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SNAKES

Eastern milksnake

Lampropeltis triangulum

Lampropeltis triangulum is a slender, secretive snake from eastern North America. The name long covered a whole group of brightly coloured snakes, and many of those sold under it now belong to other species. The snake is nocturnal, calm and easy to keep, but it feeds on rodents and must not be housed with other snakes.

Family: Colubridae

KEY FACTS

THE ANIMAL

Adult size	**55-115 cm** total length incl. tail
Lifespan	**15-20 years**
Active	**At dusk and at night**
Lifestyle	**Terrestrial**
Habitat	**Temperate woodland and meadow**
Difficulty	**Beginner**

CARE

Min. enclosure	**120 × 60 × 45 cm** L × W × H for 1 adult
Temperature, day	**23-27 °C**
Basking spot	**29-32 °C**
Temperature, night	**21-23 °C**
Humidity	**40-60%**
Water	**Water dish**
UVB	**Optional**
Winter rest	**11-13 °C** 10-12 weeks
Diet	**Vertebrates**
Kept	**Singly**

BREEDING

Reproduction	**Egg-laying**
Sexually mature	**36-48 months**
Clutch size	**2-24 eggs**
Clutches per year	**1**
Incubation	**58-65 days** at 27-29 °C

PROTECTION AND PAPERWORK

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

About the species

Lampropeltis triangulum has smooth, shiny scales, a small, rounded head that barely differs from the neck, and a slender to moderately stout body. In many forms in the group the pattern consists of red, black and yellow or white rings. This resembles a coral snake and is a form of mimicry that scares off predators. The eastern form lacks the sharp rings: it is grey to brown with red or brown blotches with dark edges and has a pale V- or Y-shaped mark on the nape. The species name is Latin for "triangle" and refers to the shape of the front edge of the first blotch.

Size varies greatly within the group, from about 35 cm in the smallest forms to 180 cm in the largest. The eastern nominate form typically reaches 90-115 cm, while *L. t. syspila* from the prairies stays at 55-70 cm. Males are usually longest, but females can be stouter. The snake is non-venomous and kills its prey by constriction. When threatened it first tries to flee, and if it cannot, it vibrates its tail and strikes. This is mostly bluff.

L. triangulum was long a composite species with up to 24 subspecies from south-eastern Canada to Ecuador. In 2014 the group was divided into several species on genetic grounds: *L. triangulum*, *L. gentilis*, *L. annulata*, *L. polyzona*, *L. abnorma* and *L. micropholis*, and *L. elapsoides* is also regarded as a species in its own right. The popular hobby forms from Mexico and Central America now belong to *L. polyzona* (for example the Pueblan and Sinaloan forms) and *L. abnorma* (the Honduran), but are often still sold under the old name. *L. triangulum* and *L. gentilis*, however, grade into each other in a broad transition zone in Kansas and Missouri, and since 2022 several authors have therefore again treated *L. gentilis* as a subspecies of *L. triangulum*. The delimitation is thus not finally settled.

This guide deals with *L. triangulum* in the narrow sense, which is rare in captivity. The figures for care and breeding come in large part from the tropical forms, which are far more common in enclosures. If you do not know which species your animal is, ask the seller about its origin. Many colour and pattern varieties (morphs) have been bred, especially of the tropical forms, but this guide is about the species.

Distribution and habitat

Lampropeltis triangulum in the narrow sense is found in eastern North America: from south-eastern Ontario and southern Quebec through New England and south along the east coast to Virginia and northern North and South Carolina. Inland it reaches northern Georgia, Alabama, Mississippi and Louisiana, and in the west Minnesota, Iowa, Missouri and Arkansas and the eastern prairies of Nebraska, Kansas and Oklahoma. It is also found in the foothills of the Appalachians.

The range has been narrowed following genetic studies, so records from Mexico, Central America and South America now belong to other species in the group, such as *L. annulata*, *L. abnorma* and *L. polyzona*. If *L. gentilis* is included, the range continues west across the prairies to Colorado and Texas. The map shows only the narrow range.

> **Native range:** Canada and United States.

HABITAT

The species lives in open deciduous and mixed woodland, but also in swamps, prairie, on farmland, on rocky slopes and on sand dunes. During the day the snake hides under logs, stones and boards and in old barns, and it comes out at dusk and at night to hunt. It is mainly ground-dwelling, but can climb and swim.

In cooler regions it hibernates in winter from October or November to April. In some places the snakes migrate between damper summer areas and drier, higher-lying winter quarters. Young animals feed on insects, snails and earthworms, but also small lizards and young snakes. Adults mostly take small mammals such as mice and shrews, but also lizards, especially skinks, birds and eggs, frogs and other snakes.

Care

THE ENCLOSURE

An adult *Lampropeltis triangulum* needs an enclosure of at least 120 × 60 × 45 cm. Small animals under 90 cm manage with 90 × 45 × 45 cm. Juveniles can start in a small box and be moved up as they grow. The enclosure must be lockable, because the snakes are escape artists, and have good ventilation.

The substrate should be about 10 cm deep and hold a moderate humidity. A mix of unfertilised soil, coconut fibre and a little sand works, and a layer of leaves on top provides cover and retains moisture. Aspen shavings can be used, but mould appears quickly if the substrate becomes damp. Faeces and urates are removed daily, and the whole substrate is replaced every 3-4 months.

Provide at least two hides, one at the warm end and one at the cool end. They should be small enough that the snake sits snugly in them when coiled up. Branches, cork bark and plants add variety, and a flat stone over the warm hide gives a basking spot. Keep the snake alone, because the species eats other snakes, including its own kind.

Read more: Heat and temperature Read more: Humidity, misting and ventilation

TEMPERATURE

Lampropeltis triangulum is nocturnal and warms itself mostly under stones and other objects that the sun has heated, but occasionally basks in the open. The basking spot should be 29-32 °C at the surface, the cool end 23-27 °C and the night 21-23 °C. The best temperature may vary slightly between the forms.

Heat comes from one or two halogen bulbs or a heat mat at one end, controlled by a thermostat. Heat bulbs are switched off at night, and if night heat is needed, use a ceramic heat emitter or a radiant heat panel. Measure the basking spot with an infrared thermometer and the hide with a digital probe thermometer.

Too high a temperature makes animals lethargic and hungry, and too low a temperature causes poor digestion and regurgitation. The snake must be able to choose for itself and must not have heat sources it can touch.

HUMIDITY AND WATER

A relative humidity of 40-60 % is suitable. It may be higher at the cool end and at night and lower at the warm end. Measure in the middle of the enclosure with a digital hygrometer. The substrate should be slightly damp and never wet, and ventilation must be good, so mould does not develop.

Provide a humid hide at the cool end with damp sphagnum, which is changed regularly, so the snake can shed its skin. If it sheds in pieces, the air is too dry. Spray the substrate lightly as needed, and provide a bowl of fresh water that is large enough for the snake to lie in. The bowl is washed and disinfected weekly.

LIGHTING AND UVB

The species is nocturnal and does not need strong light. UVB is not necessary, but may be beneficial. A UVB lamp (T5 HO, 5-6 %) that covers half the enclosure over the warm end gives better welfare, as long as the snake can also seek shade. Aim for a UV index of 2-3 at the basking spot.

Day length follows the season: about 15 hours of light in summer and 9 hours in winter, with gradual changes in between and controlled by a timer. A bright LED lamp of about 6500 K provides daylight and can make the snake more active. The night must be completely dark.

Read more: Lighting and UVB

FEEDING

Adult *Lampropeltis triangulum* are fed mice and young rats, and large individuals take small to medium-sized rats. Prey should be frozen and thawed and no more than 1.5 times as wide as the snake's widest point. Do not give live rodents, which can bite the snake.

Hatchlings are fed every 5-7 days, juveniles every 7-10 days and adults every 10-14 days. If the snake is getting fat, reduce the meals or the prey size. Tongs with soft tips reduce the risk of bites when the snake lunges. Vary the prey if possible, for example with quail or quail eggs. Now and then the prey is lightly dusted with a mix of calcium and vitamins.

Hatchlings of the small North American forms, including *L. triangulum*, often take only mice that have been rubbed with the scent of a lizard for the first few months. Hatchlings of the tropical forms usually take a thawed pinkie without further ado after the first shed.

Read more: Calcium, vitamins and supplements

BEHAVIOUR AND HANDLING

Lampropeltis triangulum is usually calm and tolerates handling well, but some animals are nervous and bite. After arriving home the animal is given a week or two to settle in, and handling begins only when it feeds regularly. Begin with short sessions of no more than 5 minutes, and let the snake crawl onto your hand instead of grabbing it. Support the body, and move slowly. Handle the snake at least once a week and no more than once a day. Do not handle the snake during a shed or just after a meal.

The snake must be kept alone, because it eats other snakes. It is calm by day and becomes active at dusk. It is a skilled escape artist, so the lock and lid must always be closed.

Breeding

SEXUAL MATURITY AND SEXING

The animals reach sexual maturity after 3-4 years. Females must be stout and healthy before breeding. The sexes look alike in colour and pattern; males are usually longest, but females can be heavier. Reliable sexing requires experience and should be left to an experienced keeper or a vet.

MATING

A cool period makes females develop follicles and males produce fertile sperm, but breeding also succeeds without it. Feeding is stopped a month beforehand, so the digestive tract is completely empty. Then the temperature is lowered over two weeks to 11-13 °C, where the animals rest for 10-12 weeks before being warmed up again over two weeks. Fresh water must be available at all times, and the animals are checked daily. For the eastern forms the figures are an estimate; in the wild they hibernate from October or November to April.

After warming up, small meals are given, which gradually become larger and more frequent, and the first shed comes three to four weeks later. Then the male is put in with the female one night at a time, several times a week for three to five weeks. The female is fed generously during the mating season.

EGG-LAYING AND CLUTCHES

The female gains weight about a month after mating and refuses food until a shed before laying. When that is over, a lay box with damp sphagnum is put in, for example a plastic box with a 5 cm hole in the lid. The eggs come 7-10 days after the shed. She lays 2-24 eggs, most often about 10, depending on the size of the female and the form. There is normally one clutch a year.

The eggs are white and oval.

INCUBATION

The eggs are moved to a box with vermiculite, perlite or a ready-made substrate. The humidity in the box must be above 90 %, but the eggs must not lie on a wet surface. The vermiculite and water should be damp enough to clump, but not so wet that water can be squeezed out. The temperature must be 27-29 °C and never below 27 °C or above 29 °C. The hatchlings emerge after 58-65 days.

REARING THE YOUNG

The hatchlings shed 10-14 days after hatching and then usually take a thawed pinkie. Most forms eat without further ado, while some need a lizard scent for the first few months. Keep them singly in small boxes with a hide, a small water dish and damp sphagnum, and feed them every 5-7 days.

Health and common mistakes

The species is hardy, and most problems are caused by wrong humidity, wrong temperature or overfeeding. The typical mistakes are:

- A damp substrate and poor ventilation, which cause mould, scale rot and skin problems.
- Shedding in pieces, which is caused by air that is too dry. Provide a humid hide.
- Temperatures that are too low, which cause poor digestion and regurgitation.
- Overfeeding, which makes the snake too fat.
- Mites and other parasites. Check the skin regularly.
- Respiratory infections with mucus and open-mouth breathing, which require a vet.

A change in appetite, lethargy and breathing problems are signs of illness. See a vet with reptile experience if the snake does not eat for several weeks or seems ill.

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.