

- Posada, D. & Crandall, K. A. 1998. ModelTest: testing the model of DNA substitution. *Bioinformatics* **14**: 817-818.
- Price, D. S. 1997. *Chilatherina alleni*, a new species of rainbowfish (Melanotaeniidae) from Irian Jaya. *Revue française d'Aquariologie Herpétologie* **24** (3-4): 79-82.
- Regan, C. T. 1914. Report on the freshwater fishes collected by the British Ornithologists' Union expedition and the Wollaston expedition in Dutch New Guinea. *Transactions of the Zoological Society of London* **20** (6:1): 275-286.
- Tappin, A. 2011. *Rainbowfishes, their Care and Keeping in Captivity*. 2nd Edition, published online at <http://rainbowfish.angfaqld.org.au/Book.htm> Electronic version accessed 9 November 2014.
- Unmack, P. J., Allen, G. R. & Johnson, J. B. 2013. Phylogeny and biogeography of rainbowfishes (Melanotaeniidae) from Australia and New Guinea. *Molecular Phylogenetics and Evolution* **67**: 15-27.
- Weber, M. & de Beaufort, L. F. 1922. The fishes of the Indo-Australian Archipelago. IV. Heteromi, Solenichthyes, Synentognathi, Percosoces, Labyrinthici, Microcyprini. E. J. Brill, Leiden. 410 pp.
- Zhu, D., Jamieson, B. G., Hugall, A. & Moritz, C. 1994. Sequence evolution and phylogenetic signal in control-region and cytochrome *b* sequences of rainbow fishes (Melanotaeniidae). *Molecular Biology and Evolution* **11**, 672-683.
- Zwickl, D. J. 2006. Genetic algorithm approaches for the phylogenetic analysis of large biological sequence datasets under the maximum likelihood criterion. Ph.D. dissertation, The University of Texas at Austin.

¹Western Australian Museum, Locked Bag 49, Welshpool DC, Perth, Western Australia 6986. E-mail: tropical_reef@bigpond.com

²Institute for Applied Ecology and Collaborative Research Network for Murray-Darling Basin Futures, University of Canberra, ACT 2601, Australia.

³Museum Zoologicum Bogoriense (MZB), Division of Zoology, Research Centre for Biology, Indonesian Institute of Sciences (LIPI), Jalan Raya Bogor, Km 46, Cibinong 16911, Indonesia.



WERE THOSE RED LASER “STRIPES” REALLY WORTH IT? – THE HUNT FOR THE WAPOGA RED LASER RAINBOWFISH

Gary Lange, Johannes Graf and Dan Dority

Can you remember when you had a close call in your car and almost crashed, cheating injury maybe by inches? How about as a youngster jumping off of a tall cliff into the lake then second guessing yourself after it was too late to turn back, hoping things didn't end badly. “I shouldn't have been following that other car so closely” and “How did I let my friend Randy talk me into such a stupid decision as jumping off this cliff” were the thoughts racing through my mind in those moments. And here I was in a pathless jungle, up the creek without a paddle. Actually without the boat, because they had abandoned us and now we were several hours into a very long hike. Those thoughts were again running through my mind that I had indeed made a questionable decision.

But let's back up a few months to January of 2012. It's time to plan another trip with Johannes Graf and Dan Dority. Where should we go for new fish and adventure? We didn't have to look any further than the cover of Aqualog's “All Rainbowfish”. Let's go to the Siewa airfield (Figure 1), home of *Glossolepis leggetti* and *Melanotaenia rubripinnis*. This was also home to the Aqualog cover fish *Chilatherina alleni* and of course that super electric blue “*M. praecox*” with the striking red laser stripes thru its body. These were fish that Dr. Gerry Allen had photographed from a 1998 expedition but none were brought back alive. It was easy to say you want to go there but now much harder to actually get there. The Siewa airstrip built for mining exploration was no longer in use and overgrown, the jungle had taken it back. The only way would be to take a small boat from Nabire travelling on the ocean for five hours and then up Sungai Wapoga and its tributary, Sungai Tirawiwa, for another eight hours to get as close to the Siewa airstrip as possible. We badly wanted to collect the wonderfully yellow *Chilatherina alleni* and especially that electric blue “striped praecox”. We have had more than a few conversations with aquarists wondering out loud whether that cover picture was “doctored” because the blue and the red stripes were so intense. Hopefully we would find out for ourselves.

Our first stroke of luck was that Dan made connections with someone in Nabire that might be able to help us, a friend of a friend as it were. Anderson, or Andy was able to also find us a boat captain, who said he could take us where we wanted to go. That always sounds good in the emails but you wonder if things will change once you get there. We made our flight from Jayapura to Nabire and met up with Andy and eventually our captain for the trip, Guntur. Soon afterwards we would learn of our first “problem”. This was our third trip together so we now have as our motto “It’s not a problem, it’s an adventure”. This long journey would need a lot of gas. The captain couldn’t just take his collection of 20 litre gas cans to the gas station and have them filled; that would be too easy. That would be hoarding and that wasn’t allowed, you could only get about 35 litres at a time and it could only be pumped into an automobile. Those are the rules, so the captain had to go fill up his car, drive to the harbor, siphon the gas into the containers and repeat over and over. This probably would have only taken him a full day except for another problem, electricity. Electricity doesn’t always run 24/7 in Nabire and it was acting up again. That evening the captain came back and told us it might take another day or two before we could get enough gas for the trip. Instead of moping around we decided to head off on another adventure for a few days (see FOS Vol27#4 762–772).

Two days later we started on our long delayed journey. Our vessel was a large dugout outrigger canoe with two 40-horsepower motors to speed us on our way. It had a very small cabin that two people could barely get into to avoid sun or rain but a great place to store our gear. It’s wonderful speeding along the beautiful blue ocean heading up the coast toward our destination for the first hour. By the time we got to the stop some five hours later at Wireri we were quite tired of our boat ride. The captain had family here so it made it a convenient place to rest. We were the entertainment for much of the village that evening as it wasn’t often that white people came this way. One of the older villagers who was familiar with the collecting area would also continue with us in the morning. We had a nice dry bed on the chief’s patio

Fig 1. GPS trace from Nabire to Wireri to Wapoga collection site and back (Google Earth Map)





Melanotaenia sp Wapoga Red Laser constantly moving and chasing

G.L.

and with a few tarps lashed to the side poles it kept us dry from the relentless rain that pounded us through the night.

We were up quite early the next morning and on our way by 7 am. There is only so much daylight in the tropics and when the sun sets at six pm it gets very dark very quickly. Soon we were at the mouth of the mighty Sungai Wapoga. It's quite wide, some 2 km where it enters the ocean. Soon afterwards it narrows to about 500 meters and stayed that width for hours as we twisted through turn after turn on the river. The torrential rains from the night before had washed a lot of debris into the river; it was a virtual traffic jam of logs that our captain had to expertly navigate. His pilot was in the back of the boat manning the outboard motors. The captain perched high on the roof of the tiny cabin could see most of the dangers in the muddy water, the moving ones and the sunken logs that were waiting to rip into our canoe or tear up our motor or, even worse, to crash the outriggers. Logs that were much larger than our canoe shot by in the swift current. The captain motioned his pilot with hand signals and the two of them did an excellent job steering clear of most of the debris.

Finally we turned into Sungai Tirawiwa and the massive log assault ceased. We made good time for a while but the river was getting narrower with every turn. We could see that this river was not so muddy or silty but rather dark with tannins, a good sign for finding bright coloured fishes. Soon the outriggers were slicing through the grasses on the sharper turns. We were still a long way from the original Siewa airstrip, a distance too far to hike. The captain started to pull his boat into a spot where he had camped before. Dan talked him into going further and so Guntur continued onward. He had never gone that far upstream before. To us it seemed like maybe only fifteen or twenty minutes further but it was that much closer to the airstrip location. Finally we could go no further the river was only as wide as the outrigger itself.

It was time to set up our tarp "tent" for the night. Soon it was raining again. Even though we were several feet above the river level we wondered if we would end up in the river later that night. If the rains came down as hard as they did the night before it was a distinct possibility. We had a feast of rice, ramen noodles and canned mackerel as well as a hot cup of instant coffee. So off to crawl under the mosquito netting to try to get some sleep. It wasn't that comfortable but we were close to realizing our dreams and capturing some remarkable fishes.



Top: "The Outrigger" – our transportation for this adventure. J.G.
 Above (left) Dan and Johannes on the way back to Nabire (G.L.), (right): Gary after rainstorm. J.G.
 Below: Anderson (Andy) waiting on the long boat ride to Wireri. G.L.





Melanotaenia praecox – Pagai; beautiful but the colours aren't quite as intense as the fish from Wapoga and it also gets much broader as it matures. G.L.

What would tomorrow morning bring? That made it harder to sleep than the wet ground, the heat or the buzzing mosquitoes. The fruit bats fluttered above in the canopy during the night and in the morning we also discovered a large pile of fresh cassowary dung not too far from our campground.

In the morning we set off right away to catch our fishes, it was still raining just enough to get you good and wet. The captain and his pilot would break camp and then wait for us to return. He told us that we had to be back by noon. The older Papuan came with us because he had been here many years before. The plan was to find the old logging road which was visible on Google Earth maps. Well in the jungle it's "use it or lose it" and the road when we finally found it was worse than walking through the uncut forest. We quickly realized that we were not going to make it all of the way to the airstrip and started checking the streams around us. They were only one half meter wide and maybe 6 cm deep and yielded no fish.

A little further on we found a larger 2 m wide creek. The creek was nothing but slippery mud and a few feet of tannin soaked water. It was an adventure just to get into the water without falling. No rocks on the bottom just more mud to sink into and the occasional thorny stick to tear at your legs or get caught in the seine. Our fishing method was to have two people hold the seine across the width of the creek. The other two would go upstream a few feet and then attempt to run towards the seine splashing and jumping hoping to herd some fish into the waiting net. It was not an easy task and the "runners" had to spread their toes wide in their shoes to avoid losing a sneaker to the mud.

Our first fish were *Melanotaenia rubripinnis* followed shortly by *Chilatherina alleni*. Still no electric blue and red striped fish in our nets though. Around the next bend was a large pile of dead wood in the water that looked like a good place for snakes or fishes. Naturally we beat into the woodpile chasing imaginary fishes downstream into our waiting seine. But this time our efforts were rewarded with a bright blue flash in the net. We had our "striped praecox". The colours were as intense as the cover of the Aqualog. The fish in these small muddy creeks were quite sparse so we had to work hard for what we caught. The fish gods were not going to give them up easily, we would have to earn them. We also realized that we had again proven the myth to be false, that you can only have one *Melanotaenia* species per creek or river. After



Large *Melanotaenia rubripinnis*; too large to transport so we set him free.

G.L.

hours we finally had enough fishes and placed the *C. alleni*, the “striped praecox” and *M. rubripinnis* into breather bags for the short walk back to the boat. Photos would have to wait, it was still raining off and on and we had a boat to catch. We headed back to the main river above our camp spot. We decided to have a few pulls of the seine here in this now somewhat clear fast running water with an easy to fish gravel bottom. And with that one haul we had found our missing fish, *Glossolepis leggetti*. They were all pretty small so we quickly stashed them into bags and continued our walk back to the boat.

When we got back to the camp there was no boat! The old Papuan then told Dan that this might be a possibility if the river dropped and it indeed had dropped quite a bit. No worries, the captain will be meeting us at the first place he wanted to camp which seemed to us about 15 or 20 minutes downriver. There are no trails in this area so walking was not easy to say the least. We were in swimming trunks and water shoes not hiking boots and long pants. We paid the price with a great many scratches from thorns.

That 15-20 minute hike to the first camp ground ended up being over a five hour walk. We got back to the boat just before dark. Instead of making camp for the night the captain decided to push on to Wireri. We were exhausted so it seemed like it might be a good idea. When you travel at night you get to see wondrous things like trees that attract blue fireflies. The captain

Chilatherina alleni from Wapoga. Just as yellow and bright as the cover of the Aqualog.

G.L.





Melanotaenia rubripinnis Wapoga – The lone male that survived the ordeal.

G.L.

used his torch sitting in the front of the boat sweeping back and forth to look for logs beating on the left or right side of the bow to signal the pilot which way to turn. It was then that we realized that there indeed were a lot of “red eyes” on the shore especially when we got to the larger section of the river. Away from civilization there still were a lot of crocodiles in these waters. Exhausted we decide to just leave the fish in the boat’s cabin out of the rain. This almost proved to be a fatal mistake. Sometime during the march some bags leaked and the breather bags were no longer breathing. The *G. leggetti* and *M. rubripinnis* were not going to make it and we weren’t sure we would have enough *C. alleni* or “striped praecox” to make a breeding group either.

In the end we did successfully bring back enough of the *C. alleni* and striped praecox to breed them and get them out to other hobbyists in North America and Europe.

So were those extra red Laser stripes in our “Wapoga praecox” worth all of that effort? First of all after getting samples back in Dr. Unmack’s hands he told us that it was indeed a unique species, now formally named *M. rubrivittata*. From the hobbyist’s point of view we could also tell that they behaved very differently than *Melanotaenia praecox*. We had recollected *Melanotaenia praecox* from the Mamberamo system back in 2008 and the two fish looked and behaved a lot differently. First of all the *M. praecox* from Pagai and elsewhere become very broad (from dorsal to anal fin) as they mature. As one of the smaller rainbowfishes they have subdued behaviour in our hands, meaning they are very peaceful and rather slow moving compared to some other rainbowfishes.

The “Striped praecox from Wapoga” or as Gary calls them “The Wapoga Red Laser Rainbowfish” are a much more active fish. The dominant male is constantly chasing the other males and always flashing at the females. They move so quickly as to be quite a challenge to photograph. The blue on the body is indeed brighter and deeper in colour than the true praecox. As they mature they do not get anywhere near as broad as true *Melanotaenia praecox* do. Even though we collected both species in sparse tannin laden or even muddy creeks both really appreciate a planted tank and show their best colours when kept that way. Like their cousin though the “Wapoga Red Lasers” are quite prolific with fry that are easy to rear. Feed them well, change the water and soon you will have eggs and fry. In conclusion this was the adventure of a lifetime and yes “those red laser stripes” were really worth it.

