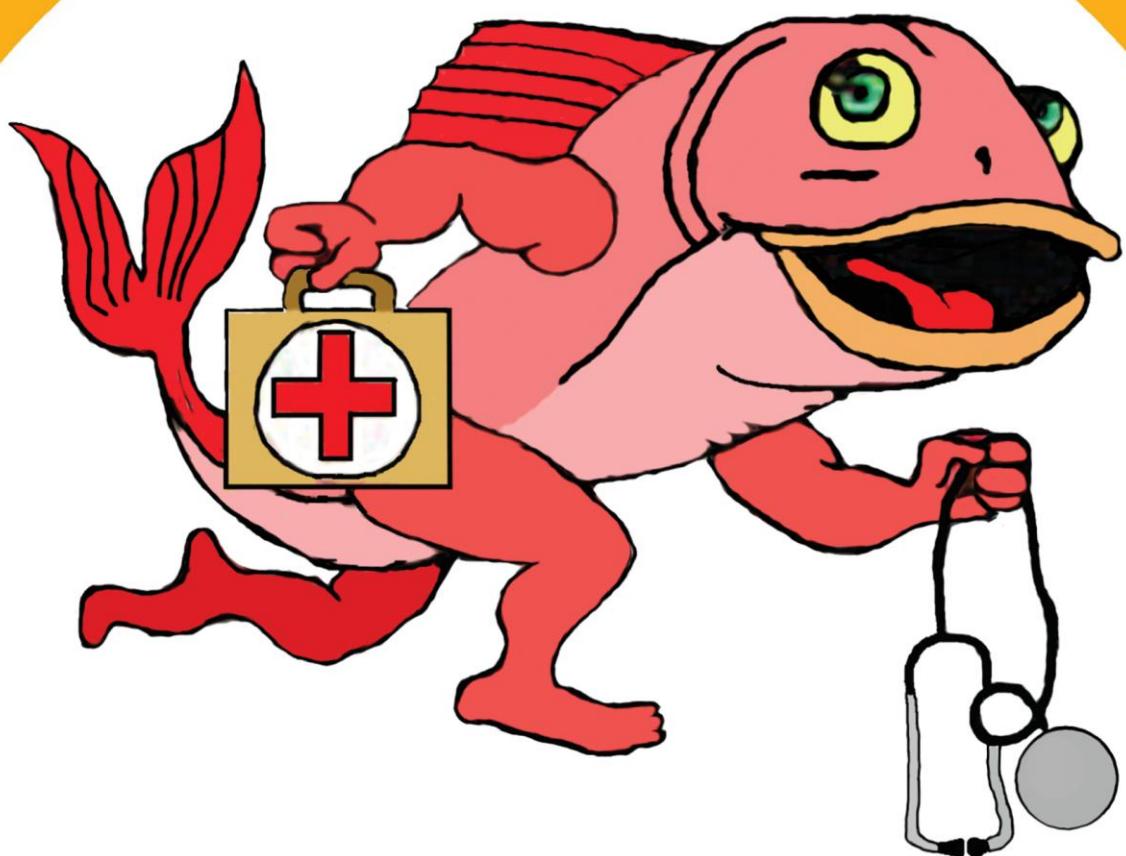


FISH VETTING ESSENTIALS



**Dr Richmond Loh
&
Dr Matt Landos**

© 2011 Richmond Loh Publishing

ISBN 978-0-9871571-0-2

This work is copyright. Apart from any use permitted under the *Copyright Act 1968*, no part may be reproduced by any process, nor may any other exclusive right be exercised, without the permission of the author. Requests and enquiries concerning reproduction and rights should be addressed to Dr Richmond Loh.

Published by:
Richmond Loh Publishing
Perth, Western Australia, Australia.

For orders
Phone: +61 (0)421 822 383
Email: thefishvet@gmail.com
Web: <http://www.thefishvet.com.au>

Preferred way to cite this publication:
Loh, R. and Landos M. (2011) ***Fish Vetting Essentials***. Richmond Loh Publishing, Perth.

Publication designed and typeset by Richmond Loh.

Front cover: The Fish Vet's logo. Part fish, part vet.



Loh, R. and Landos M. (2011) ***Fish Vetting Essentials***. Richmond Loh Publishing, Perth.

FOREWORD

This is a revised version of the self-published “Australian Fish Vetting Essentials” (2007) by Drs Richmond Loh & Matt Landos. The purpose of this manual is to collate the knowledge that aquarists, aquaculturalists, public aquaria, local fish shops and veterinarians already have, and to filter out misinformation and then provide this information in a readily digestible form. The information contained in this publication has been in the process of compilation since 2001. This manual is not prescriptive, but rather, it is a collection from our combined knowledge to promote to the industry that veterinarians are best equipped to deal with aquatic animal health.

Worthy of note is that many diseases found in aquatics can be classified as emerging diseases since an “emerging disease” is one that has appeared in a population for the first time, or that may have existed previously but is rapidly increasing in incidence of geographic range.

The Authors

The Fish Vet

Dr Richmond Loh
BSc, BVMS, MPhil, MANZCVSc (Aquatics & Pathobiology), DipPM, CMAVA
+61 (0)421 822 383
thefishvet@gmail.com
<http://www.thefishvet.com.au>

Future Fisheries Veterinary Service

Dr Matt Landos
BVSc HonsI, MANZCVSc (Aquatics)
+61 (0)437 492 863
matty.landos@gmail.com

Contributors

Dr Michael Chia

Dr Stephen Pyecroft

Dr Judith Handlinger

Dr Shane Raidal

Dr Fran Stephens



Loh, R. and Landos M. (2011) *Fish Vetting Essentials*. Richmond Loh Publishing, Perth.

ABOUT THE AUTHORS

Dr Richmond Loh

Dr Loh has always been interested in animals, nature and medicine, so naturally he studied to become a veterinarian at Murdoch University. However, his passion for all things fish was strong and so his first job was as a veterinary fish pathologist for the Tasmanian state laboratory, providing diagnostic services for the large aquaculture farms including species such as salmon, trout, ornamental fishes, abalone and oysters. At the same time, he was offering veterinary services to owners of ornamental fishes.

In 2006, he passed the examinations for Aquatic Animal Health for the Australian & New Zealand College of Veterinary Scientists (ANZCVS). In the same year, he was awarded a Master of Philosophy degree for cancer research in Tasmanian devils, publishing the seminal papers on Devil Facial Tumour Disease in Veterinary Pathology. To increase his depth of knowledge in the area of diseases, he studied for and passed the examinations for Pathobiology for the ANZCVS in 2009.

So far, he has given numerous talks at seven National Veterinary Conferences and also to the Pet Industry Australia Association delegates and at the New Zealand Companion Animal Conference. He regularly writes for aquarium and pet publications. These are an initiative to generate interest within the respective professions and industry to apply scientific reasoning for the better health and management of fishes. Through his veterinary career, he has appeared on TV (Creature Features, Stateline, Catalyst, ABC news), been interviewed on radio (Curtin FM), appeared in newspapers (The Sunday Times UK, Herald Sun, The Examiner, Sunday Tasmanian, The Cairns Post, Canning Times), magazines (Australian Aquarium Magazine, Aquarium Keeper Australia, TIME Australia Magazine, Your Pet Magazine, Woman's Day, Pets – Taking Care of Your Family's Best Friend, Animals' Voice) and appears on several local and international websites (ABC Online).

He is the consultant veterinarian to AQWA (the Aquarium of WA), is an adjunct lecturer at Murdoch University, is a founding member of the World Aquatic Veterinary Medical Association (WAVMA), is the secretary for the Aquatic Animal Health Chapter of the ANZCVSc and provides advice on fish health and welfare to several universities and the RSPCA. His clients are diverse and range from individual pet fish owners, to retailers, farmers (ornamental and food cultured fishes) and exporters.



Dr Matt Landos

Dr Landos is the Founding Director of Future Fisheries Veterinary Service, is an honorary lecturer in aquatic animal health and associate researcher at the University of Sydney, Faculty of Veterinary Science and in 2011 he was the president of the Aquatic Animal Health Chapter of the Australian & New Zealand College of Veterinary Scientists.

Dr Landos commenced his consultancy practice in aquatic animals in 2005 after a 5 year stint with the NSW DPI as the Veterinary Officer in Aquatic Animal Health. The client base is located throughout Australia, and it ranges from small native fish hatcheries to 3,000 tonne sea cage operations. He works with all aquatic species including molluscs, crustacea and finfish. He reviews emergency disease preparedness plans and develops health management plans for aquaculture industries. He has had a prominent media profile in recent years associated with investigation of the impacts of environmental pollutants on fisheries in relation to the notorious two-headed Australian bass larvae case from the Noosa River.



New Introductions Protocol

*It is very important to prevent fish from getting sick by effective quarantine and protocols for introducing new fish. Also, note biofilter in quarantine tank will need to be cycled beforehand by placing NH₄Cl. For biofilter dosing regimes, see section on “Nitrogen Cycle”. Do not omit the bag floating to equalise the temperature and adding water to the fish bag to slowly adapt fish from any deviations in water parameters. Note that the medicated dips/baths are prepared from water the new fish are going into.

Freshwater fish[22]

1. Pour bag containing fish into a net (discarding the water).
2. With fish in the net, immerse in 10mg/L KMnO₄ for 30-60 seconds.
3. Then immerse fish in 30-35g/L NaCl solution for 30-60 seconds (watch fish).
4. Release fish into quarantine tank.
5. Observe for 2-4 weeks.
6. If healthy, introduce into display tank, otherwise diagnostics is necessary.

*Alternatively, fish may be placed in a 10 minute peroxide bath made up with 17.5ml of 3% peroxide solution per litre of water.

Discus fish[22]

Do as for freshwater fish, but in addition, prophylactic medication in quarantine tank may be necessary.

Praziquantel at 2mg/L twice one week apart.

Metronidazole per os at 50mg/kg of fish.

Marine fish[22]

Do as for freshwater fish, but in step 3, immerse in freshwater instead.

Crustacea[9]

1. Pour bag containing shellfish into a net (discarding the water).
2. Rinse under running water (de-chlorinated) for 5 minutes.
3. Dip in 10mg/L KMnO₄ for 30-60 seconds.
4. Dip in 50mg/L povidone iodine or 50mg/L Virkon for 60 seconds.
5. Wash for 5 minutes under running water (de-chlorinated).
6. Place into tanks with 0.05-0.1mg/L treflan (trifluralin: anti-fungal).

Plants

Wash in lukewarm water and hold in fish free tanks initially.

or

Dip in a weak potassium permanganate solution for several minutes then rinse.

or

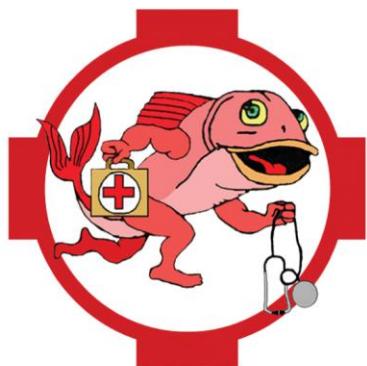
Soak in a solution of potassium aluminium sulphate (alum) at 35°C then rinse.

Source: <http://www.aquae.com/handbook/Handbook.html>



Loh, R. and Landos M. (2011) ***Fish Vetting Essentials***. Richmond Loh Publishing, Perth.

The Fish Vet



The original handbook, published in 2007, is widely used in veterinary schools, labs, clinics and even zoos. The revised 2011 edition is a comprehensive resource that incorporates elements of fish keeping, clinical medicine and fish pathology.

Important information for fish vets in this revised edition include:

- How to diagnose common fish diseases?
- How to medicate fish?
- How to treat fish diseases using drugs available in your surgery?
- How to interpret water quality results?
- How to anaesthetise fish?
- Notes on surgery and imaging.
- How to identify fish into their broad categories?
- How to breed fish using hormones?

This truly is an essential manual for veterinarians dealing with fishes.