

AQUARIUM FISH BREEDING AND MARKETING RULES

Introduction

Breeding and selling of aquarium fish has become big business. In this process coral reefs have been damaged and many fish brought to near extinction. There is a tendency to regard fish as non-beings therefore they are sold as commodities, kept in unsuitable ways and in unsuitable places. Pain and suffering is inflicted on these animals, with no thought for their wellbeing.

Recent studies have shown that fish display similar signs to humans when they are under stress or faced with dangerous situations: increased heart rates, increased breathing rates, adrenaline rushes, writhing and gasping. More than 500 research papers have been written that focus on fish intelligence, proving that fish are intelligent, can use tools, and have impressive long-term memories and sophisticated social structures. According to University of Edinburgh Scientist, Dr. Culum Brown, the fish's cognitive abilities surpass those of non-human primates like monkeys.

Fish must be kept in the type of water they occupy in nature. Because fish are poikilothermic (cold-blooded) animals, they are sensitive to rapid changes in the temperature of their environment. If the fish tank gets too cold, the fish become stressed and are susceptible to parasite infestations. If the aquarium gets too warm, the dissolved oxygen level of the water drops rapidly and the fish can literally suffocate. Therefore, it is essential to avoid drastic fluctuations in temperature in the room where the fish tank / aquarium is kept.

Most fish also require at least six hours of the correct spectrum of light a day to manufacture certain vitamins and to process components of their diet hence location and lighting of the fish tank is also critical. Social behavior and social influences on the behavior of fish tank animals are quite complex, and hence, the persons keeping or selling the fish must have knowledge and a good understanding of the species-specific requirements of the animals.

The Rules for the Housing and Breeding of aquarium fish apply to shop keepers and aquarium keepers as well as anyone who keeps fish for public display. They do not apply to fish caught and sold for food.

RULES FOR THE KEEPING, DISPLAY AND SALE OF AQUARIUM FISH:

I. DEFINITIONS:

“Establishment” means any seller of fish tank animals or anyone keeping public display of fish tank animals.

“Fish tank animal” means any fish, or animal other than fish, kept in tanks or aquariums.

“Public display” means any place where people can view the fish that are kept in fish tanks or aquariums, irrespective of whether entry to such places is restricted or open, on payment or free.

“Facility” means any premises wherein fish tank animals are housed for display or sale, including pet shops

“Tank” means the container in which fish tank animals are kept or the aquarium for display of the fish.

“Total fish length” is defined as the sum of the lengths of all the fish in the tank, calculated at the length of a full-grown adult, excluding the caudal tail.

II. ESTABLISHMENT

1. No establishment may sell or publicly display fish without a license from the Animal Welfare Board of India (AWBI) or any authority prescribed by the AWBI. No license shall be issued by the AWBI or the competent authority unless the establishment complies with all the conditions listed in these rules for keeping of aquarium fish or fish tank animals.
2. Every license shall be issued for one year at a time and is not transferable.
3. Any establishment who does not properly care for the fish tank animals or maintain the facility in accordance with these rules is liable to have his license revoked and the establishment blacklisted from keeping fish tank animals in future. Upon revocation of license, the fish tank animals are liable to be confiscated and may be given to another licensed establishment for proper care of the fish.

III. FISH TANK ANIMALS

(i) Species:

4. Fish tank animals may only be kept in tanks of sufficient size, shape, and dimensions to meet the health and welfare needs of the fish tank animals.
5. No establishment may keep or sell any species of fish animals listed under CITES. No establishment may keep or sell any species listed in *Appendix A*.

6. No establishment may keep or sell any species of fish tank animals that are not listed in *Appendix B*. Specific permission of the AWBI is required for any establishment to keep fish tank animals not listed in *Appendix B*.

7. No establishment may keep or sell any species that cannot easily be acclimatized to aquarium life, or that may be endangered species due to over-collection. This includes but is not limited to the following species of fish:

- Garibaldi damselfish (*hypsirops rubicundus*)
- Rock beauty (*holacanthus tricolor*)
- Atlantic long-nosed butterflyfish (*chaetodon aculeatus*)
- Four-eye butterflyfish (*chaetodon capistratus*)
- Hawaiian teardrop butterflyfish (*chaetodon quadrimaculatus*)
- Reef butterflyfish (*chaetodon striatus*)
- Banded butterflyfish (*chaetodon striatus*)
- Barracuda (*sphryaena barracuda*)
- Giant Atlantic seahorse (*hippocampus erectus*)

8. No establishment may keep or sell artificially coloured fish.

9. No establishment may keep or sell corals.

10. No establishment may keep or sell cyanide-or drug-caught fish.

11. No establishment may keep fish tank animals in excess of the maximum number permitted for each species per tank.

12. No establishment may keep or sell any species for which it cannot provide adequate conditions to ensure the health and welfare of that species. Fish covered with fungus, with sunken bellies, sunken eyes, clamped or unhealthy fins, laboured breathing (often with gill covers quite extended), and fish with external blemishes resulting from parasites or disease, are indications that the fish are unhealthy and/or not properly cared for.

(ii) Care of Fish Tank Animals:

13. Fish must be introduced into a new tank gradually. Fish should be placed in a bag with sufficient water to cover them, and be allowed to float in the new tank for 15 minutes to adjust to the new temperature; small amounts of water are then be added from the tank to the bag until it is full, thereafter two thirds of the water in the bag should be removed and the process repeated, so as to gradually adjust fish to any changes in pH, hardness, salinity, and other parameters as mentioned in *Appendix B*.

14. When a species of fish is placed in a tank, the maximum number of that species of fish allowed in the tank should be determined as based on the requirements mentioned in *Appendix B* and posted in a visible location on the outside of the tank. If air conditioning is not available, the population of fish must be less than the maximum prescribed and air bubbles must be used to improve gas exchange at the water's surface.

15. Two species of fish may not be placed in the same tank unless they are compatible. Determination of compatibility must accord with the approved sources and with compatibility listings of "Y" according to the chart in *Appendix C*.

16. Any fish tank animal that is being chased and attacked by other fish tank animals, or shows signs of having been attacked such as injured fins, eyes, or scales, must be separated from any potentially aggressive fish.

17. Temperature checks and head counts must be done at least daily, with any dead fish tank animals removed immediately and any injured or sick fish tank animals moved to quarantine tanks.

18. Fish tank animals must be fed a diet that fulfills the nutritional requirements of the species, at a quantity and frequency appropriate for maintaining health. Fish should be fed a varied diet, and not fed the same feed with every feeding.

19. An establishment may not permit members of the public to touch, pet, or hold a fish tank animal. Employees of an establishment may only touch, pet, or hold a fish tank animal when required for the welfare of that animal, as when administering medical treatment.

20. An establishment must have medicines on hand for treating common fish tank animal ailments. Sick fish tank animals must receive treatment.

21. Netting of fish tank animals should always be done using two nets.

22. Fish tank animals may only be euthanised by immersion in any one of the following solutions, wherein they must be left for at least 10 minutes following cessation of opercula movement, followed by decapitation or destruction of the brain so as to ensure consciousness is not regained:

a) MS-222 (tricaine methane sulfonate, also called finquel) at a concentration of at least 350 ppm(350mg/L should be buffered with sodium bicarbonate to saturation resulting in a solution pH of 7.0to 7.5.

b) Benzocaine hydrochloride (not benzocaine) at a concentration of at least 250mg/L.

c) 2-Phenoxyethanol at a concentration of 0.3 to 0.4mg/L.

23. Live fish must never be flushed down a drain, left to suffocate or starve, or be placed in a freezer.

IV. ADMINISTRATION

24. Every establishment must keep records of:

- the species of fish tank animals kept in the premises, including whether the fish tank animal is marine water, freshwater, or brackish water.
- the number and species of fish tank animals sold and details of the party to whom the animals are sold.
- the total area of the facility / pet shop, the number and size of tanks in the premises, and the number and species of fish tank animals kept in each tank.
- the source from where the fish tank animals were procured.
- the fish tank animals who become sick and the treatment provided.
- the fish tank animals that die or are euthanised, including the date of death and the cause of death, if known.
- any other animals, besides fish tank animals, kept or sold at the facility.

25. No establishment may permit the fish tank animals to be left unattended to for more than half a day at a time.

26. Every establishment must have on hand, an adequate number of people, and never less than one person, adequately trained in fish keeping, and familiar with the needs of all fish tank animal species kept in the establishment, including knowledge of diseases and nutrition. The expert knowledge requirements for staff are listed in *Appendix F*.

27. An establishment may not knowingly sell fish tank animals who will be housed in an inadequate environment, for example, selling incompatible fish to be housed together, or selling fish along with a fish tank of inadequate size. All salespersons must be having sufficiently knowledgeable about the care of the fish tank animals sold and more particularly the requirements for proper keeping of fish as stated in *Appendix A, B, C and D*.

28. An establishment must provide purchasers with written information on the proper care of any species of fish tank animal purchased, including but not limited to appropriate tank size, food, temperature, salinity, pH, hardness, and compatibility with other individuals of the same species or with other plants or animals of different species.

V. FISH TANKS

29. The length of a tank must be no less than five times the length of the longest fish in the tank, calculated at the length of a full-grown adult.

30. Tank water volume must be no less than the minimum listed for each species as stated in *Appendix B* and never less than 13 gallons or 60 litres.

31. No establishment may sell spherical-type bowls for keeping fish tank animals.

32. No establishment may sell tanks with a capacity of less than 13 gallons or 60 litres of water for keeping fish tank animals.

33. Every establishment must ensure that the quality of the water in the tank is maintained at all times and is within the permitted range of salinity, pH, hardness and temperature prescribed so as to meet the health and welfare needs of the fish tank animals. *Appendix B* gives the list of requirements for each species of fish with respect to their tank sizes, diet and compatibility. However, for all fish, tanks should always meet the following minimum requirements:

- For freshwater fish, tanks must have at least one gallon or 4.55 litres of water for every inch or 2.54 cms of total fish length. This volume refers to the amount of water in the tank and does not include the volume of rocks, ornaments, or air that may also take up volume in the tank.
- For marine fish, tanks must have at least four gallons or 18 litres of water for every inch or 2.54 cms of total fish length during the first four months, and at least two gallons 9 litres of water for every inch or 2.54 cms of total fish length thereafter. This volume refers to the amount of water in the tank and does not include the volume of rocks, ornaments, or air that may also take up volume in the tank.

34. Tanks must have a water surface area of at least:

- 12 square inches for every inch or 78 sq.cm for every cm of total fish length, in the case of tropical freshwater fish,

- 30 square inch for every inch or 194 sq.cm for every cm of total fish length, in the case of coldwater freshwater fish,
- 48 square inches for every inch or 310 sq.cm for every cm of total fish length, in the case of tropical marine fish.

35. Water oxygenation must remain above 80% oxygenation must be regularly measured and adjusted when levels fall below 80% by decreasing stocking density, partly replacing water volume, increasing aeration, or correcting improperly functioning heater, filter, or airstone. Fish gasping at the surface and breathing fast are classic signs of insufficient oxygenation.

36. About 10% of the water in the tank should be replaced weekly. Regular/ partial replacement of water volume and the use of devices to create water movement should be used to improve water quality. Water flow also should be appropriate to enable fishes to swim correctly and to maintain normal behaviour.

37. Salinity and pH levels must be tested at least weekly and after water changes. Nitrate levels should be tested at least weekly, and ammonia and nitrite levels should be tested daily for three days after new fish are added to a tank, and weekly thereafter.

38. Tanks must be cleaned and vacuumed regularly, at least once a month and whenever tanks become unclean.

39. Newly manufactured tanks require a conditioning/ depuration period to flush out solvents before they are filled with water for the fish.

40. Filters should be checked weekly and cleaned or replaced as necessary. Frothy, cloudy, yellowing, and smelly water are all signs of deteriorating conditions that should be addressed. The types of filters that can be used are listed in *Appendix E*.

41. Tanks must have smooth, inert, sealed interior surfaces. Wood must not be used as a tank material in contact with system water as it is a porous material that may contain toxic elements (in particular, pressure treatment of glue in plywood), is subject to rot, and requires the use of sealants, which can be toxic. Vinyl tanks are only suitable for temporary holding as the plasticizers can be toxic and vinyl often contains contaminants.

42. Tanks must be equipped with a covering, such as tank nets or rigid covering, which prevents fish tank animals from jumping out of the tank. The height between the water surface and lid must be such that it

minimizes the risk of damage to the fish tank animals should they jump. Lids must allow visual access to the fish tank animals, either by being transparent or by being removable or partially removable.

43. All warm water aquariums must have an aquarium heater and a thermometer. All salt water aquariums must have an ultraviolet sterilizer to reduce the population of free-floating pathogens in the aquarium.

44. Electrical components and equipment must be located outside the splash zone, unless safely designed to be submersible, and must be housed in moisture-proof enclosures. Electrical fixtures must be secured with gaskets to prevent incursion of water, and should be located above pipe runs.

45. Tank supports must be properly designed, strong, sturdy and durable, with transfer of weight to the floor structure taken into account, so as to prevent any danger of catastrophic collapse.

46. A tank may only include the species of plants which are listed in *Appendix D*.

47. No tank may contain any metals or materials which can corrode or any rocks which can change the water chemistry, such as limestone, marble, dolomite, or calcareous sandstones which make water hard and alkaline.

48. Fish tanks or aquariums may not be placed in the following locations:

- in direct sunlight or near radiators
- in a place where there is always light, or where it is always dark.
- in a place where rainwater can enter the tank.
- in a place of extreme cold or extreme heat.
- in a place where there can be fluctuation of temperatures. For example near air conditioning units, ventilation units, open fires, kitchens, cooking areas, windows and doors as all these can cause drastic changes of temperature in the tanks.
- in a place where there will be constant vibrations from traffic or movement of large numbers of people.

VI. FACILITIES

49. Aquatic environments should be designed to meet the established physical and behavioral requirements of the fish tank animals in terms of shelter, social grouping, overhead cover and lighting.

50. Machinery that produces noise and vibration should be isolated from areas housing fish tank animals.

51. Lighting should be appropriate to the species. Lights should be turned on and off gradually with a dimmer and should be turned off at night. Incandescent lights give off heat and should therefore be on a schedule of 12 hours on and 12 hours off.

52. A facility must have an emergency contingency capacity, capable of maintaining aerated and filtered water and assuring the continuation of life support. Appendix H lists the basic emergency requirements that a facility should have.

53. A facility must have adequate water supply of suitable quality as well as adequate filtration within the system to remove suspended solids and wastes and to ensure that water quality parameters are maintained within acceptable levels for species-specific requirements. Measures such as a carbon filtering system or a reverse osmosis system, activated charcoal (for large volume systems) and sodium thiosulfate (for smaller systems) are treatments to be used to protect fish from contaminants in the water supply.

54. If fresh or sea water is drawn from an open body of water or a municipal source, it must be tested for, and treated to remove, contaminants and pathogens. A comprehensive analysis of the water quality parameters (ions, pH, metals, etc) must be provided to the AWBI for approval before the license is issued to the establishment. Further testing should be conducted on annual basis.

55. If well water is to be used in a facility, a pressure drop test should be conducted to ensure that the supply is adequate and reliable and the water is not depleted of oxygen or having high levels of metal ions, carbon dioxide, nitrogen, ammonia and other gases, or excessively high or low alkalinity.

56. Water supply and drain lines to and from the tanks should be secure, protected from disruption and should consist of hard, permanently fixed pipes to prevent air locks, fouling, etc. All lines should be prominently labeled and should be designed to facilitate cleaning by simple, low technology methods. Pressure gauges and flow meters should be installed at points throughout the system to monitor the condition of the lines and the performance of the pumps and filters. Polyvinyl chloride (PVC) pipes and other materials must meet human drinking water standards and must be adequately flushed to eliminate acetone, methylethylketones, and tetrahydrofurans that are released following gluing.

57. The main drains should be over-sized to handle large flow of water. Gutters should have covers that are flush with the floor and that permit water to drain quickly. Drains and gutters should be designed to self-clean

under normal flow, and to permit the use of a cleaning pig' to remove any buildup of waste in the lines. Where feasible, drains on all tanks should have traps and easily accessible clean-out ports.

58. If the effluent from the facility is untreated, it should be discharged in a location that is remote from the system intake, so as to minimize the chances of effluent re-circulation in the system. The discharge location should not have any negative impact on wild aquatic organisms in the water body.

59. If the effluent is discharged into the municipal sewer it is essential that potentially noxious materials in the effluents, for example disinfectants, are diluted to non-toxic concentrations before the effluent is discharged into the sewer.

60. All compressors providing gases to the system should have devices to remove moisture, and oil traps to prevent any oil leaks from entering the fish tanks. Food-grade lubricants should be used as far as possible. Intakes to compressors should be located such that only clean air is used, free of engine exhaust, tobacco smoke or other airborne contaminants.

61. A facility should have dedicated separate quarantine areas for the isolation of new fish and foot and hand cleaning stations with basic sanitary measures so as to prevent the introduction and spread of aquatic animal pathogens.

62. All materials used in the construction of facilities including paints, fiberglass surfaces, insulating materials, aerosols, air ducts and wood preservatives, should be non-toxic and resistant to corrosion and water damage. Pipes, fittings, and valves should not contain copper, nickel, brass, zinc or galvanizing treatments which can result in toxic concentrations of heavy metals. If any potentially toxic material is required to be used in construction, including materials which may release ions, chemicals, or corrosion by-products from their surfaces, approval for the same should be obtained from the AWBI or approved agency prior to construction of the facility.

63. All metal and concrete used in construction should be sealed or be inert. If silicone sealant is used, it must be labeled as being suitable for use in aquaria and it should be allowed to cure to release any volatile toxins.

64. Every facility is subject to both announced and unannounced inspections by the AWBI, no less than twice a year. A list of requirements that the inspectors may check is listed in *Appendix G*.

It is prohibited to keep or sell the following species:

Common Name

Scientific Name

Butterfly Fish:

Copperband Butterfly	Chelmon rostratus
Marginalis Butterfly	chelmon marginalis
Larvatus Butterfly	chaetodon larvatus
Saddle Butterfly	chaetodon ehippium
Myer's Butterfly	chaetodon myeri
Pearlscale Butterfly	chaetodon xanthurus
Mertensil Butterfly	chaetodon mertensii
Falcula Butterfly	chaetodon falcula
Black Back Butterfly	chaetodon melannotus
Blue Spot Butterfly	chaetodon plebius
Blue Stripe Butterfly	chaetodon frembii
Burgessi Butterfly	chaetodon burgessi
Dot-Dash Butterfly	chaetodon punctatofasciatus
Double Saddly	chaetodon ulietensis
Falicifer Butterfly	chaetodon falcifer
Foureye Butterfly	chaetodon capistratus
Fourspot Butterfly	chaetodon quadrimaculatus
Coradion Butterfly	coradion altivlis
Goldenstripe Butterfly	chaetodon aureofasciatus
Gunther's Butterfly	chaetodon guentheri
Latticed Butterfly	chaetodon rafflesi
Lined Butterfly	chaetodon lineolatus
Melon Butterfly	chaetodon trifasciatus
Mitratus Butterfly	chaetodon mitratns
Mulleri Butterfly	chelmon mulleri
Ocellated Butterfly	parachaetodon ocellatus
Ornate Butterfly	chaetodon ornatissimus
Painter Reef Butterfly	chaetodon sedentarius
Pakistan Butterfly	chaetodon collare
Paucifasciatus	chaetodon paucifasciatus
Raccoon Butterfly	chaetodon lunula
Rainfordi Butterfly	chaetodon rainfordi
Reticulated Butterfly	chaetodon reticulates
Semion Butterfly	chaetodon semeion
Speculum Butterfly	chaetodon speculum
Spot-fin Butterfly	chaetodon ocellatus
Spot-Tail Butterfly	chaetodon ocellicaudus
Spotted Butterfly	chaetodon guttatissimus
Teardrop Butterfly	chaetodon unimaculatus
Triangle Butterfly	chaetodon baronessa
Truncates Butterfly	chelmonops truncates
Yellowhead Butterfly	chaetodon xanthocephalus
Yollownose Butterfly	chaetodon flavirostrus

Moorish idol	zanclus canescens
Branded butterflyfish	chaetodon striatus
Atlantic long-nosed butterflyfish	chaetodon aculeatus

Angel Fish:

Heraldi Angel	centropyge heraldi
Flame Angel	centropyge loriculus
Lemonpeel Angel	centropyge flavissimus
Bicolor Angel	centropyge bicolor
Multi-color Angelfish	centropyge multicolor
Golden Angelfish	centropyge aurantia
Shepard Angel	centropyge shepardii
Passer Angel	holocanthus passer
Rock Beauty Angel	holocanthus tricolor
Clarion Angel	holocanthus clarionensis
Conspiculatus Angel	chaetofontoplus
Conspiculatus	apolemichthys
Goldflak Angelfish	Xanthopunctatus
Flagfin Angel	apolemichthys trimaculatus
Regal Angelfish	Pyogplites diacanthus
Emperor Angelfish	Pomacanthus imperator

Filefish and Triggers:

Orange-spot Filefish	Oxynonacanthus longirostris
Undulate Triggerfish	Balistapus undulates
Queen Triggerfish	Balistes vetula

Clownfish, Damselfish, Chromis, Pseudochromis:

Red Saddle Clownfish	Amphiprion ephippium
Latezonatus Clownfish	Amphiprion latezonatus
White Cap Clownfish	Amphiprion leucokranos
Maroon Clownfish	Premnas biaculeatus
Jewel Damselfish	Microspathodon chrysurus
Neon Velvet Damselfish	Paraglyphidodon oxyodon
Garibaldi damselfish	Hypsypops rubicundus

Batfish:

Pinnatus Batfish	Platax pinnatus
Tiera Batfish	Platax tiera

Eels:

Ribbon Eels	Rhinomuraena quaesita
Ghost Ribbon Eel	Uropterygius concolor
Banded Snake Eel	Myrichthys colubrinus
Leopard Snake Eel	Myrichthys maculosus
All Other so-called snake Eels	
Garden Eel	Taenioconger hassi

Wrasses:

Christmas wrasses	Halochoeres species
Anampses wrasses	Anampses species
Leopard wrasse	Macropharyngodon
Meleagris	

All other Macropharyngodon wrasses

Orange-line wrassen	Stethojulis balteata
Most Pencil wrasses	Hologymnosus species
Laboute Fairy wrasse	Cirrhilabrus labouti
All cleaner (labroids and other spesies)wrasses	
False Cleaner wrasse	Aspidontus taeniatus
Lunare wrasse	Thalassoma lunare

Blennies, Dragonettes and Gobies:

Mandarin Dragonette	Pterosynchiropus splendidus
Target Dragonette	Synchiropus picturatus
Scooter Dragonette	Synchiropus species

Parrot Fish:

Parrotfish	Scarus species
Parrotfish	Cetoscarus species
Parrotfish	Cirrhilabrus species

Anthias (Fairy Basslets):

Creole Anthias	Paranthias species
Blue Diamond Anthias	
Hawaiian Anthias	Miroabrichthys bicolor
Purple Queen Anthias	Mirolabrichthys tuka
Queen tiger Anthias	mirolabrichthys imeldae
Female Squareback	pseudanthias pleurataenia

Basslets, Groupers, Grunts (sweetlips):

Clown sweetlips	plectorhincus chaetonoides
Macolor Niger Grunt	macolor niger
oriental Sweetlips	plectorhinchus lineatus
striped Sweetlips	plectorhinchus diagrammus

Tangs:

Achilles tang	Acanthurus Achilles
Powder Blue Tang	Acanthurus teucosternon
Powder Brown Tang	Acanthurus japonicus
Clown Tang	Acanthurus lineatus
Chevron Tang	ctenochaetus hawaiiensis
Shoal Tang	Acanthurus shoal

Lionfish, Anglers and Scorpionfish:

Fu Manchu Lionfish	Dendrochirus biocellus
Zebra Dwarf Lionfish	Dendrochirus zebra
Volitan (Peacock)lion	Pterois volitans
Antennata Lionfish	Pterois antennata
Radiate Lionfish	Pterois radiate
Fuzzy Dwarf Lionfish	Dendrochirus brachypterus
Sphex Lionfish	Pterois sphex
Miles Lionfish	Pterois miles
Stonefish	Syanceia species
Sculpins	Scorpaenopsis species
Leaffish	Taenianotus tricanthus
Rhino scorpionfish	Rhinopias frondosa
Angler Fish	Antennarius species
Threadfin Anglerfish	Nemanthias carberryi
Sea Gobblins	Prionotus carolinus

Seahorses and pipefish:

Seahorses	Hippocampus species
Sea Dragon	Phycodurus eques
Sea Dragon	Phyllopteryx taeniolatus
Pipefish	Corythoichthys species
Pipefish	Doryrhamphus species
Pipefish	Syngnathoides species
Trumpetfish species	Aulostomus species

Sharks, skates and Rays:

All sharks, skates and Rays	
Remora	Echeneis nanocrates

Boxfish and Cowfish (Trunk fish):

Blue Boxfish	Ostracion melegris (male)
Black Boxfish	Ostracion melegris (female)
Scribbled Boxfish	Ostracion solorensis (male)
Scribbled Boxfish	Ostracion solorensis (female)

Other fish Species:

Shrimp(Razor)fish	Seoliscurs strigatus
Pinecone Fish	Cleidopus gloriamaris
Pinecone fish	Cleidopus japonicus
Flashlight fish	Photoblepharon palperbratus
Barracuda	Sphyraena barracuda

Cephalopods:

All Octopus species	Octopus species
Blue-Ring Octopus	Hapalochlaena lunulata
All Squid species	loligo and sepioteuthis sp.

All cuttlefish species
All Nautilus species

sepia and sepioloidea sp.
Nautilus and Argonauta sp.

Other Invertebrates:

Flower Sea Urchins
Indian Cone snails
Mantis shrimp
Jellyfish

Appendix B

The following species only may be sold, and must be kept in the conditions to which they are suited: (UK Gallon – equivalent 4.54 litres)

Gold Fish

Black moor Goldfish (*Carassius auratus*)
Minimum Pond/Tank Size:30 gallons or 137 litres
Care Level: Easy
Tank Conditions:65-75`F;Ph6.5-7.5;KH4-20
Max. size In Aquarium: Up to 10”
Color form :Black, Iridescent, Orange
Temperament :Peaceful
Diet: Omnivore
Compatibility : View Appendix C
Family: Cyprinidae

The Black Moor Goldfish will do well in a 30 gallon/137 litres or larger tank with a fine gravel bottom and hardy, cold water plants. Goldfish are diggers and will scatter the fine sand onto leaves, injuring thin and less hardy plants. Roots and well-rounded river rocks are recommended.

Oranda Goldfish, Assorted (*carassius auratus*)

Minimum Pond/Tank Size:30 gallons or 137 litres
Care Level: Easy
Tank Conditions : 65-75`F;pH6.5-7.5;KH4-20
Max. Size in Aquarium :Up to 8”
Color Form :Black, Blue, Calico, Chocolate, Red, Red and Black, Red and White, Red Cap
Temperament :Peaceful
Diet: Omnivore
Compatibility: View Appendix C
Family: Cyprinidae

The Oranda will do in a tank of 30 gallons/137 litres of water or more with a fine gravel bottom and hardly, cold water plants, or backyard garden ponds of 180 gallons/820 litres or more. Goldfish are diggers and will scatter the fine sand onto leaves, injuring thin and less hardy plants. Roots and will-rounded river rocks are a good addition to the aquarium.

Crown Pearlscale Goldfish (*carassius auratus*)

Minimum Pond/Tank Size:70 gallons or 320 litres
Care Level: Easy

Tank Conditions:65-75`F;pH6.5-7.5;KH 4-20
Max. Size In Aquarium: Up to 1`12”
Color Form : Red and white
Temperament: Peaceful
Diet: Omnivore
Compatibility: View Appendix C
Family: cyprinidae

The crown Pearl scale Goldfish will do best in a tank with a fine gravel bottom and hardy, cold water plants. It is a digger, and will scatter the fine sand onto leaves, injuring thin and less hardy plants. Roots and well-rounded river rocks are appreciated.

Sarasa comet (carassius auratus)

Minimum Pond Size: 180 gallons or 820 litres
Care Level: Easy
Tank Conditions; 36-90`F; pH 6.8-7.2;KH 2-12
Max. Size In Aquarium: Up to 1`2”
Color Form: Bright Red, white
Temperament: Peaceful
Diet: Omnivore
Compatibility: View Appendix C
Family: Cyprinidae

The ideal set up for the Sarasa comet is a pond of at least 180 gallons/ 820 litres with a gravel substrate, rocks and hearty plants. This fish will grow in proportion to its surroundings. They like to eat the roots of plants and will dig to get to them, so provide large rocks around the base of the plants to protect them. Adequate filtration should be provided in order to maintain proper water conditions.

Shubunkin (corassius auratus)

Minimum Pond size:180 gallons or 820 litres
Care Level: Easy
Tank Conditions:36-90`F;pH 6.8-7.2; KH 2-12
Max. Size In Aquarium: Up to 1`2”
Color Form : Black, Mottled, Orange, white
Temperament: Peaceful
Diet: Omnivore
Compatibility: View Appendix C
Family: Cyprinidae

The ideal set up for the Shubunkin is a pond of at least 180 gallons or 820 litres of water with a gravel substrate, rocks and hearty plants. This fish will grow in proportion to the size of its surroundings. They like to eat the roots of plants and will dig to get to them, so provide large rocks around the base of the plants

to protect them. Adequate filtration should be provided in order to maintain proper water conditions.

Oranda Goldfish, Assorted (carassius auratus)

Minimum Pond/Tank size:30 gallons or 137 litres

Care Level: Easy

Tank Conditions:65-75`F;pH 6.5-7.5; KH 4-20

Max. Size In Aquarium: Up to 8”

Color Form : Black, Blue, Calico, chocolate, red and Black, Red and white, Red Cap

Temperament: Peaceful

Diet: Omnivore

Compatibility: View Appendix C

Family: Cyprinidae

The Oranda Goldfish is born without any head-growth. The growth begins to thicken and fold three to four months after hatching. It may take up to two years for the head-growth to be fully developed and its development is affected by a number of factors, including the quality of water in which the fish lives and its diet. A stable, clean tank and a protein-rich diet will enhance the development of the head-growth.

All Goldfish are members of the carp group and are generally quite hardy. The oranda will do well in a tank of 30 gallons or 137 litres of water or more with a fine gravel bottom and hardy, cold water plants, or backyard garden ponds of 180 gallons or more. Goldfish are diggers and will scatter the fine sand onto leaves, injuring thin and less hardy plants. Roots and well-rounded river rocks are a good addition to the aquarium.

Telescope Goldfish, Assorted (corassius auratus)

Minimum Pond/Tank Size:30 gallons or 137 litres

Care Level: Easy

Tank Conditions : 65-75`F;pH 6.5-7.5;KH4-20

Max. Size in Aquarium :Up to 8”

Color Form :calico, Mottled, Red, and Black, Red and White

Temperament :Peaceful

Diet: Omnivore

Compatibility: View Appendix C

Family: Cyprinidae

All goldfish are members of the carp group and are generally quite hardy. The telescope Goldfish will do well in a 30 gallon / 137 litres or larger tank with a fine gravel bottom and hardy, cold water plants. Goldfish are diggers and will scatter the fine sand onto leaves, injuring thin and less hardy plants. Roots and well-rounded river rocks are a good addition to the aquarium.

Angels

Black Veil Angel (pterophyllum sp.)

Minimum Tank size: 30 gallons or 137 litres

Care Level: Moderate

Tank Conditions:75-82`F;pH 5.8-7.0; KH 1-5

Max. Size In Aquarium: Up to 6”

Color Form : Black

Temperament: semi-aggressive

Diet: Omnivore

Compatibility: View Appendix C

Family: Cichlidae

It prefers a well-planted tank of at least 30 gallons/137 litres with soft, slightly acidic water. Rooks and driftwood can be added to the aquarium, but leave plenty of space for swimming.

Koi Angel (Pterophyllum sp.)

Minimum Tank size: 30 gallons or 137 litres

Care Level: Moderate

Tank Conditions:75-82`F;pH 5.8-7.0; KH 1-5

Max. Size In Aquarium: Up to 6”

Color Form : Black, white

Temperament: semi-aggressive

Diet: Omnivore

Compatibility: View Appendix C

Family: Cichlidae

It prefers a well-planted aquarium of at least 30 gallons/137 litres with soft, slightly acidic water. Rocks and driftwood can be added to the aquarium, but leave plenty of space for swimming.

Marble Veil Angel (Pterophyllum sp.)

Minimum Tank size: 30 gallons or 137 litres

Care Level: Moderate

Tank Conditions:75-82`F;pH 5.8-7.0; KH 1-5

Max. Size In Aquarium: Up to 6”

Color Form : Black, white, yellow

Temperament: semi-aggressive

Diet: Omnivore

Compatibility: View Appendix C

Family: Cichlidae

It prefers a well-planted tank of at least 30 gallons / 137 litres with soft, slightly acidic water. Rocks and driftwood can be added to the aquarium, but leave plenty of space for swimming.

Silver Zebra Angel (Pterophyllum sp.)

Minimum Tank size: 30 gallons or 137 litres

Care Level: Easy

Tank Conditions:75-82`F;pH 5.8-7.0; KH 1-5

Max. Size In Aquarium: Up to 6"

Color Form : Black, Brown, Silver

Temperament: semi-aggressive

Diet: Omnivore

Compatibility: View Appendix C

Family: Cichlidae

It prefers a well-planted aquarium of at least 30 gallons / 137 litres with soft, slightly acidic water. Rocks and driftwood can be added to the aquarium, but leave plenty of space for swimming.

Black Angel (pterophyllum sp.)

Minimum Tank size: 30 gallons or 137 litres

Care Level: Moderate

Tank Conditions:75-82`F;pH 5.8-7.0; KH 1-5

Max. Size In Aquarium: Up to 6"

Color Form : Black

Temperament: semi-aggressive

Diet: Omnivore

Compatibility: View Appendix C

Family: Cichlidae

It prefers a well-planted aquarium of at least 30 gallons / 137 litres with soft, slightly acidic water. Rocks and driftwood can be added to the aquarium, but leave plenty of space for swimming.

White Blushing Angel (pterophyllum sp.)

Black Angel (pterophyllum sp.)

Minimum Tank size: 30 gallons or 137 litres

Care Level: Moderate

Tank Conditions:75-82`F;pH 5.8-7.0; KH 1-5

Max. Size In Aquarium: Up to 6"

Color Form : White, yellow

Temperament: semi-aggressive

Diet: Omnivore

Compatibility: View Appendix C

Family: Cichlidae

It prefers a well-planted aquarium of at least 30 gallons / 137 litres with soft, slightly acidic water. Rocks and driftwood can be added to the aquarium, but leave plenty of space for swimming.

Somkey leopard veil Angel (pterophyllum sp.)

Minimum Tank size: 30 gallons or 137 litres

Care Level: Moderate

Tank Conditions:75-82`F;pH 5.8-7.0; KH 1-5

Max. Size In Aquarium: Up to 6"

Color Form : Black, Gray, Silve

Temperament: semi-aggressive

Diet: Omnivore

Compatibility: View Appendix C

Family: Cichlidae

It prefers a well-planted aquarium of at least 30 gallons / 137 litres with soft, slightly acidic water. Rocks and driftwood can be added to the aquarium, but leave plenty of space for swimming.

Assorted Veil Angel (Pterophyllum sp.)

Minimum Tank size: 30 gallons or 137 litres

Care Level: Moderate

Tank Conditions:75-82`F;pH 5.8-7.0; KH 1-5

Max. Size In Aquarium: Up to 6"

Color Form : Gold, Iridescent, silver, tan

Temperament: semi-aggressive

Diet: Omnivore

Compatibility: View Appendix C

Family: Cichlidae

These fish prefer a well-planted tank of at least 30 gallons / 137 litres with soft, slightly acidic water. Rocks and driftwood can be added to the aquarium, but leave plenty of space for swimming.

Albino Angel (Pterophyllum sp.)

Minimum Tank size: 30 gallons or 137 litres

Care Level: Moderate

Tank Conditions:75-82`F;pH 5.8-7.0; KH 1-5

Max. Size In Aquarium: Up to 6"

Color Form : Silver, white

Temperament: semi-aggressive

Diet: Omnivore

Compatibility: View Appendix C

Family: Cichlidae

It prefers a well-planted aquarium of at least 30 gallons / 137 litres with soft, slightly acidic water. Rocks and driftwood can be added to the aquarium, but leave plenty of space for swimming.

Mollies

Black Sailfin Molly

(*Poecilia latipinna*)

Minimum Tank size: 30 gallons or 137 litres

Care Level: Difficult

Tank Conditions:75-82`F;pH 7.5-8.5; KH 10-25

Max. Size In Aquarium: Up to 6 1/2"

Color Form : Black

Temperament: Peaceful

Diet: Omnivore

Compatibility: View Appendix C

Family: Poeciliidae

The Black sailfin Molly requires a tank of at least 30 gallons / 137 litres with algae and plenty of room to swim. The tall dorsal fin of the male will not develop if adequate room is not provided for him to swim. This species should only share a tank with other peaceful fish that prefer hard water with elevated salt levels.

Black Lyretail Molly

(*Poecilia latipinna*)

Minimum Tank size: 30 gallons or 137 litres

Care Level: Moderate

Tank Conditions:68-82`F;pH 7.0-7.8; KH 10-25

Max. Size In Aquarium: Up to 5"

Color Form : Black

Temperament: Peaceful

Diet: Omnivore

Compatibility: View Appendix C

Family: Poeciliidae

The Black Lyretail molly prefers a tank of at least 30 gallons / 137 litres with plenty of strong plants such as Java Fern, Sagittaria, Vallisneria, and Anubias. They require a good filtration system because of their hearty appetites and resulting waste products. The Black Lyretail Molly is well suited for the community tank because of its peaceful nature, and is compatible with other peaceful, large fish that can withstand similar water conditions.

Dalmatian Molly (*Poecilia latipinna*)

Minimum Tank size: 30 gallons or 137 litres

Care Level: Moderate

Tank Conditions:68-82`F;pH 7.0-7.8; KH 10-25

Max. Size In Aquarium: Up to 4 3/4"

Color Form : Black and white, Mottled

Temperament: Peaceful

Diet: Omnivore
Compatibility: View Appendix C
Family: Poeciliidae

The Dalmatian Molly prefers a tank of at least 30 gallons or 137 litres, densely planted with plenty of strong plants such as Java fern, Sagittaria, Vallisneria and Anubias. They require a good filtration system because of their hearty appetites. The Dalmatian Molly is well suited for the community tank because of its peaceful nature, and is compatible with other peaceful, large fish that can withstand hard water. They may pursue their young and the young of the other fish.

Platinum Lyretail Molly (Poecilia velifera)

Minimum Tank size: 30 gallons or 137 litres
Care Level: Easy
Tank Conditions: 75-82°F; pH 7.5-8.5; KH 10-25
Max. Size In Aquarium: Up to 6=1/2"
Color Form : Gold, platinum
Temperament: Peaceful
Diet: Omnivore
Compatibility: View Appendix C
Family: Poeciliidae

The platinum Lyretail Molly requires a tank of at least 30 gallons / 137 litres with algae and plenty of room to swim. The tall dorsal fin of the male will not develop if adequate room is not provided for him to swim. This species should only share a tank with other peaceful fish that prefer hard water with elevated salt levels.

Balloon Molly (Poecilia latipinna)

Minimum Tank size: 30 gallons or 137 litres
Care Level: Moderate
Tank Conditions: 68-82°F; pH 7.0-7.8; KH 10-25
Max. Size In Aquarium: Up to 4=3/4"
Color Form : Black , white, yellow
Temperament: Peaceful
Diet: Omnivore
Compatibility: View Appendix C
Family: Poeciliidae

The Balloon Molly prefers a tank of at least 30 gallons / 137 litres with lots of strong plants such as Java fern, sagittaria, Vallisneria and Anubias. They require a good filtration system because of their hearty appetites. The balloon Molly is well suited for the community tank because of its peaceful nature, and is compatible with other peaceful, large fish that can withstand similar water conditions. They may pursue their young and the young of other fish.

Black Molly (poecilia latipinna)

Minimum Tank size: 30 gallons or 137 litres

Care Level: Moderate

Tank Conditions:68-82`F;pH 7.0-7.8; KH 10-25

Max. Size In Auarium: Up to 3”

Color Form : Black

Temperament: Peaceful

Diet: Omnivore

Compatibility: View Appendix C

Family: Poeciliidae

The Black Molly prefers a tank of at least 30 gallons / 137 litres with plenty of strong plants such as Java Fern, sagittaria, vallisneria, and Anubias. They require a good filtration system because of their hearty appetites and resulting waste products. The black Molly is well suited for the community tank because of its peaceful nature, and is compatible with other peaceful, large fish that can withstand similar water conditions.

Guppies

Red Fire Guppy (Poecilia reticulata)

Minimum Tank size: 20 gallons or 90 litres

Care Level: Easy

Tank Conditions:64-82`F;pH 5.5-8.0; KH 10-30

Max. Size In Auarium: Up to 2”

Color Form : Gray, Red, Silver, yellow

Temperament: Peaceful

Diet: Omnivore

Compatibility: View Appendix C

Family: Poeciliidae

The Red Fire Guppy requires a tank with at least 20 gallons / 90 litres of water, and is very tolerant of changing tank conditions. Plants should be hardy varieties such as Java Fern and Java Moss that can handle the increased hardness in the tank. Other peaceful fish would make good tank mates.

Green Cobra Guppy (Poecilia reticulata)

Minimum Tank size: 20 gallons or 90 litres

Care Level: Easy

Tank Conditions:64-82`F;pH 5.5-8.0; KH 10-30

Max. Size In Aquarium: Up to 2”

Color Form : Bright Green, Gray, Yellow

Temperament: Peaceful

Diet: Omnivore

Compatibility: View Appendix C

Family: Poeciliidae

The Green Cobra Guppy requires a tank with at least 20 gallons / 90 litres of water, and is very tolerant of changing tank conditions. Plants should be hardy varieties such as Java Fern and Java Moss that can handle the increased hardness in the tank. Other peaceful fish would make good tank mates.

Lemon Cobra Guppy (Poecilia reticulata)

Minimum Tank size: 20 gallons or 90 litres

Care Level: Easy

Tank Conditions: 64-82`F; pH 5.5-8.0; KH 10-30

Max. Size In Aquarium: Up to 2=1/2"

Color Form : Blue-Green, Gray, Metallic Blue, Metallic Green, Yellow

Temperament: Peaceful

Diet: Omnivore

Compatibility: View Appendix C

Family: Poeciliidae

The Lemon Cobra Guppy requires a tank with at least 20 gallons / 90 litres of water, and is very tolerant of changing tank conditions. Plants should be hardy varieties such as Java Fern and java Moss that can handle the increased hardness in the tank. Other peaceful fish would make good thank mates.

Neon Blue Tux Guppy (Poecilia reticulata)

Minimum Tank size: 20 gallons or 90 litres

Care Level: Easy

Tank Conditions: 64-82`F; pH 5.5-8.0; KH 10-30

Max. Size In Aquarium: Up to 2=1/2"

Color Form : Blue, iridescent, Mustard yellow, Neon Blue, pinkish purple

Temperament: Peaceful

Diet: Omnivore

Compatibility: View Appendix C

Family: Poeciliidae

The Neon Blue Tux Guppy requires a tank with at least 20 gallons / 90 litres water, and is vary tolerant of changing tank conditions. Plants should be hardy varieties such as Java Fern and Java Moss that can handle the increased hardness in the tank. Other peaceful fish would make good tank mates.

Blonde Tux Guppy (Poecilia reticulata)

Minimum Tank size: 20 gallons or 90 litres

Care Level: Easy

Tank Conditions: 64-82`F; pH 5.5-8.0; KH 10-30

Max. Size In Aquarium: Up to 2=1/2"

Color Form : Black, Gray, orange, orange tip, yellow

Temperament: Peaceful

Diet: Omnivore

Compatibility: View Appendix C
Family: Poeciliidae

The Blonde Tux Guppy requires a tank with at least 20 gallons / 90 litres water, and is vary tolerant of changing tank conditions. Plants should be hardy varieties such as Java Fern and Java Moss that can handle the increased hardness in the tank. Other peaceful fish would make good tank mates.

Yellow Tux Guppy (Poecilia reticulata)

Minimum Tank size: 20 gallons or 90 litres

Care Level: Easy

Tank Conditions:64-82`F;pH 5.5-8.0; KH 10-30

Max. Size In Aquarium: Up to 2=1/2"

Color Form : Black, Blue, Gray, orange, orange tip, yellow

Temperament: Peaceful

Diet: Omnivore

Compatibility: View Appendix C

Family: Poeciliidae

The Yellow Tux Guppy requires a tank with at least 20 gallons / 90 litres water, and is vary tolerant of changing tank conditions. Plants should be hardy varieties such as Java Fern and Java Moss that can handle the increased hardness in the tank. Other peaceful fish would make good tank mates.

Blue Cobra Guppy (Poecilia reticulata)

Minimum Tank size: 20 gallons or 90 litres

Care Level: Easy

Tank Conditions:64-82`F;pH 5.5-8.0; KH 10-30

Max. Size In Aquarium: Up to 2=1/2"

Color Form : Black, Blue, orange,

Temperament: Peaceful

Diet: Omnivore

Compatibility: View Appendix C

Family: Poeciliidae

The Blue Cobra Guppy requires a tank with at least 20 gallons / 90 litres water, and is vary tolerant of changing tank conditions. Plants should be hardy varieties such as Java Fern and Java Moss that can handle the increased hardness in the tank. Other peaceful fish would make good tank mates.

PLATIES

Assorted Platy (Xiphophorus maculatus)

Minimum Tank size: 10 gallons or 45 litres

Care Level: Easy

Tank Conditions:64-77`F;pH 7.0-8.2; KH 10-25

Max. Size In Aquarium: Up to 2"
Color Form : orange, Red, Various Colorations
Temperament: Peaceful
Diet: Omnivore
Compatibility: View Appendix C
Family: Poeciliidae

The Platy requires a tank of at least 10 gallons / 45 litres that is densely planted with hardy plants like Java Fern and Java Moss. They are very peaceful fish and make an excellent addition to the community tank. Any other peaceful fish can be housed with them.

SWORDTAILS

Assorted Swordtail (Xiphophorus helleri)
Minimum Tank size: 20 gallons or 90 litres
Care Level: Easy
Tank Conditions: 64-82`F; pH 7.0-8.3; KH 12-30
Max. Size In Aquarium: Up to 4"
Color Form : Black Nubian, Marigold, Neons, pineapple, Red Velvet, Red wag
Temperament: Peaceful
Diet: Omnivore
Compatibility: View Appendix C
Family: Poeciliidae

Swordtails require a tank of at least 20 gallons or 90 litres that is well-planted with plenty of room for swimming. Because of their peaceful nature, Swordtails are well suited for the community aquarium, although they will sometimes eat fry. Males can be aggressive toward one another so care should be taken when housing more than one.

TETRAS

Cardinal Tetra (Paracheirodon axelrodi)
Minimum Tank size: 10 gallon or 45 litres
Care Level: Moderate
Tank Conditions: 73-81`F; pH 5.5-7.5; KH 2-6
Max. Size In Aquarium: Up to 2"
Color Form : Neon Blue, Red
Temperament: Peaceful
Diet: Omnivore
Compatibility: View Appendix C
Family: Characidae

The ideal set-up is an aquarium of at least 10 gallons or 45 litres, and should be densely planted with plenty of low light areas. The cardinal Tetra does

best in soft water with an acidic pH. Stock these fish in groups of six or more and provide tank mates that are peaceful and do not pose a threat to the cardinal Tetra.

Neon Tetra Jumbo (Paracheirodon innesi)

Minimum Tank size: 10 gallons or 45 litres

Care Level: Easy

Tank Conditions:68-74`F;pH 5.0-7.0; KH 1.0-2.0

Max. Size In Aquarium: Up to 2"

Color Form : Neon Blue, Red, Turquoise

Temperament: Peaceful

Diet: Omnivore

Compatibility: View Appendix C

Family: Characidae

Neon Tetras add beauty to a planted aquarium; the plants in turn will provide plenty of hiding places and security for the fish. Rocks and driftwood also help to mirror its natural habitat. The Neon Tetra thrives in slightly acidic water and will do best when water parameters are kept constant.

True Rummynose Tetra (Hemigrammus rhodostomus)

Minimum Tank size: 10 gallons or 45 litres

Care Level: Easy

Tank Conditions:72-77`F;pH 5.5-7.0; KH 10-12

Max. Size In Aquarium: Up to 2"

Color Form : Red, silver,

Temperament: Peaceful

Diet: Omnivore

Compatibility: View Appendix C

Family: Characidae

The Rummy-Nose Tetra can be housed in a community aquarium. Plants, rocks, and driftwood help to enhance its natural habitat and provide hiding spaces. The Rummy-Nose Tetra is a peaceful fish that the beginner to the expert aquarist would benefit from having.

Glowlight Tetra (Hemigrammus erythrozonus)

Minimum Tank size: 10 gallons or 45 litres

Care Level: Easy

Tank Conditions:72-77`F;pH 5.5-7.0; KH 10-12

Max. Size In Aquarium: Up to 2"

Color Form : Bright Red, Transparent,

Temperament: Peaceful

Diet: Omnivore

Compatibility: View Appendix C

Family: Characidae

Glowlight Tetras add beauty to a planted aquarium; the plants, in turn, will provide hiding places for the fish. Rocks and driftwood also help to mirror its natural habitat. It thrives in slightly acidic water and will do best when water parameters are kept constant. The Glowlight Tetras are a schooling fish and will do best if kept in odd numbers of 5 or more.

Silver Tip Tetra (*Hasemania nana*)

Minimum Tank size: 10 gallons or 45 litres

Care Level: Easy

Tank Conditions: 64-82°F; pH 5.8-8.5; KH 4-20

Max. Size In Aquarium: Up to 2"

Color Form : Black, Gold

Temperament: Peaceful

Diet: Omnivore

Compatibility: View Appendix C

Family: Characidae

The Silver Tip Tetra can be housed in a aquarium with other soft water fish. Tetras are a schooling fish that work well in groups of six or more fish of the same species. Live plants, rocks and driftwood help to enhance its natural habitat and provide hiding spaces.

Black Neon Tetra (*Hyphessobrycon herbertaxelrodi*)

Minimum Tank size: 10 gallons or 45 litres

Care Level: Easy

Tank Conditions: 72-77°F; pH 5.5-7.0; KH 10-12

Max. Size In Aquarium: Up to 1=1/2"

Color Form : Black, Yellow/Green

Temperament: Peaceful

Diet: Omnivore

Compatibility: View Appendix C

Family: Characidae

Black Neon Tetras add beauty to a planted aquarium; the plants, in turn, will provide hiding places for the fish. Rocks and driftwood also help to mirror its natural habitat. It thrives in slightly acidic water and will do best when water parameters are kept constant. The Neon Tetras are a schooling fish and will do best if kept in odd numbers of 5 or more.

Green Fire Tetra (*Aphyocharax rathbuni*)

Minimum Tank size: 10 gallons or 45 litres

Care Level: Moderate

Tank Conditions: 72-80°F; pH 6.6-7.0; KH 12-18

Max. Size In Aquarium: Up to 2"

Color Form : Green, Orange, Yellow

Temperament: Peaceful
Diet: Omnivore
Compatibility: View Appendix C
Family: Characidae

In at least a 10-gallon or 45 litres aquarium, plants, rocks, and some driftwood should be used to give this species hiding places and security. They require a steady slightly acidic pH and constant temperature. They are mid-level swimming fish so latter plants are ideal.

Royal Black Emperor Tetra (Nematobrycon palmeri)

Minimum Tank size: 20 gallons or 90 litres
Care Level: Easy
Tank Conditions: 73-79`F; pH 5.0-8.0; KH 5.0-19.0
Max. Size In Aquarium: Up to 2"
Color Form : Black, purple,
Temperament: Peaceful
Diet: Omnivore
Compatibility: View Appendix C
Family: Characidae

The Royal Black Emperor Tetra can be housed in a community aquarium with soft or brackish water. Plants, rocks, and driftwood help to enhance its natural habitat and provide hiding places. A group of at least six are recommended as they are schooling fish all will do best kept in groups.

Purple Emperor Tetra (Impachthys kerri)

Minimum Tank size: 10 gallons or 45 litres
Care Level: Moderate
Tank Conditions:72-77`F;pH 6.0-8.0; KH 5.0-12.0
Max. Size In Aquarium: Up to 1=1/2"
Color Form : Purple, Turquoise,
Temperament: Peaceful
Diet: Omnivore
Compatibility: View Appendix C
Family: Characidae

The Purple Emperor Tetra can be in a housed with soft water fish to brackish water fish. Plants, rocks, and driftwood help to enhance its natural habitat and provide hiding places.

Head and Tail Light Tetra (Hemigrammus ocellifer)

Minimum Tank size: 10 gallons or 45 litres
Care Level: Easy
Tank Conditions:64-82`F;pH 5.8-8.5; KH 4-20
Max. Size In Aquarium: Up to 2"

Color Form : Gold, Pink, silver
Temperament: Peaceful
Diet: Omnivore
Compatibility: View Appendix C
Family: Characidae

The Head and Tail Light Tetra can be housed in an aquarium with other soft water fish. Tetras are a schooling fish that work well in groups of six or more fish of the same species. Live plants, rocks, and driftwood help to enhance its natural habitat and provide hiding spaces.

Gold Neon Tetra (Paracheirodon innesi)
Minimum Tank size: 10 gallons or 45 litres
Care Level: Easy
Tank Conditions: 72-77`F; pH 5.5-7.0; KH 10-12
Max. Size In Aquarium: Up to 1=1/2”
Color Form : Gold, Red, Turquoise,
Temperament: Peaceful
Diet: Omnivore
Compatibility: View Appendix C
Family: Characidae

Gold Neon Tetras add beauty to a planted aquarium; the plants, in turn, will provide hiding places for the fish. Rocks and driftwood also help to mirror its natural habitat. It thrives in slightly acidic water and will do best when water parameters are kept constant.

Black Skirt Tetra (Gymnocorymbus sp.)
Minimum Tank size: 20 gallons or 90 litres
Care Level: Moderate
Tank Conditions: 72-82`F; pH 6.0-7.0; KH 10-12
Max. Size In Aquarium: Up to 2=1/2”
Color Form : Black, silver
Temperament: Peaceful
Diet: Omnivore
Compatibility: View Appendix C
Family: Characidae

Hiding spaces such as rocks, plants, and driftwood are recommended to give this fish a sense of security. Taller plants should be used to coincide with its mid-level swimming habits along with plenty of rock formed cave structures.

Penguin Tetra (Thayeria boehlkei)
Minimum Tank size: 20 gallons or 90 litres
Care Level: Easy
Tank Conditions: 64-82`F; pH 5.8-8.5; KH 4-20

Max. Size In Aquarium: Up to 3"
Color Form : Gold, Pale, white,
Temperament: Peaceful
Diet: Omnivore
Compatibility: View Appendix C
Family: Characidae

The Penguin Tetra can be housed in an aquarium with other soft water fish. Tetras are a schooling fish that work well in groups of six more fish of the same species. Live plants, rocks and driftwood help to enhance its natural habitat and provide hiding spaces.

Black Phantom Tetra (*Megalamphodus megalopterus*)

Minimum Tank size: 20 gallons or 90 litres
Care Level: Moderate
Tank Conditions:72-82`F;pH 6.0-7.5; KH 12-18
Max. Size In Aquarium: Up to 2"
Color Form : Black, Gray
Temperament: Peaceful
Diet: Omnivore
Compatibility: View Appendix C
Family: Characidae

Hiding spaces such as rocks, plants, and driftwood are recommended to give this fish a sense of security. Taller plants should be used to coincide with its mid-level swimming habits along with plenty of rock formed cave structures.

Congo Tetra (*Phenacogrammus interruptus*)

Minimum Tank size: 30 gallons or 137 litres
Care Level: Easy
Tank Conditions:75-81`F;pH 6.0-6.2; KH 4-8
Max. Size In Aquarium: Up to 3"
Color Form : Gold, Orange, silver
Temperament: Peaceful
Diet: Omnivore
Compatibility: View Appendix C
Family: Characidae

Congo Tetras do well in a peaceful community aquarium that is well lit and moderately planted. They prefer to swim in schools of 5-8 in an aquarium that has plenty of room. It is best if this fish is the dominant species in the tank or it may become shy and reclusive.

Albino Buenos Aires Tetra (*Hemigrammus caudovittatus*)

Minimum Tank size: 10 gallons or 45 litres
Care Level: Easy

Tank Conditions:64-82`F;pH 5.8-8.5; KH 4-20
Max. Size In Aquarium: Up to 2=1/2”
Color Form : pale, silver
Temperament: Peaceful
Diet: Omnivore
Compatibility: View Appendix C
Family: Characidae

The Buenos Aires Tetra can be housed in a aquarium with other soft water fish. Tetras are a schooling fish that work well in groups of six or more fish of the same species. Artificial plants, rocks and driftwood help to enhance its natural habitat and provide hiding spaces.

Diamond Tetra (Moenkausia pittieri)

Minimum Tank size: 20 gallons or 90 litres
Care Level: Moderate
Tank Conditions:75-82`F;pH 6.0-7.5; KH 4-6
Max. Size In Aquarium: Up to 2”
Color Form : orange, silver
Temperament: Peaceful
Diet: Omnivore
Compatibility: View Appendix C
Family: Characidae

These Tetras prefer a heavily planted tank and softer water on the acidic side. They are ideal fish to put in a community tank and prefer to school with an odd number of at least 3 Diamond Tetras, making them an attractive addition to your home aquarium.

Red Tail Mirror Blue Tetra (Hyphessobrycon sp.)

Minimum Tank size: 20 gallons or 90 litres
Care Level: Easy
Tank Conditions:75-82`F;pH 6.0-6.5; KH 4-8
Max. Size In Aquarium: Up to 2=1/2”
Color Form : Blue, Red, Turquoise
Temperament: Peaceful
Diet: Omnivore
Compatibility: View Appendix C
Family: Characidae

A planted aquarium of at least 20 gallons / 90 litres will be the ideal environment for the Red Tail Mirror Tetra. Rocks and driftwood help mirror its natural habitat and will help to reduce stress on this fish. This species does best with soft slightly acidic water with high filtration.

Blue Peacock Cichlid (*Aulonocara nyassae*)

Minimum Tank size: 50 gallons or 230 litres

Care Level: Easy

Tank Conditions:72-82`F;pH 7.8-8.5; KH 10-15

Max. Size In Aquarium: Up to 6"

Color Form : Brown, Gray, Metallic Blue

Temperament: semi-aggressive

Diet: Omnivore

Compatibility: View Appendix C

Origin: Farm Raised, USA

Family: Cichlidae

The Blue Peacock Cichlid does well in an aquarium that is at least 50 gallons with plenty of rocks for territories and a sandy bottom. The males are usually only aggressive towards their own species unless their territory is invaded upon. Provide a ratio of 3 to 4 females to one male.

Blue Johanni Cichlid (*Melanochromis johanni*)

Minimum Tank size: 50 gallons or 230 litres

Care Level: Easy

Tank Conditions:72-82`F;pH 8.0-9.5; KH 9-19

Max. Size In Aquarium: Up to 4=1/2"

Color Form : Black, Blue, Gold, Gray,

Temperament: Aggressive

Diet: Herbivore

Compatibility: View Appendix C

Family: Cichlidae

A large aquarium with plenty of caves and hiding places is ideal for these fish. An aragonite-based substrate is recommended in order to maintain the necessary high pH and alkalinity.

Fuelleborni Cichlid, Orange Blossom (*Labeotropheus fuelleborni*)

Minimum Tank size: 50 gallons or 230 litres

Care Level: Easy

Tank Conditions:72-82`F;pH 7.8-8.5; KH 10-18

Max. Size In Aquarium: Up to 5"

Color Form : Black, Blue, Orange

Temperament: Aggressive

Diet: Omnivore

Compatibility: View Appendix C

Family: Cichlidae

Provide the Fuelleborni Cichlid with an aquarium of at least 50 gallons with a sandy substrate and plenty of stacked rocks. They are aggressive by nature

and are very territorial, so provide ample caves within the rockwork to reduce this aggression.

DISCUS

Uaru Cichlid (uaru amphiacanthoides)

Minimum Tank size: 70 gallons or 320 litres

Care Level: Moderate

Tank Conditions:72-83`F;pH 5.0-7.0; KH 2-5

Max. Size In Aquarium: Up to 10"

Color Form : Black, Brown, Green, Silver

Temperament: Semi-aggressive

Diet: Omnivore

Compatibility: View Appendix C

Family: Cichlidae

The Uaru Cichlid requires a minimum aquarium size of 70 gallons / 320 litres or more with a fine gravel bottom. Plenty of rocks, driftwood and even flowerpots are recommended for hiding. They are a peaceful fish that is territorial and rarely aggressive, except during spawning. It can easily be kept with other medium-sized cichlids such as Convicts, Firemouths, and Parrots.

Pigeon Blood Discus (Symphysodon spp.)

Minimum Tank size: 50 gallons or 230 litres

Care Level: Moderate

Tank Conditions:79-86`F;pH 6.1-7.5; KH 1-3

Max. Size In Aquarium: Up to 8"

Color Form :Brown, Orange, Turquoise, white,

Temperament: Peaceful

Diet: Carnivore

Compatibility: View Appendix C

Family: Cichlidae

The Pigeon Blood Discus requires an advanced level of care due to its feeding habits and water filtration requirements. Territorial during spawning, this otherwise peaceful fish is among the schooling group, forming a well-defined nuclear family.

Red Turquoise Discus (Symphysodon spp.)

Minimum Tank size: 50 gallons or 230 litres

Care Level: Moderate

Tank Conditions:79-86`F;pH 6.1-7.5; KH 1-3

Max. Size In Aquarium: Up to 8"

Color Form : Red, Turquoise,

Temperament: Peaceful

Diet: Carnivore

Compatibility: View Appendix C
Family: Cichlidae

The Red Turquoise Discus requires an advanced level of care due to its feeding habits and water filtration requirements. Territorial during spawning, this otherwise peaceful fish is among the schooling group, forming a well-defined nuclear family.

Largely carnivorous, *Symphysodon aequifasciata* prefer freeze-dried bloodworms and tubifex, pellet food designed for Discus, high-quality flake food, and meaty frozen foods.

Red Marlboro Discus (*Symphysodon* sp.)

Minimum Tank size: 50 gallons or 230 litres

Care Level: Moderate

Tank Conditions: 79-86°F; pH 6.1-7.5; KH 1-3

Max. Size In Aquarium: Up to 8"

Color Form : Red, Yellow,

Temperament: Peaceful

Diet: Carnivore

Compatibility: View Appendix C

Family: Cichlidae

The Red Marlboro Discus requires an advanced level of care due to its feeding habits and water filtration requirements. Territorial during spawning, this otherwise peaceful fish is among the schooling group, forming a well-defined nuclear family.

Neon Blue Discus (*Symphysodon* spp.)

Minimum Tank size: 50 gallons 230 litres

Care Level: Moderate

Tank Conditions: 79-86°F; pH 6.1-7.5; KH 1-3

Max. Size In Aquarium: Up to 8"

Color Form : Neon Blue, Red

Temperament: Peaceful

Diet: Carnivore

Compatibility: View Appendix C

Family: Cichlidae

The Neon Blue Discus requires an advanced level of care due to its feeding habits and water filtration requirements. Territorial during spawning, this otherwise peaceful fish is among the schooling group, forming a well-defined nuclear family.

Ocean Green Discus (*Symphysodon* sp.)

Minimum Tank size: 50 gallons or 230 litres

Care Level: Moderate

Tank Conditions:79-86`F;pH 6.1-7.5; KH 1-3
Max. Size In Aquarium: Up to 8"
Color Form : Bright, Green,
Temperament: Peaceful
Diet: Carnivore
Compatibility: View Appendix C
Family: Cichlidae

The ocean Green Discus requires an advanced level of care due to its feeding habits and water filtration requirements. Territorial during spawning, this otherwise peaceful fish is among the schooling group, forming a well-defined nuclear family.

Snakeskin Discus (Symphysodon spp.)

Minimum Tank size: 50 gallons or 230 litres
Care Level: Moderate
Tank Conditions:79-86`F;pH 6.1-7.5; KH 1-3
Max. Size In Aquarium: Up to 8"
Color Form : Blue, Pale
Temperament: Peaceful
Diet: Carnivore
Compatibility: View Appendix C
Family: Cichlidae

The snakeskin Discus requires an advanced level of care due to its feeding habits and water filtration requirements. Territorial during spawning, this otherwise peaceful fish is among the schooling group, forming a well-defined nuclear family.

Yellow Marlboro Discus (Symphysodon sp.)

Minimum Tank size: 50 gallons or 230 litres
Care Level: Moderate
Tank Conditions:79-86`F;pH 6.1-7.5; KH 1-3
Max. Size In Aquarium: Up to 8"
Color Form : Red, Yellow
Temperament: Peaceful
Diet: Carnivore
Compatibility: View Appendix C
Family: Cichlidae

The Yellow Marlboro Discus requires an advanced level of care due to its feeding habits and water filtration requirements. Territorial during spawning, this otherwise peaceful fish is among the schooling group, forming a well-defined nuclear family.

Royal Red Discus (Symphysodon sp.)

Minimum Tank size: 50 gallons or 230 litres

Care Level: Moderate

Tank Conditions:79-86`F;pH 6.1-7.5; KH 1-3

Max. Size In Aquarium: Up to 8"

Color Form : Bright Red, Yellow

Temperament: Peaceful

Diet: Carnivore

Compatibility: View Appendix C

Family: Cichlidae

The Royal Red Discus requires an advanced level of care due to its feeding habits and water filtration requirements. Territorial during spawning, this otherwise peaceful fish is among the schooling group, forming a well-defined nuclear family.

Blue Diamond Discus (Symphysodon sp.)

Minimum Tank size: 50 gallons or 230 litres

Care Level: Moderate

Tank Conditions:79-86`F;pH 6.1-7.5; KH 1-3

Max. Size In Aquarium: Up to 8"

Color Form : Blue, Bright Blue

Temperament: Peaceful

Diet: Carnivore

Compatibility: View Appendix C

Family: Cichlidae

The Blue Diamond Discus requires an advanced of care due to its feeding habits and water filtration requirements. Territorial during spawning, this otherwise peaceful fish is among the schooling group, forming a well-defined nuclear family.

Snow White Discus (Symhysodon sp.)

Minimum Tank size: 50 gallons or 230 litres

Care Level: Moderate

Tank Conditions:79-86`F;pH 6.1-7.5; KH 1-3

Max. Size In Aquarium: Up to 8"

Color Form : White

Temperament: Peaceful

Diet: Carnivore

Compatibility: View Appendix C

Family: Cichlidae

The Snow White Discus requires an advanced level of care due to its feeding habits and water filtration requirements. Territorial during spawning, this

otherwise peaceful fish is among the schooling group, forming a well-defined nuclear family.

German Blue Ram (Microgeophagus ramirezi)

Minimum Tank size: 20 gallons or 90 litres

Care Level: Difficult

Tank Conditions:72-79`F;pH 5.0-7.0; KH 5-12

Max. Size In Aquarium: Up to 3”

Color Form : Neon Blue, Orange, Red, Yellow

Temperament: Peaceful

Diet: Omnivore

Compatibility: View Appendix C

The German Blue Ram requires a tank of 20 gallons / 90 litres, minimum. The tank should have several dense plant groups and plenty of open swimming space. The German Blue Ram will also need a few caves in which to hide in and stones to spawn on. Being a peaceful fish, the German Blue Ram makes a wonderful addition to the community tank. However, if kept in an aquarium that lacks hiding places for this fish, may become aggressive toward small tank mates.

Bred in India

Firemouth Cichlid

(*Thorichthys meeki*)

Minimum Tank size: 30 gallons or 137 litres

Care Level: Moderate

Tank Conditions:70-75`F;pH 6.0-7.5; KH 4-10

Max. Size In Aquarium: Up to 6”

Color Form : Red, Turquoise

Temperament: Semi-aggressive

Diet: Omnivore

Compatibility: View Appendix C

Family: Cichlidae

The Firemouth Cichlid requires a tank of a minimum of 30 gallons or 137 litres, with a fine sand bottom for burrowing and plenty of open swimming room. Plants should be hardy, like sagittaria, and potted with their root surfaces protected. There should also be rocks available, as they like to hide among the rocks and roots. They do get territorial during spawning and will harass smaller tank mates of their own species, so keeping fish that are similar in size is recommended. When attempting go threaten members of their same species, the Firemouth Cichlid will inflate a throat sac and extend its gill covers in an aggressive stance.

Green Texas Cichlid (*Herichthys carpinte*)

Minimum Tank size: 50 gallons or 230 litres

Care Level: Moderate

Tank Conditions:75-78`F;pH 6.9-7.1; KH 14-16

Max. Size In Aquarium: Up to 1”

Color Form : Green

Temperament: Semi-aggressive

Diet: Omnivore

Compatibility: View Appendix C

Family: Cichlidae

Green Texas Cichlids require a tank of at least 50 gallons or 230 litres with lots of room to swim and adequate hiding spots. Most plants that are added to the aquarium will be uprooted as they dig, so floating plants may be more appropriate. They are vary adaptable to differences in water chemistry. Being aggressive in nature, the Green Texas Cichlid should only be housed with more aggressive fish that are close to the same size.

Red Devil (*Amphilophus labiatus*)

Minimum Tank size: 50 gallons or 230 litres

Care Level: Moderate

Tank Conditions:72-77`F;pH 6.8-7.

Max. Size In Aquarium: Up to 1”

Color Form : Peach, Yellow

Temperament: Aggressive

Diet: Omnivore

Compatibility: View Appendix C

Family: Cichlidae

The Red Devil requires a tank of 50 gallons / 230 litres or more, with plenty of room to swim as well as stones for hiding. Because it is a digger, it is best to put the rocks on the bottom of the tank and not stacked. If stacked they could be knocked off causing damage to the fish. The Red Devil has a very aggressive personality, so choose his tank mates carefully. Red Devils should only be housed with other fish that can defend themselves.

Green Severum (*Heros severus*)

Minimum Tank size: 30 gallons or 137 litres

Care Level: Moderate

Tank Conditions:73-77`F;pH 6.0-6.5; KH 4-5

Max. Size In Aquarium: Up to 8”

Color Form : Cream, Green

Temperament: Semi-aggressive

Diet: Carnivore

Compatibility: View Appendix C

Family: Cichlidae

The Green Severum requires a 30 gallon / 137 litres or larger tank that is at least 40 inches long and 20 inches tall. The larger the tank the better. They prefer a lightly-planted tank with a soft bottom and a few rooted plants. Adding a few large rocks would be appropriate as long as there is still plenty of open room for swimming and the water is not affected. Severum can be aggressive when spawning, and for this reason should only be housed with other semi-aggressive fish.

Pink Convict Cichlid (*Archocentrus nigrofasciatus*)

Minimum Tank size: 30 gallons or 137 litres

Care Level: Difficult

Tank Conditions: 68-73`F; pH 6.5-8.0; KH 9-20

Max. Size In Aquarium: Up to 6"

Color Form : Pink, White

Temperament: Aggressive

Diet: Omnivore

Compatibility: View Appendix C

Family: Cichlidae

The Pink Convict Cichlid requires a minimum tank of 30 gallons / 137 litres with a gravel bottom, rocks and plenty of hiding places among the rocks or some inverted pots. Floating plants are recommended as a form of cover. Because of their aggressive nature, Pink Convict cichlids should only be housed with other more aggressive fish of the same size or larger.

Black Convict Cichlid (*Archocentrus nigrofasciatus*)

Minimum Tank size: 30 gallons or 137 litres

Care Level: Moderate

Tank Conditions: 68-73`F; pH 6.5-8.0; KH 9-20

Max. Size In Aquarium: Up to 6"

Color Form : Black, Gray,

Temperament: Aggressive

Diet: Omnivore

Compatibility: View Appendix C

Family: Cichlidae

The Black Convict Cichlid requires a 30 gallon / 137 litres minimum tank, with a gravel bottom, rocks and plenty of hiding places among the rocks or some inverted pots. Floating plants are recommended as a form of cover. Because of their aggressive nature, Black Convict Cichlids should only be housed with other more aggressive fish of the same size or larger.

Bolivian Ram (*Microgeophagus altispinosa*)

Minimum Tank size: 30 gallons or 137 litres

Care Level: Moderate

Tank Conditions:72-79`F;pH 6.5-7.5; KH 10-10
Max. Size In Aquarium: Up to 3"
Color Form : Tan
Temperament: Peaceful
Diet: Omnivore
Compatibility: View Appendix C
Family: Cichlidae

The Bolivian Ram requires a tank of 30 gallons or 137 litres minimum. The tank should have several dense plant groups and plenty of open swimming space. The Bolivian Ram also requires a few caves in which to hide in and stones to spawn on. Being a peaceful fish, the Bolivian Ram makes a wonderful addition to the community tank, is compatible with other peaceful fish.

Gold Severum (Heros severus)

Minimum Tank size: 30 gallons or 137 litres
Care Level: Moderate
Tank Conditions:73-77`F;pH 6.0-6.5; KH 4-5
Max. Size In Aquarium: Up to 8"
Color Form : Cream Gold
Temperament: Semi-aggressive
Diet: Carnivore
Compatibility: View Appendix C
Origin: Amazon, Northern South America
Family: Cichlidae

The Gold Severum requires a 30 gallon / 137 litres or larger tank that is at least 40 inches long and 20 inches tall. The larger the tank the better. They prefer a lightly-planted tank with a soft bottom and a few rooted plants. Adding a few large rocks would be appropriate as long as there is still plenty of open room for swimming. The Gold Severum can be aggressive when spawning. And for this reason should only be housed with other semi-aggressive fish.

Jack Dempsey (Nandopsis Octofasciatum)

Minimum Tank size: 50 gallons or 137 litres
Care Level: Moderate
Tank Conditions:78-82`F;pH 6.5-8.0; KH 5-12
Max. Size In Aquarium: Up to 10"
Color Form : Blue, Brown, Gray, Green, Iridescent
Temperament: Aggressive
Diet: Carnivore
Compatibility: View Appendix C
Family: Cichlidae

The Jack Dempsey requires an aquarium of at least 50-gallons or 230 litres, with a fine sand bottom. There should be rocks and roots for them to hide

among. The plants should be hardy as the Jack Dempsey will burrow around and attack them. The aquarium should be divided into territories using hardy plants, if possible. They are territorial and will eat smaller fish that they can swallow.

Salvini Cichlid (*Nandopsis salvini*)

Minimum Tank size: 50 gallons or 230 litres

Care Level: Moderate

Tank Conditions:72-79`F;pH 7.0-8.0; KH 9-11

Max. Size In Aquarium: Up to 6"

Color Form : Yellow

Temperament: Aggressive

Diet: Omnivore

Compatibility: View Appendix C

Family: Cichlidae

Salvini Cichlids require a tank of at least 50 gallons or 230 litres with a fine gravel or sand bottom. It does not burrow or destroy plants, which are recommended to use as territories. The salvini Cichlid should be provided with numerous rocks and roots for use as hiding places. Plenty of room should be left open swimming. They may be housed with smaller fish that are also more aggressive, but be aware, they are territorial and will bite others.

Tiger Oscar (*Astronotus ocellatus*)

Minimum Tank size: 70 gallons or 320 litres

Care Level: Difficult

Tank Conditions:72-77`F;pH 6.0-8.5; KH 5-19

Max. Size In Aquarium: Up to 1"

Color Form : Black, Orange, Red,

Temperament: Semi-aggressive

Diet: Carnivore

Compatibility: View Appendix C

Family: Cichlidae

The Tiger Oscar requires a large aquarium of at least 70 gallons or 320 litres with a deep sand bottom and a few large rocks. They will dig up plants; so any that are in the tank should be potted with the root surfaces covered with rocks. Using floating plants is a good compromise to this problem. Oscars are hearty eaters and should only be kept with other fish that are of the same size, as they will eat any that are smaller than themselves.

Zebra Oscar (*Astronotus ocellatus*)

Minimum Tank size: 70 gallons or 320 litres

Care Level: Difficult

Tank Conditions:72-77`F;pH 6.0-8.0; KH 5-19

Max. Size In Aquarium: Up to 1"

Color Form : Black, Gray, White

Temperament: Semi-aggressive
Diet: Carnivore
Compatibility: View Appendix C
Family: Cichlidae

The Zebra Oscar requires a large aquarium of at least 70 gallons or 320 litres with a deep sand bottom and a few large rocks. They will dig up plants; so any that are in the tank should be potted with the root surfaces covered with rocks. Using floating plants is a good compromise to this problem. Oscars are hearty eaters and should only be kept with other fish that are of the same size, as they will eat any that are smaller than themselves.

Red Star Flower Horn Cichlid (Cichlasoma sp.)

Minimum Tank size: 50 gallons or 230 litres
Care Level: Easy
Tank Conditions: 72-80`F; pH 6.5-8.0; KH 9-20
Max. Size In Aquarium: Up to 8"
Color Form : Red, Silver
Temperament: Semi-aggressive
Diet: Omnivore
Compatibility: View Appendix C
Family: Cichlidae

The Red Star Flower Horn Cichlid requires an aquarium of at least 50 gallons or 230 litres, with a sandy bottom, rocks and plenty of hiding places among the rocks. Live plants should be planted in pots to protect the roots from these fish. They are territorial and will eat smaller fish or invertebrates that they can swallow.

Texas Cichlid (Herichthys cynoguttatus)

Minimum Tank size: 50 gallons or 230 litres
Care Level: Difficult
Tank Conditions: 68-75`F; pH 6.5-7.5; KH 5-12
Max. Size In Aquarium: Up to 1"
Color Form : Gold
Temperament: Aggressive
Diet: Omnivore
Compatibility: View Appendix C
Family: Cichlidae

The Texas Cichlid requires a tank of at least 50 gallons or 230 litres, with a fine sand bottom. There should be rocks and roots for them to hide among. The plants should be hardy as the Texas Cichlid will burrow around and attack them. The Texas Cichlid uses floating plants as a cover. The tank should be divided into territories using hardy plants, if possible the Texas Cichlid is sensitive to old water and requires frequent changes of 1/4-1/2 of the water weekly. They are

territorial and somewhat waspish, so care should be taken when choosing tank mates. Choose other more aggressive fish to share an aquarium with the Texas Cichlid.

Red Oscar (*Astronotus ocellatus*)

Minimum Tank size: 70 gallons or 320 litres

Care Level: Difficult

Tank Conditions:72-77`F;pH 6.0-8.0; KH 5-19

Max. Size In Aquarium: Up to 1”

Color Form : Red,

Temperament: Semi-aggressive

Diet: Carnivore

Compatibility: View Appendix C

Family: Cichlidae

The Red Oscar requires a large aquarium of at least 70 gallons or 320 litres with a deep sand bottom and a few large rocks. They will dig up plants; so any that are in the tank should be potted with the root surfaces covered with rocks. Using floating plants is a good compromise to this problem. Oscars are hearty eaters and should only be kept with other fish that are of the same size, as they will eat any that are smaller than themselves.

Blue Acara (*Aequidens pulcher*)

Minimum Tank size: 50 gallons or 230 litres

Care Level: Moderate

Tank Conditions:72-80`F;pH 6.5-8.0; KH 9-20

Max. Size In Aquarium: Up to 8”

Color Form : Bright Blue, Brown,

Temperament: Semi-aggressive

Diet: Omnivore

Compatibility: View Appendix C

Family: Cichlidae

The Blue Acara requires an aquarium of at least 50 gallons or 230 litres, with a sandy bottom, rocks and plenty of hiding places among the rocks. Live plants should be planted pots to protect the roots from these fish. The Blue Acara is generally peaceful with other fish of similar size, but can get territorial during breeding time.

Green Terror (*Aequidens rivulatus*)

Minimum Tank size: 50 gallons or 230 litres

Care Level: Moderate

Tank Conditions:72-80`F;pH 6.5-8.0; KH 9-20

Max. Size In Aquarium: Up to 8”

Color Form : Bright Blue, Green, White

Temperament: Semi-aggressive

Diet: Omnivore
Compatibility: View Appendix C
Family: Cichlidae

The Green Terror requires an aquarium of at least 50 gallons or 230 litres with a sandy bottom and rock work that will provide plenty of hiding spots. Live plants should be planted in pots to protect the roots from these fish. The Green Terror is generally peaceful with other fish of similar size, but can get more territorial as it matures.

GOURAMIS

Sparkling Gourami (Trichopsis pumilus)

Minimum Tank size: 10 gallons or 45 litres
Care Level: Moderate
Tank Conditions: 72-78°F; pH 6.0-7.0; KH 4-8
Max. Size In Aquarium: Up to 1 1/2"
Color Form : Blue, Green , Iridescent, Red
Temperament: Peaceful
Diet: Omnivore
Compatibility: View Appendix C
Family: Belontiidae

The ideal tank set-up would be an aquarium of a minimum of 10 gallons or 45 litres and have plenty of live plants as well as rocks and driftwood for use as hiding places.

Neon Blue Dwarf Gourami (Colisa lalia)

Minimum Tank size: 10 gallons or 45 litres
Care Level: Moderate
Tank Conditions: 72-82°F; pH 6.0-7.5; KH 4-10
Max. Size In Aquarium: Up to 2"
Color Form : Iridescent, Turquoise
Temperament: Peaceful
Diet: Omnivore
Compatibility: View Appendix C
Family: Belontiidae

Neon Blue Dwarf Gouramis require a tank that is 10 gallons / 45 litres or larger. The aquarium should be heavily planted and have at least part of the surface covered with floating plants. A darker substrate will help show-off the gourami's colours, and peat filtration is recommended. Regular water changes are a must, as this gourami can be susceptible to disease. They should not be kept with large, aggressive fish, but would enjoy the company of other small, peaceful fish as well as fellow gouramis. Loud noises often scare them, so the tank should be in a quiet area.

Dwarf Gourami (*Colisa lalia*)

Minimum Tank size: 10 gallons or 45 litres
Care Level: Moderate
Tank Conditions: 72-82`F; pH 6.0-7.5; KH 4-10
Max. Size In Aquarium: Up to 2"
Color Form : Orange, Turquoise
Temperament: Peaceful
Diet: Omnivore
Compatibility: View Appendix C
Family: Belontiidae

Dwarf Gouramis require a tank that is 10 gallons / 45 litres or larger. The aquarium should be heavily planted and have at least part of the surface covered with floating plants. A darker substrate will help show-off the gouramis colors, and peat filtration is recommended. Regular water changes are a must, as this gourami can be susceptible to disease. They should not be kept with large, Aggressive fish, but are compatible with other small, peaceful fish as well as fellow gouramis. Loud noises often scare them, so the tank should be in a quiet area.

Honey Dwarf Gourami (*Colisa sorta*)

Minimum Tank size: 10 gallons or 45 litres
Care Level: Difficult
Tank Conditions: 72-78`F; pH 6.0-7.5; KH 4-10
Max. Size In Aquarium: Up to 2"
Color Form : Gold, Yellowish to Brown
Temperament: Peaceful
Diet: Omnivore
Compatibility: View Appendix C
Family: Belontiidae

The Honey Dwarf Gourami requires a tank of at least 10 gallons / 45 litres that is heavily planted and has a good cover of floating plants. Their ideal tank mates should be smaller, peaceful, and gentle. The Honey Dwarf Gourami does become territorial during spawning.

Pearl Gourami (*Trichogaster leeri*)

Minimum Tank size: 30 gallons or 137 litres
Care Level: Easy
Tank Conditions: 75-86`F; pH 6.5-8.0; KH 5-18
Max. Size In Aquarium: Up to 4"
Color Form : Iridescent, Pearly
Temperament: Peaceful
Diet: Omnivore
Compatibility: View Appendix C

Family: Belontiidae

The Pearl Gourami requires a 30 gallon / 137 litres or larger tank with water approximately 12 inches deep, and a covering of floating ferns that may be used as hiding places. The substrate should be dark and the light subdued. The ideal tank mates for the pearl Gourami would be similar in size and temperament. They should not be housed with aggressive tank mates, like Cichlids. They will hide in a corner, begin to lose color and may refuse to eat if kept with overly aggressive fish.

Blue Paradise (*Macropodus opercularis*)

Minimum Tank size: 30 gallons / 137 litres

Care Level: Easy

Tank Conditions: 61-79°F; pH 6.0-8.0; KH 4-18

Max. Size In Aquarium: Up to 4"

Color Form : Orange, Turquoise

Temperament: Semi-aggressive

Diet: Omnivore

Compatibility: View Appendix C

Family: Belontiidae

The Blue Paradise requires a larger aquarium, at least 30 gallons / 137 litres, with lots of hiding places for the female. It will not eat plants, but because of its active courtship and mock battles between tank mates, only very hardy vegetation is advised. The Blue Paradise is a territorial fish that will defend its area from its tank mates. For this reason, it should only be kept with other large, semi-aggressive fish. It will also eat smaller tank mates. Adult males should be kept one per aquarium, as they fight as fiercely as Bettas.

Kissing Gourami (*Helostoma temminckii*)

Minimum Tank size: 30 gallons or 137 litres

Care Level: Moderate

Tank Conditions: 72-82°F; pH 6.8-8.5; KH 5-20

Max. Size In Aquarium: Up to 8"

Color Form : Iridescent, Peach, Pink

Temperament: semi-aggressive

Diet: Omnivore

Compatibility: View Appendix C

Family: Helostomatidae

The Kissing Gourami requires a 30 gallon / 137 litres or larger tank, with stones and plants. Plastic plants are best because they will eat most all vegetation in the aquarium, although Java Fern and possibly Java Moss may also be used. There is no need to clean the back of the aquarium because the kissing Gourami will browse on the algae that is growing there. The Kissing

Gourami is peaceful with other fish of similar size and will tolerate others of the same species.

Opaline Gourami (*Trichogaster trichopterus*)

Minimum Tank size: 20 gallons or 90 litres

Care Level: Easy

Tank Conditions: 72-82`F; pH 6.0-8.0; KH 4-18

Max. Size In Aquarium: Up to 6”

Colour Form :Iridescent, Turquoise

Temparature: Semi-aggressive

Diet: Omnivore

Compatibility: View [Appendix C](#)

Family: Belontiidae

The Opaline Gourami is compatible with a variety of tank mates that are of similar size and temperament. While males can be territorial with each other, the become timid around other, more aggressive fish. The ideal tank set-up would be a minimum of 20 gallons or 90 litres of water and have plenty of live plants as well as rocks and driftwood for use as hiding places.

Powder Blue Dwarf Gourami (*Colisa lalia*)

Minimum Tank Size: 10 gallons or 45 litres

Care Level: Moderate

Tank Conditions: 72*-82*F, pH 6.0-7.5; KH 4-10

Max. Size In Aquarium: Up to 2”

Colour Form: Iridescent, Turquoise

Temperament : Peaceful

Diet: Omnivore

Compatibility: View [Appendix C](#)

Family: Belontidae

Powder Blue Dwarf Gouramis require a tank that is 10 gallons or 45 litres or larger. The aquarium should be heavily planted and have at least part of the surface covered with floating plants. A darker substrate will help show-off the gourami’s colours, and peat filtration is recommended. Regular water changes are a must, as this gourami can be susceptible to disease. They should not be kept with large, aggressive fish, but are compatible with other small, peaceful fish as well as fellow gouramis. Loud noises often scare them, so the tank should be in a quiet area.

Blue Gourami (*Trichogaster trichopterus*)

Minimum Tank size: 20 gallons or 90 litres

Care Level: Easy

Tank Conditions: 72-82*F, pH 6.0-8.8; KH 4-18

Max. Size In Aquarium: Up to 6”

Colour Form: Turquoise

Temperament: Semi-aggressive

Diet: Omnivore

Compatibility: View [Appendix C](#)

Family: Belontiidae

The Blue Gourami will be housed with a variety of tank mates that are of similar size and temperament. While males can be territorial with each other, they become timid around other, more aggressive fish. The ideal tank set-up would be an aquarium of a minimum of 20 gallons or 90 litres which has plenty of live plants as well as rocks and driftwood for use as hiding places.

Gold Gourami (*Trichogaster trichopterus*)

Minimum Tank Size: 20 gallons or 90 litres

Care Level: Easy

Tank Conditions: 72-82`F; pH 6.0-8.0; KH 4-18

Max. Size In Aquarium: Up to 6"

Color Form : Orange

Temperament: Semi-aggressive

Diet: Omnivore

Compatibility: View [Appendix C](#)

Family: Belontiidae

The Gold Gourami can be housed with a variety of tank mates that are of similar size and temperament. While males can be territorial with each other, they become timid around other, more aggressive fish. The ideal tank set-up would be an aquarium of a minimum of 20 gallons or 90 litres and have plenty of live plants as well as rocks and driftwood for use as hiding places.

Giant Gourami (*Colisa fasciata*)

Minimum Tank size: 30 gallons or 137 litres

Care Level: Moderate

Tank Conditions: 72-80`F; pH 6.0-7.5; KH 4-10

Max. Size In Aquarium: Up to 4"

Color Form : Gold, Turquoise

Temperament: Peaceful

Diet: Omnivore

Compatibility: View [Appendix C](#)

Family: Belontiidae

The Giant Gourami requires a tank is 30 gallons / 137 litres or larger with densely planted edges, with preferably a dark tank bottom. There should be plenty of room left in the center of the tank for this gourami to swim. They prefer the company of other fish that are similar in size and temperament.

BARBS

Denison Barb (*Puntius denisonii*)

Tank Raised, USA

Minimum Tank size: 50 gallons or 230 litres

Care Level: Moderate

Tank Conditions: 60-77 °F; pH 6.8-7.8; KH 4-10

Max. Size In Aquarium: Up to 4=1/2"

Color Form : Black, Red, Silver

Temperament: Peaceful

Diet: Omnivore

Compatibility: View Appendix C

Family: Cyprinidae

Unlike some of the other barbs, this is a peaceful fish that is a welcome addition to any larger community aquarium. They should be kept in groups in an aquarium with a tight fitting lid, as they have a tendency to jump. In nature, they are found in fast moving streams and appreciate a high oxygen level in aquarium water.

Tiger Barb (*Puntius tetrazona*)

Minimum Tank size: 30 gallons or 137 litres

Care Level: Easy

Tank Conditions: 74-79 °F; pH 6.0-7.0; KH 4-10

Max. Size In Aquarium: Up to 3"

Color Form : Black, Gold, Orange, silver

Temperament: semi-aggressive

Diet: Omnivore

Compatibility: View Appendix C

Family: Cyprinidae

They prefer a well-planted tank of at least 30 gallons or 137 litres with soft, slightly acidic water. Rocks and driftwood can be added to the aquarium, but leave plenty of space for swimming. The Tiger Barb is a very active fish that may pester or even nip the fins of larger, slower moving fish.

Cherry Barb (*Puntius titteya*)

Minimum Tank size: 30 gallons or 137 litres

Care Level: Easy

Tank Conditions: 74-79 °F; pH 6.0-7.0; KH 4-10

Max. Size In Aquarium: Up to 2"

Color Form : Black, Red, Silver

Temperament: Peaceful

Diet: Omnivore

Compatibility: View Appendix C

Family: Cyprinidae

They prefer a well-planted tank of at least 30 gallons or 137 litres with soft, slightly acidic water. Rocks and driftwood can be added to the aquarium, but leave plenty of space for swimming. The Cherry Barb is a very timid fish that should be housed with fish of the same temperament.

Albino cherry Barb (*Puntius titteya*)

Minimum Tank size: 30 gallons or 137 litres

Care Level: Easy

Tank Conditions:74-79`F;pH 6.0-7.0; KH 4-10

Max. Size In Aquarium: Up to 2"

Color Form : Cream, Pink

Temperament: Peaceful

Diet: Omnivore

Compatibility: View Appendix C

Family: Cyprinidae

They prefer a well-planted aquarium of at least 30 gallons or 137 litres with soft, slightly acidic water. Rocks and driftwood can be added to the aquarium, but leave plenty of space for swimming. The Cherry Barb is a very timid fish that should be housed with fish of the same temperament.

Rosy Barb, Male (*Puntius conchonius*)

Minimum Tank size: 30 gallons or 137 litres

Care Level: Easy

Tank Conditions:74-79`F;pH 6.0-7.0; KH 4-10

Max. Size In Aquarium: Up to 6"

Color Form : Gold, Red

Temperament: Semi-aggressive

Diet: Omnivore

Compatibility: View Appendix C

Family: Cyprinidae

They prefer a well-planted tank of at least 30 gallons / 137 litres with soft, slightly acidic water. Rocks and driftwood can be added to the aquarium, but leave plenty of space for swimming. The Rosy Barb is a schooling fish and enjoys being in numbers. If in a large enough school, they typically will not bother any other fish in the aquarium.

Green Tiger Barb (*Puntius tetrazona*)

Minimum Tank size: 30 gallons or 137 litres

Care Level: Easy

Tank Conditions:74-79`F;pH 6.0-7.0; KH 4-10

Max. Size In Aquarium: Up to 3"

Color Form : Fluorescent Green, Gold, Orange, Silver

Temperament: Semi-aggressive

Diet: Omnivore

Compatibility: View Appendix C
Family: Cyprinidae

They prefer a well-planted tank of at least 30 gallons / 137 litres with soft, slightly acidic water. Rocks and driftwood can be added to the aquarium, but leave plenty of space for swimming. The Green Tiger Barb is a very active fish that may pester or even nip the fins of larger, slower moving fish.

Albino Tiger Barb (*Puntius tetrazona*)

Minimum Tank size: 30 gallons or 137 litres
Care Level: Easy
Tank Conditions: 74-79°F; pH 6.0-7.0; KH 4-10
Max. Size In Aquarium: Up to 3"
Color Form : Cream, Gold
Temperament: Semi-aggressive
Diet: Omnivore
Compatibility: View Appendix C
Family: Cyprinidae

They prefer a well-planted tank of at least 30 gallons or 137 litres with soft, slightly acidic water. Rocks and driftwood can be added to the aquarium, but leave plenty of space for swimming. The Albino Tiger Barb is a very active fish that may pester or even nip the fins of larger, slower-moving fish.

Ticto Barb (*Puntius ticto*)

Minimum Tank size: 30 gallons or 137 litres
Care Level: Easy
Tank Conditions: 74-79°F; pH 6.0-7.0; KH 4-10
Max. Size In Aquarium: Up to 4"
Colour Form: Gold, Silver
Temperature: Semi-aggressive
Diet: Omnivore
Compatibility: View Appendix C
Family: Cyprinidae

They prefer a well-planted tank of at least 30 gallon or 137 litres of water with soft, slightly acidic water. Rocks and driftwood can be added to the aquarium, but leave plenty of space for swimming.

Black Ghost Knifefish:

(*Apteronotus albifrons*)
Minimum Tank Size: 50 gallons or 230 litres
Care Level : Moderate
Tank Conditions: 73-80°F; pH 6.5-7.0; KH 0-10
Max. Size In Aquarium: Up to 1' 6"
Colour Form: Black
Temperament: Semi-aggressive

Diet: Carnivore

Compatibility: **View Appendix C**

Family: Aponotidae

It requires a minimum of a 50 gallon or 230 litre tank with excellent filtration. It is generally timid and reclusive, preferring a fine-gravel-bottom aquarium with plenty of roots and rocks for hiding places, as well as subdued to dark lighting.

Appendix C: Species Compatibility

Freshwater & Brackish Compatibility Appendix C

Y = Yes, Generally Compatible

C = Can co-exist with Caution

N = No, Not Compatible

	Malawian Cichlids	Tanganyikan Cichlids	Misc. African Cichlids	New World Cichlids	Angelfish	Barbs	Bettas	Cory Cats	Danios / Minnows	Discus	Fancy Goldfish	Gouramis	Guppies	Hatchets	Killifish	Larger Catfish	Loaches	Mollies	Platies	Plecos	Rainbowfish	Rasboras	Sharks	Suckermouth Catfish	Swordtails	Tetras	Misc. Fish	Invertebrates	Brackish Fish	Pond Fish	Freshwater Plants	
Malawian Cichlids	Y																															
Tanganyikan Cichlids	C	C																														
Misc. African Cichlids	C	C	Y																													
New World Cichlids	C	C	C	C																												
Angelfish	N	N	N	C	Y																											
Barbs	C	C	C	C	C	Y																										
Bettas	N	N	N	N	N	C	N	C																								
Cory Cats	C	C	C	C	Y	Y	Y	Y																								
Danios / Minnows	N	N	N	C	Y	Y	Y	Y	Y																							
Discus	N	N	N	C	C	C	C	Y	Y	Y																						
Fancy Goldfish	N	N	N	N	N	N	N	Y	N	N	Y																					
Gouramis	N	N	N	C	Y	Y	C	Y	Y	C	N	Y																				
Guppies	N	N	N	N	Y	C	Y	Y	Y	N	Y	Y																				
Hatchets	N	N	N	C	Y	C	Y	Y	Y	N	Y	Y																				
Killifish	N	N	N	C	Y	C	Y	Y	Y	N	Y	Y	Y																			
Larger Catfish	C	C	C	C	C	C	C	C	C	C	N	C	C	C	C																	
Loaches	C	C	C	C	Y	Y	Y	Y	Y	Y	C	Y	C	Y	C	C	Y															
Mollies	N	N	N	C	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	C	C	Y															
Platies	N	N	N	C	Y	C	Y	Y	Y	N	Y	Y	Y	Y	C	C	Y															
Plecos	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y															
Rainbowfish	N	N	N	C	Y	C	Y	Y	Y	N	Y	Y	C	Y	Y	Y	Y															
Rasboras	N	N	N	C	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	C	Y	Y	Y														
Sharks	C	C	C	C	Y	C	C	Y	C	N	Y	C	C	C	C	Y	C	C	Y	C	Y	C	C									
Suckermouth Catfish	C	C	C	C	Y	Y	Y	Y	C	Y	C	Y	Y	C	Y	C	C	Y	Y	Y	Y	Y	C	Y								
Swordtails	N	N	N	C	Y	C	Y	Y	Y	N	Y	Y	Y	Y	C	C	Y	Y	Y	Y	Y	Y	C	Y								
Tetras	N	N	N	C	Y	Y	Y	Y	Y	N	C	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Misc. Fish	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
Invertebrates	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
Brackish Fish	N	N	N	C	N	C	N	N	C	N	N	N	N	N	N	N	N	N	C	Y	N	C	N	C	N	C	N	N	C	C	Y	
Pond Fish	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	C	Y
Freshwater Plants	C	C	C	C	Y	Y	Y	Y	Y	C	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	

Y = Yes, Generally Compatible
 C = Can co-exist with Caution
 N = No, Not Compatible

Y = Compatible N = Not Compatible C = Caution Required	Dwarf Angels	Large Angels	Anglers/Frogs	Anthias	Barbete	Batfish	Blennies	Boxfish	Butterflies	Cardinals	Chromis	Clownfish	Damselfish	Dartfish	Dragonets	Eels	Filletfish	Foxface/Rabbits	Gobies	Groupers	Grunts/Sweetlips	Jawfish	Hawkfish	Hogfish	Lions/Scorpions	Parrotfish	Pseudochromis	Puffers	Seahorse/Pipefish	Sharks/Rays	Squirrelfish	Tangs/Surgeons	Triggerfish	Wrasse - Reef Safe	Wrasse - Fish Only	Live Corals	Invertebrates	Live Rock/Sand						
Dwarf Angels	C																																											
Large Angels	Y	C																																										
Anglers/Frogs	C	Y	C																																									
Anthias	Y	Y	C	C																																								
Barbete	Y	Y	N	Y	N																																							
Batfish	Y	Y	Y	C	C	N																																						
Blennies	Y	Y	N	Y	C	C	C																																					
Boxfish	Y	Y	Y	Y	Y	Y	Y	C																																				
Butterflies	Y	Y	Y	Y	Y	Y	Y	Y	C																																			
Cardinals	Y	C	N	Y	Y	Y	C	Y	Y	Y																																		
Chromis	Y	Y	N	Y	Y	C	Y	Y	Y	Y	Y																																	
Clownfish	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	C																																
Damselfish	Y	Y	N	Y	Y	C	Y	Y	Y	C	C	Y	C																															
Dartfish	Y	C	N	Y	C	C	Y	Y	Y	Y	Y	Y	C	C																														
Dragonets	Y	Y	N	Y	C	C	C	Y	Y	Y	Y	Y	Y	C																														
Eels	C	Y	C	C	N	C	N	Y	C	N	N	N	N	N	C																													
Filletfish	Y	C	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	C	C	N																												
Foxface/Rabbits	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	C	Y	C																											
Gobies	Y	C	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	C																												
Groupers	C	Y	C	N	N	N	N	N	C	N	N	N	N	N	C	N	Y	N																										
Grunts/Sweetlips	Y	Y	Y	Y	Y	Y	C	Y	Y	Y	C	Y	C	C	C	Y	Y	C	C																									
Jawfish	Y	C	N	Y	Y	Y	C	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	N	C	C																							
Hawkfish	Y	Y	C	Y	Y	Y	C	Y	Y	Y	Y	Y	Y	Y	H	Y	Y	N	C	Y	C																							
Hogfish	Y	Y	C	Y	C	C	Y	Y	C	C	C	C	C	C	C	Y	Y	C	C	Y	C	Y	C	N																				
Lions/Scorpions	C	Y	Y	C	N	C	N	Y	C	N	N	N	N	N	N	Y	C	Y	N	Y	C	N	N	Y																				
Parrotfish	Y	Y	C	Y	C	Y	Y	C	Y	Y	Y	C	C	C	Y	Y	C	C	Y	Y	C	Y	C	Y	Y																			
Pseudochromis	Y	C	N	Y	N	C	C	Y	Y	C	Y	Y	C	N	C	Y	N	Y	Y	Y	C	N	C																					
Puffers	Y	Y	C	Y	C	Y	C	Y	Y	Y	Y	Y	Y	C	Y	Y	Y	Y	C	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	C	N													
Seahorse/Pipefish	N	N	N	N	N	N	N	N	N	N	N	C	Y	N	N	N	C	N	N	C	N	N	N	N	Y																			
Sharks/Rays	N	C	N	N	N	N	N	N	N	N	N	N	N	N	C	N	C	N	C	C	N	N	C	C	N	N	N	N	C															
Squirrelfish	Y	Y	Y	Y	Y	C	Y	C	C	C	Y	C	C	C	C	Y	C	N	Y	C	Y	C	Y	C	Y	Y	N	C	Y															
Tangs/Surgeons	Y	Y	Y	Y	C	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	C	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	C												
Triggerfish	C	C	N	C	N	C	C	C	N	C	C	C	N	N	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	N														
Wrasse - Reef Safe	Y	Y	C	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	C	Y	Y	C	C	Y	Y	C	C	Y	Y	C	C	C	Y	N	N	C	C											
Wrasse - Fish Only	C	Y	C	C	C	C	Y	C	C	C	Y	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	N	C	C	C										
Live Corals	C	C	Y	Y	Y	Y	Y	C	Y	Y	Y	Y	Y	Y	C	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	C	Y	C	Y	C	Y	C	Y	C	Y				
Invertebrates	C	C	C	Y	C	Y	C	C	Y	Y	Y	Y	Y	C	N	C	Y	C	C	Y	C	C	Y	C	C	N	Y	N	C	N	C	Y	N	C	C	Y	C	Y						
Live Rock/Sand	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	

Appendix D: Plants

Note: All plants are found in India except red Rubin, Ozelot sword, Melon Sword, Chilensis, Moneywort & Madagascar lace.

Red Rubin (*Echinodorus rubin*)

Add a variety of color and texture with this background plant

Care Level : Easy

Light : Moderate

Placement: Background

Tank Conditions: 72-82` ; pH 6.5-7.5;KH 3-8

Propagation: Rhizome Division, Adventitious Plants, Side Shoots on Rhizome

Max. Size In Aquarium: Up to 2”

Color Form : Brown, Green, Red

Ideal Supplements: CO2 Fertilization, Iron, Potassium, Substrate Fertilizer, Trace Elements

Family: Alismataceae

Ozelot Sword (*Echinodorus ozelot*)

A study plant that accepts most environmental conditions

Care level: Easy

Light:Moderate to High

Placement: Mid-group

Tank Conditions: 73-83°F; pH 6.5-7.5; KH 3-8

Propagation: Rhizome, Adventitious Shoots

Max. Size In Aquarium: Up to 1’4”

Color Form: Green

Ideal Supplements: High Quality Aquarium Fertilizer

Family: Alismataceae

Melon Sword (*Echinodorus osiris*)

Robust blades cover its stem; best cultivated in a spacious tank with medium hard water

Care Level: Moderate

Light: Moderate

Placement: Mid-ground

Tank Conditions: 65-82°F: pH 6.5-7.5; KH 3-8

Propagation: Adventitious Plants, Side Shoots on Rhizome

Max. Size In Aquarium: Up to 1’8”

Color Form: Green, Red

Ideal Supplements: Iron-Rich Fertilizer, Substrate Fertilizer

Family: Alismataceae

Chilensis (*Sagittaria platyphylla*)

Fast growing, thick blade plant ideal for mid-ground planting

Care Level: Moderate
Light: Moderate
Placement: Mid-ground
Tank Conditions: 72-82°F: pH 6.5-7.5; KH 3-8
Propagation: Runners, Seeds
Max. Size In Aquarium: Up to 1'
Color Form : Green
Ideal Supplements: CO2 Fertilization, Iron, Potassium, Substrate Fertilizer, Trace Elements
Family: Alismataceae

Moneywort (*Bacopa Monnieri*)

Requires moderate to strong lighting; forms small decorative tufts
Care Level: Moderate
Light: Moderate to High
Placement: Background
Tank Conditions: 72-82°F: pH 6.5-7.5; KH 3-8
Propagation: Seeds & Cuttings
Max. Size In Aquarium: Up to 1'
Color Form: Green
Ideal Supplements: High Quality Aquarium Fertilizer
Family: Scrophulariaceae

Madagascar Lace (*Aponogeton Madagascariensis*)

One of the most prized plants in the hobby! Beautiful laced leaves, and flowers regularly.
Care Level: Difficult
Light: High
Placement: Mid-Background
Tank Conditions: 72-82°F: pH 6.0-7.0; KH 3-6
Propagation: Seeds, Bulbs
Max. Size In Aquarium: Up to 1'6"
Color Form: Green
Ideal Supplements: CO2 Fertilization, Iron, Potassium, Trace Elements
Family: Aponogetonaceae

Anubias barteri round leaf (*Anubias barteri*)

Lush green arrow shaped foliage that is easy to grow
Care Level: Easy
Light: Moderate
Placement: Foreground
Tank Conditions: 72-82°F: pH 6.5-7.5; KH 3-7
Propagation: Rhizome Division, Side Shoots on Rhizome
Max. Size In Aquarium: Up to 1'4"
Color Form: Bright Green, Green
Ideal Supplements: CO2 Fertilizer, Substrate Fertilizer
Family: Araceae

Anubias nana Beautiful dark green leaves in low, handsome clumps (*Anubias nana*)

Care Level: Easy

Light: Moderate

Placement: Foreground

Tank Conditions: 72-82 °F: pH 6.0-7.5; KH 3-8

Propagation: Rhizome Division, Side Shoots on Rhizome

Max. Size In Aquarium: Up to 6"

Color Form: Bright Green, Green

Ideal Supplements: CO2 Fertilization, Substrate Fertilizer

Family: Araceae

ChainSword –Narrow Leaf (*Echinodorus tenellus*)

Smallest species of the Echinodorus; requires sandy soil and plenty of light

Care Level: Moderate

Light: Moderate

Placement: Foreground

Tank Conditions: 68-84 °F: pH 6.2-7.5; KH 3-8

Propagation: Adventitious Plants, Runners, Seeds

Max. Size In Aquarium: Up to 6"

Color Form: Green

Ideal Supplements: High Quality Aquarium Fertilizer

Family: Alismataceae

Micro Sword (*Lilaeopsis novae-zelandiae*)

Rapidly grows to cover the bottom of your tank with a thick carpet of green

Care Level: Easy

Light: Moderate

Placement: Foreground

Tank Conditions: 70-83 °F: pH 6.8-7.5; KH 4-8

Propagation: Runners

Max. Size In Aquarium: Up to 4"

Color Form: Green

Ideal Supplements: High Quality Aquarium Fertilizer

Family: Apiaceae

Dwarf Hairgrass (*Eleocharis acicularis*)

Care Level: Moderate

Light: Moderate

Placement: Foreground

Tank Conditions: 70-83 °F: pH 6.5-7.5; KH 4-8

Max. Size In Aquarium: Up to 4"

Color Form: Green

Ideal Supplements: High Quality Aquarium Fertilizer
Family: Apiaceae

Brazilian Sword (*Spathiphyllum tassion*)

Young plants may be obtained by cutting the rhizome

Care Level: Moderate

Light: Moderate to High

Placement: Mid-ground

Tank Conditions: 73-83 °F: pH 6.5-7.0; KH 3-6

Propagation: Rhizome, Seeds

Max. Size In Aquarium: Up to 1' 4"

Color Form: Green

Ideal Supplements: High Quality Aquarium Fertilizer

Family: Araceae

Cryptocoryne (*Cryptocoryne Wendtii*)

Upper surface is green to greenish red while the lower part remains lighter

Care Level: Moderate

Light: Low to Moderate

Placement: Mid-ground

Tank Conditions: 72-82 °F: pH 6.5-7.5; KH 3-8

Propagation: Runners

Max. Size In Aquarium: Up to 1' 4"

Color Form: Green, Olive, Red

Ideal Supplements: Iron Rich Fertilizer

Family: Araceae

Java Fern (*Microsorium Pteropus*)

Does well in good light as well as a shaded position was

Care Level: Easy

Light: Low to Moderate

Placement: Mid-ground

Tank Conditions: 68-82 °F: pH 6.0-7.5; KH 3-8

Propagation: Rhizome Division, Adventitious Plants

Max. Size In Aquarium: Up to 8"

Color Form: Green

Ideal Supplements: High Quality Aquarium Fertilizer

Family: Polypodiaceae

Ludwigia – Broad (*Ludwigia repens*)

Beautiful mid-ground, high light loving plant

Care Level: Moderate

Light: Moderate to High

Placement: Mid-ground

Tank Conditions: 72-82 °F: pH 6.5-7.5; KH 3-8

Propagation: Seeds & Cuttings
Max. Size In Aquarium: Up to 1'6"
Color Form: Green, Red
Ideal Supplements: CO2 Fertilization, Iron-Rich Fertilizer, Trace Elements
Family: Onagraceae

Radican, Marble Queen (*Echinodorus Cordifolius*)

Beautiful centerpiece that will flower regularly in the large aquarium.
Care Level: Easy
Light: Moderate
Placement: Mid-ground
Tank Conditions: 72-82°F: pH 6.5-7.5; KH 3-8
Propagation: Adventitious Plants, Seeds
Max. Size In Aquarium: Up to 2'
Color Form: Light Green
Ideal Supplements: CO2 Fertilization, Iron, Potassium, Substrate Fertilizer, Trace Elements
Family: Alismataceae

Radican Sword (*Echinodorus Cordifolius*)

Grows well in moderate indirect light and a poor planting medium
Care Level: Moderate
Light: Moderate
Placement: Mid-ground
Tank Conditions: 72-82°F: pH 6.5-7.5; KH 3-8
Propagation: Adventitious Plants, Seeds
Max. Size In Aquarium: Up to 1'8"
Color Form: Bright Green
Ideal Supplements: High Quality Aquarium Fertilizer
Family: Alismataceae

Rotala Indica (*Rotala indica*)

Add a touch of color to your planted aquarium with this pink and green mid-ground plant.
Care Level: Moderate
Light: Moderate to High
Placement: Mid-ground
Tank Conditions: 72-82°F: pH 6.5-7.5; KH 3-8
Propagation: Cuttings
Max. Size In Aquarium: Up to 1'2"
Color Form: Green, Pink
Ideal Supplements: CO2 Fertilization, Iron, Potassium, Trace Elements
Family: Lythraceae

Variegated Japanese Dwarf Rush (*Acorus Variegatus*)

Stiff, Shiny, dark green leaves forming dense clumps; moderate lighting

Care Level: Easy
Light: Moderate
Placement: Mid-ground
Tank Conditions: 50-82°F: pH 6.5-7.5; KH 3-8
Propagation: Rhizome Division, Off Shoots
Max. Size In Aquarium: Up to 1'
Color Form: Cream, Green Striped
Ideal Supplements: High Quality Aquarium Fertilizer
Family: Araceae

Water Sprite (*Ceratopteris thalictroides*)

Prefers acid water and heavily shaded areas
Care Level: Easy
Light: Moderate
Placement: Mid-ground
Tank Conditions: 68-82°F: pH 5.5-6.5; KH 3-8
Propagation: Adventitious Plants
Max. Size In Aquarium: Up to 1'
Color Form: Green
Ideal Supplements: High Quality Aquarium Fertilizer
Family: Pteridaceae

Dwarf Sagittaria (*Sagittaria Subulata*)

Easy to grow; can withstand hard water and not sensitive to temperature change
Care Level: Easy
Light: Moderate
Placement: Mid-ground
Tank Conditions: 72-82°F: pH 6.5-7.5; KH 3-8
Propagation: Runners
Max. Size In Aquarium: Up to 1'
Color Form: Green
Ideal Supplements: High Quality Aquarium Fertilizer, Substrate Fertilizer
Family: Alismataceae

Corkscrew Vallisneria (*Vallisneria Americana*)

Great mid-ground plant with corkscrew appearance
Care Level: Easy
Light: Moderate
Placement: Background
Tank Conditions: 72-82°F: pH 6.5-7.5; KH 3-8
Propagation: Runners
Max. Size In Aquarium: Up to 1'
Color Form: Green
Ideal Supplements: CO2 Fertilization, Iron, Potassium, Trace Elements
Family: Hydrocharitaceae

Rotala Magenta (*Rotala Macranda*)

Ideal mid-ground plant that will add color to the aquarium

Care Level: Moderate

Light: Moderate to High

Placement: Mid-ground

Tank Conditions: 72-82°F: pH 6.5-7.5; KH 3-8

Propagation: Adventitious Plants

Max. Size In Aquarium: Up to 1'2"

Color Form: Green, Magenta, Pink

Ideal Supplements: CO2 Fertilization, Iron, Potassium, Trace Elements

Family: Lythraceae

Background plants

Amazon Sword Plant (*Echinodorus amazonicus*)

Best cultivated in large aquariums with moderate to strong lighting

Care Level: Moderate

Light: Moderate

Placement: Background

Tank Conditions: 72-82°F: pH 6.5-7.5; KH 3-8

Propagation: Peduncles

Max. Size In Aquarium: Up to 1'8"

Color Form: Green

Ideal Supplements: Iron-Rich Fertilizer

Family: Alismataceae

Anacharis (*Egeria densa*)

Beautiful light to bright green plant with a fairly long stem, thrives in tropical or coldwater aquariums

Care Level: Easy

Light: Moderate

Placement: Background

Tank Conditions: 59-82°F: pH 6.5-7.5; KH 3-8

Propagation: Cuttings

Max. Size In Aquarium: Up to 1'8"

Color Form: Bright Green

Ideal Supplements: CO2 Fertilization, High Quality Aquarium Fertilizer

Family: Hydrocharitaceae

Cabomba (*Cabomba Caroliniana*)

Beautiful densely growing plant that will provide a natural looking background

Care Level: Moderate

Light: Moderate

Placement: Background

Tank Conditions: 72-82°F: pH 6.5-7.5; KH 3-8

Propagation: Adventitious Plants

Max. Size In Aquarium: Up to 1'8"

Color Form: Green
Ideal Supplements: CO2 Fertilization
Family: Cabombaceae

Jungle Vai (*Vallisneria Americana*)

Great Background plant for hiding equipment in the aquarium

Care Level: Easy

Light: Moderate

Placement: Background

Tank Conditions: 72-82°F: pH 6.5-7.5; KH 3-8

Propagation: Runners, Seeds

Max. Size In Aquarium: Up to 2'

Color Form: Green

Ideal Supplements: CO2 Fertilization, Iron, Potassium, Trace Elements

Family: Hydrocharitaceae

Myrio-Green (*Myriophyllum pinnatum*)

Bright green dense growing plant, great for background and breeding aquariums,

Care Level: Moderate

Light: Moderate

Placement: Background

Tank Conditions: 72-82°F: pH 6.5-7.5; KH 3-8

Propagation: Cuttings

Max. Size In Aquarium: Up to 2'

Color Form: Green

Ideal Supplements: CO2 Fertilization, Iron, Potassium, Trace Elements

Family: Haloragaceae

Ruffle Plant (*Echinodorus Martii*)

Ruffled edges give this plant a unique appearance

Care Level: Easy

Light: Moderate

Placement: Background

Tank Conditions: 72-82°F: pH 6.5-7.5; KH 3-8

Propagation: Rhizome Division, Adventitious Plants

Max. Size In Aquarium: Up to 1'6"

Color Form: Green

Ideal Supplements: CO2 Fertilization, Iron, Potassium, Substrate Fertilizer, Trace Elements

Family: Alismataceae

Temple-Narrow Leaf (*Hygrophila corymbosa*)

Tall growing, broad leaf plant, perfect for background and sides of aquarium

Care Level: Easy

Light: Moderate

Placement: Background

Tank Conditions: 72-82°F: pH 6.5-7.5; KH 3-8

Propagation: Cuttings

Max. Size In Aquarium: Up to 2'

Color Form: Bright Green

Ideal Supplements: CO2 Fertilization, Iron, Potassium, Substrate Fertilizer, Trace Elements

Family: Acanthaceae

Wisteria(*Hygrophila difformis*)

Attractive lime green, delicately leaved, fernlike foliage that forms underwater mats

Care Level: Easy

Light: Moderate

Placement: Background

Tank Conditions: 74-82°F: pH 6.5-7.5; KH 3-8

Propagation: Cuttings

Max. Size In Aquarium: Up to 1'8"

Color Form: Bright Green, Green

Ideal Supplements: CO2 Fertilization, Iron-Rich Fertilizer, Substrate Fertilizer, Trace Elements

Family: Acanthaceae

Appendix E

The types and sizes of filtration the aquarium is equipped with greatly influences the number of fish that can be kept. Using several filtration methods on the same aquarium that remove different forms of waste can increase the capacity of a fish tank, but one needs to remember that during long power cuts, overstocked tanks will have many dead fish.

If proper filtration systems are not in place the following may happen in the tanks:

- A white cloudy, swirling condition (looks like someone poured a little milk in the tank) may indicate ammonia.
- If a fish dies and goes unnoticed, the tank may develop this white cloudy condition.
- If the tank exhibits a yellow, gray, or green cloudy condition, and the fish are all eating and appear healthy, this is a bacterial or algal “bloom”. Bacterial or algae blooms are usually due to any rapid fluctuation in environmental conditions, such as a heavy over feeding, high temperatures, or a build-up of detritus below an undergravel filter. The cloudiness is caused by billions of free-floating bacteria (yellow or gray) or algae (green) that have populated the water by rapid division. You can correct this problem by doing a series of water changes and /or putting a special temporary filter (diatom filter) on your aquarium for a few days.

There are several kinds of filters;

- a) **Box filter:** Shaped like a box, this filter is filled with activated charcoal and a special fibre. Place it in the corner of the aquarium or attach it to the inside wall. The box filter is good for a 10-gallon or 45 litres aquarium, temporary aquarium setup, nursery tank for baby fish or isolation tank for sick fish. It is easy to remove and clean.
- b) **Under Gravel filter:** This flat plastic “Platform” is placed on the bottom of the aquarium and covered with gravel. Water is filtered through the gravel, under the platform and up through tubes; bacteria cultures in the gravel then go to work on waste. This kind of filter is good for 10 to 20 gallon or 45 to 90 litres tanks if there’s adequate water flow. Since it’s hidden, it won’t take away from the looks of the tank and the waste that gets trapped in the gravel feeds plants rooted there. On the minus side, the aquarium will be to be broken to clean under the platform.
- c) **Outside filter:** This filter hangs on the side or back of the tank. Water is drawn through a tube into a box containing filter medium and activated charcoal. It is easy to clean.

All employees in a store selling fish or any aquarium owner must have expert knowledge about the following:

- fish tanks,
- the number of fish that can fit in a particular tank size,
- the diet of different fish,
- compatibility between different species,
- the filtration system to be used in different tanks,
- the plants that should be kept in tanks for different fish
- right type of water for particular species of fish
- nitrogen cycle
- symptoms, prevention and treatment of fish, and knowledge about the recognition, treatment and prevention of illness in fish. A shop or display in which fish tank animals exhibit symptoms of illness and are not undergoing to proper treatment faces closure and / or seizure of fish tank animals. They should be aware of the following diseases:

Ammonia Poisoning

Symptoms: Red or bleeding gills. Fish may appear darker in color and may gasp for air at the surface. This happens mainly due to over stocking.

Reason: Ammonia Poisoning can be prevented but is impossible to cure.

Avoid adding expensive fish to new tanks. New tanks must sit for two to four weeks until the bacterial level is sufficient to handle the tank load; add a few inexpensive fish at this time. Purchase an ammonia and nitrite test kit. Test the water until the ammonia drop to nearly zero. At this time, you should notice an increase in the nitrite level. When the nitrites are gone, it will be safe to add fish. Note that the bacterial phases will not take place unless the tank is initially stocked with feeder fish which can be removed after treatment. For larger biological loads, purchase a wet/dry filter (marine only) or a freshwater biological filter such as the Penguin Bio-Wheel by Marineland. For the immediate removal of ammonia, purchase an ammonia detoxifier such as Kordon's Amquel. However, it is best left alone until the bacterial load is sufficient.

Ideally, the level of ammonia should be zero. Although trace amounts are generally harmless, they can still lead to problems over time.

Understanding the nitrogen cycle is essential for the keeping of any

aquatic life. In essence, try to maintain your aquarium with no traceable ammonia present. The amount of ammonia present is usually accompanied by a rise in pH. As ammonia is a strong base, it is stabilized by alkaline water. It can cause damage to the gills at a level as small as 0.25 mg/l.

External Bacterial Infection

Symptoms: There is a great deal of possible symptoms associated with this disorder. There may be spots on the body which appear red or orange. Watch for red streaks on the surface on the body. Dropsy (bloating) is also a sign of a bacterial disorder. "False Fungal Infections" look like fungus but is actually a bacterial infection known as Columnaris. These symptoms may include a white or gray film on the body.

Reason: There are a number of effective treatments for many stains of bacterial infections. Three of the most common are tetracycline, penicillin and naladixic acid. Salt baths are another effective treatment.

Information: Bacterial infections are often difficult to diagnose due to the many different types. Orange or red streaks on the body is usually the only fool-proof method for the determination of a bacterial infection.

Common infections include fin rot and tail rot.

Black Spot

Symptoms: Small black specks on the body.

Cataracts

Symptoms: White or gray material covering the eyes only.

Reasons: Cataracts are fungal growths on the eyes. Treatment with any aquarium fungicide should work. Its probability increases with water rich in ammonia or nitrates.

Corneobacteriosis

Symptoms: Bulging eyes

Reason: Corneobacteria causes swelling in the head which will push the eyes outward. It is caused by overcrowding and water of poor quality, having in excess of ammonia and / or nitrites.

Dropsy

Symptoms: Bulging sides and stomach. Scales may be forced outward.

Reason: Dropsy is a sign of an internal bacterial infection. It is so often a symptom of bacterial infections that it has been classified separately.

Fungal Infections

Symptoms: White or cotton-like substance concentrated mainly on scrapes, surface injuries, fins or mouth.

Reason: This affects all kinds of tropical fish. It is intensified greatly with fish having damaged fins or cuts and scrapes. It is also much more likely in poor water conditions in which there are unacceptable levels of ammonia or nitrites. Fungal infections are also a sign of bullying by other

fish. Fin nippers will damage the fins of other fish making them more susceptible to fungal infections and external bacterial infections such as fin and tail rot.

Ich (Ichthyophthiriasis)

Symptoms: Small white pimples concentrated mainly on the fins. Pimples look like granules of salt.

Reason: This is the most widespread and common freshwater fish disease. The small pustules are actually sacks of tiny protozoans. In a few days, the sacks break open and the parasites fall into the aquarium gravel where they multiply in great numbers. When mature, the new protozoans attack the rest of the fish. It is this lifecycle that makes Ich so contagious. The protozoans will weaken the fish progressively by destroying the protective coating.

The protozoans may only be destroyed after they have left the sacks. When embedded in the aquarium gravel, they are susceptible to medication. Therefore, increasing the temperature of the water during treatment can speed up the life cycle, causing the pustules to break open quicker. After exposed, the protozoans are killed before they can multiply.

Internal Bacterial Infection

Symptoms: one of the most common symptoms is Dropsy. The body may be enlarged in various areas.

Reason: As above.

Myxobacteriosis

Symptoms: Symptoms may include black patches on the body and fins. The body may become bloated or swollen in some areas.

Reason: Its probability is intensified by overcrowding and poor water quality with high levels of ammonia and / or nitrites.

Velvet

Symptoms: Very small white speckles on fish. Resembles a fine powder.

Reason: Velvet, or Oodinium, is a very common disease which resembles Ich. The white pustules are much finer and are located mainly on the body. It is a little easier to cure than Ich, since the life cycle is not so rapid. It commonly follows chilling or stress caused by transportation or poor water quality.

Parasitic Infestation

Symptoms: Visible worms, flukes or lice on the body.

Reason: The fish must be removed from the tank while the parasite is removed. Follow up treatment is essential to prevent fungal or bacterial growth.

Appendix G

A list of requirements that inspectors may check should include but is not limited to the following:

- Are the records properly kept?
- Does the facility have a person on hand trained in proper fish tank animal care for the species sold?
- Is the establishment selling any prohibited items, including prohibited species of fish tank animal, artificially coloured fish tank animals, corals, spherical-type tanks, or tanks of less than 13-gallon or 60 litres capacity?
- Is the volume and area of tanks adequate and of proper size for the fish tank animals they house and ensures that they are not overstocked; that maximum stocking densities are correctly posted, and adhered to?
- Do the tanks include metals that can corrode, rocks that change water chemistry, wood, or other materials that could harm fish tank animals?
- Are the tanks covered on all tanks to prevent things from falling in fish tank animals from jumping out?
- Do the tanks have strong, durable tank supports?
- Does the facility have equipment on hand for measuring temperature, salinity, hardness, pH, oxygenation, copper, phosphates, ammonia, nitrites, and nitrates, unexpired and properly stored (usually in a cool, dry place for chemical tests); materials and equipment necessary for adjusting temperature, salinity, hardness, pH, oxygenation, and contaminants (i.e., heaters, filters, etc.); records kept of the appropriate levels of these parameters for each tank and posted on the outside of each tank; are these parameters kept within appropriate levels in the tanks?
- What is the kind of filtration is being used?
- Are the tanks located in direct sunlight or next to radiators where proper temperature cannot be maintained?
- Do the light switches have a dimmer?
- Are there working emergency backup generators?
- Are there working backups for all life support systems (heaters, filters, pumps, etc)?
- Is there adequate water supply?
- Are the tanks unclean, with water that is frothy, cloudy, yellowing or smelly?
- Are there euthanasia chemicals on hand?
- Is there a separate area for quarantining new fish and quarantine tanks for fish that are sick or need to be separated from aggressive tank mates?

- Are the fish in healthy condition? Fish gasping at the surface of the tank and breathing fast, a sign of inadequate oxygenation. Red streaks that appear on the body and fins, or all the fish in a tank yawning, are other indicators of this problem.
- Are dead fish in tanks with live fish? An establishment with three dead fish is a strong sign of inadequate care.
- Are incompatible fish kept together in the same tank, or showing signs of being attacked by other fish, including injured fins, eyes, or scales?
- Does the facility have a clean, sanitary establishment, including places for washing hands?
- Is the food appropriate for the species kept?
- Are there signs of disease? Significant numbers of sick fish indicate a serious welfare problem. These includes: collapsed fins, torn fins, very rapid gill movement, dark or patchy colouration, tiny white salt-like crystals, black nodules that look like blackheads, cauliflower-like growths on the edge of the fins, swollen skin or eyes, swollen belly, rotting tail, or white spots over the body.

Essential requirements for a facility to meet emergency situations:-

1. Generators or other emergency power sources should be available to support vital functions during power shortages and should be tested regularly. A facility should also have systems in place for longer-term power outages. As a minimum, back-up life support must be available for the length of time it would require for staff to rectify the problem or to euthanize the fishes, if necessary.
2. Critical systems, including pumps, should be duplicated to ensure that failures cause only minimal interruptions in service. If water lines are critical, they should be duplicated. Main system water pumps, filters and other essential life support components should have back up so that they may be replaced without affecting the supply of water or the operation of the system. Spare equipment should be periodically used to ensure its operational efficiency.
3. Water supply should be evaluated to ensure that there is sufficient capacity, including during periods of maximum demand or emergency situations.
4. In cases where treatment of effluent is required, an appropriate back-up system must be in place to ensure that the effluent treatment remains valid during times of power outages.
5. Depending on the complexity of the system and the survival time of the fishes within the system in the event of an emergency, facilities may rely on observation or alarm systems for alerting staff to changes in critical parameters.
6. Once the monitoring system detects a failure, the cause(s) should be corrected as soon as possible.
