

The Yorkshire Koi Society



NEWSLETTER: March 2019

Welcome to the first 2019 edition of the newsletter.

This year was kicked off nicely with a talk from Dr. David Pool of FishScience Ltd. We had a good attendance and it was nice to see everyone again.

Spring will soon be upon us once again. Its getting to that time of year when the temperatures are fluctuating which means those pesky parasites will start to rear their ugly heads. Keep a close eye on your koi in order to tackle anything before it creates too big a problem.

As usual.....

Please keep using the forum!

Check out our sponsors links to see what's going on with them and any offers that may be had.

As a club, we rely heavily on the continued support and sponsorship of these businesses to keep the club going, but they also to allow us to have the events that we all enjoy.

Upcoming Events 2019

- **Sunday 14th April** - AGM
- **Weekend 27th & 28th April** - Photo Show 2019.
- **Weekend 11th & 12th May** - Young Koi Show.
- **Sunday 19th May** - First Supper.
- **Sunday 9th June** - Details TBC
- **Weekend 22nd & 23rd June** - BKKS National Koi Show.
- **Weekend 6th & 7th July** - Details TBC
- **Sunday 11th August** - Photo Show Awards BBQ.
- **Weekend 24th & 25th August** - North of England Koi Show.
- **Weekend 14th & 15th September** - Details TBC
- **Weekend 21st & 22nd September** - All England Koi Show.
- **Sunday 20th October** - Last supper
- **Sunday 17th November** - Winter meeting
- **Sunday 1st December** - Christmas Dinner.

Sunday 17th February



This meeting was brought to us by Dr David Pool of FishScience Ltd. The talk took us back to basics which helped us to think logically about where we start at trying to solve our koi/pond problems. This talk was especially helpful to those who are new to the hobby and are yet to embark on their koi keeping journey.

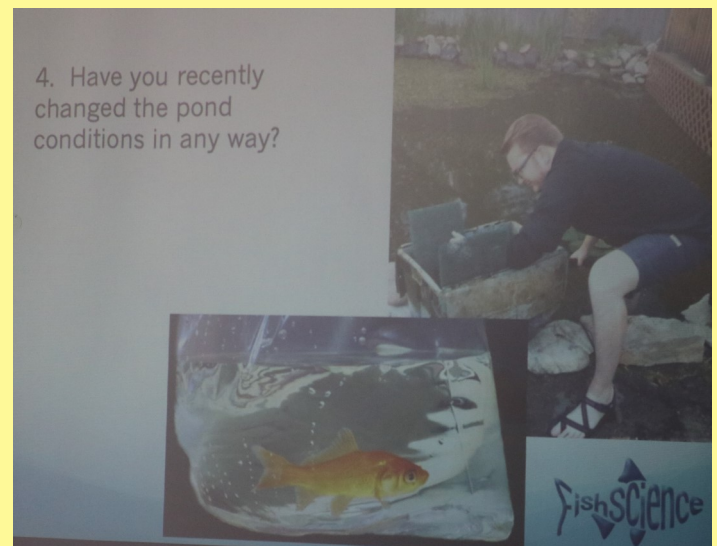


The first port of call was identifying if there are any signs of poor health amongst your koi. These symptoms may be such things as clamped fins, hanging around water returns where the oxygen content is higher, flashing or looking like they have more mucous than usual.

The next step is looking to see if there are any signs of damage such as split/frayed fins, raised scales, ulcers; or if there are any visible parasites such as anchor worm, leeches, lice or white spot.

Another question is to ask is if the water is OK. Things such as foam on the water surface may indicate some sort of pollutant (dissolved organic compounds) or contaminant (pesticides, dust etc). Performing routine water tests will help you establish if the water is an issue, always test your water for Chlorine, Ammonia, Nitrite, pH, KH, GH and Nitrate. It is also worth checking the source water as there may be high levels of chlorine, chloramine, ammonia and nitrite.

The next point to consider is have you changed anything? It may be something as simple as changing part of your filtration, not adding Dechlorinator after a water change, or adding a new fish that can start off a chain of events. It is easy to forget what you have done to your pond or filtration so it may be beneficial to keep a diary or log book for your pond. This would make it easy to look back and pinpoint what you have done differently.

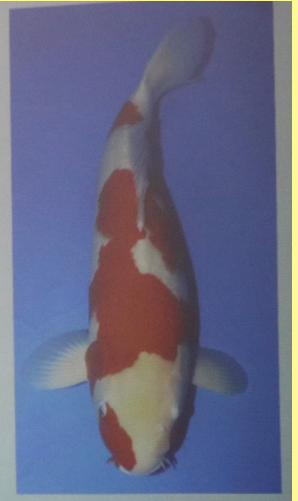


Another couple of points to consider are; how many fish are affected and how has the problem spread? Some fish are more resilient than others so may not show signs of illness until much later. Things like ulcers may affect one or two fish but they are not likely to infect others and so can

be managed individually. Parasites may be the cause of a number of fish becoming unwell and this may increase over a number of days. Water quality such as high ammonia, pH crashes, high nitrite is likely to affect all the fish over a short period of time. For example a pH crash causes the filter bacteria to suddenly die, the ammonia does not get broken down and this can cause the fish a great deal of stress. Having identified a pH crash and remedied the problem, your next issue is likely to be a nitrite spike which can be toxic and cause high mortality. Another problem that can decimate a collection is viral illness such as KHV.

5. How many fish are affected and how did the problem spread?

- Only 1 or 2 fish
- A few fish with the number gradually increasing over a number of days
- All of the fish, or all one species, or one size – and over a short period of time.



Example 1

Observation: A fish is rubbing against underwater objects

Why: Because something is irritating the skin or gills

What is causing it: Parasites on the skin

Or parasites on the gills

Or pollutants in the water

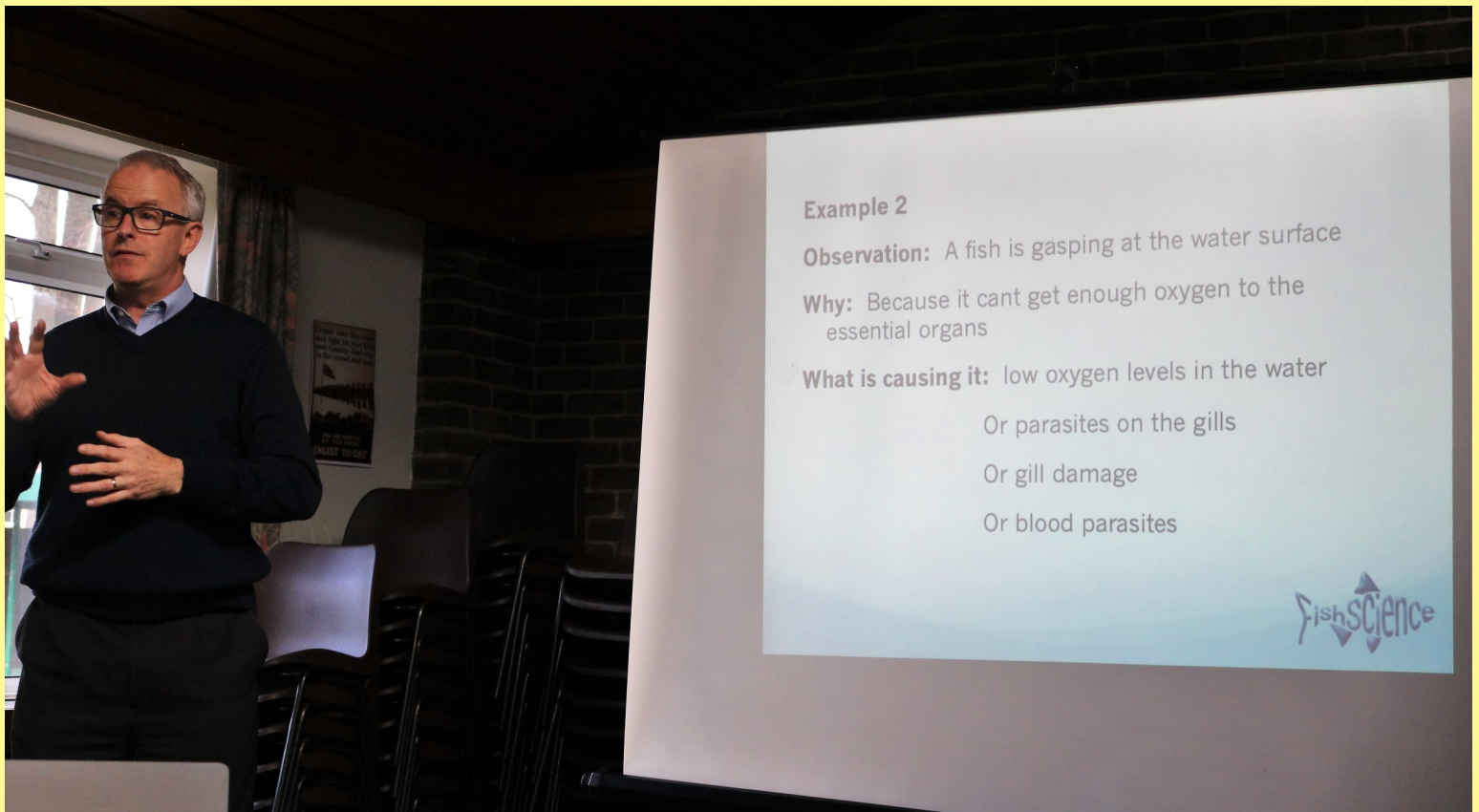
Or debris on the gills



David gave some examples of health issues. What the problem is, the reason behind it and the possible causes for the behaviour.

He explained that koi will flash for numerous reasons in an effort to rid themselves of the irritant. If there is debris such as food remnants, algae, excess mucous or parasites irritating their gills koi

will often try to clear it by doing any or all of the following: taking big gulps of air and blowing it out through their gills while descending (lunking), swimming fast with their mouths wide open and gill plates pushed out wide; this forces water through their gills to try wash out the irritant. Flashing (bouncing/rubbing themselves off objects in the pond) to try knock off the irritant. This is a common observation and may not necessarily mean a parasite problem, water quality can also cause a koi to flash.



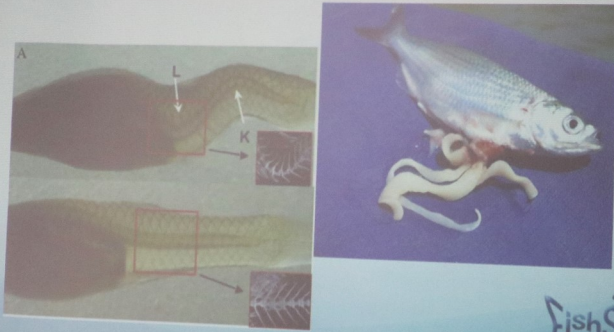
The next example was identifying why a fish may be gasping at the water surface. Again it is about looking at the potential reasons they are doing this. The koi is attempting to get more oxygen into its body so the natural instinct is to go where the water is more oxygen rich. This is usually at the surface closest to the air, or where water is splashing into the pond like at a waterfall or venturi return. The reasons may be due to gill damage, parasites affecting the gills, a heavy slime/mucous coat on the gills or blood parasites (which is very rare), or low oxygen in the water due to warmer temperatures, the use of chemicals (such as PP) or lack of water circulation.

The usual procedures should be taken; water tests including oxygen saturation if possible, mucous scrapes to check for parasites, checking of the gills for damage or parasites and the introduction of an air source if there is not already one present. It is important to remember that warmer water holds less oxygen and it is often the larger fish that become distressed first. Always add extra air to the pond if you are treating for anything, especially in hot weather. Make sure you observe the fish so that if any problems arise you are there to deal with it quickly.



Decide which of the possible causes is the most likely from the number of fish affected and the rate of spread:

1 or 2 fish affected and does not spread – non infectious disease or physical damage



FishScience

It is important to look at the entire collection of fish in the pond to determine how many are actually affected. This will help determine the possible issue. If one or two are affected and it does not spread you can be reasonably sure that it is not a contaminant and is more likely a parasite issue. This could be damage to the koi or a non-infectious disease.

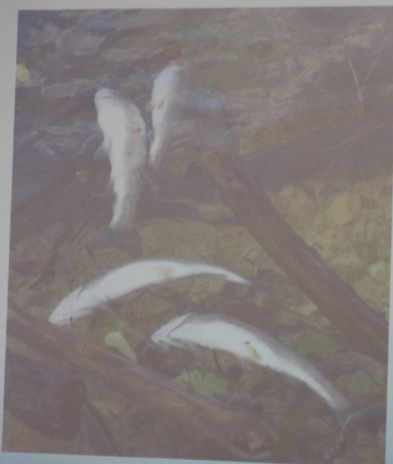
If there are a number of fish affected which gets progressively worse over a number of days is indicative of an infectious disease. Maybe a parasite problem that has been left untreated/ unnoticed or a bacterial issue due to poor maintenance or overcrowding of the pond environment. Maybe you have recently introduced a new fish and the problems started shortly after.

A few fish affected with numbers increasing over a period of days – Infectious disease



FishScience

All of the fish (or all of a particular species or size) affected very quickly – water quality



FishScience

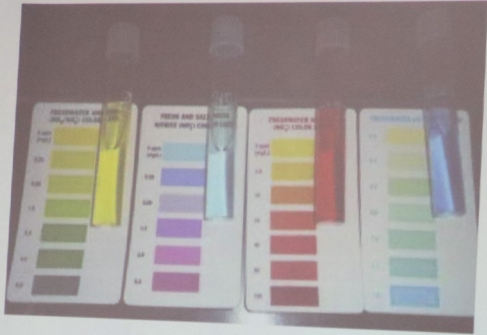
If all of the fish are showing signs of being affected it is more likely a water quality problem. It may be that only one particular size/age/species is affected.

Water samples should be taken and tested immediately for ammonia, nitrite, pH, KH, GH, chlorine and oxygen saturation if possible. Water changes and filter cleans would be the best place to start.


As this slide shows, 85% of problems are usually down to poor water quality. Flip this theory on its head and you should find that with good maintenance and water quality, the majority of these problems should no longer be present.

Many problems we see as koi keepers is down to secondary issues. Raised scales, fungus, ulcers and fin rot don't usually just happen overnight. Parasites irritating the koi

NB. 85% of fish problems are related to poor water quality


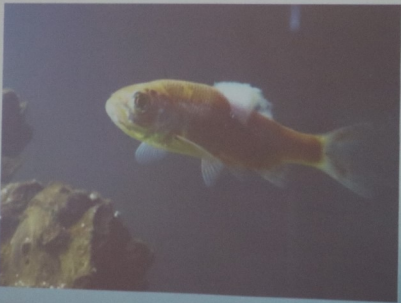


So if you have good water quality 85% of the problems disappear



Identifying the cause of the problem is as important as recognizing the symptoms!

Many diseases are secondary – infecting a fish that is weakened due to some other issue





and causing it to flash and damage itself can open the koi up to the risk of secondary issues. Or poor water quality weakens the fish so it can't control the parasites effectively. This is why it is important we are vigilant and ensure we try to identify the problem as soon as possible.

This is where the golden rules come into play.

1. Positive identification of the disease or parasite is important before you start adding treatments to the pond. If you add chemicals without a diagnosis you could make things worse, delay treatment with the correct medication or unnecessarily stress the fish out.
2. Early diagnosis is essential. Regularly check and observe your fish.

The golden rules:

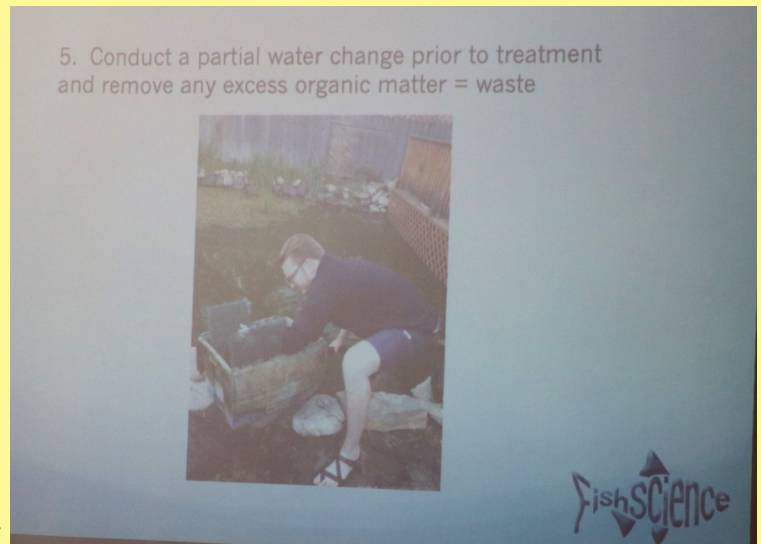
1. Identify the disease before you add the remedy into your pond
2. Early diagnosis is essential
3. Generally best to treat the pond rather than the fish
4. Remove any chemical filter media



3. It is generally best to treat the whole pond. However, individual fish with ulcers or fin rot will require individual topical treatments.

4. Remove any chemical media from filters such as carbon or zeolite. Carbon is known for absorbing certain chemicals so may take treatments out of the water. Zeolite absorbs ammonia which can be released in large quantities when certain chemicals are added to the pond water.

5. Prior to any treatments it is best practice to thoroughly clean your filter and Hoover the pond bottom to reduce the organic load, and also allows treatments to reach all areas of the system which would otherwise be protected by a build up of muck. A partial water change is also advisable and tops up the system after a thorough clean.

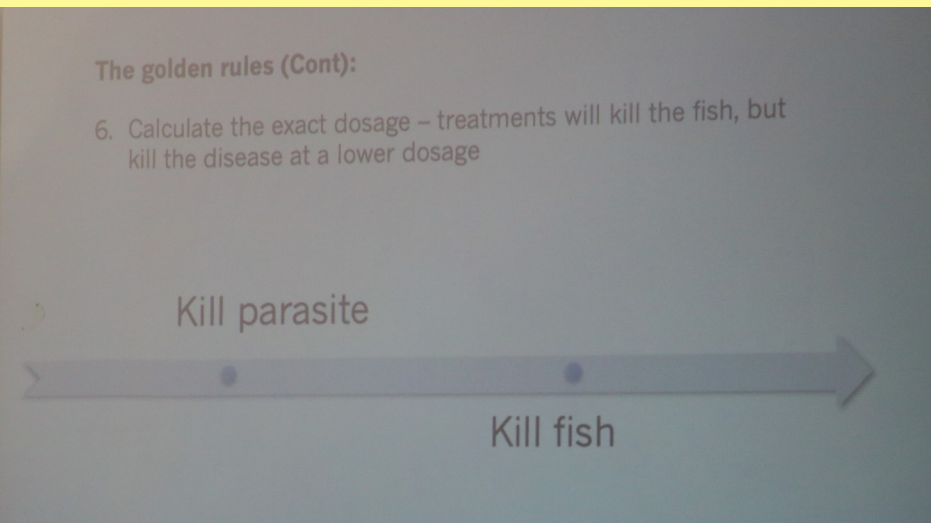


The golden rules (Cont):

6. Calculate the exact dosage – treatments will kill the fish, but kill the disease at a lower dosage

Kill parasite

Kill fish



6. ensure you know the exact volume of your pond including the filters. There is a fine line where a treatment works to kill the parasites and not kill the fish. If you overdose you are putting your fish at risk of death. If a fish is not well to begin with that therapeutic

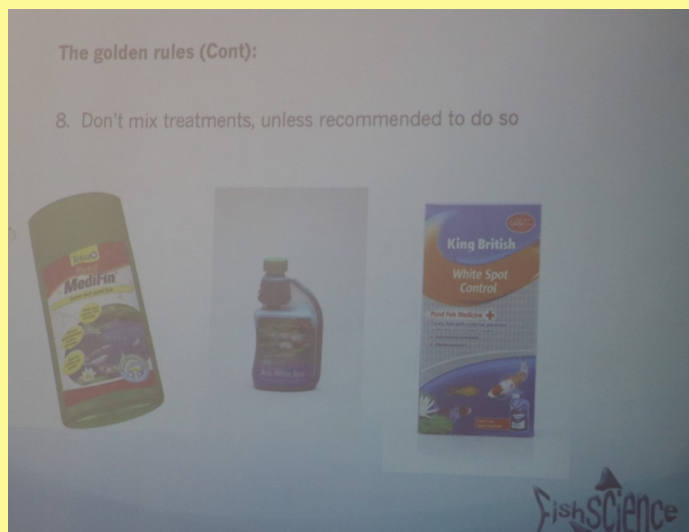
range becomes much smaller as the parasite is usually pretty strong at this stage. In severe cases you may experience some losses if the fish is very weak.



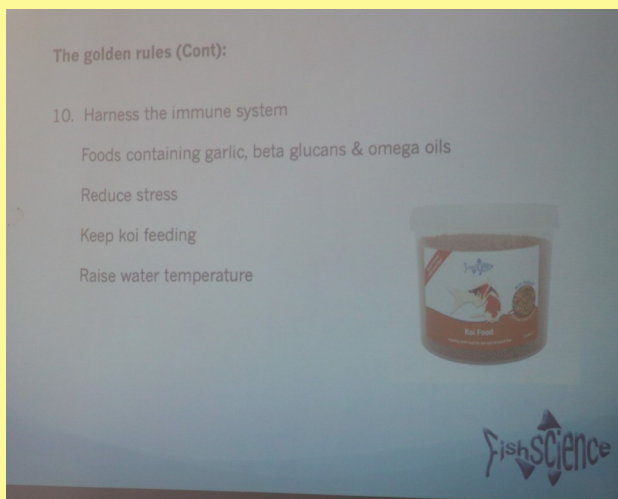
7. Make sure any treatments/chemicals you are planning to use are safe and appropriate for the species of fish in your pond. Orfe, Rudd and Sturgeon/Sterlets can be very sensitive to certain chemicals and may require removing from the pond for a while.



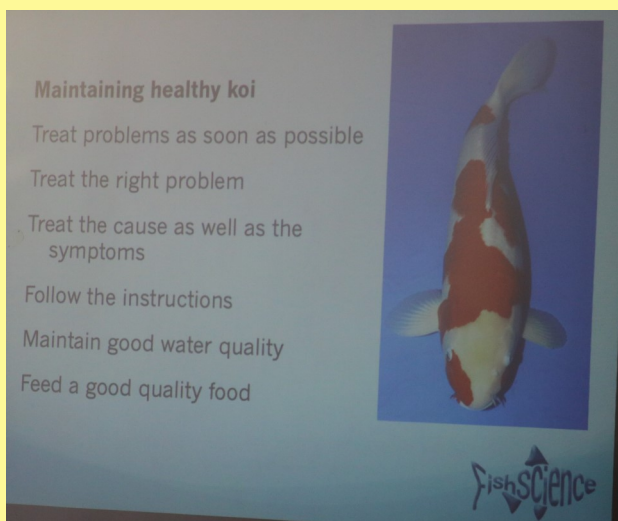
8. Don't mix treatments unless it is recommended to do so. Things like Malachite Green (MG) and Formalin are often used together. Sodium Thiosulphate (ST), Dechlorinator and Hydrogen Peroxide (HP) will neutralise PP. Salt used with Formalin can have disastrous effects but salt used along with Acriflavine, can be a good tonic for treating some parasites, bacterial issues and ulcers.



9. Treat the cause of the issue as well as the symptoms. This takes you back to the positive identification of the issue, be it parasites or water quality.



10. Feed a good quality food. Foods that contain garlic, beta glucans and omega oils help to strengthen the immune system. You can also enhance the fishes natural defences by reducing stress. David also mentioned that if it is possible, to keep temperatures stable and warmer over winter and to continue feeding can be a good benefit to the fish.



David had brought some of the koi food to the meeting which members purchased. It is made from natural ingredients including insect larvae instead of fish meal like many other products. This makes it much more digestible to the fish as it is based on foods they would naturally eat.

As usual, we also had a raffle and then Jim and the club thanked him for a very interesting talk.



Photo Show 2019 Preparation

The Photo Show is the highlight of the year for me. I have taken part for a few years now. Last year was my first time being part of the show team, we had such a good weekend and got to see everyone's koi and ponds. The down side is we are time restricted so can't stay and chat for long.

This information is to help you prepare for entering the YKS annual Photo Show. We have all been new to this and I think those of us who have done it for a few years take for granted that not everyone knows what to expect or do. So firstly I will provide a list of equipment that makes our life much easier and helps you and your koi keep as stress free as possible.



The most important bit of kit is obviously a Net.

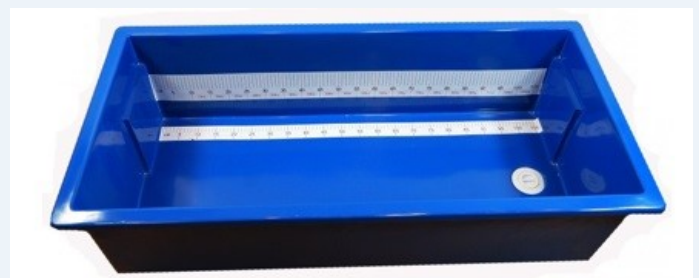
A Koi Sock is essential for safely moving the koi from net to bowl etc.



If you are going to catch your koi in advance make sure your bowl is large enough.



Finally, a measuring bowl with a measure tape in CM on the side so we can get accurate sizes.



- ◆ A time and date will be provided to you. The date is accurate however please be aware that delays can happen. We will contact you with a time we are expected to arrive at your address.

On your day of the show.....

- ◆ An entry fee of £20 is payable on the day.
- ◆ You can choose 5 of your koi to enter the show. One of them may be entered into the “Select Variety” which will compete against other members “Select Variety” choice/s.
- ◆ Please wait for our confirmed time of arrival BEFORE catching your chosen koi. If you have an adequate sized holding vat/bowl then it does help with getting photos done quickly and allow you to get your koi back in the pond sooner.
- ◆ Koi should be fit and healthy.
- ◆ Your selected koi will be caught and transferred into the measuring bowl where they will be photographed, measured and judged.
- ◆ You can select one of your koi out of the 5 for your “Members Choice”.

What is the “Select Variety”?

The Select Variety is a type of koi that is usually drawn out of a hat at one of the meetings prior to the Photo Show. Last year it was the Chagoi, the year before was a Kujaku etc.

What is the “Members Choice”?

The Members Choice is a separate award that is chosen on the day of the awards BBQ. Each entrant chooses one of their koi to put forward. It can be any variety, size or age. A picture of it is displayed with the others on a board at the BBQ, everyone who attends the BBQ gets one vote on which koi they like best. The number of the chosen koi is written on a piece of paper and put into a sealed box. These are then counted and the koi with the most votes will win the award. In tie break situations a second vote will be cast.

FOCUS ON..... *Fish Leeches*

These wriggly nasties are very difficult to get rid of and can be devastating to a pond and its inhabitants. Their scientific name is "Piscicola geometra" and is the most common in the UK and feeds on fish. There are a number of species in this family including some variants that are saltwater species. Much like a vampire, it drinks the blood of its victim. Unlike the majority of other parasites the leech only needs a host when it requires food. It does not need to live on a host continuously.

When it has a full belly it will live amongst the plants and rocks in the pond. They can be brought into a pond via plants, fish or rocks collected from other lakes/ivers.



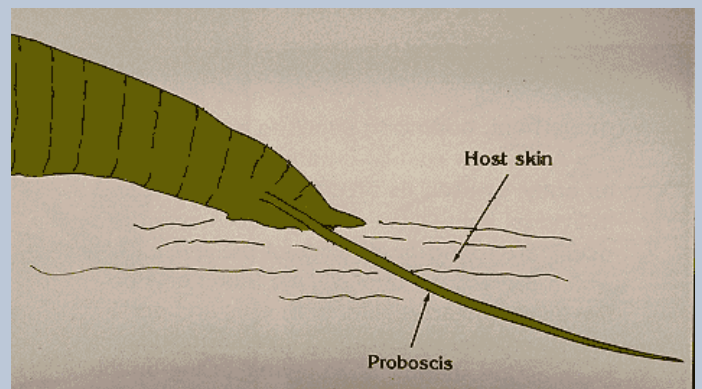
It's appearance is typically "leechy", it wriggles and will feel around and reach for something to attach itself onto. Leeches are very strong swimmers and will follow their prey. Leeches can survive for weeks without feeding and is often introduced into a pond on plants.

On closer inspection, the leech is actually quite pretty! It has a banded pattern along the length of its body and lots of tiny little spots. It is usually varying shades of brown. At each end of the leech is a sucker, this allows them to hold onto

things and attach themselves firmly to the host fish.

The larger sucker is the tail of the leech and the small sucker is the head end where its mouth is located.

They have what is called a "proboscis", this is a long thin needle like organ that pierces the skin. It then uses this much like a straw to suck up the blood.



Symptoms

Because the leech feeds on the blood of the host fish this causes a number of problems. Firstly, as the leech is breaking the skin the fish may get secondary infections at the puncture site. This can cause ulcers, fungus, swelling and bleeding.

Leeches have been found to be one of the causes for the spread of SVC (Spring Viremia of Carp).

The second issue, the fish may be completely listless due to blood loss, when there are

exceptionally high numbers of leeches attached to a single fish this can very quickly result in death of the host due to hypovolaemic shock (too little blood to circulate and oxygenate the tissue/organs).



As with any irritant, leeches can cause the host fish to flash off the sides of the pond or any objects in order to remove the irritant.

They may also stop feeding, become lethargic, listless, or sit on the pond bottom with their fins clamped. The host fish may overproduce skin mucous so can appear milky in colour.

Identification

Microscopic examination is not necessary to see leeches, however it is advisable to take a sample to check for other parasites. Leeches are visible to the naked eye. They can reach lengths of 25mm. They are usually seen attached to the flanks and belly of the fish, they are also found in the more sheltered areas of a fish such as the gills and in the mouth. They may not be noticed by the hobbyist until the leech is mature or there are high numbers of them. It is not uncommon to find a host fish with numerous leeches attached to its body, fins or eyes. Gills seem to be a popular place for the leeches to feed from due to the high concentration of tiny blood vessels close to the surface of the gill filaments.

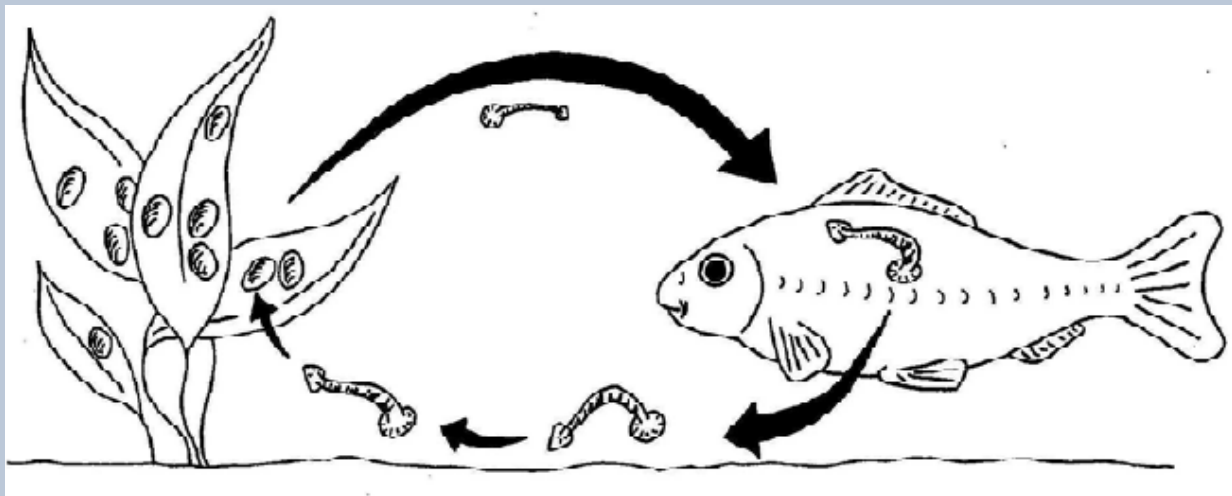


It is important not to confuse leeches with mayfly or gnat larvae (below), these are much smaller and often darker, they are also harmless and a good protein source for your fish. Leeches on the other hand are quite a formidable enemy.



Lifecycle

The Leeches life cycle is fairly simple in comparison to other parasites. They are actually hermaphrodites, this means they have both male and female reproductive organs. However, they still require another leech in order to reproduce and allow cross fertilisation or introduction with another leeches biological code.



Once the leech has filled up on blood of is full of eggs, it then leaves the host fish. The egg laden leech will find a place to lay its eggs, usually on plants or rocks. They lay their eggs in dark brown "cocoon" firmly stuck in place. The eggs can develop and hatch in as little as a week to thirty days from being laid. The newly hatched leech will then set off in search of a host to feed on. They can go for a number of days without feeding. Their whole life cycle takes just four weeks.

Treatment

Unfortunately, the most effective treatments for leech infestations are now banned in the UK. These chemicals are Organophosphates; Dimilin, Masoten and Malathion.

Masoten: 1 gram per 395 litres (87 Gallons) when 18.3°C and over, weekly treatments for 4 weeks. For temperatures 18.2°C and under use 6/8 grams per 4546 litres (1000 gallons).

Dimilin: may be another option but is banned in the UK.

There are however a number of options to try eradicate a leech infestation.....

Option1: The manual removal of each leech from each fish. This can be a very labour intensive procedure which is stressful to an already weakened fish.

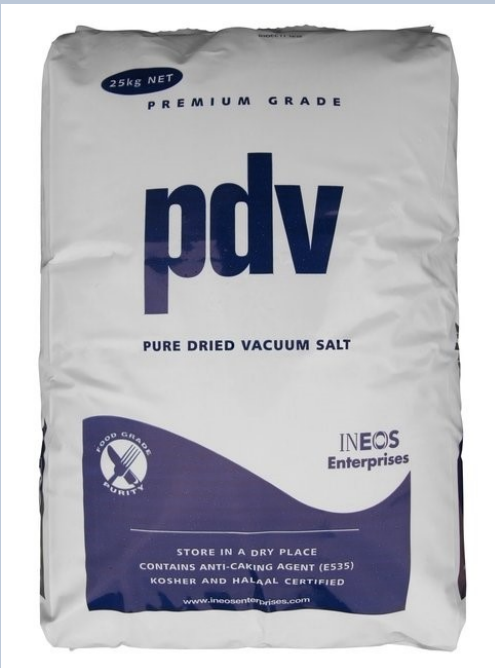
- A quarantine setup with its own filters will be required with the capacity to house all the fish in the affected pond.
- You will need: Sedation, bowl and catching equipment, tweezers, forceps, cotton buds, a jar with water (to put the leeches in), antiseptic spray/gel (to reduce risk of secondary infections). As an extra precaution Malachite Green (MG) or Acriflavine can be applied to the removal sites with a cotton bud. A sturdy comfortable workspace (you will be here a while). A table lamp, head torch or good light source. A magnifying glass. Towels (soaked in pond water).
- Sedate each fish one at a time.
- Once sedated lift the fish onto the work surface with a damp towel under it.
- Start at one end and carefully pick off each leech you find using the tweezers. To make seeing them easier ensure the light is in a suitable position and use a magnifying glass to spot smaller leeches.
- Once the leech is removed, drop it into the jar with water. The water encourages the leech to let go of the tweezers.
- Apply some antiseptic to the site and if you wish a dab of MG or Acriflavine. However, Do not apply them to the gills or eyes.
- When you get to the gills, use a large pair of forceps to lift up the gill plate so you can check inside, do the same with the mouth.
- Be aware that the gills are delicate and may bleed but this should eventually stop.
- When you have done one side, turn the fish over and do the same on the other. Remember to check the towel for any escaping leeches before turning the fish over.
- If the fish starts to wake up you can return it to the sedation for a short time.

Once you are happy you have removed the leeches, put the fish in the quarantine facility to recover. Using a QT makes it easier to catch them again if further leech removal is needed, it

also allows you to closely monitor them for signs of secondary infection.

- Do not feed them while in quarantine as the filters are unlikely to be at their optimum.
- Salt may be added to help aid recovery and to reduce secondary infections.

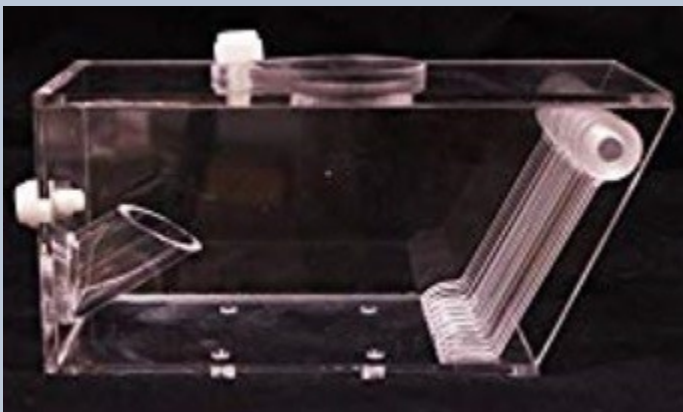
Option 2: After removing the fish and following Option 1, drain down the pond completely. Remove all plant and allow them to dry out. Allowing the pond and plants to dry out will kill off any remaining leeches in the plants and pond. They are unable to survive out of water for long. Leaving it all dry for about a week should be long enough. This option is relatively easy for a smaller pond but may be impractical for a lake or larger pond.



Option 3: Is to again remove all fish from the pond and follow Option 1. The pond may remain full with any plants left in situ. The pond must remain free from any fish for at least a month. This will mean that there is no food source for the adult and newly hatched leeches. They will die from starvation.

Option 4: Salt. Once the pond is empty and if you wish to keep it full, you can salt the pond to 3% salinity. Please be aware that this is likely to kill any plants that are in the pond.

Option 5: In larger ponds/lakes a piece of bloody meat may be hung in the water. This will need to be changed daily with fresh meat. It will not get rid of the problem but may help control the numbers of leeches. (I have tried this method and did not find it effective).



Option 6: Leech Traps. Usually used in aquariums, you could bait these traps with bloody meat (like liver) in the box section. The leeches will then (hopefully) be drawn to the meat and enter through a small tube but then be unable to find their way out. These traps will need checking and the bait replacing daily.

There are some chemical treatments that may work in treating a leech infestation. One of them is only available as an aquarium treatment and can work out very expensive!

Interpet Anti Crustacean Parasite Plus (Aquarium)

Treatment of anchor worm, fish lice, gill maggots and fish leeches. It comes in 100ml bottles which treat 500 Litres.

1 ml per 5 Litres.

Having had the unfortunate luck to have had these horrid things in a previous pond I can be certain this treatment does work. I did not need a repeat treatment (Thankfully!!).

This will also kill snails in the pond.



Kockney Koi Yamitsu Pond Medic ParaKill

Claims to treat Leeches, Trichodina, Slime, Lice, Flukes and Anchor Worm.

Available in 250ml, 500ml and 1 Litre.

10ml per 750 Litres (150 Gallons) Repeat 5 days later then again after a further 5 days.

For a short term bath (5 minutes max) use 10ml per 10 gallons (50 Litres).

A half dose may be used if Orfe or Rudd are present in the pond.

Switch off UV.

Warning/Disclaimer: Medications are used at your own risk and it is your responsibility to calculate dosages accurately according to your pond volume. Check parameters prior to any treatments being administered.

Videos

<https://www.youtube.com/watch?v=-Q558gErBsk>

<https://www.youtube.com/watch?v=p0y-6fa5D1c>

<https://www.youtube.com/watch?v=8ILGwq2RKXM>

References

http://freshwaterlife.org/imagearchive/main.php?g2_view=tags.VirtualAlbum&g2_tagName=Fish+leech&g2_itemId=3916

<http://www.fishhelpline.co.uk/health/leeches.html>

<http://www.koiquest.co.uk/Fish%20leech.htm>

<https://sussexwildlifetrust.org.uk/news/a-bunch-of-suckers>

<https://www.scribd.com/document/209143224/Leeches>

<http://www.aquaticcommunity.com/disease/parasites.php>

<http://www.pond-life.me.uk/fishhealth/piscicolageometra>

<https://www.interpet.co.uk/Products/Test-Treat/Fish-Treatments/Anti-Crustacean-Parasite-Plus-100ml#keyfeatures>

<https://pondinformer.com/pond-leech-treatment-guide/>

<https://www.inaturalist.org/taxa/483956-Piscicola-geometra>