

Predation on Italian newt larva, *Lissotriton italicus* (Amphibia, Caudata, Salamandridae), by *Agabus bipustulatus* (Insecta, Coleoptera, Dytiscidae)

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ABSTRACT — Predation of a larva of *Lissotriton italicus* by adults of a diving beetle (*Agabus bipustulatus*) on the Aurunci Mountains (central Italy, Latium region) is recorded. This is the first identified invertebrate predator of this Italian endemic newt. The possible role of this beetle in the local demographic control of the newt is briefly discussed.

THE Italian Newt, *Lissotriton italicus* (Peracca), previously referred to the genus *Triturus* (Rafinesque), is endemic to central and southern Italy. The northern most limits of its distribution include an oblique area extended from the Ancona province (Marches region) South to Lepini Mountains (Latium region, Rome province), on the Adriatic and Tyrrhenian sides of the Apennines, respectively (Corsetti *et al.*, 2005; Balletto, 2006; Scillitani *et al.*, 2006; Scillitani & Tripepi, 2007). It is a euryoecious species living in a wide range of habitats, from the sea level up to 2000 m, which should be considered endangered since over 30% of the known populations have disappeared over the last 10 years (Scillitani *et al.*, 2006; Scillitani & Tripepi, 2007). Its ecology was recently the subject of various studies (cf. Corsetti, 2000b; Scillitani *et al.*, 2004, 2006; Scillitani & Tripepi, 2007), even though "specific predators are not known, but fishes, other species of newts, water snakes, dragonfly nymphs and hydroadephagous coleoptera can prey upon both larvae and adults" (Scillitani *et al.*, 2004: 51).

On 13th June 1995, during field research on the herpetofauna of the Aurunci Mountains (Latium region) (Corsetti, 2000a; 2000b; 2004), many larvae of *L. italicus*, close to metamorphosis (body length 30-40 mm), were found in a small muddy residual pond, about 1 m across and 15 cm deep, located in an open *Quercus pubescens* wood

(Latina province, Castelforte, Monte Siola W-SW slope, 240 m a.s.l.). No other amphibians occurred in the pond, which was probably feebly trickle fed by a very small spring. In this pond about 15 adults of a predaceous diving beetle, *Agabus bipustulatus* (Linnaeus) (Insecta, Coleoptera, Dytiscidae) were observed attacking a larva of the Italian Newt. The larva was initially attacked by a single beetle that was quickly followed by the others and was devoured, almost completely, in about 10-15 seconds. *A. bipustulatus* is the commonest and one of the most widespread Italian dytiscids; it is a very good flyer and euryoecious (Franciscolo, 1979; Rocchi, 2006), generalist predator and scavenger (Bosi, 2001). It also commonly colonizes some breeding sites of *L. italicus* of Latium, which are chiefly (60%) artificial water bodies such as fountains, livestock drinking pools, stone wells and tanks (Corsetti, 2000b, 2004; Corsetti *et al.*, 2005). Killings of amphibian larvae by dytiscids are obviously well known (cf. Franciscolo, 1979). *A. bipustulatus* is one of the very few 'large' dytiscids (body length 9.5-11.6 mm) syntopic with *L. italicus* in Latium (Corsetti & Nardi, unpublished), and thus could play a role in the local demographic control of Italian Newt larvae.

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