

BULLETIN

SUMMER 2016



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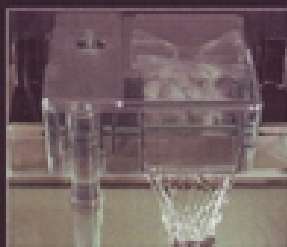


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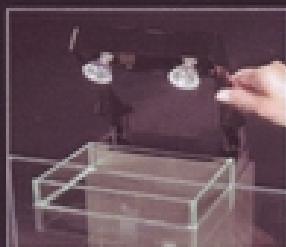
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QUARTERLY BULLETIN

SUMMER 2016

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

EDITORIAL

Welcome to the Summer 2016 edition of the Bulletin. There are some outstanding items inside - something of interest for everybody.

There is a fascinating and useful article by Dr David Pool on Spawning Triggers. Sorry all you marine enthusiasts, it is concerned with the conditions and environments that trigger spawning in various species - NOT on spawning trigger fish.

Dr David Ford goes all scientific on us and unravels some of the mysteries of siphoning - something we all do regularly but few stop to wonder how it works.

Please, please keep the articles and information coming in. Anything that you think may be of interest to fellow fishkeepers is always welcome. You can contact me or send articles using the details below.

A big thank you should go to Dick Mills and Malcolm Goss for their continuing and invaluable help and support.

LES PEARCE (FBAS Bulletin Editor).

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SAD NEWS FROM BRISTOL TROPICAL AS

Hello Everybody,

You are probably already aware that Bristol Tropical AS have not renewed our FBAS affiliation this year. I am afraid that we will not be doing so.

We have been struggling for several years. In 2015 we only had 6 memberships paid. One of those members has since died and I suffered a stroke myself last September and will no longer be able to attend meetings.

We have, therefore, reluctantly decided to wind up the club.

Please pass on our thanks to the FBAS officers for their past support and in the case of Dick Mills, for the many excellent talks he has given us over the years.

Many thanks,

Tony Hatcher (Club Treasurer)

THE TEXAS CICHLID

(*Cichlasoma cyanoguttatum*)

MALCOLM GOSS - Research: Dr. Dave Schleser

The Texas Cichlid is not only a much neglected fish in the U.S. but nowadays, along with other large cichlids, it is very rarely seen on our show benches. Although it is found in Texas as far north as the San Marcos River at its source in the town of the same name, it could be said the fish's common name is misleading compared to the major part of its range. Dr. Dave Schleser has seen magnificent shoals of these fish in the waters of the Moctezuma River in central Mexico.

The Texas Cichlid is one of the more beautiful of the large cichlids. However, I have always kept one or two Jack Dempseys (*Cichlasoma octofasciatum*) and now I have two Electric Blue specimens and they are near equal to the Texas. But the Texas has the 'wow factor'. Its pattern of multiple light blue dots on body colour of grey is really striking. These spots are evenly distributed over the fish's entire body and extend into the fins.

Although not overly aggressive for a cichlid, its large size can be a drawback to many aquarists as they do require a large tank, possibly 3 feet or larger.

They can grow up to 230mm (9") and at that size are pretty bad (good?) diggers and plant up-rooters. When I kept an Oscar that did this I obtained some large gravel from a building site, no way could he move that, but today I don't use any substrate at all. Sexes are very similar even in mature fish, but providing males are undamaged they have longer points to their dorsal and anal fins. Like in quite a few species of Cichlids from South America, old males develop a large, hump-like protuberance on the forehead. However, I have never personally found such a growth develop in Texas specimens.

Breeding these fish is not difficult provided you use a large aquarium and lots of hiding places such as large flower pots or similar for either the male or female to hide. Often it is the male that takes the brunt of getting damaged.

Females are often much larger than males.

The Texas cichlid's colouration is always fantastic but during breeding, it really turns on the show. These fish are not cave spawners, but choose a solid object or the base of the aquarium on which to lay their eggs. In their natural habitat they are social spawners and large beds composed of many breeding pairs are often seen.

Spawnings are exceedingly large, the eggs are large, oval and amber in colour. These fish are generally excellent parents and the young are easily raised.



In my own experience, whilst the first time that the fish spawned they raised their young, the second time, when the young were free swimming, they all disappeared. I feel that the female may have eaten them as the male killed the female at some point overnight.

They like a temperature range of 70/80°F. Just because their natural habitat can extend into central Texas it is no reason to assume that they like cold water. The San Antonio and San Marcos Rivers are formed from giant springs, and even through freezing winter and cold air temperatures, the headwaters of these rivers stay at 74°F for all twelve months of the year.

The water is hard and alkaline. Just to say that found within the same waters as the Texas Cichlid are the most beautiful Sailfin Mollies (*Poecilia latipinna*) both in green and marbled forms. Five inch long fish are not uncommon, colouration is brilliant. Dorsal fins vary from large to huge!

THE SCIENCE OF SIPHONING

Dr DAVID FORD

You cannot siphon upwards (I've seen aquarists try!). If a tube full of water has one end within the aquarium, the water will flow if the other end is lower down (the lower the faster too).

The science is that if the height of the tube (the maximum before it loops downward) is h , then $h = P_{atm}$ divided by ρ times g (height will equal atmospheric pressure divided by the water density times the pull of gravity). ρ is the density of water (can be taken as 1) and g is gravity (a force accelerating the water by almost 10 metres per second, every second). Substituting the real numbers into the equation reveals that the loop can be 10 metres high before the pressures at the inlet and outlet are equal – and the siphoning will stop.

Hence, there is no problem in siphoning water from any aquarium in the home, even if you live in a palace. The reason the water flows is that pull of gravity g (once the tube is full – and less than 10 metres high) which creates a greater hydrostatic pressure at the lower exit than the upper entrance. Nature always tries to equalise.

PRACTICAL SIPHONING

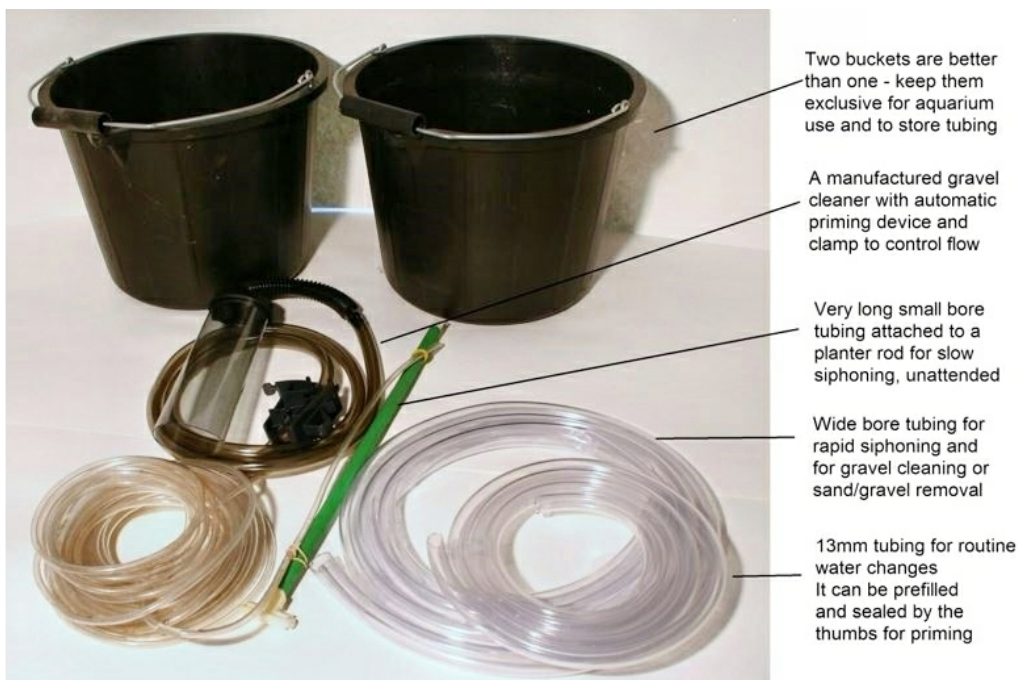
The theory may be proven but in practice siphoning does not work unless the conditions are perfect (such as tube size, no kinks, no air bubbles, open ended and more). However, if you do not want a siphon (such as the airline tube) it always works perfectly!

It is best to choose clear plastic tubing rather than a section of garden hose so you can see what is happening e.g. If there is a blockage or airlock. The DIY stores such as B&Q sell it by the metre. The best bore size is 13mm (½ inch) because you can close the end with your thumb, important in priming (see later). 2 metres (6 feet) is long enough for the average tank on a stand. Use

two buckets – this is because there is always a second one available if the first bucket is getting too full.

If you do not want to carry heavy buckets of water (or risk spillage on the carpet) the traditional garden hose can be used. This needs lashing to a rod (not wood – it will float) such as a planting stick so it can be positioned inside the aquarium at the required depth. Then attach the other end to a tap (garden taps are ideal because they are designed for hoses, but you can get adapters for those ornate kitchen taps). Turn on the tap (gently) until bubbles cease and water is flowing into the tank. Remove from the tap quickly and drop down below the aquarium's water level ... running the hose outdoors into a storm drain is ideal. This is why the aquarium end of the hose needs a supporting rod: you will be a long way from the tank (just draping it into the aquarium is asking for trouble).

Of course, auto-siphoning is ideal for coldwater aquaria, but you can use it for Tropicals if you pre-adjust hot & cold water supply from a (suitable) domestic tap. Partial water changes of 10 to 20% are OK as regards dechlorination, but some treatment may be added to the aquarium before you start if species are particularly sensitive.



SIPHON CLEANING

To siphon out the gravel or sand a wider bore is recommended, 200mm ($\frac{3}{4}$ inches). To clean the gravel most manufacturers, have a 'Gravel Cleaner' such as Hagen's Marina Easy Clean (in three sizes too). These gadgets do not work so well with sand; this is better siphoned out, swilled clean and dribbled back.

You can make your own gravel cleaner by Silicone Sealing a plastic tube into a plastic bottle's top, with the base of the bottle cut off. However, both gravel and sand can be at least surface cleaned by 'hoovering' the base during routine water changes. With power off, of course, hand-hold the siphoning tube within the aquarium a few millimetres above the gravel or sand, so mulm is sucked out but not the stones or sand.

PRIMING THE SIPHON

As stated, the siphon tube must be full to operate; even a few air bubbles can accumulate and break the column of water – then it will just stop siphoning. To fill the tube, it must be 'primed' i.e. Completely filled with water. The traditional way is to just suck on the tube to start the flow. Aquarium water is a seething mass of viruses and bacteria (it is lavatory water) so a mouthful is actually dangerous.

A chore that will be welcomed by your fish, as often as possible....

Note the double bucket – may be needed (health & safety).

Safe priming is by pre-filling the tube with tapwater . . . if the tube does not fit your fancy taps, fill a wash bowl with tapwater and immerse the tube. The ends can be sealed with a thumb



(hence the ideal 13mm bore), carry it to the open aquarium and dip one end into the tank, lower the other into the bucket and release both ends.

Manufacturers' siphon or gravel cleaner devices often include automatic primers via a pumping action or bellows. The one occasion when mouth sucking is permissible is if you use a tiny bore (5mm) plastic tubing (e.g. airline tubing). If there is no garden or suitable taps etc. a very long length of 5mm tubing can be dipped into the aquarium (depth fixed by lashing to a supporting rod with elastic bands) and the other end taken outdoors via a door, window (or even the letterbox). With the far end below the tank level, keep sucking on the tube until the water flows up the inlet, fills the loop and starts to flow. Being many metres in length there is plenty of time to see the water flow is underway and stop sucking before that dangerous mouthful!

This method may take hours but can be safely left to its own devices and will eventually empty the aquarium to the depth pre-set by the inlet position on its supporting rod. The small size means that fish will not be siphoned out, something to carefully avoid with larger tubing.



A typical gravel cleaner with a pump action primer can be used for routine water changes too.

A siphon cleaner is also useful to marinists. Take the large diameter tube (200mm) and insert short lengths (ca 100mm/4 inches) of ever smaller tubing so it tapers down to 3 or 4mm (final section could be a rigid clear-plastic ball pen body with ink part removed). Silicone Seal sections that are not a tight fit. Siphon into buckets with the narrow section within the marine aquarium. The high output flow at the

lower end (200mm) creates a powerful suction action at the 3mm end. This can be used to probe and clean crevasses, or if you also have a marine tank,

clear the Coral or physically remove any red algae plague.

ESSENTIAL WORK

As shown in the opening photograph, a kit of siphoning accessories should be owned by all aquarist i.e. the siphon tubes, buckets (kept exclusively for aquarium work) and gravel cleaner. Routine part water changes in the freshwater aquarium are then a simple chore and make for happy fish (and happy fish are healthy fish).

The siphoned water is ideal for the potted or garden plants too. Full of fertiliser.



Even public aquaria use siphoning techniques to clean their giant aquariums

So, siphoning is needed for that essential part water changes but it is also an ideal tool for cleaning the substrate – especially if you use sand rather than gravel (as you should). You can then siphon-out sand, give it swirling water clean in the bucket and dribble it back into the show tank for a really good ‘spring-clean’. Fish appreciate it.

MEET THE NEXT GENERATION OF FLUVAL U FILTERS



Fluval U, the world's most popular underwater filter range, has been improved to maintain its reputation for ease of use and quality, and retailers can make sure the products stand out in store with an eye catching shelf display.

So why has Hagen, the company behind Fluval, changed a winning formula?

"We believe that no product is perfect and from analysing customer reviews and customer service data we have identified four key areas to make the best even better," said a spokesperson.

The four key areas are:

1. Intuitive Impeller Cleaning

To raise awareness on the importance of cleaning your filter's impeller, a hanging tag has been added to clearly show where the impeller is and to

remind users to remove and clean it before use to reduce the amount of unnecessary product returns.

2. Improved Media Offering

The Biological cartridge has been re-purposed as a bio-chemical cartridge to house the new Clean & Clear cartridge, packed with special high performance resins, proven to reduce phosphate and nitrate to prevent the spread of algae.

3. Re-designed Media Container

The re-designed media cartridge can hold up to 10 times more debris than before and significantly reduces the volume of debris that escapes when the cartridge is removed.

4. Easy Motor Access and Lead Removal

The majority of power clips have now been removed to allow easy motor removal while the motor has been redesigned in a blue finish to make it clearer to users that it may be removed.

The new Fluval U filter range are packed with some great new features and have been redesigned with a sleek new look.



Retailers can transform their shelves with the Fluval U display, which makes sure the products stand out.

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SPAWNING TRIGGERS

By Dr DAVID POOL

Most fishkeepers at one time or another find that their fish have bred and they have eggs or fry in their aquarium or pond. Such 'accidental' spawning rarely result in large numbers of offspring surviving due to unsuitable conditions, a lack of suitable food for the fry or predation by other fish.

Planned breeding, where you can ensure the correct conditions are present for the fry is far more successful and results in a lot more survivors. However to achieve this you need to be able to get the fish to spawn when you want them to.

In this article we will examine some of the factors that influence when fish spawn, hopefully providing some clues to improve your success in fish breeding.

Selection of Parents.

The first stage in breeding your fish is to select suitable parents. Unless you are selectively breeding for specific characteristics this should be relatively straightforward though it can be a challenge to distinguish males and females in some species of fish. Many very experienced aquarists will admit to trying to breed 2 males or 2 females before they realised the errors of their ways.

Choose good quality, healthy specimens that are 'middle aged'. Selecting young fish can lead to problems with the fish not being sexually mature or, if they are, being inexperienced and not behaving as they should. Cichlids such as angelfish provide a good example of this, with young fish often eating their first few batches of eggs – or spending all of their time chasing away other fish in the tank rather than concentrating on actually looking after the eggs and fry. Guppies provide a different example where young and old females will only give birth to small numbers of offspring.

For good quality parents you are looking for fish that look as they should – that

is with good fins, your desired colouration and patterning and showing 'normal' behaviour. If you are aiming to breed something a little different, for example *Ancistrus* with longer dorsal and tail fins, you will need to not only look for fish that show these characteristics, but also look at their parents and siblings to select fish that have the 'long finned' gene in them.

Conditioning the Parents.

Once you have selected suitable parents a key factor to your success will be to get them into the best possible condition. This will ensure that they are able to withstand the rigors of breeding, but also result in the healthy development of eggs and sperm.

Conditioning the fish is largely a two-step process:

1. Provide the correct environment.

Water quality is particularly important in this respect and should be pollutant free and suitable for the fish concerned. Ammonia, nitrite, nitrate and chlorine are pollutants that should be absent or, in the case of nitrate, in low levels. The pH and hardness of the water will vary depending on the fish you are planning to breed. Cardinal tetras, for example, will generally require soft acidic water (pH of 6.0 or less, GH of 2.0 – 5.0°dH and a Carbonate Hardness of less than 2°dH). Rainbow fish are at the opposite end of the scale and a pH of 7.5 to 8.0, GH of 10 – 15°dH and KH of 4 – 8°dH is the order of the day.

If the fish are in unsuitable water conditions they will be concentrating on survival rather than expending energy and nutrient reserves on breeding. In addition, even if they do try and breed, the numbers of fertile eggs is usually significantly lower.

Part of a fishes environment are the other aquarium inmates. In the hustle of a well-stocked community tank many fish will not get into breeding condition, but would do so very quickly if the other fish were removed.

2. Food

Feeding your fish on high quality, nutritionally balanced diet is important for their long-term health and wellbeing. When conditioning for spawning they

need additional levels of a number of nutrients in order to allow the development of the reproductive organs. Proteins are a good example. Proteins, or more correctly amino acids, are the building blocks of tissue. As the eggs and sperm are additional tissue, the fish need more amino acids to form them. In the wild this can often be seen, with fish breeding in the spring in the UK, when there are high levels of insect larvae, tadpoles etc. In the Amazon breeding often coincides with high water levels, when large areas of land is flooded and lots of extra food becomes available. In the confines of an aquarium you need to provide the conditioning foods. Foods such as FishScience Fish Treats or FishScience Granular food are ideal and will give the fish the boost that they need.



When conditioning the fish, try to feed and give them the correct conditions for 1 – 3 weeks prior to spawning.

Triggers For Spawning

Once your fish are in good condition, they will often spawn without any additional help from you. However on occasion it is necessary to interfere once again in order to try and recreate the conditions that trigger the breeding behaviour in the wild. This can be in a number of ways, some of which are mentioned below:

Suitable Conditions

In the wild many fish move away from their normal environment to spawn in an area where there is some degree of protection from other fish that would consume the eggs or fry. This may involve a pair of fish moving away from the shoal, or a group of fish moving to a different locality.

In a community aquarium this is not possible, but can be achieved by moving the conditioned parents to a separate breeding aquarium. With many gouramis, for example, this is all that the male needs to start his courtship behaviour. A word of warning though – you need to have good netting skills

to quietly remove the fish without disturbing the parents too much. If catching them causes too much stress you may put back the spawning by days or even weeks.

Temperature Changes

A change of water temperature from what the fish has become accustomed to can often trigger breeding.

A slight drop in water temperature is a trick often used by fishkeepers trying to breed fish that originate from the Amazon. In the wild many Amazonian fish breed at the start of the rainy season at which time the river may rise by 5 metres and the temperature drop by 2 – 3 °C. The flooded areas provide rich feeding for the parents and fry, making it the ideal time for the fish to breed. Recreating this 1 – 2°C temperature drop triggers the breeding behaviour in your aquarium and is particularly successful with many species of *Corydoras* and tetras. This can be achieved by undertaking a larger than usual water change and reducing the temperature of the replacement water by 1 – 2°C. Take care not to exceed this temperature drop, otherwise you may stress the fish and encourage disease.

Increasing temperature can also

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stimulate breeding, with koi and goldfish being excellent examples. Breeding with these species only occurs when water temperatures rise above 18°C. This occurs naturally in a garden pond in the late spring and summer, but can be controlled in an aquarium at any time by adding a heater.

Temperature is critical for goldfish, koi and other coldwater cyprinids. If the water temperature rises they will start spawning, but if it subsequently falls, the behaviour stops, only to start again when temperatures increase.

Light

Many fish breed under low light conditions because their spawning behaviour will not attract as much attention from potential predators at such times.

Some experienced aquarists place their breeding aquaria where they will receive natural light and morning sunlight. Tetras, for example, will often start spawning as soon as the tank is illuminated by morning sunlight. A trick that is often used is to place the conditioned pair of fish in the aquarium in the evening. In many cases spawning commences the following morning. Whether this is the increased light, slight increase in temperature or some other factor is unclear – but it works too often to be a coincidence.

Separation

‘Absence makes the heart grow fonder’ is the saying for humans and it also seems to be true for some fish. Danios, many tetras and some gouramis can be separated into different aquaria during conditioning. Place the males in one tank and the females into another. After 1 – 2 weeks separation and conditioning, spawning will often commence within a few hours of the fish being reunited.

Such methods are used in commercial breeding units with many fish species and will allow precise control over when spawning will take place.

Fighting fish provide another good example. The pair can be conditioned together for a few days and then the male removed to a separate breeding tank. Bubble nest building may start immediately, but will almost certainly start a few days later when the egg bound female is introduced.

Water Quality

As mentioned previously, fish will only get into breeding condition if water conditions are suitable. In addition the quality of the water can act as a trigger to start the fish breeding.

Changing the water quality slightly is one secret to success. Cardinal tetras can be bred in this way, with the conditioned parents gradually being introduced to softer and more acidic water. Once the General hardness is less than 4°dH

and the pH below 6.0 the fish will often commence their courtship. In common with temperature changes, great care should be taken when changing the pH to avoid sudden and potentially dangerous changes.

With a number of tetras and some catfish, a single water change with softer, more acidic and slightly cooler water is the answer. Such changes help to recreate the Amazonian flood.

The presence of nitrate and other pollutants in the water will almost certainly depress any breeding and courtship behaviour. A large partial water change (providing the replacement water is lower in nitrates and phosphates than the tank water) will often have dramatic results with the fish becoming more active, colourful and inclined to breed. Livebearers such as mollies and platies provide a good example of this, with nitrate seriously impacting breeding success.

Water Additives

We are all aware that tap water varies considerably from the water found in the natural environment. Tap water, for example, contains higher concentrations of chlorine, chloramine, nitrates and many metals, but is



Male *Betta splendens* with bubble nest

lacking in iodine, vitamins and plant extracts.

Good filtration and the use of tap water conditioners will help to minimize the excesses, however commercially available water additives may be necessary to recreate Amazonian water conditions or the water found in Lake Malawi.

Spawning Areas

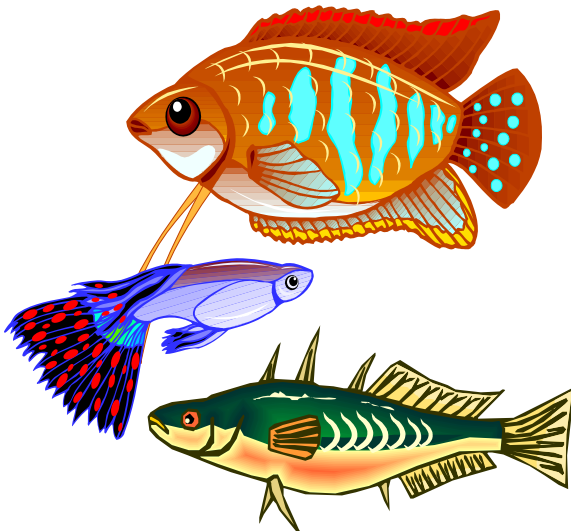
The presence of a suitable spawning area may help in getting certain fish to breed including many of the non-egg scattering species. Cichlids that guard their eggs and young will be reluctant to breed if there is not a suitable overhang, cavity or substrate in which they can spawn.



Terracotta pots can make excellent spawning areas and caves for many species

Males and Females

An obvious and essential trigger to successful spawning is to ensure that you have both males and females present in your aquarium. The colouration, behaviour and appearance of both the males and females is important if spawning is to commence.



In many species, colourful males attract the females

The colouration and display of male fighting fish, guppies and sticklebacks is important if they are to attract and mate with a female. More aggressively, the males of many cichlid species defend a territory which includes a suitable breeding site and it is this that attracts the females and triggers spawning.

The situation is not one sided. Most pond keepers will have witnessed the endless chasing behaviour as male goldfish chase spawning females. Along with

other factors, it is the swollen abdomen of the female that elicits this response – proof of which can be seen if any round bodied male fancy goldfish are present in the pond!

It is not always necessary for a male and female to be present for spawning to occur, although the resultant eggs will obviously be infertile. Two female angelfish will complete the spawning process if no males are present. This includes cleaning a suitable site for the eggs, laying and then guarding.

Hormones

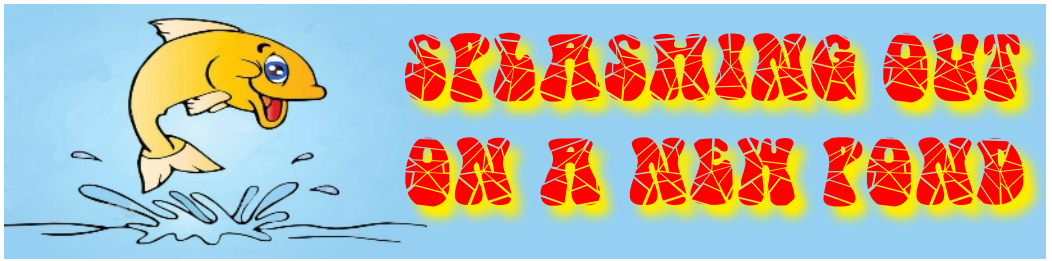
Spawning of some farmed fish can be artificially induced through the injection of reproductive hormones. This has proved particularly valuable for some fish farmers as it allows them to control which fish spawn and when.

The procedure is widespread in aquaculture and is relatively straightforward. A special hormone extract is injected into conditioned mature fish, which are then encouraged to spawn naturally, or the eggs and sperm are stripped from the fish by hand. This can occur within a few hours to a few days after the injection.

The use of hormones is also very useful for spawning ‘difficult’ species. Khuli Loach, Clown Loach and Silver Sharks are three of many species that have been commercially bred in this way.

It is obvious that there are numerous triggers to the breeding behaviour of fish. Some of these have been described in this article, but there are many others, often specific to a particular fish species or to a group of fish. There are also routines or triggers that individual aquarists have found to be successful for them – with everything from the addition of a select mixture of water additives to introducing the fish on a certain day being credited with successful spawning. Identifying and providing the appropriate triggers is the real secret of successfully breeding the fish – and is an area where joining an aquatic society or aquatic forum can give you access to invaluable information.





Now those cold and rainy days are over (we hope) with long summer days upon us, what a good time to add a water feature to your garden.

A pond not only attracts lots of wildlife but is relaxing to sit by and listen to some running water. However I must warn you that this does not happen overnight. Like good wine, that reminds me I need to top up my glass, a pond needs time to mature and balance itself.

This is a slow process and only when your aquatic oxygenating plants along with water lilies take hold during the summer months will your pond be clear from blanket weed and green water. If the pond is well-sited and wisely planted, this pea soup water will change. Many water gardeners panic and go out and by chemicals to add to the pond water. But we have to realise that green water (algae) is a plant even in its lowest form and so are the aquatic plants that you need to flourish. So with too much adding of chemicals the growth of your plants, including water lilies, will not only slow down but they may well die. Once settled, maintenance is easy, even more so if an adequate filter is in use. Site your pond in sun or partial shade and away from trees otherwise in autumn it will fill with falling leaves that sink to the bottom, fouling up the water.

You can dig a miniature pond in just an afternoon, that may hold a few gallons of water, but will still make a very nice feature. A slightly larger pond say, 1 metre x 2 metres gives more scope, but increasing the pond size to 2 metres x 4 metres has massive potential for fish, plants, and wildlife.

For small ponds, rigid liners are a good option, when fitting into your dug hole if your spirit level won't reach from side to side use a firm, straight length of wood which is long enough and stand the spirit level on it. Whether your pond is large or small, making the pond level from both directions, east to west and

north to south is a must before filling with water.

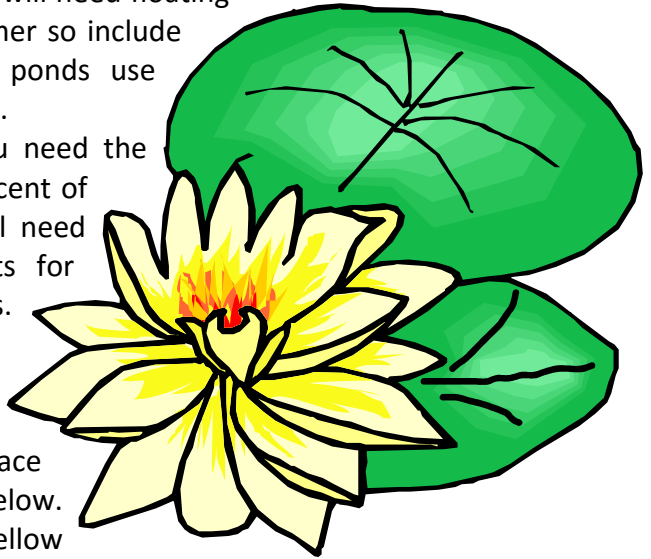
Prices of both ridged ponds and liners can vary, so visit an aquatic centre or look online before buying. Flexible liners are an alternative, more so it allows you to create your own shape and size (350mm deep), but don't purchase liner material because it looks a cheap buy. Once you have created the hole for your pond the liner must be laid with great care. Always use an underlay, sometimes old carpet is used, but using the intended underlay is not only cheap but far easy to work with.

Rather than having grass right to the edge of your pond, which will allow grass cuttings to fall in when cutting the lawn, place paving slabs or even imitation grass around the pond's edge.

Planting is the best part, you will need floating leaves for shade in the summer so include water lilies, and for small ponds use 'pygmy' species of water lilies.

For a trouble free pond you need the plants to cover about 60 percent of the water's surface. You will need the correct planting baskets for both lilies and marginal plants.

Use well washed bricks to stand your plants on, marginals close to the surface and lilies some 350mm below. Warning don't grow the Yellow (Flag) Iris as they are too invasive.



When purchasing fish, choose single-tailed goldfish or, for more colour, Shubunkins, and only six at time, to see how they settle in.

One final warning, don't over-feed your fish no matter how tempting it is, or how frequently they come up apparently begging for food.

Good luck with your pond building.

TUCSON TERRORS

FOR POOL / POND OWNERS

DICK MILLS

Most pondkeepers have some secret fears about their ponds - a hard-to-find leak, a malfunctioning filter, herons or even just the dreaded bright green water. Following a holiday in Tucson, Arizona, recently I came to realise how lucky UK outdoor aquarists are; we do not 'suffer' extremes of anything (the average daily temperatures during our stay was around 101°F) with constant sunshine only broken a couple of times by a violent evening storm which did little to break up the atmosphere. Having said that, there was little or no humidity – just heat. Fortunately, we had a pool although the water temperature was hardly refreshing, more like a warm bath! This facility attracted the family and kids naturally, but we found ourselves 'welcoming all manner of other visitors. Dragonflies and any number of bugs dropped in (often literally) to have a drink; then there was the occasional drowned mouse found in the filter system's inlet.



Our holiday also saw Scorpions walking around the pool, Geckos running up the walls, wild Boar and Deer in the Saguaro Cactus-strewn gardens and as a climax – a Tarantula Spider! We visited friends whose pool had other, more aquatically-interesting visitors – Sonoran Desert Toads.

Sonoran Desert Toad
Incilius alvarius



The Sonoran Desert Toad cannot be missed (although often mis-identified as being a 'frog' due to its smoother than usual skin) coming in at around 7.5 inches. For most of the year, the Toads live in burrows in desert scrubland venturing out mainly at night although they become more active as the summer monsoons begin, and may well be seen earlier if permanent water venues are present. With a wide mouth to match its body size, the Sonoran Toad will eat anything that fits in! Obviously insects and small animals (mice for instance) are high on its normal diet as are spiders, lizards and other amphibians. Sonoran Toads are also said to exude toxins that are fatal to dogs. Like many aquatic creatures, its breeding habits are triggered by changes in environmental conditions – a sudden increase in water availability (following a thunderstorm and/or flash flooding) usually does the trick. Males either call out for females or actively hunt for them.



The fertilised eggs are produced in the traditional Toad string format, with up to 8,000 being laid. The resulting tadpoles metamorphose after about a month.

PLANTING UP TIME

BY JACK

THE GREEN CORNER

They say, "Schooldays are the best days of your life."

Well, when I was at school and being taught Latin, I didn't realise that years on, I would be using it on a regular basis. Gathered from a variety of reference books, I have gone back to school and assembled a list of pond plants and marginals together with their Latin (scientific) names. I hope you find it useful.

Angel's Fishing Rod.....	<i>Dierama pulcherrimum</i>
Arrowhead.....	<i>Sagittaria latifolia</i>
Arum Lily.....	<i>Zantedeschia aethiopica</i>
Avens.....	<i>Geum rivale</i>
Bog Arum.....	<i>Calla palustris</i>
Bog Bean.....	<i>Menyanthes trifoliata</i>
Bowles Golden Grass.....	<i>Carex elata 'aurea'</i>
Branched Bur Reed.....	<i>Sparganium erectum</i>
Brandy Bottle.....	<i>Nuphar lutea</i>
Brass Buttons.....	<i>Cotula coronopifolia</i>
Brook Lime.....	<i>Veronica beccabunga</i>
Buck Bean.....	<i>Menyanthes trifoliata</i>
Canadian Pondweed.....	<i>Elodea canadensis</i>
Cape Pondweed.....	<i>Aponogeton distachyos</i>
Cotton Grass.....	<i>Eriophorum angustifolium</i>
Creeping Jenny.....	<i>Lysimachia nummularia</i>
Curled Pondweed.....	<i>Potamogeton crispus</i>
Duck Potato.....	<i>Sagittaria latifolia</i>
Duckweed.....	<i>Lemna minor</i>
Dwarf Bulrush.....	<i>Typha minima</i>
Fairy Moss.....	<i>Azolla caroliniana</i>
Flowering Rush.....	<i>Butomus umbellatus</i>
Fringed Water Lily.....	<i>Nymphoides peltata</i>
Frogbit.....	<i>Hydrocharis morsus-ranae</i>
Golden Club.....	<i>Orontium aquaticum</i>
Great Reed Mace.....	<i>Typha latifolia</i>
Hairgrass.....	<i>Eleocharis acicularis</i>
Hornwort.....	<i>Ceratophyllum demersum</i>
Horse Tail.....	<i>Equisetum scirpoides</i>
Jesuit's Nut.....	<i>Trapa natans</i>

Kingcup.....	<i>Caltha palustris</i>
Knotweed.....	<i>Polygonum bistorta</i>
Lizard's Tail.....	<i>Saururus cemus</i>
Marsh Marigold.....	<i>Caltha palustris</i>
Marsh Trefoil.....	<i>Menyanthes trifoliata</i>
Marsh St John's Wort.....	<i>Hypericum elodes</i>
Myrtle Flag.....	<i>Acorus calamus variegatus</i>
Parrot Feather.....	<i>Myriophyllum aquaticum</i>
Pickerel Weed.....	<i>Pontederia cordata</i>
Ragged Robin.....	<i>Lychnis floscuculi</i>
Sacred Lotus.....	<i>Nelumbo nucifera</i>
Skunk Cabbage (White).....	<i>Lysichiton camtschatcensis</i>
Skunk Cabbage (Yellow).....	<i>Lysichiton americanus</i>
Starwort.....	<i>Callitriche verna</i>
Stonewort.....	<i>Chara vulgaris</i>
Swamp Lily.....	<i>Saururus cemus</i>
Sweet Flag.....	<i>Acorus calamus variegatus</i>
Sweet Galingale.....	<i>Cyperus longus</i>
Taro.....	<i>Colocasia esculenta</i>
Umbrella Grass.....	<i>Cyperus involucreatus</i>
Umbrella Grass.....	<i>Cyperus laterifolia</i>
Water Buttercup.....	<i>Ranunculus aquatilis</i>
Water Chestnut.....	<i>Trapa natans</i>
Water Dragon.....	<i>Saururus cemus</i>
Water Fern.....	<i>Azolla caroliniana</i>
Water Forget-Me-Not.....	<i>Mysotis scorpioides</i>
Water Fringe.....	<i>Nymphoides peltata</i>
Water Hawthorn.....	<i>Aponogeton distachyos</i>
Water Horsetail.....	<i>Hippuris vulgaris</i>
Water Hyacinth.....	<i>Eichomia crassipes</i>
Water Lettuce.....	<i>Pistia stratioides</i>
Water Plantain.....	<i>Alisma plantago-aquatica</i>
Water Poppy.....	<i>Hydrocleys nymphoides</i>
Water Rhubarb.....	<i>Gunnera maculata</i>
Water Soldier.....	<i>Stratiotes aloides</i>
Water Strawberry.....	<i>Hydrocharis morsus-ranae</i>
Water Violet.....	<i>Hottonia palustris</i>
Weeping Sedge.....	<i>Carex pendula</i>
Willow Moss.....	<i>Fontinalis antipyretica</i>
Yellow Flag.....	<i>Iris pseudacorus</i>
Zebra Grass.....	<i>Schoenoplectus</i> <i>lacustris tabernaemontani</i>



THE SKUNK CABBAGE

(*Lysichiton camtschatcensis*)

BY
MALCOLM GOSS

Water Gardeners love this plant as a marginal and it can grow with its crown up to 150mm (6") below the water

surface. The Skunk Cabbage has curious spathe-like flowers which can be found in both yellow and white forms, although the yellow is more common.

The flowers have a large stamen that cannot be missed growing from the centre of the flower, even long after the flower has died back the stamen is truly a magnificent sight. When either planted as a bed of plants or just the one round the edge of a small pond they are an unforgettable sight. They grow large paddle-like leaves resembling the leaves of a cabbage. They grow well in humus-rich damp soil and are well suited to the conditions of a pond or stream.

The Skunk Cabbage was introduced into the UK from America in 1901. However, with all this wonderful build up I have given the plant, a recent report by the Environment Agency has reported that this plant is growing and spreading so fast it is choking up water streams and even ditches and is being regarded as a problem.

I went to look at the marginal plants in my local garden centre and there was a Skunk Cabbage for sale so - keep it at home and if you do wish to dispose of it, burn it. DO NOT just throw it away and, the same as for unwanted fish, certainly DO NOT dispose of it in your local park, pond or lake.



DISCUS SHOW RETURNS TO THE FESTIVAL OF FISHKEEPING

This year's FBAS Festival of Fishkeeping takes place on 1 & 2 October at Hounslow Urban Farm, and the 2016 event will also host a discus show.

The judged element of the show is only open to hobbyists, so no professional dealers/breeders. The judging panel consists of Mark Evenden (England) Mike O'Sullivan (Wales) Clive Brampton (England) Ricky Lim (Malaysia) and head judge Kaj Persson (Sweden) - We are hoping for around 75 Discus to be entered in six classes, there will be prizes and trophies for first, second and third in each class and a "Grand Champion"

As well as the judged show, there will be trade stands within the show and Kaj Persson will give a talk and slide show about a recent trip to the Amazon. We

also hope to have George Farmer present on Saturday to complete a Discus tank aquascape. Quite a few Discus enthusiasts have already booked accommodation for the weekend and the gathering is a good opportunity to put names to faces, meet the UK's leading Discus suppliers and see some of the very best fish in the UK.



In recent times Clive Brampton has shown his fish all over Europe, winning shows in Germany, Sweden, Belgium, France and Spain - Clive's fish will be there to see, but he is not

competing, we very much want this to be a hobbyist show.

It is still quite early days but as more information becomes confirmed I tend to post it on the Discus Show FB page here:

<https://www.facebook.com/discusfestival2016/>

Mark Evenden of Devotedly Discus and Clive Brampton of Northants Discus will be exhibiting Discus at the show, both also responsible for organising the Discus element of the show.



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

KNOW YOUR FISH

Copella nattereri

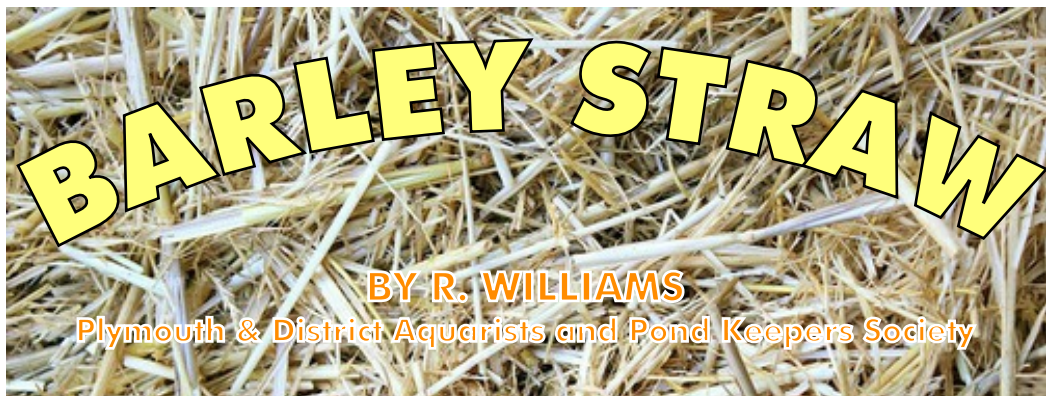


This fish has several apparently contradicting characteristics. It looks a bit like a surface-feeding Killifish with its slender body and slightly upturned, terminal mouth; it likes dense floating plants but also appreciates some leaf litter on the substrate.

Like many favourite Characins, it comes from the lower river systems of the Orinoco and the Amazon in South America.

On the reproduction front, it again can vary its technique to suit the environmental surroundings – whether laying eggs amongst plants or depositing them on suitably large-leaved sites. Indian Fern is suggested as an ideal spawning site. In either case, the male guards the fertilised eggs.

Males may lose their dark stripe, and maybe some of the bright red markings with increasing age but can be easily distinguished from the smaller, shorter-finned females. As usual, this species does best in thickly-planted aquariums with good live foods but it will accept flake foods.



BARLEY STRAW

BY R. WILLIAMS

Plymouth & District Aquarists and Pond Keepers Society

Well Barley Straw as a method of keeping our ponds clean has been around for a long time.

As the story goes, a farmer had a bail on the back of his trailer being pulled by tractor. Whilst turning too sharp, the bail of barley fell off the trailer and into a small nearby pond. When the farmer looked into the pond some weeks later, to his surprise the pond water was crystal clear, so barley straw became a commercial proposition. If you believe this tale, then you will believe garden statues of Herons will keep real Herons away!

Barley Straw anti-algae products are now sold by all aquatic garden centres and it is also produced in a liquid form. Aquatic Weeds Research Unit UK have suggested that barley straw can be highly effective in the control of algae in ponds. It is refreshing to have an alternative to chemical use in control of algae. It takes six to eight weeks for the barley straw to become active after being placed into moving water. After this time span, the barley straw will remain an active algaecide for up to six months. Microbial growth, oxygen and warm temperatures activate the decomposition of the straw. With the correct water flow through the straw, lignins are oxidized forming humic acids and with oxygen and sunlight, destroy the algae. What is even more worth noting is that there are no deleterious effects on higher forms of plant or other aquatic life.

Barley straw is most effective in shallow ponds up to around one metre deep, along with good sunlight and water circulation. Stagnant water will go anaerobic inside the bundles of straw and kill the essential microbes, rendering it ineffective. Clear water will need less amount of straw, but turbid muddy water with less sunlight requires more straw. In still water ponds, the minimum quantity of straw required to control algae will be 2.5 grams of straw per square metre of water surface.

Barley straw can be obtained in loose form or pre-packed in bundles or in bags and also in liquid form (sorry you will not need to drive the combine harvester, but it may help if you sing the song). Humic shale can act as an algae inhibitor and is used as a fertiliser for higher forms of plant life. Alfalfa straw has also been tried as an algaecide to some effect.



We all make New Year's resolutions and as the years pass, if you're like me, you may well say, "I must attend my Fish Club more this year, fewer aquarists are working hard just for the survival of their Aquatic Society."

The advent of the internet and social media such as Twitter and Google has allowed aquarists to share information with like-minded enthusiasts 'on-line' thus taking away the very essence of an aquatic society. Aquarists are able to dip in and out whenever they like and interact with other aquarists all over the world all from the comfort of their own homes. On the other hand, there is much benefit to be had from meeting other people in person whether it is the knowledge and passion of an enthusiast, the giving and receiving of free, often hard-learned advice or the many and varied events laid on by aquatic clubs. The latter can be enlightening talks, group visits to aquatic shops or the delights of competing in the local (or not so local) aquatic open show to name but a few. There really is plenty on offer!

However, many fish clubs are fighting for their very survival. One of the biggest issues they are facing is the lack of young people joining them (and young can mean anything from school age up to about 50). When newcomers do attend, they are usually welcomed and encouraged to return but, sadly, friendliness is no longer enough. Clubs need to examine how they can attract a diverse membership, reaching out for long-term viability.

Life for so many of us seems busier than ever. Just finding a couple of hours once every two weeks, or even once a month, can be a challenge. But local aquatic clubs can still be invaluable in keeping alive the sharing of collective knowledge with fellow aquarists.

Remembering the benefits of real-world interaction is a resolution that I hope all of us can consider in the months to come.

Malcolm Goss.

In Memoriam

Sandra Sollitt

Bracknell A S



You can only evaluate the loss of a person by the impact that their life had on your own. Faced with the loss of a person who had encountered many, many people with equally diverse interests, and had come to mean so much to all of them for so many different reasons, you can see the difficulties in defining any single special quality about Sandra.

Obviously, to fishkeepers reading this tribute Sandra was the hospitality that was Bracknell, especially over the period of their annual Show and also their interactions with neighbouring Clubs.

Of course, Sandra will have rightly replied that she was only 'one of the team' but at Shows where nearly everything revolves around the refreshment area for a lot of the time, she made looking after visitors her number one priority.

However, and through whatever connection, you came to know Sandra you will have been devastated when her illness was originally diagnosed, but what followed was a true revelation and a shining example to us all.

Her fortitude over the past year was nothing short of inspirational – as recognised by the tremendous turn-out at her funeral.

In spite of their deep grief, Keith and his family should find much comfort in that so many people share their pride in knowing, and remembering, Sandra for whatever she brought to our individual lives.

Vic Dyer - Dunstable A S

Dear Friends,

I am just writing with some sad news about Vic Dyer who sadly passed away last weekend. Vic had been a member of DDAS for many years and I am sure that many of you will know and remember him. I am sure you will join me in expressing our condolences to Vic's family at this sad time.

Martin Kelly.



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