

CALL TO BRAZILIAN ICHTHIOPATHOLOGISTS: THE BRAZILIAN ORNAMENTAL FISHES NEEDS YOU!

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ABSTRACT

Lauri, L. S. (2022). Call to Brazilian Ichthyopathologists: The Brazilian Ornamental Fishes Needs You! *Braz. J. Aquat. Sci. Technol.* 26(1). ISSN 1983-9057. DOI: 17217/bjast.v26n1. Since fish have the potential to grow as pets in the Brazilian market, it becomes interesting to seek another approach of investigation about the diseases that affect these animals. The Ichthyopathologist is a veterinary pathologist who is more interested or specialized in fishes. This professional can bring another look to the ornamental fish chain, since they can focus on microcosms and then make the clinical correlation. Here we list some initial literature to those interested in following this profession safely and enhance the entire productive range of Brazilian ornamental fish.

Key Words: Animal Pathology, Ornamental Fish, Professional Qualification, Veterinary.

QUICK OVERVIEW OF ORNAMENTAL FISH AND VETERINARY PROFESSIONALS

Fishes are created as pets for a long time. In Brazil, the production chain is partly extractive and above all familiar (Yamamoto et al., 2021) having a lot of empirical drug use. Although some regions of Brazil already have specialized labor, this is an exception (Coe et al., 2011) and like almost every business in Brazil, you have all kinds of investments (Cardoso et al., 2021).

With the rise of the great cities, with less space to live and preferring not to have dogs or cats, a fish is a question that can come into discussion.

Fishes have many advantages. Less possibility of transmitting diseases, silent, do not dirty the house and do not disturb neighbors. According to market data, they number over 21 million and are 4th in the pet segment in Brazil (ABINPET, 2022).

A disadvantage could be the cost of electrical energy. Since the environment of the major part of fishes must have, at least, a filter. Or a light, heater, UV filter among others.

The ichthyopathologist is the pathologist with a focus on fish. Already well positioned in the fish chain outside Brazil, this professional can bring another view on the chain. Being able to assess the triad: environment-host-disease and report the treatment.

Some veterinary schools already offer courses in aquaculture. Others have already an entire aquaculture program. The fact is that few professionals choose fish to work with. Even fewer choose ornamental fish, neglecting its large potential.

In Brazil, we have Federal Law No 5.517/68, point out that only the vet has the technical knowledge to diagnose and treat animal diseases (BRASIL, 1968). The lack of veterinary professionals in this area brings biologists, zootechnicians and other professionals who see this opportunity.

Understand the histology of ornamental fishes will make the Brazilian productive chain more professional. Since some of these other professionals do not collect or analyze tissue.

INTERNATIONAL LITERATURE ABOUT ORNAMENTAL FISH

In other countries, the study of aquatic medicine is well advanced in veterinary schools. For instance, a crucial book on the diagnosis and treatment of fish diseases was written by Edward J. Noga, Professor at the North Carolina State University (Noga, 2010).

Another excellent book is "Fish Pathology" (Roberts, 2012), a book that shows how you can find out more using the microscope. Since there are not so many pathognomonic diseases and you cannot trust only in your eyes. Woo et al. (2006, 2011) published two volumes on fish disease and disturbance. Another volume with the same principle, but published by Leatherland & Woo (2010) provides us with diseases separated by the presence or absence of the causal agent.

Dr. Gerald Bassleer (Bassleer, 2011), a Belgian biologist, specialized in ichthyopathology is categorical that all people involved in fish must have a microscope, as obligatory for the diagnosis of fish! Bassleer's

idea is to be more practical and rather than doing histopathology you make a fresco slide and see in the same moment what could be happening with the fish.

This is a great step forward and, in our experience, a microscope may be useful for those involved in the ornamental fish production line. Depending on the size of the fish, allow keep the fish alive with some fresco slide techniques, which is essential in some species, such as Nishikigoi.

SOME LOCAL LITERATURE ABOUT ORNAMENTAL FISH

Mathews et al. (2016a) found three myxosporids in *Corydoras melini*. Ornamental species that inhabits the Amazon region. They describe a new species of *Henneguya* spp. (*Henneguya melini*). They describe ultrastructural aspects of other myxozoans (*Myxobolus niger*) (Mathews et al., 2016b). And sequence the ssrRNA of another myxosporid parasite (*Myxidium amazonense*) (Mathews et al., 2015). The first author wrote some articles for his doctoral thesis: Systematics and host-parasite interaction of myxosporidian parasites of ornamental fish from the Amazon Basin. The next parasite was found in *Symphysodon discus*. They describe a new species: *Ceratomyxa amazonensis* (Mathews et al., 2016c). Discuss the phylogeny of the parasite that appears to originate from marine fish. Histology is not seen in these, although knowing the parasites present in ornamental fish is of great importance. The question is to understand if these parasites lived in harmony with the fish or not and if they are capable of harming the fish in case of stress.

A dissertation for master of science brings the histology of the digestive tract of surubim-pintado (*Pseudoplatystoma coruscans*) (Cal, 2006). Other two dissertations show the histology of the *Hyphessobrycon* genus. One describes the morpho-histology of the ovary from *Hyphessobrycon eques* (Tetra-serpae) (Leandro, 2014). Pereira (2019) studies *Hyphessobrycon heterorhabdus* (Tetra bandeira). How exposure to slurry from Santarém - PA public dump affects the histology of this species. This could be used as a bioindicator and test organism in water pollution bioassays.

So important as knowing the fish and their diseases is to understand the importance of the environment. Keeping the water in the required parameters of the species is the first thing you can test as a fish clinician. Poor water quality may have been a stressor that triggered an already controlled micro-organism (Pasnik et al., 2012). And this poor quality may change the histology of the gills in microscopy (Wolf et al., 2015).

After measuring the water parameters, see a fresco slide and, if necessary, do the proper euthanasia protocol with your specimen, you need to take care of how to fix the tissue. Or you may lose quality in the end product and miss some diagnoses or even misdiagnose or confuse artifacts with diseases (Wolf et al., 2015).

Every step counts for a precise diagnosis. Ichthyopathologist is the professional best able to correlate all the data, and to prescribe, as a veterinarian, the correct medication, at the right dose.

CONCLUSION

The production chain of ornamental fish is in some part extractivist or mostly familiar. The lack of a professional with theoretical knowledge, environmental concern and proper use and disposal of antimicrobials is a picture that deserves attention. Both universities and from producers and distributors of ornamental fish, with an eye on the possibility of exporting ornamental fishes with higher quality and added value this kind of partnership would benefit everyone.

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