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SALAMANDERS AND NEWTS

Chinese Warty Newt

Paramesotriton chinensis

Paramesotriton chinensis is a sturdy, almost entirely aquatic salamander of 12-15 cm from rivers, wetlands and moist forest in central, eastern and southern China. It is brown with strongly granular skin, yellow spots of varying extent and an orange to red belly. In captivity it is an undemanding, cool-loving aquarium animal that needs clean water below 22 °C.

Family: Salamandridae Former name: *Cynops chinensis* **Mild skin toxins**

KEY FACTS

THE ANIMAL

Adult size	**12-15 cm** total length incl. tail
Lifespan	**10-15 years**
Active	**At dusk and at night**
Lifestyle	**Aquatic**
Habitat	**Rainforest and wetland**
Skin toxins	**Mild** Wash your hands after contact and keep your fingers away from your eyes and mouth
Difficulty	**Intermediate**

CARE

Min. enclosure	**60 × 30 × 35 cm** L × W × H for 2 adults
Temperature, day	**15-20 °C**
Temperature, night	**13-18 °C**
Humidity	**70-90%**
Water	**Aquaterrarium** depth 15-20 cm
UVB	**Not required**
Winter rest	**10-13 °C** 7-9 weeks
Diet	**Insects, complete diet and worms/snails**
Kept	**In pairs or in groups**

BREEDING

Reproduction	**Egg-laying**
Development	**Larvae in water**
Egg-laying site	**In water**
Eggs per season	**80-100**
Clutches per year	**1**
Hatching	**14 days** at 15-20 °C
Larval period	**80-100 days** from hatching to metamorphosis
Larval diet	**Complete diet and small aquatic invertebrates (daphnia, mosquito larvae)**
Parental care	**None**

PROTECTION AND PAPERWORK

CITES	**Appendix II**
EU annex	**Annex B**
IUCN	**Least Concern (LC)**

About the species

Paramesotriton chinensis is a sturdy, compactly built salamander. Females grow to about 15 cm in total, males a little smaller. The skin is markedly granular and brown, and the granularity, together with the yellow spots that most animals have to a greater or lesser degree, is the best distinguishing feature from the other species in the genus. The belly is orange to red with a dark pattern. The larvae are about 1 cm at hatching and deep black, and some develop spots already as larvae.

In adults the female's tail is clearly longer than the male's. In the breeding season the male develops a blue-white stripe along the tail and a swollen cloaca. The skin contains tetrodotoxin, a powerful nerve toxin that is also found in other Asian aquatic salamanders. The toxin does no harm through intact skin, but the animals must not be handled more than necessary. Wash your hands after contact, and do not touch your eyes or mouth.

The species was described in 1859 by John Edward Gray. It is the species in the genus most often in the trade, and it is often confused with other species and sold under the wrong name, sometimes together with *Cynops orientalis*. The vast majority of animals in the trade are wild-caught, but captive-bred animals do occur. Healthy animals can live 10 years or more in captivity.

Read more: Buying animals: captive-bred, wild-caught and transport

Distribution and habitat

Paramesotriton chinensis lives exclusively in China, from Chongqing and Hunan in the west to Anhui, Zhejiang and Fujian in the east and Guangdong and Guangxi in the south.

> **Native range:** China.

HABITAT

Paramesotriton chinensis lives in rivers, streams and freshwater swamps in subtropical to tropical, moist lowland forest. The animals are almost entirely aquatic and stay near the bottom in clean, cool water. The summers are warm and rainy, the winters cooler, and the cool season is part of the species' annual rhythm.

Care

THE ENCLOSURE

A pair of *Paramesotriton chinensis* can be kept in an aquarium of at least 60 × 30 × 35 cm (about 60 litres). A single salamander can make do with about 40 litres, but the animals are sturdy and need room to move. Several animals require a larger aquarium with many hides in the form of stones, bark, roots and plants. Adults need only a small land area, e.g. a floating cork island or a stone that projects above the water. The lid must fit tightly, because the animals can leave the water.

Use sand or large stones as the bottom, or leave it bare. Fine gravel can be swallowed and cause intestinal blockage. The bottom material must be washed thoroughly and cleaned with a gravel vacuum at each water change.

TEMPERATURE

Paramesotriton chinensis must be kept cool: 15-20 °C by day and 13-18 °C at night, and the water must not exceed 22 °C. In summer this requires cooling in many homes, with a fan, cooling elements or a cool room.

A cool winter of 10-13 °C for about two months without feeding prepares the animals for the breeding season. The animals stay in the water all winter.

HUMIDITY AND MISTING

Paramesotriton chinensis is almost entirely aquatic, so humidity plays a small role. About 70-90 % in the room is fine. A land area must be kept damp.

Read more: Humidity, misting and ventilation

WATER AND WATER QUALITY

The water should be about 15-20 cm deep. The species is not fussy about water values as long as the water is clean, and extreme values of pH and hardness are avoided. Use dechlorinated tap water. A sponge filter driven by an air pump or a small internal filter works well. Change part of the water regularly. The animals make a mess when feeding unless they are fed with tweezers, so food remains must be removed.

LIGHTING AND UVB

The animals do not need strong light. A single fluorescent or LED tube the length of the aquarium on a timer gives a fixed daily rhythm and is enough. UVB is not necessary.

Read more: Lighting and UVB

FEEDING

Paramesotriton chinensis eats most things: pieces of live earthworm, crickets, waxworms, freshly moulted mealworms, cockroaches and pieces of shrimp as well as feeding sticks for aquatic turtles. Adults are fed twice a week, juveniles three to four times a week. Larvae need live food daily: newly hatched artemia, daphnia, white worms and tubifex. Accustom the animals to taking food from tweezers, so it is easy to see how much each animal eats and the water stays cleaner. With a varied diet, supplements are unnecessary.

Read more: Feeder animals: keeping and breeding Read more: Calcium, vitamins and supplements

BEHAVIOUR AND HANDLING

Paramesotriton chinensis is shy at first, but once the animals have got used to their permanent aquarium, they often become confiding and swim along the front glass in anticipation of food. The animals must not be handled more than necessary, because the skin is semi-permeable. Use a net for moving them.

Breeding

SEXUAL MATURITY AND SEXING

Adults of *Paramesotriton chinensis* are easy to sex: the female's tail is clearly longer than the male's when two animals are compared. In the breeding season the male develops a blue-white stripe along the tail and a swollen cloaca. The age at sexual maturity is not documented.

MATING

For the breeding season, feeding is stopped for about two months in winter, and the temperature is lowered about 5 °C below the usual. Mating takes place in late spring and early summer. During courtship the male waves his tail, and this can go on all spring.

EGGS AND LARVAE

Around the beginning of June the female lays 80-100 eggs singly around the aquarium, mostly on Java moss, but also on roots and driftwood. Remove unfertilised eggs that begin to develop fungus. The eggs can be moved to a separate tub with an air stone or left in a screened-off area of the aquarium.

METAMORPHOSIS

The eggs hatch after about two weeks. The larvae are about 1 cm and deep black. They are raised separately from the adults, either in their own aquarium or, if there are only a few, in a screened-off part of the adults' aquarium, e.g. in a breeding trap for livebearing fish. The larvae are fed daily with live food (newly hatched artemia, daphnia, white worms and, for the larger ones, tubifex), and the largest also take frozen mosquito larvae and other prepared food. After about three months the larvae metamorphose into juveniles that live on land.

REARING THE YOUNG

The newly metamorphosed juveniles are fed daily with small prey: woodlice, fruit flies, newly hatched crickets, tubifex, white worms, small pieces of earthworm and thawed frozen mosquito larvae, offered with tweezers. As the juveniles grow, feeding is reduced to three times a week. The juveniles are kept in small plastic boxes at the same temperature as the adults, with hides of cork bark or small pieces of terracotta and a bottom layer of damp kitchen roll or damp forest soil. The kitchen roll must not dry out and is replaced at least once a week. There should be no water bowl, because salamanders absorb water through the skin. Young adults can be moved back into the water and kept like the adults.

Health and common mistakes

Typical mistakes and diseases in *Paramesotriton chinensis*:

- Heat and poor water: keep the water below 22 °C and clean.
- Fine gravel that is swallowed and causes intestinal blockage.
- Bsal (*Batrachochytrium salamandrivorans*): the fungus originates in East Asia and has been found in several species in the genus. Many tailed amphibians die of it, including some Asian species, and it can be carried without visible signs. New animals must be quarantined, and equipment and hands must be cleaned between aquariums.
- Animals that will not eat, have skin sores or swellings must go to a vet with amphibian expertise.

Read more: Quarantine and hygiene

Always ask someone who knows

This guide is a good place to start, but it cannot replace experience. Animals differ, and much of what matters most is learned from people who have kept the species for years. Talk to a breeder, an experienced keeper or a vet who knows reptiles and amphibians before you get the animal - and again if anything looks wrong.