

Prevention, Diagnosis & Cure of Ornamental Fish Diseases: Do's and Don'ts

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Fish Doctor

Summary

- ▶ Reasons why fish become 'diseased' in the ornamental fish industry.
- ▶ Some diseases= origin & cure(?):
 - *Mycobacterium* or Fish Tuberculosis;
 - Head-and-Lateral-Line Syndrome / Hole in the Head Disease / *Spiroplasma*;
 - Angel fish Disease / Discus fish Disease;
 - ICH or White Spot disease: fresh & marine;

Reasons why fish become 'diseased'

- ▶ Estimated loss of fish:
for exporter few %, importer few %, shop few%;
- ▶ Estimated overall loss = Still too high = 20%???
(**estimated loss in 1960's WAS 40 à 50%???**)
- ▶ **WHY???**
- ▶ Mainly due to poor 'methods': lack of implementation of good practices and lack of trained staff;
- ▶ This usually results in STRESS that weakens the fish and make them susceptible to diseases.

Fish can become diseased but we have a responsibility when we trade or keep them!



Reasons why fish become 'diseased'

- ▶ For the **EXPORTER of WILD CAUGHT fish**:
 - Poor collection methods by the fishermen;
 - Poor holding & transport methods by fishermen;
 - Poor quarantine by distributor or exporter;
 - Lack of diagnostic methods;
 - Lack of biosecurity;
 - Poor preparation 48–72hrs prior to shipping;
 - Poor shipping practice: bagging & packing.

Example of good quarantine practice at Kenya Tropical Sealife.



Reasons why fish become 'diseased'

- ▶ For the **EXPORTER of TANKRAISED fish**:
 - Poor breeding methods by breeders;
 - Poor holding & transport methods by breeders;
 - Poor diagnostic methods by breeder/farmer;
 - Lack of biosecurity by farmer;
 - Poor quarantine by distributor or exporter;
 - Lack of diagnostic methods by exporter;
 - Lack of biosecurity by exporter;
 - Poor preparation 48–72hrs prior to shipping;
 - Poor shipping practice: bagging & packing.

Example of poor biosecurity.



Reasons why fish become 'diseased'

- ▶ For **the IMPORTER**:
 - Poor unpacking methods;
 - Poor quarantine;
 - Poor feeding practices;
 - Lack of diagnostic methods;
 - Lack of biosecurity;
 - Lack of well-trained staff;
 - Poor shipping practice: bagging & packing.



Example of poor (l.) & good (r.) handling



Reasons why fish become 'diseased'

- ▶ For **the SHOP**:
 - Poor holding facility;
 - Poor care and poor feeding;
 - Lack of biosecurity;
 - Lack of diagnostic methods;
 - Lack of trained staff.



Examples of poor fish keeping



GOOD feeding practice



Reasons why fish become diseased

- ▶ For **the HOBBYIST**
 - Lack of GOOD information;
 - Poor aquarium not fit for the (kind of) fish;
 - Overcrowding!
 - Poor care & poor feeding practices: i.e. obesity!
 - Saving on \$\$\$;
 - Lack of time & planning.



Examples of poor fish keeping



CONCLUSION

There are many things we can do better....we should do better...eventually we have to do better if we want to have a future for the keeping of ornamental fish!



Maybe our future?



....continued

- ▶ ~~Reasons why fish become 'diseased' in the trade~~
- ▶ Some diseases= origin & cure(?):
 - *Mycobacterium* or Fish Tuberculosis;
 - Head-and-Lateral-Line Syndrome / Hole in the Head Disease / *Spiroplasma* parasites;
 - Angel fish Disease / Discus fish Disease;
 - ICH or White Spot disease: fresh & marine.

Mycobacterium



Mycobacterium



Mycobacterium or fish tuberculosis

= more details later today on by Ksenia Bazanova at 12:15



Mycobacterium...what to do

- ▶ Avoid the Origin: Female parental fish, excrements, dead fish, infected food (i.e. Mosquito larvae);
- ▶ Avoid the Poor selection of brood stock;
- ▶ Avoid the 'incubator' aquarium;
- ▶ Accept: Old age Syndrome: fish can survive long time in captivity;
- ▶ No cure! But prevention= avoiding contact & good fish food !
- ▶ Risk for zoonosis!



Prevention of zoonosis Mycobacterium through proper hygienic measures.



Zoonosis: a matter of prevention



HEAD-and-Lateral-Line Syndrome (HLLS); Hole-in-the-Head Disease (HITH).

- Mostly found with Freshwater Cichlids;
- AND Marine Angel fish, Tangs and Surgeon fish.



HEAD-and-Lateral-Line Syndrome (HLLS); Hole-in-the-Head Disease (HITH).



HEAD-and-Lateral-Line Syndrome (HLLS); Hole-in-the-Head Disease (HITH); Here with the parasite *Spironucleus*



HEAD-and-Lateral-Line Syndrome (HLLS); Hole-in-the-Head Disease (HITH); + parasite *Spironucleus*?

- Different signs;
- Different problems(?);
- Internal Parasite *Spironucleus* (ex-*Hexamita*);
- Poor feeding & Lack of essential nutrients;
- Lack of correct diagnosis!
- Secondary bacterial infections;
- Viral infection?



Spironucleus parasites



HEAD-and-Lateral-Line Syndrome (HLLS); Hole-in-the-Head Disease (HITH); ? + parasite *Spironucleus*?

1. Avoid stress;
2. Good quarantine;
3. Good quality Food with all necessary nutrients; for marine fish also in the water!
4. Food with immunostimulants or food coated with fresh, non-cooked garlic;
5. Treatment Metronidazole 500gm/100 l.(36-48hrs) or 500gm/100gm food for 5-7 days (not for baby fish);
6. Anti-bacterial treatment: Furaltadone or Nitrofurantoin.



DISCUS and ANGEL FISH DISEASE (aids / pest)



Discus Disease (pest / aids)



Angel fish disease (pest/aids)



DISCUS and ANGEL FISH DISEASE (aids / pest)

- ▶ Since 1986;
- ▶ When periods with Atmospheric low pressure; fog (= mostly occurring in spring & fall);
- ▶ Mixing of species from different origin (country or continent) in same aquarium or nearby;
- ▶ Also other S-Am. Cichlids: *Uaru*, *Heros* & *Mesonauta*;
- ▶ Astma-like symptoms;
- ▶ Secondary bacterial infections.
- ▶ *Prevention* = fish food with immunostimulants;
- ▶ *Prevention* = avoiding the mixing of fish from different origin;
- ▶ *Prevention* = water quality;
- ▶ When diseased=
 - Many water changes and raise temperature few °C;
 - Controlling secondary bacterial infections;
 - Identification infections (if any);
 - Fish can build up “resistance” after few weeks.

OCCURENCE

SOLUTIONS

White Spot Disease: fresh water



*Ichthyophthirius
multifiliis*



*Neoichthyophthirius
schlotfeldti*

White Spot Disease: fresh water



*Ichthyophthirius
multifiliis*

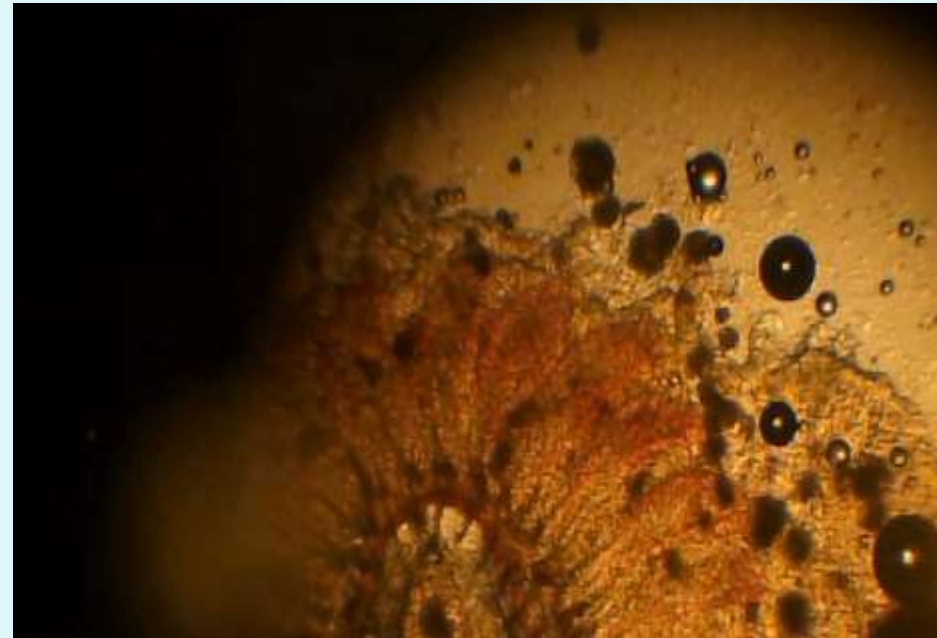


*Neoichthyophthirius
schlotfeldti*

White Spot Disease: fresh water



*Ichthyophthirius
multifiliis*

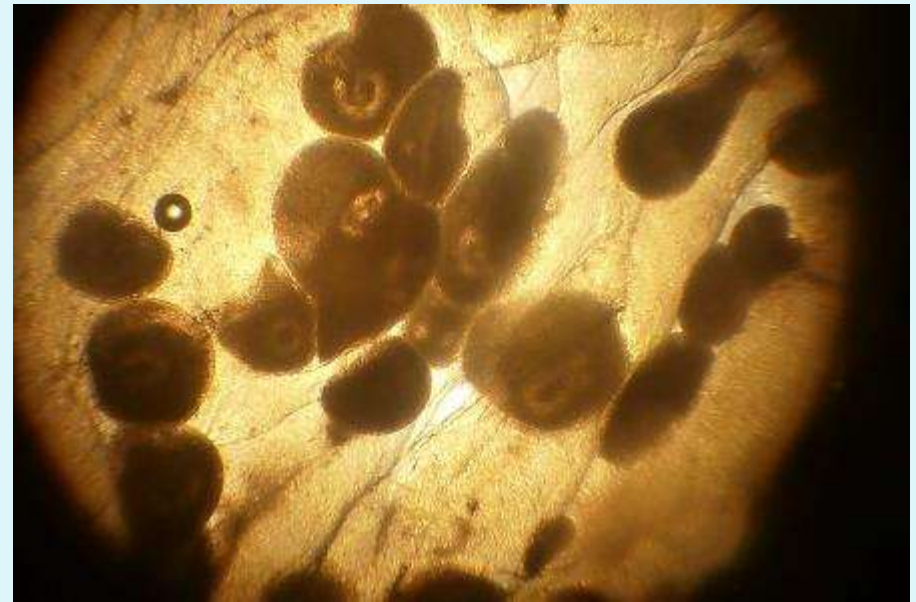


*Neoichthyophthirius
schlotfeldti*

White Spot Disease: fresh water



*Ichthyophthirius
multifiliis*



*Neoichthyophthirius
schlotfeldti*

White Spot Disease: fresh water

- ▶ Half-circular nucleus;
 - ▶ More transparent, light brown color;
 - ▶ Slow movement;
 - ▶ Small whitish spot;
 - ▶ Adult reproductive
Trophont OFF the fish;
 - ▶ Fast infections: quickly noticed;
 - ▶ Origin: worldwide.
- ▶ Circular nucleus;
 - ▶ Less transparent, darker color;
 - ▶ Faster movement;
 - ▶ Larger, not perfect spot, sometimes more yellow colored;
 - ▶ Trophont ON the fish: reproduction underneath mucus;
 - ▶ Slow process: many weeks before noticeable;
 - ▶ Origin: South East Asia.

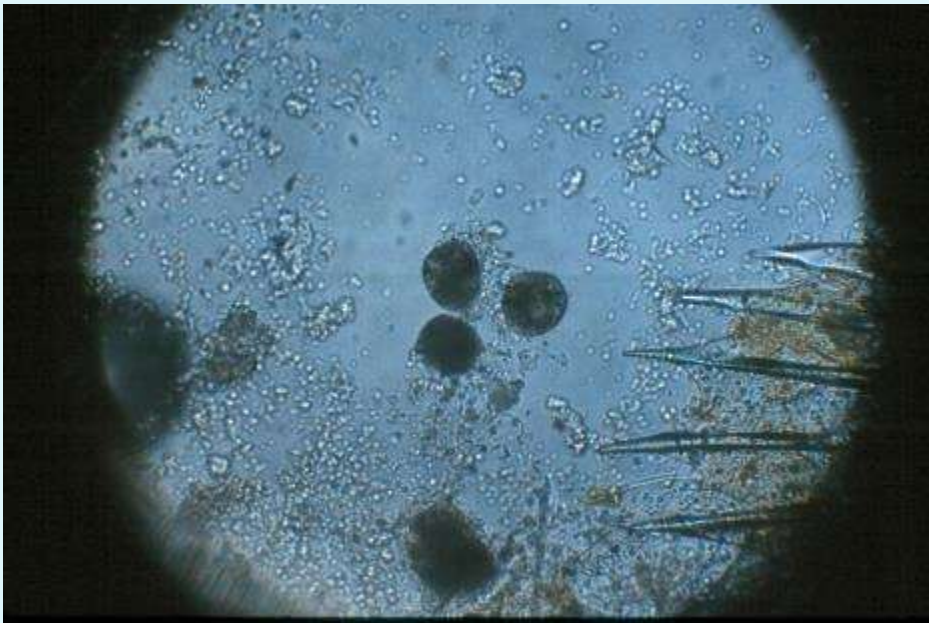
*Ichthyophthirius
multifiliis*

*Neoichthyophthirius
schlotfeldti*

White Spot Disease: marine= *Cryptocaryon*



White Spot Disease: marine fish = *Cryptocaryon*



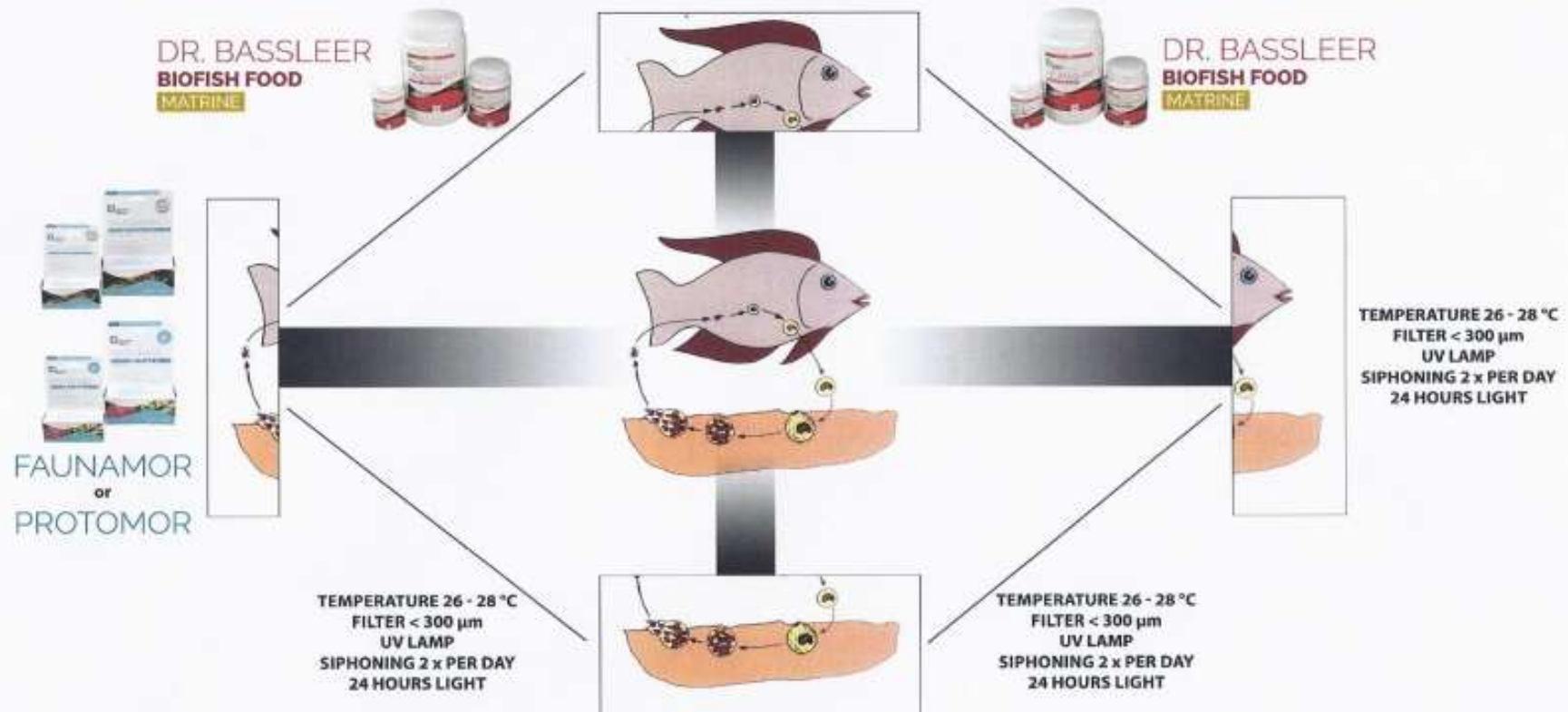
Prevention & Treatment of White Spot Disease

- ▶ During quarantine period = minimum 2 weeks and move fish daily to other tank;
- ▶ Use food with immunostimulants and/or matrine to fortify the fish;
- ▶ Avoid stress: especially temperature drops (i.e. cold air draft, cold water changes);
- ▶ Avoid overcrowding;
- ▶ Install UV and microfilter <300µ.
- ▶ Detect disease in the early stage;
- ▶ Check water parameters & filter;
- ▶ Do a good water change and siphoning off bottom: at evening and early morning;
- ▶ Leave light on during 24hrs;
- ▶ Raise temperature +3°C;
- ▶ Food coated with “matrine” (extract from plant *Sophora flavescens*);
- ▶ Medication Malachite Green (+ Formalin)! Watch out for invertebrates (Marines!).

PREVENTION

TREATMENT

Dr. Bassleer anti-ICH method= medication + actions + Biofish Food "matrine"



Neoichthyophthirius schlotfeldti



Prevention & Treatment of *New White Spot Disease: Neoichthyophthirius schlotfeldti*

- ▶ Disease is sometimes many week on the fish (slimy coating) or in the gills;
- ▶ More difficult to treat because parasites 'hides' as reaction on common medications;
- ▶ Especially fish from South East Asia need to be checked and need quarantine;
- ▶ Treat with daily good water changes(or move) and siphoning off the bottom;
- ▶ Raise temperature with +3°C;
- ▶ Give Biofish Food "MATRINE";
- ▶ Medication: Salt (3 to 5gm/liter) and Malachite green (+Formalin)
- ▶ Do Waterchanges & re-treatment during 7 à 14 days!



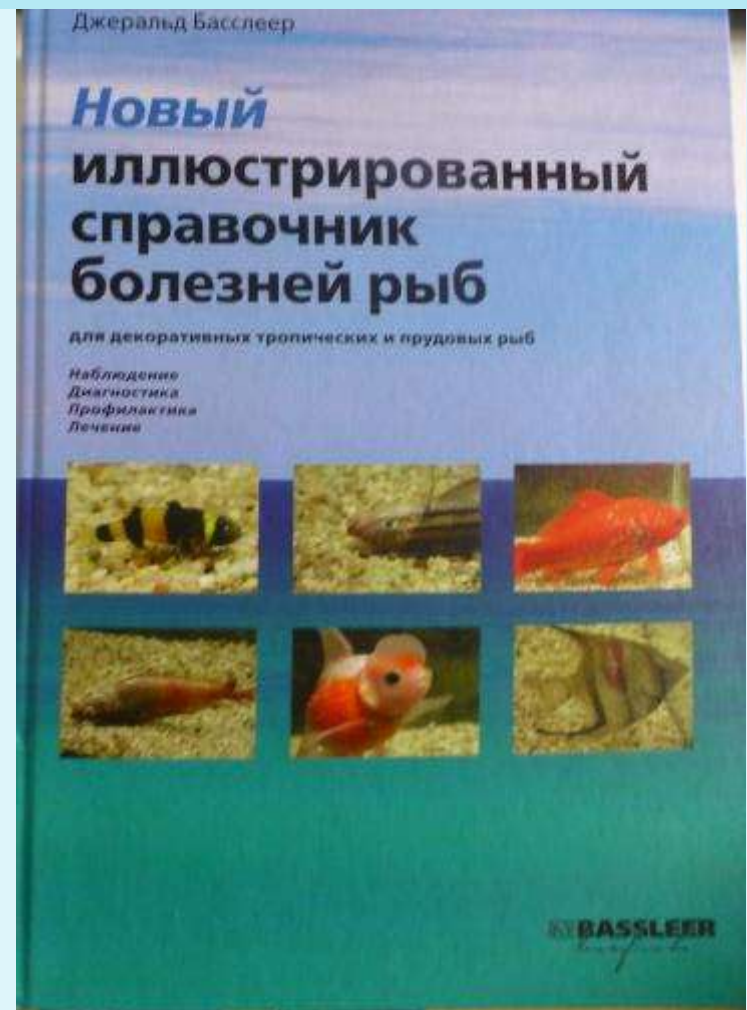
Prevention, Diagnosis & Cure of Ornamental Fish Diseases:

MY final RECOMMENDATION

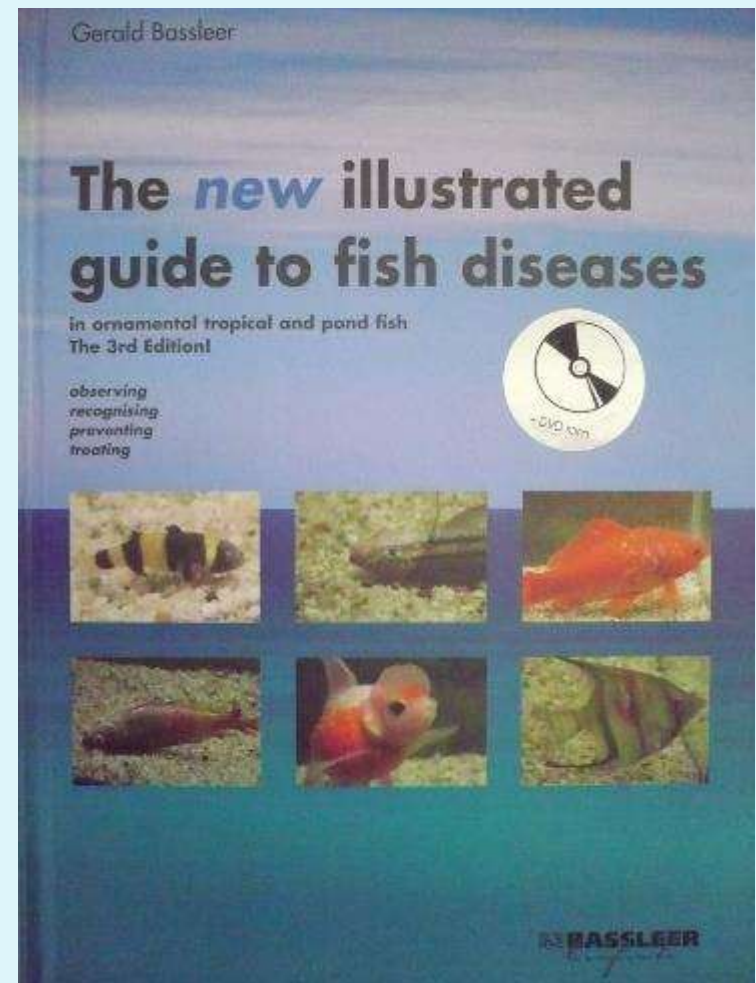
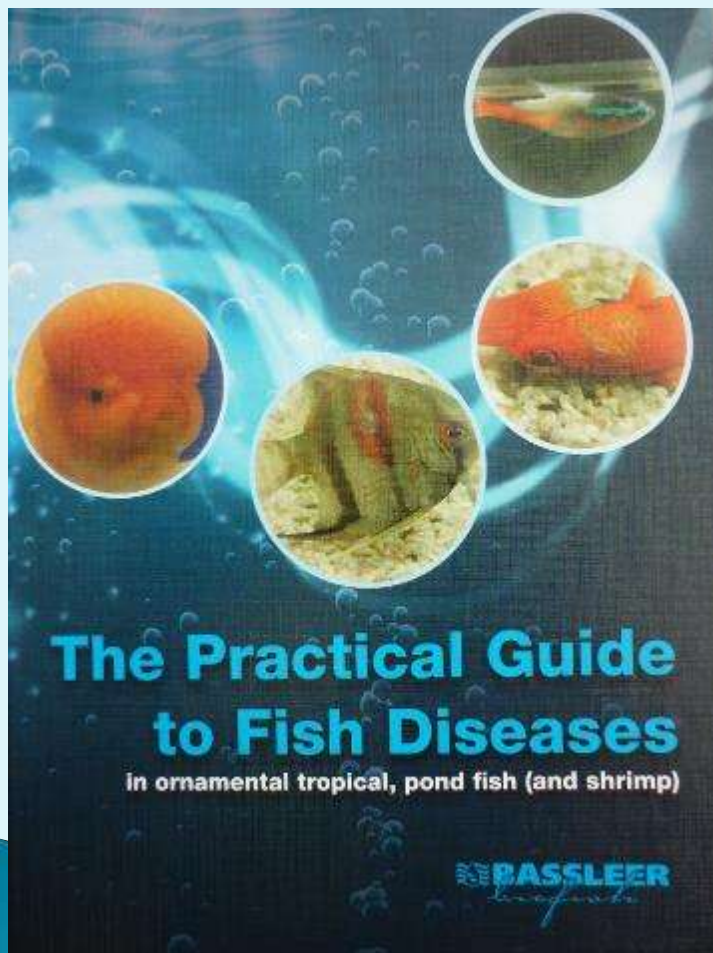
= *CHECK FIRST Why?
What? Where? When?
How? etc.*



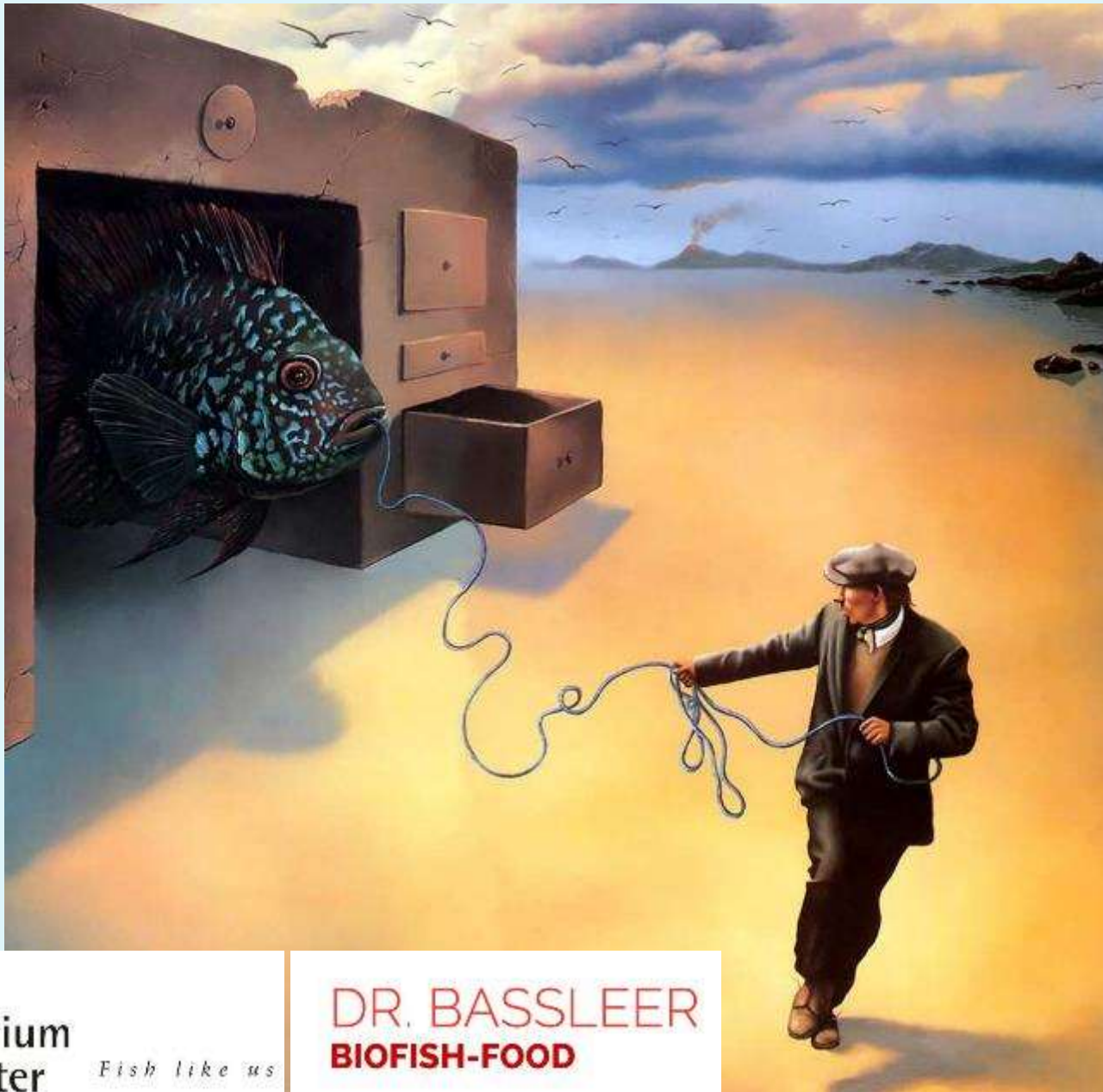
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