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SALAMANDERS AND NEWTS

Paddle Tail Newt

Paramesotriton labiatus

Paramesotriton labiatus is an almost fully aquatic newt known only from the Dayao mountains in Guangxi in southern China. The species is critically endangered, and almost nothing is known about its care. It is often confused with others, because the salamanders that carry the name *labiatus* in the trade belong to the genus *Pachytriton*.

Family: Salamandridae Former name: *Pachytriton labiatus; Paramesotriton ermizhaoi* **Mild skin toxins**

KEY FACTS

THE ANIMAL

Adult size	**11-16 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	**16-22 °C**
Temperature, night	**14-18 °C**
Humidity	**70-90%**
Water	**Aquaterrarium** depth 15-20 cm
UVB	**Not required**
Diet	**Insects and worms/snails**
Kept	**In pairs**

BREEDING

Reproduction	**Egg-laying**
Development	**Larvae in water**
Egg-laying site	**In water**
Eggs per season	**20-115**
Larval period	**80-110 days** from hatching to metamorphosis
Larval diet	**Other larvae and small aquatic invertebrates (daphnia, mosquito larvae)**
Parental care	**None**

PROTECTION AND PAPERWORK

CITES	**Appendix II**
EU annex	**Annex B**
IUCN	**Critically Endangered (CR)**

About the species

Paramesotriton labiatus is one of the least known species in the genus. Like the other *Paramesotriton* it has a dark back and orange markings on the underside, but the skin is relatively smooth. Size and weight are not documented.

The taxonomy has a long and confusing history. The species was described in 1930 as *Molge labiatum* from animals from Yaoshan in Guangxi and was later placed in the genus *Pachytriton*. Under that name a completely different salamander became known in the trade for many years. In 2011 it was established that the type specimens are not *Pachytriton* at all, but a *Paramesotriton*, and that they are the same species as *Paramesotriton ermizhaoi*, which was described from Guangxi in 2009. The name *labiatus* was therefore moved to *Paramesotriton*, and *P. ermizhaoi* is now a synonym. The animals that previously

went under the name *Pachytriton labiatus* now belong to *Pachytriton granulosus* and *Pachytriton inexpectatus*. Salamanders sold as *labiatus* or under the trade name 'paddletail' are therefore almost always *Pachytriton* species with different needs and not this species.

The species is probably most closely related to *Paramesotriton hongkongensis* and *Paramesotriton chinensis*. The skin toxin has not been studied in the species itself, but tetrodotoxin has been detected in the skin of several species in the genus, including *Paramesotriton chinensis* and *Paramesotriton deloustali*. Wash your hands after contact, do not touch your eyes or mouth, and handle the animals only when necessary.

Distribution and habitat

Paramesotriton labiatus is known only from the Dayao mountains (Dayaoshan) in central Guangxi in southern China, from where the species was also described. The range is very small, and the elevation is not documented. Older records from Anhui, Zhejiang, Hunan, Guizhou and Guangdong concern *Pachytriton* species, and many finds under the name come from there.

> **Native range:** China.

HABITAT

The habitat of *Paramesotriton labiatus* has not been described in detail. The species lives in a forested mountain massif with a subtropical, monsoonal climate: warm, rainy summers and cool winters. It is tied to water, but whether it prefers streams or still water is not known. The species is an old, separate lineage in the genus, and the small range on a single mountain massif makes it vulnerable to disturbance of the habitat.

Care

THE ENCLOSURE

Almost nothing is known about the care of *Paramesotriton labiatus*. Care is based on the genus and on the close relative *Paramesotriton hongkongensis*, which is far better known; the figures for size, aquarium, temperature and breeding in the tub are borrowed from it. *Paramesotriton chinensis* has the same requirements. Advice on the *Pachytriton* species sold under the name *labiatus* does not apply to this species.

A pair needs an aquarium of at least 60 × 30 × 35 cm. Males in the genus can be territorial, especially in the breeding season, so provide many hiding places of rocks, bark and plants, and keep the animals apart if they bite one another. A floating cork island or a small land area is enough for adults. Keep the lid tight, because the animals can leave the water.

Use sand, large rocks or no substrate. Fine gravel can be swallowed and cause intestinal blockage.

TEMPERATURE

Paramesotriton labiatus must be kept cool like the rest of the genus: 16-22 °C by day and 14-18 °C at night, and the water must not become warmer than 22 °C. In summer it may take a fan, cooling elements or a cool room to keep the aquarium below the limit. Hibernation is not documented for the species.

Read more: Brumation and the seasons

HUMIDITY AND MISTING

Paramesotriton labiatus lives almost all the time in the water, so air humidity plays a small role; 70-90 % in the room is fine. A cork island or land area must be kept moist if the animals use it. Misting is not necessary.

Read more: Humidity, misting and ventilation

WATER AND WATER QUALITY

The water should be 15-20 cm deep. Use dechlorinated tap water or spring water. The water must be clean and well oxygenated, and extreme values of pH and hardness are avoided. A sponge filter or a small internal filter with a gentle current and an air stone is suitable. Change part of the water regularly, and remove uneaten food.

LIGHTING AND UVB

Paramesotriton labiatus does not need strong light. A single fluorescent or LED tube on a timer provides a fixed daily rhythm of about 12 hours. UVB is not necessary.

Read more: Lighting and UVB

FEEDING

Paramesotriton labiatus is a predator. Species in the genus readily take chopped earthworms, crickets, freshly moulted mealworms, cockroaches, waxworms and pieces of shrimp, as well as frozen mosquito larvae and prepared food for amphibians and aquatic turtles. Adults are fed twice a week, young 3-4 times a week. Accustom the animals to taking food from tongs, 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

Species of the genus *Paramesotriton* are shy at first, but often become confident and swim towards the front when there is food. The males can be aggressive, especially in the breeding season, and the females may fight over 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

Sexual differences and age at sexual maturity are not documented for *Paramesotriton labiatus*. In the other species of the genus the male develops a pale stripe along the tail and a swollen cloaca in the breeding season, while the female becomes plumper. The species grow slowly and become sexually mature after about 2 years at the earliest, most often after 3-5 years.

MATING

In *Paramesotriton* the male nudges the female, swims out in front of her and waves his tail, after which he deposits a spermatophore, which the female picks up with her cloaca. A cooler period in winter encourages the breeding season. Provide many hiding places so the female can retreat from the male.

EGGS AND LARVAE

Females of the genus *Paramesotriton* lay the eggs singly on aquatic plants and fold the leaf around them. Move the eggs to a tub with an air stone, or place them in a breeding net, and change the water regularly.

METAMORPHOSIS

In *Paramesotriton* the eggs hatch after 3-8 weeks, and the larvae metamorphose after about three months. The larvae are predators and take daphnia and mosquito larvae from the start. Sort them by size so they do not eat each other. At metamorphosis the gills shrink, and the animal goes onto land.

Read more: Rearing tadpoles

REARING THE YOUNG

In *Paramesotriton* the newly metamorphosed young go onto land and need a damp land area or a box with damp kitchen paper and moss. They take newly hatched crickets, small earthworms and other small feeder animals, and return to the water only after a year or more. Growth is slow.

Health and common mistakes

Typical problems in *Paramesotriton labiatus*:

- Heat and poor water: keep the temperature below 22 °C and the water clean.
- Bite wounds when the animals fight: separate them.
- Fungal and bacterial infections: white, fluffy coatings, redness, swellings or sores, often as a result of poor water or stress.
- Fine gravel, which is swallowed and causes intestinal blockage.
- Bsal (*Batrachochytrium salamandrivorans*): Asian salamanders can carry the fungus without symptoms, and it can be fatal to other caudates. New animals must be quarantined, and equipment and hands must be cleaned between aquariums.

Animals that will not eat, or have skin sores or swellings, need to see 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.