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SALAMANDERS AND NEWTS

Danube Crested Newt

Triturus dobrogicus

Triturus dobrogicus is a slender crested newt, 13-18 cm long, from the Danube basin and the plains of the large rivers. It is the smallest and most aquatic of the crested newts, with an orange to red belly and sharply defined black spots. The male develops a serrated crest in spring. The species is rare in captivity, and its care follows that of the other crested newts.

Family: Salamandridae

Mild skin toxins

KEY FACTS

THE ANIMAL

Adult size	**13-18 cm** total length incl. tail
Lifespan	**7-17 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	**Intermediate**

CARE

Min. enclosure	**45 × 30 × 30 cm** L × W × H for 4 adults
Temperature, day	**12-20 °C**
Temperature, night	**8-15 °C**
Humidity	**70-95%**
Water	**Aquaterrarium** depth 15-30 cm
Water temperature	**10-20 °C**
UVB	**Not required**
Winter rest	**4-10 °C** 6-12 weeks
Diet	**Insects and worms/snails**
Kept	**In pairs or in groups**

BREEDING

Reproduction	**Egg-laying**
Development	**Larvae in water**
Egg-laying site	**In water**
Sexually mature	**12-36 months**
Eggs per season	**200**
Hatching	**14-35 days**
Larval period	**60-120 days** from hatching to metamorphosis
Larval diet	**Complete diet, other larvae and 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

Triturus dobrogicus is the smallest of the crested newts. Adults are 13-15 cm long, and a few females reach 18 cm. The body is slimmer and more elongated than in the other species, with a narrow head and relatively short legs. This is an adaptation to life in water: the species has more rib-bearing vertebrae than the other crested newts (16-17).

The upperside is dark brown with black spots and white dots. The belly is orange to red, whereas in *Triturus cristatus* and *Triturus carnifex* it is usually yellow to orange-yellow, and it carries small to medium-sized black spots with sharp edges. In spring the male develops a tall, serrated crest on the back and tail, which often begins between the eyes and nostrils and is interrupted at the base of the tail, as well as a bluish-grey-white stripe along the tail. The female may have a yellow stripe along the back.

Like other crested newts, the species has toxic skin. Threatened animals secrete an irritating substance, so wash your hands after handling and do not touch your eyes or mouth. The toxicity has not been studied in *T. dobrogicus* itself; the statement is based on the other crested newts.

Distribution and habitat

Triturus dobrogicus occurs in three separate areas. The largest is Pannonia: the river valleys and plains of easternmost Austria, south-eastern Czechia, Slovakia, Hungary, north-eastern Slovenia, northern Croatia, northern Serbia, western Romania and Transcarpathia in Ukraine, along the Danube, Drava, Sava and Tisza. Marginal areas extend into Bosnia and Herzegovina.

The second area is the lower Danube and the Danube Delta, from southern Romania, northern Bulgaria and small parts of southern Moldova to the Odesa area in Ukraine, and the third is a small area in the Dnieper Delta. The first two are separated by a belt in which *T. cristatus* lives. To the west the range borders that of *T. carnifex*, and the species may hybridise in the contact zones.

> **Native range:** Austria, Czechia, Slovakia, Hungary, Slovenia, Croatia, Bosnia & Herzegovina, Serbia, Romania, Ukraine, Bulgaria and Moldova.

HABITAT

Triturus dobrogicus is the crested newt most closely tied to rivers and floodplains. It breeds in slow-flowing river margins, oxbow lakes, flooded marsh, larger ponds and ditches with abundant underwater vegetation, and it is found more often in flowing water and alongside fish than the other crested newts.

The species has the longest aquatic phase in the genus. The animals enter the water in February or March and typically stay about six months, some longer, and some return to the water in autumn. They are most active at night, both in water and on land. In the water they hide in vegetation; on land they live in deciduous woodland, scrub and meadows under logs and stones and in small burrows. They eat invertebrates, and in the water also tadpoles and smaller newts.

Read more: Rearing tadpoles

Care

THE ENCLOSURE

Little is known about the care of *Triturus dobrogicus*, and the species is rare in captivity. Eggs per season and larval period are known for the species itself; the other figures, including lifespan and age at sexual maturity, are borrowed from *Triturus cristatus* and *Triturus carnifex*, which live in the same climate and have the same requirements. The species is more aquatic than these, so the aquatic section should take up most of the space.

The aquatic phase is kept in an aquarium and the terrestrial phase in a terrarium, and both should be at least 45 × 30 × 30 cm for two pairs; larger is always better. The species can stay in the aquarium for most of the year when a floating platform or a slope allows the animals to leave the water. If the whole life cycle is to take place in one set-up, it must be correspondingly larger, with a spacious aquatic section and a land section. Two separate set-ups are often the easiest.

The aquarium can be simple: no substrate, dense plants such as Canadian pondweed (*Elodea*) and a few pieces of clay pipe or flowerpot shards as hiding places and an aid to shedding. The plants in mid-water provide cover, and the female lays her eggs in the leaves. The land terrarium must be well ventilated and never bone dry or waterlogged, with a layer of damp, unfertilised soil and moss on top, plus bark and stones as hiding places. The lid must always be tight, because newts climb glass and squeeze through small gaps.

TEMPERATURE

Triturus dobrogicus loves cool conditions. The water is kept at 10-20 °C and must never become warmer; the animals are active down to about 5 °C. The land phase is kept at roughly the same temperature: 12-20 °C by day and 8-15 °C at night. Place the enclosure in a cool spot out of direct sun; in warm spells a cool room or a cellar helps.

A cool winter helps bring the animals into breeding condition. The winter rest lasts 6-12 weeks at 4-10 °C, and feeding is reduced during this period. After the rest the animals are moved to the aquatic set-up at about 15 °C, where breeding is triggered by rising temperature, more light and more food. A winter rest in water is not documented for the species.

HUMIDITY AND MISTING

In the aquatic phase humidity is not a problem. In the land phase the soft skin dries out quickly, so the substrate must be damp, with a humidity of 70-95%. Mist regularly with dechlorinated water or rainwater, preferably at one end, so the animals can choose how damp they want it.

The substrate must never become waterlogged, as it will rot and fungus will develop. Stagnant air also causes fungus, so ventilation must be good. If the animals sit still with dry, dull skin, it is too dry and they should go back into the water.

Read more: Humidity, misting and ventilation

WATER AND WATER QUALITY

Water depth is 15-30 cm, and the water is kept at 10-20 °C. The species is used to river water and tolerates many kinds of water, but chlorine harms it; tap water that has stood for a couple of days is unproblematic. A filter with a gentle flow means less work, and the species tolerates a little current, but the water must be calm.

Without a filter the water is changed regularly and the bottom kept clean. A bare bottom is easiest to keep clean; avoid gravel and small stones that the animals could swallow.

LIGHTING AND UVB

The animals are nocturnal and do not need UVB. The plants need light to grow, and an ordinary aquarium lamp is enough. After the winter rest, more light together with more food and rising temperature helps bring the animals into breeding condition. The lamp must not heat the water.

Read more: Lighting and UVB

FEEDING

In the water *T. dobrogicus* takes earthworms, freshwater shrimp (*Gammarus*), bloodworms, daphnia and white worms. Frozen bloodworms and fish food are also taken, but often have to be offered with tweezers at first. A varied diet makes vitamin and mineral supplements unnecessary.

In the land phase the animals seldom take motionless food. Offer live earthworms, white worms, waxworms, small crickets and fruit flies. Adults are fed twice a week; the females need to build up reserves for spring, while the males must not be overfed. Food collected from ponds and hedgerows may contain toxins or disease and should not be gathered from polluted places.

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

BEHAVIOUR AND HANDLING

Triturus dobrogicus is nocturnal and hides in vegetation by day. In the water the animals snap at anything that moves, including each other during feeding, and in the wild they also eat smaller newts and tadpoles. Animals of different sizes should therefore be kept separately.

During the breeding season the males are territorial and may be aggressive towards other males, especially if there are many in a small space. An animal that is being bullied should be moved. The skin is sensitive, so handle the animals only when necessary; use a wet hand or a net. Enclosures must always be fully secured, and escaped animals must never come into contact with wild populations. Hybrids with other crested newts occur, so different species should not be kept together.

Breeding

SEXUAL MATURITY AND SEXING

The sexes are easy to tell apart in the breeding season. The males are slimmer with a large, swollen cloaca and a serrated crest, the females sturdier, often with a yellow stripe along the back. Outside the breeding season the sexes are hard to tell apart, and the crest is absent. Sexual maturity is not documented for the species; in captivity crested newts mature after 1-3 years, depending on food and temperature. For breeding, keep a small group to be sure of having both sexes.

MATING

Mating is triggered by a cool period followed by rising temperature, more light and more food. After the winter rest the animals are moved to an aquatic set-up at about 15 °C; if they are placed on a floating platform, they normally enter the water within a few days and take on breeding colours. The male displays in front of the female with tail vibrations and whiplash movements of the tail. If she is receptive, he deposits a spermatophore on the bottom and leads her over it so that she picks it up with her cloaca. Fertilisation is internal. There must be an open patch on the bottom for the courtship, and the males may become aggressive towards each other if crowded.

EGGS AND LARVAE

The female begins laying eggs a few days after mating and continues for several weeks, about 200 eggs per season in all. Each egg is laid singly and folded into the leaf of an aquatic plant; Canadian pondweed (*Elodea*) and water forget-me-not have leaves of the right size. The eggs and larvae are smaller than in the other crested newts.

The adults eat eggs and larvae, so the leaves with eggs are removed and moved to a separate tank. The eggs hatch after 2-5 weeks, depending on temperature. Dead eggs are quickly attacked by fungus and should be removed.

Newly hatched larvae are very small and at first live off the yolk. After that they are predators and must be fed daily: first infusoria, then small daphnia and cyclops, later larger daphnia, white worms and bloodworms, and frozen bloodworms and fish food if they accept it. The larvae live freely in the water column, so the water must be at least 10-15 cm deep with plants in mid-water, and they are far more sensitive to water quality than the adults and need frequent water changes. Large larvae eat each other if they are underfed or too crowded; sort them by size.

METAMORPHOSIS

The larvae reach metamorphosis after 2-4 months, longer than in the other crested newts. When all four legs have developed, the young animals' colours appear and the external gills are absorbed. At this point the young must be able to get out of the water, or they may drown: a floating platform, a slope or stones that project above the surface. The young can also be raised in water if they are kept in a mainly aquatic set-up and fed there.

REARING THE YOUNG

Newly metamorphosed young live on land like the adults, but need smaller food: aphids, white worms, fruit flies and small crickets. Sort them by size so the large ones do not take the small ones. The land set-up must be damp, cool and well ventilated, and the young must have access to water. Growth rate and time to sexual maturity are not documented for the species.

Health and common mistakes

Triturus dobrogicus has the same health problems as the other crested newts, and most are caused by mistakes in care:

- Heat: water above 20 °C for a prolonged period stresses the animals. Move the enclosure to a cooler place.
- Dryness in the land phase: still animals with dry, dull skin. Raise the humidity, and move them to the water if necessary.
- Poor ventilation: stagnant air causes fungal infections.
- Fungus on eggs and skin: remove dead eggs quickly, and keep water and substrate clean.
- Larvae floating belly up: underfeeding or crowding can make the larvae swallow air. Place the larva in a dish with so little water that it cannot turn over, and give plenty of food; the air often works its way out within half an hour.

The fungus *Batrachochytrium salamandrivorans* (Bsal) is fatal to many salamanders and newts. New animals must be quarantined in a separate set-up, and equipment, water and hands must be kept separate between set-ups. Asian salamanders can carry the infection without being ill and must never come into contact with the species, either directly or via water and equipment. If an animal becomes ill for no clear reason, contact a vet with expertise in amphibians.

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.