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TORTOISES AND TURTLES

West African Mud Turtle

Pelusios castaneus

Pelusios castaneus is a medium-sized turtle from western and central Africa. The shell grows to 18-28 cm, and the species can live 30-50 years. It is hardy, active and greedy and needs a large, filtered tank with warm water, a warm basking spot and UVB. The animals draw the head in sideways under the rim of the shell, and the males chase the females hard.

Family: Pelomedusidae Former name: *Emys castanea; Pelusios derbianus; Pelusios seychellensis*

KEY FACTS

THE ANIMAL

Adult size	**18-28 cm** total length incl. tail
Lifespan	**30-50 years**
Active	**By day and at night**
Lifestyle	**Semi-aquatic**
Habitat	**Savanna, rainforest and wetland**
Difficulty	**Intermediate**

CARE

Min. enclosure	**150 × 75 × 50 cm** L × W × H for 1 adult
Temperature, day	**24-29 °C**
Basking spot	**32-36 °C**
Temperature, night	**20-24 °C**
Humidity	**50-80%**
Water	**Aquaterrarium** depth 15-25 cm
Water temperature	**24-27 °C**
UVB	**Essential** Ferguson zone 3
Diet	**Insects, complete diet, plants, vertebrates and worms/snails**
Kept	**Singly or one male with several females**

BREEDING

Reproduction	**Egg-laying**
Clutch size	**11-27 eggs**
Clutches per year	**1-2**
Incubation	**53-75 days** at 27-31 °C

PROTECTION AND PAPERWORK

CITES	**Not listed**
EU annex	**Not listed**
IUCN	**Not Evaluated (NE)**

About the species

Pelusios castaneus is a medium-sized turtle in the family Pelomedusidae, the African side-necked turtles, which draw the head and neck in sideways instead of straight back. All measurements in the text are shell length (carapace). Females grow to 28 cm, males to 25 cm. The shell is elongated to oval, widest behind the middle and uniformly dark brown. The plastron is usually blackish with a broad, indistinctly bounded yellow zone and has a hinge, so that the front part can be folded up to close in front of the head. There is no nuchal scute in front of the first vertebral scute, and the plastron has a small extra plate between the gular scutes.

The head is olive to brown with black, winding markings on the crown and two small barbels on the lower jaw. The legs are dark greyish brown on the outside and yellow on the inside, the webbing is weakly developed, and each foot has five strong claws. There are three forms: a normal form, a rainforest form with an entirely dark brown to black shell and a savanna form

with a light brown, caramel-coloured shell and an entirely yellow plastron. The species is often mentioned together with *Pelusios subniger*, which has a uniformly coloured head without markings. *Pelomedusa subrufa* resembles the species, but has a fixed plastron without a hinge.

Unlike many other aquatic turtles, the species does not shed its scutes, but sloughs large pieces of skin. New shell layers grow beneath the old ones, so dirt and algae stay on, and the shell must be kept clean. Some animals can release a foul-smelling fluid from glands at the groin and armpit when handled. In captivity the species can live more than 50 years.

Distribution and habitat

Pelusios castaneus lives in western and central Africa: from Senegal and Gambia along the Gulf of Guinea through Sierra Leone, Liberia, Ivory Coast, Ghana, Togo, Benin and Nigeria to Cameroon, Equatorial Guinea, Gabon, Congo and western Democratic Republic of the Congo as well as Angola and the Central African Republic. The species is also found on São Tomé. *Pelusios seychellensis*, which was described from the Seychelles and long regarded as extinct, is today a synonym: the animals the description was based on were mislabelled *P. castaneus*.

The species has been introduced to Guadeloupe in the West Indies; the map shows only the native range. The occurrence in Mali and Cameroon is not reliably confirmed. *Pelusios chapini* was regarded as a subspecies until 1983 and is today a separate species.

> **Native range:** Senegal, Gambia, Guinea-Bissau, Guinea, Sierra Leone, Liberia, Côte d'Ivoire, Burkina Faso, Mali, Ghana, Togo, Benin, Nigeria, Cameroon, Equatorial Guinea, Gabon, Congo - Brazzaville, Congo - Kinshasa, Angola, Central African Republic and São Tomé & Príncipe.

HABITAT

Pelusios castaneus lives in many kinds of freshwater: ponds, swamps, slow-flowing watercourses, lakes and lagoon edges, from the rainforest in the west to dry savanna. In Gabon it lives in shallow, densely vegetated water, and in the Congo area often in swamps full of papyrus. The species is especially active in the rainy season. Adults bask a lot on muddy banks and tree trunks, while young animals rarely bask and hide in the vegetation.

In the dry season many of the habitats dry out. The animals then bury themselves in mud or sand and aestivate until the rain returns. The animals readily walk about on the bottom and root in the substrate for food. The species is active both day and night.

Care

THE ENCLOSURE

Keep the animal in a large aquarium or a tub, not in an ordinary terrarium. The tank must be at least five times as long as the shell and half as wide as it is long, with the land area counted as part of the floor area. A single adult therefore needs a tank of at least 150 × 75 × 50 cm with 15-25 cm of water, corresponding to about 200 litres of water, and a rim that rises at least 20 cm above the water. Up to four adults need at least 180 × 75 × 50 cm. The species climbs well with its claws, so the tank must have a lid, and the furnishings must not form a staircase up to the rim.

Furnish with plants, roots, large flat stones and halves of clay pots, so that the animals can hide from each other. Floating plants such as water lettuce and water hyacinth provide shelter. The substrate can be sand, large stones (too large to be swallowed) or none at all; a bare bottom is easiest to clean, but the animals like to dig in sand. Brownish water with tannins from roots gives the animals peace. The land area must leave room for the whole animal to come completely out of the water under the heat lamp.

Preferably keep one animal. Males chase females hard and can bite them badly in the neck, so a group should consist of several females per male with many hiding places, and the animals must be able to be separated. Two males are not kept together. Aggression can arise at feeding.

TEMPERATURE

The water must be 24-27 °C. Warmer water makes the animal restless, and in cooler water it loses its appetite and seeks warmth. A water heater behind a plastic guard is normally necessary, unless the room is warm enough.

The air must be 24-29 °C by day, and the basking spot must be 32-36 °C on the surface. Use a heat lamp or a lamp with both heat and UVB over the land area. At night the air may fall to 20-24 °C, but not below about 17 °C. Keep the animal free of draughts.

In the wild the species aestivates in the dry season. This is not necessary in captivity, but it promotes breeding: the water level is lowered gradually while the water is warmed to 30-35 °C, until the tank is almost dry and the animal buries itself in a cooler spot. Only healthy, well-nourished animals may aestivate. The species does not hibernate and may only be kept outdoors when it is warm enough.

Read more: Lighting and UVB Read more: Heat and temperature

HUMIDITY AND WATER

Air humidity matters little for an aquatic turtle; 50-80 % in the room is suitable. The air above the tank must be warm and free of draughts, because cold, damp air increases the risk of respiratory infections.

The water quickly becomes dirty, because the species is a greedy and messy eater. Use water without chlorine and make partial water changes regularly, even with a filter.

Read more: Humidity, misting and ventilation

WATER AND WATER QUALITY

The water must be kept clean, because the species does not shed its scutes, so dirt stays on the shell. Water depth is 15-25 cm for adults, preferably gradually sloping, and about 10 cm for hatchlings. The species walks about on the bottom a great deal and does not need deep water.

Use a powerful filter rated for at least 2-3 times the water volume. Without a filter the water must be changed every second or third day. Feeding in a separate tub halves the cleaning. Use water without chlorine. Connect electrical equipment near the water to a residual-current device (RCD), and unplug with dry hands before touching the filter.

LIGHTING AND UVB

UVB is necessary for vitamin D3 and calcium absorption, and it also inhibits bacteria on the shell. Adults bask a lot, so there must be a dry, warm basking spot with a powerful lamp, and young must also have a basking spot. Zone 3 suits a species that basks a lot. Use a high-quality UVB tube or a lamp with both heat and UVB over the basking spot, with no glass or plastic in between, and replace the light source according to the manufacturer's instructions, since UVB output falls over time.

The light must be on 10-12 hours a day. Under the water there can be shade and plants, so that the animals can retreat.

Read more: Calcium, vitamins and supplements

FEEDING

Pelusios castaneus is omnivorous, but leans strongly towards meat. In the wild it eats crustaceans, insects, fish, shrimps, crabs and large snails as well as a little vegetation such as water lettuce and seeds. In captivity it accepts whole freshwater fish, shrimps, earthworms, crickets, snails, mussels and mealworms, pieces of chicken and turkey, thawed mice and pellets for aquatic turtles. Chicken liver can be given now and then, because it is rich in vitamin A. Fruit and vegetables are only taken occasionally; water lettuce and water hyacinth can be offered.

The species is greedy and quickly learns who feeds it. Adults are fed every second or third day with as much as they eat in a few minutes, and hatchlings daily. Feeding is best done in a separate tub. Regularly sprinkle calcium on the food, and give feeder insects a calcium-rich diet before they are used. Pellets can be the staple, but the diet must be varied.

Read more: Feeder animals: keeping and breeding

BEHAVIOUR AND HANDLING

Pelusios castaneus is calm, curious and active. The animals usually withdraw when handled, rarely bite, but can scratch with the sharp claws to get free. The animal should only be lifted when necessary, for example for water changes and health checks, and picked up at the rear of the shell.

The animals like to sit on top of each other to get the best basking spot. Females must have many hiding places, because males are rough in courtship. Aggression can arise during feeding, so young are kept apart from adults, otherwise they are bitten or eaten.

Breeding

SEXUAL MATURITY AND SEXING

Females are larger than males, and males have a longer and thicker tail. Females lay eggs from a shell length of about 12 cm. The age at sexual maturity is not documented.

MATING

The male rubs his snout against the female's snout to keep her still, climbs onto her shell and holds on with his claws. The male may also butt her on the snout. Mating is most evident after a rest period. Females must have several hiding places, because the male's courtship is rough, and the female can suffer bad bites to the neck. Keep several females per male, therefore, and separate the animals if the female is injured.

EGG-LAYING AND CLUTCHES

About two months after mating the female begins to look for a place to lay. In the wild she lays up to two clutches a year, in captivity usually one. A clutch is 11-18 eggs, in large females up to 27. The eggs are white, elongated and soft-shelled, 33-37 × 17-27 mm and 6-15 g. The female digs a deep hole with her hind legs, and large females can bury the eggs deep. Give her a box of sand and soil on the land area, so that she has somewhere to dig.

INCUBATION

The eggs are incubated on moist vermiculite in a box with air holes at 90-95 % humidity. At 29-31 °C they hatch after 53-59 days, at lower temperatures after up to 75 days. Sex is determined by temperature: below about 26 °C and above about 29 °C mostly females result, at 27-28 °C mostly males.

REARING THE YOUNG

The hatchlings need shallow water, about 10 cm, with many plants as cover and a basking spot. The water must be 24-27 °C. They begin to eat after 4-7 days and are given small versions of the adults' food, for example mosquito larvae, small fish, snails and small pieces of chicken. Young are kept apart from adults and only go outdoors when they are 8-10 cm.

Health and common mistakes

Turtles hide illness, so watch for changes. Weigh and measure the animal regularly, and keep a log of weight, appetite and behaviour. A healthy animal has a smooth, clean shell and clear eyes and is active.

Typical problems and care mistakes: - Lack of UVB or calcium: this causes a deformed shell and bone disease, with swollen eyes and limbs and open sores on the skin. - Dirty water: the species does not shed its scutes, so dirt and algae stay on and can cause shell rot. - Water that is too cold or draughts: the animal loses its appetite, becomes weak and falls ill more easily. - Parasites: small worms in the water, bubbles from the nose or swimming problems. - Bites from its own kind: males can injure females.

All reptiles can be symptom-free carriers of *Salmonella* and infect humans. Wash your hands before and after contact with the animal, water and equipment. After a bite, the wound must be rinsed under running water and cleaned with mild soap.

Seek a vet with experience of reptiles if the animal loses weight, does not eat, has an open mouth or seems lethargic.

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.