



**Figura 1:** Ejemplares de *L. michabellis* observados en una balsa de riego en Cartagena degutiendo un individuo de *N. maura* adulta en julio de 2012 (a) y con una culebra adulta en el pico alejándose de la orilla para ingerirla en julio de 2013 (b).

a la Administración Regional a establecer un plan para su control. El objetivo es minimizar perjuicios sobre especies amenazadas y sobre bienes (Gobierno de Murcia, 2003). Debido a su comportamiento alimenticio eurífito y oportunista, y al aumento de sus poblaciones en

el sureste ibérico, *L. michabellis* puede haber ampliado el espectro alimenticio para incluir especies que antes no depredaba o que utilizaba como un recurso alimenticio ocasional, convirtiéndose en un recurso más común de lo observado hasta el momento.

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## First case of a facial dark pattern in *Mauremys leprosa*

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**Fecha de aceptación:** 27 de enero de 2015.

**Key words:** melanism, turtles, mines, Iberian Peninsula.

**RESUMEN:** Se describe el primer caso de patrón facial oscuro en *Mauremys leprosa* con la descripción de dos ejemplares observados en el interior de una mina en la provincia de Ciudad Real. La descripción de ambos ejemplares se acompaña de una breve discusión de las posibles causas de este caso raro.

Animal coloration might result from adaptation processes to different biotic and abiotic environmental factors (e.g., Beddard, 1892). In general, the animal coloration plays an important role in predator avoidance or achieving food (through crypsis, mimicry or aposematism) (e.g. Sweet, 1985), inter- and intraspecific communication and sexual selection (e.g. Roulin & Bize, 2006). In ectothermic species, coloration could also be important in thermo-regulation (e.g. Trullas *et al.*, 2007).

During January of 2014, two individuals of *Mauremys leprosa* were captured by hand, measured and photographed *in situ* in the abandoned iron mine of Valmayor (38°24'23.55" N / 4°10'01.50" W; 684 msnm). The mine has a 424 m length, 2 m height, and 2 m width water pond filled with polluted black water (1 m of maximum depth) that pours into the Valmayor river (Hinckley *et al.*, 2015). This mine has been worked since the Romans time and its water contains a mixture of bat guano and leachates (sulfates, iron, manganese and lead among other) (Zarzalejos, 2013).

The two individuals found were females of 151 mm and 173 mm carapace length. Both of them had an usual coloration on their shells (grayish ocher), neck and limbs (olive with yellow stripes) but presented a partial melanic pattern in their head consisting in the following descriptions: in the first

case, the individual had black scales covering all of the head except the eyes and nostrils (Figure 1); in the second case, it had brown scales only around the mouth and behind the eye (Figure 2).

The reason of this dark pattern is unclear but it could be due to an environmental pigmentation. For instance, some metals or guano leachates could have been glued or dyed the scales, forming a dark and thin layer on these individuals, perhaps in the hibernation period in which they might have been buried in the sediment of the mine stream. Another explanation would be that this abnormal pattern was caused by a disease (fungus, virus or a neoplastic melanoma) (A. Martínez-Silvestre, personal communication).

We cannot discard that both *M. leprosa* individuals show a partial head melanism. Melanism has been found during ontogeny in males of some turtle species like *Trachemys scripta*, *Chrysemis picta* (Lovich *et al.*, 1990), *Chinemys reevesii* (Yabe, 1994) and *Testudo hermanni* (Soler-Massana *et al.*, 2001) but it has never been reported in *M. leprosa*. Although generally rare in reptiles, melanism has been reported to be locally frequent in some species in certain geographical areas or under certain environmental conditions (e.g. Monney *et al.*, 1995; Bittner *et al.*, 2002; Tanaka, 2007).



**Figure 1:** First *M. leprosa* with a facial dark pattern.

**Figura 1:** Primer ejemplar de *M. leprosa* con el patrón facial oscuro.



**Figure 2:** Second *M. leprosa* with a facial dark pattern.

**Figura 2:** Segundo ejemplar de *M. leprosa* con el patrón facial oscuro.

A final and rather speculative explanation would be an increased mutation rate induced by the highly polluted stream where they were found. As we explained before, the mine contains many heavy metals dissolved in the water, and these can generate free radicals that react with the DNA causing this increased mutation rate (Gaffney, 2008; M. Srouf, unpublished data). Further

studies should be done to assess whether this partial melanism is widespread among the whole population as well as the origin and causes of it.

**ACKNOWLEDGEMENTS:** We thank O. De Paz for providing us some valuable information, and A. Martínez-Silvestre and G. Velo-Anton for their interesting suggestions that helped to improve our note.

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## Ceguera bilateral en *Bufo calamita* salvaje

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**Fecha de aceptación:** 11 de abril de 2015.

**Key words:** blindness, malformation, natterjack toad, abnormality.

El día 13 de noviembre de 2014, a las 22:20 h, fue localizado un sapo corredor (*Bufo calamita*) adulto con anomalías oculares

anatómicas en ambos ojos (Figura 1). El lugar donde se halló fue en la localidad de San Martín de la Vega (Madrid), en un paraje conocido como