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A case of complete albinism in *Lissotriton vulgaris meridionalis*

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There are several cases of abnormally or uncommonly coloured individuals of amphibians reported in the literature. Amphibian coloration is defined by the disposition of specific epidermal cells: the chromatophores. These are cells containing granules of pigment. Chromatophores are usually classified on the basis of the granules' chemical composition and color under a white light. In amphibians skin there are: the melanophores that contain granules of melanin and have a black or dark color, the xantophores containing yellow granules, the erythrophores containing red granules, the leucophores containing white granules, the cyanophores containing blue granules and the iridophores containing crystals of guanine that have a silver or iridescent aspect (Duellman and Trueb, 1994). Occurrence and distribution of these cells in the epidermis are variable from species to species (Pough et al., 2003). There are several causes and typologies of the alteration of the individual coloration. Some cases were summarized by Brame (1962) and Dyrkacz (1981).

In the case of albinism, animals completely lack dark pigmentation because there is a total absence of melanin. Complete albinos are identified by the white coloration of the skin and by the red iris. Leucistic individuals can be distinguished from albinos by the fact that iris coloration is normal. Leucistic animals seem not to be more vulnerable at the exposition at sunlight and do not have problems of view linked to a lack of pigment in the retinal epithelium (Spadola and Insacco, 2010) as occurs in albinos. Albinism is a hereditary recessive trait (Channell and Valientine, 1972; Jones, 1991; Corsini et al., 2002). In European Salamandridae albinism has been recorded in *Salamandra salamandra* (Concaro, 1988; Arribas and Rivera, 1992; Gutiérrez, 2000; Raffaëlli 2007), *Chioglossa lusitanica* (Brame and Freytag, 1963; Teixeira et al., 1999), *Lissotriton v. vulgaris* (Benl, 1965), *Triturus carnifex* (Raffaëlli, 2007), *Triturus marmoratus* (Budó, 1998; Diego-Rasilla et al., 2007), *Pleurodeles waltl* (Fontanet et al., 1992), and *Ichthyosaura alpestris* (Lutzmann, 1997).

On 19 March, 2010 one of us (AM) found an albino male of *L. vulgaris meridionalis* in a pond of the Oasi del Ronchetto in the commune of Seveso (Lombardy – North-West Italy) (45°38'43.36''N 9°07'54.84''E). Intergumentary pigment was lacking on body, head, limbs, and tail. Eyes were red (Fig. 1). The specimen was 73 mm long and weighted 1.7 g. It was found in a pond surrounded by small broadleaf wood confining with an urbanized area. In the wood there is a total number of 11 pools, 8 of them excavated in November 2009. . 41 normally pigmented specimens have been observed on the same date in the area. Of 162 *L. v. meridionalis* individuals observed and measured over three years in the same area for a conservation project, the specimen described is the only albino recorded.

In the genus *Lissotriton* some cases of albinism have been already described. It has been pointed out the case of a *Lissotriton boscai* specimen from Spain (Brame, 1962*)*; a case for *L. montadoni* and some cases for *L. helveticus* are known (Brame, 1962). In *L. v. vulgaris* complete albinos larvae and adults have been reported in Germany, Netherlands, England and Czech Republic (Brame, 1962; Nečas et al*.,* 1996). To our knowledge this case of albinism is the first reported for *L. v. meridionalis*.

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Table 1. The albino male of *L. v. meridionalis* (photo A. Modesti)

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