

## The first record of a melanistic Eastern Green Lizard, *Lacerta viridis* Laurenti, 1768 (Squamata, Lacertidae), in Croatia

### Prvi nalaz melanističnog zelembaća, *Lacerta viridis* Laurenti, 1768 (Squamata, Lacertidae), u Hrvatskoj

JURICA STOŠIĆ

Croatian Herpetological Society, Lipovac I., br. 7, Zagreb, jur.stosic@gmail.com

On 29 May 2011 an adult specimen of the Eastern Green Lizard (*Lacerta viridis*) with melanistic coloured skin was seen at the area of Prapuće - Krči (Ogulin, Croatia) (N 45.263974°; E 15.216242°, 337 m a.s.l.) (Fig. 1). It was found about one hour before sunset, at about 19.30 hrs. The specimen was caught, photographed and released. The habitat at the locality was also photographed. The sex of the animal was not determined. It was not measured or marked. Based on the photo it seems to be about 30 cm long, with the tail. The dorsal colouration and sides of the specimen's body was uniformly black. The ventral side and limb scale margins were dark yellow. The tail was a normal brownish colouration (Fig. 2).

This is the first reliable sighting of a totally black Green Lizard in Croatia, at least in recent times. Rare reported cases of melanism in the *Lacerta viridis* complex were also mentioned in the literature of neighbouring countries, e.g. Austria (Werner 1897) and Hungary (Korsos & Nagy 2006). A week after the sighting, the location was searched more systematically. An additional 15 fifteen Green Lizards were found, all of them of with normal colouration (Fig. 3).

The climate of the Ogulin valley is continental (Cfb) according to the Köppen climate classification. The habitat on the area of Krči is a mosaic landscape: uncultivated land, smaller extensive orchards and mown gardens (Fig. 1). The

terrain is rough but fairly level, the slope is less than 4%. Other herpetofauna species were also recorded on the site: *Anguis fragilis*, *Coronella austriaca*, *Zamenis longissimus*, *Bufo bufo* and the non-native *Testudo hermanni*.

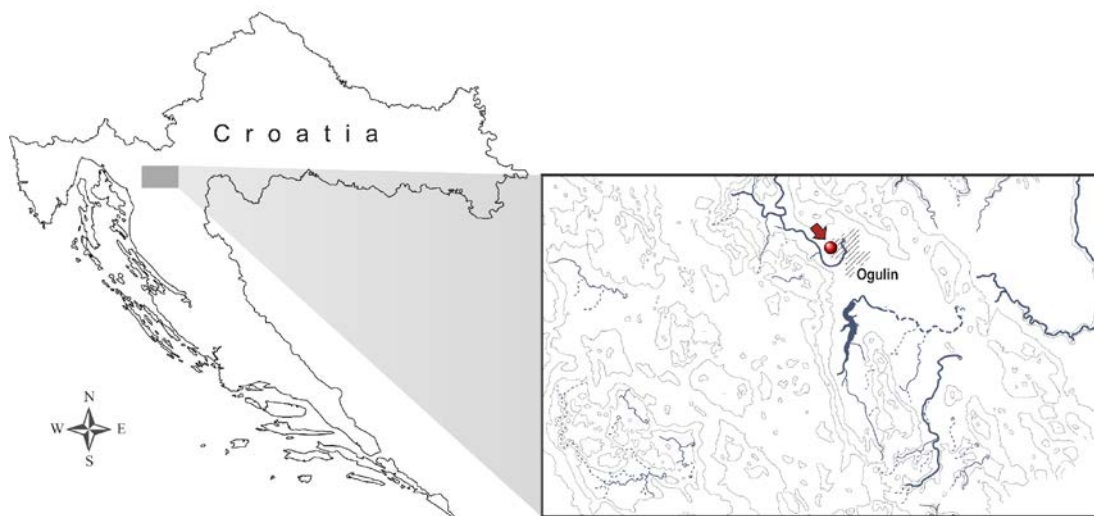
Melanism occurs occasionally among lacertid lizards and it is seen in this species too (Arnold & Ovenden 2002). This kind of colouration seems to be more common on some locations, higher altitudes or in smaller isolated populations because of genetic drift. It is considered an ecological adaptation to a certain environment. In the thermal melanism hypothesis, melanism (low skin reflectance) is an advantage during colder times, since melanistic individuals can heat up faster than normal coloured ones. The assumption is that in polymorphic populations melanistic specimens need a shorter time for basking and they have better heat conservation, a longer period of daily and seasonal activity and finally better fitness or body size (Clusella-Trullas et al. 2008). More recent research (Tanaka 2009) proves that thermal advantage of melanism in nature may be more limited in scope than has been assumed. Because of that the function and adaptive value of melanism in ectotherms stays controversial.

It is unknown if melanism can be a handicap in regards to the choosing of a mate. But an experiment proved that dark morphs are at greater

risk from visually searching predators (Gvoždík 1999).

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**Figure 1.** Location in which a melanistic *L. viridis* was recorded, and the habitat type at this location.  
**Slika 1.** Lokacija nalazišta melanističkog *L. viridis* u Hrvatskoj i tip staništa na nalazištu.





**Figure 2.** The melanistic *Lacerta viridis*. Lighter coloured ventral scales is visible here.  
**Slika 2.** Melanistični obični zelembač *Lacerta viridis*. Vidljive su svjetlije ventralne ljuske.



**Figure 3.** Normally-coloured *L. viridis* from the same locality.  
**Slika 3.** Uobičajeno obojeno obični zelembač *L. viridis* s istog lokaliteta.