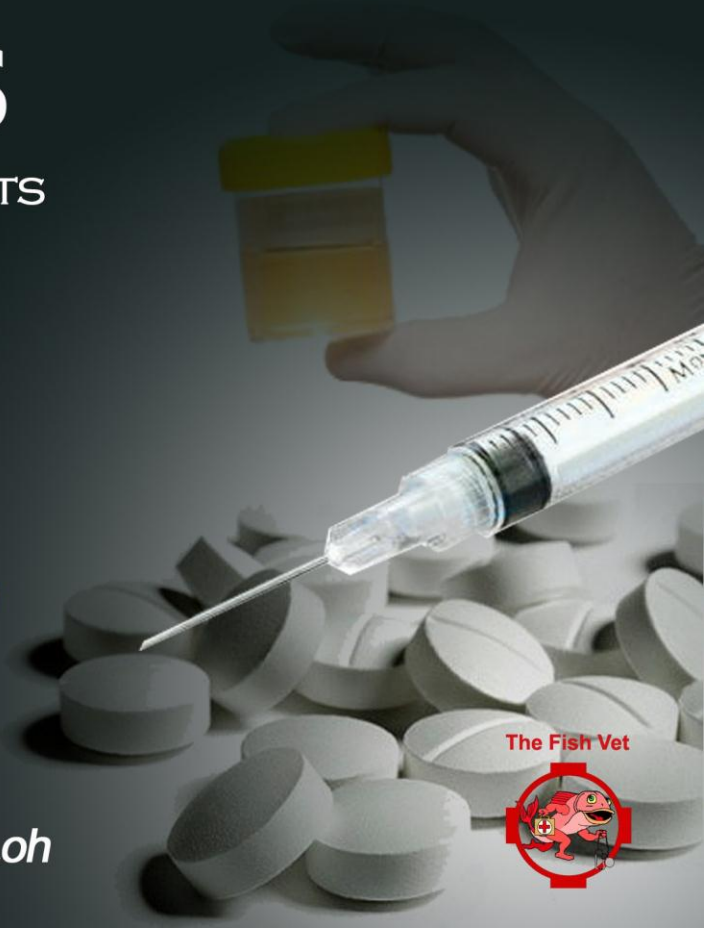
FISH VETTING MEDICINES

Formulary of Fish Treatments



Richmond Loh

The Fish Vet

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Preface

This book provides a wealth of information on medications that may be available for use by fish health professionals in the treatment of fish diseases. Please provide feedback wherever possible via email or the contact form on my website. The information you provide is valuable for updating those drugs where published data are limited.

Foreword

The purpose of this formulary 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 quick, easy to access form. There are nearly 300 entries in this publication which has been compiled since 2001. This is book is recommended to be used as a companion to "Fish Vetting Essentials" (2011) by Drs Richmond Loh & Matt Landos.

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Dr Loh has always been interested in animals, nature and medicine, so naturally he studied to become a veterinarian at Murdoch University. 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.

He has been admitted as a Member of the Australian & New Zealand College of Veterinary Scientists (ANZCVS) by examination in the subjects of "Aquatic Animal Health" and in "Pathobiology". He was awarded a Master of Philosophy degree for research into Tasmanian Devil Facial Tumour Disease and is published in Veterinary Pathology. He has recently published a book entitled "Fish Vetting Essentials" which has gained popularity and is being sold world-wide. He is now working on another publication entitled "Fish Vetting Cases – A Colour Review of Fish Diseases".

He primarily offers veterinary services to owners of ornamental fishes as "The Fish Vet" in the states of Western Australia and in Victoria. 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 ANZCVS 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 and fish farmers.

CONTENTS

CONVERSIONS

Volumes

To convert imperial gallons to US gallons multiply by 1.2
Volume (L) = L x W x H (in cm) 1000
20 drops = 1ml
1 teaspoon = 5ml = 5g
1 cup = 250ml
1 cubic foot = 19.6L
1 US gal = 3.8L
1 UK gal = 4.5L

Concentrations

ppm = mg/L
ppt = g/L
mg/L X 3.875 = mg/gall (US)
mg/L X 4.546 = mg/gall (UK)

1% solution
= 10mL/L
= 10g/L

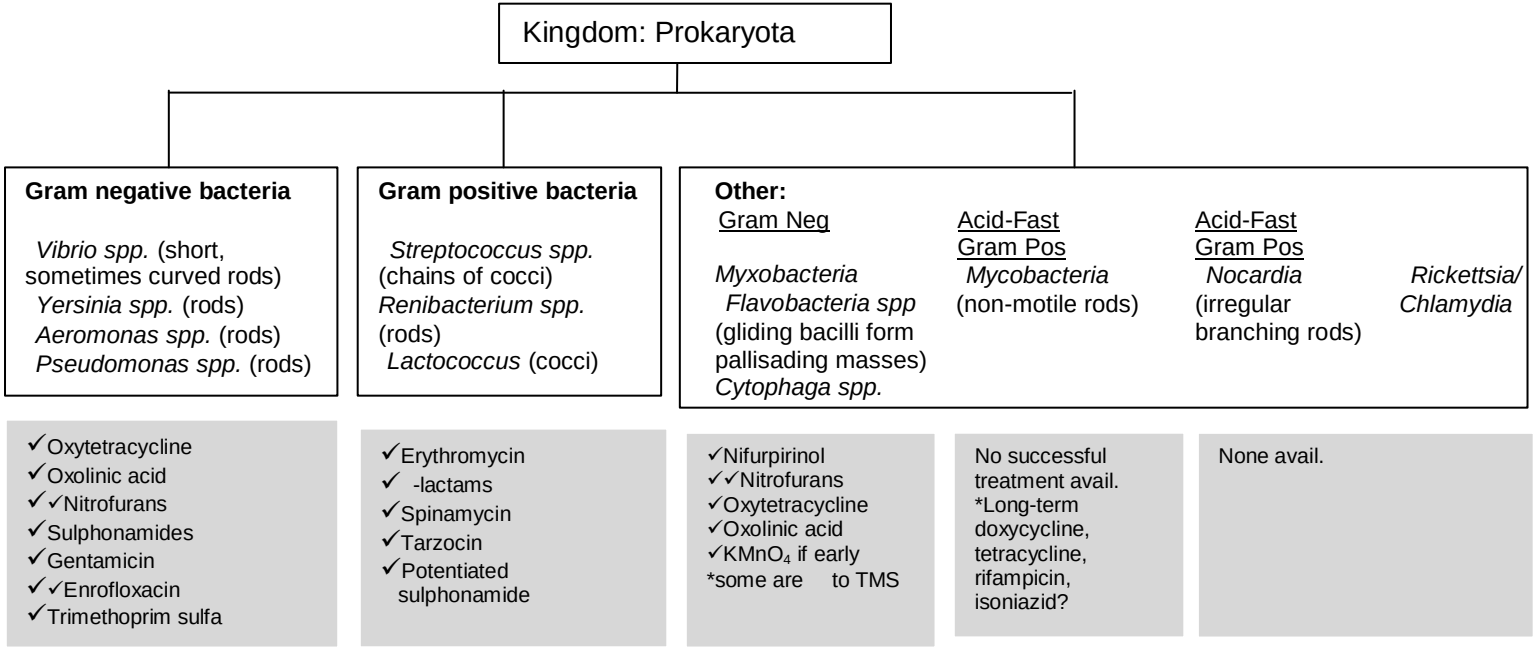
Weight

1 ounce = 28.35g
1 teaspoon salt = 5g

Temperature

Degrees celsius = 5 (F-32)/9
Degrees farenheit = 9C/5 + 32

Pathogen Classification Tree



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Fish Vetting Medicines - Formulary of Fish Treatments

ACTIVE INGREDIENT

Alphaxalone

Indications

Anaesthesia- surgery.

Mode of action

Warnings precautions

Advisable to anticipate ventilatory arrest- use Doxapram.
Use lower dose for small fishes.
Use higher dose for goldfish, koi,saratoga, axolotl (urodele), labyrynth fishes and catfishes.

Withholding period

DOSE ADMINISTRATION

Top

Par IM: 12-24 mglkg BW.

Dip

Bath Sedation: 1-2 mg/L.
Anaesthesia: 2-6 mg/L.

PI

Oral

Presentation

10ml injectable.

Products

Alfaxan/Saffan.

Mise Notes

Stimulatory effect on heart (heart beats forcefully and regullarly),peripheral and systemic vasodilation ensures adequate oxygenation of the blood. Provides analgesia.

Fish Vetting Medicines - Formulary of Fish Treatments

ACTIVE INGREDIENT

Florfenicol

Indications

Bacteria- Gpos & Gneg- Systemic- fish.
Corals with rapid tissue necrosis (RTN)

Mode of action

Bacteriostatic. Inhibits bacterial protein synthesis at ribosomal level.

Warnings precautions

Do not inject >1Oml at any one injection site.
Idiosyncratic reactions in koi- diffuse erythema, inappetance, hyperaesthesia, photodermatitis (chlorpheniramine [antihistamine] at 1-5mglkg IM might be an antidote).

Withholding period

12 days for channel catfish & 15 days for salmonids in US.

DOSE ADMINISTRATION

Top

Par IP: 10-30mg/kg twice only, 2-3d apart (use at 1Omg/kg in koi or choose alt. antibiotic).

Dip

Bath

PI Corals with "rapid tissue necrosis": 10-20mg/L.

Oral Fish: 1Omg/kg BW daily for 1Od (i.e. 1mg/g of food).

Presentation

Thick pale yellow clear liquid for injection (use 18G needle to draw). Colourless oral liquid.

Products

Nuflor LA (Shering Plough) 300mg/ml100ml. Also available in 20ml, 50ml,250ml, 500ml glass sterile multi-dose vials. Nuflor 2.3% DWC oral 23g/L 2.2L.

Mise Notes

Half-life is 4-16hrs. Drug excretion rate is 4x faster in 3-spot gourami than in kois.
May cause local reaction in muscle.
Store <25degC.
High dosage &/or prolonged AB admin may lead to superinfections by non-sensitive organisms (e.g. fungi).

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ACTIVE INGREDIENT

Metronidazolei

Indications

Protozoa- Flagellates - Internal.
Protozoa- Uronema.

Mode of action

Active against amoeba, flagellates & anaerobic bacteria.

Warnings precautions

"Fiagyi-S" appeas to be toxic. Reported adverse effects to tablets in salmontail catfish,neon tetras and rainbowfish. Excess use may cause repro failure.

Withholding period

Unapproved for food fish in US.

DOSE ADMINISTRATION

Top	
Par	IM: 50mglkg BW q3d for 3 tx.
Dip	
Bath	400mg/L q24h for 3d. 10-25mg/L on alternate days with 50% water change between treatments.
PI	3-1Omg/L.
Oral	2-5mg/g of food daily for 1Od.

Presentation

Products

Metrogyl200mg tabs.
Metrin inj 5mg/ml 50ml.

Mise Notes

Drug is more active at higher temperature. Does not affect biofilter. Lower dose for koi,higher for cichlids. There is evidence that a single oral treatment may be as effective as 3 water-borne treatments.

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ACTIVE INGREDIENT

Ovaprim

Indications

Breeding, gonadal maturation, egg bound.

Mode of action

20mg/ml salmon gonadotropin releasing hormone analogue (sGnRHA) + 10mg/ml domperidone.

Spawning should occur 4-30 hours after the last injection (avg. 16-24 hours).

Warnings precautions

In rare cases, fish may display anaphylactoid-type reactions (hypersensitivity). In such cases, prompt medication with adrenaline or glucocorticosteroids may be necessary. Store at <25degC & protect from light.

Withholding period

DOSE ADMINISTRATION

Top

Par liP or IM: 0.5ml/kg (0.51-Jg/kg) for female fish and 0.1-0.2ml/kg for male fish.

Dip

Bath

PI

Oral

Presentation

Products

lOvaprim (10001-Jg/ml).

Mise Notes

Given as single injection or initial 10% priming dose followed by remainder 90% 6h later.
Carp: Single dose required.
Catfish: Split doses of 25% and then 75%, 1 to 2-hours apart.
Salmonids: Split dose, 3-days apart.

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ACTIVE INGREDIENT

Oxytetracycline

Indications

Bacteria- systemic- broad spectrum

Mode of action

Warnings precautions

Turns water a tea-brCl'JIJTl. Foam at surface. Affect biofilter. May cause immunosuppression because cause secretion of hydrocortisone. Tetracyclines irritant to axolotls (urodele). Excess use can lead to renal failure & teratogenic effects in <15% of progeny.

Withholding period

21 dayw/h period in US for food fish.

DOSE ADMINISTRATION

Top

Par IM: 10-50mg/kg q3d for 3 tx if long-acting preparation. Daily if short-acting preparation.

Dip

Bath 50-120mg/L for 1hr.

PI

Oral 50-300mg/kg BW daily for 4-10d (0.75% in feed - estimated -10% of drug is absorbed).

Presentation

Powder (yellow). Liquid.

Products

Aquatet powder 500g;Tetravet 200mg/ml L/A 100ml; Bivatop 200mg/ml100mL; Engemycine 100mg/ml100mL; Terramycin LA 250mg/ml.

Mise Notes

Chelated in hardwater/seawater, so need to double the dose.
Yellow powder discolours to brown as it decomposes. Degraded tetracycline is harmful to humans. Toxic to artemia.

This is the single most comprehensive, yet concise, resource available today on fish medicines. Public and private aquarists, aquaculturists, and veterinarians in zoo animal, exotic animal and laboratory animal medicine will all find this formulary an irreplaceable source of information on many of the fish they care for or treat.

The book's organisation is easy to follow. The medicines are categorised in alphabetical order, by drug type, by therapeutic protocols and by pathogen type.

Fish Vetting Medicines will inevitably become the indispensible reference on fish formulary.

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