



# Fish leaflet



## *Characiformes*

*The Characiformes group contains fish species from the order of the carp salmonids (Characiformes).  
Predatory fish within the order of carp salmonids (Characiformes) can be found in the Predatory Fish group.*

# Fish leaflet

## General

Characiformes can have very different physical characteristics, for example in size, shape and length of fins and tail, and color. They are also very diverse in their dietary requirements: they can be carnivorous, herbivorous, insectivorous or omnivorous. It is too large a group for a general description. Therefore, there are some species that are treated separately such as the predatory fish.

## Variants

The Characiformes come in various color varieties and breeding forms but wild-caught species are also imported from South America and elsewhere.

## Nature

By nature, Characiformes come from a variety of waters. From the Amazon from South America, lakes and rivers from Africa to the rice fields of Asia.

## Housing

Setting up, decorating and maintaining an aquarium involves a lot of things. You can choose a tank with a specific biotope or keep a community aquarium, for example. In that case, do not choose species that bother each other or see each other as food. Fish need space to swim back and forth. In addition, fish use other layers of the aquarium. There are fish that only swim in the lower zone, middle zone or upper zone of the aquarium. Inquire carefully about the required size of your aquarium for the species of fish you wish to purchase. Think about both centimeters and number of liters. Also learn about the water temperature, pH, KH, DH as these differ for each fish species. An indoor or outdoor filter and lighting are also part of the basic aquarium equipment. Plants are sometimes necessary to provide fish hiding places. Floating plants provide a somewhat dim environment where some fish are naturally comfortable as they do not like bright light. Plants also help maintain water quality. If you also want to breed fish then sometimes there may be different water requirements.

## Care and Handling

Daily, take a look at the fish to make sure they are healthy. Also check the water temperature and remove any food debris. Remove loose plant debris every week. Test the water regularly with test kits that you can buy in pet stores. Especially important are the acidity (pH), hardness and the amount of ammonium, nitrite and nitrate. With a properly functioning filter, ammonium and nitrite are not measurably present. Nitrate is most easily removed from the water by changing water. Therefore, change regularly, depending on the measured water quality. Clean the mechanical part of the filter regularly by rinsing in the old aquarium water. If necessary, clean the panes. Use attributes intended for the aquarium, such as a bucket and scoop net, only for the aquarium and not for other household activities. Always wash your hands after handling the aquarium. If you are using a siphon hose, make sure you do not get any water inside. Some fish diseases are also contagious to humans.

# Fish leaflet

## Feeding

Characiformes can be classified in terms of diet as Omnivores, Carnivores and Herbivores. Omnivores and Carnivores can be fed dry food, frozen food and live food such as water fleas, Tubifex or mosquito larvae. Do allow frozen food to thaw first. Herbivores can be fed dry food and other (frozen) plant foods. Feed as much as the fish will eat in one to two minutes. Feed leftovers should be removed because they pollute the water.

## Reproduction

Characiformes are generally free-layers. That is, they scatter their eggs in seemingly random places among the plants or on the bottom. Of course, there are exceptions to this such as the poecilocharax and the serrasalmus which exhibit a slight form of brood care until the larvae are hatched.

## Disease and Disorders

To keep your fish healthy, it is very important to ensure good water quality and proper nutrition. You can prevent stress by leaving the fish alone as much as possible and keeping a regular daily pattern. Do not put species together that harass each other. Signs of health problems include dull or affected skin, pinched fins, abnormal body shape or an abnormal way of swimming (e.g., rocking or lopsided). Fish may suffer from parasites. Examples of parasitic skin diseases are white spot and velvet disease. On the gills, unicellular organisms such as Trichodina and Ichthyobodo and gill flukes such as Dactylogyrus or Gyrodactylus can occur. The latter attach themselves to the gills with hooking, damaging the tissue and causing infections. Parasites also occur in the intestines, including various worms and flagellates. Bacteria can cause various fish diseases. One example is columnaris disease. This results in superficial damage to the skin and gills, which quickly spreads into a serious disease. It is difficult to treat. Fish TB is caused by the bacterium *Mycobacterium marinum*. It affects the organs of the fish and causes granulomas, small yellowish globules between and inside the organs. In humans, this bacterium can cause swimmer's granuloma, a disease with skin lesions that requires a long course of antibiotics. Infections caused by bacteria are often secondary: they are then a result of reduced resistance (for example, due to stress), damaged skin or deterioration of the mucus layer of the skin due to poor water quality. An example of this is fin rot. In such cases, it is important not only to remedy the condition, but above all to identify and correct the primary cause. Often fish can recover through prompt treatment. In the pet or aquarium store you can get general advice on diseases and possible treatment methods. You will also find some remedies to treat diseases. Be sure to continue treatment long enough so that all pathogens are killed. There are also veterinarians in the Netherlands who specialize in fish.

## Required Experience

Keeping Characiformes responsibly may require specific experience, depending on the fish species. Be sure to inform yourself well in advance about the fish you want to purchase. Most species of Tetra's and Salmon are not too complicated to keep but there are exceptions.

## Purchase and Costs

You can buy Characiformes from most aquarium fish suppliers such as an aquarium specialty store or an aquarium section in the pet store or garden center. When buying fish, make sure they come from clean tanks with healthy animals. Choose the most active fish. Make sure the fish have nice clean skin and are not skinny. Let the animals gradually get used to the new water conditions, even better

# Fish leaflet

is to place new fish in a quarantine tank. The price of fish is very diverse. There are fish from a single euro to many hundreds of eurp's. The start-up costs of an aquarium depend on the size of the aquarium and the desired technology. Recurring costs are for food, test kits, filter material and energy for heating and lighting. In addition, you may incur costs if diseases develop in the aquarium.