

## A case of cannibalism in *Podarcis muralis* from Dorset, England

BERNARDO LAM<sup>1\*</sup> & GONALO M. ROSA<sup>1,2</sup>

<sup>1</sup>Centre for Ecology, Evolution and Environmental Changes (cE3c), Faculdade de Ci4ncias Universidade de Lisboa, Lisboa, Portugal

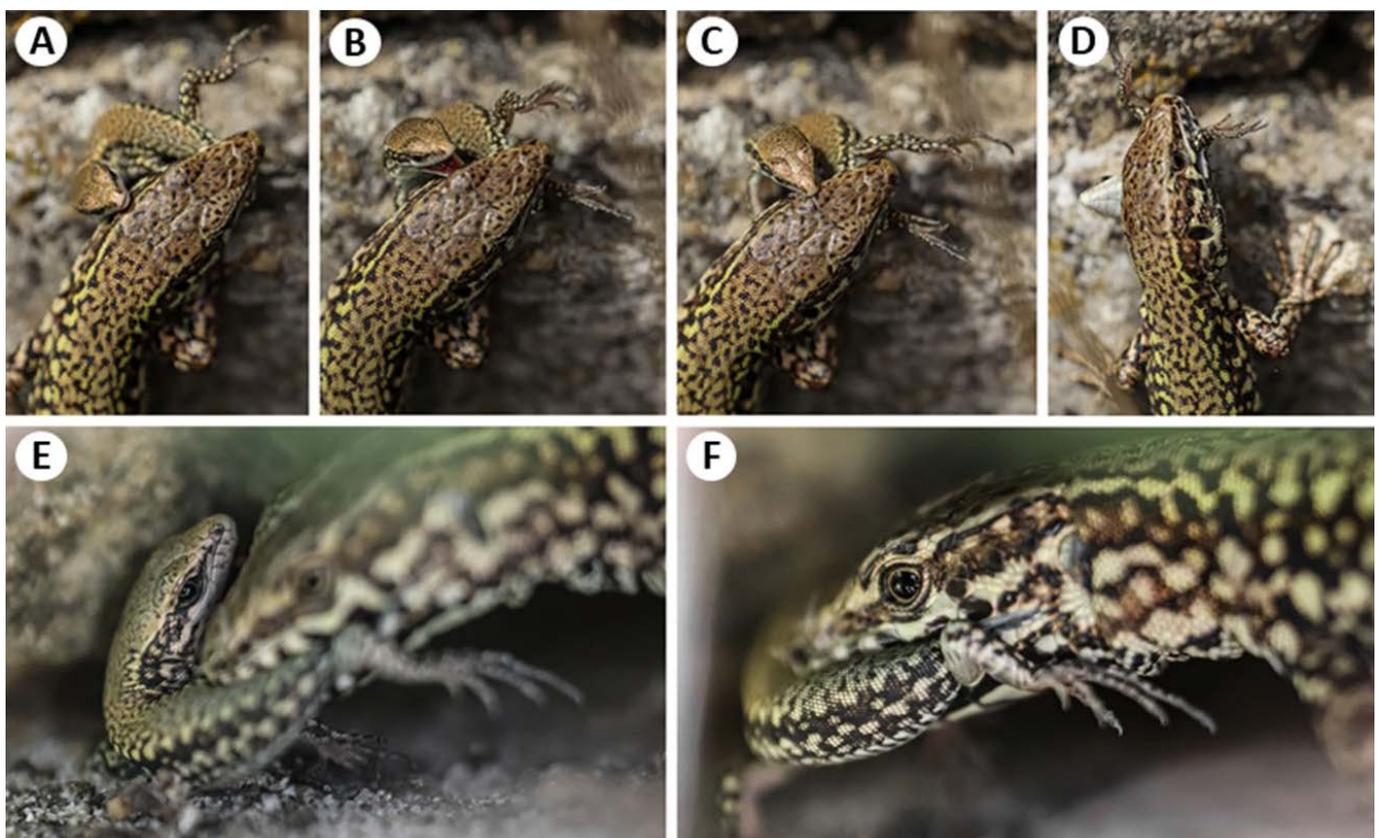
<sup>2</sup>Institute of Zoology, Zoological Society of London, London, UK

\*Corresponding author e-mail: [berni.lam@hotmail.com](mailto:berni.lam@hotmail.com)

The common wall lizard (*Podarcis muralis*) is the most widespread species of the genus *Podarcis* in Europe, ranging from Iberia to the Balkan peninsula. Moreover, it has been introduced into Britain, Belgium, the Netherlands, Germany, and even north America (Speybroeck et al., 2016). It is a small-sized lacertid, reaching a total of 22 cm in length, with a rather polymorphic brown to green pattern (Sacchi et al., 2013). Like most *Podarcis* spp., it feeds mainly on arthropods (Bombi & Bologna, 2002), but also on gastropods, annelids, small vertebrates, and plants (Barbault & Mou, 1986). It may also consume other lizards, when they are smaller than themselves, as evidenced by the predation of a *Zootoca vivipara* by an adult male *P. muralis* in Britain (Thomas et al., 2020). Here we report a case of cannibalism

that took place in Boscombe cliffs, Dorset (50° 43'15.7" N, 1° 49'29.6" W). According to Michaelides et al. (2015), this population results from a secondary introduction (from a naturalised non-native English population) of Venetian origin (Bologna, Italy).

On 23rd August 2020 at 13:09 h, an adult male was observed preying a juvenile conspecific. The juvenile was basking on a rock wall when, suddenly, a large male approached and seized it by the left hindleg and tail (Fig. 1A). The captured lizard, trying to defend itself, bit the left eye of the male (Fig. 1B&C) which responded by thrashing its head, left and right, causing the release from the juvenile bite (Fig. 1D). The adult male retreated to a more secluded spot where he finished ingesting the young lacertid backwards (tail first;



**Figure 1.** A large male *Podarcis muralis* capturing a juvenile conspecific- **A.** The male grabbing the juvenile by the left posterior leg and tail, **B.** & **C.** The juvenile trying to defend itself by biting the left eye of the male, which responded by thrashing its head, left and right, **D.** The juvenile has released its bite, **E.** & **F.** The male attempting to better position the juvenile for ingestion. The adult male subsequently, retreated to a hidden spot on the rock wall

Fig.1E-F). Several other individuals of the common wall lizard were seen in the area, including adult males and females, subadults and juveniles.

Cannibalism has been observed in several species of *Podarcis*, normally with adult individuals preying on juveniles, but also on adult tails, adult corpses and even eggs; this is the case for *Podarcis liolepis* (Castilla & van Damme, 1996), *Podarcis siculus* (Capula & Aloise, 2011; Grano & Cattaneo, 2011), *Podarcis virescens* (Dias et al., 2016) and *Podarcis erhardii* (Madden & Brock, 2018). It seems that cannibalism has only been observed infrequently in *P. muralis* (Žagar & Carretero, 2012; Simović & Marković, 2013).

## ACKNOWLEDGEMENTS

We gratefully acknowledge C. Sergeant for his comments on the manuscript.

## REFERENCES

- Barbault, R. & Mou, Y.P. (1986). Regime alimentaire d'une population de lézard des murailles, *Podarcis muralis* (Laurent, 1768) dans le Sud-Ouest de la France. *Amphibia-Reptilia* 7: 171-180.
- Bombi, P. & Bologna, M.A. (2002). Use of faecal and stomach contents in assessing food niche relationships: a case study of two sympatric species of *Podarcis* lizards (*Sauria: Lacertidae*). *Revue d'Ecologie* 57: 113-122.
- Capula, M. & Aloise, G. (2011). Extreme feeding behaviours in the Italian wall lizard, *Podarcis siculus*. *Acta Herpetologica* 6: 11-14.
- Castilla, A.M. & van Damme, R. (1996). Cannibalistic propensities in the lizard *Podarcis hispanica atrata*. *Copeia* 1996: 991-994.
- Cooper Jr, W.E., Dimopoulos, I. & Pafilis, P. (2015). Sex, age, and population density affect aggressive behaviours in Island lizards promoting cannibalism. *Ethology* 121: 260-269.
- Dias, G., Luis, C., Pinho, C. & Kaliontzopoulou, A. (2016). A case of *Podarcis carbonelli* intake by *Podarcis virescens*. *Herpetology Notes* 9: 105-108.
- Grano, M., Cattaneo, C. & Cattaneo, A. (2011). A case of cannibalism in *Podarcis siculus campestris* (De Betta, 1857) (*Reptilia, Lacertidae*). *Biodiversity Journal* 2: 151-152.
- Madden, I. E. & Brock, K. M. (2018). An extreme case of cannibalism in *Podarcis erhardiimykonensis* (Reptilia: Lacertidae) from Siros island, Cyclades, Greece. *Herpetology Notes* 11: 291-292.
- Michaelides, S.N., While, G.M., Zajac, N. & Uller, T. (2015). Widespread primary, but geographically restricted secondary, human introductions of wall lizards, *Podarcis muralis*. *Molecular Ecology* 24: 2702-2714.
- Sacchi, R., Pellitteri-Rosa, D., Bellati, A., Di Paoli, A., Ghitti, M., Scali, S., ... & Fasola, M. (2013). Colour variation in the polymorphic common wall lizard (*Podarcis muralis*): an analysis using the RGB colour system. *Zoologischer Anzeiger-A Journal of Comparative Zoology* 252: 431-439.
- Simović, A. & Marković, A. (2013). A case of cannibalism in the common wall lizard, *Podarcis muralis*, in Serbia. *Hyla* 2013: 40-41.
- Speybroeck, J., Beukema, W., Bok, B. & Van Der Voort, J. (2016). *Field guide to the amphibians and reptiles of Britain and Europe*. Bloomsbury publishing. 432 pp.
- Thomas, O., Allain, S.J.R., Sagar, P. (2020). Predation and ingestion of a viviparous lizard (*Zootoca vivipara*) by the common wall lizard (*Podarcis muralis*) in England. *The Herpetological Bulletin* 152: 44.
- Žagar, A. & Carretero, M.A. (2012). A record of cannibalism in *Podarcis muralis* (Laurenti, 1768) (Reptilia, Lacertidae) from Slovenia. *Herpetology Notes* 5: 211-213.

Accepted: 4 November 2021