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SNAKES

Speckled kingsnake

Lampropeltis holbrooki

Lampropeltis holbrooki is a medium to large kingsnake from the central and southern USA, black with a small yellowish-white spot on almost every scale, so the pattern looks like salt and pepper. It grows to 90-120 cm, eats rodents, lizards, frogs and other snakes, and is hardy and easy to keep. It is kept singly in a floor-type enclosure with a basking spot and moderate humidity, and can live for more than 20 years.

Family: Colubridae English name: Speckled Kingsnake Former name: *Lampropeltis getula holbrooki; Coronella sayi*

KEY FACTS

THE ANIMAL

Adult size	**90-120 cm** total length incl. tail
Lifespan	**15-25 years**
Active	**By day and at dusk**
Lifestyle	**Terrestrial**
Habitat	**Wetland and temperate woodland and meadow**
Difficulty	**Beginner**

CARE

Min. enclosure	**120 × 60 × 60 cm** L × W × H for 1 adult
Temperature, day	**21-28 °C**
Basking spot	**29-32 °C**
Temperature, night	**18-22 °C**
Humidity	**40-60%**
Water	**Water dish**
UVB	**Recommended** Ferguson zone 2
Diet	**Vertebrates**
Kept	**Singly**

BREEDING

Reproduction	**Egg-laying**
Clutch size	**5-15 eggs**
Incubation	**60-70 days** at 26-29 °C

PROTECTION AND PAPERWORK

CITES	**Not listed**
EU annex	**Not listed**
IUCN	**Least Concern (LC)**

About the species

Lampropeltis holbrooki is a heavily built, completely smooth and glossy snake. The base colour is black, and in the middle of almost every scale on the back there is a small white or yellow spot, giving the animal a fine, speckled "salt and pepper" pattern. Some animals show faint traces of crossbands. The pattern distinguishes the species from *Lampropeltis getula*, which has narrow, pale crossbands.

Adults are normally 90-120 cm, and the largest reach about 180 cm. The species was formerly regarded as a subspecies of *L. getula*, but has been a species in its own right since 2009. In the hobby the name is therefore not always used consistently, so it is worth checking which species an animal actually is before buying it.

The snake is hardy and tolerates captivity well. When threatened it shakes its tail like a rattlesnake, releases foul-smelling musk and faeces, and occasionally strikes, but it is normally calm and becomes used to handling. Males fight over territory by pressing each other to the ground. The species eats other snakes, and this shapes how it is kept: the animals must be housed separately. Colour and pattern varieties (morphs) exist in captivity. This guide is about the species itself, not about genetics.

Distribution and habitat

Lampropeltis holbrooki lives in the central and southern parts of the USA, west of the Mississippi River and, east of it, in a belt along the Gulf Coast. The range runs from southern Iowa through Missouri, Arkansas and Oklahoma to Louisiana, Mississippi and Alabama, and there is a single isolated record from north-western Kentucky. The type locality is Hot Springs in Arkansas.

To the west the species reaches west-central Texas, and from Nebraska to Texas it hybridises with *Lampropeltis splendida* in a broad transition zone. How far west it extends is unresolved.

> **Native range:** United States.

HABITAT

L. holbrooki is found in a wide range of habitats and prefers damper areas than most other kingsnakes: swamps, floodplains and the edges of watercourses. It also occurs in woodland, scrub, grassland and fields. It often lies hidden under logs, pieces of board and stones, and in rodent burrows.

The daily rhythm of the species has not been described in detail; close relatives such as *Lampropeltis getula* are most active by day. In the cold season it goes into brumation. Its prey consists of rodents and other small mammals, birds, frogs, lizards and other snakes. Prey is killed by constriction.

Read more: Brumation and the seasons

Care

THE ENCLOSURE

There is little species-specific knowledge about the care of *Lampropeltis holbrooki*. The figures here are borrowed from kingsnakes in general, especially *Lampropeltis californiae* and *Lampropeltis getula*, which have the same requirements.

An adult needs an enclosure of at least 120 × 60 × 60 cm (length × width × height). Larger is better, because the species is active and explores the whole enclosure, and animals over 120 cm do best in 150 × 60 × 60 cm. Juveniles start out in a smaller enclosure or a ventilated box and are moved on when they can no longer stretch out and move along the edge.

The lid must be lockable. The snake will find any weakness, and a front-opening enclosure with a lock or a lid with clamps is the safe choice. Do not use tape.

The floor should be soil that holds a moderate humidity. A mix of 40 % topsoil, 40 % coconut fibre and 20 % play sand in a layer of about 10 cm works well, and a layer of dry leaves on top provides cover and helps with humidity. Pine and cedar should be avoided because of their aromatic oils. If you like, feed in a separate box, so the animal does not swallow substrate.

Furnish with at least two hides, one at the warm end and one at the cool end, small enough that the snake lies snugly in them. Branches, cork and stones provide exercise. Remove faeces daily, and replace the substrate completely every 3-4 months.

Read more: Humidity, misting and ventilation

TEMPERATURE

The animal regulates its temperature by moving between warm and cool places, so the enclosure must have a clear gradient. The surface under the heat lamp should be 29-32 °C, measured with an infrared thermometer, and the cool end 21-26 °C. Use a halogen bulb over a pale, flat stone or a piece of wood as a basking spot, and a black hide at the warm end as the warm hide. If the animal lies on the basking spot for long periods, it needs more heat. If it never uses it, it needs less.

Switch the heat off at night. The temperature follows the room and may fall to 18-22 °C, but not below 18 °C.

Never use heat rocks. The heat is too concentrated and causes burns. Heat mats can be used as a supplement, but only with a thermostat. Place the enclosure away from windows, where the sun can overheat it.

Read more: Heat and temperature

HUMIDITY AND WATER

Humidity should be 40-60 %, measured with a digital hygrometer in the middle of the enclosure. It is higher at the cool end and at night and lower at the warm end, and that is normal. *L. holbrooki* comes from damper habitats than several of its relatives and tolerates the upper part of the range well, but clammy air should be avoided. Humidity is raised with a spray

bottle, with damp sphagnum in the hide at the cool end and with a layer of leaves on the floor. Provide a humid hide when the animal is about to shed.

Always provide a bowl of fresh water, large enough for the animal to lie in. If the air becomes clammy, the bowl should be smaller or removed for a few days a week. Scrub the bowl every week with a reptile-safe disinfectant.

Read more: Quarantine and hygiene

LIGHTING AND UVB

The species is diurnal and basks in the wild. It can manage without UVB, but UVB is recommended for the best welfare. This corresponds to Ferguson zone 2. Use a T5 HO tube with 5-6 % UVB that covers about half the length of the enclosure and is mounted over the warm side. The aim is a UV index of 2-3 at the basking spot. Over mesh the distance between tube and animal is 25-30 cm, without mesh 35-45 cm, and this should be checked with a UV meter. Replace the tubes every 12 months.

Supplement with a powerful 6,500 K LED bulb that covers most of the length of the enclosure. The light is on for about 12 hours, and day length is adjusted to the season. There must be no light at night.

Read more: Lighting and UVB

FEEDING

L. holbrooki is a carnivore and must be given whole prey. Mice are the standard food, and as the animal grows, young rats are used. Variety is important: quail, quail eggs, chicks and small snakes can be used, and a varied diet makes the animal healthier and less fussy. Feed thawed, frozen prey. It is safer, because live rodents can bite and injure the snake. Use soft feeding tongs.

The thickness of the prey must be no more than 1.5 times the snake's widest point, or about 10 % of its weight. Feeding frequency: - Hatchlings: every 5-7 days. - Juveniles: every 7-10 days. - Adults: every 10-14 days.

If the animal becomes too fat, feed less often or use smaller prey. Do not handle the animal until the bulge from the meal has gone. A light dusting of the prey with calcium and multivitamin now and then prevents deficiencies. Do not give fruit and vegetables: the snake cannot digest plant material.

Read more: Calcium, vitamins and supplements

BEHAVIOUR AND HANDLING

L. holbrooki is robust and tolerant. Give a new animal about 2 weeks in peace, and only start handling when it feeds regularly. Begin with short sessions of no more than 5 minutes, and lift the animal from below, with support under the body. A nervous animal coils up, hisses, shakes its tail and releases foul-smelling musk and faeces. This is a natural defence that fades with time. Bites are harmless. Do not handle the animal when its eyes are bluish and milky before shedding, or just after feeding. Wash your hands before and after, because reptiles can carry salmonella.

Keep the animals separately. The species eats other snakes, including its own kind, and juveniles can eat each other. For mating, the male is placed with the female under supervision, and the animals are separated again afterwards.

Breeding

SEXUAL MATURITY AND SEXING

Sexual maturity is not documented for the species. In close relatives it normally occurs after 2-4 years, and weight and body condition matter more than age. Males have a longer and wider tail base with room for the hemipenes. The sex is most reliably determined by probing, which only an experienced person should do. The animals must be fully grown and in good condition before they are bred.

MATING

Mating follows brumation. The temperature and length of brumation in captivity are not documented for the species. The animals must be free of parasites and in good condition before they are cooled, and are not fed in the last couple of weeks before brumation, so the gut is empty. Water must always be available. After brumation the animals are warmed up gradually and fed well before being put together.

Always put the male in with the female, not the other way round, and repeat the introduction at intervals of a couple of days. Males fight over females, so do not keep two males together. Only feed when the animals are separated.

EGG-LAYING AND CLUTCHES

In close relatives the female lays her eggs a good month after mating, often after a shed, and the clutch is 5-15 eggs. Clutch size is not documented for *L. holbrooki*. Give the female a lay box with damp vermiculite or sphagnum on the warm side. The female does not tend the eggs. She is exhausted after laying and needs plenty of food to rebuild her strength.

INCUBATION

Remove the eggs carefully, and do not turn them. If they are stuck together, do not separate them by force. Lay them on damp vermiculite in a closed container with a couple of small ventilation holes in the lid, and do not bury them. The vermiculite should be damp, but not so wet that water can be wrung out. Incubation is not documented for the species. The figures are borrowed from *Lampropeltis californiae*: 26-29 °C, and the eggs hatch after 60-70 days. Check the eggs once a week for mould and collapse, and remove bad eggs. The hatchlings stay in the egg for a day or two while they absorb the yolk sac. Do not help with hatching.

Read more: Incubating eggs

REARING THE YOUNG

Place each hatchling separately in a small enclosure or a ventilated box with a hide, water and a heat source. Hatchlings eat each other and must never be kept together. They stay in the nest for about a week, until the first shed, and only then are offered a newborn mouse every week; thawed, frozen prey is safest. Animals that will not eat can be helped by scenting the mouse with a lizard. As they grow, the size of the prey and the frequency are increased gradually. If a hatchling refuses to eat, check the temperatures, and try again after a week.

Health and common mistakes

Most problems are caused by mistakes in the set-up. The typical ones are:

- Obesity from meals that are too large or too frequent.
- Shedding problems in air that is too dry: provide a humid hide when the eyes turn bluish.
- Burns from heat rocks and unguarded heat bulbs.
- Constipation from too low a temperature, too little water or ingestion of substrate.
- Mites and internal parasites, especially in wild-caught animals. Use captive-bred animals, and quarantine new arrivals.
- Respiratory infection from air that is too cold or damp: the animal breathes with its mouth open or has a runny nose.
- Bites from live prey. Use thawed prey.

A healthy animal has clear eyes and a plump body and feeds regularly. Weigh the animal every week, because sudden weight loss is often the first sign of illness. Reptiles hide illness, so see a vet with reptile experience if the animal does not eat, loses weight, breathes with its mouth open or seems lethargic.

Read more: Common diseases and signs of illness Read more: Buying animals: captive-bred, wild-caught and transport

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.