



Marine Guide

Setting up a marine aquarium

**A guide to make fish-keeping easier for
you and more enjoyable for your fish.**



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Introduction

Marine fish are, in our opinion, the most beautiful creatures on this planet. We are fortunate to be able to appreciate this beauty without fear of debilitating the reefs, thanks to an increasingly responsible sustainable marine trade, supplemented by captive-breeding programs. The latter is a subject close to our own hearts, having successfully reared the first Percula clown fishes in captivity in the UK in the 1970's. However, beauty comes at a price, these stunning creatures are more complex to keep in captivity than freshwater fish and so require investment in additional equipment....but we are confident we can help you achieve this with the **Waterlife SeAquarium** range.



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Royal Gramma - *Gramma loreto*

The Royal Gramma (*Grammidae* family) comes from the Caribbean area. They like plenty of rock work and therefore do well in an invertebrate system. They are regarded as quite a peaceful and hardy fish. Adult size approx. 7cm.

Buying your aquarium.

Marine fish are more sensitive to changes in water chemistry and so require a larger aquarium. The smallest size you should consider is 100 litres (approx. 25 galls.), however the more space you can afford to give them, the better.

Assembly and set up

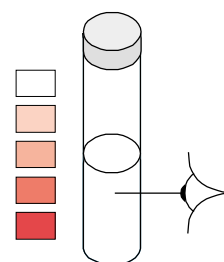
There are many specialised filtration systems available to the marine hobbyist. Discuss the options with your aquatic retailer to choose the best pieces for your set-up. Place the tank on a strong, flat surface like an aquarium stand. **NB.** Interspace some polystyrene sheeting between tank and stand. Wash any coral sand / gravel thoroughly and place it on the bottom of the tank. Now fill the tank with seawater you have made using reverse osmosis (R.O.) water and **Waterlife's Ultramarine sea salt**. When filled, connect the filtration and start the water circulating. Connect the combined heater / thermostat(s) and leave the system running for six hours. Connect the lighting for the aquarium and leave this switched on continually until the filter-bed has matured. Now you can add the decorations. **NB.** Don't use rocks with metallic / highly coloured veins, as these may leach toxic chemicals into the aquarium.

Adjust the specific gravity (S.G.), or salt level, of the seawater to 1.021 -1.023 at 24 - 25°C (75 - 78°F) (depending on the native region of your intended livestock) using a **SeAquariums SeaDrometer**.

Maturing the filter system

1. Add **SeAquariums BioMature**, carefully following the instructions.
2. Use an **Ammonia and Nitrite Test Kit** daily. Within a few days of starting to add **BioMature**, the test sample will start to register ammonia and nitrite. When this reaches 10ppm on either kit, stop adding **BioMature**, as enough bacterial nutrients of all types have been provided. Now add a seawater dose of **Waterlife's BacterLife**, which contains a blend of essential nitrifying and sludge digesting bacteria. Using **BacterLife** on daily basis will speed the rate of filter maturation.
3. Now add a seawater dose of **Waterlife's BacterLife**, which contains a blend of essential nitrifying and sludge digesting bacteria. Using **BacterLife** on daily basis will speed the rate of filter maturation. From now on, only add **BacterLife** once a week to keep the filter stable. **DO NOT USE BIOMATURE** once your system houses livestock.
4. Continue to test the ammonia and nitrite levels daily, until you get a zero reading. Now the system is almost bacterially mature. To ensure bacterial maturation is complete, carry out another test 24 hours later. If you still cannot detect ANY nitrites your system is ready to receive livestock.
5. From now on, only add **BacterLife** once a week to keep the filter stable. **DO NOT USE BIOMATURE** once your system houses livestock.

Nitrite Test NO₂



Colour match

NB. It is important to use a **Waterlife Nitrite Test Kit** as it accurately records nitrite levels up to 20 ppm.

Ways to speed up the maturation process.

1. High oxygen levels (i.e. fierce **SeaMist** - wooden airstone diffusion with a **Waterlife Ghost air pump**)
2. High turnover rate through the filter bed
3. Temperature of 24 / 25°C (76° / 78° F)
4. pH range of 8.1 - 8.3
5. Minimal organic matter in seawater, by using properly cured rock/shells and high grade, clean coral-sand.
6. An adequate depth of filtration media if using an under-gravel filter.



Sacem Marathon external canister filter

Test the water with a **Waterlife seawater pH test kit**, before adding livestock to your system. This is essential, as the process of maturing the filter may have lowered the pH, as far as 7.7 - 7.9. You can rectify this by using **Waterlife's 8.3 Buffer**. If you are going to keep invertebrates, test for nitrates and adjust the nitrate level to zero again by partial water changes using R.O. water and **Ultramarine sea salt**.

Add **Waterlife's Carbon Excel** (carbon sachet) to your filter. This is an efficient method of removing large molecule organics.

NB. De-gas carbon first with boiling water.

Stocking the marine aquarium

Fish only system:

Create a wish-list using a good reference book and take it to your local marine shop and ask him to rule out any inappropriate species and re-arrange your list from the shy, delicate species, through to the more aggressive species. This is the order in which to purchase your fish, 1 or 2 every 2 - 3 weeks. **NB.** Don't exceed the stocking ratio of 2.5 cm (1 inch) of fish per 18 litres (4 gallons) of seawater in the first 12 months for fish / invertebrate aquaria. After this initial period, never exceed 2.5 cm (1 inch) of fish to 9 litres (2 gallons) of water in a fish only system.

Introducing new fish

1. Turn off the tank's lighting.
2. Take at least 30 mins. to acclimatise the new fish(es) to the tank water, floating the bag on the surface changing small amounts of bag-water for tank-water over this time.
3. Re-arrange the rocks after introducing the newcomer(s) or better still add new rocks to create new territory.
4. Carry out a light feed to distract attention from the newcomer(s).
5. Add a single dose of **Waterlife's Cuprazin** as disease preventative.
NB. If the system will later contain invertebrates as well as fishes, use **Octozin** not **Cuprazin**. Use **Carbon Excel** to remove 4 days after treatment.
6. Add a double dose of BacterLife to cope with the increased biological load.



Fish/Invertebrate community system

1. Introduce living rock and don't make any further additions for 2 weeks.
2. As with fish, don't overload your system, it should take several months to stock the tank.
3. Allow at least 20 mins. to acclimatise the invertebrates (as above).
4. Introduce the fish using exactly the same method as above, but remembering to :
 - a) Tell your dealer that you already have an invertebrate collection so he can eliminate certain fish
 - b) Use **Octozin** not **Cuprazin** for treatment.



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Creating fertile seawater

If you want to create a complete sea aquarium (i.e.: fishes - invertebrates and macro algae), sustain the fertility of the seawater using **Vitazin** and **SeaGreen**. Expanding plankton populations rapidly deplete the fertility of the seawater. Unless it is maintained, the seawater will quickly become infertile, plankton populations will decline and filter-feeders such as sponges, tunicates, the bivalve molluscs (e.g. Clams, scallops, etc), tubeworms, etc., will begin to die of starvation.

Add **SeaGreen** algal and phytoplankton fertilizing solution to the system at the same time as **BioMature** when maturing an invert aquaria. This does two things. Firstly, by promoting the development of green algae within the system, the maturing process is helped. Secondly, it generates large populations of unicellular phytoplankton, which form the base of the food chain in the sea and helps provide the principal food source for the many filter-feeding invertebrates.

Once you start to stock the aquarium with live corals, use **SeAquariums' InvertFood** to supplement their diet. It is recommended that you switch off filtration for a short time whilst they feed or use a pipette to deliver the food close to the invertebrate.

Weekly checks and maintenance

1. It is vital to test for ammonia and nitrite levels weekly using your **Waterlife test kits**, to ensure that your feeding regime isn't too generous. Sloppy feeding is one cause of high ammonia / nitrite.
2. It is equally important to use the **Waterlife Nitrate Test Kit** at least once a week. High levels of nitrate can stunt coral growth in a mixed system. Reduce nitrate by changing 25% of tank's water and replacing with R.O. water and **Ultramarine sea salt**.
3. pH testing will highlight falling pH. Healthy seawater should have a pH value of 8.1 - 8.3. This can be maintained by the addition of 8.3 Buffer.
4. dKH is a measure of carbonate and bi-carbonate in water. Low levels of these compounds are another indication of an imminent pH collapse. Ideally reef levels should be maintained between 8° and 15 ° dKH with **8.3 Buffer**.
5. Test for essential calcium with a Calcium Test Kit and maintain calcium levels with **SeAquariums' RepliCa++**. A calcium content of 400 - 420 ppm is ideal and you should try to keep in this region at all times. NB. Some heavily stocked aquaria with high numbers of hard corals may benefit from calcium levels of 500 ppm. Fish and invertebrates remove calcium from the water to maintain healthy teeth and skeletons.
6. Add **SeAquariums' Strontium Booster** to provide instantly available levels of this element required for healthy development and growth of macro algae, clams and other invertebrates.
7. Add **SeAquariums' Iodine Booster** to replace losses caused by protein skimming, biological uptake, algae removal etc. It helps corals recover from bleaching, light shock, improving colour pigmentation and maintaining good growth.

Seawater creatures need certain elements for growth and repair and so remove them from the water. Therefore the number of inhabitants affects the rate of major depletion in the system.

Monthly checks and maintenance

1. Top up evaporation losses with freshwater. Remember that salt does not evaporate - only water!
2. Partial water change between 10 - 25% of the water in your system. Never change more than 1/3 as the resulting pH shift will endanger the health of the entire aquarium. Small regular water changes using R.O. water to lower dissolved organics in the aquarium as well as keeping nitrate down. The **Ultramarine** 25 litres (approx. 5 gallons) pack is ideally suitable for small partial water changes.
3. All livestock in a marine system extract vital trace elements from **Ultramarine** seawater i.e. gold, silver, uranium, vanadium, strontium, boron, magnesium, molybdenum, phosphates, silicon, etc. Replace them with **Waterlife's SeaTrace** with added molybdenum (to help filtration bacteria.)



Recognising & dealing with ill health

Maintaining the water in your system to the highest quality by vigilant testing, will help you stave off ill-health, however diseases / infections / parasites can occur, with disastrous effects. The following disease chart is a quick guide:

NB. DO NOT USE DISEASE TREATMENTS SIMULTANEOUSLY.

Waterlife® Fish Disease Diagnosis - Marine aquaria

Please note: This is only intended as a quick guide. Please refer to your retailer for more advice

HOLE-IN-THE-HEAD
(mostly on Angelfish)
(small pus - filled pits
over head) Use
Waterlife **OCTOZIN**

FUNGUS
(grey - white
tufts or growths)
Use Waterlife
CUPRAZIN in a
fish only system

SKIN IRRITATION
(protozoa or skin flukes)
(areas of grey - white
patchy skin +/- excess mucus
production; fish flicks
or rubs against objects)
Use Waterlife **CUPRAZIN**
for protozoa in a fish only
system. Use Waterlife **STERAZIN**
for flukes (NB. Not suitable if
crustacean or echinoderms
are present)

LYMPHOCYSTIS
(Large white lumps often
in groups). Carefully trim
fin, dab **MYXAZIN** onto
affected area to prevent
secondary infections.
Use Waterlife **MYXAZIN**

WHITE SPOT
(small white spots,
up to 1 mm diameter,
over body and fins,
+/- increased gill beat.
Fish flicks or rubs
against objects)
Use Waterlife
CUPRAZIN in a fish only
system or **OCTOZIN**
if inverts are present

**CLOUDY EYE(S),
BULGING EYE(S)**
Use Waterlife
MYXAZIN and
Waterlife **VITAZIN**

**ULCERS, SORES,
WOUNDS** (reddened
areas, sometimes
deeply pitted with
white necrotic tissue)
Use Waterlife **MYXAZIN**

MOUTH FUNGUS
(eroded mouth, whitish
fungus- like growths)
Use Waterlife **MYXAZIN**

VELVET ("ODINIUM"),
(fine dusting of
golden - grey spots
over fins and body)
Use Waterlife
CUPRAZIN
in a fish only system

INTERNAL BACTERIA
Fish is eating but
continues to loose
weight.
Use Waterlife **MYXAZIN**

FIN HAEMORRHAGING
red streaks on
fins +/- on body
Environmental: check
ammonia and
nitrite levels with
Waterlife **TEST KITS**
Use Waterlife **MYXAZIN**

INTERNAL WORMS,
(emaciation,
"hollow - belly"
+/- red worms
from vent)
Use Waterlife
STERAZIN

FIN ROT
(split or
frayed fins)
Use Waterlife
MYXAZIN

GILL FLUKES,
(inflamed gills
+/- mucus
trailing from gills;
increased gill rate)
Use Waterlife
STERAZIN

FINN (small white spots, up to 1 mm diameter, over body and fins, +/- increased gill beat. Fish flicks or rubs against objects) Use Waterlife **CUPRAZIN** in a fish only system or **OCTOZIN** if inverts are present

Shopping list

Item	Price
Tank / Stand	
Sacem Marathon Filter	
Carbon	
Sacem NSH Heater	
Lights	
Sand / gravel	
Rocks / décor	
Skimmer	
Ozoniser	
Fluidised bed	
U.V. sterilizer	
Ghost air pump	
Airline, non return valve & SeaMist air diffuser	
Ultramarine sea salt	
SeaDrometer - hydrometer	
BioMature - maturing fluid	
Ammonia Test Kit	
Nitrite Test Kit	
BacterLife - filtration bacteria	
Vitazin - vitamin supplement	
SeaTrace - trace elements	
SeaGreen - macro-algae fertilizer	
Nitrate Test Kit	
Seawater pH Test Kit	
8.3 Buffer	
Calcium Test Kit	
RepliCa++ - calcium	
Strontium Booster	
Iodine Booster	
Cuprazin - medication	
Sterazin - medication	
Octozin - medication	
InvertFood	
Myxazin - medication	
Total	

For other Waterlife guides, visit: www.waterlife.co.uk/waterlife/articles.htm

We hope you have found this leaflet helpful and we wish you many years of successful marine keeping.

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SeAquariums®



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