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TORTOISES AND TURTLES

Southeast Asian Leaf Turtle

Cyclemys oldhami

Cyclemys oldhami is a dark, almost rectangular leaf turtle from forest streams in mainland South-East Asia. The shell is flat with a serrated rear edge, and the crown is pale with small dark spots. Adults spend a lot of time on land, while the young are mostly in the water. The species needs a large, humid aquaterrarium and clean water, and it is often confused with *Cyclemys dentata*.

Family: Geoemydidae Former name: *Cyclemys oldhamii; Cyclemys shanensis; Cyclemys tcheponensis; Cyclemys tiannanensis*

KEY FACTS

THE ANIMAL

Adult size	**18-25 cm** total length incl. tail
Lifespan	**15-25 years**
Active	**At dusk and at night**
Lifestyle	**Semi-aquatic**
Habitat	**Rainforest and wetland**
Difficulty	**Intermediate**

CARE

Min. enclosure	**130 × 65 × 75 cm** L × W × H for 1 adult
Temperature, day	**24-27 °C**
Basking spot	**30-32 °C**
Temperature, night	**22-25 °C**
Humidity	**70-90%**
Water	**Aquaterrarium** depth 15-20 cm
Water temperature	**22-26 °C**
UVB	**Recommended** Ferguson zone 1
Diet	**Insects, fruit, complete diet, vertebrates and worms/snails**
Kept	**Singly**

BREEDING

Reproduction	**Egg-laying**
Clutch size	**2-4 eggs**
Incubation	**90-110 days** at 26-28 °C

PROTECTION AND PAPERWORK

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

About the species

Cyclemys oldhami has a dark, elongated and almost rectangular shell, pale olive-brown to nearly black with coarse, dark rays from each scute. The shell is flat in adults, the rear edge is serrated, and a low keel runs along the middle. The plastron is dark in most adults, because dark rays merge. The head is brown to greenish brown with small dark spots and a paler crown. In animals from the eastern part of the range, pale stripes on the head and neck remain even in adults. In animals from the western part they disappear with age. The young have a brownish plastron with a large dark marking in the middle and distinct head stripes.

The carapace length is usually 18-21 cm in adults, and the largest animals are over 24 cm. Males have longer and thicker tails than females, but in size there is no clear difference between the sexes. In adults a hinge forms across the plastron, which never closes the shell completely.

C. oldhami is often confused with its sister species *Cyclemys dentata*. Both are sold under the same trade name, and animals in the trade are often sold under one species name without reliable identification. *C. dentata* has a yellow to light brown plastron with dark rays and red to orange neck and head stripes, while *C. oldhami* has a dark plastron and a more rectangular shell. The genus has variously been regarded as one, two, four and seven species. Earlier names such as *Cyclemys shanensis* and *Cyclemys tcheponensis* are today regarded as forms of *C. oldhami*, because they differ only in whether the head stripes remain in adults. The spelling *Cyclemys oldhamii* is also seen. Care is in practice the same for both species, and animals of uncertain species are kept by the same rules.

Global trade is large, and the species is one of the most heavily traded turtles in Asian markets. Most animals in the trade are wild-caught and may carry diseases from the markets. Captive breeding exists, but is documented mostly for *C. dentata*. The animals are shy, hide a lot and are not suited to handling.

The lifespan is not documented; the 15-25 years in the box is borrowed from *C. dentata*.

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

Distribution and habitat

Cyclemys oldhami occurs on the mainland of South-East Asia: Myanmar, Thailand, Cambodia and Vietnam, and probably also Laos near the border with Vietnam. The form *shanensis* lives from central Myanmar to Thailand and Cambodia, and the form *tcheponensis* from northern Vietnam, Laos and northern Thailand.

The range is not fully resolved, because several *Cyclemys* species look alike and live in the same areas. Records from Bangladesh, India, Nepal, China, Sumatra, Java and Borneo are uncertain and are not included on the map. The species lives mostly at lower elevations; in north-eastern Thailand it is found at 250-750 m.

> **Native range:** Myanmar (Burma), Thailand, Cambodia, Vietnam and Laos.

HABITAT

Cyclemys oldhami lives in streams and ponds in the lowlands and low hills, typically surrounded by forest, and it moves between water and land. Adults leave the water to feed in the forest, and they spend a lot of time on land. The young and juveniles are mostly in the water.

The climate is tropical with a rainy season and a dry season. In north-eastern Thailand the mean temperature is about 26 °C over the year, up to 35 °C on the hottest days and down to 16 °C on the coolest, and the rainy season lasts from May to mid-October. In the rainy season there is water in many pools along the streams, while in the dry season the streams are almost dry and only a few pools hold water. The bottom is stone, rock and silt, and the forest floor is covered with leaves, roots and fallen trees. The animals prefer walking along the bottom to swimming freely.

The species is under pressure in many places from collection for food, medicine and the pet trade, and where collecting takes place, populations are smaller and have fewer large animals.

Care

THE ENCLOSURE

There is almost no care knowledge that applies specifically to *Cyclemys oldhami*. The furnishing is based on the species itself and on the requirements of the genus, and the figures for temperature and breeding are borrowed from the sister species *Cyclemys dentata*, which is the best known in the genus, and from the general guidelines for leaf turtles. Keep the species as described for *C. dentata*.

An adult needs an aquaterrarium of at least 130 × 65 × 75 cm (length × width × height): five times the shell length in length and half that in width. At least half of the area is land, and the rest is water with a sloping bottom, so the animal can climb in and out. Adults need water of 15-20 cm, so the animal can easily reach the surface while standing on the bottom. Juveniles can be kept in a smaller aquarium with 5-10 cm of water and a dry basking spot. The species is not social and is kept singly.

The land area has a thick, moist layer of humus soil and coconut fibre, covered with leaves and sphagnum, so the animal can bury itself. Provide plenty of hiding places with cork, roots and plants, and close the enclosure so the animal cannot climb out. In summer the animals can be kept outdoors in a predator-proof enclosure with shade and a buried water container, when the

night temperature stays above 21 °C.

Read more: Heat and temperature

TEMPERATURE

Cyclemys oldhami needs 24-27 °C in the air by day, and the basking spot should be 30-32 °C. At night 22-25 °C is suitable. The water is kept at 22-26 °C. The figures are borrowed from *C. dentata*.

Measure the surface of the basking spot with a digital thermometer. Use a heat lamp over the basking spot, and switch it off at night. The temperature must not exceed 32 °C for any length of time, and there must always be a cooler, shady end.

HUMIDITY AND WATER

Humidity for *Cyclemys oldhami* should be 70-90%. It is kept up with misting, a moist substrate layer with leaves and moist hides with sphagnum. Measure with a hygrometer in the middle of the enclosure.

Water quality is critical for the species, and many problems can be avoided with a good filter. Use a filter that tolerates the low water level, and change a third of the water every week or every other week. Remove food remains and droppings regularly.

Read more: Humidity, misting and ventilation

LIGHTING AND UVB

Cyclemys oldhami needs UVB for D3 synthesis, but is a forest animal and seeks shade. Use a UVB tube for shade-dwelling animals (Ferguson zone 1) over the land area and basking spot, and provide shade for the rest. The tube should cover about half the length of the enclosure, and the top of the shell should be 20-25 cm below the tube. Replace the tube every year, because the output declines.

The light is on about 12 hours a day. Animals kept outdoors get UVB from the sun, but must have shade all day.

Read more: Lighting and UVB Read more: Calcium, vitamins and supplements

FEEDING

Cyclemys oldhami is omnivorous like the rest of the genus. In the wild it eats figs and other soft fruit, insects, worms, snails, fish and carrion, and the diet should reflect that. Adults are fed 2-3 times a week, and fast-growing juveniles are fed small amounts every day or every other day. Overweight is a common problem, so do not give more than the animal eats up.

The staple of the diet is a complete food for freshwater turtles. In addition come earthworms, crickets, cockroaches, mealworms, snails, small fish and a little fruit. Food on land is placed in a shallow dish, and pellets are given in the water. If the complete food does not make up a large part of the diet, sprinkle calcium with D3 over the food. A cuttlebone in the enclosure provides extra calcium.

Read more: Feeder animals: keeping and breeding

BEHAVIOUR AND HANDLING

Cyclemys oldhami is shy and hides a lot. The animals get to know their keeper and come forward at feeding time, but the species is not suited to handling. Keep the animals singly and provide plenty of hiding places and plants to avoid stress. Adults go on land and in the water and switch several times a day, so both must be easily accessible.

Breeding

SEXUAL MATURITY AND SEXING

Males of *Cyclemys oldhami* have longer and thicker tails than females. The age and size at sexual maturity are not documented for the species, and females must be fully grown and in good condition before they lay.

MATING

Mating and breeding season in captivity are not documented for *C. oldhami*. Breeding requires a large, humid enclosure with plenty of hiding places, so the animals can get away from each other.

EGG-LAYING AND CLUTCHES

Clutch size and number of clutches are not documented for *Cyclemys oldhami*. The figure in the box (2-4 eggs) is borrowed from *C. dentata*. The female digs a nest in moist soil, so give her a deep land area with loose, moist soil. In adult females the hinge in the plastron may ease egg laying.

INCUBATION

Incubation is not documented for *C. oldhami*. The figures here are borrowed from *Cuora mouhotii*, a related species in the same subfamily: the eggs are incubated in moist substrate at 26-28 °C and hatch after 90-110 days.

Read more: Incubating eggs

REARING THE YOUNG

The young of *Cyclemys oldhami* are aquatic and are kept singly in a shallow aquarium with 5-10 cm of water, a dry basking spot, hiding places and UVB. Feed them small amounts every day or every other day with small earthworms, insects, snails and small fish. For newly bought animals the water must be especially clean. Growth and hatching size are not documented.

Health and common mistakes

Cyclemys oldhami is sensitive to errors in care, and most problems are caused by water and climate. The typical mistakes are:

- Poor water quality, which causes disease. Use a filter, and change the water regularly.
- Air that is too dry for long periods.
- Lack of UVB, calcium and D3, which causes soft shells and deformed growth.
- Overfeeding and overweight, especially in adults.
- Newly bought, wild-caught animals, which often have blood poisoning and single-celled parasites from the markets. Give them peace, hiding places and stable conditions, and have them examined by a vet with experience in turtles.

See a vet if the animal does not eat for several weeks, has swollen eyes, soft shells or sits with its mouth open.

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.