color variety exists on the eastern coastland of Queensland, a northeastern province in Australia. The PNG variety sports a silvery body with a bronze tinge. The male's dorsal and anal fins are striped, black, translucent yellow and black as they project from the body in that order. Male babies, even at one inch will display this coloration. The female,

while lacking in fin coloration, nevertheless will display a nice silver body tone with the same black side body molding as the male. The Queensland variety lacks the striping the PNG variety possesses, rather they present a crimson red finnage, being more prominent as adults.

The great thing about rainbows is how easy they are to keep, how resistant they are to disease and how bright and lively they stay. MacCulloch's Rainbowfish is no exception. Exports from Down Under are not as great as from other geographic locales around the world, so you may find them somewhat pricey. You get what you pay for though! Males top off at 3 1/2 inches while the females remain somewhat smaller. Yes, this fish can be kept in a community setting with other like size tropicals. They will be skittish at first so be sure to provide ample cover until they become more accustomed to their surrounding. When they do, they will become active swimmers in your tank. While they are not schooling fish, per se, they do enjoy the company of their own. Three makes a nice number. It's also a good number if you want to spawn these easy to breed fish.

Water requirements for these fish do not have to be a major issue. Avoid extremes, of course. They're not discus, nor are they African cichlids. In their natural environs they can be found in swamps and drainpools with pH's measuring from 6.5 to 7.5. Temperatures in the mid to high 70's F keep them comfortable. Feed them with a good quality varied diet of flake, frozen and live food and they'll thrive . . . and live a long time too!

Breeding MacCulloch's Rainbow is no magical mystery. Like many other rainbows they are mop spawners. If you prefer the truly natural method you can provide clumps of Java Moss. I have found it is best to provide two females to one male in a ten gallon tank. Even though the males of the species aren't overly aggressive, it is still in the female's best interest not to have Romeo all over just her day and night. Additionally, as these and other rainbows are not overly prolific egg producers, adding another female increases egg yield. I always keep a spare mop handy to replace the mop already in the tank when I remove it for egg harvesting.

I leave the mop in for about one week. At this point I remove it to a hatching tank of 2 1/2 to five gallons with seasoned water and sponge filter already going. The infusorians growing on the sponge filter can provide ample nourishment to the fry during their first week of free swimming. After this time they are ready for newly hatched brine shrimp.

Remember, only several eggs are laid on a daily basis. This means that hatching will occur on consecutive days as well. It is usually an eight day wait from the day the first of the eggs is laid until hatching. Make sure you give the mop enough time for all the eggs to hatch before pulling it out. In the meantime you will be ready to pull out mop #2 from the adult spawning tank. After a month or so I pull out the mops from the spawning tank completely to give the adults a rest.

I'm not exactly sure this promotes the cessation of spawning, but I have never seen any eggs about the tank once the mop is removed. *Maccullochi*'s are not normally egg eaters either, so I feel this procedure is a correct assumption on my part.

Raising the fry is where patience becomes a virtue. Firstly, *M. maccullochi* is not the most prolific of spawners. In one weekly harvest there may be twenty eggs at the most. When hatched the fry are truly tiny slivers measuring no more than 2 millimeters. For a week or so they will feast off that sponge filter. If you're not sure your sponge is adequately seasoned (first time using it) you can grow your own infusorian cultures, or do what I do. I mash the yolk of an egg through a very fine piece of cloth. The yolk cloud will attract the fry and provide sufficient nutrients as well. After 7 to 10 days you'll want to start them on the baby brine shrimp. You'll have to provide this dietary staple for at least the next 2 weeks. At that point they'll measure 4 - 5 millimeters.

As with many rainbows they grow sloooooooooooooow. I have been advised by Rainbow Guru, Gary Lange, that higher temperatures will promote faster growth rate. I now keep my hatching tanks in the low to mid 80's F. I also make water changes of 50% on a weekly basis. At one inch in length you can differentiate the sexes, but it may take more than 3 months before they're a saleable size. This is why many rainbows, including *M. maccullochi*, don't sell until they reach at least 2 inches long. They just don't color up until then. No store wants a small drab colored fish to sell.

So, if you can't make that trip to Papua New Guinea in the not too distant future, find a pet store or breeder somewhat closer to check out the *maccullochi* rainbow. They aren't always the easiest fish to find, but they are out there. Somewhere over the rainbow!

Ed. note: This article is not to be reprinted without the express written consent of the author.

Lou Veiga	606-858-0304 (h)
405 Kenyon Avenue	606-232-6538 (w)
Wilmore, KY 40390	veiga@lexmark.com

Available
M. praecox, \$4 per fish, minimum 5 fish, you pay postage. Trades preferred but please call or write first.

***Pseudomugil cyanodorsalis* . . . A Super Blue-Eye !**

by Curt Smith

Upon reading some horror stories, I wasn't really sure what to expect after obtaining my *Pseudomugil cyanodorsalis*. But, armed with Dr. Allen's rainbowfish book and five of the tiny blue-eyes, I set forth to give it a try. My experiences have been nothing but pleasant with this species. My apprehension increased when only five live fish arrived from the six pair ordered and one of them was a "heads-up" male.

The first thing I did was check in with the guru (Dr. Allen) and his book stated they like 50% saltwater. I have a reef tank set up, so it was no problem to skim some water from my garbage can of replacement water and add 50% tap water to it. Incidentally, my tap water is hard . . . 240 ppm or so . . . and alkaline (pH=8.4). They seemed to love it and within two weeks I was picking eggs and they were hatching. Later I let eggs in two tanks hatch with their parents with no apparent problems. Although I seem to get more fry from the one tank, I still pick and rear separately.

As everyone should know, live baby brine shrimp is the diet mainstay of both fry and adults, with crushed flake food thrown in at times. In the container in which I rear fry separately, I start them on APR for a few days, using a child's paint brush to lightly disperse the APR over the surface and skimming any excess each night. By tapping a brush with a little food on it, everything fans out on the surface and nothing sinks.

Another change I did as I went along was with the spawning medium. I know lots of plants grow in salt marshes and estuaries, so I tried planting my tank with some plants I knew could withstand brackish conditions. I found Java Fern and Java Moss both take 50% saltwater pretty good, although the excess food needs to be cleaned from them from time to time. Saltwater and baby brine seems to develop a sticky film or scum on things. Anyhow, I found eggs getting deposited on the plants instead of the mop I at first used. After experimenting, I have removed the mop and switched to a clump of Java Moss on the tank bottom and they lay almost all their eggs in it (a few are found in the Java Fern roots).

I do not heat my hatching container so it takes three or four weeks for the fry to hatch but the hatch rate is super. I do provide heaters in the fry and adult tanks but only at 78° to 80°F.

P. cyanodorsalis is an impressive little jewel of a blue-eye, particularly when the males are in spawning or sparring coloration. With a colony of a dozen or so, some are always in color. And talk about quick . . . they flit about so quickly I pity poor Gary trying to get pictures of them. They appear to be a schooling

fish and happily so. I would not recommend keeping only a pair as mine move about much more easily when many are together. Try 'em . . . you'll like 'em.

Kent Webster (310) 831-5695
6 Coach Road
Rancho Palos Verdes, CA 90275

Available

Melanotaenia parkinsoni	SM	MD	
Melanotaenia affinis "N. New Guinea Blue"	SM	MD	
Melanotaenia herbertaxelrodi	SM	MD	ML
Melanotaenia pagwi	SM	MD	
Melanotaenia boesemani	SM	MD	
Melanotaenia trifasciata "Goyder River"	SM	MD	
Melanotaenia lacustris	SM	MD	ML
Melanotaenia praecox	SM	MD	
Melanotaenia maccullochi	SM	MD	
Chilatherina fasciata	SM	MD	ML
Chilatherina bleheri	SM	MD	
Chilatherina sentaniensis	SM	MD	
Madagascar Rainbow	SM		
Glossolepis incisus "Red Irian Blushing"	SM	MD	
Glossolepis wanamensis	SM	MD	

Pricing: SM - \$1.00 MD - \$1.50 ML - \$2.00

Pseudomugil gertrudae: LG \$2.00

Assort rainbows, MALES: ML 2"+ \$3.00 LG \$5.00

Chlamogobius eremius Desert Goby: SM \$1.00

Potted plant: \$1.00

Riccia LG bag: \$5.00

Many non-Australian and non-New Guinea fish available.

For full list of fish available (including other species) please telephone, send SASE or E-mail at
THEKENT@AOL.COM.

1/15/98

Curtis Smith
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Warren, OH 44481

(330) 824-2653

Available

<i>P. cyanodorsalis</i>	juveniles	\$5 each
	sexable	\$12/pair
<i>M. fredricki</i>	juveniles	\$5 each
<i>M. duboulayi</i> "Delaney Creek"	2"	\$5 each
<i>M boesemani</i> (ekk-will)	fry	\$4 each
<i>P. gertrudae</i> "Goanna Lagoon"	sexable	\$10/pair

Mops can be arranged for all species if desired at \$15 each. Customary shipping charges when weather permits or we can make arrangements to meet if possible.

1/6/98

RAINBOWS and BLUE-EYES: Fish From “DOWN UNDER”

PART I (Continued next issue)

by Kim Goodwin

If Kermit the frog and ever kept rainbowfish, he might not have asked “Why are there so many songs about rainbows?” I think every group of fish has its fanatical admirers, and rainbows are no exception. Rainbows are as active as schooling danios, as colorful as killies and as interesting as mbuna. These gorgeous fish from “Down Under” are aptly named because they really do come in red, orange, yellow, green, blue, violet and so many hues in between.

ORIGINS AND CLASSIFICATION

Rainbows and blue-eyes are members of the order Atheriniformes, which is related to Cyprinodontiformes (killifishes) and includes fish from freshwater, brackish and marine environments. Most rainbows and blue-eyes are members of the Families Pseudomugilidae and Melanotaeniidae.¹ Their closest relatives are the marine silversides. Most of the rainbows are medium-sized fish, growing to 4 or 5” SL², except for a few dwarf species that stay around 2”. They have the streamlined, laterally compressed bodies of active swimmers. Mature male rainbows are larger, more brightly colored, and have taller bodies than females. Rainbows also have distinctive finnage. While most fish have a larger dorsal up front with a tiny adipose fin behind it, rainbows generally have small dorsal fins and much larger adipose or “second dorsal” fins. The blue-eyes tend to be smaller than other rainbows, only growing to 1.5-2”. Males are more colorful and tend to have elongated dorsal fins. As you might guess from their name, blue-eyes have baby-blue irises.

Rainbows and blue-eyes are found in the freshwater rivers and lakes of Australia and the island of New Guinea, with a few of the blue-eye species occurring in estuarine or marine waters. According to Dr. Gerald Allen, the leading authority of rainbows, they are descended from a single atherinid ancestor that evolved into multiple species, filling empty ecological niches in what was once a single Australia/New Guinea land mass³ now separated by the Torres Strait. Anyone familiar with the cichlids of Lakes Malawi and Tanganyika is aware of how isolated populations can develop unique characteristics and even become distinct species over time. A similar phenomenon had led to speciation among rainbows, with populations isolated by changing drainage patterns due to rising sea levels, geological disturbances, and so forth.

In addition to actual speciation, there are also noticeable distinctions among different populations of a given species. For example, there is considerable color variation among specimens of *Melanotaenia trifasciata* collected at various sites; specimens from Goyder River have brilliant blue and red

horizontal body stripes and bright red fins, while those collected at Coen River have fins and bodies with a single dark mid-lateral stripe, and so on. Crossing fish from different populations or species usually produces drab, colorless fish and always destroys the integrity of any captive breeding program. For this reason, responsible rainbow collectors and hobbyists keep track of populations or collection locations, much as killifish hobbyists do.

AQUARIUM CARE

TANKS: As you might infer from their body type, rainbows are active fish that like to swim. The more room you can provide the happier the fish that like to swim. The more room you can provide, the happier the fish will be and the more they will reward you with excellent color and growth. Pairs or small groups of dwarf rainbows, threadfins, or blue-eyes can be kept in 10 gallon tanks. Small groups of larger rainbows can be kept in 20 or 30 gallons or more. Long tanks are better than tall tanks, since they provide more swimming room. Rainbows appreciate moderate water circulation from a power filter or power head.

AQUASCAPING: The fish will show off their best color in a well-planted tank with dark gravel and relatively low light. "Well-planted tank" and "relatively low light" are not oxymorons if you use Anubias, Java ferns, Java moss, and Cryptocorynes. Leave some open space in the front of the tank for unimpeded swimming.

COMMUNITIES: Blue-eyes are such small, peaceful fish that I would avoid keeping them with anything but other blue-eyes, small tetras, or small bottom-feeders. You can keep the larger rainbows with a variety of other fish, but I prefer to keep them in species tanks or rainbows-only tanks with a few Corydoras or plecos. It's worth keeping larger groups of rainbows together, since they will school. When you have solitary rainbows or very small groups, older males of some species can become aggressive, particularly towards their own species. I would not keep rainbows with really large or vicious fish (which would harass or eat them), slow moving fish like gouramis (which would be harassed by the active rainbows), or very small fish like neons (yum, yum - dinner!).

CONDITIONS: Most rainbows can tolerate a fairly wide temperature and pH range. The majority prefer somewhat hard, alkaline water, though not quite the liquid cement that Rift Lake cichlids enjoy. My tap water is just right; it's moderately hard with a pH of 7.6 - 8.0. However, *Iriatherina wernereri*, the three dwarf *Melanotaenia* species and a few others prefer a neutral or even slightly acidic pH. Blue-eyes vary more in their water requirements than rainbows do - preferring anything from soft, acidic water to brackish or even full-strength saltwater - so it would behoove you to learn about an individual species before acquiring it. All rainbows prefer clean, clear water; blue-eyes and a few

rainbow species such as *M. lacustris* and *M. praecox* seem particularly susceptible to water quality problems. I have had success with 20% weekly water changes.

Blue-eyes and rainbows seem to do fine in water from 72 to 80F, though I aim for the middle of that range. A few species from mountain lakes prefer slightly cooler temperatures. Note that many rainbows seem unwilling to spawn at any temperature above 80F or so, but small fry should be kept at that temperature for maximum growth.

FOOD: In the wild, most rainbows eat a combination of insects, insect larvae, small crustaceans, and plant matter. They are voracious eaters and will eat almost anything you give them, unless you try to sneak medication into their food. I maintain my fish on a diet of more than half live or frozen foods - mostly bloodworms and mosquito larvae, plus live brine shrimp, spirulina, frozen mysis shrimp, and the occasional mixed flake. While the diet is more meat than vegetable matter, the greens are still essential. Fish that don't get enough vegetable matter may develop deformed spines, apparently due to an iodine deficiency.

Please note that I absolutely do not feed tubifex worms to my fish. Rainbows seem particularly susceptible to camallanus, a nasty intestinal parasite carried by tubifex. Every rainbow I've ever gotten from someone who fed tubifex - even supposedly "clean" tubifex - has turned out to have a bad case of camallanus, which is very difficult to treat. Unfortunately, the fish often don't show symptoms until they're no longer eating the fatty tubifex. In comparison, I have never had a fish that wasn't fed tubifex show evidence of camallanus infestation.

(Continued next issue)

Ed. Note: Reprinted from The Golden Gate Aquarist - publication of the San Francisco Aquarium Society, Spring 1997 issue.

E-mail Survey: The Rainbowfish Attraction

assembled by Kevin Hosmer

The Rainbow Times, Issue 1101's e-mail question: As a hobbyist, what attracts you to rainbowfish?

It is only fair that I answer my own question first. I have been involved with rainbowfish for many years now. The reasons I am involved with them today are not the reasons for my initial interest. In the beginning they were a rarity and therefore very desirable. Few people had them. Then I went through a period of time of finding their beauty and spawning behavior fascinating. Yet many fish are beautiful and exhibit more interesting behaviors. Over the years, I have come to recognize that I am simply attracted to almost anything Australian. I dream of Australian waterfalls and crocodiles. Perhaps I am a misplaced Aborigine? Houseplants, rainbowfish and the internet are my physical links to Australia . . . while I save for our next trip.

K. Hosmer
Milton, VT

Like me, almost everybody likes the sight of Rainbowfish. Some of the Rainbowfish have a lot of color when they are first purchased. I'd rather buy them when they are young and then watch them grow. The process of them growing is very neat how they go from very young fish to adults. When they get older they tend to get more color and the more color the prettier. The color of the Rainbowfish lights up your tank.

These fish are very motivated and they love to swim. They are always to be seen anywhere in your fish tank. I usually just sit down and watch them swim around the tank when I am going to bed. I always fall asleep watching them. I only have a 20 gallon tank so I can't really put that many rainbows in my tank. This is my first time raising Rainbows and so far I am having a successful time.

. . . Well I hope you get a better interest in Rainbows because they are very pretty fish.

Delaware County Aquarium Society publication
Excerpt from "WHY RAINBOWS"
by Warren Keene age 13
Glenolden, PA

While I have kept and bred tropicals (even collected them in N.E. Mexico) for thirtyseven years, I have been maintaining rainbows for about two years. I fell in love with *M. praecox* and now have a bunch of them. I have found them remarkably easy to keep, breed and enjoy. I also have *M. boesemani* and hope to get others.

These rainbows have brought a lot of beauty to my fish room. The rainbowfish grow slowly compared to angelfish which share the hatchery. But by far, a tank full of *praecox* is something to behold.

D. Krout
Kenosha, WI

What attracted me initially to rainbowfish was their colors (big surprise, huh?). As a hobbyist, I'm somewhat of a generalist. I like a little bit of everything. When I got my first rainbowfish (*M. boesemani*), my other fish consisted primarily of various catfish, Tanganican cichlids and angelfish (in multiple tanks, not all in one). I picked up the *boesemani* to add a splash of color to an otherwise drab tank containing *Synodontis* catfish. Since then I've gotten out of Tanganican cichlids and catfish but still have tanks with *M. boesemani*, *M. lacustris* and *P. gertrudae* Goanna Lagoon. I guess now I continue to keep them because nice rainbowfish are still somewhat of a rarity and I would like to breed them. I am also fascinated by the geographic population differences displayed by some of the species.

B. Vayda
Newton, NJ

One of the key things that interested me in Rainbowfish was their wonderful disposition. For the most part, based on what I have read and the Rainbowfish I now keep, they have a very peaceful disposition. This is a real plus after dealing with African Cichlids that are extremely aggressive by nature. I can't tell you how many Cichlids I have lost due to their aggressiveness with each other.

J. Marsh
Glendale, AZ

Incredible variety of coloration, body shapes, peaceful nature, schooling behavior.

D. Petty, DVM
Riverview, FL

I began keeping rainbowfish, initially because their colors were so pleasing to see, especially as they darted about a community aquarium. As I progressed with them, I was even more enthusiastic about the ease in which you can breed them. I also liked reading articles that not only dealt with the fish, but their locales.

S. Glass
Newton, PA

I have had Rainbows for at least 5 years now. I started with *Boesemani* Rainbows since they were most available in fish stores. The things that most attracted me is that they are:

- one of the most colorful freshwater fish
- very active but peaceful for a community tank

- they are easy to keep (rather easy environment requirements)
- they grow larger than other typical fish such as tetras, guppies, sword tails
- they are somewhat difficult to get and somewhat more expensive than other common fish, SO not everyone has them!!!

It's a great treat to have fish that surprise people. Rainbowfish are always loved by my guests - especially a collection of large beautifully colored ones! It is most enjoyable to me to observe their different behaviors, their unique "flashing" abilities and the way they interact in a large tank!

To summarize this into "one thing" . . . I guess it would be the fact that they meet my desires for fishkeeping - easy to maintain, very beautiful, peaceful but active community fish, live for a long time and are not too expensive.

R. Kerrill
Newport Beach, CA

I've been keeping rainbows for the past year. It's also my first experience with keeping tropical fish. I was attracted to rainbows for several reasons, but originally for their pure beauty. Watching them swim in the large rainbow display tank at my local aquarium center was captivating. Once I watched some of the variations of color changes and fin displays as the males courted their potential mates, I was hooked. Rainbows are the predominate fish in my tanks.

Alan Rudick
Baltimore, MD

I first noticed blue-eyes and sunfish (rainbows in today's terms) in the creeks on our property about 30 years ago. After catching some in a net and taking them home, I found that at first they weren't real colourful. After they settled down in the tank they were displaying so they were kept as an oddity. Most people were more interested in the tropical fish from overseas which died regularly and were extremely hard to breed. At ten years of age all fish are interesting. Especially if you catch them yourself and there are not too many around.

Being a fish keeping nut over the years has led to many an adventure. At one time I had up to 40 tanks and was breeding all the different New Guinea rainbows. Marriage introduced another interested fish keeper and trips to the cape became more regular. You always need someone on the deep end of the net.

Larger blue-eyes from Cooper's Creek sparked renewed interest as did the honey blue-eyes which are a happy little community in an outside fridge liner.

When we travel around we still look in the creeks to see what is about but are not breeding rainbows as much as we once were.

Trevor & Michelle Voevodin
Brisbane, Australia

I've recently gotten back into fishkeeping after a long absence (25 years!) and rainbows were a deciding factor. After searching the local petshops I found one that had breeding size *M. trifasciata* (I think) with several males displaying their colors. Two days after introducing a trio into the tank - I had eggs! Now I've got fry everywhere! In my fry tank, in my main tank and in a one gallon hex. I never had as good luck with guppies when I was growing up! Why Rainbows???? Why Not!!!!

David Williamson
Martinez, GA

Until recently, . . . my idea of a "bow" was the ubiquitous *bosemani*. I said, well those fish are nice, but I'll pass on them for now. Then, (the retail store) started getting in other species like the threadfins, the blue-eyes and others and I started buying them. These fish remind me both of native North American species and killifish at the same time, as far as interesting behavior and colors go! I took the bait and am now hooked on these delightful Australian and New Guinea native fishes!

B.G. Granier
Baker, LA

Steven Polk
1790 27th Avenue #203
San Francisco, CA 94122

(415) 665-FISH
between 10 a.m. Pacific time ONLY!

Available

As eggs:

C. bleheri, *C. sentaniensis*, *I. werneri*, *M. boesemani*, *M. goldiei*, *M. herbertaxelrodi*, *M. lacustris*, *M. praecox*, *M. trifasciata* (Goyder River F2, Upper Coen River, Running Creek), *M. affinis* Pagwi, *M. maccollochi* (Red Form), *M.s. Mabo Crator*, *P. furcatus*, *P. gertrudae* (Gold), *P. cyanodorsalis*, *P. paludicola*, *P. tenellus*, Celebes Rainbow

As fish:

Rhinogobius wui as breeding pairs or juveniles. Trade Bait

Mops \$15 to \$20 plus shipping. Prefer to trade for other fish and eggs. Need not be rainbows.

Wanted

R. ornatus (Red Form), *G. maculosus*, *C. fasciata* (Red & Black) Will trade *P. paskai* for wants.

3/21/97

Species Maintenance Program Report

by Cary Hostrawser

First the good news, last issue came out we've added 15 species to the list and a number of new participants. We are now up to 62 species/varieties being kept by members in the program. Judging by how many fish you can find in pet stores this is a significant achievement. We have 19 people who have so far committed to keeping and breeding these fish. I want to offer my utmost gratitude to all that you have stepped forward to help so far. With your help we will secure these species in the hobby and make more rainbows available for everyone. We probably have close to half the species presently in America covered and if we continue to grow we may just cover them all. While the steps may seem small at times, we are making giant strides over the long run. This program started a just a concept a couple of years ago and no species were really safe from being lost. To come close to covering half the species is a remarkable achievement in my eyes.

Now the bad news. It came to my attention that some felt slighted by my article in the last issue. Apparently they took my stating of the black holes in the hobby a bit too personal. If you did I am sorry you felt that way. The article was meant to point out how we loose species in the hobby and the need to get more people providing fish and eggs. It did not mean if you can't breed fish you can't be a member of RSG or enjoy rainbows. I am a cheerleader for the members that do breed these fish and a helper for people looking for these fish. Many of the people that I help to find fish have no intention of breeding or participating in this program. It doesn't really matter to me, if I know who has the fish I will tell them. What I was explaining is how and why we loose species in the hobby. I will continue to do this. If I didn't, I wouldn't be doing my job as the Species Maintenance chairman. The end result of the work we are attempting is to generate more fish for all keepers. Whether they be fish breeders or not.

With that said here comes the latest compilation of fish in the program with the breeders.

<i>C. bleheri</i>	G. Lange	K. Goodwin	K. Hosmer	P. Benes
<i>C. eremius</i> Hergott Bore	C. Hostrawser			
<i>C. senteniensis</i>	G. Lange	P. Heinzel		
<i>C. senteniensis</i> "red & black"	S. Polk			
<i>C. species</i> Maberano River	S. Polk			
<i>G. incisus</i>	J. Zeppieri	P. Benes		
<i>G. maculosus</i>	R. Lumahan	C. Drew	Steven Polk	

<i>G. ramuensis</i>	J. Zeppieri			
<i>G. wanamensis</i>	K. Hosmer	J. Zeppieri	R. Lumahan	P. Benes
<i>G. species</i> Lake Klye	C. Hostrawser			
<i>M. affinis</i> Blewater Creek	G. Lange			
<i>M. affinis</i> Lake Emas	G. Lange	C. Hostrawser	P. Heinzel	
<i>M. arfakensis</i>	G. Lange	C. Hostrawser	P. Heinzel	
<i>M. axelrodi</i>	M. Beattie			
<i>M. boesemani</i> ? strain	K. Goodwin			
<i>M. boesemani</i> Ekkwill strain	G. Lange	C. Smith		
<i>M. duboulayi</i> Kangaroo Creek	J. Betz			
<i>M. eachamensis</i> "Mabo Crater"	P. Heinzel			
<i>M. exquisita</i> Waterfall Creek	J. Dowden	P. Heinzel		
<i>M. goldiei</i>	G. Lange			
<i>M. herbertaxelrodi</i>	K. Goodwin			
<i>M. irianjaya</i>	G. Lange			
<i>M. lacustris</i>	G. Lange	C. Hostrawser	K. Goodwin	
<i>M. nigrans</i> "Scotts Creek"	P. Heinzel			
<i>M. parkinsoni</i>	G. Lange			
<i>M. pierucciae</i>	P. Benes			
<i>M. pygmaea</i>	S. Polk	C. Hostrawser		
<i>M. s. inornata</i> Tentpole Creek	J. Dowden			
<i>M. splendida</i> Running Creek	J. Dowden			
<i>M. praecox</i>	D. Brown	B. Holubis		
<i>M. sexlineata</i>	R. Lumahan			
<i>M. s. tatei</i> Thompson River	M. Beattie			
<i>M. trifasciata</i> Archer River	J. Dowden			
<i>M. trifasciata</i> Canoe Creek	G. Lange			
<i>M. trifasciata</i> Cape Arnhem	J. Dowden			
<i>M. trifasciata</i> Dulhunty	M. Beattie	J. Dowden		
<i>M. trifasciata</i> Giddy River	J. Betz	P. Heinzel		
<i>M. trifasciata</i> Goyder River	K. Goodwin	P. Heinzel		
<i>M. trifasciata</i> Lathram River	S. Polk			

<i>M. trifasciata</i> Morehead River	C. Hostrawser			
<i>M. trifasciata</i> Pappin Creek	M. Beattie			
<i>M. trifasciata</i> Skull Creek	J. Betz	C. Drew		
<i>M. trifasciata</i> Upper Coen River	G. Lange	C. Hostrawser	K. Goodwin	P. Heinzel
<i>M. trifasciata</i> Wonga Creek	G. Lange			
<i>Mogurnda mogurnda</i>	C. Hostrawser			
<i>Mogurnda pulchra</i>	C. Hostrawser			
<i>P. connieae</i>	R. Lumahan	M. Fukada		
<i>P. cyanodorsalis</i>	J. K. Boylan	C. Smith		
<i>P. furcatus</i>	C. Hostrawser	M. Beattie	M. Fukada	
<i>P. gertrudae</i> Giddy River	K. Hosmer			
<i>P. gertrudae</i> Goanna Lagoon	Brian Vayda			
<i>P. mellis</i>	K. Goodwin	J. K. Boylan		
<i>P. mellis</i> Schnapper Creek	C. Drew			
<i>P. paskai</i>	C. Hostrawser	J. K. Boylan		
<i>P. signifer</i> Bool Creek	C. Drew			
<i>P. signifer</i> Harveys Creek	C. Drew			
<i>P. signifer</i> Ross River	M. Fukada			
<i>P. signifer</i> Tin Can Bay	C. Drew			
<i>P. tenellus</i> Howard Springs	C. Hostrawser			
<i>R. ornatus</i> Frasier Island	S. Polk			
<i>T. ocellicauda</i> Peacock Gudgeon	P. Heinzel	C. Hostrawser		

FISH AND EGG LISTINGS

Send fish and egg listings to: Kevin Hosmer
RR3 Box 4353
Milton, VT 05468
(802) 524-7309
dlhosmer@aol.com

Space permitting, your listing will run for two issues unless you specify otherwise. The standard for listing a mop is at least 24 eggs in the mop. Most rainbowfish usually produce more than that. If not, price should be specified per dozen eggs.

Welcome New RSG Members

Baron, William R., 516 East Bennett Drive, Flagstaff, AZ, 86011, 520-774-9531, bbaron@cybertrails.com
 Bellg, Albert J., 313 Wisconsin, Apt. 3F, Oak Park, IL, 60302, 847-492-9916
 DeAngelis, John F., P.O. Box 101, Eckerman, MI, 49728, 906-274-5531
 Deavors, Daniel, 2307 South First, #101, Champaign, IL, 51820, 217-367-4722, deavors@crhc.uiuc.edu
 Gundrum, Erwin, 6738 Hurd Avenue, Cincinnati, OH, 45227, 513-271-2842
 Hansen, David, P.O. Box 829, Empire, CA, 95319, 524-7933
 Hellweg, Michael, 511 Sunward Drive, O'Fallon, MO, 63366-6938, 314-240-2443
 Hort, Jr., Thomas R., 7662 Highland Avenue, Burlington, WI, 53105, 414-539-3671
 Jolivet, Ted & Kristin, 9973 Nathan Lane, Maple Grove, MN, 55369-3533, 612-425-5569
 Kramer, Brent D., 219 West 9th, Apt. 327, Kansas City, MO, 64105
 Kulesa, Bob, 319 S. Ridgeway Avenue, Glenholden, PA, 19036, 610-534-5935
 Lyons, James M., 2252 North Three Springs Drive, Westlake Village, CA, 91361-5546
 McFadden, Ronald, 2478 Edwin Avenue, Akron, OH, 44314, 330-848-2559
 McMullin, Robert D., 3848 Atlantic Avenue, Apt. 2, Brooklyn, NY, 11224
 Miller, Paula L, 5630 Macey Avenue, #4, Cincinnati, OH, 45227
 Miller, James, 8927 Valcour, Affton, MO, 63123, 314-638-1134
 Mosley, Dave, 2401 River Plaza Drive, #132, Sacramento, CA, 95833-3248, 916-923-2199
 Nord, Steve, 5501 College Glen LP SE, Apt. A-203, Lacey, WA, 98503, 360-413-9938
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 Plunkett, Rex, 4828 East 5th Avenue, Anchorage, AK, 99508, 907-272-7477, Rexadmin@rexdata.com
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 Schiele, Kurt, 237 Theodore Lane, Itasca, IL, 60143
 Schoening, Klaus, 4634 Glenway Avenue, Cincinnati, OH, 45238, 513-251-2187, klaus.schoening@jungle.org
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 Tarara, Sam J., 612 Bowling Green Court, Naperville, IL, 60563-2407, 630-420-7856
 Terc, Jed, 1542 South Kaspar Avenue, Arlington Heights, IL, 60005-3556
 Veiga, Lou, 405 Kenyon Avenue, Wilmore, KY, 40390, 606-858-0304, veiga@lexmark.com
 Waldron, Steve, 2550 Balboa Street, #2, San Francisco, CA, 94121, 415-386-7377
 Williamson, David A., 309 Joshua Tree Drive, Martinez, GA, 30907, 706-855-5331, gutterman@mindspring.com OR dwmsen@juno.com
 Zielonka, M.D., Jason S., 1500 Locust Street, Suite P316, Philadelphia, PA, 19102-4329, jason_zielonka@premier-research.com

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