

SHORT NOTE

Paedomorphosis in the banded newt, *Triturus vittatus* (Jenyns, 1835)

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KEY WORDS : Paedomorphosis, banded newt, *Triturus vittatus*, development.

Paedomorphosis, the phenomenon of gaining sexual maturity while retaining the external larval morphological features, has been well known in salamanders and newts since its first description in *Ambystoma mexicanum* by Dumerill in 1866 (1). Paedomorphosis has been noted in 57 species of newts and salamanders, distributed in nine families. Of the 12 species in the genus *Triturus* (2), the paedomorphic forms of nine (*T. alpestris*, *T. boscai*, *T. carnifex*, *T. cristatus*, *T. helveticus*, *T. italicus*, *T. marmoratus*, *T. montandoni* and *T. vulgaris*) have been described (3-11). However, paedomorphosis has not been previously documented in *T. vittatus*.

In this paper, we introduce new data regarding the occurrence of paedomorphosis in the genus *Triturus* by describing the paedomorphic females for the first time in *T. vittatus*.

The study site comprised two separate but nearby irrigation pools of approximately 513m² connected by large pipes, in the vicinity of Sakarya, Turkey (41° 02' N, 30° 37' E). We captured 47 specimens of *T. vittatus* on 23 March 2006, of which four were paedomorphic, and transported them alive to our amphibian laboratory. We placed each of them with a metamorphic male in separate 20 litre glass aquaria and provided some small-leaved aquatic plants.

Paedomorphs and metamorphs in captivity displayed courtship behaviour and then breeding activity. Three of the four paedomorphic females deposited 174 eggs in total (n: 35, 41 and 98 by each female) and 54 larvae developed from these eggs. Retention of external gills in the mature individuals was an external cue to their paedomorphosis (Fig. 1A). The females started to lose their external gills gradually in captivity after laying their eggs (Figs 1B-C). SVL of the paedomorphic females ranged from 3.6-4.5cm with a mean of 3.9±0.86cm. Their external pattern and colouration did not differ from the other adult forms of the same population. A large sized (SVL=41mm) larva of *T. vittatus* has also been noted by KOSSWIG (12) but it had not been demonstrated to be a paedomorphic form.

Until now, the banded newt, *Triturus vittatus* was not known to be paedomorphic; here we describe the occurrence of paedomorphosis in this species for the first time. However, because of the small sample size of the paedomorphic forms, we cannot yet point out the exact cause of this phenomenon.

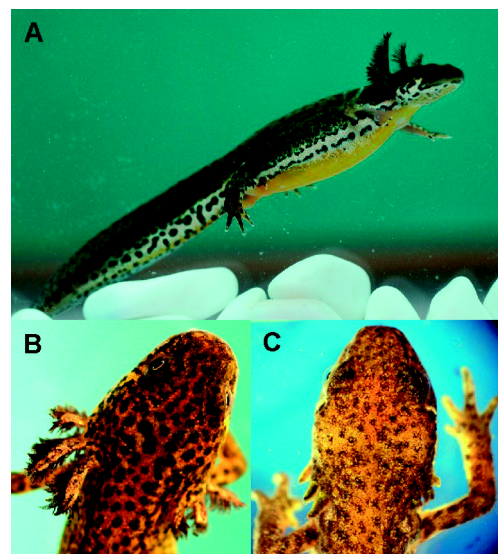


Fig. 1. – A paedomorphic female of *Triturus vittatus* (A); the external gills of paedomorphic female: retained (B), reduced (C).

ACKNOWLEDGEMENTS

We thank Prof. Dr. M. K. Atatür and Dr. M. Denoël for their valuable comments on the manuscript. The permissions for field work and handling of the newts were issued by the Animal Ethics Committee of Faculty of Medicine, Ege University.

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Received: April 3, 2007

Accepted: November 19, 2007