

How to feed your tropical fish according to nature



Contents

Feeding naturally	3
Immune protection by sera fish food	4
Best ingredients in sera fish food	5
The functions of the ingredients	6
Healthy through the water – vitamins	7
Correct food form	8
The sera vipan family	10
sera flake food	11
sera granulated food	12
sera chips and tablet food	15
sera FD food	16
sera food for juvenile fish	18
Tips & tricks	20
Softening dry food	22
An overview on the most important vitamins	23

Small crustaceans



www.shutterstock.com
© Lebenskulturen.de - shutterstock.com

Spirulina algae




Best herbal crude material



© Zeilke Peddike - shutterstock.com

Feeding naturally



Varied, high quality food is the basis for healthy, colorful and active fish in an aquarium.

In nature, fish have a large selection of different food sources. This includes, for instance, insect larvae, worms, small crustaceans as well as algae and other plants. They should also be presented this variety in an aquarium. This is quite easy with **sera** food!

Besides the balanced food of the **sera** vipan family, we provide a large selection of specialties for every purpose. Decades of research and experience make sure your fish always receive the best food. Quality and natural purity as well as responsible retrieval from sustainable sources are very important for us when choosing the ingredients.

This guide deals with the feeding of fish in tropic aquariums. You will find information on feeding in other contexts in the **sera** guides about the topics **shrimps and crayfish, goldfish, ponds** as well as **marine aquariums**.

Immune protection by sera fish food



Strong immune system



Brilliant colors



Crystal clear water



Best digestion



Healthy and balanced growth



Firm and even skeleton structure

The sera VIP concept

The **sera** VIP concept consists of several components:

- ✓ The immune system of the fish can be supported by natural beta glucanes. This reduces the sensitivity of the fish towards serious diseases, the fish live healthier and longer.
- ✓ Long chained, highly unsaturated omega-3 and omega-6 fatty acids have positive effects on nerve cells, heart and circulatory system.
- ✓ Body colors can be enhanced by herbal substances; secondary plant substances have positive effects on the entire metabolism of the fish.
- ✓ We blend the applied vitamins by ourselves. By doing so, **sera** achieves better results than with ready-made blends as being used by other manufacturers.



Immune support by mannan oligosaccharides (MOS)

The mannan oligosaccharides (MOS) used in **sera** food reveal a considerable immune supporting effect. They belong to the prebiotics and reduce the growth

of pathogens. The own immune defense of the body becomes more efficient, the animals therefore become more resistant.

Best ingredients in sera fish food

sera uses only first class ingredients from sustainable sources. We thereby achieve a high digestion rate of 80% – this improves the health of the fish and reduces water pollution.

The over 40 different natural ingredients which are also part of the nutritional spectrum of the animals are combined in a way that they strengthen the organism.

Animal protein in **sera** food almost exclusively originates from aquatic food organisms. This, besides fish, also includes different invertebrates such as mussels, bloodworms, daphnia, krill and other small crustaceans.

When selecting the herbal ingredients, it is very important for us to provide the fish a balanced composition of vitamins, essential amino acids, natural colorants, minerals and trace elements as well as the important secondary plant substances.

The raw materials are processed into the final product in a complex process. **sera** food has a considerably higher grinding rate than comparable products by other manufacturers, and therefore are easier to digest by the fish.

Best ingredients – highly ground



© Darryl Brooks, Rich Carey - shutterstock.com

The functions of the ingredients

Fish food must be composed in a balanced way as to ensure appropriate nutrition.

The most important ingredients and their functions for your ornamental fish are:

Protein

Proteins are primarily utilized for muscle buildup. Food rich in protein is real power nutrition for every fish. It is important that the proteins contained in the food meet the biological requirements of the fish. Animal protein is generally easier to digest than herbal protein. Correspondingly, fish that mainly feed on meat only have a short and straight intestine. In herbivorous fish, however, it is long and spirally.

Carbohydrates and fats

are the most important energy sources for your fish. An oversupply, however, leads to fattening and organ damages. Fat and other nutrients are in a balanced ratio in **sera** fish food.

The valuable unsaturated fatty acids are of special importance. They are utilized in the body for many different purposes. Many of them are essential – this means that the body cannot form them by themselves and therefore has to take them up through the food. The amount of unsaturated fatty acids in **sera** fish food is therefore particularly high and exactly matches the requirements of the fish.

Minerals

such as calcium are indispensable for skeleton buildup and many other body functions, and correspondingly for healthy growth and well-being.

Trace elements

fulfill different functions within the body. Many of them are indispensable components of enzymes that serve as “tool” within the body.

Ballast substances

may originate from herbal or animal sources. They are highly effective against constipation and thus prevent digestion problems. These mainly occur if fish are only fed food low in ballast substances for a longer time. The best known example of such malnutrition is the exclusive feeding of discus cichlids with beef or turkey heart.



Healthy through the water – vitamins

© Marçal Tudsmafie - shutterstock.com



sera fishtamin

- ✓ **strengthens stressed fish**
- ✓ **prevents problems before and after transferring fish**
- ✓ **is ideal before and after breeding**
- ✓ **enriches rearing food for young and growing fish – juvenile fish have enhanced vitamin requirements!**
- ✓ **supports the healing process during and after diseases**



Vitamin deficiencies weaken the disease resistance of the fish and increase the sensitivity towards diseases. Stress, as it may – for instance – occur after a transport, due to overstocking or caused by non-appropriate keeping, additionally increases the vitamin requirements of ornamental fish. Every vitamin has a different effect range, one lacking vitamin cannot be compensated by an oversupply of another vitamin. The multivitamin complex of **sera food** is therefore blended particularly carefully.

It often makes sense to additionally support the vitamin supply with the liquid multivitamin preparation **sera fishtamin**, even when using high quality brand food.

sera fishtamin is dripped directly onto the food once weekly prior to feeding.

You will find an overview about the most important vitamins, their function as well as possible deficiency symptoms on page 23.

Correct food form

The recommended food shape depends on the eating habits of the fish. Some species search for food at the surface, others in the middle water layers, and yet other ones near the bottom. The preferred eating habit can often be recognized by the body shape of the fish:

Fish with straight back, a mouth directed upwards and a dorsal fin shifted backwards dwell at the water surface. Hatchetfish are typical examples.

Food flakes and FD food organisms floating at the surface are ideal for these fish species.

Fish with bended dorsal and ventral contours plus a mouth facing forwards dwell in the middle water layers. This includes many cichlids, characins and barbs.

They prefer to eat granulated food floating in the water. They will also nibble enthusiastically at food tablets attached to the aquarium glass.

Bottom fish have a flat belly and a mouth directed downwards. Well-known members of this group include many catfish and loach species.

Food tablets and chips are best suited for them.



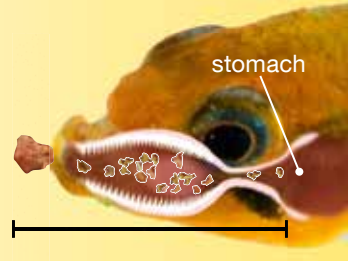
Besides the mouth size, the teeth and the throat shape are also important in deciding which food is ideal for which fish. Hard granulated food may possibly be soaked briefly prior to feeding (see page 22). It obtains the ideal consistency, but still keeps its

shape and remains attractive for the fish.

Most aquarium fish eating in the middle water layers belong to one of the following groups for which granulated food is particularly well suited:

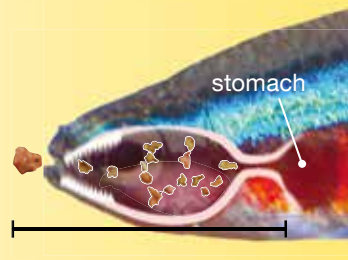
Big mouth, narrow throat: dwarf cichlids are typical

The food is chewed or crunched within the mouth, the small food particles are then effortlessly swallowed. Finely grained granulates that quickly become smooth are ideal.



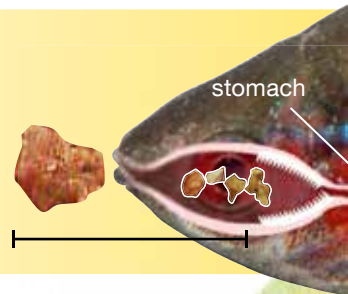
Small mouth with jaw teeth, narrow throat: characins are typical

The fish bite small particles off the food using their lips and front teeth and swallow them. Finely grained granulates that quickly become smooth are ideal also in this case.



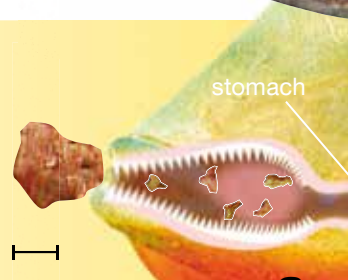
Small mouth with pharyngeal teeth, narrow throat: characteristic for barbs

Small food particles are bitten off with the lips, crushed in the pharynx and then swallowed without effort. Finely grained granulates that quickly become smooth are ideal also for these fish.



Big mouth, wide throat: typical for larger cichlids

The fish like to eat larger chunks. Granulates of all sizes as well as pellets are well suited.



The sera vipan family



The perfectly balanced composition of over 40 ingredients, valuable minerals and trace elements as well as the multivitamin complex with long-term stabilized vitamin C make **sera fish food** a healthy staple diet. Every fish in the aquarium gets what it needs with the **sera vipan family**.

sera vipan

The ideal premium staple food for all fish that look for food at the water surface. **sera vipan** food flakes keep their shape particularly well and do not pollute the water. Due to the extra fine grinding, they are very tender and are eaten particularly enthusiastically.

sera vipagran

Slowly sinking soft granulate for fish of the middle water layers. **sera vipagran** becomes smooth in the water within seconds, but keeps its consistency. It is enthusiastically eaten even by finicky fish.

sera vipachips

Quickly sinking premium food chips for fish that look for food at the bottom. **sera vipachips** become smooth in the water very quickly, but keep their shape and their excellent taste for a long time. **sera vipachips** are therefore ideal also for slowly eating or nocturnal fish, for which the food must remain in the aquarium for a longer time.



sera flake food



sera san

Flake food for splendid colors and healthy growth, particularly rich in easily digestible protein, Spirulina and natural carotinoids. **sera san** in particular supports the formation of yellow and red colors. Furthermore, it improves the breeding results and is readily accepted by all fish.



sera flora

Herbal flake food with Spirulina and algae for herbivorous fish. The high amount of herbal protein as well as ballast substances makes **sera flora** an ideal food for many catfish, livebearing toothcarps and cichlids. It can be excellently combined with **sera Spirulina Tabs**.



sera GVG-mix

Special flake food consisting of marine algae, ground krill and plankton, enriched with freeze-dried bloodworms, daphnia and krill as special treats. **sera GVG-mix** is particularly rich in iodine and therefore prevents thyroid gland diseases.



sera Flake Menu

The four high quality flake foods (staple food, color food, vegetable food, power food) in **sera Flake Menu** ensure a varied diet for your fish from just one can. Each food type has its own chamber and can therefore be used cleanly and without blending.

sera granulated food



sera bettagran

Color enhancing special granulate for Bettas. **sera bettagran** is specially designed to meet the requirements of Bettas and other fish that mainly feed on small insects near the surface. It intensifies the splendid coloration of the fish and enhances their health.

sera guppy gran

Soft micro granulate for guppies and other small fish. This unique granulate sinks very slowly. It is rich in easily digestible Spirulina and other herbal ingredients. **sera guppy gran** therefore supports the splendid colors and the well-being of these lively fish.

sera granugreen

High quality granulated food keeping its shape for East African Cichlids that feed on periphyton. **sera granugreen** contains a large amount of Spirulina algae rich in carotene, and enhances the splendid coloration of these impressive fish.

sera granured

High quality granulated food keeping its shape for East African Cichlids that are mainly predatory. Natural mineral substances, trace elements, easily digestible animal protein from aquatic sources as well as Spirulina algae rich in carotene make **sera granured** the ideal staple food for these fish.



sera granulated food for discus



sera discus granules

The ideal food for discus as well as for other fastidious fish, for instance cichlids from Central and South America. It is carefully balanced to meet the requirements of these impressive fish, very easily digestible and rich in trace elements. **sera discus granules** do not swell in water. Even juvenile fish can effortlessly bite off their portion.

sera discus color Blue and sera discus color Red

The most common discus variants are mainly colored green/blue or yellow/red. **sera** offers two granulated foods especially for these colorful fish. **sera discus color Blue** and **sera discus color Red**.

- ✓ enhance the splendid coloration
- ✓ are rich in natural minerals and trace elements
- ✓ strengthen the immune system
- ✓ support growth
- ✓ improve breeding results

sera granulated food

sera cichlids Sticks

Basic food keeping its shape, especially for medium sized and large cichlids as well as other big fish. **sera cichlids Sticks** float at the surface and do not pollute the water. They are enthusiastically accepted by the fish.



sera granuar

The **sera granuar** food sticks are a perfect staple diet for big fish such as large cichlids, arowanas etc., that require food in large portions. Due to the valuable fish oil and Antarctic krill it contains, **sera granuar** is particularly rich in valuable omega-3 fatty acids.



sera Granulate Menu

Four high quality kinds of granulated food (staple food, color food, vegetable food, power food) ensure the varied nutrition of all fish in the middle and deeper water layers – from one single can! Each food type has its own chamber and can be fed separately.



sera chips and tablet food



sera viformo

Tablet shaped staple food for the directed feeding of all bottom fish. **sera viformo** is rich in herbal ingredients as well as Spirulina. Due to the highly stable structure the water is not unnecessarily polluted.



sera Catfish Chips

are the perfect special food for all suckermouth and rasmouth catfish. Wood components in the diet are very important for these fish. **sera Catfish Chips** are therefore rich in willow bark and alder wood. They have a very stable structure and do not fall apart even after a longer time in water.



sera O-nip

This tablet food consists of high quality flake food and freeze dried food animals. The tablets are a coveted delicacy for all mainly carnivorous fish and attract even shy fish to the front pane, if you attach them to the inside aquarium glass with your finger.



sera Spirulina Tabs

Containing over 25% Spirulina as well as carefully blended herbal ingredients, **sera Spirulina Tabs** provide a balanced and healthy diet for all herbivorous fish species. The high amount of natural carotinoids considerably intensifies color formation. The tablets can very easily be attached to the inside aquarium glass with your finger.



sera Plankton Tabs

A balanced food and delicacy rich in protein for plankton eating fish and invertebrates such as shrimps. **sera Plankton Tabs** provide a very high amount of carefully processed natural plankton and Spirulina. They do not fall apart in water and are also suited for slowly eating animals.

sera FD food

sera FD food consists of freeze dried food animals. This food creates variety with healthy treats. It is guaranteed not to contain any pathogens, and the natural vitamins are largely retained due to the gentle manufacturing process.



sera FD Bloodworms

Bloodworms are the classic treat. **sera FD Bloodworms** do not contain any pollutants and support vitality and the healthy growth of the fish.

Attention: Cichlids from the genus *Tropheus* must not be fed bloodworms!



sera FD Daphnia

Daphnia are particularly rich in ballast substances and minerals. They trigger intestinal activity and digestion of all fish. **sera FD Daphnia** are ideal as an in-between food or on the day after an extensive meal.



sera FD Tubifex

Due to their high protein amount, **sera FD Tubifex** are excellently suited as a power food for all carnivorous fish. The **sera** manufacturing process ensures that it does not contain any pollutants nor parasites.





sera FD mixpur

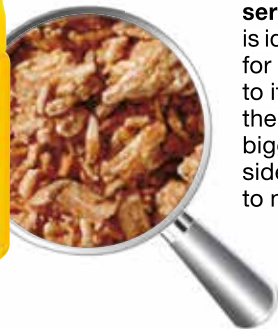
is a balanced blend of freeze dried bloodworms, Tubifex, krill and Daphnia. It combines the four most popular treats in one can.

Attention: Cichlids from the genus *Tropheus* must not be fed bloodworms!



sera FD Artemia Shrimps

The tender and easily digestible **sera FD Artemia Shrimps** are a real delicacy for your fish, rich in natural carotene for enhancing the splendid colors. This supplementary food rich in protein is enthusiastically accepted even by finicky fish.



sera FD Krill

is ideal for strengthening weak fish and for increasing readiness to spawn due to its very high protein amount. It is at the same time a nutritious treat for all bigger and fastidious fish, which considerably intensifies the coloration due to natural carotene.



sera food for juvenile fish

sera micron

Finely powdered growth food for all juvenile fish up to approximately 6 mm (0.2 in.). **sera micron** is very rich in Spirulina as well as high quality protein from krill, and is suitable even for very finicky fish fry difficult to raise. Breeding food animals such as Artemia as well as using it as first food for tadpoles when breeding frogs are further application ranges.



sera vipan baby

Small flake rearing food for juvenile fish from approximately 6 mm (0.2 in.). Due to its balanced composition, **sera vipan baby** ensures quick and healthy growth of the young fish along with optimal color development.



sera vipagran baby

is a particularly finely grained granulated food for juvenile fish and fish species with a small mouth. It is ideally suited for fish that look for food in the middle water layers. The granulate becomes smooth very quickly without losing its firm consistency.





sera Artemia

Fish of all sizes enthusiastically eat Artemia shrimps or their nauplii. **sera Artemia** consists of pure Artemia cysts in very high quality, from which very small nauplii hatch without much effort. The nauplii are excellently suitable even for very small fish fry. Feeding with **sera micron** allows rearing the nauplii into adult Artemia shrimps, which are a popular and tasty live food for bigger fish.



sera Artemia-mix

The convenient instant mixture of Artemia cysts and high quality **sera sea salt**. **sera Artemia-mix** is simply dissolved in 500 ml (16.9 fl.oz.) of water, well aerated – and the nauplii already hatch after 24 hours. Breeding Artemia never before was so easy.



sera Artemia Breeding Kit

The **sera Artemia Breeding Kit** converts a common beverage bottle into a convenient Artemia cultivating device. The kit contains everything required for successfully making Artemia cysts hatch and for harvesting the nauplii. A package **sera Artemia-mix** is already included so you can start right away. Please note: An air pump such as the **sera air 110 plus** is required for operation.



Tips & tricks



When and how to feed?

- ✓ *Feed small portions two or three times a day.*
- ✓ *Feed only as much as the fish eat within 3 – 5 minutes.*
- ✓ *Distribute the food evenly on the water surface.*
- ✓ *Do not feed on one day per week. Your fish will detoxify as they actively search for food on these days. This does not apply for juvenile fish – these must be fed daily, preferably even several times!*
- ✓ *Feed them with a spoon reserved for this purpose. By doing so you will always feed the same amount. The quality and aroma of the food remain unaffected.*
- ✓ *We will show you on page 22 how you can easily soften and de-aerate dry food, making it sink down!*

Variety is the spice of life

Feed several different types of **sera** food from small cans. Monotonous feeding with food that is by far not fresh anymore makes the fish lose their liveliness, and the colors will fade. The fish can even become sick. Light and air get in contact with the food every time you open the can. Vitamins and sensitive nutrients are destroyed by this. Translucent bags therefore are not suitable for packing the food!

How you can recognize the leaders

When feeding, you will quickly find out which fish is “the boss” in the aquarium. The strongest fish eat first – usually, these are the most colorful and most active fish.

Fed too much?

If the food is still lying on the bottom of the aquarium, it was too much.

- ✓ Remove uneaten food remainders with the **sera gravel cleaner** without delay.
- ✓ Possibly add fish that search for food near the aquarium bottom, for instance armored catfish. However, please consider by all means that these fish as well require appropriate food and are not “scavengers”!



sera guide Healthy aquarium fish



The fish have no appetite

This is unusual, and you should

have a closer look. Loss of appetite is often an early symptom in case of diseases, in particular if the fish frequently hide or apathetically stay just above the bottom ground. The **sera guide** "Healthy aquarium fish" informs about treating the possible causes.

Feeding during a holiday

There is a high risk of overfeeding if someone else looks after the fish while you are on holiday. People who do not have any aquarium experience often feed too much. Prepare the food for every feeding day in separate portion containers provided with a date. Best attach the address of your pet store along with the phone number to the aquarium glass. It does not cause healthy fish any trouble if they are only fed every other day for some time while you are on holiday.

Automatic feeders

The **sera feed A plus** automatic feeder reliably feeds your aquarium fish, depending on the settings 1 – 6 times a day. This is also ideal for juvenile fish that preferably should get several small meals per day. **sera vipagran** is particularly well suited for automatic feeders. Let the automatic feeder do the feeding already one week before you

leave. By doing so, you can check the function and the food amount it feeds every time.



Long term food

sera holiday is recommended if you are absent for several days and do not wish to leave taking care of your aquarium fish to inexperienced persons or an automatic feeder. This high quality **sera** tablet food remains stable in water for full 7 days and does not decompose. The ingredients in **sera holiday** are released by and by, so the fish can eat off the food layer by layer.

© Dudaev Mikhail - shutterstock.com

Softening dry food



Evacuating the air from food using a syringe

If you wish to feed the food almost entirely free from air, and without mashing it, it is recommended to evacuate the air with a syringe (without a needle!). Syringes with 50 ml volume are well suited to do so.



1 The food (**sera granuar** in this case) is filled into the syringe after the plunger has been taken out.



2 Now pour water into the syringe, filling it by approximately a third.



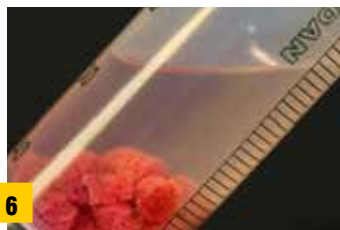
3 Due to the encapsulated air, the food floats at the surface.



4 Now carefully put the plunger back in – only far enough to give it firm hold in the syringe! The syringe is now held with the nozzle directed upwards, the air is pushed out of it.



5 Now seal the nozzle and pull out the plunger.

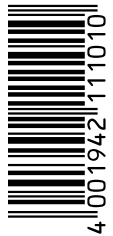


6 The air escapes from the food due to the vacuum. The food sinks to the bottom and is fed to the fish right away.

An overview on the most important vitamins

Vitamin	Function	Deficiency symptoms
A	Supports eyesight and growth; skin protection; fertility vitamin	Eye damage, bleeding skin
B ₁	Energy retrieval from carbohydrates; sugar supply for brain and nerves	Irregular movements, cramps
B ₂ (PP)	Protein utilization; muscle buildup; mucous membrane protection	Bleeding skin, problems with the nervous system
B ₅	Enzyme synthesis	Gill damage
B ₆	Nerve system support	Nerve system damages. Irregular movements are a typical symptom.
B ₁₂	Digestion; hemoglobin synthesis (red blood dye, indispensable for oxygen transport)	Anemia, apathy and growth problems
C	Strengthening of disease resistance; skeleton buildup	Disease susceptibility and gill deformation. sera food contains long term stabilized vitamin C, as vitamin C in its original form is sensitive to air.
D ₃	Regulation of calcium and phosphorus uptake, therefore particularly important for bone and skeleton growth	Bone deformation (rachitis)
E	Synthesis of fertility hormones; stabilization of vitamins and valuable unsaturated fatty acids	Infertility and liver fattening
H (biotin)	Growth factor	Growth problems, loss of appetite, cramps
K	Supports blood coagulation after injuries	Wound healing trouble, liver damage
Choline	Fat digestion	Liver fattening, among others

Printed in Germany



44/03US

sera GmbH • D 52518 Heinsberg • Germany



For natural aquariums

www.sera.de • info@sera.de