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SALAMANDERS AND NEWTS

Southern Banded Newt

Ommatotriton vittatus

Ommatotriton vittatus is a medium-sized newt of 9-11 cm from the Levant and southern Turkey. In the breeding season the male develops a tall, serrated dorsal crest and stronger colours. The species likes cool conditions, is shy, and needs a cool, humid and quiet set-up, so it is one of the more difficult newts to keep. The population in Turkey is declining, so captive-bred animals are the right choice.

Family: Salamandridae Former name: *Salamandra vittatus; Triturus vittatus* **Mild skin toxins**

KEY FACTS

THE ANIMAL

Adult size	**9-11 cm** total length incl. tail
Lifespan	**8-12 years**
Active	**At dusk and at night**
Lifestyle	**Semi-aquatic**
Habitat	**Wetland and temperate woodland and meadow**
Skin toxins	**Mild** Wash your hands after contact and keep your fingers away from your eyes and mouth
Difficulty	**Experienced**

CARE

Min. enclosure	**60 × 30 × 30 cm** L × W × H for 2 adults
Temperature, day	**10-18 °C**
Temperature, night	**5-12 °C**
Humidity	**80-100%**
Water	**Aquaterrarium** depth 10-20 cm
Water temperature	**8-18 °C**
UVB	**Not required**
Winter rest	**4-10 °C** 8-12 weeks
Diet	**Insects, small invertebrates (springtails, fruit flies) and worms/snails**
Kept	**In pairs**

BREEDING

Reproduction	**Egg-laying**
Development	**Larvae in water**
Egg-laying site	**In water**
Sexually mature	**36-48 months**
Eggs per season	**100-200**
Larval period	**60-120 days** from hatching to metamorphosis
Larval diet	**Small aquatic invertebrates (daphnia, mosquito larvae)**
Parental care	**None**

PROTECTION AND PAPERWORK

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

About the species

Ommatotriton vittatus is a medium-sized newt of 9-11 cm in total length. Males are slightly larger than females in body length. In the breeding season the male develops a large crest along the back and clearer colours, and he displays to the female with movements of the tail and crest. Outside the breeding season the sexes are harder to tell apart.

There are two subspecies: *O. v. vittatus* in Turkey, Syria and Israel and *O. v. cilicensis* in Turkey. This is the southern of the two closely related banded newts; the northern one is *Ommatotriton ophryticus*, which was formerly regarded as a subspecies of *O. vittatus*. The two species have separate ranges and should not be mixed up.

Males are territorial and aggressive towards other males: they defend an area by biting and chasing rivals away, and there is typically a gap of from a few tens of centimetres up to about 80 cm between males' territories. Fertilisation is internal but without mating: the male deposits a spermatophore on the bottom and the female picks it up with her cloaca. The female may take spermatophores from several males.

In the wild, males reach sexual maturity at three years and females at four, and the animals live for up to eight years. Lifespan in captivity is not documented; 8-12 years is an estimate.

As in other newts, the skin has toxin glands; the toxin has not been studied for *O. vittatus*. The secretion can irritate mucous membranes. Wash your hands after handling, and do not touch your eyes or mouth. The animals do best when left in peace.

Distribution and habitat

Ommatotriton vittatus lives in the eastern Mediterranean region: in southern Turkey (including Hatay and the Adana area), Syria, Lebanon, Israel and Jordan. The nominate form occurs in Turkey, Syria and Israel, while *O. v. cilicensis* occurs in Turkey around Adana. Animals that were formerly counted as part of the species further to the north-east now belong to *Ommatotriton ophryticus*.

The species is listed as Least Concern worldwide (IUCN: LC), but populations in Turkey are declining.

> **Native range:** Turkey, Syria, Lebanon, Israel and Jordan.

HABITAT

Ommatotriton vittatus lives in water bodies of many kinds in temperate forest and grassland: rivers, ponds and canals, and also water in caves, on arable land and in rural gardens. In the breeding season, from February to June, the animals live in shallow, slow-flowing, well-vegetated water. The rest of the year they live on land in woodland and on stony ground close to water.

The water at its sites is 9-15 °C (about 11 °C on average), with a pH of 7.5-8 and a water hardness (GH) of 3-18. Below about 4 °C the animals hibernate, and in dry, hot summer weather they aestivate. The animals are most active at dusk and at night.

Care

THE ENCLOSURE

Little is known about keeping *Ommatotriton vittatus*. The recommendations are based on the few experiences with the genus, on the closely related *Ommatotriton ophryticus* and on the other European newts of the genus *Triturus*; the figures in this section and the following ones are therefore borrowed from them unless stated otherwise.

An enclosure of 60 × 30 × 30 cm suits a pair, and larger is better. Males are territorial, so keep only one male per enclosure unless the space is very large and rich in hiding places. The land section is made of a deep, damp base of unfertilised soil with a thick layer of moss, leaf litter, bark and cork for hiding places. The substrate must drain so that it does not become waterlogged. The water section is 10-20 cm deep with a floating board or stones, so the animals can move between water and land themselves. The species can be kept in a land enclosure, in an aquaterrarium, or alternately in both.

Small and medium-sized newts climb glass and squeeze through small openings, so the enclosure needs a tight-fitting lid with fine mesh. Animals that are disturbed often become stressed, so lift the hiding places only rarely.

TEMPERATURE

Ommatotriton vittatus likes cool conditions. The daytime temperature should be 10-18 °C and the night temperature 5-12 °C, and the temperature must not exceed 20 °C for long. In warm conditions the animals feed poorly and may fall ill. Keep the enclosure cool: a cellar, an unheated garage or a shaded spot outdoors, without sun and without heat sources.

Hibernation takes place at 4-10 °C and lasts 8-12 weeks. The animals rest on land in damp leaf litter and moss. They must not freeze, so an outdoor set-up needs hiding places at frost-free depth. After hibernation the animals are brought into breeding condition with rising temperature, more light and more food. During the breeding season the water is kept at 9-15 °C, as at its

sites in the wild.

Read more: Brumation and the seasons

HUMIDITY AND MISTING

Keep the land section damp, with a humidity of 80-100 %, but never waterlogged. Mist the moss with dechlorinated water when it begins to dry. A thick moss cover at one end and a drier floor with leaf litter at the other gives the animals a choice. Good ventilation prevents stagnant air and mould. If it becomes too dry, the soft skin dries out and the animals hide.

Read more: Humidity, misting and ventilation

WATER AND WATER QUALITY

The water section should be 10-20 cm deep and 8-18 °C. Use dechlorinated tap water or rainwater. Clean water is important: change a third of the water weekly, and remove food remains daily. A small filter with a gentle flow helps. The bottom can be bare or covered with coarse sand or large stones, never fine gravel, which can be swallowed. A floating board or floating plants let the animals leave the water. Cleaning agents, soap and hand cream must never come near the water.

LIGHTING AND UVB

UVB is not necessary for the species, which is active at night and at dusk and avoids sun. Ordinary daylight or LED light for 10-12 hours a day is enough. The lamp must not heat the enclosure. Plants and hiding places must provide plenty of shade. Dust the food with calcium and vitamins for amphibians, because the animals receive no UVB.

Read more: Lighting and UVB Read more: Calcium, vitamins and supplements

FEEDING

Ommatotriton vittatus eats any small animal it can overpower. On land, springtails, woodlice, white worms, fruit flies and small snails and spiders are suitable, and for adults also larger woodlice and crickets. In the water the animals take daphnia, mosquito larvae and worms. On land they almost never take motionless food, so the food must be live. Keep the diet varied and dusted with calcium and vitamins.

Adults are fed once or twice a week in cool weather. The food animals must be small enough for the newt to swallow easily.

Read more: Feeder animals: keeping and breeding

BEHAVIOUR AND HANDLING

The species is shy and does best when left in peace. Males bite and chase each other away from their territory, so two males do not belong together in a small enclosure. A pair, or one male with two or three females in a large, densely furnished enclosure, gives calm. Do not keep the species with fish or other species that eat eggs and larvae, and do not keep animals of very different sizes together.

The skin is delicate, so handle the animals only when necessary: wet your hands with dechlorinated water, or use a small net or a cup. Keep the lid closed.

Breeding

SEXUAL MATURITY AND SEXING

In the breeding season the male is recognised by the tall crest and the stronger colours; the female is more subdued. The animals become sexually mature after three years (males) and four years (females). Outside the breeding season the sexes are harder to tell apart.

MATING

In the wild the breeding season runs from February to June. Breeding is triggered by rising temperature, more light and more food after hibernation. Keep the animals on land until they are to breed; when they are given access to water, courtship begins. The male stands in front of the female, displays his crest and waves his tail, and the female picks up his spermatophore from the bottom with her cloaca. Males defend an area in the water, so provide space and plenty of plants and hiding places.

EGGS AND LARVAE

Over several weeks the female lays her eggs singly in the leaves of aquatic plants, which she folds around the egg with her hind legs. The number of eggs per season is not documented for the species; 100-200 eggs is borrowed from *Ommatotriton ophryticus*. Use soft plants such as Canadian waterweed or milfoil. Adults eat eggs and small larvae, so move the leaves with eggs to a separate container.

The larvae are very small at hatching, with external gills. For the first few days they live on the yolk. After that they are predators and take only live food: first infusoria and newly hatched daphnia, later larger daphnia, white worms and mosquito larvae. Feed the larvae daily, keep them in clean, cool water below 20 °C with plenty of plants, and sort them by size so the large ones do not eat the small ones.

METAMORPHOSIS

The larval period is not documented for the species; 2-4 months is borrowed from *O. ophryticus* and depends on temperature and food. After the front legs come the hind legs, and when all four legs have developed, the gills are resorbed and the colours change. Lower the water level to a few centimetres at that point, put in stones and floating plants so the metamorphosed animals can climb out of the water, and fit a tight-fitting lid. Newly metamorphosed juveniles drown easily, so move them quickly to a land enclosure.

REARING THE YOUNG

Newly metamorphosed juveniles live on land in a damp, cool enclosure with moss, leaf litter and bark. Juveniles are vulnerable and tolerate drought and heat badly. Feed them often with the smallest live food: springtails, wingless fruit flies, white worms and small woodlice, later larger woodlice and small snails. Keep them apart from the adults and sorted by size, and give calcium and vitamins.

Health and common mistakes

The main problems in keeping this species are:

- Heat: temperatures above 20 °C for a long time stress the animals, cause poor appetite and can lead to disease and death. Keep the enclosure cool.
- Drying out: the skin is delicate and dries out quickly if the land section is not kept damp. At the same time the substrate must not be waterlogged.
- Calcium and vitamin D3 deficiency (metabolic bone disease): seen with a one-sided diet without calcium and vitamins and without UVB. Dust the food with calcium and vitamins for amphibians.
- Skin infections: poor water quality causes fungal and bacterial infections. Use clean, dechlorinated water.
- Stress: animals that are disturbed all the time lose condition and eat poorly.
- Constipation: fine gravel and sand can be swallowed. Use a bare bottom, coarse sand or large stones.

The fungus *Batrachochytrium salamandrivorans* (Bsal) is fatal to many salamanders. Quarantine new animals before putting them with others, give each enclosure its own equipment, and clean hands and tools between enclosures. Animals, water and equipment must never come into contact with wild amphibians. Captive-bred animals carry diseases and parasites less often than wild-caught ones. See a vet with amphibian experience if an animal falls ill.

Read more: Quarantine and hygiene 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.