mander's body, which also had smaller black, yellow and grey areas (see Figure 1). The individual was observed on a trail of Mindelo Ornithological Reserve (Vila do Conde, Portugal; UTM 29T E 522260 / N 4575092; 13 masl) on November 26th, 2020, at 10:38 pm. It took place during a 24-nights survey that included 675 salamander observations. Individuals with a high prevalence of red pigmentation are scarce and only few studies have reported cases where red pigmentation was predominant over the typical yellow and black design (see Guiberteau *et al.*, 2012; Velo-Antón & Buckley, 2015). To the best of our knowledge, this would be the first record of an individual with such an extreme pigmentation observed in Portugal.

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Report of polymelia in *Lissotriton helveticus*

Santiago Poch[1,2] & Albert Carné[1]

[1] *Fundació Emys*. Carretera de Santa Coloma, km 21. 17421 Riudarenes. Girona. Spain. C.e.: santipoch97@gmail.com
[2] GRECO. University of Girona. Campus Montilivi. 17071 Girona. Spain.

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Resumen: La salud de los anfibios es un tema clave en la investigación herpetológica actual, especialmente considerando que son el grupo de vertebrados más amenazado del planeta debido a las múltiples y sinérgicas amenazas que los acechan. Uno de los indicadores utilizados para evaluar la salud de las especies, es el porcentaje de malformaciones en una misma población. En esta nota se describe la observación de un tritón palmeado (*Lissotriton helveticus*) con polimelia en Cataluña.

Amphibian's health is a common issue in herpetological research. Within this topic, morphological malformations are seen as a worrying and comparatively frequent phenomenon in herpetofauna (Martínez-Silvestre *et al.*, 2014; Bell *et al.*, 2006). Morphological mal-

formation rates tend to range from 0 to 5% within the same population (Meyer-Rochow & Asahima, 1988), beyond that, it could be considered a health issue.

Here, we describe the evidence of limb abnormality in an adult *Lissotriton helveticus*, observed during March 2019. It was found in the Clot del Llop pond (Tordera basin, Catalonia; 41°45'58.4"N / 2°42'36.7"E; 123 masl). The surrounding habitats are mainly compounded by Catalano-Provençal lowland holm-oak woods and extensive agricultural lands. The specimen presented polymely and brachydactyly (excessive number of limbs and dwarfed toes respectively) in one limb (Figure 1) while the other four limbs appeared to be normal. There was not any other record of abnormalities in the pond during the sampling season.

Figure 1: Back view of the *Lissotriton helveticus* specimen with polymelia.
Figura 1: Vista posterior del ejemplar de *Lissotriton helveticus* con polimelia.

This tpye of malformations have been described in several amphibian species (Zamora-Camacho, 2016; Martínez-Silvestre *et al.*, 2014; Ortiz *et al.*, 2006; Diego-Rasilla, 2009), but the leading causes are not always clear. Skeletal malformations can be attributed to both anthropogenic and natural changes in the biotic and abiotic factors in the environment. Usually these have been described in species that present high sensibility to environmental changes (Foden *et al.*, 2013). Suggested causes for these abnormalities include: parasite and pathogen infection, UV-B radiation, genetics, water anthropogenic pollution, regeneration following trauma (predation, confrontation) or the synergic combination between some of them (Diego-Rasilla, 2009; Taylor *et al.*, 2005; Martínez-Silvestre *et al,* 2014; Burgmeier *et al.*, 2011).

As often occurs we have not been able to find the origin of the deformity. However, due to the characteristics and emplacement of the pound, two hypotheses are suggested: 1) given the presence of many predators in that pond (crabs, dragonfly, etc.), a plausible scenario is that these malformations stem from the incorrect regeneration after bite injuries (Ballengée & Sessions, 2009), 2) as the surrounding area is dominated by crops and the pond is located in a depression, the effect of the lixiviate chemicals used in agriculture cannot be discarded. Additional monitoring of this pond is required to detect a potential increase of these malformations in order to act against the origin.

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Neotenia en *Lissotriton boscai* en Galicia

Miguel Á. Pérez Pérez

Barreiro Vilaza 1. 36380 Gondomar. Pontevedra. España. C.e.: miguel46_3@hotmail.com

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La neotenia es una alteración del desarrollo habitual del ejemplar por la que éste alcanza la madurez sexual pero manteniendo al mismo tiempo caracteres larvarios. Se ha citado para varias especies de urodelos en la peninsula ibérica, como *Salamandra salamandra* (Asensi-Cabirta, 2018), *Triturus pygmaeus* (Fuentes *et al.*, 2011), *Ichthyosaura alpestris* (Arribas, 2008) o *Pleurodeles waltl* (Ceacero *et al.*, 2010), entre otros.

Durante el verano de 2020 se detectó un ejemplar de *Lissotriton boscai* en un estanque artificial de Vilaza (Gondomar, Pontevedra; UTM NG26) con una morfología anómala, entre varios ejemplares con la morfología típica. El individuo presentaba caracteres intermedios entre las fases larvaria y adulta (branquias desarrolladas pero tamaño y coloración más próximos a los del adulto que a la larva). Se optó por dejar al ejemplar en libertad para evaluar su desarrollo.

Durante la primavera de 2021 se observaron en la misma zona varios ejemplares con morfología similar al detectado en 2020. En este caso, algunos de ellos presentaban caracteres reproductivos (cloaca abultada) y otros morfología intermedia similar al ejemplar detectado en 2020. Además, los ejemplares mostraban una coloración característica, con el dorso oscuro y los flancos y abdomen claros (Figura 1).

Se han detectado con anterioridad ejemplares neoténicos de *L. boscai* en Salamanca (Arribas, 2008), Huelva (Ceacero *et al.*, 2010) y Zamora