

**On the presence of paedomorphosis
in *Lissotriton vulgaris* (Amphibia: Salamandridae)
from Danube Delta**

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Paedomorphosis is a widely distributed evolutionary change of salamanders and newts, where larval structures remain in adult animals due to hard conditions of the terrestrial environment (e.g. Semlitsch and Wilbur, 1989; Denoel et al., 2005a). This feature is considered to be both genetically and environmentally influenced in the choice to keep the larval structures as adults (e.g. Semlitsch and Wilbur, 1989; Smith, 1993; Voss and Shaffer, 1997; Voss and Smith, 2005).

Paedomorphosis was described in many species of European newts such as *Lissotriton vulgaris* (e.g. Fuhn 1963, Dely 1967, Kalezic et al. 1990, Litvinchuk et al. 1996, Litvinchuk 2001, Covaciu-Marcov & Cicort-Lucaciu 2007), *Triturus macedonicus* (e.g. Kalezic et al. 1994, Denoel et al. 2009), *Mesotriton alpestris* (e.g. Kalezic et al. 1990) etc. The most recent species where paedomorphosis was identified is *Ommatotriton vittatus* (Kaya et al. 2008) and *Ommatotriton ophryticus* (Skorinov et al. 2009).

On 18 may 2007 a paedomorphic adult female of *Lissotriton vulgaris* was captured in Danube Delta, near Murighiol village. We collected some other specimens of *L. vulgaris* and *Triturus dobrogicus* in the same pond but, non of them was paedomorphic. Unfortunately we did not take measurements of the animal.

The pond is a large one (about 100 ha), covered mainly with reed and having very few open areas. The water, invaded with algae, have an average deep of one meter with muddy bottom.

In Romania this specimen is not a singular record of paedomorphosis in newts. Fuhn (1963, 1969) recorded many *L. vulgaris* specimens (probably a whole popula-

tion) in Caraorman lakes, Danube-Delta.

In the same year (2007) in the western part of Romania two another paedomorphic newts were found: a smooth newt female (Covaciu-Marcov & Cicort-Lucaciu 2007), in a natural pond from Arad district, and a crested newt (nonmetamorph larvae) (Covaciu-Marcov & Cicort-Lucaciu 2009) captured in a well, in the north-western part of Romania (Odesti locality, Maramures county)

The particular aspect of our record is that this specimen was found in a pond with a large fish population; it is known that fish is a high predator of the non-metamorphosed newts (Denoël et al. 2005b) and is a very low chance to survive a paedomorphic specimen. Other potential predators for the non-metamorphic newts in this pond are the larvae of dragonflies, species belonging to Ditiscidae family, storks, geese and other bird species, *Emys orbicularis*, or even large *T. dobrogicus* adults (Fuhn 1969).

The main factors that probably determined the appearance of the neotenic specimens in Danube Delta but as well in the western part of Romania (as shown Covaciu-Marcov & Cicort-Lucaciu 2007, 2009) were the very high level of precipitations in 2006 and the warm winter 2006/2007 (after Romanian National Institute of Meteorology and Hydrology, it was the warmest winter in Romania in the last 107 years). This is another evidence that the climatic changes can affect the life-characteristics of ectothermic organisms, newts in particular.

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