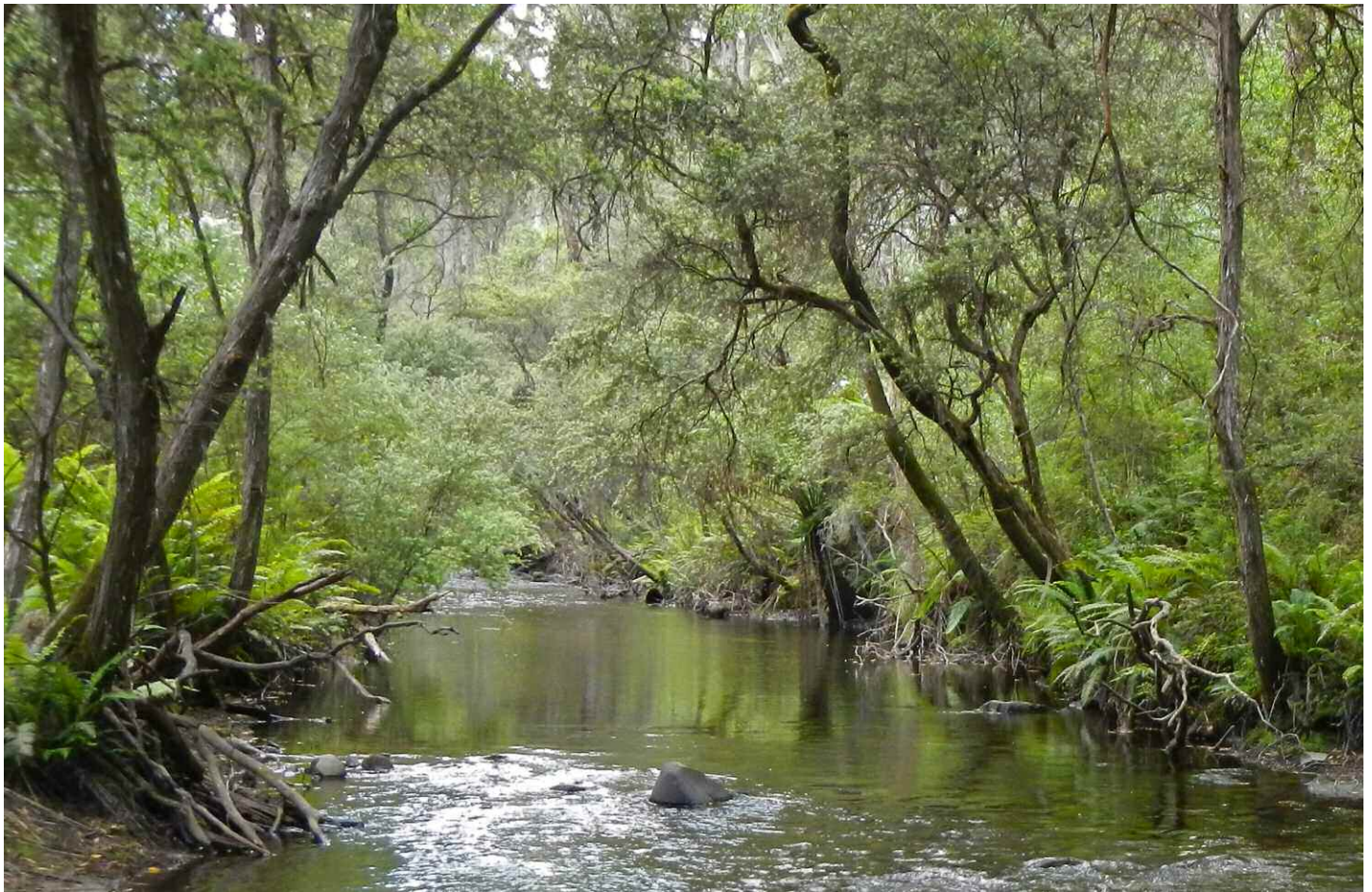


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The Spotted Tree Frog, *Litoria spenceri*, a frog in crisis. Meet Matt West, our October 2015 guest presenter



Typical Spotted Tree Frog habitat in the central highlands of Victoria and also a favoured trout habitat.

Photo: Kwai Chang Kum

Matt West, our main presenter for the October 2015 club meeting, will talk about his investigation into the roles of introduced fish and disease in the decline of Spotted Tree Frogs. These are one of Australia's most well studied frog species, now with more than 25 years of targeted research and 55 years of observations. Matt has been conducting mark-recapture and broad scale surveys over the last 7 years building on the extensive research base in order to develop optimal conservation strategies to protect the Spotted Tree Frog.

Matt has been working in and studying wildlife management over the last 19 years, including a Masters in



Matt West. Photo: Kwai Chang Kum



The Spotted Tree Frog *Litoria spenceri*. Photo: Matt West



Spotted Tree Frog with *Chytridiomycosis*. Photo: Matt West

Reproductive Biology as well as time spent in private wildlife consulting and at Zoos Victoria managing and breeding threatened species. He is currently completing a PhD on frog declines in the Quantitative and Applied Ecology Group at the School of BioSciences, University of Melbourne.



Juvenile Brown Trout *Salmo trutta*. Photo: Rudie Kuitert

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Letter from the editor



I'm looking forward to Matt West's presentation at the next meeting as he will be expanding on his work with the Spotted Tree Frog which he has been surveying for some time, often with Kwai.

The field trip files articles are a bit different in this edition: instead of being fish-centric, there is a focus on the smaller animals that inhabit the same water. The ANGFA VIC planned field trip to Balcombe Creek in Mornington in August was cancelled at the last minute due to bad weather, so I used a field trip to the Werribee River as material for this edition of our magazine.

Also included is an article by John Cousins on ANGFA VIC's successful stand at the Melbourne water Expo at the Melbourne Museum.

There is a promo for the next field trip where we will be surveying for fish, crayfish and macroinvertebrates. This will be held at the upper Diamond Creek in St Andrews on 14th November 2015.

In addition there is a short article on a Handfish that inhabits the cold waters of Tasmania that scientists are considering captive breeding to ensure it has a chance of survival.

Lastly there is a reminder of the ANGFA National Convention in Port Macquarie in late October.

Enjoy reading this edition.

Greg Martin

President's Report October 2015



Welcome to the October 2015 edition of VICNews. This time of year is a great time for native fish keepers and anyone who loves nature as the weather is warming up, the days are getting longer, orchids are flowering in the bush and our local freshwater fish are spawning as their water becomes warmer.

There is a lot going on in ANGFA too as we head for Christmas. There is the National ANGFA Convention on **23rd to the 25th October** in Port Macquarie, which many of us are attending. I strongly recommend making the effort to go if you can as it is always a great weekend. Aussie fish fanatics come from all over the country and there are lots of opportunities to meet and chat to people who might normally be difficult to pin down because of their busy schedules. The presentations are always well prepared and cover topics that are of great interest to lovers of our native Australian fishes and aquatic habitats.

On 14th November 2015 we have confirmed that we will be running a field trip to the upper Diamond Creek in St Andrews; details are in the promo on page 18.

On 19th to 22nd November 2015 there is an opportunity for anyone who is interested to participate in Tasmania's first BioBlitz in the Tarkine wilderness. The organisers are The Bob Brown Foundation and they are currently recruiting scientists, naturalists and enthusiasts to participate. Greg Martin and John Lenagan have registered interest in attending and think it is most certainly a golden opportunity to show ANGFA's willingness to be part of something that includes sampling "local" waterways. Greg is hoping to see and photograph the Tasmanian giant freshwater crayfish *Astacopsis gouldi*. For more information cut and paste this web address into your search engine:

www.bobbrown.org.au/?e=5a1a6bcf0ed6a110a34189c445e90783&utm_source=bobbrownfoundation&utm_medium=email&utm_campaign=bioblitz&n=3

Last, but not least, we look forward to Matt West as our October guest speaker. I have worked with Matt on numerous occasions in the field collecting and swabbing Spotted Tree Frogs for evidence of the Chytrid fungus - a disease - threatening this species as it does so many frogs. Matt's presentation promises to be a really interesting talk as he will also examine the role introduced fishes are having in the demise of this beautiful little frog.

See you at the meeting!

Kwai

The Field Trip Files: Site 1: lower Werribee River

16th September 2015



The lower Werribee River at Bungees Hole, Chirnside Park looking upstream from the small weir behind the bowls club. Swarms of *Daphnia* and a surprising variety of macroinvertebrates were present at this site. *Photo: Greg Martin*

Saturday 16th September 2015 was lovely weather for spending the day dip-netting for aquatic animals and, as our pre-planned ANGFA Vic field trip to Balcombe Creek in Mornington on Saturday 29th August was cancelled due to a weather report warning of possible flooding in creeks and rivers to the south east of Melbourne on the day, I was delighted to be getting back into the field.

Kwai and I had attended the Melbourne Water Waterwatch Waterbug weekend course on the weekend of the 22nd to the 23rd of August to learn more about identifying freshwater macroinvertebrates. It was a great week-



The Werribee River downstream of the small weir at the same site. This was the first site sampled. *Photo: Greg Martin*



Priya Crawford-Wilson shows us her technique for sampling a the riffle for aquatic animals. *Photo: Greg Martin*

end and with our newfound knowledge we aim to add more to our ANGFA Vic field trip data collection, and to perhaps generate a wider interest in what our field trip attendees are likely to find when dip-netting.

The lower Werribee River at Bungees Hole, was our first site and gave us the opportunity to put into practice what we had learned on our weekend spent with John Gooderham and Eddie Tsyrlin, authors of the Waterbug Book. Priya Crawford-Wilson, a Waterwatch coordinator with Melbourne Water had invited us to attend a day sampling two different sites and the Werribee River proved to



It is always exciting looking into a bucket of freshly caught aquatic animals. *Photo: Greg Martin*



Priya explains that each of us was to carefully transfer the macroinvertebrates, "from here and here into these ice cube trays". *Photo: Greg Martin*



In each tray was everything that came up with the net: algae, sticks, gumnuts (that look a lot like snails) and other plant material. *Photo: Greg Martin*



Fred picks through his tray. *Photo: Greg Martin*



Picking through the trays takes concentration and a steady hand. 30 minutes was allowed, but if we found something interesting the time allowed was extended by 5 minutes.

Photo: Greg Martin

Left: Priya takes a closer look at a small animal; sometimes the distinguishing features are so small that you need an eyeglass or small lense to see enough detail. *Photo: Greg Martin*



Damselfly larvae (order Odonata). Note the 3 leaf-like terminal gills held vertically at the end of the body. This is a key distinguishing feature from Dragonfly larvae which do not have terminal gills. *Photo: Greg Martin*



A caseless Caddisfly larvae at the bottom left of the photo (Family Hydropsychidae) *Photo: Greg Martin*



A glass shrimp *Parataya australiensis* (Order Decapoda, Family Atyidae). *Photo: John Lenagan*



Above and below: two segmented worms (Class Oligochaeta) *Photos: John Lenagan*



A flatworm (class Turbellaria - non-parasitic worms) possibly of the genus *Dugesia*, a common flatworm found in freshwater habitats of Africa, Europe, Middle East, Asia and Australia. These flatworms have a couple of eyes constituted by a multi-cellular pigmented cup with many retinal cells to detect the amount of light in the nearby environment. Sometimes they present supernumerary eyes.

At the anterior part of the body, behind the eyes level, they have two of structures called auricles that give the triangle look to the 'head' and that allow them to detect the intensity of water current.

In *Dugesia* the ovaries are ventrally situated, they start just behind the brain, usually at the level of the fourth intestinal branch. *Source: Wikipedia.*

Photo: John Lenagan



A blood worm which is actually a fly larvae (Order Diptera, Family Chironomidae) *Photo: John Lenagan*



An introduced Planorbidae snail *Physa acuta* from the USA. The mottled patterning visible through the shell is an identifying characteristic of this animal. *Photo: John Lenagan*



A water mite (class Arachnida). These animals are often seen as little bright red dots moving through the water when we are sampling for fish. As a type of arachnid, they are closely related to spiders, scorpions and ticks etc. *Photo: John Lenagan*



Most *Daphnia* species have a life cycle based on "cyclical parthenogenesis", alternating between parthenogenetic (asexual) reproduction and sexual reproduction.

For most of the growth season, females produce a brood of eggs every time they moult; these broods can be as few as 1–2 eggs in smaller species but can be over 100 in larger species.

Under typical conditions, these eggs hatch after one day and remain in the female's brood pouch for around three days. They are then released into the water and pass through a further 4–6 instars over 5–10 days (longer in poor conditions) before reaching an age where they are able to reproduce

Source: Wikipedia.

Photo: John Lenagan



Amphipods are found in nearly all marine and freshwater habitats and different types are particularly important as herbivores, detritivores, micropredators and scavengers.

Photo: John Lenagan

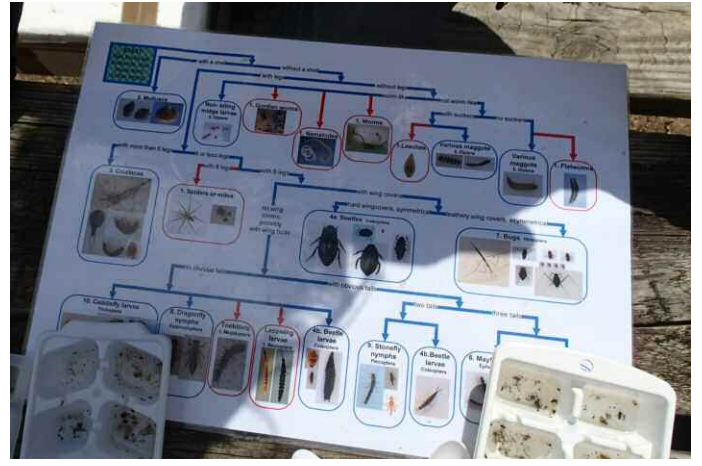
be an excellent choice.

John Lenagan joined Kwai and I for the sampling of the first location and took some photographs of what we found, including some great photos of a female White-eyed Duck (*Aythya australis*) seen swimming on the pondage upstream of the sample site.

Before we got started Priya explained to us that the standard Melbourne Water Waterwatch procedure was to look at the sample site, noting the different habitat types (for example deeper water, reed bed or riffle) then divide



Although we were targeting macroinvertebrates, we did find a lone fish, a juvenile *Galaxias maculatus*. *Photo: J. Lenagan*

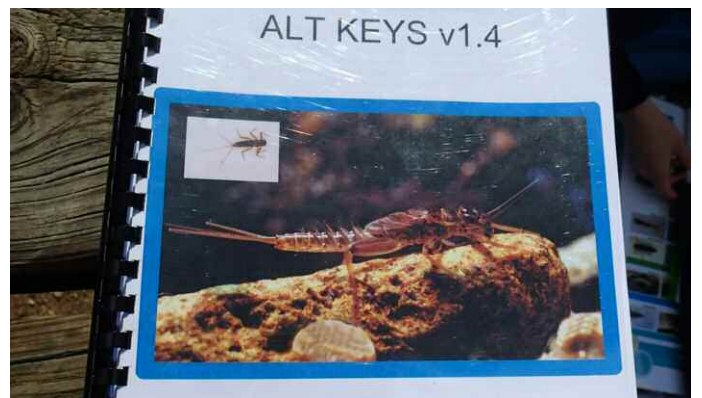


Clockwise from above: Priya shows us how to use the pre key chart to find which family the organism belongs to.

The Melbourne Water Waterwatch waterbug chart.

ALT KEYS v1.4, the 'Bible' for Waterwatch surveying which has a very quick key to enable fast identification of organisms found.

The final step: keying-out what had been sorted out into the ice cube trays, and assigning a score to the animal. The scores help in determining the health of the waterway and were recorded by Priya to be included in the Melbourne Water Waterwatch database. *Photos: Greg Martin*





Attendees at the first site. From left to right: Kwai, Katrina, Priya, John and Fred. *Photo: Greg Martin*

the various types of habitat proportionally according to area taken up into a 10 minute sample period. To clarify this: the first site was downstream of the small weir and consisted of a riffle, an area of reeds and a small section of deeper water so the time spent sampling was divided in to 4 minutes in the riffle, 4 minutes in the reeds and 2 minutes in the open water.

When Priya had finished demonstrating her sampling technique to us we all headed back up to the picnic table to set up the various pieces of equipment needed to sort, analyse and identify the samples: white lab trays, icecube trays, magnifying glasses, pipettes, plastic spoons and eye glasses. The samples were decanted from the bucket into 4 white lab trays and placed on the table. Next we carefully picked out animals from the trays, using spoons or pipettes and placed them in the icecube maker's compartments in like-groups. 30 minutes is the Waterwatch standard to complete the task, however if we found anything unusual our picking time was extended by 5 minutes per unusual discovery.

When everyone had the sorting task completed we were ready for the final phase - identification of the organisms. For this Priya produced a booklet called "ALT KEYS version 1.4". This key, written by John Gooderham and Eddie Tsyrlin, allows one to achieve identification down to the family level of all the target organisms when used carefully and correctly. And so the process began...

After much head-scratching and memory wrenching we began to note down the various identifications of what we had picked from the trays: Daphnia, Water mites, Chironomid worms, Beetle larvae, flat worms, Damselfly

nymphs, Amphipods, a juvenile Galaxias and at least 2 types of snails. Each animal when identified to the family level was assigned a scoring number from the Waterwatch records sheet which gave us an indication of the health of this part of the Werribee River.

Kwai and Greg at the Water bug weekend course



Kwai studies aquatic macroinvertebrate identification at the Melbourne Water Waterwatch Waterbug course held on the weekend of the 22-23rd August 2015 at Monash Uni. Both Kwai and Greg Martin attended the course to increase their knowledge of the macroinvertebrates that can be found in our waterways with the aim of value-adding to field trips and also eventually providing information back to Melbourne Water's own database from data that we collect in the field. Thank you Richard Akers and Priya Crawford-Wilson for the opportunity to attend this great course.

Photo: Greg Martin

The Field Trip Files: Site 2: upper Werribee River

16th September 2015



The Werribee River, at Meikles Point picnic area at the end of Myers Road, looking upstream.

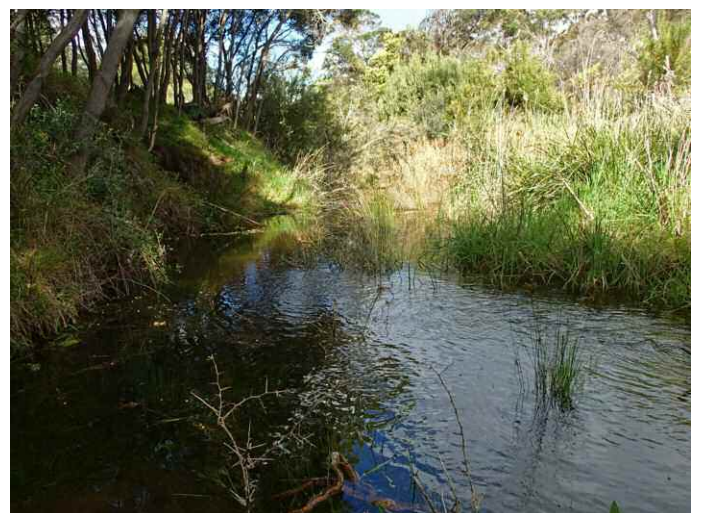
The second site, accessed at the end of Myers Road off the Pentland Hills Road in Werribee Gorge, was very different. This part of the Werribee River is almost “pristine” with very clear cold water and, on the day we were there, a strong current as Melbourne Water were transferring water from the Pykes Creek Reservoir to downstream holdings.

The streamside vegetation at our sample site consisted of reeds, wattles and other intermediate shrubs, with lots of in-stream habitat in the way of a substrate of medium sized rocks and trees that had been washed down the river in some previous flood event. The water was bracingly cold, even in new fleecy-lined waders, and flowing strongly.

Priya immediately commenced sampling, dividing her focus between the edges and the main river, whilst I focused mainly on the rocks in the main body of the river. I was determined to find a Spiny Crayfish and, balancing my net between my knees and one hand in the strong current, I positioned my net just downstream of where I was turning rocks over to flush out anything living beneath. The first thing of interest that came up in the net was a Dobsonfly larvae (Megaloptera - see photo on page 13). This amazing animal was something I had never seen before. Priya told us later that they are not often seen. Finding this animal was a good start! Whilst I persisted with my mission to find my Spiny Crayfish I found lots of Dragonfly larva from two different families.

As the Melbourne Water Waterwatch standard sampling time is only 10 minutes, it felt like “no time at all” before Priya had collected enough from our second site.

Whilst the white trays, ice cube trays, pipettes, magnifying glasses and identification books were unpacked from the vehicle and set out on a picnic table, I optimistically pushed on in my search to find an exam-



As the river level was high there was a lot of flooded vegetation and many Common Froglets *Crinia signifera* were heard calling. We found several very small tadpoles that had just hatched from the eggs and were most probably from this species.



The Werribee River at Meikles Point picnic area looking downstream.

ple of the form of the Yarra Spiny Crayfish *Euastacus yarraensis* that lives in the Werribee River system. Within a reasonably short amount of time I had one!; only a juvenile but a Spiny Crayfish none the less. With great excitement I re-joined the group with my addition to the species count.

As we carefully sorted the catch into ice cube trays of 'like' groups, it became clear that the macroinvertebrates present at this site were quite different from

those found earlier in the day in the lower Werribee River. There were no Daphnia, no Chironomid worms and no Copepods or Amphipods (at least in our sample). Instead there were Megaloptera, the Spiny Crayfish, Mayfly nymphs and free-swimming Caddisfly larvae.



Priya sampling along the line of reeds.



The river bed is very rocky here, providing a lot of habitat for Dragonfly larvae and other macroinvertebrates.



Photos above and below: The underside of a rock showing a freshwater sponge. Sponges attach themselves to rocks and logs and filter the water for various small aquatic organisms such as protozoans, bacteria, and other free-floating pond life. Unlike marine sponges, freshwater sponges are exposed to far more adverse and variable environmental conditions, so they have developed gemmules as a means of dormancy. When exposed to excessively cold or otherwise harsh situations, the sponges form these gemmules, which are highly resistant "buds" that can live dormant after the mother sponge has died. When conditions improve, the gemmules "germinate" and a new sponge is born.



Kwai sorts macroinverts into like-groups before placing them into the partitions of the ice cube tray for identification into families.



Juvenile Yarra Spiny Crayfish *Euastacus yarraensis*. This is a red form that inhabits the Werribee River system.



A Dobsonfly (Megaloptera) larvae.



Photo showing the 3 mesal carpal spines located before the claw on this animal.



Dragonfly larvae from the family Telephlebiidae.



Head detail of the Yarra Spiny Crayfish. Even as a juvenile this animal is showing spines.



Dragonfly larvae from the family Gomphidae



A Mayfly nymph from the Family Leptophlebiidae (Order Ephemeroptera).

Note the paired gills along the sides of the abdomen.

Wing buds are (just) visible on the thorax.

Mayfly nymph abdomens terminate in two or three (as in this example), slender thread-like projections.

When found sampling Mayfly nymphs are allocated a high score and their presence indicates a clean, unpolluted environment.



'Free-living Caddisfly - the Gingernuts'

Over the next 45 minutes we sorted the animals into like-groups, placing them into the compartments of the ice cube trays and then set about identifying them down to family level. Each macroinvertebrate family has a number "a score" if you like that indicates the type of environment the animal needs to survive in. As one can probably guess by the difference between the two environments sampled, the total score for the second site was higher than the first site.

Too soon the shadows were lengthening and it was time to pack up and head back to the big smoke. Working alongside Priya and Katrina was a fabulous introduction for Kwai and I to applying what we had learned in the classroom to the real (outside) world. It will take many field trips and lots and lots of practice to get my head around the myriads of different macroinverts found in our local waterways, but already my eyes have been opened to a whole new world that exists right where we have been sampling fish for years!

Text and photos by Greg Martin



Varnish and Golden Wattles put on a great show at this time of year in Werribee Gorge.

Red Ironbark, Grey Box and Manna Gums make up the Eucalypt flora with Wedge-leaved Hopbush, Snowy Mint Bush, Groundsel, Bush Peas and Ferns making up the understory. Interestingly, White Cypress Pines are found here as well, being usually found north of the Great Dividing Range.

ANGFA VIC at the Melbourne Water Expo Melbourne Museum, 30th August 2015



Roberto D'Andrea of Connies Collectables shows a crowd of gathered children his cards depicting various animals and fishes of conservation or other interest, including the Dwarf Galaxias *Galaxiella pusilla* on display in the smaller aquarium.

Roberto was incredibly good at engaging children (and adults alike) and everyone wanted to collect the whole set of his cards!

Greg and I (late as usual) got a plaintive text from our President: "Are you guys coming?" We could imagine him there in our exhibition space standing alone behind a bare table. His need for reassurance was quite understandable. But we were on the way, complete with banner, handouts, membership forms, fishtanks, lights and fish.



Kwai, Janelle and Archer help set up the display aquariums.



Our two display aquariums: *Galaxiella pusilla* on the left and *Nanoperca sp.* from East Gippsland on the right.

We had a 50 litre tank for the 10 Pygmy Perch from East Gippsland (probably going to be a new species) and a nano tank for the *Galaxiella pusilla*. The Pygmy Perch were experts in disguise but fortunately the banner had a photo of one on it, so we often had to say "imagine you can see one of those swimming in the tank".

On the other hand the Dwarf Galaxias understood their responsibilities and were quite visible. We were able to explain that these are unquestionably the best fish for ponds if you want your tadpoles to survive, but they are only available to members. It will be interesting to see if



Kwai explaining that there is a difference between normal Southern Pygmy Perch *Nanoperca australis* and the East Gippsland variety *Nanoperca sp.* we had on display, and that they may end up being a new species or sub-species.

that prompts an increase in membership. We are not able to sell these fish, so anyone involved in breeding them for the club has a larger than average dose of altruism. Maybe we should ask the venerable Coatsey to come & explain how the breeding program is easily managed?, and maybe we should encourage (how?) more members of the club to be breeding them.

During the Expo (we were only there till 1 pm) we rarely had a moment when at least one of us wasn't involved in discussions with the public, and we were bolstered in our efforts by our Vice President and son Jake. It was a beautiful sunny crisp Melbourne morning out talking fish with an enthusiastic audience. What's not to like? We even got an invite to speak at a local conservation group! We were also supported by Kwai & Janelle who understand the inner needs of the spruiking man. Thank you. I should also mention that there was a man there with 'the gift of the gab' who was surrounded by kids. He was explaining environmental issues to them in a most compelling manner: Gary just couldn't get Jake to leave. Have a look at



Richard Akers from Melbourne Water's Waterwatch looks at the *Galaxiella pusilla* display.



Lots of people had a story to tell and this lady was entertaining Cuz and Kwai describing something she had seen in the bush.



It was wonderful to see young people taking a real interest in what we were displaying. This young boy read through the sample VICNews very carefully and took various ANGFA sheets away with him.

I believe a strong future for ANGFA lies in introducing children at an early age to our local fishes through displays like this supplemented with colourful take-away pamphlets that are engaging and collectable.



We had colourful promo material layed out on the table for people to take home. This material, along with the display aquariums and ANGFA banner, was a great way of engaging people.



Another shot of Roberto “teaching” the kids about our local fishes.

www.connies.com.au. He might be someone else we could get to talk to us about his environmental evangelism.

So another good event for ANGFA Vic and a special thanks to Greg for providing the hardware, storing all of the stuff, etc. etc.

Words by Cuz.
Photos by Greg Martin



Roberto D'Andrea explains to Kwai that our own ANGFA cards can be printed depicting whichever species we choose. Each card includes a blurb about the animal on the back. If ANGFA VIC did go ahead with this idea, we could focus on key species whose conservation status we need to bring to the attention of the public at events like this one.



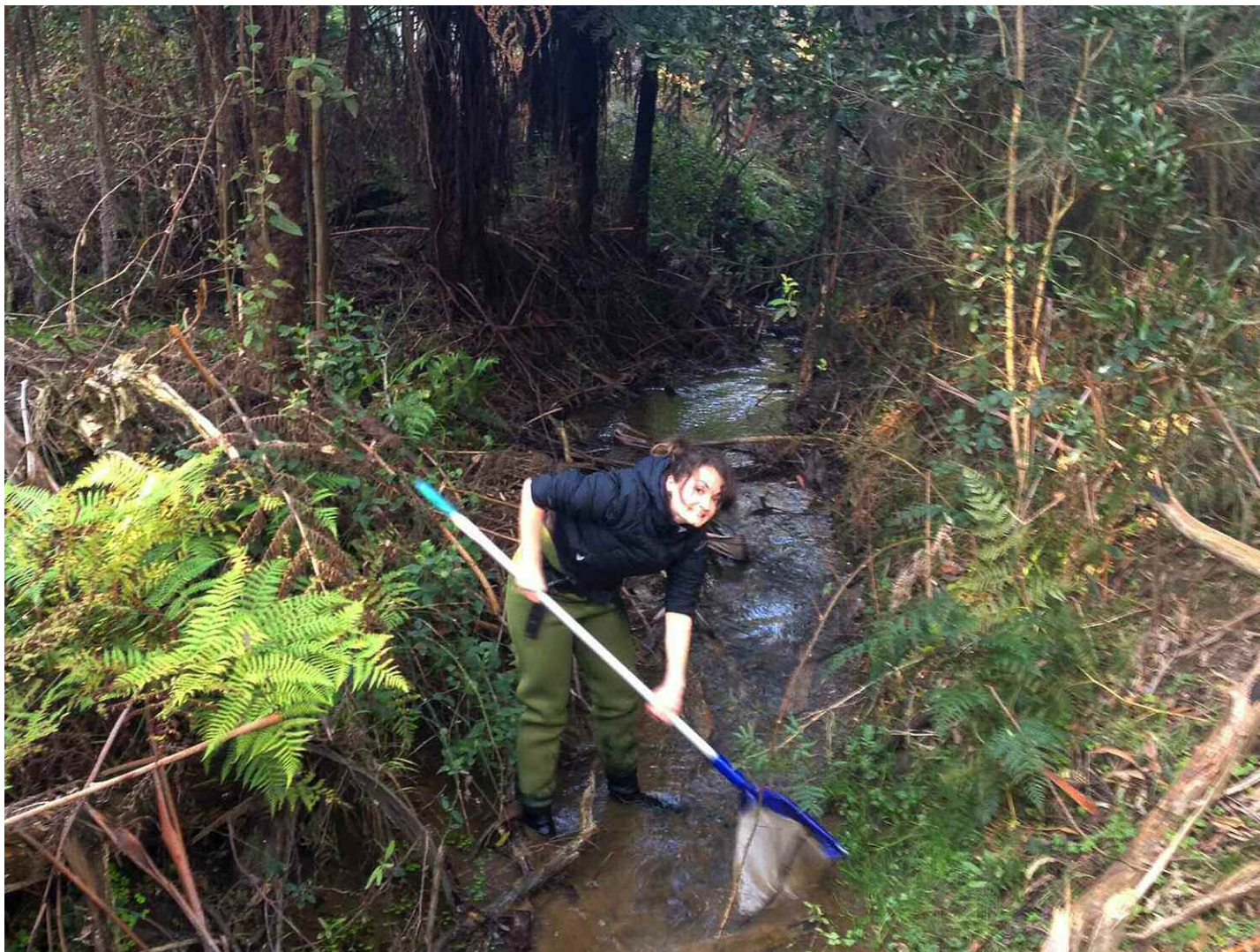
ANGFA VIC has recently been forging an alliance with Richard Akers and Priya Crawford-Wilson, Waterwatch coordinators with Melbourne Water.

Our hope is that, as a club we can offer a more comprehensive experience for our members on our field trips by surveying for macroinvertebrates as well as fishes and crustaceans. Also, once we get the hang of the required sampling techniques, our survey data can be submitted to Melbourne Water to broaden their reach.



The *Nanoperca sp.* were very good at hiding amongst the rocks and plants and required a good close look to catch a glimpse of what they looked like.

Field Trip to the upper Diamond Creek at St Andrews Saturday 14th November 2015



Priya Crawford-Wilson from Melbourne Water's Waterwatch samples the location we will visit on 14th Nov 2015
Photos courtesy of Melbourne Water

Where? 145 Ninks Road St Andrews - It is a long property and we will park 1km further on from the 145 letter-box to access the creek.

When: at 10am.

What to Bring: Waders, hat, sunglasses, buckets, nets, field tanks and cameras.

What can we expect to find on the day? *Galaxias olidus*, Blackfish *Gadopsis marmoratus* and (hopefully) Spiny Crayfish.

Remember: ANGFA Victoria field trips are run on a catch, photograph then release basis. We do not sanction the taking of fish from the wild.

We can have lunch at **A Boy Named Sue** in St Andrews afterwards - the food and coffee is good!

See you there,

Greg Martin and John Lenagan
0407 094 313 0413 730 414



ANGFA Convention 23rd to 25th Oct 2015

Mega Auction fish list



Ornate Rainbowfish *Rbadinocentrus ornatus*. Photo: Neil Armstrong

Attending an ANGFA Convention Fish Auction is always a highlight for anyone with a strong interest in aquarium fishes native to Australia and New Guinea.

The auction at this year's Port Macquarie convention (October 23-25) promises to have a great representation of aquarium fishes native to Australia and New Guinea, plus various Australian native shrimps and aquatic plants! The auction fulfills several important roles: firstly as a fund raiser for ANGFA's publications, secondly to help disperse rare species to keen native fish enthusiasts: it is your best opportunity to source a wide array of Australian/NG fishes and other aquatic species that are rarely (or virtually never) available in the aquarium hobby.

The wide array of species presented is thanks to a network of ANGFA supporters and members from all parts of Australia.

The auction will be held late Saturday afternoon during the convention, so start planning to have some tanks ready for your beautiful new fishes!

ANGFA Convention Auction
Sails Resort Port Macquarie
Auction Start time 3pm, expected finish approx. 6pm

(For anyone considering bringing goods along to be auctioned, please note the auction is primarily for Australian-New Guinea aquatic plants and aquatic livestock species. Limited amounts of non-native species will also be accepted (and donations of non-native species are also accepted). Commission to ANGFA is 20% for non-donated goods.)

Species currently expected/promised to be available at the 2015 Port Macquarie Convention Auction include:



Purple Spotted Gudgeon *Mogurnda adspersa*.
Photo: Gunther Schmida



Honey Blue-eye *Pseudomugil mellis*
Photo: Neil Armstrong

Blue-eyes

- Pseudomugil connieae* Popondetta Blue-eye
- Pseudomugil furcatus* Fork Tail Blue-eye
- Pseudomugil gertrudae* Spotted Blue-eye Cadell River NT
- Pseudomugil gertrudae* Spotted Blue-eye Eurum Creek
- Pseudomugil gertrudae* Spotted Blue-eye Eubanangee Swamp FNQ
- Pseudomugil gertrudae* Spotted Blue-eye Iron Range FNQ Golden form
- Pseudomugil mellis* Honey Blue-eye
- Pseudomugil signifer* Pacific Blue-eye Amamoor Ck
- Pseudomugil signifer* Pacific Blue-eye Little Mulgrave River FNQ
- Pseudomugil signifer* Pacific Blue-eye Ross River
- Pseudomugil tenellus* Delicate Blue-eye Torres Strait
- Pseudomugil tenellus* Delicate Blue-eye Daly R NT

Rainbowfishes

- Glossolepis incisus* Salmon Red Rainbow
- Glossolepis maculosus* Spotted Rainbow
- Glossolepis multisquamata* Lake Kli Red-eyed Tiger Rainbow

- Glossolepis ramuensis* Ramu Rainbow
- Glossolepis wanamensis* Lake Wanam Rainbow
- Iriatherina werneri* Threadfin Rainbow NT
- Melanotaenia affinis* Northern Rainbow Pagwi
- Melanotaenia australis* Western Rainbow Upper Katherine R.
- Melanotaenia australis* Western Rainbow Drysdale River WA
- Melanotaenia boesemani* Boeseman's Rainbow
- Melanotaenia duboulayi* Crimson-spotted Rainbow Kangaroo Ck
- Melanotaenia duboulayi* Crimson-spotted Rainbow Kandanga
- Melanotaenia duboulayi* Crimson-spotted Rainbow Mary River
- Melanotaenia duboulayi* Crimson-spotted Rainbow Schnapper Ck
- Melanotaenia gracilis* Slender Rainbow
- Melanotaenia herbertaxelrodi* Lake Tebera Rainbow
- Melanotaenia kamaka* Lake Kamaka Rainbow
- Melanotaenia lakamora* Lakamora Rainbow
- Melanotaenia lacustris* Lake Kutubu/Turquoise Rainbow
- Melanotaenia maccullochi* McCulloch's Rainbow Moa Island
- Melanotaenia maccullochi* McCulloch's Rainbow Cairns Red fin form
- Melanotaenia maccullochi* McCulloch's Rainbow Skull Creek
- Melanotaenia oktediensis* Ok Tedi Rainbow
- Melanotaenia papuae* Papuan Rainbow
- Melanotaenia parkinsoni* Parkinson's Rainbow (yellow)
- Melanotaenia pierucciae* Pierucci's Rainbow
- Melanotaenia praecox* Neon Rainbow
- Melanotaenia pygmaea* Pygmy Rainbow
- Melanotaenia sexlineata* Fly River Rainbow
- Melanotaenia splendida inornata* Chequered Rainbow Hahn River
- Melanotaenia splendida inornata* Chequered Rainbow Running Creek
- Melanotaenia splendida inornata* Chequered Rainbow Weipa
- Melanotaenia s. splendida* Eastern Rainbow Mt Poverty
- Melanotaenia s. splendida* Eastern Rainbow Barney Springs
- Melanotaenia s. splendida* Eastern Rainbow Running River
- Melanotaenia s. splendida* Eastern Rainbow Fletcher Ck Fluoro green fins
- Melanotaenia s. splendida* Eastern Rainbow Wallaby River



The Oktedi Rainbowfish *Melanotaenia oktediensis*. Photo: Neil Armstrong

<i>Melanotaenia s. rubrostriata</i>	Red Striped Rainbow
<i>Melanotaenia trifasciata</i>	Banded Rainbow Goyder River
<i>Melanotaenia trifasciata</i>	Banded Rainbow Myka Ck.
<i>Melanotaenia trifasciata</i>	Banded Rainbow Woomera Ck.
<i>Melanotaenia trifasciata</i>	Banded Rainbow Cape Arnhem NT
<i>Melanotaenia trifasciata</i>	Banded Rainbow Coen River
<i>Melanotaenia trifasciata</i>	Banded Rainbow Richard River NT
<i>Melanotaenia trifasciata</i>	Banded Rainbow Giddy River NT
<i>Melanotaenia trifasciata</i>	Banded Rainbow Flat Rock Ck. NT
<i>Melanotaenia utcheensis</i>	Utchee Ck Rainbow Utchee Ck.
<i>Rhadinocentrus ornatus</i>	Ornate Rainbow Yabba Ck. (Mary R)
<i>Rhadinocentrus ornatus</i>	Ornate Rainbow Bribie Island
<i>Rhadinocentrus ornatus</i>	Ornate Rainbow Schnapper Ck.
<i>Rhadinocentrus ornatus</i>	Ornate Rainbow Stradbroke Island
<i>Rhadinocentrus ornatus</i>	Ornate Rainbow Searys Ck.
<i>Rhadinocentrus ornatus</i>	Ornate Rainbow Teewah Ck.
<i>Rhadinocentrus ornatus</i>	Ornate Rainbow Orange "Goldfish Rhad"

Other Species

<i>Chlamydogobius eremius</i>	Desert Goby
<i>Craterocephalus stercusmuscarem</i>	Fly-specked Hardyhead
<i>Denarius bandata</i>	Penny Fish
<i>Ambassis spp</i>	Glassfish
<i>Mogurnda adspersa</i>	Purple Spotted Gudgeon Utchee Ck
<i>Mogurnda sp Dirran II</i>	Purple Spotted Gudgeon Prior Ck Atherton
<i>Nannoperca australis</i>	Southern Pygmy Perch
<i>Oxyeleotris nullipora</i>	Poreless Gudgeon
<i>Caridina sp Gulf1</i>	Darwin Red Nose Shrimp
<i>Caridina sp WA-4</i>	Chameleon Shrimp
<i>Caridina/Paratya spp</i>	Various freshwater shrimp species
<i>Macrobrachium spp</i>	Various freshwater prawn species

Various Australian aquatic plants
Various Australian freshwater snails



Southern Pygmy Perch *Nannoperca australis*
Photo: Neil Armstrong

WA's native fish



Western Pygmy Perch from the King River
Photo: Dr. Peter Unmack

As you pull out rods and waders and head to the south-west for the trout season, spare a thought for our native freshwater fish.

Our little suite of freshwater fishes in south-west waters includes 11 native species, nine of which are endemic. Some are so tiny that if you blink you could miss them, but they are vital to the health of our aquatic ecosystems.

A group of endemic, perch-like fishes with slender bodies and no longer than a credit card are the pygmy perches: the Western Pygmy Perch (*Edelia vittata*) pictured above, the rarer Balston's Pygmy Perch (*Nannatberina balstoni*) and the recently discovered and possibly rarest Little Pygmy Perch (*Nannoperca pygmaea sp. nov.*). The solitary Nightfish (*Bostockia porosa*), also a member of this family, resembles a shrunken Murray Cod with a preference for the night life!

Next up are the Galaxiids (family Galaxiidae), commonly known as minnows and jollytails. The south-west is home to the endemic Western Minnow (*Galaxias occidentalis*), Mud Minnow (*Galaxiella munda*) and Black Stripe Minnow (*Galaxiella nigrostriata*). While the latter two are no bigger than your pinky finger, the Western Minnow appears goliath-like in proportion, reaching a length of 19 cm. The Common Jollytail (*Galaxias maculatus*) and Spotted Galaxias (*Galaxias truttaceus*) also call the south-west home, although they occur elsewhere.

Shaped like the galaxiids but unique in appearance and lifecycle is the Salamanderfish (*Lepidogalaxias salamandroides*), which spends the dry months sleeping in damp burrows awaiting the rain.

Last but not least is big daddy Tandanus, more commonly known as the Freshwater Cobbler (*Tandanus bostocki*) – the largest freshwater fish in the south-west. Growing to over 50 cm long, it protects itself with an array of venomous spines on its dorsal and pectoral fins.

So spare a thought for these unique WA fish that are just surviving in a changing world.

Reprinted from Freshwater Guardian, freshwater ecosystem news from the Department of Fisheries, WA.

Scientists consider captive breeding program for enigmatic walking fish



Handfish in hand. Sitting on a diver's glove is one of the world's most endangered fish.

Photo: Tim Lynch, CSIRO

Scientists are considering a captive breeding program to ensure the survival of an enigmatic little sea floor walking fish found only in Hobart's Derwent estuary.

Once widespread globally, the finger-sized Spotted Handfish is now confined to Tasmanian waters and may need an insurance population after recent surveys found its numbers were at dangerously low levels.

CSIRO senior research scientist Tim Lynch says the first complete survey of Handfish colonies, an exhaustive run of 100 transects this winter in bone-chilling Derwent waters, found a total of just 79 fish.

"It would be very prudent to think about captive breeding of the fish at this stage," said Dr Lynch. "We're organising a workshop to cost it out, and see what we can do."

The frown-faced fish uses its hand-like fins to creep over the sea floor before pouncing on its minute prey. When threatened, it spreads the fins in display.

Listed as critically endangered by the International Union for Conservation of Nature, the Handfish may be falling victim to its own habits of careful parental care, and loyalty to local habitat.



On guard. Handfish stay nearby when they lay their eggs.

Photo: Tim Lynch, CSIRO

Dr Lynch said that unlike many fish which broadcast their eggs into the ocean, the Handfish lays them onto the sea floor and then stands guard. But the feral North Pacific Seastar is demolishing its camouflaging habitat, leaving the Handfish exposed to predators.

"We've been laying out small pieces of artificial spawning habitat that is inedible to the starfish, but this gradually gets submerged in the sand," he said.

Local environmental changes also appeared to be impacting the fish. The survey checked nine previously known Handfish colonies and found some in all locations. But in three, local environmental changes appeared to have overwhelmed the fish.

In one place an algal mat had formed on the sea floor from nutrient run-off. In another, yacht moorings had



A Spotted Handfish blends in with surrounding seafloor shells

Photo: Tim Lynch CSIRO

been laid, and at the third, council stormwater drain engineering had broken up the area.

"We found between one and three fish only in each of those places."

Despite its appeal, Dr Lynch said the hardships endured on the survey by the team meant it was unlikely the Handfish would attract dive tourists.

"You have to be quite hardy," he said. "These are icy dives, the fish are tucked away behind sponges or in holes, and very difficult to see."

Andrew Darby

August 24, 2015

ANGFA Convention 2015

Sails Resort, Port Macquarie, NSW. 23rd to 25th October 2015



The Crimson-spotted Rainbowfish *Melanotaenia duboulayi*. This pair is from the Richmond River in northern NSW, site of the first collection by a man named Duboulay (du Boulay).

Photo: Gunther Schmida

The Australia New Guinea Fishes Association (ANGFA NSW) in conjunction with ANGFA Incorporated (ANGFA National), are proud to present the world renowned bi-annual ANGFA Convention. This is the largest event focusing on Australian and New Guinea fishes anywhere in the fishkeeping realm.

The guest speaker line up is excellent, with experts coming from around Australia and the across the globe.

The venue is the Sails Resort, Port Macquarie, located on a peninsula overlooking the Hastings River. It is only a few minutes from the CBD and provides easy access to the main beach, shops and restaurants.

Take this opportunity to attend the ANGFA convention, learn about fish, hear about fishkeeping, plants, new discoveries and see wonderful images of the areas where these were found. It doesn't matter if you keep rainbows, gudgeons or gobies, angels, tetras or goldfish, in fact any type of fish or plants from anywhere, this is the convention you need to attend, we hope we will see you there!

The price for entry into the Convention will be \$145AUD each for attendees with membership in ANGFA Inc. or any affiliated regional group and \$165AUD each for non-ANGFA attendees. There is also an early bird registration of \$125AUD if paid by June 30th 2015. (\$145 early bird for non-members).

Alternatively, you may pre-pay by sending your details and the appropriate payment to the Treasurer. Please find our address on the membership page.

ACCOMMODATION. All rooms at the Sails Resort have been completely refurbished and a limited number of

rooms have been reserved by the organising committee. Rates have been confirmed at \$139AUD per night for standard rooms, garden queen rooms or water view king rooms.

To book, when you contact the hotel on 02 6589 5100, say that you are from ANGFA and ask for the ANGFA "special rate" discount.

DINNER. The price for the ANGFA dinner will be \$49 per head and will be held in the Spinnakers Restaurant at the Sails Resort on Saturday night, October 24th.

GETTING TO THE CONVENTION VENUE AT PORT MACQUARIE The venue is situated at 20 Park Street, Port Macquarie and only 7 minutes drive from the regional airport. It is around 5 hours drive from Sydney and 7 hours from Brisbane. There are direct flights to Port Macquarie from Sydney and Brisbane. From Melbourne there is a stop off in Sydney before your flight resumes to Port Macquarie. The XPT train runs from Sydney and Brisbane and stops at Wauchope, about 20 minutes from Port Macquarie.

ONCE YOU ARRIVE AT THE SAILS RESORT

If you have opted to pay later, please be prepared to pay at the registration table when you arrive. You can choose to pay by cash or card.

Registrations will be taken from 6pm – 7pm Friday night and between 8am – 8.40am Saturday and Sunday

MONDAY ACTIVITIES

On the Monday after our convention, we will (subject to confirmation) have a cruise on the Hastings River, a tour through the Marine Discovery Centre at Newman Senior Technical College in Port Macquarie, and also a field trip looking for our aquatic friends. We are asking for expressions of interest from convention attendees regarding these activities. Please let us know if you are interested in all or only some of these. These activities are subject to change.

For those staying at the venue:

Remember that if you are staying at the Sails Resort, breakfast will be \$20 per person but parking is complimentary.

We look forward to seeing you at the convention.

On behalf of the organising committee.

Editor's note: this will be a fantastic weekend, catching up with great mates and having a wonderful time. I'm going as are lots of Victorians. I am really looking forward to seeing people I haven't seen for a couple of years. Get organised and book now. See you in Port Macquarie in October 2015!

Greg Martin
Ed. VICNews

Club Meeting Details and the ANGFA VIC Trade Table

General Meetings:

ANGFA Victoria's meetings are held on the first Friday of every second month starting the year in Feb, at The Field Naturalists Club of Victoria which is situated at 1 Gardenia Street Blackburn. (Melways map 47 K11). Doors open at 7:30pm. Meetings start at 8.15pm sharp and aim to be finished by 10pm, followed by supper.

Upcoming Meeting Dates:

Friday 2nd October 2015

Friday 4th December 2015

ANGFA Vic Committee Meetings:

Venues: To be announced. Contact Kwai Chang Kum if you would like to be further involved (0430 434 488).

Trading Table

Any financial ANGFA member who has fish, plants or live food that they would like to sell is invited to bring their goods to the trade table. All items being presented for sale must be clearly marked: fish showing species name and location if applicable and plants identified by species. Goods will be accepted prior to 7.45pm and the Trading Table will operate between 7.45 and 8.15pm.

New items now available on the Trade Table from the 'ANGFA SHOP' include airline, valves, nets, fish-food, fish bags, various "live foods" with "Cheat

Other Fish Groups in VIC

EDAS

Meets last Friday of the month starting Jan.
Contact: Daryl Maddock (03) 9874 1850

EDAS Plant Study Group

Meets Second Friday of the month (at various members' homes).
Contact: Eddie Tootell (03) 9337 6435 (a.h.)

Aquarium Society of Victoria (AS of V)

Meets last Friday of the month, alternating with EDAS.
Contact: Daryl Maddock (03) 9874 1850

Marine Aquarium Society of Victoria

Contact: MASOV (03) 9830 6073.

Victorian Cichlid Society

Meets first Wednesday of the month.
Contact: Graham Rowe (03) 9560 7472.

ANGFA Vic key contacts



President: Kwai Chang Kum
Phone: 0430 434 488



Treasurer: John Lenagan
Phone: 0413 730 414



Secretary: Glenn Briggs
Phone: 0408 771 544



Vice President and Membership Officer: Gary Moores
email: kathmoores@yahoo.com.au



VICNews: Greg Martin
Phone: 0407 094 313
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ANGFA Vic Website: Lyndon Giles
email: webmaster@angfavic.org

Postal Mail to:

ANGFA Victoria
P.O. Box 298 Chirnside Park, Victoria. 3116.
ANGFA National Website: www.angfa.org.au
ANGFA Vic Website: www.angfavic.org
checkout ANGFA Vic on Facebook

**Join ANGFA now!!!
New expanded membership
package now applies**

**To join ANGFA or to renew your membership online,
follow these 4 easy steps:**

1. Go to www.angfavic.org
2. Click on membership
3. Select membership renewal tab for ANGFA then ...
4. Click the Paypal icon to pay with Paypal.

To pay with your Debit Card or your Credit Card talk to the Treasurer John Lenagan at a meeting.

If you want to use snail mail and pay by cheque, print out the form below, fill out your details and send it to: ANGFA Victoria, P.O.Box 298, Chirnside Park. Vic. 3116

Join ANGFA Victoria now and enjoy benefits including regular meetings, *VicNews* and buyer discounts.

To the Treasurer, ANGFA Victoria, Please accept my application for membership to ANGFA Victoria.

(Please print)

NAME

ADDRESS

Postcode.....

Phone Bus

A/H:.....

1. I enclose \$45 for my ANGFA Membership which includes digital copies of Fishes of Sahul (FOS), VICNews and the ANGFA NSW magazine.
2. I enclose \$65 (in total) to get a printed copy of each edition of FOS this subscription year, as well as the above items.

Forward application and cheque to: ANGFA Victoria, P.O.Box 298, Chirnside Park. Vic. 3116.

**Businesses who support
ANGFA Victoria**

The businesses listed below actively promote Australian Native Fishes by making native fishes available in the aquarium trade.

ANGFA suggests that members show their appreciation by supporting these businesses.

Amazing Amazon

Paul and Ben
365 Springvale Road, Glen Waverley
Phone: 03 9545 0000
www.amazingamazon.com.au

Aquagreen

Dave Wilson
Phone: (08) 8983 1483
aqua.green@bigpond.com

Aquariums By Design

Greg Martin
Phone: 0407 094 313
greg@aquariumsbydesign.com.au

Coburg Aquarium

Greg Kirby
Phone: (03) 9354 5843
232-236 Bell Street, Coburg
www.coburgaquarium.com.au

Exotic Aquatic

Adrian
300a Neerim Road, Carnegie
Phone: (03) 9079 3899
www.exoticaquatic.com.au

Subscape Aquarium

Justin & Kim
Phone: (03) 9427 0050
310/312 Victoria Street, Richmond

Upmarket Aquarium

Greg Kirby
Phone: (03) 9600 9051
442 Queen Street, Melbourne

Victorian Reptile supplies

Adam
Phone: (03) 8742 1283
6/75-85 Elm Park Drive, Hoppers Crossing