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TORTOISES AND TURTLES

Forest Hinge-back Tortoise

Kinixys erosa

Kinixys erosa is the largest of the hinge-back tortoises: a heavy, rust-brown rainforest tortoise with serrated shell margins and a movable hinge at the rear. The shell grows up to 33 cm long. The species lives in rainforest and swamp forest in West and Central Africa, needs high humidity and warmth, and is easily stressed. Newly imported animals often carry many parasites.

Family: Testudinidae Former name: *Testudo erosa; Kinixys castanea; Cinixys erosa*

KEY FACTS

THE ANIMAL

Adult size	**25-33 cm** total length incl. tail
Lifespan	**30-50 years**
Active	**By day**
Lifestyle	**Terrestrial**
Habitat	**Rainforest and wetland**
Difficulty	**Experienced**

CARE

Min. enclosure	**240 × 120 × 60 cm** L × W × H for 1 adult
Temperature, day	**28-30 °C**
Basking spot	**30-32 °C**
Temperature, night	**22-25 °C**
Humidity	**70-90%**
Water	**Water dish**
UVB	**Recommended** Ferguson zone 1
Diet	**Insects, fruit, plants and worms/snails**
Kept	**Singly or in pairs**

BREEDING

Reproduction	**Egg-laying**
Clutch size	**1-5 eggs**
Incubation	**130-160 days** at 30-31 °C

PROTECTION AND PAPERWORK

CITES	**Appendix II**
EU annex	**Annex B**
IUCN	**Data Deficient (DD)**

About the species

Kinixys erosa is the largest species in the genus *Kinixys*. The upper shell (carapace) is rust-brown to light brown with pale yellow spots on the marginal scutes and a brownish-yellow band along the lower part of the costal scutes. The front edge is flat and drawn forward, and the rear and side margins are distinctly frayed and serrated. There is no nuchal scute. The lower shell (plastron) is yellow with brown and black spots, projects further forward than the carapace and is raised along the sides. The head is yellowish brown with a simple, pointed beak, and the legs and soft parts are yellowish.

The hallmark of the genus is the hinge at the rear: in adult animals the back part of the carapace can be closed down over the hind legs and tail. In juveniles the hinge is not yet present, and the shell margin is very sharp. The male has a thick, heavy tail with a spur and distinctly forked gular scutes at the front of the plastron.

Size is given as shell length (carapace). Adults are 25-33 cm; the lower limit is an estimate.

The species was described by Schweigger in 1812. The type species of the genus, described as *Kinixys castanea* in 1827, is today considered the same species. The Latin species name means 'gnawed' and refers to the hollowed front plates of the plastron. The type locality, 'North America', is an error.

Distribution and habitat

Kinixys erosa occurs in the rainforest of West and Central Africa from Gambia and Sierra Leone eastwards through Guinea, Liberia, Ivory Coast, Ghana, Togo, Benin and Nigeria to Cameroon, Equatorial Guinea, Gabon, the Republic of the Congo and the Central African Republic. To the south the range extends to northern Angola, and in the Democratic Republic of the Congo the species occurs in the Congo Basin, but not in the far north. To the east it reaches Rwanda and Uganda.

The species is hunted locally for food, and deforestation has contracted its range. In the long term it is threatened, especially because its habitat is disappearing.

> **Native range:** Angola, Benin, Cameroon, Central African Republic, Congo - Kinshasa, Congo - Brazzaville, Côte d'Ivoire, Equatorial Guinea, Gabon, Gambia, Ghana, Guinea, Liberia, Nigeria, Rwanda, Sierra Leone, Togo and Uganda.

HABITAT

The species is a true rainforest dweller. It lives in humid forest, in swamps and along riverbanks, where it spends much of its time hidden under roots and fallen trunks. The light is dim, the air is humid, and the temperature is evenly high all year round.

The species is omnivorous. In the wild it eats fallen fruit, leaves, grass and fungi as well as invertebrates and carrion.

Care

THE ENCLOSURE

Little reliable knowledge exists on the care of *Kinixys erosa*, because the species is rarely kept and bred. The care is based on the rainforest climate, on the genus as a whole and on the knowledge that exists about the species in captivity. The relatives *Kinixys belliana* and *Kinixys homeana* are better described, and most of their care applies here too.

Tortoises of the genus *Kinixys* are easily stressed and have strict requirements for temperature, light level and humidity. They are also difficult to handle and treat. This is therefore not a species for beginners, and wild-caught animals require a plan for parasite treatment from day one.

The enclosure must be large, because the species grows larger than the other hinge-back tortoises. The floor area is 8 times the shell length in length and 4 times in width, that is 240 × 120 cm for a 30 cm animal, and the enclosure is at least 60 cm high. Less space is often used successfully, but the general recommendation is 8 × 4 times the shell length. The rule is borrowed from *K. belliana*. Use a closed enclosure, so that humidity can be maintained. Furnish with a large hollow piece of cork bark or a similar dark hide, leaf litter, plants and a flat, not too deep water area. The substrate is 10-15 cm of a moist mix of peat, bark mulch and leaf litter, so that the animal can dig itself in. Paper is a practical substrate for animals under treatment. In a cool temperate climate the animal can only go outdoors in a densely planted and partly shaded enclosure on the warmest summer days.

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

TEMPERATURE

The animal must be kept warm and even: 28-30 °C by day with a warmer zone of 30-32 °C, measured on the substrate, and 22-25 °C at night. The night temperature is an estimate based on the rainforest climate.

Use a radiant heat panel or a tubular heater with a thermostat for even background heat and not a sharp spot. The species should not have a winter rest or dry-season break.

Read more: Heat and temperature

HUMIDITY AND WATER

Kinixys erosa requires high humidity: 70-90 %, and sick or newly imported animals are kept at at least 85 %. Mist regularly, so that the substrate and leaf litter are kept moist, and leave a damp hide with moss available. Give a lukewarm soak several times a week, and let the animal drink from a shallow water area where the water is changed daily. The water must be

shallow enough that the animal can easily get out again.

The species dries out easily. Sunken eyes and lethargy are signs of dehydration and should lead to longer soaks in lukewarm, shallow water and higher humidity.

LIGHTING AND UVB

Kinixys erosa comes from the forest floor and requires a low light level. The enclosure should not have strong lighting, and the animal must always be able to retreat into dark hides. Day length follows the season at about 12 hours. UVB light is recommended at low intensity: Ferguson zone 1, corresponding to a UV index of at most about 0.5-1.5 at the spot where the animal comes closest to the light. The zone is an estimate based on the forest habitat. Glass and Perspex block UVB. Animals in a planted outdoor enclosure get natural light, but must have shade all day.

Read more: Lighting and UVB

FEEDING

Kinixys erosa is omnivorous. The diet is fruit, fungi, leaves and greens plus a little animal food. Fruits such as banana, melon, tomato, papaya, peaches and cucumber are taken readily, especially red and orange ones. In addition come button mushrooms, dandelion, chicory and mixed salads. Animal food is snails, earthworms, crickets and other insects, every second or third week a whole dead mouse, and for juveniles small pieces of fish and chopped earthworms.

Vary the diet, because the species may refuse something it ate the day before, and take it again a few days later. Feed on a flat dish or stone. Sprinkle a calcium and vitamin supplement over the food, and leave a cuttlebone available so that the animal can gnaw on it.

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

BEHAVIOUR AND HANDLING

The species is shy and withdraws into its shell or digs itself in when disturbed. It is most active early in the morning and spends much of the rest of the day in a dark hide or in the water. The hinge and the narrow opening between carapace and plastron make the animal difficult to handle and examine. Lift it from below with two hands, and handle it as little as possible.

The animals are kept singly or as pairs. The male is lively during mating and can chase the female hard, so the pair's enclosure must have many hides and barriers. Do not mix the species with other tortoises, because the parasites are transmitted.

Breeding

SEXUAL MATURITY AND SEXING

The male has a thick, heavy tail with a spur and distinctly forked gular scutes at the front of the plastron. Age and size at sexual maturity are not documented for the species. Lifespan is not documented either; the figure in the table is an estimate based on other large tortoises.

MATING

Mating can take place all year round. The male circles the female, bumps into her and sometimes turns her onto her back. Mating is energetic and is accompanied by much hissing. Give the female many hides and the opportunity to get away, and separate the animals if the female is injured.

EGG-LAYING AND CLUTCHES

A clutch is up to five eggs. The number of clutches per year is not documented. For about four weeks before egg-laying the female paces restlessly, eats poorly and spends a lot of time in the water. Put a shallow dish of moist sand mixed with peat in the enclosure, with small steps so that the female can climb into it. The eggs are large in relation to the size of the female: about 45 × 40 mm and 28 g.

INCUBATION

The eggs are removed, marked and placed half-buried in moist vermiculite in an incubator at 30-31 °C and about 90 % humidity. Do not turn them. The eggs hatch after 130-160 days. The figures are based on a single clutch, so the time span is only a starting point.

Read more: Incubating eggs

REARING THE YOUNG

The hatchlings are about 45 × 45 mm and 17-22 g, have very large yolk sacs and no hinge, and have a very sharp shell margin. They are moved to a small rearing box with the same temperature and humidity as the incubator and with damp kitchen paper as substrate until the yolk sac is absorbed, and after about a week to a smaller enclosure with bark chips, which can be misted. They are very active early in the morning and retreat into hiding in the afternoon. Offer banana, peach, grated cucumber, pear, button mushroom, small pieces of fish and chopped earthworms with calcium and vitamins at every meal. Further rearing data are not documented for the species.

Health and common mistakes

Newly imported animals are often emaciated and heavily infested with intestinal parasites, both worms and single-celled organisms. The genus *Kinixys* is easily stressed and has strict requirements for temperature, light and humidity. Signs are loose faeces with mucus and sometimes blood, undigested food, lack of appetite, weight loss, dehydration and lethargy. Untreated, this can develop into enteritis and septicaemia.

- The first step is to restore fluid balance with long soaks in lukewarm, shallow water, while the light level is low and the humidity high. Faecal samples are then examined, and the vet treats according to the findings.
- Some of the parasites can infect other reptiles and humans, so hygiene and disinfection are necessary. Monitor new animals closely for at least 12 months with weight, fluid balance and faeces.
- Dehydration: especially in juveniles.
- Respiratory infection: runny nose and wheezing breathing in cold and air that is too dry.

Contact a vet with reptile experience if the animal does not eat, loses weight or has loose faeces. A new animal must be quarantined before it is housed with other tortoises.

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.