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TORTOISES AND TURTLES

Black Marsh Turtle

Siebenrockiella crassicollis

Siebenrockiella crassicollis is an almost entirely black, bottom-dwelling marsh turtle from still, overgrown waters in South-East Asia. It has a thick neck and pale jaws that curve upwards, so it appears to smile, and the pale head spots fade in males with age. The species is shy, nocturnal, relatively small and very long-lived, but it is threatened in the wild.

Family: Geoemydidae Former name: *Emys crassicollis; Bellia crassicollis; Pangshura cochinchinensis*

KEY FACTS

THE ANIMAL

Adult size	**13-20 cm** total length incl. tail
Lifespan	**40-60 years**
Active	**At night**
Lifestyle	**Semi-aquatic**
Habitat	**Wetland**
Difficulty	**Intermediate**

CARE

Min. enclosure	**100 × 50 × 50 cm** L × W × H for 2 adults
Temperature, day	**22-27 °C**
Basking spot	**30-32 °C**
Temperature, night	**20-24 °C**
Humidity	**70-90%**
Water	**Aquaterrarium** depth 15-25 cm
Water temperature	**22-26 °C**
UVB	**Recommended** Ferguson zone 1
Diet	**Insects, fruit, plants, vertebrates and worms/snails**
Kept	**Singly, in pairs or in groups**

BREEDING

Reproduction	**Egg-laying**
Sexually mature	**60 months**
Clutch size	**1-2 eggs**
Clutches per year	**3-4**
Incubation	**68-84 days** at 29-30 °C

PROTECTION AND PAPERWORK

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

About the species

Siebenrockiella crassicollis is a small to medium-sized marsh turtle in the family Geoemydidae. The carapace length is usually 13-17 cm and rarely over 20 cm. The carapace is oval, flat and widest behind the middle, and the rear edge is strongly serrated. A distinct keel runs along the middle, and two weaker keels on the sides become indistinct in large animals. The shell is almost entirely blackish brown to black, often with black rays. The plastron has no hinge and a rear notch. It is uniformly black or dark brown to yellowish brown with dark spots or markings along the seams.

The head is large and broad with a short, slightly upturned snout. It is black to dark grey with pale spots by the eyes and on the neck, and the jaws are pale and curve upwards, so the animal looks as if it is smiling. The neck is powerful and thick, so the head looks short. Limbs and tail are dark grey to black, and the toes are webbed.

Males have a slightly concave plastron and a longer, thicker tail than females, which have a flat plastron. The pale head spots are present in all hatchlings. Females keep them, while they disappear in adult males; very old females can also turn completely dark. The species has an XX/XY sex chromosome system, which is rare in turtles.

The animals are shy and prefer walking along the bottom to swimming freely. Threatened animals release a foul-smelling secretion from the cloaca. The species is known under the older names *Emys crassicollis*, *Bellia crassicollis* and *Pangshura cochinchinensis*. The genus *Siebenrockiella* has two species. The scientific species name means 'thick neck' and refers to the powerful neck.

The species lives to a great age and can live 40-60 years in captivity.

Distribution and habitat

Siebenrockiella crassicollis lives in South-East Asia: southern Vietnam, Cambodia, Laos, Thailand (including Phuket), southern Myanmar (Tenasserim) and Malaysia. Further south the species is found on Sumatra, Java, Borneo and Belitung. The type locality is given as Sumatra.

In Singapore the population is introduced, so Singapore is not shown on the map. The species is still widespread, but numbers are falling because the animals are caught in large numbers for the food trade and traditional medicine. The species is therefore assessed as Endangered (EN).

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

HABITAT

Siebenrockiella crassicollis lives in water with weak or no current, a soft bottom and often dense aquatic vegetation: shallow streams, rivers, ponds, lakes, marshes and swamps. The animals spend most of their time on the bottom, often half buried in soft mud. The species is nocturnal and occasionally comes onto land at night to look for food or to mate, and now and then it basks by day.

The climate is tropical lowland with warm days and small temperature swings all year. The species is mainly carnivorous: it takes worms, snails, shrimps and other crustaceans, insects, toads and frogs and small fish. It also eats carrion and fallen, rotting plant matter. Young animals are more strictly carnivorous than adults. Most of the food is caught and eaten under water.

Care

THE ENCLOSURE

Siebenrockiella crassicollis can live and breed in captivity for decades, but it is rare in the hobby. Wild-caught animals are difficult to get to settle into captivity, and captive-bred animals are far preferable.

Two adults need an aquaterrarium of at least 100 × 50 × 50 cm (length × width × height): five times the shell length in length and half that in width, with the land area included. About two thirds is water and one third land. The animals are bottom dwellers and need floor area rather than depth. A group of 6-8 adults needs a base of at least 150 × 70 cm.

The water should be 15-25 cm deep, so the animal can easily reach the surface from the bottom. Provide plenty of hiding places with roots, bark and aquatic plants. The land area should be easy to climb onto and have a thick layer of moist peat or leaf mould, because the animals often lie on land under the heat lamp or bury themselves for several days. The aquaterrarium must have a lid or a rim high enough that the animals cannot climb out.

The male bites the female's legs and shell margin during mating, and in females kept in a group the marginal scutes can become damaged. Watch for bite marks, and separate the animals if a female becomes stressed or injured.

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

TEMPERATURE

Siebenrockiella crassicollis needs 22-27 °C in the air by day and 20-24 °C at night. The water should be 22-26 °C. The species tolerates shorter periods at 20 °C in the water and nights down to 18 °C, but stable, warm water is best. A heat lamp over the land area provides a basking spot with a surface temperature of 30-32 °C; the figure is an estimate, because the species only basks occasionally.

Use a water heater with a thermostat. Measure the water temperature with a thermometer in the water and the surface of the basking spot with an IR thermometer. There must always be a cooler zone so the animal can choose.

Read more: Heat and temperature

HUMIDITY AND WATER

Humidity above the water should be high, 70-90%. The figure is an estimate that suits the tropical wetlands *Siebenrockiella crassicollis* comes from. A large water surface, a moist land area and a partly closed lid keep humidity up.

The animal gets water by living in it and must always have access to clean water.

Read more: Humidity, misting and ventilation

WATER AND WATER QUALITY

The water for *Siebenrockiella crassicollis* should be 15-25 cm deep and 22-26 °C. The species is a bottom walker and not a good swimmer, so it must be able to reach the surface easily from the bottom. A powerful filter is necessary, because the animal eats a lot of meat and fouls the water with food remains and droppings. Use a filter with low flow, because the species naturally lives in still water.

Change the water often, and remove food remains immediately. Clean the water area thoroughly once or twice a week; this prevents disease, including amoebic dysentery.

LIGHTING AND UVB

Siebenrockiella crassicollis is nocturnal, but likes to lie under the heat lamp on land and basks occasionally. The UVB requirement is not documented. Weak UVB (Ferguson zone 1) over the land area and basking spot is a cautious choice, with plenty of shade and hiding places in the rest of the aquaterrarium. Replace the UVB tube according to the manufacturer's instructions.

The light is on 12 hours a day. A heat bulb over the basking spot provides the localised warmth.

Read more: Lighting and UVB

FEEDING

Siebenrockiella crassicollis is omnivorous with an emphasis on animal food and eats almost only in the water; it drags food on land down into the water. Give earthworms, water snails, which are its favourite food, fish, shrimps, insects and the occasional dead pinky mouse. Fruit such as grapes, ripe bananas and dried figs is readily taken, and adults also eat other plant matter. Sprinkle calcium on the meaty food.

Adults are fed three times a week in the water, preferably in the morning. Young animals are more carnivorous than adults. Remove leftovers to keep the water clean, and do not give more than the animal eats up.

Read more: Calcium, vitamins and supplements

BEHAVIOUR AND HANDLING

Siebenrockiella crassicollis is shy and quiet and does not become aggressive towards humans. It hides a lot, buries itself and is most active at night. When the animals meet, they sniff each other's head and forelegs. The species is not suited to handling: it releases a strong, foul-smelling musk secretion when picked up, and the powerful jaws can give a nasty bite if it is handled roughly.

A pair or a small group can be kept together in a large aquaterrarium, but the male bites the female during mating, and there must be plenty of hiding places. Always watch for stress and injuries.

Breeding

SEXUAL MATURITY AND SEXING

Males of *Siebenrockiella crassicollis* have a slightly concave plastron and a longer, thicker tail than females, which have a flat plastron. The depression in the male's plastron is only a few millimetres. Females keep the pale head spots, while they disappear in adult males. The animals are sexually mature after about five years.

MATING

During courtship, the male of *Siebenrockiella crassicollis* chases the female and bobs his head. He bites her on the forelegs, flanks, hind legs and the marginal scutes at the back of the carapace before mating. The species breeds all year in captivity, and a cool pause is not necessary. Give the female hiding places and room to get away from the male.

EGG-LAYING AND CLUTCHES

In the wild, the female of *Siebenrockiella crassicollis* lays three or four clutches per season from April to June, each with one or, less often, two eggs. In captivity eggs are laid all year, mostly from March to June. The egg is white, hard-shelled and elongated, about 52 × 28 mm, and weighs 21-33 g. The female buries the egg in the land area, so she needs a thick layer of loose, moist soil.

INCUBATION

Carefully dig up the egg and place it in moist vermiculite or a mixture of peat and sand (1:1). At 29-30 °C and 75-80% humidity it hatches after 68-84 days, most often around 72 days. At 25 °C it takes about 112 days. A fertilised egg develops a chalk-white band around the middle within a few days. Sex is determined by chromosomes and not by temperature.

REARING THE YOUNG

The young of *Siebenrockiella crassicollis* are 43-46 mm and weigh 14-15 g at hatching. Leave them in the incubation box at the same temperature for about five days without food, so the yolk sac can be absorbed. Then keep them in a small aquarium with water about three times as deep as the shell is long, a thin layer of gravel, dense hornwort (*Ceratophyllum*) and 23-25 °C in the water with a small heat lamp over it.

Feed twice a week with as much as the young eat in a quarter of an hour: mosquito larvae, tubifex, water slaters, water snails, small earthworms and chopped fish. Fruit and plants are taken only later. Crushed eggshells in the water provide calcium.

Read more: Incubating eggs

Health and common mistakes

Most problems in *Siebenrockiella crassicollis* are caused by water quality and stress in wild-caught animals. Typical mistakes are:

- Wild-caught animals that do not acclimatise. Choose captive-bred animals, and give new animals peace, hiding places and stable conditions.
- Poor water quality, because the species eats a lot of meat. Use a filter, change the water often, and clean the water area thoroughly.
- Amoebic dysentery and other infections when the water is not kept clean.
- Bite wounds on the females' legs and shell margin when the male is too persistent.
- Overfeeding, especially in adults.

See a vet with reptile experience if the animal is not eating, has swollen eyes, soft shells or changed behaviour.

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.