

ted sporadically. The call is composed by a single, non-pulsed, note that lasts  $0.04 \pm 0.01$  (0.02–0.09) second, and it is distant from another note  $0.24 \pm 0.03$  (0.17–0.29) second. The call rate is  $219.6 \pm 20.3$  (182.4–265.5) notes/min, which is equivalent to  $3.7 \pm 0.3$  (3.0–4.4) notes/sec. The call is harmonic with, at least, 10 visible harmonic bands. The dominant frequency is situated in the first harmonic at  $0.58 \pm 0.04$  (0.56–0.66) kHz without modulation. The bandwidth is at  $0.68 \pm 0.15$  (0.18–1.31), and the call rise-time has  $0.01 \pm 0.004$  (0.005–0.026) second.

The *R. ictERICA* female's release call described herein differs from the male's release call type A described by Batista *et al.* (2017) by the shorter call duration (0.02 to 0.09 s in the female's release call and 0.48 to 1.15 s in the males' release call), by the number of note per

calls (one in the female's release call and 17 to 36 in the males' release call); differs from the release call type B described by Batista *et al.* (2017) by the number of notes per call (one in the female's release call and 3 to 7 in the males' release call) and by the absence of pulses in the notes (1 to 33 in the male's release call).

We have described here, for the first time, the *R. ictERICA* female's release call, a species that is widespread in the upper basins of Preto and Grande rivers, in the Municipality of Bocaina de Minas. *R. ictERICA* is syntopic to *R. rubescens* in the upper Grande river basin and its release call could be an important prezygotic barrier.

**ACKNOWLEDGEMENTS:** We thank ICMBio for the license authorization #50094 for APA da Serra da Mantiqueira.

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## A case of digital hindlimb malformations in *Rana iberica*

Francisco J. Diego-Rasilla<sup>1</sup> & Adrián Diego-Luengo<sup>2</sup>

<sup>1</sup> Asociación Herpetológica Española - MNCN. José Gutiérrez Abascal, 2. 28006 Madrid. Spain. C.e.: [fjdiego@herpetologica.org](mailto:fjdiego@herpetologica.org)

<sup>2</sup> Cl. El Corral, 81. 39408 Barros, Los Corrales de Buelna. Cantabria. Spain.

**Fecha de aceptación:** 19 de agosto de 2022.

**Key words:** amphibian deformities, anurans, limb deformities, malformations.

**RESUMEN:** Se describen las malformaciones halladas en la extremidad posterior izquierda de un macho adulto de *Rana iberica*. Este animal presentaba braquidactilia (número reducido de falanges en los dedos IV y V), sindactilia (dedos III, IV y V ampliamente soldados) y polifalanga en el dedo IV.



**Figure 1:** a) Digital malformations in the left hindlimb of an Iberian frog adult male. b) Normal hindlimb of an individual of the same species.

**Figura 1:** a) Malformaciones en los dedos del miembro posterior izquierdo de un macho adulto de rana patilarga. b) Miembro posterior normal de un individuo de la misma especie.

Our observation took place on August 6<sup>th</sup> 2020, in the Canal de las Tejeras River (Cantabria; 43°14'N / 4°02'W; 249 masl), within a dense mixed forest comprising *Quercus robur*, *Fagus sylvatica*, *Corylus avellana* and *Ilex aquifolium*. Visual field inspection was used to identify limb abnormalities of an Iberian frog adult male described herein (Figure 1), then the frog was released in the same place in the river.

In the absence of a radiographic image that would allow confirming the exact anomaly of the affected phalanges, the visual inspection showed that digits I, II and III in its left hindlimb had a normal length, but not

digits IV and V which were both short, indicating missing phalanges (brachydactyly). Digit IV was approximately equal to half of finger III, with a reduced number of phalanges (brachydactyly), although had a duplicated terminal phalanx (polyphalangy), being both phalanges orthogonally oriented to each other; also, digits IV and III were fused together (syndactyly). Finally, digit V was extremely reduced (brachydactyly), slightly shorter in length than finger I, and was fused with finger IV (syndactyly).

UV-B radiation, pesticides, injury from predators and parasites have been claimed as causes of deformities in wild populations (Lunde & Johnson, 2012). Since UV-B on the forest floor is generally low (Brown *et al.*, 1994) this is not a probable cause of the observed malformations; moreover, elevated exposure to UV-B results in bilaterally symmetric malformations (Ankley *et al.*, 2004). Pesticides should not be responsible either because land use in this natural forest is not associated with the use of these compounds (Ouellet *et al.*, 1997). Therefore, most likely is that predators or parasites were responsible for these deformities (Stopper *et al.*, 2002; Bowerman *et al.*, 2010).

**ACKNOWLEDGEMENTS:** C. Ayres kindly provided a photograph (Figure 1b) from a normal limb of an individual of *Rana iberica* to assess the anomalies.

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