



Feeder Fish (Various Taxonomy)

Introduction

Feeder fish are a term generally used in reference to a number of species of typically small, inexpensive, and hardy, easily maintained and propagated fish that are often designated as live or pre-killed feeders for a variety of carnivorous to piscivorous species of fish, as well as some reptiles and amphibians, such as aquatic/semi-aquatic turtles. Some species of snakes commonly maintained in captivity, such as garter snakes (*Thamnophis spp.*) and water snakes (*Nerodia spp.*) will also often benefit from fish. Most species of feeder fish are suitable for such purposes due to several reproductive and biological traits, including their rapid fecundity and growth rates, hardiness, and tolerance for overcrowding.

Feeder fish are often given as a food source to a variety of animals which may accept or require them as live feeders more readily in captivity than other alternatives. In some cases, they can also help stimulate natural diets and hunting, foraging, or feeding behaviors as seen and utilized by the species in the wild. Each species utilized as feeder fish will have slightly differing care and husbandry requirements, which will be noted whenever possible in the sections below, and also may have varying amounts of suitability as feeders in terms of their nutritional content and quality.

Some species that may be widely or traditionally used as feeders may contain high amounts of thiaminase, which disrupts vitamin B1 levels, and can lead to nutritional deficiencies and imbalances if fed in large quantities. Issues with over-crowding and sub-optimal conditions can also still arise, which can lead to transmittable bacterial or fungal infections as well as parasites. Maintaining cleanliness of any feeder fish tank, and maintaining the fish in healthy conditions, and purchasing, or acquiring them only from reputable sources are perhaps the most important aspects. Below is a brief account of the most widely and commonly utilized species of feeder fish, namely various low quality common live-bearers and small cyprinids (i.e. goldfish and minnows) that can be given to your reptile or amphibian (and excluding carnivorous fish species, in which case the range of options available may be greater).

Common Goldfish (*Carassius auratus*): The common goldfish is a small to large member of the family of fish known as Cyprinidae, which include the goldfish, true minnows, carp, and related species. Goldfish are also the domesticated counterpart to a wild species of carp indigenous to eastern Asia, although they have now become a widely cosmopolitan species due to intentional or accidental releases or escapes. They are also widely popular pond, or water garden fish under outdoor or open air space as well. They are among the most widely kept species of aquarium and feeder fish, and perhaps the earliest species to have been domesticated, with evidence of such domestication dating back well over one thousand years in China. Numerous distinct breeds and morphologies have been accomplished due to wide selective breeding as well. Goldfish can be quite variable in size, ranging from 4 to 8 inches on average,

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although under the correct conditions, they can reach much larger sizes of 12 to 19 inches or greater. Although goldfish may be widely available as feeder fish, they are seldom the most suitable or nutritious choice for other pets, as they contain high amounts of thiaminase, which can lead to nutritional deficiencies.

Taxonomy-Common Goldfish:

Life: All living, physical, and animate entities

Domain: Eukaryota

Kingdom: Animalia

Phylum: Chordata

Class: Actinopterygii

Order: Cypriniformes

Family: Cyprinidae

Genus: Carassius

Species: *Carassius auratus**

**Taxonomy subject to change and revision.*

Rosy Red and Fathead Minnows (*Pimephales promelas*): Rosy red minnows are a xanthic color variant of the commonly sold baitfish, the fathead minnows. Ranging from 2 to 4 inches on average, they are a temperate, freshwater fish. Rosy red and fathead minnows are widely ranging over much of North America from central and south central Canada, south through the Rocky mountains, to Texas, and east to the Northeastern United States. It has also been widely introduced elsewhere due to baitfish releases or through being improperly discarded. These minnow species are a hardy, and widely used feeder or pet fish species.

Taxonomy-Rosy Red Minnows and Fathead Minnows:

Life: All living, physical, and animate entities

Domain: Eukaryota

Kingdom: Animalia

Phylum: Chordata

Class: Actinopterygii

Order: Cypriniformes

Family: Cyprinidae

Genus: Pimephales

Species: *Pimephales promelas**

**Taxonomy subject to change and revision.*

Shiners (*Notropis spp.*): Shiners represent several different genera and species of small, slender, and silvery freshwater fish, some of which are widely used as baitfish, but can be used as feeders for captive animals as well. The most commonly utilized species of shiners are those from the genus *Notropis*, which consist of over 90 species of small cyprinids, with the Emerald shiner (*N. atherinoides*) being perhaps the most common species used. Shiners typically range from 2 to 4 ½ inches in size, and are widely distributed over much of Canada and North America in large, deep, cool lakes, rivers, or sometimes other bodies of water where they feed on small zooplankton, insects, and other aquatic invertebrates. Shiners are hardy species that tolerate cool water temperatures more so than most other feeder fish.

Taxonomy-Shiners:

Life: All living, physical, and animate entities

Domain: Eukaryota

Kingdom: Animalia

Phylum: Chordata

Class: Actinopterygii

Order: Cypriniformes

Family: Cyprinidae

Genus: Leuciscinae

Species: *Leuciscinae spp.**

**Taxonomy subject to change and revision.*

Mollies and Guppies (*Poecilia spp.*): Sometimes also known by the common names of short finned mollies, or common mollies, mollies and guppies are a genus of small, highly prolific live bearing fish inhabiting the freshwater and brackish, or coastal streams and wetlands of Mexico and Central America and into many areas of South America and elsewhere in the world due to aquarium escapes or releases. Guppies in particular are an extremely widely distributed aquarium fish species now found on every continent except Antarctica, and are one of the most popular species. A relatively small feeder fish genus, they typically attain 3 to 5 inches as adults, and are an energetic, hardy, and widely adaptable fish. Many generations of captive breeding and artificial selection have resulted in several color variations and morphological varieties as well. Although the common molly is perhaps the most well-known species (*P. sphenops*), Guppies are also well known (*P. reticulata*). Many of the common species available as feeders or pets are actually fertile hybrids though. Guppies and mollies are a popular feeder fish due to their hardy and more aggressive nature than platys, rapid reproduction and brooding rates, and large birth size.

Taxonomy-Mollies and Guppies:

Life: All living, physical, and animate entities

Domain: Eukaryota

Kingdom: Animalia

Phylum: Chordata

Class: Actinopterygii

Order: Cyprinodontiformes

Family: Poeciliidae

Subfamily: Poeciliinae

Genus: Poecilia

Species: *Poecilia spp.**

**Taxonomy subject to change and revision.*

Platyfish (*Xiphophorus spp.*): Platyfish, also known as platies, consist of two species of relatively small, live-bearing species of fish lacking a “swordtail”. Platies are indigenous to the freshwater and brackish, or coastal areas of southern Mexico and Central America, and are closely related to other common members in the family Poeciliidae (such as the guppies and mollies). Typically reaching 2 to 2 ½ inches, platies are sexually dimorphic species, with males having more pronounced caudal fins/ They consist of two species, the southern or common platy (*X. maculatus*), and the variatus platy (*X. variatus*), although most are actually fertile hybrids of these two species. Platies are a popular feeder fish due to their hardy and less aggressive nature than mollies, rapid reproduction and brooding rates, and large birth size.

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Taxonomy-Platyfish:

Life: All living, physical, and animate entities

Domain: Eukaryota

Kingdom: Animalia

Phylum: Chordata

Class: Actinopterygii

Order: Cyprinodontiformes

Family: Poeciliidae

Subfamily: Poeciliinae

Genus: Xiphophorus

Species: *Xiphophorus spp.**

**Taxonomy subject to change and revision.*

Experience Level Required

Novice/Beginner to Moderate/Intermediate.

Legal and Regulatory Status (*Subject to Change)

Consult with your local, municipal, and state ordinances and regulations for any ownership restrictions.

Sizes

See Species accounts above.

Housing and Enclosure Plus Temperature, Lighting, and Humidity

Most species of feeder fish are relatively simple and inexpensive to house and maintain due to their hardiness, rapid growth and reproductive rates, and the ability for them to be maintained in densities which would be detrimental to most other fish. In fact, many species require to be housed in schools; otherwise these species can become territorial and unable to exhibit shoaling/schooling behavior. Many can also tolerate low oxygen and water quality levels. Depending on which species are used or selected, water types (ranging from soft to very hard), PH ranges, water temperatures and thermal tolerances, levels of salinity, and other specific aspects of husbandry will vary according to each species, making it difficult to generalize upon the specifics of suitable housing and setups for feeder fish in general. It is therefore best recommended that further research into the specific husbandry aspects of the feeder fish species one plans to acquire and maintain for any other animals be done. Generally, however, most species can be maintained at water temperatures within room temperature from 68-82 degrees F., but caution should always be used to not exceed this temperature range drastically. Rapid temperature changes and water changes should also be avoided or done carefully as well. Most feeder fish generally do not display cannibalism under most circumstances, although several species of live-bearers that are not otherwise well fed may predate on their own fry or young. In order to prevent this, some commercially available live birthing sub-tanks can be suspended within the main aquarium. Fancy varieties of several of these species may also be less hardy overall than common varieties. It is also important to maintain good quarantine practices when maintaining feeder fish as well, with a suggested quarantine period of at least 3 to 4 weeks prior to introducing any new fish into the tank. Proper quarantine procedures will mitigate many of the commonly associated challenges to feeder fish acquisition and husbandry/care.

In general, however, a sturdy, secure, and adequately ventilated aquarium that is a minimum of 5 to 10 gallons or greater in size is recommended for housing feeder fish. Some furnishings such as

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overhangs, hides, and cave like structures for added stimulation, hiding, foraging, and reproduction opportunities are suggested even for feeder fish. Any live or artificial plants that are included should be carefully selected as to plant species, and be firmly planted; otherwise some species may eat or otherwise uproot them. Some species of feeder fish can be messier than others, and regardless, a suitable filtration system should also be selected. A filtration system can include choosing a hang on back (HOB) filter, water pump system, sponge filter to maintain water clarity and cleanliness, as well as aeration. Regular cleaning, scrubbing, and water changes to maintain suitable and healthy conditions are also an important aspect to keep up with regarding feeder fish husbandry. An aquarium that is not cleaned or maintained regularly can quickly become unsanitary and hospitable climates for the growth and spread of fungal, bacterial, and parasitic diseases affecting the home aquaria.

Feeding, Diet, and Nutrition

The feeding and dietary preferences and requirements of feeder fish will vary depending on the species being used or selected. However, most of the commonly utilized cyprinids and live bearers used as feeders are generally omnivorous, feeding on a wide variety of plant and animal material. They may feed on algae and other aquatic plant matter, small invertebrates such as crustaceans, zooplankton, phytoplankton, worms, mollusks, and insect larvae, mineral particles, and smaller fish or carrion (dead or decaying animal matter).

Feeding “feeder” fish in captivity is typically quite simple, and many commercially available diets are available that can be used. Any number of commercially available fish flakes, food blocks, or pelleted diets can be used, but some attention should be given to their nutritional content. Occasional live, or frozen/thawed or pre-killed supplemental items can also be given, such as red worms, bloodworms, daphnia, krill, or brine shrimp diets. Their diets can also be supplemented with various fruits and vegetables, but these must be cleaned well. Always be sure to remove any uneaten foods in the aquarium within 24 hours to prevent water from fouling and becoming unsanitary. Also do not overfeed, as this can lead to additional health related issues. More specific dietary and supplementary product suggestions and recommendations that can best suit one’s needs, as well as those of one’s animals can be given as well.

Handling

Handling feeder fish by hand is typically not recommended, as doing so can compromise their health by causing their protective, slimy coat and scales to become damaged or removed. This thereby exposes the fish to bacterial, fungal, and parasitic infections they may otherwise normally be resilient to. If feeder fish must be handled, transferred, or moved, use an aquarium dip net or plastic bagging to do so.

Also remember to be sure to practice basic cleanliness and hygiene associated with proper husbandry after touching or handling any animals or animal enclosures to prevent the possibility of contracting salmonellosis or any other zoonotic pathogens

Contact

Authored by Eric Roscoe. For any additional questions, comments, and/or concerns regarding this animal, group of animals, or this care sheet, please email and contact the Madison Area Herpetological Society at info@madisonherps.org

Disclaimer: Note that the information provided in these, or any care sheets, are not intended to be all-exhaustive, and further research and care should always be sought and provided when it comes to any species one may prospectively be interested in. These care sheets are also not intended to serve as substitutes for professional veterinary medical care and husbandry should any animal require it. Always seek proper and professional veterinary care for any animal should the need arise, and be prepared ahead of time for any and all husbandry costs and expenses that may occur with any animal beyond the initial purchase. Any animal owned is ultimately a matter of personal/individual care and responsibility. MAHS cannot make any claims or guarantees regarding any information in this care

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