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FIRST RECORD ON THE OCCURRENCE OF *TRITURUS V. VULGARIS*
(LINNÉ, 1758) IN NORTH-EASTERN ITALY
(AMPHIBIA, CAUDATA, SALAMANDRIDAE)

PRIMI DATI SULLA PRESENZA DI *TRITURUS V. VULGARIS*
(LINNÉ, 1758) NELL'ITALIA NORD-ORIENTALE
(AMPHIBIA, CAUDATA, SALAMANDRIDAE)

Abstract – The Authors refer about the occurrence of *Triturus v. vulgaris* in north-eastern Italy. After a review of the distribution of this newt in the eastern Alps, they introduce a provisional UTM (10x10 square grid system) synthesis of the distribution of *T. v. vulgaris* and *T. v. meridionalis* in the Friuli-Venezia Giulia region.

Key words: Distribution, *Triturus v. vulgaris*, *T. v. meridionalis*.

Riassunto breve – Gli Autori riferiscono i primi dati sulla presenza di *Triturus v. vulgaris* nell'Italia nord-orientale. Dopo una rapida disamina delle attuali conoscenze sulla distribuzione di questo tritone nelle Alpi sud-orientali, gli Autori presentano una sintesi preliminare della distribuzione di *Triturus v. vulgaris* e *Triturus v. meridionalis* nel Friuli-Venezia Giulia realizzata secondo il sistema UTM con un reticolo di km 10 di lato.

Parole chiave: Distribuzione, *Triturus v. vulgaris*, *T. v. meridionalis*.

1. Introduction

Triturus vulgaris (L., 1758) is a Caucasian-Euroanatolic politypic species (sensu LA GRECA, 1963) of the Euro Turanic “*vulgaris* group” (GIACOMA & BALLETO, 1988), distributed in central and south-eastern Europe and central western Asia (THORN, 1968; GENIEZ & GRILLET, 1990). It has been subdivided in seven well distinct subspecies (RAXWORTHY, 1990), only one of them (*T. v. meridionalis*) dwelling in northern and central Italy (LANZA, 1968; BRUNO, 1973; LANZA, 1983; LAPINI, 1983; DOLCE & LAPINI, 1989).

Up to now the distribution areas of *Triturus v. vulgaris* (hereinafter *T.v.v.*) and that of *Triturus v. meridionalis* (hereinafter *T.v.m.*) seemed to be in contact only in northern Yugoslavia. In this country, in fact, *T.v.v.* inhabits the Sava and Drava valley, while *T.v.m.* lives in central and north-western Slovenia and Istria (POZZI, 1966).

T.v.m. differs from the nominal form principally in some male secondary sexual characters. In the nuptial phase, in fact, it presents more or less well developed dorso lateral folds (absent in the neotenuics: GALGANO & LANZA, 1948) and a trunk with a subquadrangular cross section, a fairly low vertebral crest with an almost smooth edge, strongly developed toe flaps and a 5-8 mm long tail tip filament (ARNOLD & BURTON, 1978; LANZA, 1983). In respect to this latter character, anyway, RAXWORTHY (1990) writes that "the tail tapers to a fine point but there is no tail filament"; we agree with his opinion.

These morphological features are so distinctive (fig. 1) that the hypothesis of these two races being separate species seems not unlikely⁽¹⁾. The secondary sexual characters of the European newts, in fact, "are highly species-specific and it is probable that they serve as cues that enable females to recognize conspecific males" (HALLIDAY, 1977).

In respect to the nominal form, moreover, *T.v.m.* presents some ethological differences which probably imply a lower use of the eyesight in the breeding behaviour (GIACOMA & BALLETO, 1988).

In spite of these data, in northern Yugoslavia the genetic distance between *T.v.m.* and *T.v.v.* is relatively low ($D = 0,049$) (KALEZIC, 1984). In this area there is a broad zone of "subspecific intergradation" (RAXWORTHY, 1990) between *T.v.v.* and *T.v.m.* that indicates a gene flow with little influence on morphology (KALEZIC, 1984).

The present knowledge about the intergradation between these *T. vulgaris*' races is very poor, but hybridization experiments showed successful courtship with sperm transfer (LANTZ, 1947 in RAXWORTHY, 1990).

2. The new records

During a sampling finalized to the study of genetic introgression in the *Hyla* complex, it was possible to collect some specimens of *T.v.v.* in a breeding pond near Fusine in Valromana (Tarvisio, Udine). In this marshy area *T.v.v.* is syntopic with *Triturus*

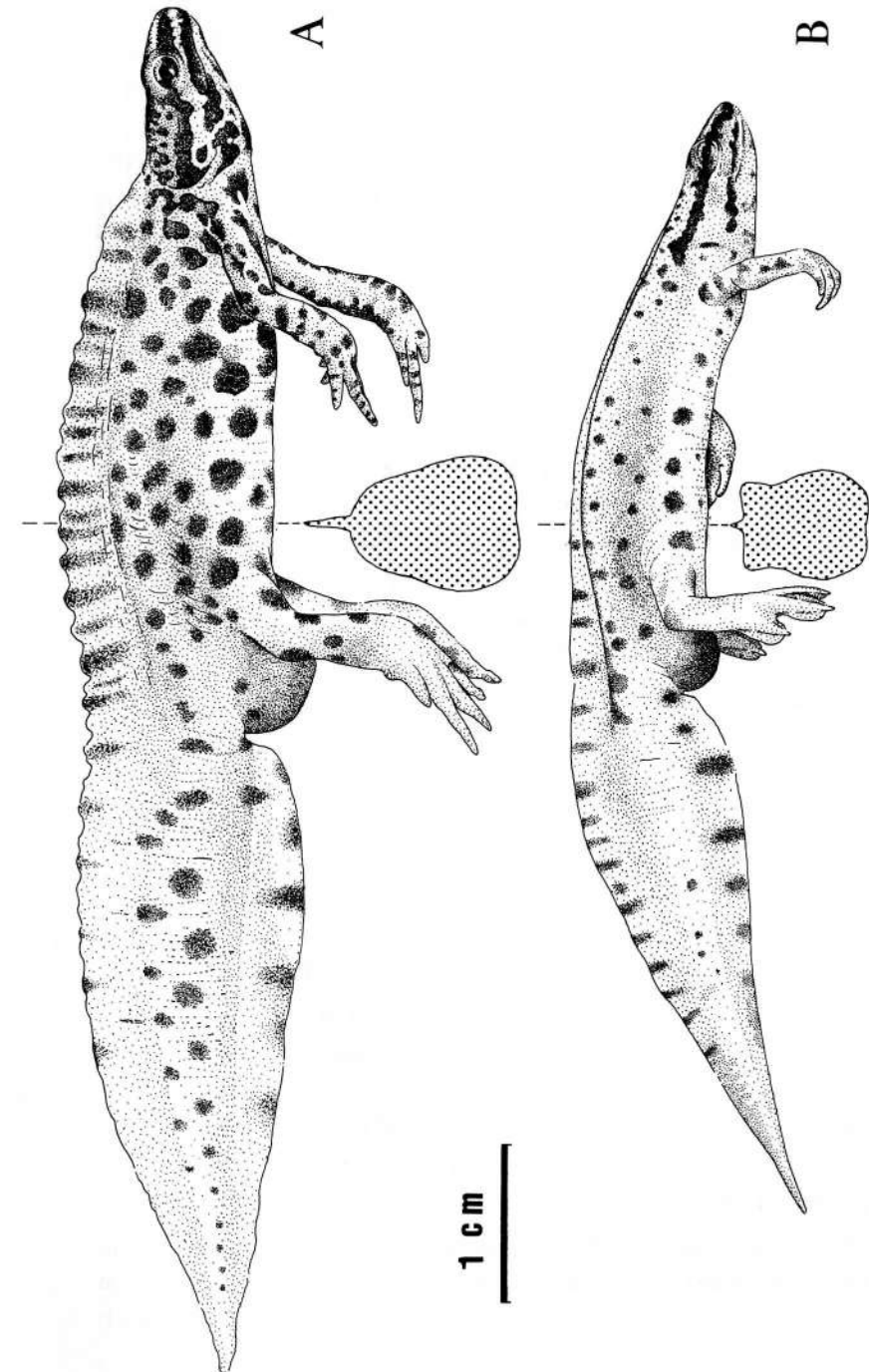


Fig. 1 - A: *Triturus v. vulgaris* from Julian Alps (Sella Soudogna, m 1396, Dogna, Udine); B: *Triturus v. meridionalis* from Carnic Alps (marshes of Cima Corso, m 839, Ampezzo, Udine). Dotted areas represent the cross-section of the trunk.
- A: *Triturus v. vulgaris* delle Alpi Giulie (Sella Soudogna, m 1396, Dogna, Udine); B: *Triturus v. meridionalis* delle Alpi Carniche (Paludi di Cima Corso, m 839, Ampezzo, Udine).
Le aree punteggiate rappresentano la sezione trasversale del tronco.

(1) B. Lanza, ex verbis, 1991.

a. alpestris, *T. carnifex*, *Hyla a. arborea*, *Bufo bufo*, *Rana t. temporaria*, *Bombina [v.] variegata*, *Natrix n. natrix* and *Lacerta (Z.) vivipara*. In spite of numerous herpetological studies, up to now neither *T.v.v.* nor *T. carnifex* have ever been found in this area (DARSA, 1972; STERGULC, 1987).

Considering the interest of these findings, we have also verified the subspecific status of some smooth newt populations of the Julian Alps (Sella Somdogna surroundings, Dogna, UD) which had been discovered by DOLCE (1977) and ascribed to *T.v.m.* (see also STOCH & DOLCE, 1984).

Surprisingly, they turned out to be surely *T.v.v.* (fig. 1).

Also in this marshy area *T.v.v.* lives together with *Triturus a. alpestris*, *T. carnifex*, *Hyla* cfr. *arborea*, *Bufo bufo*, *Rana t. temporaria* and *Bombina [v.] variegata*, while the surrounding areas are inhabited also by *Salamandra a. atra* and *Vipera berus*.

The new records may be summarized as follows:

UM 95-VM 05: Fusine in Valromana, m 850 (Tarvisio, Udine)

♂♂; ♀♀ - 2.VI.1991 L. Lapini; A. dall'Asta; D. Scaravelli leg. et det.

♂♂; ♀♀ - 3.VI.1991 L. Lapini & A. dall'Asta leg. et det.

UM 84: Il Laghetto, m 1442 (Dogna, Udine) (STOCH & DOLCE, 1984)

UM 84: Torbiera di Sella Somdogna, m 1396 (Dogna, Udine)

♂♂; ♀♀ - 3.VI.1991 L. Lapini; A. dall'Asta leg. et det.

♂♂; ♀♀ - 6.VI.1991 L. Lapini; A. dall'Asta; A. Verardi leg. et det.

3. Conclusions

The new data clearly show that two well distinct races of *T. vulgaris* (LINNÉ, 1758) live in northeastern Italy. Up to now the nominal form of this newt has been found only in the Julian Alps, but it seems probable that its Italian distribution could cover also the eastern Carnic Alps. In Carinthia, in fact, *T.v.v.* can colonize alpine environments up to m 2100 a.s.l. (MILDNER & HAFNER, 1990), while in Austrian Alps it has been usually cited up to m 2150 or m 2250 a.s.l. (CABELA & TIEDEMANN, 1985; DIESENER & REICHHOLF, 1986).

The altitudinal range of *T.v.m.* in Friuli-Venezia Giulia (see DOLCE & LAPINI, 1989) must be corrected; in this region, in fact, this taxon lives in the lowlands, in the Prealps up to m 870 a.s.l. (LAPINI, 1988) and on the Carnic Alps up to m 839 a.s.l. (fig. 2).

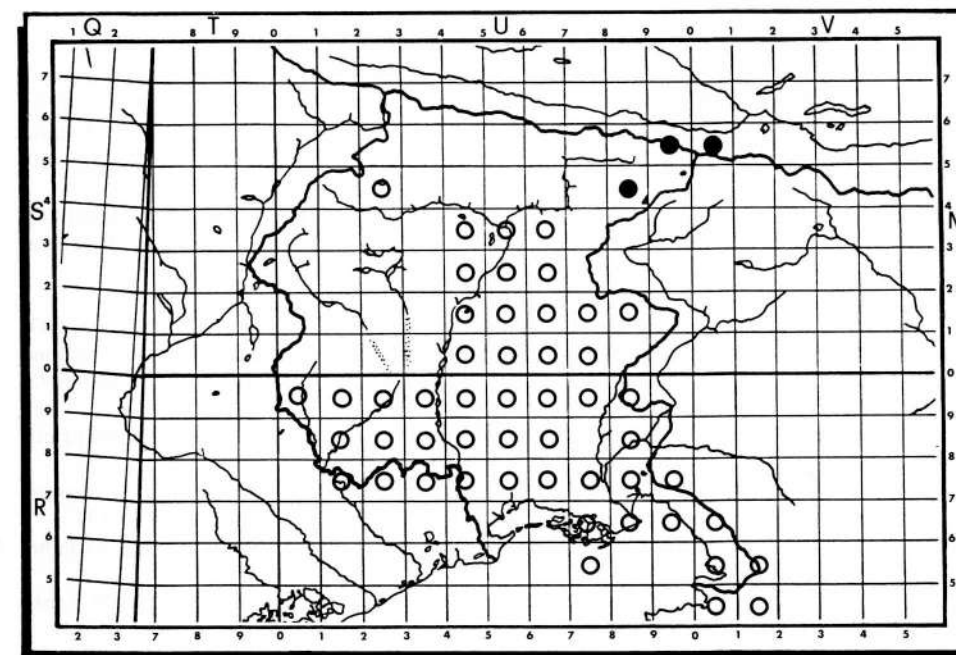


Fig. 2 - Provisional UTM Atlas (10x10 square grid system) of the distribution of *Triturus v. vulgaris* (●) and *Triturus v. meridionalis* (○) in the Friuli-Venezia Giulia region from both original and bibliographic sources.

- Sintesi preliminare della distribuzione di *Triturus v. vulgaris* (●) e *Triturus v. meridionalis* (○) nella regione Friuli-Venezia Giulia secondo dati originali e bibliografici.

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SUMMARY – The Authors refer about the occurrence of *Triturus v. vulgaris* in northeastern Italy. Up to now the nominal form of smooth newt has been collected only in some breeding ponds near Fusine in Valromana (Tarvisio, Udine) and in other marshes and small lakes of the Julian Alps (Commune of Dogna, UD). After a review of the present knowledge concerning the distribution of this newt in southeastern Alps, the Authors produce a provisional UTM (10x10 square grid system) synthesis of the distribution of *Triturus v. vulgaris* and *T. v. meridionalis* in Friuli-Venezia Giulia.

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