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Van Heurn's Rainbowfish *Melanotaenia vanheurni*. Nuptial male from Faowi.

J.G.



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## VAN HEURN'S RAINBOWFISH

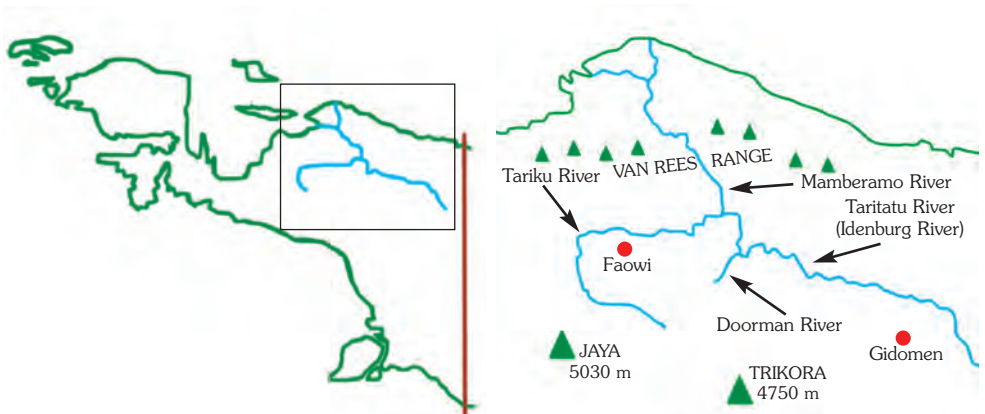
**Johannes Graf, Kesseling**

Described in 1922 from New Guinea, but still not in the hobby? This is the case with *Melanotaenia vanheurni*. It was described in 1922 by Weber & de Beaufort as *Rhombatractus vanheurni*. The description was based on samples collected by the Dutch Mamberamo-Expedition in 1920–1921 and was made in honor of zoologist W. C. van Heurn, who took part in the expedition. In the course of his generic revision of the Rainbowfishes, Allen (1980) transferred the genus *Rhombatractus* to the genus *Melanotaenia*.

Pictures of *Melanotaenia vanheurni* (Allen, 1993) were published earlier, but those were taken in the field at the collection place in Papua (called Irian Jaya in these times). This species is not yet in the hobby. According to Allen (1996) it was introduced in 1992 by Heiko Bleher; however, this could not be verified.

The Mamberamo Lowlands are located in the Northwest of New Guinea. This gigantic area with enormous swamps is drained by meandering rivers. The Taritatu River (formerly called Idenburg), running from the east, and the Tariku River, from the west, merge in the vicinity of the village Dabra and form the Mamberamo River. The Mamberamo then flows through the valleys between the Van Rees Mountains towards the Pacific Ocean, where it forms a large delta. It is highly unlikely that there are rainbowfishes in the main river channels, but is the place for large catfish and saltwater crocodiles that can be up to 8 m long. Don't come too close to them.

The description of Weber & de Beaufort indicates the collection place only as "Idenburg River, Doorman River" without further specification. Old maps (e.g., Perry Castaneda Collection at the website of the University of Texas: No. 54-4), show the Doorman River. It flows at 3°15 S, 138°30 E in the Taritatu (Idenburg). Munro (1967) repeats the location information given by Weber. Allen (1996) reports that *Melanotaenia vanheurni* prefers clear creeks flowing through rainforest, in particular those in the foothills to the Dividing Range Mountains. It can be found in slow to relatively fast flowing waters with rocky and sandy ground, sometimes together with *Chilatherina fasciata*. There are no noteworthy geographical barriers in the Mamberamo region, and based on information by G. Allen (1993), it is clear that this species also occurs in the western Mamberamo region.



Hand-drawn map of western New Guinea and the enlarged Mamberamo region.

R.K.



*Melanotaenia vanheurni*. Field tank photograph of the Faowi form.

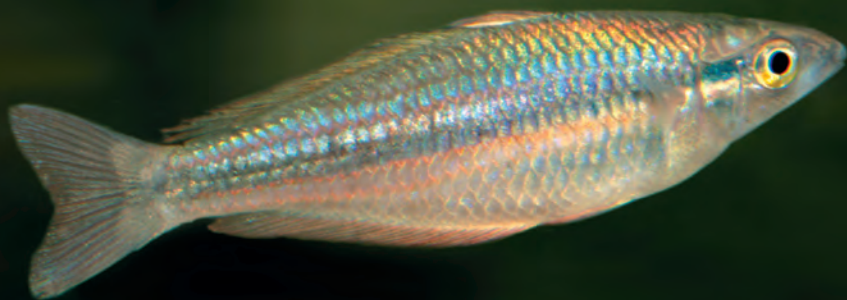
J.G.

In September 2008 I had the opportunity to go to the Mamberamo region with my travel companions Dan Dority and Gary Lange. During this trip, we visited Faowi village (3°13.418 S, 137°43.64 E) in the southwestern Mamberamo region. This village is located in a foothill environment at a tributary of the Tariku River (formerly called Rouffaer), and it is the same place that Allen (1993) describes.

With all our equipment in the backpack and accompanied by a large group of the village people, we left the village in search for fishes. The villagers guided our way, taking us through manioc plantations before we reached a path leading through the forest. After a short walk we reached a 2–3 m wide creek. This fast flowing creek with clear water and large rocks gave the impression of an ideal habitat of *Melanotaenia vanheurni*. We followed the creek upstream and started fishing with our dipnets at several places. To our surprise the first fish we caught was a cling-goby of the genus *Stiphodon*. We didn't expect to find them so far inland, because this amphidromous genus has a marine larval stage, but very soon we had the first rainbowfish jumping in our net. Of additional interest was the catch of 3 sleeper gudgeons, most likely of the genus *Oxyeleotris*.

The village people, in particular the kids, had followed our catching attempts with high interest and soon they started showing good places of hidden fish. At the slightest disturbance, the rainbowfish would hide in the rocks. It is then not possible to spot any fish anymore, even when walking right through the places where they are hiding. We distributed all our dipnets to the villagers, and they started catching the fish, the whole group moving upstream.

Deep hollows at the foot of large rocks, congregations of driftwood and similar places proved to be the best collecting places. *Melanotaenia vanheurni* in all sizes, from 1.5 cm juveniles up to 10 cm full-glory males, filled our buckets. We didn't find specimens as large as Weber & de Beaufort, who mention sizes up to 16 cm. The captured specimens didn't look as rocket-shaped like those pictured in Allen (1996), whilst those pictured in Bleher (1994), caught in the Doorman River near Dabra, ...



*Melanotaenia vanheurni*. Juvenile Faowi form.

J.G.

also looked different to the Faowi specimens. In particular noticeable in the Faowi specimens is them showing a clear black longitudinal band and no vertical stripes. Compared with pictures of *Melanotaenia vanheurni* in literature, (Bleher (1994), Allen (1996), Mayland (2000)) the Faowi specimens show much more colour with their red scale margins and a blue stripe above the black mid-longitudinal band. The body shape is less slender compared to those shown in Allen (1996), but is more or less consistent with those in Mayland (2000), who also used a picture by Allen of one from an unknown collection place. Moreover, the Faowi specimen show red colours in the dorsal and anal fins, a feature which was unknown for this species so far. The counts of soft rays in the anal fin (more than 18, this is the differentiation to the neighbour species *M. rubripinnis* in the Wapoga system) points clearly to *M. vanheurni*.

For the purpose of transport we put the fishes in large buckets, equipped with battery driven air pumps and air stones. The fish survived the transport very well, which is astonishing when looking at the water temperature in the buckets rising up to about 35°C, due to the tropical heat.

After the trip I imported some specimens and the fish handled this transport very well. They settled down in short time and it was amazing how quickly they adapted to aquarium conditions. It took them less than three days to learn that food is coming when the glass cover starts moving. However, as time went on it became increasingly more difficult to keep them as a group. They permanently attacked each other and, as there were no eggs in the spawning mop, this was not a spawning behaviour. So, I separated the fish and raised them singly among other rainbowfishes, which worked without any problems.

A year later, sexual maturity had slowly set in. Males tended to develop a dark yellow as basic colour, females stayed more brownish. The first dorsal fin was elongating in males and staying round-shaped in females. This shows that this species is not in a hurry to grow up. After a year I started another breeding attempt with fish having a size of 8–10 cm. I took a large aquarium (100 x 50 x 50 cm)





*Melanotaenia vanheurni*. Male Faowi form.

J.G.

for a breeding trio (one male and two females). In the time following some spawning occurred, in particular after water changes, but only with a few eggs. The hatching fry were easy to raise with infusoria, but due to the low quantities of eggs the yield of juveniles was very small.

It took another year until the fishes started to spawn eggs in large amounts. From observations and experiments I found out, that the normal spawning mops with 120–150 threads are too small for this species. Using a mop of threefold size with 350–450 threads is more effective and the eggs are laid preferably in the upper part of the mop. They are clear to light amber in colour and relatively large for rainbowfishes (1.0–1.2 mm diameter).

The courtship behaviour is of particular fascination, and is only fully shown in large aquariums. The male needs room to run, to do his “flight” towards the female in a wide curve, which peaks in the presentation of his flanks, with the dark mid-lateral bar becoming very intense. Between those “flights”, the male tries to attract the female to the selected spawning site, with sideward shaking ...



*Melanotaenia vanheurni*. Courtship Faowi form.

J.G.

### ... *Van Heurn's Rainbowfish*

head movements and flashing the breeding stripe on head and neck. This is repeated on and on, until the lady shows compassion with him and follows him to the spawning place. Here the pair dives into the spawning medium (mop), press together and spawn.

What is the adult size of *Melanotaenia vanheurni*? While I was visiting the ichthyological collection of the University of Amsterdam, I could inspect a preserved gigantic specimen with my own eyes. I didn't measure it, but this may be the specimen causing the size indication of 16 cm SL in some of the literature (Allen, 1996; Mayland, 2000). From my experience of more than 3 years keeping this species, I can contribute to this question that it is without any doubt a large species, but not more than other large species like *M. boesemani*, *Chilatherina fasciata* (Mamberamo form) or *Glossolepis multisquamata*. My largest male *M. vanheurni* has grown to a size of 12 cm in 3 years. The growth will continue, but it is already visible that the growth speed slows down. The preserved specimen in Amsterdam must have been of an enormous age. But it comes from times where the Mamberamo was much more undisturbed than today with human settlement and several introduced species (*Tilapia*, *Channa*). From this contemplation, the prevalent picture of the "Giant Rainbowfish" which is somewhat disincentive to a keeping attempt should be revised, as nobody fusses about having a *M. boesemani* or *G. multisquamata* of 14 or 15 cm length.

There is another preconception to be lifted. *Melanotaenia vanheurni* is not at all colourless. The opposite is the case: adult male show a sunny yellow as basic colour, orange longitudinal lines between the scale rows, a prominent black and blue longitudinal bar and yellow-orange fins with red edges. This species can be recommended for large aquariums. They will have a long life and beautiful colours.

The story continues. In August 2010 the three of us made another New Guinea trip. One of the stops was in a village called Gidomen (3°58.281 S, 139°59.237 E) at the upper Taritatu. The old



Gidomen from above.

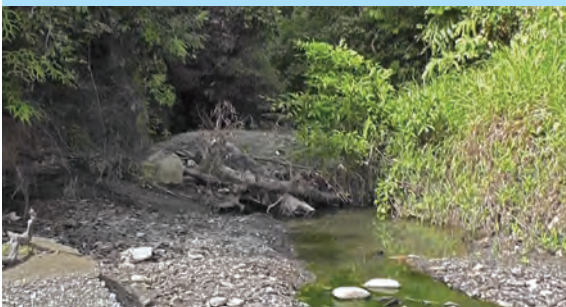
G.L.





Gidomen airstrip.

G.L.



Gidomen Creek. Top-left to bottom-right: upper, middle, lower and end.

J.G.

name "Idenburg River" comes from the Dutch colonialism times. Today this river is called Taritatu and is the eastern affluent of the Mamberamo River. The catchment reaches eastwards up to the border to Papua-New Guinea.

This remote place has an airstrip, but it is rarely approached by bush planes. To my knowledge, collections of fishes have never been made in this area. The small village is outstanding, due to the construction type of the huts used as habitations. Those are build on a circular ground area, which is only known from the highlands huts, but the ...



Gidomen Hut.

G.L.



Juvenile *Gidomen Melanotaenia vanheurni*.

J.G

Gidomen huts have two storeys. As opposed to the habitation huts, the storage huts are built in a rectangular shape. Huts of this shape had never been seen by our native attendants. The river is not far from the village and can be reached by a short walk. Obviously there are no crocodiles in it (so we were told by the native people) and we went for a first snorkeling observation tour. Diving into the cool, silent waters was very refreshing, coming from a heat of 35°C and the ear-battering shrill of the cicada.

In the clear, cool flowing water, we quickly spotted its inhabitants, and as expected, there were groups of *Chilatherina* swimming around. Along the rocky shores, it was easy to catch some juveniles with a seine. We were wondering, is it ... *C. fasciata*, *C. crassispinosa* or a different one? According to Peter Unmack's DNA work, based on tissue samples sent, it is a new species.

Was that all? No other rainbowfishes? Sitting on the banks of the river for a short rest we asked the village people about small blackwater streams or other waters like oxbow lakes and the like. Nothing in the vicinity, was the answer, it should be a one hour walk to a "creek with brown water". If Papuans walk one hour, we walk at least two hours. We had to be back in Sentani before sundown, because the bush planes are not equipped for night-flight.

We were nearly ready to pack and go when we noticed a peculiar area on the opposite side of the river. Almost invisible from far away, there seemed to be something like a dent in the riverbank. So we swam through the river to have a closer look at this place. And there, behind a fallen tree, we found a little creek flowing down from the hills. Immediately, we saw rainbowfishes swimming in the larger pools, which for sure were not *Chilatherina*.

OK, back through the River, get the net, get some buckets, and get some dip nets. We caught only juveniles, but it was clearly a *Melanotaenia* species. We spread out the net in the shallow water, tread down the river right down to a deeper pool, which yielded two or three fish per net swing.





Gidomen *Chilatherina* sp that appears to be undescribed.

J.G.

This took a lot of time and our pilot was getting nervous because it was late afternoon. So we packed up and went on our way back.

My guess that it was *Melanotaenia vanheurni* was confirmed shortly thereafter, owing to their typical body shape. The interesting question is whether they will look like the Faowi type, or show different colours. They are now about 3.5 cm long and show more blue shades than the Faowi type. But this is still a baby size for a *M. vanheurni* and they still wear “camouflage dress”. It will take some time until they show their adult colours. This is one of the amazing things with Rainbowfishes!

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A large wetland section in the Lake Condah area with plenty of water from recent rains. Ridges of volcanic rocks

## BUDJ BIM FISHES

**Rudie H Kuiter**

The Budj Bim National Heritage Landscape covers the Mt Eccles Lake Condah area with several Aboriginal Community-owned properties in southwestern Victoria. During the last week of March 2011, Alison and I participated in the Bush Blitz exploration to this ancient lava flow landscape with the Museum Victoria as members of the group of scientists teaming up with the indigenous land owners.

Bush Blitz is a three-year partnership program between the Australian government, BHP Biliton, Earthwatch Australia and TERN Ausplots, to record flora and fauna in Australia's National Reserve System and involving Australia's top scientists from herbariums, museums and research institutions (see [www.bushblitz.org.au](http://www.bushblitz.org.au)). We were part of the first Bush Blitz in Victoria and the first on Indigenous land with a total of about 40 participants from Museum Victoria, National Herbarium of Victoria and University of NSW, running for 2 weeks divided into week-1 and -2. The 24-strong Museum Victoria team of experts in special fields was led by Head of Sciences Dr Mark Norman. The ichthyology group was made up of Dr Martin Gomon, Di Bray and myself. We joined the 2nd week, whilst Alison Kuiter was taking part in recording our activities with photography of the wildlife, events and also to conduct interviews for community radio with the participants present and our hosts.

The ancient stone country covers about 3,000 hectares over 6 properties, which are managed by the Gunditjmara people as newly declared Indigenous Protected Area (IPA) projects. The Gunditjmara are keen to improve the health of the area. It amazed me to see the evidence of failed settlement in the very harsh and rugged environment, but how awful the degradation caused by the altering of the landscape in those areas and in many areas much of the vegetation replaced by exotic weeds and creatures gone wild. The large swamps were modified with drains and channels diverting water to different areas. Driving the rough terrain was not much faster than walking pace, twisting and turning over or around the rocky ridges and sinkholes. Ideal country for snakes and lizards, and indeed everywhere we went we had to carry snake-bite kits. Our finding of fish was limited to Darlot Creek and nearby wetlands connected to it. No fish were seen or found in any of the sinkholes, some of which were beautifully clear with magnificent plant varieties and lots of interesting insects.

I had only just read about Darlot Creek in ANGFA *VicNews*, April 2011, in the Port Fairy Field Trip Report, and this was nice timing with our exploration further upstream. We began with a quick stop on the section in the Kurtonitj property where we crossed the creek on the way to a large sinkhole in the Muldoons. The water looked fairly clear, but had a yellowish to greenish colour. With my boxnet I soon caught a few *Nannoperca obscura*, *N. australis*, and *Galaxiella pusilla*. I was surprised with the latter because of the fast flowing creek and all individuals caught were male specimens. The recent rain may have washed these down. We put in a few traps that we were going to check on the way out. Traveling onto the Muldoons was through the typical rough terrain of the area. Many gates ...





with bushland in the background.

R.K.



Darlot Creek in the Kurtonitj property. Fast-flowing and the depth is about 1.5 m.

R.K.

Sinkhole in the Muldoons.

R.K.





### ... Budj Bim Fishes

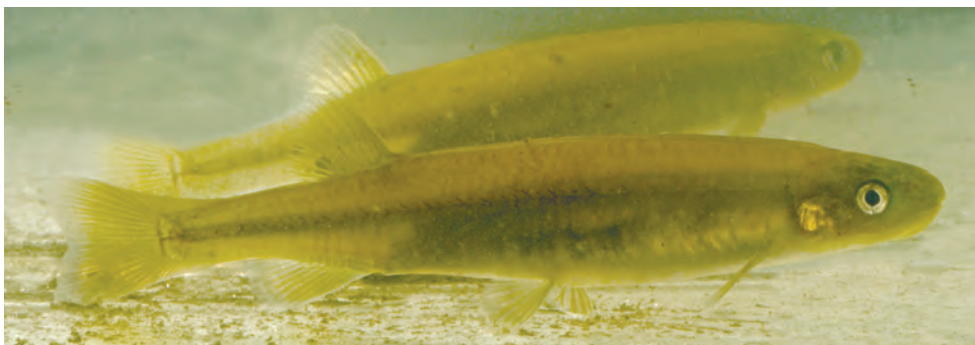
to go through and along a number of fences created by piling the volcanic stones like a wall about a metre or more high. We drove through some large fields of dead prickly thistles and finally got to an open area with the sinkhole. A few people took to the water and geared up with Scuba to take stills and video. The water looked crystal clear, but no fish could be seen or were seen by the divers. I spent most of my time there walking around and photographing insects and skinks. Being interested in wild orchids, I wandered into the bracken on the low ridges, but it was too hazardous with holes between the small rocks covered by weeds and grasses. No orchids could be seen in this unsuitable habitat, but plenty of spiders and a few skinks moving about. The aquatic plant experts had a good time and I was looking forward to see if fish had entered our traps in the creek on our way back.

The first trap showed a single galaxias, but a species which scientifically has not yet been named and it represented the first record for this region. I have always referred to this species as the Hinterland Galaxias and it appears to be widespread in the southern Victoria hinterlands from the Glenelg to the



Dwarf Galaxias *Galaxiella pusilla*. Kurtonitj. R.K.

Seven Creeks systems. It was confused in the hinterland regions with *Galaxias olidus*, *G. rostratus* or *G. maculatus*. A good way to distinguish this species from the latter is by the position of the anal-fin that is further back in relation to the dorsal-fin. I did not expect this species so close to the coast in streams connected directly to the sea. Like the Dwarf Galaxias this species seemed also to be washed down in the recent very strong currents, although this species could easily



Hinterland Galaxias *Galaxias* sp. Kurtonitj. R.K.



Jollytail *Galaxias maculatus*. Kurtonitj. R.K.



River Blackfish *Gadopsis marmorata*. Kurtonitj.

R.K.

swim its way back. The next trap had a good number of galaxias, the sea-going Jollytail *G. maculatus*, a species that was expected to be caught there. This was the first time that I'd encountered the two *Galaxias* species together. The traps were put back in to see if any fish would enter during the night. The people with scuba gear went in and collected a freshwater crayfish to check its identity (*Euastacus bispinosus*), and told me about some other fish they'd seen that were probably tupong.

The next morning, us 'fishos' got going early to check the traps, before heading off with the group. We'd caught some very nice, somewhat unusually coloured, River Blackfish *Gadopsis marmorata* together with countless numbers of *Nannoperca obscura* (some had been eaten by the blackfish) and more *Galaxias maculatus*. However, none of the Hinterland Galaxias I had hoped for. We headed back and I managed to photograph a couple of River Blackfish before heading off again to the next place to explore.

The *Gadopsis* were adult fish, some deeper bodied than others which were thought to be females (as shown above). I had not seen the colour pattern before with such fine mottling and lots of yellow, with some orange on the head, which was on all specimens the same. As specimens I'd seen from the nearby Glenelg area and in South Australia look very different, this population warrants checking out.

...



*Nannoperca obscura*. Kurtonitj.

R.K.



*Nannoperca australis*. Kurtonitj.

R.K.



View from Lake Bridge, upper part of Darlot Creek near Allambie.

R.K.

Yarra Pygmy Perch *Nannoperca obscura* was particularly common in the locality with the Southern Pygmy Perch *N. australis* present in low numbers. The fast flows of creeks is less favoured by the latter species. *N. obscura* were uniformly coloured as shown in the images on the previous page. Some specimens looked somewhat like *N. variegata* and could be misidentified when in the net and returned to the water. In such cases it is best to check the dorsal fin spines: in the Ewens Pygmy Perch *N. variegata* the third spine is distinctly the longest, whilst in *N. obscura* the second spine is longest. Visually checking is best done by putting them in a plastic bag with water for easy viewing.

No tupong were collected, but the description given by the divers of fish seen on the bottom, size, shape, colour and behaviour, one could confidently conclude that these were this species. Eels were reported by the rangers, but none were seen or collected. In several areas the eel traps constructed many years ago by the Aborigines also confirmed their presence, and this species would be the Shortfin Eel *Anguilla australis*. It was a nice surprise not to encounter any exotic species in this area.

The next area to be explored was Lake Bridge, much further upstream, well before much of the water was diverted to farm land and the creek was fed by the Condah Drain, a channel carrying the run-off from a vast swamp region. The flow was moderate and most of the flow was in a relatively narrow central part with the banks covered by vegetation that expanded far into the stream as shown in the image above. Large galaxiids could be seen swimming in the fastest flows of the creek and these were clearly fully grown *Galaxias maculatus*. A group in a more sheltered section near the bridge were smaller and stockier, looking more like the Hinterland Galaxias, which later proved to be the case. Every drag with my boxnet along the weedy banks produced large numbers, about thirty or more, ...





Tench *Tinca tinca* from Lake Bride, at the upper part of Darlot Creek. A very cryptic rarely observed species, and only juveniles were caught. The one shown in the image above was the largest with a total length of about 12 cm and those on the right about 5 cm long. According to our ranger guide 'Plugger' Tench are more common in the lakes, where they are occasionally caught on lines. The usually easier found Carp and Goldfish were not seen and appear to be absent in the region. R.K.



Hinterland Galaxias *Galaxias* sp. Darlot Creek, Lake Bridge. Below: with black nematodes

R.K.



### ... Budj Bim Fishes



*Galaxiella pusilla*. Darlot Creek, Lake Bridge. Females on the left and males on the right.

R.K.



*Nannoperca australis*. Darlot Creek, Lake Bridge. A few of the large individuals, about 6 cm TL, that entered traps in great numbers.

R.K.

of Dwarf Galaxias *Galaxiella pusilla*, and the vast majority of them were females, whilst the males were not anywhere near as colourful as the males from much further downstream in the Kurtonitj locality (where only males were found). Lots of Southern Pygmy Perch *Nannoperca australis* were present in juvenile as well as adult stages, but no Yarra Pygmy Perch *N. obscura* were to be seen. As we were heading to another site, some traps were put in for checking on the way back.

The following site was a large shallow lake which was not suitable to try to fish. Wind was coming across filling the shallow water with thick algae and we headed back to the place we had set the traps. After the relatively short time they contained an enormous number of the Southern Pygmy Perch, but one had about six of the Hinterland Galaxias and another several of the 'giant' Jollytail. We decided to set the traps again and our guide 'Pluggger', who had good knowledge of the larger fish, took us to an area further upstream, a straight man-made channel. Plenty of *Galaxiella* again and some Southern Pygmy Perch. For me the highlight at the site was finding two large Hawkmoth caterpillars.

We went back to base from there, but I was worried to leave the traps overnight as they had so many pygmy perch in it, and from just being a few hours in the water. We decided to go back before dark and check them out. Sure-enough, the number of pygmies in there was amazing and I was glad that we could release them as healthy fish. However, to my surprise we also had quite a few juvenile Tench *Tinca tinca*, and also some more Hinterland Galaxias. The latter individuals looked different from the ones we had caught earlier in the same spot and we got excited at first, but the dark colouration was caused by nematodes like you often see in *Galaxias olidus* in the more muddy streams. Again with such great numbers of Pygmy Perch in the traps, we decided not to leave the traps overnight.

The other site of interest was Tyrendarra IPA, south from the Woolsthorpe Heywood Road, and Darlot Creek was running there very strong. We first drove into the area on the roughest road I'd ever been on, that ended on the edge of a large swamp. We were there to check the Fitzroy River running along the far side. It was a long way from where we parked and a habitat favoured by Tiger Snake. Our guide Mat insisted we carried the Snake Kits with us and I should mention the tiger leeches ...





*Litoria ewingii*. Sitting at about 1.5 m above the ground in the early morning sun.

R.K.



*Galaxiella pusilla*. Fitzroy River. Male on the left and female on the right.

R.K.



*Gambusia holbrooki*. Fitzroy River.

R.K.

*Galaxias maculatus*. Lower Darlot Creek.

R.K.



*Nannoperca obscura*. Lower Darlot Creek.

R.K.



*Philypnodon grandiceps*. Lower Darlot Creek.

R.K.

*Nannoperca australis*. Lower Darlot Creek.

R.K.





An informative gate, but check the box (inset) supposedly containing the snake bite kit.

R.K.



Caddisfly. Darlot Creek.

R.K.

that were everywhere in the region, many people took little bags of salt with them. I think everyone got bitten at some stage. It was cool in the morning and we did not see a snake until near the river, just one Tiger Snake. The Fitzroy River was disappointing with lots of algae and the Pestfish *Gambusia holbrooki* present in large numbers. Still a few Dwarf Galaxias and both species of pygmy perch. A large Copperhead Snake crossed from the other side of the river, straight in my direction and I thought it was an eel at first. I did not recognise it straight away as a species, as the whole snake was orange and dusky on top of the head, which is different from those living in my area (Mornington Peninsula). It stayed near my bucket for a while and when I came back some time later it was gone. My only regret was not having the camera with me, but the site was too far from the car to carry other things than the collecting gear. The highlight of this stop was a few brown tree-frogs positioning themselves high in the grasses for the early sun, taking-in the important UV for obtaining certain vitamins (D3). After a short break and a long drink, as in the meantime it got hot, we headed back to Darlot Creek to check this site out for fish. In contrast to the morning stop, a nice bridge (above) made work very easy.

At the edge of the creek some interesting caddisfly with very long-antennae were flying about. I had seen a few



Glenelg Freshwater Spiny Crayfish *Euastacus bispinosus*. Darlot Creek.

R.K.

in other places, but here there were many and more easily approached, and I managed to get some images. The first fish I caught near the bridge was a Flathead Gudgeon *Philypnodon grandiceps*, but it was the only one we got. With some rocks there, it maybe one of the few spots out of the raging currents. There were lots of *Galaxias maculatus* swimming in schools, large and small, some just getting out of the juvenile stage being very slender. We collected a few pygmy perch (both species), few Dwarf Galaxias, and unfortunately some pesty *Gambusia*. This site is not far from the sea, 15 km in a straight line and no doubt many of the estuary species would move in when the current is less severe.

Other spots were difficult to access, some with high banks and others because of the thick scrubs. Near the Mission Site, our base, the water flowed slowly in the creek as much of the water was diverted for farming uses. We found a nice large crayfish there that was covered by the symbiotic temnocephalids. The crayfish was identified as the Glenelg Spiny Freshwater Crayfish *Euastacus bispinosus*. Besides the common freshwater shrimps, another decapod which turned up in the more sheltered spots was the freshwater crab *Amarinus lacustris*. Small bivalves were also found in the sheltered spots where many empty shells were along the edge of the stream, and probably eaten by rats. On rocks, that made rapids in the shallow slow part of the stream, large part of the rocks were covered with ...



*Amarinus lacustris*. Darlot Creek.

R.K.



Caddisfly larvae. Darlot Creek.

R.K.



Dragonfly larvae. Darlot Creek.

R.K.





*Euastacus bispinosus*. Darlot Creek. Numerous temnocephalids present on the large claws.

R.K.

freshwater sponges and I would have loved to photograph this, but I did not have a camera with me! I did not get a chance to get back to this site ... maybe next time.

### Summary

I was pleasantly surprised to see so many native fish and so few of the exotics in Darlot Creek. The Dwarf Galaxias was abundant in the low flow sections, despite other fishes present that potentially prey on them, but dense vegetation and low temperatures of about 15°C or less makes the habitat ideal. The coolness and rapid increase in flow of the creek are probably the main factors of keeping the pestfish *Gambusia* out. The volcanic substrates through which Darlot Creek runs may support a lot of water that is visually hidden and contribute to keeping the water cold. The Fitzroy River may not be as fortunate in this regard. The Tench present in the upper Darlot Creek is unlikely to cause any problems. This species can attain a total length of about 40 cm and adults are mainly found in muddy still waters, feeding on all kinds of things, including algae, which maybe beneficial for the system. Finding the Hinterland Galaxias was a very nice bonus, extending its known geographical range and habitat information.

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