

BULLETIN

SEPTEMBER 2015



**FEDERATION OF BRITISH
AQUATIC SOCIETIES**
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QUARTERLY BULLETIN

AUTUMN 2015

CONTENTS

<i>EDITORIAL</i>		Page 4
<i>ALL EYES ON DORY</i>	SAIA	Page 5
<i>DARTERS</i>		Page 7
<i>GOBIES</i>		Page 9
<i>JUDGES' CORNER</i>		Page 10
<i>FESTIVAL UPDATE</i>		Page 14
<i>WATER GARDENERS' CALENDER</i>	Malcolm Goss	Page 17
<i>ASK US</i>		Page 19
<i>THE GREEN CORNER</i>	Malcolm Goss	Page 21
<i>BEST OF THE BEST</i>		Page 23
<i>DRAGONFLIES & DAMSEL FLIES</i>	Richard Jones	Page 25
<i>YOU CANT BEAT A GOOD PAIR</i>	Dick Mills	Page 28
<i>THE DWARF PANDA CICHLID</i>	John Rundle	Page 30
<i>NEW MARINA AQUARIUM KITS</i>	Les Holliday	Page 33

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Edited, published and produced for the FBAS website by Les Pearce

EDITORIAL

Welcome to the Autumn 2015 edition of the Bulletin. There is plenty in this issue to peak your interest. Everything from Darters to Cichlids and from Dragonflies to Sexed Pairs.

There is the latest in updated information for the 2015 Festival of Fishkeeping which is, once again, being held at the Hounslow Urban Farm and takes place over the weekend of 3rd & 4th October 2015. As well as the usual fish shows and competitions, there will be lots to see and do, including plenty of things both 'fishy' and 'non-fishy' to keep the kids occupied. It should be a great couple of days out for all the family.

Please, please, please try and find the time to submit a little something for the Bulletin. It doesn't matter what (as long as it is at least vaguely fish orientated or fish related). It doesn't matter how long or short it is and it doesn't matter how you send it in or what form it takes. Hand written or typed, by post, by email or even by carrier pigeon (providing you have a reasonably accurate and hard working pigeon to spare). Photographs are always appreciated wherever possible (no, not of the pigeon).

Once again, I would like to offer my sincere thanks to two people in particular, without whom the Bulletin would be a lot more slender volume. These are Dick Mills and Malcolm Goss. Thanks, once again, guys.

LES PEARCE (FBAS Bulletin Editor).

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ALL EYES ON DORY!

SAIA CAMPAIGN WARNS AGAINST OVERFISHING OF PALETTE SURGEONFISH

The Sustainable Aquarium Industry Association (SAIA) has launched an extensive campaign to protect the Palette Surgeonfish on the occasion of the release of Disney's animated feature film *Finding Dory* on June 17th, 2016. Finding Dory features this species as the main character, and the Disney Corporation wants to build on its 2003 success with *Finding Nemo*, and even surpass it. SAIA warns however, should aquarists' demand for the Palette Surgeonfish rise similarly to that for Clownfish in 2003, local populations are threatened by overfishing.



Learning From Nemo

The blockbuster animated movie featuring the cute Clownfish, Nemo, woke, especially among children, the desire to get a "Nemo" into the home aquarium. The demand for Clownfish (*Amphiprion*) jumped by 25 percent and was satisfied by increased captive-bred and wild-caught supply. However, few hobbyists could

provide appropriate conditions for the species, so many animals did not survive long. In the movie, Nemo escapes life in captivity through a drain because, supposedly, all drains would lead to the sea. Countless children tried to free Nemo in the same way and because the presumption is false, this led the Clownfish gradually, albeit unintentionally, to certain death.

Palette Surgeonfish Not Easy To Breed

With its large-scale educational campaign, the SAIA project (organized by ESAIA e.V.) wants to prevent Palette Surgeonfish (*Paracanthurus hepatus*) from suffering a similar or even worse fate. "Palette Surgeonfish, known in Indonesia as "Letter 6", are demanding animals that can be kept only by experienced aquarists and under optimal conditions," states marine biologist and SAIA Project Manager Christiane Schmidt. "Unlike Clownfish, Palette Surgeonfish cannot be bred commercially. All fish sold would thus come from the wild. In the countries of origin, such as Indonesia, the stocks of aquarium fish are already depleted. This species could not sustain a Nemo-like onslaught."

Movies, Interviews, Online Workshops

The yearlong SAIA campaign in advance of the Dory movie premiere is not directed against the film itself. Rather, it focuses on promoting the responsible, sustainable sourcing of aquarium fish beyond the beautiful, colourful world of cinema. The campaign kicks off with SAIA's film Searching for "Letter 6", documenting the laborious process of tracking down tropical fish and the long, gruelling journey the animals make from the reef to the aquarium. Throughout the year, renowned scientists and aquarists will conduct online seminars and publish articles; breeders and dealers will have their say. The organization also stands ready to advise stakeholders from industry, government, and associations, as well as hobby aquarists and all others interested in this issue.

For more information visit www.saia-online.eu

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E-mail: vorstand@esaia.net
Internet: www.saia-online.eu

HAVE A DART AT A COLOURFUL COLDWATER

It's a bit difficult to believe that the fish shown here doesn't inhabit some tropical lagoon or salt water, such are its colours – you can just imagine it skipping across the coral sand from one rocky outcrop to another.

There's a clue to its identity in the heading, as this species is one (out of nearly 100) of those found in the Darter Family, the *Etheostomini* sub-division of the *Percidae*.



Darters resemble Gobies to some degree and are to be found amongst the rocks and debris on the bottom of streams, rivers and lakes. However, their physical distribution can vary from very shallow fast-flowing streams to quite deep slower water and your catch will depend on such variables throughout its geographical distribution from Canada to the southern States of the USA east of the central divide.

They are best captured by two or three people – two to hold a large fine-

meshed net whilst the third walks along the riverbed towards the net turning over, or otherwise disturbing, pebbles, rocks and leaf litter amongst which the fishes normally dwell. Lacking a swim-bladder, Darters are clearly not mid-water occupants, limiting their travelling to the lower levels.

Relating this to aquarium furnishings for Darters, it follows a rocky substrate with a good flow (power filter, or power-head assisted) of water through the aquarium is recommended. A layer of sand should be provided for those species, (and this Variegated Darter, *Etheostoma variatum*) is one of them, that bury eggs in the substrate when spawning.

It is reported that this fish shifts its chosen location to deeper (warmer) water during winter when its normal habitat in shallow waters gets too cold for comfort.



Like all fish of its type its chosen diet would be for 'meaty,' worm-like foods rather than dried foods and the young are eager to snap up newly-hatched Brine Shrimp.

For those fishkeepers living in the fishes' natural distribution area, from New York State down through Philadelphia to Ohio, captured wild fish may need to be taught to feed aquarium foods by example of Darters already kept by the hobbyists.

THE ONLY WAY IS UP (IF YOU'RE A GOBY)

For the majority of fishes the wide open spaces of the sea, lake or river is at their disposal and all things being equal, they are free to roam as they wish – up, down, sideways, forwards and back. Bottom-dwelling species do not share this capability and Gobies are an excellent example of how fish adapt (or develop) to their limited space.

Look at a Goby's body shape and you will see it is designed to not allow water currents to get beneath its flat ventral surface and consequently lift the fish off the substrate. Of course, this flat lower profile almost brings the mouth much nearer to the substrate and (coincidentally) the location of their food!

Inside the body, there is no swim-bladder (which in other fishes provides control over buoyancy) as the Goby doesn't need the ability to hang in midwater.

Location-wise, Gobies usually inhabit fast-flowing waters and have more physical characteristics which help them stay where they want to: their pelvic fins (usually a separate pair in 'normal' fishes) are fused together to form a suction disc which anchors them to a chosen resting place. Although Gobies have double dorsal fins, not all species have a large first fin. Those in fast flowing water have smaller front fins than those Gobies inhabiting slow waters, to prevent this acting like a 'sail' and blowing them off their location.

Clearly, the Goby is a cleverly designed fish and its highly-set eyes also help to give it an advantage as it scans its very low horizons for food!

Gobies will appreciate a pebbly, rubble-strewn substrate offering boulders to hide behind or corridors between rocks in which to retreat. A power-filter system (or simply a strategically-placed power head or two) will provide beneficial water currents bringing foods well within their reach.

The Goby in the picture certainly made it to the top – this *Stiphodon ornatus*, recently took a Best in Show.



The name *Stiphodon* refers to the 'horde of teeth' in the mouth: these are ideally suited for grazing on the bio-film and soft algae which should be allowed to develop on rock and glass surfaces in their aquarium.

JUDGES CORNER

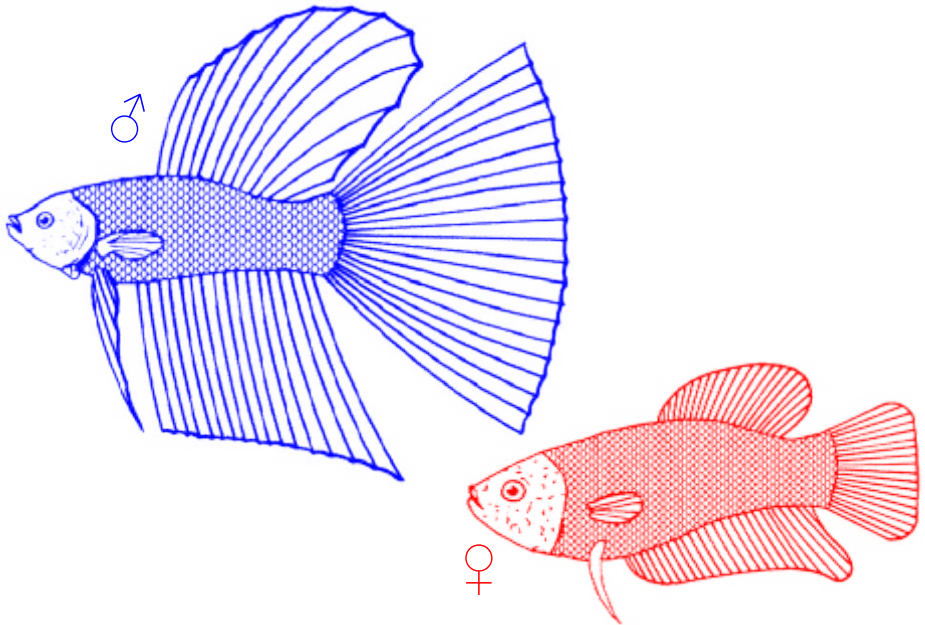


Following on from the Fighter (*Betta splendens*) standards, published in the last *Bulletin*, the next two can be found on the following pages. These are the 'Delta Tail' and the 'Double Tail'.

The J&S has also produced a new female guppy (*Poecilia reticulata*) standard for the female Speartail. It has been allotted the FBAS class designation **Oz**. It fitted neatly under the existing female Cofertail standard in Book 1 so the whole page can be printed out and used to replace the existing page. In earlier versions of Book 1, the page is numbered **P4** but because of changes to the Class System, this page is now numbered **Os-z 4** but remains the same page.

BETTA SPLENDENS. Regan.

Delta Tail Variety

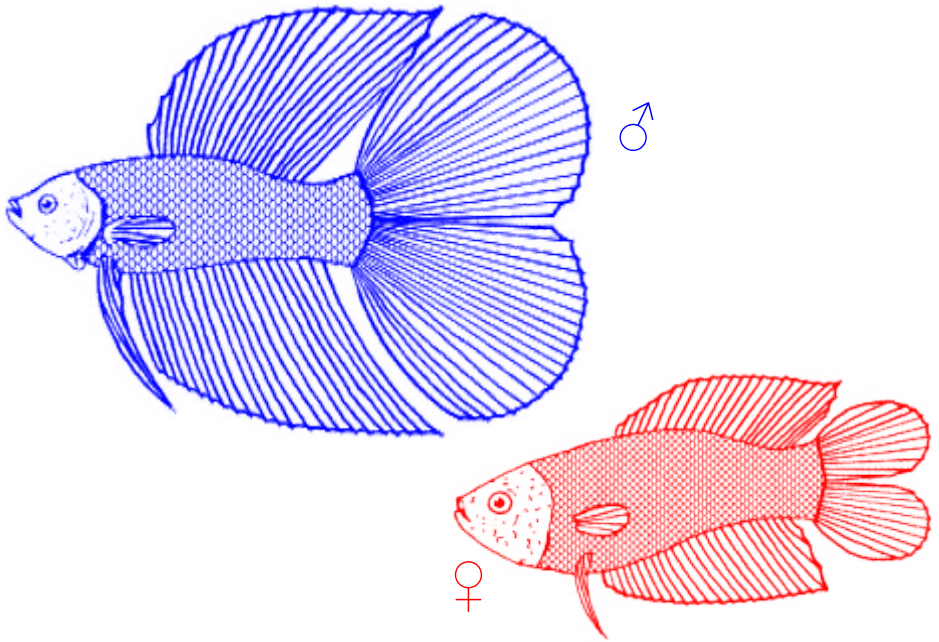


MALE: The caudal fin to have clearly defined edges. A degree of convex curvature is acceptable along the edges, especially the anterior edge but this should not be so great that it in any way blends in to form a rounded caudal fin. The junctures of top and bottom edges with the anterior edge should form a definite angle. The height of the caudal at its widest point should not exceed the height of the fish from the top of the dorsal to the bottom of the anal fins. Fish not displaying these characteristics should be severely down-pointed. Dorsal and anal fins to be similar in height and as per the guide drawing. All fins to be carried erect. Caudal peduncle to be capable of carrying the caudal fin.

FEMALE: As the male except that all fins to be shorter than those of the male and as per the guide drawing. The 'corners' of the caudal fin on the female are usually more rounded than those of the male but edges should still be clearly defined and separate. All fins to be carried erect.

BETTA SPLENDENS. Regan.

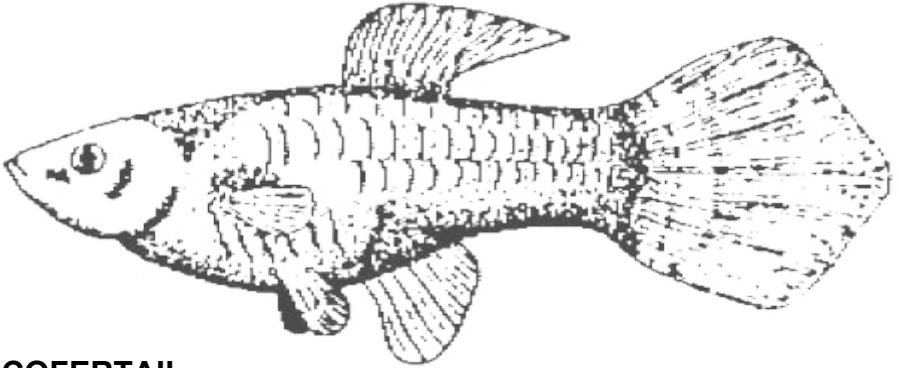
Double Tail Variety



MALE: The caudal fin to be fully and clearly divided forming two well defined and separate tails. There should be two distinct caudal peduncles. The caudal fins should be as near as possible to a mirror image of each other in both size and shape. Fish not displaying these characteristics should be severely down-pointed. Variation in the size of the caudal fins from fish to fish is permissible but should always be in keeping with the size of the dorsal and anal fins of that particular fish. Dorsal and anal fins to be similar in height and as per the guide drawing. All fins to be carried erect. Caudal peduncles to be capable of carrying the caudal fins.

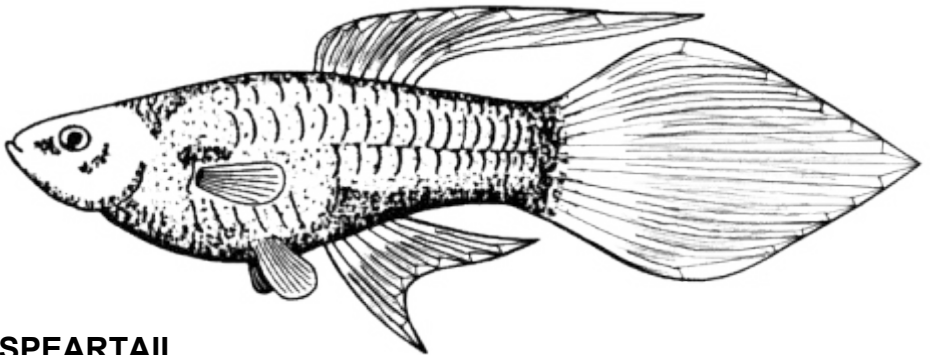
FEMALE: As the male except that all fins to be shorter than those of the male and as per the guide drawing. Caudal peduncles should be clearly defined, separate and capable of carrying the caudal fins. All fins to be carried erect.

FEMALE GUPPIES



COFERTAIL

Caudal fin shaped as illustrated. Dorsal fin pointed, terminating before the caudal peduncle.



SPEARTAIL

Caudal fin spear shaped and tapering to a point as illustrated. Dorsal fin long and narrow, tapering to a point and terminating approximately above the widest part of the caudal. Particular attention should be paid to the shape of the anal fin which should be longer on both leading and trailing edges making the lower edge concave in appearance.

FBAS FISH STANDARD



2015 FESTIVAL OF FISHKEEPING

The Federation of British Aquatic Societies' annual Festival of Fishkeeping, set to take place at the Hounslow Urban Farm over the weekend of 3rd & 4th October 2015, has a long tradition of presenting all that is best in the practical side of fishkeeping but with an ever-changing presentation. The fact that the Festival has been presented for so many years in so many ways, shows just how much there is to learn and enjoy about this wonderful hobby.

Basically, everyone likes showing off and the two days in October will give ample opportunity not only for proud fishkeepers to do just that but also hundreds of other fishkeeping visitors to marvel at how they do it.

Each day will provide a showcase for show-winning fishes – either singly, in pairs, breeders teams or as collections in superbly furnished aquariums. On hand will be experts from the aquatic Trade to show what's new and also to offer advice and guidance about any fishkeeping question you care to throw at them.

Must See Highlights

Fishkeeping exhibitors can flex their muscles in three main competitions on Saturday:

The **British Open** is the place to see all the 'Best in Show' winners from 2015 competing for top spot. **The Festival AS Open Show, sponsored by FLUVAL**, is the last chance saloon to get your hands on a Show Trophy for 2015, whilst the **Diamond Class Final** features winning fish from Societies' choice of Classes in 2015.

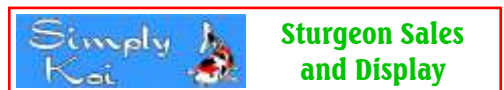
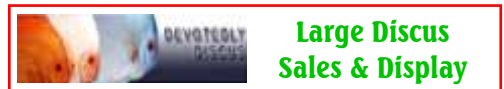
Sunday brings the real excitement with all the best of the best battling it out in three more high-class competitions.

The **FBAS SUPREME FINAL** is the equivalent of the Grand Champion finals found in almost every other pet-related Shows and winning this is considered the ultimate achievement amongst fishkeepers.

Whilst every fish exhibited at the Festival is clearly a testament to its owner's fishkeeping skills, entries in the **Supreme Pairs** and **Supreme Breeders** categories reflect a more complete achievement.

The challenge appears simple - just pick your pair of fishes and then breed from them – except that it's often more difficult than that and you could be surprised as to how many species can be bred.

Away from the competitive areas, there will be plenty of fish-related things to see. Amongst the planned attractions (so far) will be:



PLUS:

****Home Bred Fish Sales****

****Specialist Live-breeding Fish Sales****

****Japanese Koi Sales & Display****

****Advice & Information****

SPECIAL SHOW OFFERS

Fish Tanks – Fish Stands – Ex-Display Equipment for sale
Fully Furnished ex-Display Tanks & Pond Equipment for sale*

* To be collected at the conclusion of the Festival, or delivered locally for a nominal charge, please ask for details

NO, WE HAVEN'T FORGOTTEN THE KIDS

Kids will probably get enough fish information at home so why not expand their animal horizons at the Urban Farm? Here are some ideas:

Free Children's Face Painting

Farm Tours

Children's Colouring Corner

Pony Rides

Children's Bouncy Castles

Farm Animals

Children's Tractors

Animal Encounters

AND FINALLY, FOR ALL AGES

Cafeteria

Barbecue

FESTIVAL FACTS

When? 3rd & 4th October 2015

Where? Hounslow Urban Farm, Faggs Road, Feltham, Middlesex TW14 0LZ

www.hounslowurbanfarm.co.uk

Admission prices:

Adult **£7.50** Children (over 2 years) **£6.00** Children (under 2 years) **FREE**
Family Ticket 2 Adults & 2 children **£24**

MORE INFORMATION

Hounslow Urban Farm is situated on Faggs Road, Feltham, Middlesex TW14 0LZ

www.hounslowurbanfarm.co.uk

Please contact the Festival Organiser on 0208 847 3586 or by email: joenethersell@gmail.com with any queries you may have.

THE WATER GARDENERS' CALENDAR

MALCOLM GOSS

September

This is a good time to remove debris and dead plant material from the surface of the pond such as overgrown marginal plants and leaves etc that the wind has blown in. The Laguna range of nets are ideal and have telescopic handles – ideal for those ponds with far-reaching places. If this is not possible then use garden wire to tie a suitable fish net to a strong bamboo cane. A pond vacuum is needed to remove any sludge from the bottom of the pond.

If you know the bottom of your pond is flat I have used an old net to trawl along the bottom. Whilst any filter and/or pump is switched off the sludge can be collected into a bucket; try not to lift too much sludge at any one time and when completed give a dose of Laguna Bio Sludge. I would wait 24 hours before turning on the pump and filter, giving the pond time to clear, so not blocking up the filter within 30 minutes after you have re-started the pump!



With the start of autumn, leaves dying from marginal plants etc. fall into the pond and, with increased decaying material falling into the water, check by water testing for water deterioration, and if so carry out partial water changes.

With high summer temperature over the past months it can encourage fish infections and parasites as they develop faster in warm water. Fungus and Fin Rot are common diseases. If your fish have any outward evidence of these infections, like signs of irritation by scratching themselves or jumping, you can contact the Hagen help line for advice on their treatment.

October

If you did not carry out any maintenance to your pond last month, October is a good time for a complete clean out. When did I hear you say you did it last? Was it last year, maybe the year before? Now I come to think of it, well, it could be five years ago! So get to it, start by removing all the marginal plants, boy I cannot lift them so don't leave it so long next time.

Remove all aquatic plant and any water lilies. Have a large tub/fish tank or child's paddling pool to put the fish in and make sure you cover it with a net or something similar in order to stop fish jumping out. Pump out the pond water, well away from the pond, that is if you don't want to fall in by slipping. Using a dust-pan with a rubber edge, remove the remaining water along with all the sludge. Re-fill the pond and use a Laguna water-safe treatment.



When replacing the fish, first check for damage to their bodies and leave them out of the pond for the time being until they are free from any infections. Clean the filter. It is often said only to wash half the filter medium, but if it is that dirty, then fully clean half and rinse or wash the remaining media or sponge, thus leaving some bacteria to help the filter to start operating again.

November

During the winter months, I cover my pond with chicken-wire supported by some canes. This stops most of the falling leaves from dropping into the water. Also, when it is cold and river fish swim and rest at the bottom of canals and rivers, your fish become easier pickings for the Heron who will be looking for food. Most water-gardeners do not feed their fish during the winter months at temperatures below 10°C. However, fish food manufactures do make a wheatgerm food in either flake or pellet form and for those that like to feed their fish small amounts, using this say, twice a week, will be OK . One must keep in mind the more you feed your fish in both summer and winter the more your fish will poo. This will make more dirt and sludge in your filter.



One often gets asked "Do I switch off my pump in winter?" There are two trains of thought on this subject. Remembering your school time physics, you will know that water is at its densest at 4°C so, in an un-pumped pond, there should be this natural layer of relatively warmer water at the bottom of the pond where fish will feel their warmest. Keeping a pump running will tend to equalise the temperature throughout the whole pond with no warmer layer at the bottom.

But, against this, is that if the pump also services the filter then the filter will have to go through its maturation process all over again when you re-start the system.

Keep your waterfall going if possible, unless it freezes and the ice makes it come to a standstill. But shut off any fountains and small water feature that will ice up quickly.

ASK US!

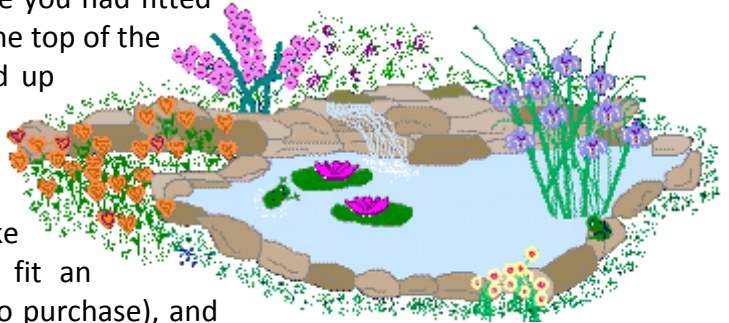
Q. My pond is leaking and going down about 100mm a day. I have now caught the fish and put them in a large container. I have been told by the local garden centre that as well as a new liner, I will also need an underlay. Why can I not put a new liner straight over the old one?

A. First of all, I am sure your container with the fish in is not as large as the pond you have taken them out of. So, purchase a small air-pump, connect it up (making sure it's safe from any water or rain damage) and get an air-stone working as soon as possible. This will ensure your fish are not deprived of their accustomed oxygen, whilst they are confined in 'less than normal' conditions.

Your garden centre is not trying to sell you requirements you do not need. Although your old liner is letting water leak out, it will also (through the same place) let water in. Once you had fitted

your new liner in over the top of the old one, and even filled up with water, rain water will get between the old liner and the new one and start lifting it. So take that old liner out; do fit an underlay (quite cheap to purchase), and it will guard against roots and stones penetrating the new

liner to a certain degree. Fill the pond not forgetting to add the appropriate amount of water conditioner and in no time at all your fish will be exploring their new pond.



Q.

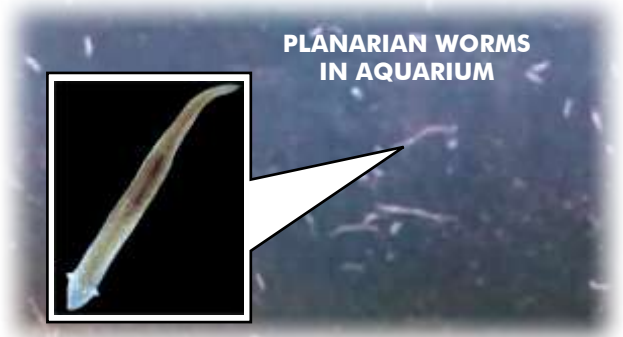
I have three coldwater catfish, two black and one albino. The black catfish have small white spots on their heads. They are on the upper lip of the mouth and run back over the head and some way down the lateral line. They seem to be arranged in some sort of pattern. I occasionally see small, what I think are parasites, on the fish which is also evident on the sides of the aquarium.

The aquarium is equipped with an internal filter and pump. However, I am re-housing the fish into a four foot tank which will also have an undergravel filter.

A.

The white spots on your (*Ictalurus*) black catfish sounds like the “pimple parasite” as it is called and these infections seems to occur when conditions are not correct in the aquarium.

The “parasite worms” you see on the glass are planarian worms and are not parasites. These seem to bloom with uneaten food and immature filters in a new water system, or when a large amount of water changing occurs.



When you are cleaning your filter use rainwater, or better still, use some of the matured aquarium water before you discard it during a water change as tap water can kill off any beneficial bacteria that should have become established in the filter.



Laguna’s ‘bacteria starter’ will help condition your filter.

Also do not feed your fish so much, thus preventing water pollution. This is even more important now that you intend to install an undergravel filtration system, as any uneaten food can be drawn into the substrate where it will decompose and pollute the aquarium water even faster.

THE GREEN CORNER

CRYPTOCORYNE WENDTII MALCOLM GOSS

This species of *Cryptocoryne* originates from Sri Lanka and there are two forms available, diploid and triploid. The lanceolate leaves have long petiole with reddish veins on the lower side of the leaf lamina. It is seen here, with a wavy nature to the leaves, in my son's aquarium, he lives in Denmark.



In its natural habitat, it can be found in slow or fast moving streams and in small bodies of water that are formed near the streams in wet seasons. Like most *Cryptocoryne* species, it is

amphibious, thus making it a slow grower when it is kept fully submerged all the time. However, this *Cryptocoryne wendtii* was planted in my son's aquarium nine years ago from one of those small plastic pots. It has grown, not



just into a foreground or even a middle ground plant but, because of its size, it has become a background plant. If this plant were to be fully removed, it could be divided up into many plants but instead, it is left to propagate itself by runners that not only spread along the back of the tank but also spread under a large piece of wood, with new plants growing at the front of the aquarium. So it has become a treat for me to remove these new plants and bring them home with me whenever we visit him.

EUROPEAN FROGBIT

Hydrocharis morsus-ranae

MALCOLM GOSS

Frogbit is the name of a plant that always, somehow, makes me think of winter. This plant, however, completely vanishes from our ponds in the winter and reappears in the summer.

Frogbit grows in outdoor ponds and, in its natural environment, it inhabits shallow ponds with plenty of sunlight.

It derives its name from the Greek, **Hydro** = water and **Charis** = delight or pride, so **Hydrocharis** means 'Pride of the Water'.



This perennial generally grows submerged but the upper leaves float on the surface and the small, three-petaled white flowers either grow on the surface or out of the water. The rootstock has numerous slender stolons which produce new plants at their extremities. The floating leaves are heart or kidney shaped and can grow into clusters that form rosettes.



During the longer summer days, Frogbit grows and will spread right across the water surface, but can easily be netted out. A plant that is often used by those exhibiting aquascapes as they resemble water lilies, but in miniature.

BEST OF THE BEST

A SELECTION OF SOME OF THE FISH THAT
HAVE WON BEST IN SHOW THIS YEAR AT
OPEN SHOWS AROUND THE COUNTRY



Paraneetroplus argentiatus
Eastleigh & Southampton



Geophagus brasiliensis
Portsmouth



Apistogramma agassizi
Mid Sussex



Schistura mahnerti
STAMPS



Neoheterandria elegans
ASAS



Hyphessobrycon amandae
Corby



Nannostomus mortenthaleri
Derwentside



Ryukin
Middlesex



Otopharynx lithobates
Southend



Protomelus taeniolatus
Eastleigh & Southampton



Stiphodon ornatus
Hounslow

DRAGONFLIES AND DAMSELFLIES AROUND YOUR POND

RICHARD JONES
Entomologist and Author

The magical transformation of ungainly aquatic gargoyle nymph to beautiful aeronautic adult dragonfly is an astonishing wonder, but one available to anybody with even the smallest pond in their garden.

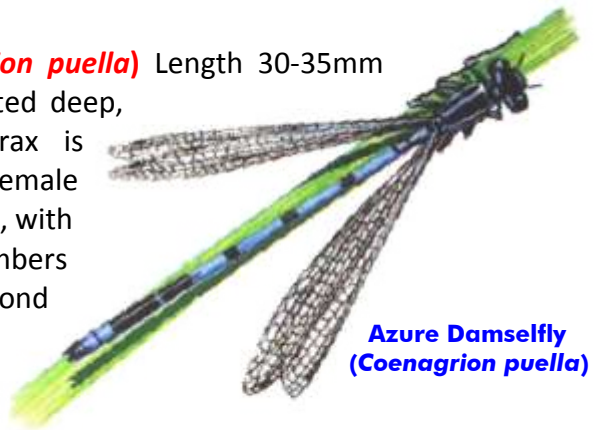
Nymphs start crawling up emergent stems at night (although this can be seen in the day), their backs split open and the shrivelled adult heaves out, it can take several hours to expand the wings and dry them to an aerobatic crispness, so early morning is a good time to go spotting.

Some species use a perch stem from which to dart out and catch prey (mostly small flies) and see off competitors.

Large hawkers fly many kilometres from water, and make a regular patrol up and down hedgerow or fence line, their large wings brushing together to produce a clearly audible rattle as they pass.

1. Azure Damselfly (*Coenagrion puella*) Length 30-35mm

The male abdomen is variegated deep, bright blue and black, thorax is streaked blue on sides. The female abdomen is mostly black above, with thin greenish rings. Large numbers patrol just above and among pond side marginal plants.



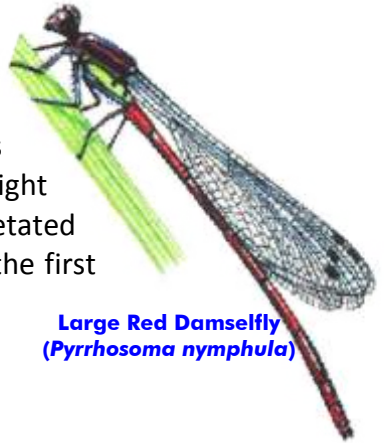
Common Blue Damselfly
(Enallagma cyathigerum)



2. Common Blue Damselfly (*Enallagma cyathigerum*) Length 30-34mm. The male is powder blue, the female usually green-marked, but some are blue-or yellow-patterned. It's a stronger flier than other damsels, venturing further out off the open water.

3. Large Red Damselfly
(Pyrrhosoma nymphula)

Length 34-38mm. Black, with broad red stripes on the thorax and a tail heavily marked with bright red (less so in female). Preferring well vegetated areas, it appears from mid- April and is often the first damsel (or dragonfly) on the wing.



Large Red Damselfly
(Pyrrhosoma nymphula)

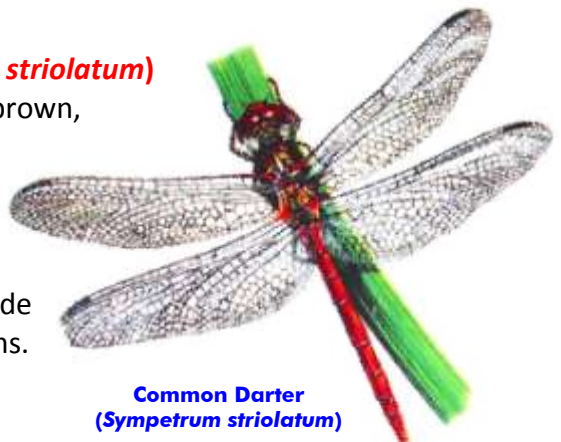


Banded Demoiselle
(Calopteryx splendens)

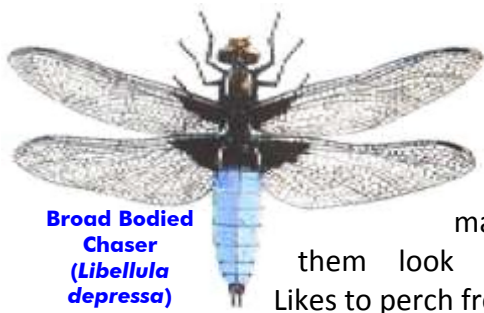
4. Banded Demoiselle (*Calopteryx splendens*) Length 43-48mm. A beautiful, dark, iridescent green (female) or blue (male), each of the wings of the male carry a large, inky-blue blotch. With a butterfly-like flutter, it settles on herbage along slow-moving silt-bottomed streams.

5. Common Darter (*Sympetrum striolatum*)

Length 35-40mm. The thorax is brown, but the tail a bright scarlet (male) or straw yellow (female). With a slim abdomen, it is active and restless, and will sun itself on bare ground or perch on water-side vegetation rather than erect stems.



Common Darter
(Sympetrum striolatum)



**Broad Bodied
Chaser
(*Libellula
depressa*)**

6. Broad Bodied Chaser

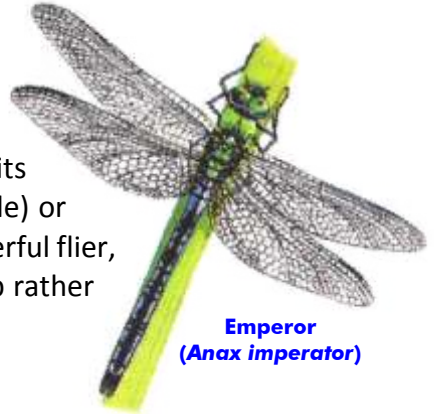
(*Libellula depressa*) Length 40-45mm.

Has distinctive broad, flat tail-the male powder or Wedgwood blue and flecked with yellow, the female and immature males all brown. The yellow marks can make

them look hornet-like.

Likes to perch frequently.

7. Emperor (*Anax imperator*) Length 75-80mm. Our largest and brightest dragonfly, its thorax is apple green and the tail a blue (male) or green (female) with black linear marks. A powerful flier, it surveys open water from several meters up rather than skimming the surface.



**Emperor
(*Anax imperator*)**



**Brown Hawker
(*Aeshna grandis*)**

8. Brown Hawker (*Aeshna grandis*)

Length 70-76mm. Has a milk-chocolate abdomen that

is almost imperceptibly flecked with yellow (female) or blue (male). Wings are a smoky brown, visible even many meters away as it traverses a reed bed, lake, canal or slow-moving river. Glides, then flutters.

9. Southern Hawker (*Aeshna cyanea*) Length 65-77mm. Black, strongly marked with green and turquoise (female) or blue (male). Has a wedge mark on the first tail segment and broad marks on the front thorax. A powerful inquisitive flyer, it will buzz a person as if to inspect them.



**Southern Hawker
(*Aeshna cyanea*)**

YOU CAN'T BEAT A GOOD PAIR

DICK MILLS

The ability to spot a good pair of fish is vital in two sets of circumstances.

Naturally, should you wish to spawn the fishes, recognising the differences between male and female is of paramount importance! Bear in mind that, whilst in most cases (in egg-laying species) it's usually the case of looking at fins and plumpness – livebearers have a different set of attributes – there are cases where some completely different sexual dimorphism occurs which throws all your best plans out of the window.

One of the best places to get to appreciate the differences between the sexes of fishes is at an Open Show or even a Club Table Show. This is because the Judges are on the lookout for fishes which are, according to the Show Rules, readily identifiable as a male and female of the same species or variety or strain. A further reason is that fishes in open competitions are more likely to have reached full adulthood rather than just be two adolescents which have yet to fully reach maturity.

We will assume, for the sake of brevity, that most fishkeepers can sex livebearers, and concentrate our thoughts on to the egg-laying species..

As in most walks of life, it's the responsibility of the male to do his best to gain the attention of the female. He can primarily achieve this aim by putting on his best display of fitness, colours and fine ornate finnage. It is only in the more 'evolved' species that trials of strength between competing males come into play. In some species, the male may also show off his breeding attractions by building/creating spawning nests or sites.

Well-rounded females are attractive the world over, not just in fish circles, but to our would-be male suitor her plump flanks indicate that she has filled up with eggs and is ripe for spawning. One result of segregating the sexes in separate tanks before putting them together to spawn, is to allow the build up of eggs in the unpestered female to ensure she is at her peak attraction when re-introduction to the male occurs.



The fishes in the accompanying picture are *Trichopodus leerii*, the popular Lace, Pearl or Mosaic Gourami. The male fish at the top is showing excellent dorsal and anal fin development, together with bright orange ventral and throat areas. How could any plump, ready-for-action female refuse his advances and ready-blown bubble nest?

THE DWARF PANDA CICHLID

Apistogramma nijsseni

JOHN RUNDLE (Plymouth Fishkeepers' Society)

Adapted from his original article by **MALCOLM GOSS**

John Rundle of the Plymouth Fishkeepers Society tells about how he fell in love with a most attractive dwarf cichlid from South America. Its natural habitat and area of distribution being the Amazon River Basin, Carahuayte River Drainage, Rio Ucayali near Jenaro Herrera in Peru. It is found in slow flowing water that has a pH of between 5 and 7. John has kept dwarf cichlids for many years and says these small fish can be found in many of his tanks within his fish house. John let his local fish shops know he was interested in Panda's . It was some time later a retail outlet in Cornwall phoned to say he had Panda Cichlids in his shop, but they were a little pricey. By the time he was able to get to the shop there was only one pair left, John says, so he purchased the pair with the hope that they would be compatible and breed.

Within about five weeks members of my club had found more fish local to me and I was able to obtain two more pairs. With my collection complete, I could now start my breeding program. At that time there were only a few facts on this dwarf cichlid but I turned to Hans-Joachim Richter's book, *The Complete Book of Dwarf Cichlids*. This gave me a brief outline of this species, but no in-depth breeding information.

All the fish that I had acquired could be classed as young adults, so I decided to follow the ground rules that I have used to breed my other dwarf cichlids. They were all placed together allowing them to choose their own compatible partners. To allow this, the tank must be large enough for the fish to establish their own areas of territory. The area required by a pair of dwarf cichlids can be as large as 12 inches in diameter. So two pairs, for example, would require a 24 x 12 inch tank. As I had three pairs, the theory was to place them in a 36 x 12 inch tank, this being enough space allowing 12 inches for each pair.

The tank was set up with a gravel substrate, lots of plants using **Cryptocoryne** species and an abundance of caves made from slate or you could use clay flower pots turned on their sides. **Nijsseni** are known as a 'cave spawner' laying their eggs to the roof or wall of such a hiding place. The water temperature was around 78 to 80 degrees Fahrenheit and a large sponge type filter supplied the tank's filtration. The tank had a lighting system of two 40 watt incandescent light bulbs. This was ideal as the fish are nervous and will hide under too strong lights. Tap water in the West Country is soft and around 7 to 7.2 pH for those with hard water one could use filtered rain water. Once a week, I carry out a 15 percent water change and clean the sponge filter. Pandas will eat most dry foods, but I treat them to frozen bloodworm and live white worm and it was not long before the fish showed signs of pairing off. Of all the dwarf cichlids I have bred, I cannot think of a female that will show you so many colour variances as the female **Nijsseni**. She looks her best when guarding the eggs or a brood of fry. The bright yellow body with prominent black markings, a sign of a proud mother who will protect her clutch at all costs. At this point you will see why it is called the 'Panda Cichlid'. Sometimes the female would move the eggs to what she felt was a safer place within the tank. The eggs hatched within three days and the fry could clearly be seen wriggling. It was on the sixth day that I was greeted with the sight of her herding the free-swimming brood in search of food. Feeding the young fry was no problem,





as they took brine shrimp nauplii and micro worms as their first foods. After a period of 18 days I removed the female, the male and others pairs I had removed earlier, not an easy job in a furnished tank. The young were left to fend for themselves and I would change about 25 percent of the water each week. This was to remove any uneaten brine shrimp that would pollute the tank. When the young fish were six weeks old they could take dry food, you may wish to move them to a larger tank. The fish breed many times with broods of around 50 fish and they could be sexed at about 15mm in length. The males would show the red edge in the caudal fin and in the female, the centre black marking would start to show. However as soon as a net hit the water to catch individual pairs, all the markings would go, so I would have to try again later.

I feel that I can recommend ***Apistogramma nijsseni*** as a great little fish to all fish keepers. I do believe that if you keep the water conditions as I have done, you will have no breeding problems with these fish. Also remember that the adult pairs need plenty of space. Go on spoil yourself and buy the 'Panda Cichlid'

Editor: I would like to thank John for his account on the Panda Cichlid that was adapted from his original article by Malcolm Goss.

BRAND NEW MARINA KIDS' AQUARIUM KITS

LES HOLLIDAY - ROLF C. HAGEN

Back in the days when I was first becoming a fledgling aquarist most young kids, like myself, were likely to receive their first experience with aquarium keeping when they proudly came home with a highly prized goldfish won on the hoopla stall at the local fairground. However with no real means of acquiring the necessary skills to become a successful goldfish keeper not surprisingly many pet goldfish obtained in this manner usually suffered a very short life span in cramped polluted conditions, worsened usually, by a diet restricted to ants' eggs, the only food available from most neighbourhood pet shops at the time. Aquarium keeping did nevertheless develop and succeed allowing the humble goldfish to become second only to the cat as the top pet in British homes. Furthermore the popularity of the goldfish was no restricted only to its individual status as a whole range of excited aquarium designs have emerged that have allowed a variety of forms of cold water, tropical and marine fish to be successfully kept and reared. These specialised aquarium kits have

continued to improve and are now available fully equipped with filters, an instruction guide and various decorative materials, foods and chemical water treatments.



Two new kits have recently been created by Rolf C Hagen (UK) LTD for their Marina kid's aquarium kits range that are perfect as a child's first aquarium. The Marina Mermaid is designed for girls and the Marina Pirates aquarium for boys and both have been conceived to be attractive

to smaller children and allow your child to independently care for their own small aquatic environment. The child friendly, easy to use, guide is especially helpful with hints and tips for your children to be involved in the entire fish keeping process from setting up to looking after their fish.

Key features of both aquarium models:

- Both are perfect for cold water and temperate fish.
- 17lt Glass aquarium with canopy and feet.
- Internal filter.
- Background graphic.
- Mermaid/ Pirate internal graphic.
- Set up and care guide.
- Easy feed opening in the canopy.

The entertaining themes used for these kits are guaranteed to entertain children in the younger age groups, the Marina Pirates kit encourages boys especially to embark on their own aquatic adventure and share the enchantment of the Pirates underwater adventures. On the other hand the Marina Mermaids kit will appeal to girls who will be able to experience the wonder of their own aquatic creation and illuminate their imagination with the enchantment of a Mermaid's underwater adventures.



An aquarium is an ideal, living, self-contained environment which is a fine introduction for children to the aquatic world and aquarium kits, themed or otherwise are an excellent start for smaller children. Many children have been inspired to embark upon science oriented careers in fields such as environmental or marine biology, ecology or other related subjects because of an interest sparked off by aquarium keeping. Similarly, it is fair to say that nothing can rivet a child's attention quite as effectively as a miniature aquatic environment in a child's own room or in the living room.

Hagen aquarium kits are an excellent alternative to putting together an aquarium piecemeal, and the children themed, simple to set up and maintain forms an appealing welcoming to the hobby of fish keeping.

MARINA
MERMAID
Shimmer & Sparkle
AQUARIUM STARTER KIT

Setup & Care Guide

Before you start - unpack all items and inspect for damage. Check filter and electrical flex. If any item shows signs of damage, return to the retailer with your proof of purchase.

Your Aquarium Set contains:

- ✓ 1 x 17L Glass Aquarium & Canopy
- ✓ 1 x Filter
- ✓ 1 x Background Graphic
- ✓ 1 x Internal Graphic

You will also need:

- Gravel (approx 2kg)
- Water conditioner and biological supplement
- Fish food
- Decor and maintenance equipment

Hi I'm Princess Marina, make sure you read my guide before you start setting up your aquarium!

Attaching the aquarium feet

Peel off the adhesive backing on each foot. Apply a foot to the bottom 4 corners. Carefully stand the aquarium on its feet.

1 Choosing the right location

Choose the right place in your home to set up your aquarium. Make sure the aquarium is:

- **AWAY FROM** direct sunlight, if placed too close to a window, an aquarium can develop significant algae problems.
- **AWAY FROM** direct sources of heat, such as fires and radiators.
- **AWAY FROM** sources of sound or vibration, speakers or TV.
- Make sure that the piece of furniture where the aquarium is going to sit is sturdy enough to hold the total weight.
- You will need at least one plug point within easy reach.
- Give yourself easy access to the aquarium - leave about 6-7cm behind it to run wires and make sure you have unrestricted access to the lid.

Water and electricity don't mix!
Don't position the aquarium too close to other electrical appliances where water spills may cause serious damage or safety hazards.

Water is heavy!
eg. Your aquarium, complete with 17 litres of water and including the gravel, means the total weight is equivalent to over 42 large cans of baked beans - so choose the final position carefully.

"Remember - One litre of water weighs one kilo. Don't move the aquarium when it's full!"

WARNING!
Younger children must be supervised by a responsible adult when assembling this product. Please read the safety advice provided and follow the instructions carefully to ensure a successful set up.
Never put your hands into the aquarium water when the filter is switched on. Never run the filter out of water.

Tetra

Created by experts to bring out the best in your fish



Superior to
flakes

Excellent fish
condition

Two formulas
in one

Better water
quality

Fish prefer
Crisps!

The health and condition of your fish directly depends on the diet you choose for them. That's why Tetra's industry-leading research laboratories developed TetraPro Crisps, to overcome the drawbacks of flake foods. Produced at a lower temperature, and using a completely different production process, TetraPro offers better nutrition for unrivalled health and condition. It also results in less waste production, for improved water quality and clarity. The two-colour process used to make TetraPro also allows the introduction of two formulas into one food, for concentrated benefits on top of a complete, balanced diet. What's more, fish prefer Crisps to flakes, meaning they get a diet they love, as well as one that keeps them in great shape.

For more information: www.tetra.net