

# Aquarium World

magazine

Volume 65 Issue 1 2019





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# Aquarium World

magazine

Volume 65 Issue 1 2019

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Aquarium World Magazine is published biannually by the Federation of New Zealand Aquatic Societies Incorporated (FNZAS)

ISSN 1173-8375

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## FRONT COVER

*Puntius tetrazona*  
Standard and golden Tiger barbs  
Photo: Robert Beke



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Welcome to another issue of Aquarium World.

In this issue we profile triplefins. Triplefins are a common sight in tidal pools and around wharves throughout New Zealand. These small natives come in a wide range of colours and patterns, have plenty of personality, and make great subjects for a dedicated local marine aquarium.

If you have an outdoor pond or a coldwater tank and would like to stock it with a native aquatic plant or two, why not try a milfoil. In the second in our series of articles, Melanie Newfield introduces these attractive aquatic natives and tells us how to tell them apart from the invasive species.

New Zealand has very few exotics reptiles that can be kept as pets. Bearded dragons are an exception and Mark Paterson introduces us to these striking Australian lizards and provides advice on how to keep them.

And finally, barbs are often overlooked in tropical community tanks in favour of small schooling species such as tetras or livebearers. While tiger barbs can be a little nippy most other aquarium barbs are peaceful and in the right tank with appropriate tank mates, a school of barbs is a stunning sight.



*Darren*

Darren Stevens  
FNZAS Editor

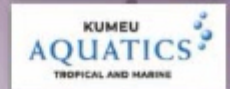
**Oblique-swimming Triplefin**  
*Forsterygion maryannae*  
Photo: ©sarahmilich



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**Melanie Newfield**

Melanie returned to fish keeping last year after a 25 year break. She originally studied botany and is as keen on plants as well as fish. Her tanks are mainly planted, aquascaped community tanks. She also has a lifelong interest in invasive species, especially invasive plants.

**Geoff Haglund**

Geoff began keeping tropical fish in 2006. Since then his obsession with plecos has grown and he now has 54 tanks and 15 species. He constantly strives to create an environment for them to reproduce and he has successfully bred a number of desirable species. Geoff is an active forum member and contributor to the FNZAS website, Planet Catfish, and Pleco Planet

**Darren Stevens**

Darren is a marine biologist who has worked for NIWA for about 20 years. He regularly participates in research surveys and has been around much of New Zealand as well as Oman, UAE, and the Ross Sea, Antarctica. In his spare time he enjoys fishing, and is a particularly passionate pleco keeper. Darren is an active participant in his local clubs and FNZAS Editor.

**Mark Paterson**

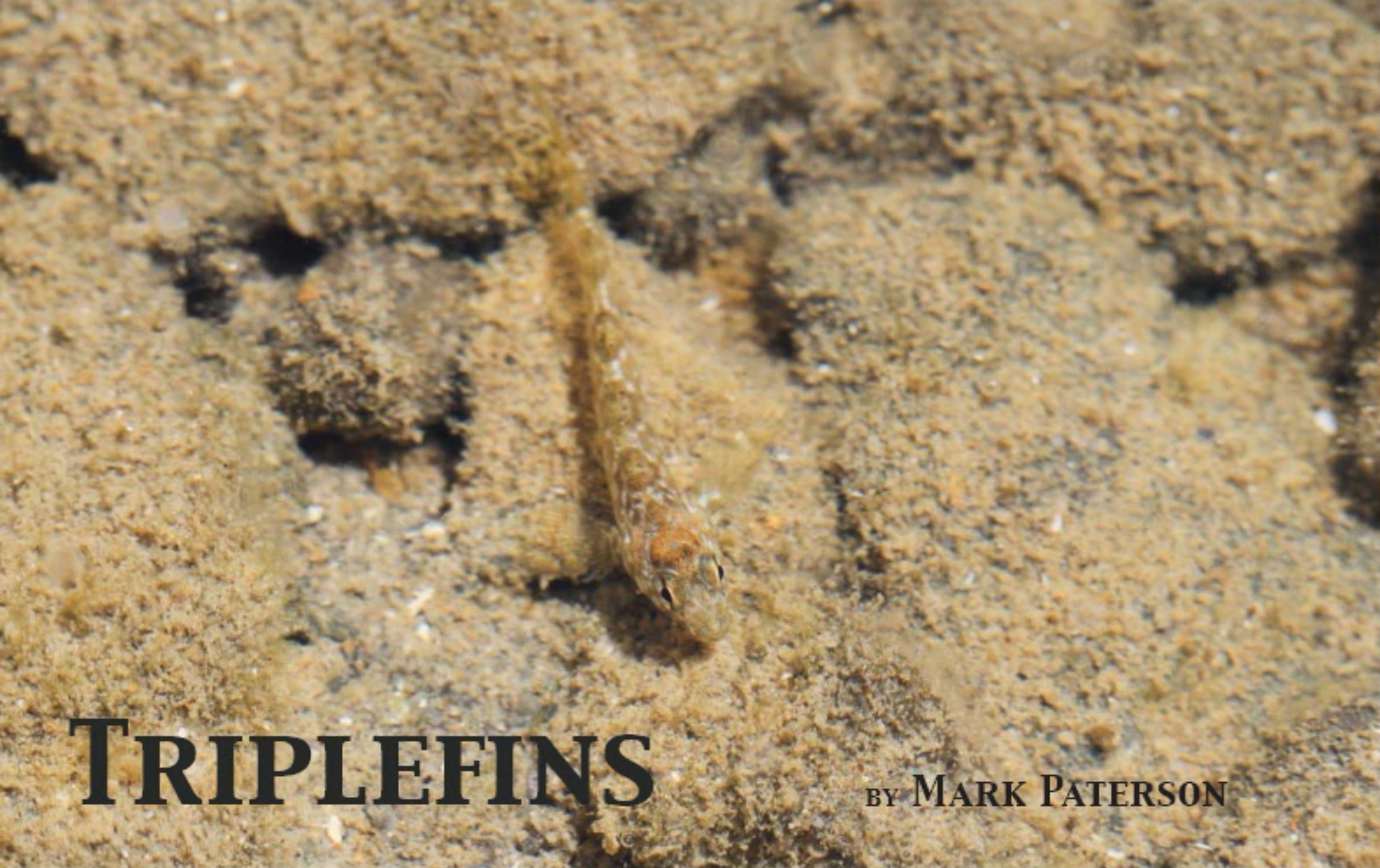
Mark began fish keeping when he was a child, keeping live bearers and siamese fighters. He has worked for circus and zoo parks in NZ and overseas. For the last 28 years he has kept many species of aquatic life but NZ local marine is his keenest interest. Mark loves to share this passion & knowledge with fellow hobbyists and is currently running the marine systems at a local university & is also FNZAS President.

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# TRIPLEFINS

BY MARK PATERSON

The most common species of fish most New Zealanders see when they are looking in rock pools or up the piles on a wharf, are triplefins. The name triplefin comes from the three fins they all have on their topsides. We often call them cockabullies or blennies (which are a different group). There are about 130 species of triplefin worldwide from the tropics to sub-Antarctic regions. New Zealand has 27 species that are unique to this region though three species have been accidentally introduced to Australia. As adults triplefins lack a swim bladder and live on, or near, the sea floor and they are the most abundant of New Zealand's shallow-water subtidal reef fish. Most species are closely related to each other.

| Twister - *Bellapiscis medius*  
| Photo: Sjonnoh

Most of our triplefins are found in shallow rocky reefs, but others have adapted to different environments. The twister (*Bellapiscis medius*) lives mainly in intertidal rock pools and can tolerate very low levels of oxygen in the water, allowing it to live in rock pools that are exposed during tidal movement. The estuarine triplefin (*Forsterygion nigripenne*) can be found upstream in freshwater streams and rivers as far as the tidal flow extends. The deepwater triplefin (*Matanui bathytaton*) can be found in water over 500 metres deep. The oblique-swimming triplefin (*Forsterygion maryannae*) is the only triplefin that



Above: Oblique-swimming triplefin - *Forsterygion maryannae*  
Photo: Sascha Schulz

swims in large schools up off the bottom where they feed on plankton. Their name, oblique, comes from the angled head up swimming position they adopt due to a lack of swim bladder.

Remarkably, a variable triplefin (*Forsterygion varium*) that was taken 700 metres away from its home pool, was able to navigate its way back home.

Male triplefins establish territories of a few square metres which they defend vigorously during an almost year round breeding season. They try to attract and breed with as many females as possible. Once the eggs are laid, usually under a large rock, the male guards them until they hatch.



Variable triplefin - *Forsterygion varium*  
Photo: Panfylova



Triplefin species come in a wide range of patterns and colours, from drab and quite cryptic to bright, almost neon like, hues. Surprisingly, the more gaudy ones blend into their habitat amongst coralline algae, sponges, ascidians and sea anemones, helping to hide them easily. Others have mottled patterning which blends them into their habitat background of weeds and rocks in pools or sub tidal areas. The topknot and brown topknot (*Notoclinus fenestratus*

Top: Blue-eyed triplefin - *Notoclinops segmentatus*  
Bottom: Blue dot triplefin - *Notoclinops caerulepunctus*  
Photos: Ian Skipworth

and *N. compressus*) are able to change their pattern and colouration to match their resting place. Couple this up with transparent patches on their fins and they seem to disappear completely to a predatory eye. During the breeding season most male triplefins assume

different colouration to catch the females eye, with some changing dramatically. One example is the male variable triplefin which changes from its normal mottled cream and brown pattern to entirely jet black while the Yaldwyn's triplefin (*Notoclinops yaldwyni*) male's subdued speckled pinkish hue becomes bright orange.

So, the next time you visit the beach, wharf, or go diving, take some time to sit and watch these little fish that form a large part of our endemic marine environment.

**Mark Paterson**

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Malcolm Francis 'Coastal Fishes of New Zealand'  
<https://www.nzgeo.com/stories/triplefins/>

Right: Spectacled triplefin - *Ruanoho whero*  
Photo: Ian Skipworth

Below: Yaldwyns triplefin - *Notoclinops yaldwyni*  
Photo: Ian Skipworth



## Triplefins in the home aquarium

Triplefins can be the easiest fish to settle into life in an aquarium with some such as the common and variable triplefins even handling temperatures up to 25°C for short periods during summer. Others such as the oblique swimming triplefin are more specialised in their food requirements and temperature tolerance so really need a species only system as they are easily bullied by more robust tankmates. Nearly all triplefins are territorial by nature and during breeding season and if too many males are housed together war can break out. I would recommend a minimum aquarium size of 100 litres with plenty of nooks and crannies for hiding holes. The common species will readily accept most meaty or commercial foods and settle quickly to tank life. They are relatively hardy and with their quirky personalities and movements around the tank they are an interesting fish to keep. The commonly encountered species of triplefins are incredibly adaptable fish that thrive in a typical aquarium environment. They appreciate an aquascape with plenty of caves and gaps into which they can dart into at the slightest hint of danger.





# A TALE OF TWO CLOWNS

**ARTICLE AND PHOTOS BY DARREN STEVENS AND GEOFF HAGLUND**

Clown plecos are a delightful little pleco. They are small, easy to keep, curious, and an ideal beginners' pleco. Clown plecos are suited to most community tanks, with pH's of 5.0–7.5 and temperatures of 24–28°C.

The name clown pleco is used for two similar types of small, light brown to dark brown, fish with white to orange stripes: *Panaqolus maccus* (L162, LDA22) and *Panaqolus aff. maccus* (L104, L105, L448, LDA67, LDA68). Both clown plecos look similar and are often confused. A recent genetic study found that these two types of clown pleco are distinct species, and it was recommended they should be placed in their own subgenus *Panaqoco* (Orinoco clown plecos) along with a third species *Panaqolus* sp. L465, which does not appear to be in the hobby (Lujan et al. 2017).

*Panaqolus aff. maccus*, L448

Photo: Darren Stevens

Most, if not all, clown plecos imported into New Zealand are likely to be L448, which is very common in the hobby overseas, and is commonly exported from Villavicencio in Colombia. *Panaqolus maccus* (L162) is rare in the hobby and less likely to make it to our shores. While both clowns look similar, according to the German website L-Welse, L448 only grows to 6–8 cm versus about 10 cm for L162. Also, L448 has a maximum of 3 pectoral fin bands and 3 pelvic fin stripes versus 4–5 pectoral bands and 4 pelvic fin stripes in L162. According to Planet Catfish, juvenile L448 have stripes on the face, which are only present in adult L162.



Despite their small size and distinctive stocky build, clown plecos are sometimes sold as Peckoltia. In New Zealand they have been sold under the names 'pretty Peckoltia',

| Female *Panaqolus* aff. *maccus*, L448  
| Photo: Darren Stevens

| Mature male *Panaqolus* aff. *maccus*, L448  
| Photo: Darren Stevens





'vittata plecos' (presumably a reference to the candy striped pleco, *Peckoltia vittata*, L015), and leopard frog plecos (*Peckoltia compta*, L134). In New Zealand, imported clown plecos generally sell for around \$50–60 while imported *Peckoltia* species sell for upwards of \$140 (locally bred clown plecos and *Peckoltia* are cheaper).

In the wild clown plecos (and other *Panaqolus* species such as flash plecos, L204, and tiger plecos, L002) feed mostly on wood and algae and, along with a few other plecos, they are among the few fish that can

Trio of young adult clown plecos  
Photo: Darren Stevens

consume and digest wood. In aquaria they should be provided with bogwood and fed mainly on algae wafers and veggies (e.g. courgettes, cucumber – seeds removed, spinach, kumara, etc.), and occasional small quantities of meaty foods (bloodworms, shrimps, tubifex, etc.).

L448 are regarded as the easiest *Panaqolus* species to breed and they have been bred several times in New Zealand. Due to their small size a small group can be kept and



bred in a 60-litre tank. They are not fussy as long as there is plenty of bogwood and will breed in small crevices in the bogwood (or you can drill your own breeding holes) or in caves. Caves can be made out of a short length of 20 mm PVC pipe. You can buy a 20 mm end cap or silicone a piece of wood, tile, or slate to one end. Then silicone the pipe onto a piece of tile or slate to weigh it down. Clown plecos can have up to 30 eggs in a batch and the young can be raised on the same food as the parents.

**Darren Stevens and Geoff Haglund**

Clown pleco using a crevice

Photo: Geoff Haglund

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# Bearded dragons



Bearded dragons make great pets. They don't get too large, eat a wide variety of food and are active during the day. All bearded dragons in New Zealand are captive bred with two species available: the more common central (or inland) bearded dragon *Pogona vitticeps*, and the rarer coastal or eastern bearded dragon *Pogona barbata*. The Central bearded dragon is a slightly smaller lizard growing to about 55 cms and comes in a range of colours from shades of brown, gray, and reddish-brown to bright

*Pogona vitticeps*

Photo: Nick Ta

orange whereas the Coastal grows to about 60cm and is usually a dark grey black to brown. Both are stocky lizards with prominent spines along their sides and a large, triangle-shaped head. Around the snout is a spiny jaw pouch which, when swollen, looks like a beard giving them their common name. Mature males display dark "beards" when showing off for courtship or territory.



Above: *Pogona vitticeps* in a range of colours  
Photo: Mark Paterson

Below: male *Pogona barbata*  
Photo: Mark Paterson





*Pogona vitticeps* is found on the ground and in trees in semi-arid to arid woodland in central Australia. *P. barbata* is found in a similar habitat in eastern Australia around the Cape York area but has been found further inland.

### Housing

If you want to keep a single dragon the recommended minimum housing is a large aquarium or terrarium with a ventilated lid with a minimum of 1.2 metres x 50cm wide of floor space, though bigger is better. Floor space is more important than height for indoor setups, though *Pogona barbata* are more arboreal than *P. vitticeps*. As they can live for up to 15 years in captivity a good durable enclosure is necessary. There are many types of terrarium available

Male *Pogona vitticeps*  
Photo: Mark Paterson

in the market place or you can be easily make one. Bearded dragons are a desert type animal that spends a lot of time sunbathing in the wild. Good heating and lighting are vital for optimum health of the lizards. A UVB fluorescent bulb or tube paired up with a heat emitter or pad will create a suitable basking spot in the enclosure. A good temperature range is 30–40°C at the basking spot and the 20–25°C at the cool end. Night time temperatures should not drop below 15°C. Please note that *P. barbata* prefers a slightly lower temperature range.

Substrate for the bottom of the tank can be as simple as grass carpet, tiling (for young

dragons), or bark or fine sand can be used for adults. With some research and care soil or peat can be used to create a “bioactive” setup but as they are a desert type animal care must be taken to ensure a fairly dry environment with low humidity.

A time out area such as a cave or hiding area, and a branch, log, driftwood or rocks for basking or a vantage spot can make your bearded dragon feel safer and help to reduce stress levels. Aggression issues can arise when housing two males together as they mature. Housing a pair can also present problems with the male harassing the female too much when wanting to breed.

If you are housing your dragons indoors, during summer you can have an enclosure outside for your lizard to have access to natural sunlight. A rabbit hutch or similar will suffice so long as it is cat or dog proof. Just make sure they can get out of the direct sun if need be and provide a water dish.

## Diet

Bearded dragons are omnivorous and in the wild eat many types of insects, small vertebrates, vegetation, fruits and flowers. In

captivity they can be fed crickets, mealworms, locusts, slaters (wood louse), grasshoppers, etc. along with frozen mixed vegetables (beans, carrots, and peas), fresh vegetables such as carrots, grated pumpkin, dandelion greens, rock melon, pawpaw and strawberries. Kitten cat food (rabbit or chicken) can also be feed once or twice a week. You should also lightly sprinkle calcium & vitamin D3 supplement powder on their food once or twice a week. You will also need a food bowl, a smooth escape proof insect bowl and a water dish. It is best not to leave live food roaming with your pet, especially crickets, as they can nibble the toes/tails/eyes of your dragon at night. Care must be taken to provide your reptile with a well-balanced diet. Overfeeding, or feeding too much of one type or a rich food, can lead to obesity and possibly metabolic bone disease.

It is also important to keep your dragon’s skin healthy as they will shed approximately every six weeks. Misting with a spray bottle of water can help. Mist young dragons every day and adults every few days. They can be given a warm

One week old *Pogona viticeps*  
Photo: Mark Paterson



water bath (25–30°C) once a month. It should be 2-5 cm deep for young dragons and you can increase the depth as they grow. ALWAYS supervise your dragons when they are in the water. Bathing also helps stimulate bowel movement and is a good way to hydrate a lizard.

### Brumation

This is a natural state of hibernation some reptiles go into when food supplies dwindle in the wild so at the onset of autumn or winter your lizard may refuse to eat for long periods or become increasingly inactive and lethargic. If your temps and lighting are right then this instinctual behaviour may be what is happening to your beardie. They can sleep for up to 3 months during this state and though it is hard, try to avoid disturbing them too much.

Hatchling *Pogona viticeps*  
Photo: Mark Paterson



Red *Pogona viticeps*  
Photo: Mark Paterson

### Breeding

Sexual maturity is reached at 1–2 years of age. Clutch size varies from 7–16 long, leathery, eggs. The eggs are laid in sandy soil and take 3 months to hatch.

### Handling

Getting your Lizard used to being handled is important for visits to the vet or examination, etc. but always be aware too much interaction can be stressful for some reptiles. Please remember that your reptile has the potential to carry Salmonella so WASH YOUR HANDS AFTER HANDLING YOUR REPTILE or when cleaning the enclosure or feed dishes.

Beardies make wonderful pets and can become very interactive with their caregivers. If they are looked after properly, they will give you many years of companionship.

**Mark Paterson**

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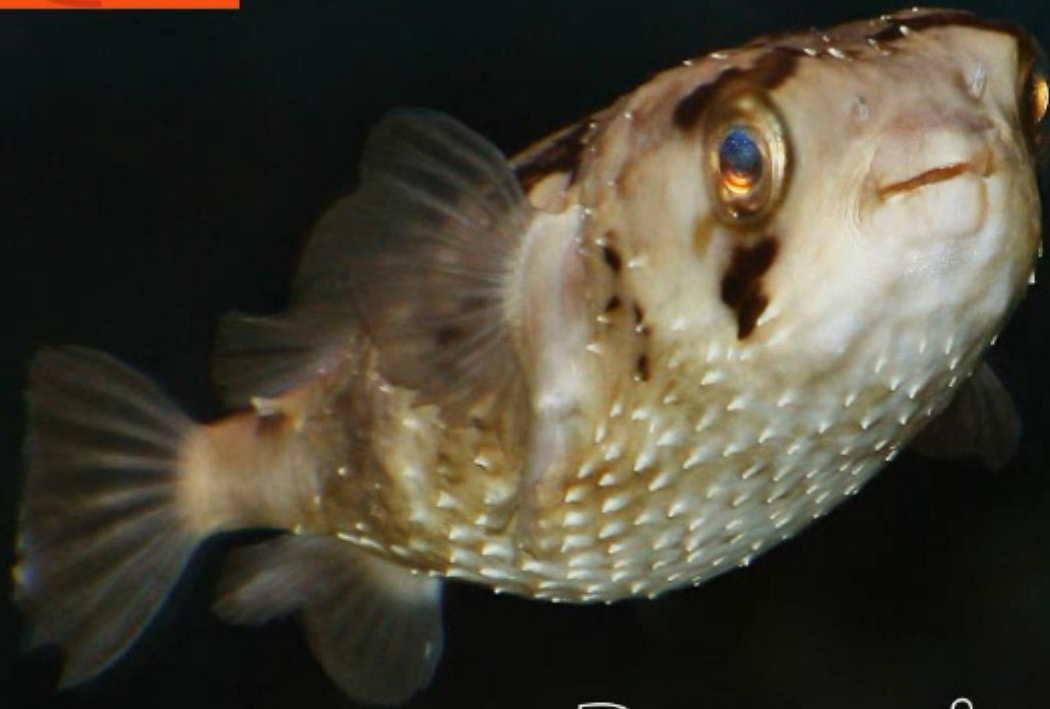
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# Porcupinefish

Porcupinefish belong to the Family Diodontidae and are medium to large-sized fish found in shallow temperate and tropical seas worldwide. Like the puffers, they are able to inflate their bodies and they can be toxic. The main difference is that porcupinefish are covered in sharp spines which stick out when the fish is inflated, making them look like a pin cushion.

Porcupinefish have plenty of personality and in many ways are similar to puffers (see Aquarium World Vol. 64, Issue 2) but you need to take care handling them. Don't use a net as if they inflate in it you will have to cut them out. Also, if they inflate when out of the water they can then suck in air which can prove fatal.

Long spine porcupinefish - *Diodon holocanthus*  
Photo: ©Malene Thyssen

They are not reef safe (they like eating invertebrates) and they can bite the fins of other fish. They can also be stressed by more aggressive tankmates so are best kept in their own tank. Given their large adult size, this needs to a very large tank (at least 1500 litres).

Porcupinefish can be fed on crustaceans (krill, mysis shrimps, shrimps, crabs, etc.) and other invertebrates. They also need food to help them grind their continuously growing teeth such as snails, clams (e.g. cockles), and mussels.

There are three species of porcupinefish that are allowed to be imported into NZ.



### ***Diodon holocanthus***

The long-spine porcupinefish is found in all tropical regions. They are light gray or tan with dark spots and can grow to 50cm.

### ***Diodon hystrix***

The spot fin porcupinefish is found in all tropical regions and can grow to 91 cm so they can get massive. They are a sandy-yellow marbled with dark blotches and covered with numerous small black spots.

### ***Diodon liturosus***

The black blotched porcupinefish (shown on the following page) is often confused with the long-spine porcupinefish but it has much shorter spines and it lacks a

| Spot fin porcupinefish - *Diodon hystrix*

| Photo: ©Robin Bad

dark streak running between its eyes. It comes from the Indo-Pacific area from the eastern coasts of Africa to Japan, the Society Islands and Western Australia where it favours lagoons and reefs. It can grow to 65cm but usually only gets to 45 cm.

**Mark Paterson**

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<https://reefapp.net>

<https://www.practicalfishkeeping.co.uk/features/marine-puffer-fish-the-inflation-great/>



Black-blotched porcupinefish - *Diodon liturosus*  
Photo: ©Julien Bidet

## FISH MINI PROFILE

Lemon tetras (*Hyphessobrycon pulchripinnis*) have been in the hobby since the 1930's. They are a beautiful translucent fish with a red highlight to the top of their eyes and a striking lemon-yellow leading edge to their dorsal and anal fins. Albino and 'orange red' varieties are also available, although the latter may be a different species. Lemon tetras are a peaceful schooling species and should be kept in schools of at least 8 fish. They will do well on a varied diet of small dried and live foods. Lemon tetras grow to about 5 cm and they can live for at least 6 years. They are suited to temperatures from 23–28°C and pH values of 5–7.5. Photo Robert Beke

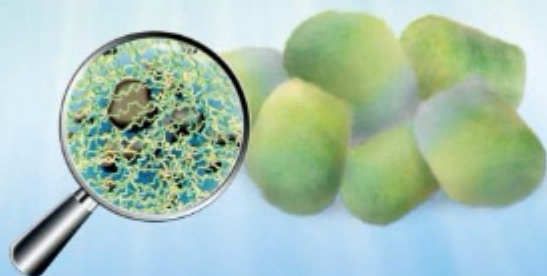


## Lemon tetra

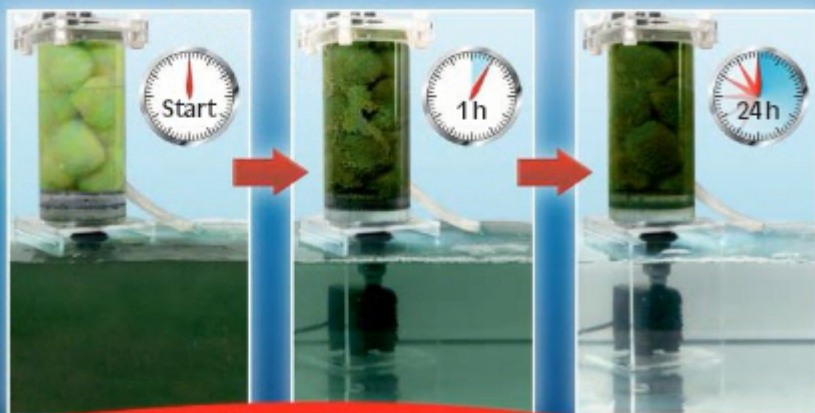
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# An attractive



Siamese algae eaters (*Crossocheilus* species) are popular algal grazers. They can control black beard algae; however, some species prefer eating other types of algae or fine leaved aquarium plants. They are relatively peaceful and are best kept in schools of at least 6 fish. Siamese algae eaters are adaptable but to thrive they need clean, oxygen rich, water and are best suited to aquaria that resemble a flowing stream with a rocky substrate, large boulders, bogwood with a few attached hardy plants such as Java fern, Bolbitis or Anubias, and good water movement. They should be fed a largely vegetarian diet such as Spirulina flakes and fresh vegetables (shelled peas, courgette, spinach, etc.). Siamese algae eaters can grow to about 15 cm and are suited to temperatures of 20 to 26°C and pH 7.5. They are often mistaken for the flying fox (*Epalzeorhynchos kalopterum*) and black coloured fins and is not a good algae eater.

Photo Robert Beke

# *algae eater*



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# Milfoils

by Melanie Newfield

For those with an interest in native plants, there aren't a lot of true aquatic species which have made it into our ponds and tanks. However, there is one group of natives that is becoming more widely available and makes an interesting addition to a pond. These are the native milfoils, or *Myriophyllum* species.

Three native milfoils can sometimes be found for sale. The species I have seen for sale the most often is *Myriophyllum propinquum*. I've seen the name "common water milfoil" used for it but haven't found a Maori name. It's usually sold in its emerged form (that is, the leaves that grow out of the water), but I put the whole potted plant into

*Myriophyllum propinquum* habitat emergent field photo  
Photo: Kevin Bodman, NIWA

my pond, under about 15 cm of water, and it began producing submersed foliage quite quickly. As with most plants, the emerged leaves are thicker. The leaves are narrow and either unbranched or slightly branched. The submersed leaves have the "feather" shape typical of milfoils and the submersed stems can be quite long – up to 3 metres when growing in deep water. Above the water, it stays short, less than 10 cm.

The related *M. triphyllum* has emerged leaves which are more oval rather than narrow. It looks quite different in its emerged form but I'm not sure I can reliably tell them



*Myriophyllum triphyllum* at Little River, Christchurch  
Photo: Marley Ford

apart growing submersed. Both species have an attractive reddish colour on the emersed foliage. I'm yet to see *M. triphyllum* for sale, but I'm told that it's sometimes available.

My favourite among the native milfoils is *Myriophyllum robustum*. This endemic species is threatened in the wild but is sometimes available for sale. It seems to have done alright in my pond but doesn't seem to spread as much as some other

*Myriophyllum triphyllum* field photo  
Photo: Rohan Wells, NIWA





species. It's a pretty plant though, and definitely worth growing in my opinion. The submersed leaves are unimpressive but the emersed leaves are an attractive light green or grey-green, and have a distinctive feather

| *Myriophyllum robustum* leaf arrangement  
Photo: Rohan Wells, NIWA

| *Myriophyllum robustum* commercially grown  
Photo: John Clayton, NIWA

shape with a pointed end. It grows taller than the other native species – mine grew around 20 cm out of the water.

| *Myriophyllum triphyllum* leaf arrangement  
Photo: Trevor James





*Myriophyllum aquaticum* showing rounded leaf tip  
Photo: Trevor James

Milfoils can be found around the world, and a couple of non-native species have also gone wild here. One, known as parrot's feather (*Myriophyllum aquaticum*), is undoubtedly an attractive plant, but it has become invasive and, as a result, is now listed on the National Pest Plant Accord. This means it is illegal to sell, propagate and distribute. Parrot's feather looks similar to the native *M. robustum*, but it grows more vigorously and densely and the leaves are rounded rather than pointed at the tip.

The other wild species is *Myriophyllum variifolium*, which is native to eastern Australia. I inadvertently bought a plant of it, incorrectly labelled as *Hippurus vulgaris* (a species which I later found out is not known to occur in New Zealand). While the submersed foliage is similar, the emerged leaves are bright green and needle-like. It looks a little like a miniature pine tree. In my pond it was attractive but more vigorous than the native species. It's been found growing well away from suburban gardens too, so I cannot recommend growing it as New Zealand already has too many invasive aquatic plants. When I clean out the pond, I'm afraid that one will be going into the compost, which is a safe place for invasive, and potentially invasive, aquatic plants. Just make sure they don't go anywhere near any waterways.

**Melanie Newfield**

*M robustum*, left, *M aquaticum*, centre, *M variifolium*, right  
Photos: Trevor James





# Barbs

Barbs are colourful, lively, hardy and a popular choice for well researched community tanks. The name 'barb' originates from the scientific name *Barbus*, a genus (first part of the scientific name) in which many aquarium barbs were once placed. Barbs are related to many popular ornamental fish including goldfish, red-tailed black sharks, danios, and rasbora.

Barbs are schooling species that should be kept in groups of at least 8. In schools, barbs are less skittish, exhibit more natural behaviour, and males will be brighter coloured (as they display to other males). Many barbs are quite peaceful, but they are relatively fast moving, particularly at feeding

| Redline torpedo barb - *Sahyadria denisonii*  
| Photo: Anandarajkumar

time, and can out compete slow moving species for food. Some species, such as tiger barbs, can be semi-aggressive, nipping the fins of other tankmates and occasionally killing smaller fish. This can be minimised by keeping them in schools and providing plenty of space. Tankmates should be chosen with care, avoiding slow-moving, timid, or long finned species. Loaches, corys, and danios are good options for a barb tank.

Most of the popular aquarium barbs originate from southeast Asia and wild caught specimens generally prefer slightly acidic water and cooler water temperatures

than in many community tanks. However, wild caught barbs are rarely available. Captive bred barbs are more adaptable, and will tolerate a wider range of pH. Barbs are egg scatterers and many species can be bred in aquaria. There are great online resources that will tell you how to do this. Male barbs tend to be smaller, more slender, and more colourful than females. Under good conditions many barbs can live for at least 5 years.

Most barbs are omnivores, eating mainly aquatic invertebrates, but also some plant material and organic detritus in the wild. In aquaria they will do well on a diet of flake food (with some plant content), granules, and small live and frozen food (e.g. blackworms, bloodworms, brine shrimp, daphnia). Barbs are not particularly fussy as to their tank decor, but they will often display better colours in a well planted tank with drift wood and a dark substrate. Barbs often appreciate water movement and some species can be kept in a hill stream set up while others are well suited to a peaceful blackwater tank (e.g. six banded barb). Barbs are good jumpers so make sure you have close fitting aquarium lids.

There are about 25 species of barbs that can be imported into New Zealand. Here is a selection of the most commonly available species.

### **Tiger barb (*Puntigrus tetrazona*)**

Tiger barbs are very popular and are available in several varieties including albino, green, golden, platinum green, blushing, and coral red. Unfortunately, dyed specimens and fluorescent genetically modified Electric Green® and Starfire Red® GloFish® tiger barbs are available overseas. Tiger barbs, while popular, are not a great barb

for beginners. They can be aggressive, sometimes killing smaller fish, and are prone to fin nipping, particularly when kept in small groups or in cramped conditions. This can be minimised by keeping them in schools of at least 8 fish and providing plenty of space (at least a 120 litre aquarium). Tankmates should be chosen with care and avoid timid, long finned, or slow-moving species. In the wild



Standard and golden tiger barbs. Photo: Robert Beke

tiger barbs can grow to 10 cm but generally only reach 5–6 cm in captivity. Tiger barbs are thought to be endemic to central and southern Sumatra. Feral populations are also found in several countries including Australia, Singapore, the USA, Colombia, and Suriname. Almost all tiger barbs in the hobby are captive bred and are suited to temperatures of 23–26°C.



Green tiger barb. Photo: Debivort

### Rosy barb (*Pethia conchonius*)

Rosy barbs have been in the hobby for many years and are a great beginners' barb. They are generally peaceful and undemanding and apparently like eating black beard algae.



Photo: Twowells

A number of varieties have been developed including long-finned, super red, neon, and golden. Rosy barbs can grow to 10 cm but generally only reach 6.5–7.5 cm in captivity. They are found in a wide variety of habitats from flowing streams and tributaries to ponds, lakes and swamps from Pakistan



Photo: Robert Beke

to India, Nepal, and Bangladesh. Feral populations are found in several countries including Australia, Singapore, Mexico, Puerto Rico, and Colombia. Rosy barbs are relatively undemanding and can be kept in temperatures of 16–24°C.

### Black ruby barb (*Pethia nigrofasciata*)

The black ruby barb is a stunning relatively peaceful species. They are named after the adult males, which turn dark ruby red, almost black, when breeding. The black by barb is found in forested streams in southwestern Sri Lanka, although due to deforestation and pollution only small fragmented patches of suitable habitat remain. Almost all black ruby barbs are captive bred as wild exports



Photos: Robert Beke

are prohibited, although wild specimens are apparently still collected. Black ruby barbs grow to 5–5.5 cm and can be kept in temperatures of 20–27°C.

### Odessa barb (*Pethia padamya*)

The Odessa barb has been in the hobby since the 1970's but it was not scientifically described until 2008. It is named after the Ukraine port Odessa, which is where it first appeared in Europe. It was once thought to be a hybrid until wild specimens were discovered in central Myanmar. Odessa barbs grow to about 4-4.5 cm and are suited to temperatures of 16-25°C.



Photo: sannse



Photo: Robert Beke

### Cherry barb (*Puntius titteya*)

The cherry barb is a beautiful, peaceful, small barb (to 5 cm) and is ideal for beginners. They are found in streams in small fragmented patches of forest in southwestern Sri Lanka. Feral populations are found in

Mexico and Colombia. Almost all cherry barbs are captive bred as wild exports are banned, although wild fish are apparently still collected. Albino and super red varieties are available. Farm raised cherry barbs are more adaptable than wild caught fish and can be kept in temperatures of 23-27°C.

### Golden barb (*Barbodes semifasciolatus*)

Golden barbs are colourful, undemanding and popular. They are thought to be a golden variety of the Chinese barb, *Barbodes semifasciolatus* and were developed by



Photo: sannse



Photo: Gerd Nomade

Thomas Schubert in New Jersey in the 1960s. Overseas albino, pink (flesh coloured), and tricoloured varieties (black, orange, and pink) are available. *B. semifasciolatus* is found in

slow moving waterways in Vietnam, Taiwan, southwestern China, and northern Laos. Feral populations of golden barb are found in Singapore and Hawaii. Golden barbs grow to about 7 cm and are well suited to temperatures of 16–24°C.

### Checker barb (*Oliotius oligolepis*)

The checker barb is a small (to 4.5 cm) silvery to reddish-brown fish with a black leading edge to each scale, giving rise to its common name. Commercially bred checker barbs



Photo: Dodoni

tend to come in two colour forms: one that has a reddish hue and another a greenish hue. Adult males are more colourful with red, black-edged, unpaired fins. Checker barbs are found in Sumatra, although a feral population has established in Colombia and possibly India. Checker barbs can be kept in temperatures of 18–25°C.

### Six banded barb (*Desmopuntius hexazona*)

The six banded barb grows to about 5.5 cm and is a great subject for a heavily planted or blackwater aquarium. It originates from the Malay Peninsula, southern Borneo, eastern Sumatra, and Singapore where it is often found in blackwater streams and peat



Photo: deUserSun-man

swamps. It is often confused with, and sold as, the five banded barb (*D. pentazona*), a species which is rare in the hobby and has a small dark mark at the rear base of the dorsal-fin. Six banded barbs are best kept in temperatures of 20–26°C.

Other barbs that are sometimes imported include the clown barb (*Barbodes everetti*), spanner barb (*Barbodes lateristriga*), rhombo barb (*Desmopuntius rhomboocellatus*), melon barb (*Haludaria fasciata*), and the lined barb (*Striuntius lineatus*).



Melon barb - Photo: Robert Beke

Two other barbs are worth mentioning. Tinfoil barbs are regularly imported but grow large and are only suitable for very large



Tinfoil barb - Photo: Ginko100

aquariums (at least 700 litres). The name tinfoil barb is used for two closely related species: *Barbonymus schwanefeldii* and *B. altus*. In aquaria, *B. schwanefeldii* grows to about 30 cm, and larger fish are silvery, with a black stripe running along each lobe of the tail fin. *B. altus* is often sold as the red-tail tinfoil barb, it grows to about 20 cm, and larger fish are more golden and lack black tail stripes. They are active and boisterous and will treat aquatic plants as food. Both species will do well in temperatures of 20–28°C.



Redline torpedo barb - Photo: Animalparty

The redline torpedo barb (*Sahyadria denisonii*) is a stunning species but hasn't been imported into New Zealand for several

years. They are found in pristine highly oxygenated streams and rivers in southern India and need very clean water to thrive. Redline torpedo barbs caused a sensation in the hobby in the 1990's and this led to over-collecting in the wild. They are listed as endangered on the IUCN's Red List of threatened species and this has restricted importation to New Zealand in recent years. However, they are now bred in large numbers in south east Asia and eastern Europe and wild caught specimens are relatively rare in the hobby. Attractive 'gold' and 'lipstick' (a white fish with a red patch on the tip of the snout, a red dorsal fin, and a yellow tail fin) varieties have been developed overseas. Redline torpedo barbs typically grow to 9–11 cm in aquaria. They are well suited to larger tanks with a temperature of 15–25°C. Hopefully captive bred fish will be allowed into New Zealand in the future.

Goodluck. Barbs are well worth keeping and, as with any species of fish, it pays to do your research first.

**Darren Stevens**

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HOW TO

# FEED VEGGIES TO YOUR FISH

BY DARREN STEVENS



Have you ever wondered what vegetables you could feed to your fish?

I have and thought it was time to do some online research. Many fish species graze on algae and plants in the wild and it is a great source of fibre. It is also an important component in a number of commercially available fish foods. Yet with the exception of oxygen weed (*Elodea canadensis*) for goldfish, courgettes (zucchinis) for plecos, and shelled peas for some cichlids, I rarely hear of people offering vegetables to their

Green and blue phantoms eating courgette

Photo: Kev Hoyle

fish, myself included. I used to feed my plecos courgettes and I had a large royal pleco that loved kumara (sweet potato) and yams (oca) but as my fish room grew I replaced fresh greens with algae wafers and Repashy Soilent Green (Repashy is a vegetable-based gel food that comes in a variety of formulas for different fish diets).

There are many vegetables that are worth trying and the following article lists some of the more popular options. If you are going to experiment with other vegetables or plants, it may pay to do some research first as some species are toxic. Remember to thoroughly wash vegetables before feeding them to your fish and remove uneaten veggies within 24 hours. If you are worried about insecticides/pesticides, you might want to peel the vegetables first or grow your own. Veggies can lead to a bacterial bloom if they are high in sugar, soft or allowed to rot. A regular diet of veggies

is better than an irregular one. A sudden binge on a high sugar or an extra fibrous meal can cause bloat (intestinal bacteria adapt to the diet they are given – hence why a different meal can cause stomach upsets).

While peas and beans sink, many vegetables float or are best secured in place. There are many ways to secure veggies to the tank or to weigh them down so they will sink to the bottom. Many people skewer root vegetables,

Longfinned calico bristlenose eating skewered courgette  
Photo: Jennifer Hamlin





Kumara, broccoli stalk and pumpkin  
Photo: Mike Gopperth

zucchini, and cucumber with stainless kitchen cutlery such as teaspoons and knives, or stainless kebab skewers. However, once they are used they are probably best retired from the kitchen.

Bristlenoses eating zucchini tied to a piece of tile  
Photo: Anthony C

For easy retrieval, you can tie monofilament fishing line to cutlery (a small hole can be drilled into the handle

Royal pleco eating broccoli stalk. Monofilament on right  
Photo: Mike Gopperth





in the microwave. If you have surplus courgettes they can be blanched, cooled, wrapped in cling film, and frozen for later use. Courgettes float so skewer them on stainless cutlery or kebab skewers. Cucumbers or squash are also worth trying but it pays to remove the seeds first as they are rarely eaten.

Royal pleco nearly finished eating a piece of pumpkin  
Photo: Mike Gopperth

Royal pleco eating the skin off a piece of pumpkin  
Photo: Mike Gopperth

to tie your line through) or skewers. You can even tie a float on the end. Fishing line also enables you to hang cutlery or skewers on the side of the tank for an additional 'midwater' feeding station to reduce competition from bigger bottom feeders. You can also secure veggies to a rock with a rubber band. Leaf vegetables such as lettuce, spinach or nori (edible seaweed sheets) can be secured with suction mounted veggie clips (several varieties are available online or you can make your own) or use an aquarium magnetic algae cleaner. Whatever implement you use make sure that it is aquarium safe (non-toxic and with no sharp edges).

The following veggies are worth trying.

Courgette (zucchini) are a great treat for plecos, and they are also enjoyed by other tropical fish, including barbs, cichlids, live bearers, tetras, and loaches. Courgettes can be served whole or cut into medallions and they can be served fresh, blanched (immersed in boiling water for a few seconds) or softened



Frozen peas are readily accepted by many fish and are a great treat. Simply blanch, cool, and peel them before serving. Peas are often thought of as a wonder food that helps prevent or cure “constipation” in fancy goldfish varieties. However, according to one online article, there is no peer-reviewed scientific evidence to support this. Peas do contain very little protein and a reasonable amount of fibre (slightly more fibre than many commercial fish foods), but they also contain high levels of carbohydrate and sugar. Peas sink so they do encourage goldfish to feed on the bottom rather than feeding on the surface and slurping in air which can end up in their swim bladder or gastrointestinal tract (goldfish have a duct that connects their oesophagus to their swim bladder, which is very short in some fancy goldfish varieties).

Beans (green and broad beans) can be treated the same way as peas and whole green beans are a great way to attract and remove unwanted snails. Just carefully remove the beans once they are covered in snails.

Broccoli stems are worth trying and apparently plecos love them. The heads tend to be messy when fed to fish and are best eaten by humans who often throw away the thick stems. Simply blanch the stems, leave to cool, and feed out. Cabbage, Brussels sprouts, cauliflower, Chinese broccoli, and bok choy (leaves and stems) are also worth trying, either raw or blanched. Asparagus is also good but expensive.

Sweet potato (kumara), yams (occa), carrots, and turnips can be sliced, and

Goldspot pleco eating shelled peas  
Photo: Mike Gopperth





served raw. Peel them if you like but some species (e.g. royal plecos) like eating the skin. Pumpkin can be served raw but it can be messy and is best served in small quantities. Blanched beetroot (the orange and yellow varieties) or capsicums (bell-peppers) are also worth trying. Swedes are probably best avoided as they turn into a gluey mush overnight.

Romaine (cos) lettuce, silver beet (chard), and spinach leaves can be used either raw or blanched. Silver beet and spinach leaves are high in oxalate and are probably best used sparingly.

Nori (dried seaweed sheets) are another great option for many species, particularly algal grazers. As with lettuce and spinach leaves, they can be secured to the side of the tank with a veggie clip.

Good luck. As with any new food you may need to experiment to work out which vegetables your fish prefer and how best to serve them. Some fish take a while to get used to eating a new vegetable, so you may need to offer it to them several times before

Corgette and silverbeet  
Photo: Mike Gopperth

they eat it. You can even offer your fish a veggie smorgasbord by skewering different vegetables together. Some species prefer grazing on leafy vegetables while other may like gnawing on peas or root vegetables. You may also need to experiment with portion size and raw versus blanched or frozen.

I would like to thank Geoff Haglund, Jennifer Hamlin and Mike Gopperth for providing valuable feedback on this article. Mike also provided a number of images.

### **Darren Stevens**

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## INTERESTING IMPORTS



Buenos Aires tetra  
Photo: Robert Beke

If our barb article has inspired you to invest in a school of barbs then tiger barbs (standard, golden, green, and platinum green), cherry barbs (standard and long finned), black ruby, checker, golden, lined, Odessa, rosy, and six banded barbs are all available.

If you are after a smaller schooling species, then why not try a school or two of tetras. Tetras come in a wide range of shapes, colours, and sizes, and a large school of neons, lemon tetras, or penguin tetras is an impressive site. There over 30 types of tetras on the importers lists including



Glass bloodfin tetra  
Photo: Robert Beke



*Apistogramma hongsloui*  
Photo: Jennifer Hamlin

species with intriguing sounding names such as black phantom, blue emperor, Cochu's blue, and glass bloodfin. If you are after something different then blind cave tetras are also available.

If you have a small heavily planted tank, a pair of *Apistogramma* are a great option

and there are several to choose from. Double red (*A. agassizi*), Alenquer (*A. cf. agassizi*), Borelli (*A. borelli*), blue panda (*A. panduro*), Nijssen's (*A. nijsseni*), blue (*A. trifasciata*), and red neck viejita (*A. viejita*, possibly *A. macmasteri*) are all available.



*Apistogramma agassizi*  
Photo: Jennifer Hamlin



Dwarf gourami, standard colouration  
Photo: Robert Beke



Honey gourami  
Photo: Robert Beke

Chocolate gourami are back on the importers lists and are a great in a blackwater or planted aquarium with small peaceful slow-moving tank mates. And if you want a bit more colour, honey (standard, gold, sunset, and red) or dwarf gourami (standard, cobalt, neon, sunset, and royal red) are a good alternative. Female dwarf gourami are also available if you want to have a go at breeding them.

And if you'd like a small peaceful bottom dweller, it is hard to go past a cory, and there are a great selection available including bronze (standard, longfinned, and albino), peppered (standard and longfinned), *C. adolfoi*, emerald green, Axelrod's, false bandit (*C. melini*), smudge spot, tail spot, gold leopard (standard and albino), gold stripe, panda (standard and longfinned), julii, and dwarf corys.

**The editorial team**



Dwarf cory  
Photo: Robert Beke

# REEF



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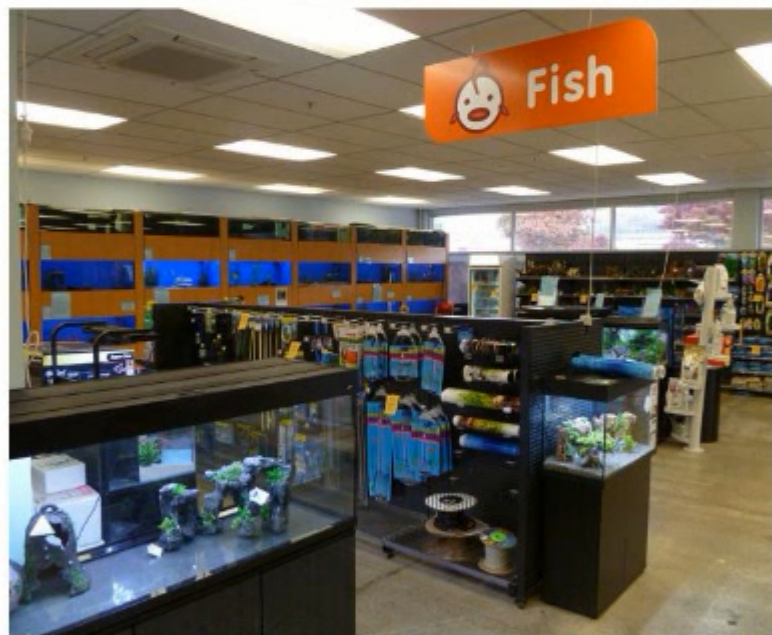


## Upper Hutt Pet Centre

72/82 Queen St  
Upper Hutt 5018  
Phone: 04 974 5473  
<https://www.thepetcentre.co.nz>

Hours: 9am – 5:30pm Monday to Friday  
9am – 5pm Saturday  
9.30am – 5pm Sunday  
1pm – 5pm Anzac Day  
Closed Christmas Day, New Year's Day,  
Good Friday, Easter Sunday

The Upper Hutt Pet Centre is one of three Pet Centre stores, all in the Wellington region (Lower Hutt, Upper Hutt, and Lyall Bay). It is easy to find, offers plenty of free parking, and is a spacious, well stocked, store with friendly and helpful staff. The shop offers a good selection of pets and pet supplies including coldwater and tropical fish which are kept in 21 (18 with livestock, 3 planted) 200 litre aquariums at the front right-hand-side of the store.



Queen arabesque pleco  
Photo: Darren Stevens



The fish section is run by Peter Walker who has a wealth of fish keeping knowledge and is an avid fish keeper. Peter is very helpful, and his tanks are always clean and well maintained. Most of the tanks are devoted to tropical freshwater species and they offer a good

selection, including several types of African cichlids. The coldwater tanks hold a number of goldfish varieties in a range of sizes, white cloud mountain minnows, axolotls, and tadpoles when they are in season. They also have a good range of coldwater and tropical aquarium plants. If you





are after something special for your tank, talk to the staff and they will try and get it in for you. I was impressed by the laminated fact sheets for goldfish, axolotls, livebearers, and African cichlids.

The store also stocks a good selection of dry goods including fish food, ornaments, pumps and filters, and aquariums from 21 to 398 litres. If you find yourself in Upper Hutt the Pet Centre is



Goldfish  
Photo: Darren Stevens



Discus  
Photo: Darren Stevens



well worth a visit. They have a great selection of freshwater fish, dry goods and consumables, and very helpful staff.

**Darren Stevens**

### Interesting species

- Scarlet badis \$15
- Marble hatchetfish \$25
- King blue rams \$35
- Spotted talking catfish *Agamyxis pectinifrons* \$40
- Spiny eel \$40
- Cuckoo synodontis \$80
- Queen Arabesque pleco (L260) \$185
- Horseface loach \$10
- Goldfish – several varieties and sizes \$3.80-\$25
- White cloud mountain minnows – standard and sunset \$6.50-8.50

Rank	
Tropical fish	★ ★ ★ ★
Catfish	★ ★ ★
Cichlids	★ ★ ★
Oddballs	★ ★ ★ ★
Coldwater fish	★ ★ ★
Marine fish	N/A
Marine inverts	N/A
Marine corals	N/A
Display tanks	★ ★ ★
Pond plants	N/A
Tropical plants	★ ★ ★ ★
Dry goods	★ ★ ★ ★
Pond supplies	N/A

**Pg Source**

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- 34 Rosy barb (@Twowells) [https://commons.wikimedia.org/wiki/File:Rosy\\_barb.jpg](https://commons.wikimedia.org/wiki/File:Rosy_barb.jpg)
- 35 Golden barb (@Gerd Nomade, Attribution 2.5 <https://creativecommons.org/licenses/by/2.5/deed.en>) <https://commons.wikimedia.org/wiki/File:Brokat.jpg>
- 35 Female and male cherry barbs (@sannse, <https://creativecommons.org/licenses/by-sa/3.0/deed.en>) [https://commons.wikimedia.org/wiki/File:Male\\_Cherry\\_Barb\\_700.jpg](https://commons.wikimedia.org/wiki/File:Male_Cherry_Barb_700.jpg) [https://commons.wikimedia.org/wiki/File:Female\\_Cherry\\_Barb\\_500.jpg](https://commons.wikimedia.org/wiki/File:Female_Cherry_Barb_500.jpg)
- 36 Six banded barb (@deUserSun-man, <https://creativecommons.org/licenses/by-sa/2.0/de/deed.en>) [https://commons.wikimedia.org/wiki/File:Desmopuntius\\_hexazona.jpg](https://commons.wikimedia.org/wiki/File:Desmopuntius_hexazona.jpg)
- 36 Checker barb (@Dodoni, <https://creativecommons.org/licenses/by/2.5/deed.en>) [https://commons.wikimedia.org/wiki/File:Puntius\\_oligolepis.jpg](https://commons.wikimedia.org/wiki/File:Puntius_oligolepis.jpg)
- 37 Redline torpedo barb (@Animalparty, <https://creativecommons.org/licenses/by-sa/3.0/deed.en>) <https://commons.wikimedia.org/wiki/File:Pdenisonii.jpg>
- 37 Tin foil barbs (@Ginko100, <https://creativecommons.org/licenses/by-sa/3.0/deed.en>) [https://commons.wikimedia.org/wiki/File:Tinfoil\\_barbs\\_01.jpg](https://commons.wikimedia.org/wiki/File:Tinfoil_barbs_01.jpg)



The Federation of New Zealand Aquatic Societies is a group of aquarists dedicated to supporting and promoting fishkeeping as a hobby, both in our local communities and globally with regard to conservation of aquatic species and their environments. The organisation is dedicated to the improvement of the aquarium and fishkeeping hobby and it has a 60 year history of representing aquarium societies in New Zealand.

There are currently 12 affiliated aquarium clubs around New Zealand:

#### **AUCKLAND FISHKEEPERS ASSOCIATION**

**Contact:** Alex Fleming aucklandfishkeepers@hotmail.com

#### **CHRISTCHURCH TOTALLY TANKED**

**Contact:** James Butler muh47\_6@hotmail.com

#### **DUNEDIN AQUARIUM AND POND SOCIETY**

**CONTACT:** Nic Smith dapsdunedin@gmail.com

#### **HAWKE'S BAY AQUARIUM SOCIETY INCORPORATED**

**Contact:** Chris Drake cdrake@paradise.net.nz

#### **MARLBOROUGH AQUARIUM CLUB**

**Contact:** Caryl Simpson caryl@simtrionics.co.nz

#### **SOUTH AUCKLAND AQUARIUM & WATERGARDEN SOCIETY**

**Contact:** Paul Munckhof monkie@orcon.net.nz

#### **TARANAKI AQUARIUM & POND SOCIETY - IN RECESS**

**Contact:** Mitch Minchington & Debbie McKenzie, 21 Maire St. Inglewood 4330

#### **TASMAN AQUARIUM CLUB**

**Contact:** Glen George hellcazy@hotmail.com

#### **UPPER HUTT AQUARIUM SOCIETY**

**Contact:** Maxine Lynch uhaquariumsociety@gmail.com

#### **WAIKATO AQUARIUM SOCIETY**

**Contact:** Danielle Wall waikatoaquariumsociety@gmail.com

### **Online Clubs**

#### **NEW ZEALAND REEFKEEPERS**

**Contact via:** <https://www.facebook.com/groups/nzreefkeepers/>

#### **NEW ZEALAND REPTILE AND AMPHIBIAN SOCIETY**

**Contact via:** <https://www.facebook.com/groups/NZRAS/>

The following businesses offer discounts to our members, remember to ask politely, this is a privilege not a right. You must show your current FNZAS Membership card at the time of purchase.

## AUCKLAND

**Hollywood Fish Farm** - 10% discount on selected non-sale items

36 Frost Rd. Mt. Roskill Ph 09 620 5249  
10/2 Tawa Drive, Albany Ph 09 415 4157  
[www.hollywoodfishfarm.co.nz](http://www.hollywoodfishfarm.co.nz)

**The Bird Barn** - 10% discount on fish and accessories

158 Lincoln Rd. Henderson. Ph 09 838 8748.

**New Pupuke Aquarium Centre** - 10% Discount

1 Lydia Ave, Birkenhead Ph 09 480 6846

## GISBORNE

**Eastland Aquariums** - 10% discount as well as great in-store specials.

Grey St, Gisborne Ph/Fax 06 868 6760

## HAMILTON

**Pure Aquatics** - 10% discount on everything.

966 Heaphy Tce. Hamilton. Ph: 07 855 2176

## HAWERA

**Wholesale & Industrial Supplies** - trade price, equating between 15 - 40% off retail prices

49 Glover Rd, Hawera Ph 06 278 7525

## MORRINSVILLE

**Demetry Pet Supplies** - 10% Discount

15 Thames Street, Morrinsville. Ph 07 8897789 Mobile 027 5526955  
<http://demetry.co.nz>

## NAPIER

**Carevets N Pets** - 10% discount on fish & fish related products

120 Taradale Rd, Onekawa, Napier Phone 06 842 2033

## NELSON

**The Fishroom**

[www.thefishroom.co.nz](http://www.thefishroom.co.nz)  
Email: [getfish@thefishroom.co.nz](mailto:getfish@thefishroom.co.nz)

## ROTORUA

### **Wonderworld Aquarium and Pet Centre** - 10% discount

82 - 84 Clayton Road, Rotorua Ph: 07 348 0328  
Email: info@wonderworldpetcentre.co.nz

## TAURANGA

### **KiwiPetz** - 10% discount

Shop T30, Fraser Cove Shopping Centre, Tauranga Ph 07 578 8623  
email kiwipetz@xtra.co.nz

### **Carine Garden Centre & Water World** - 10% discount on fish, fish related products & aquatic plants

Cnr SH2 & Te Karaka Drive, Te Puna Ph. 07 552 4949  
www.carine.co.nz

## WELLINGTON (and Greater Wellington area)

### **CareVets@Johnsonville Pet Centre** - 10% discount

31 Johnsonville Rd. Johnsonville Ph 04 478 3709

### **CareVets 'N' Pets** - 10% discount

Porirua Mega Centre, 2 - 10 Sempole St. Porirua Ph 04 237 9600

### **Paws and Claws** - 10% discount on all fish & fish keeping items

Logan Plaza, 207 Main St. Upper Hutt. (opp. McDonalds) Ph 04 528 5548

### **The Pet Centre** - 10% discount on all fish and aquatic products

Lower Hutt - 28 Rutherford Street, Lower Hutt 5010, 04 569 8861

Upper Hutt - 82 Queen Street, Upper Hutt 5018, 04 9745473

Lyall Bay - 117 Tirangi Road, Rongotai 6022, 04 282 1242

Online @ [www.thepetcentre.co.nz](http://www.thepetcentre.co.nz)

Free shipping with orders over \$30 + fish club discount still applie

### **The Pet House** - 10% discount

Coastlands Mall, Paraparaumu Ph 04 296 1131



What's happening?

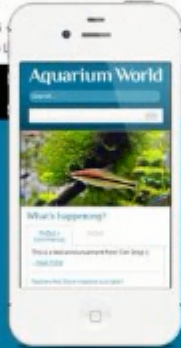
[FNZAS Commercial](#)

[FNZAS](#)



Member's Tank - Liam's Planted Tank

August 20th, 2012  
Sawaba resplendens  
Parotocinclus jumbo



# Join the Community

Online advice and support for all levels of the hobby  
find your nearest club • support local suppliers



# Aquarium World

www.aquariumworld.nz