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A case of tail autophagy in a male of the Iberian rock lizard, *Iberolacerta monticola*

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Manuscript received: 10 October 2014

Accepted: 13 May 2015 by PHILIPP WAGNER

Caudal autotomy in response to attempted predation is common in lacertid lizards (e.g., BATEMAN & FLEMING 2009). Once the tail has been lost, lizards face lots of challenges. The most obvious one is impaired locomotion performance, resulting in reduced feeding opportunities (MARTÍN & SALVADOR 1993a). Moreover, the tail has a function as a fat store in some species (AVERY 1970) and its loss may affect female fecundity (DIAL & FITZPATRICK 1981) or male status (MARTÍN & SALVADOR 1993b). Regrowth of the tail also requires the allocation of resources (MAGINNIS 2006). Thus, to recoup resources lost through caudal autotomy or regeneration, it has been proposed that some reptiles may consume their own autotomised tails

(BATEMAN & FLEMING 2009). This has been reported in skinks (CLARK 1971), tuataras (GILLINGHAM et al. 1995), and in lacertid lizards where autophagy of the tail may be related to ensuring reinfection with the parasite *Sarcocystis gallotieae* (MATUSCHKA & BANNERT 1987). Even so, observations of this kind are scarce and poorly documented.

On 18 June 2013, during fieldwork at the lakes of Covadonga (Picos de Europa National Park, Spain. 43°16'06" N, 4°58'42" W, 1,151 m a.s.l.), we observed an adult male of *Iberolacerta monticola* (BOULENGER, 1905), an endemic species of the Iberian Peninsula, consuming his recently autotomised tail (Fig. 1). The observation was made during the breeding season, when fights between males are com-



Figure 1. Male *Iberolacerta monticola* eating his own autotomized tail.

mon and frequent. As we approached two males engaged in a fight we saw how one of them lost his tail. When we were detected by lizards, the male with the intact tail ran away, while the other began consuming the section of tail he had lost.

In lacertid lizards, the loss of the tail brings about a decrease in status (MARTÍN & SALVADOR 1993b), so that quick regeneration of the lost piece will be advantageous to regain it in order not to lose out on the few mating opportunities. Therefore, recovering energy by means of consuming the lost piece of the tail may contribute to a more rapid regeneration. The genus *Iberolacerta* is adapted to living in alpine habitats. Some populations may occupy areas at lower altitudes, but usually they are associated with high-mountain rocky areas. In this kind of habitat, climatic conditions are unfavourable by comparison, being characterised by long periods with cold temperatures and snow, so that the breeding season of these species will be very short (the activity period of *I. monticola* at the study site is from April through September [BRAÑA et al. 1990]; and the mating season lasts around a month [C. CABIDO pers. comm.]). In harsh conditions like this, the loss of the tail could have even more negative consequences, since individuals do not have enough time to recoup energy before the long period of hibernation. Thus, although difficult to observe in the field, ingesting the own autotomised tail might be a common strategy in lacertid lizards, especially in species with short mating periods. Observations like this could therefore help to better understand complex mechanisms such as caudal autotomy and their evolution.

Acknowledgements

Financial support was provided by a grant of the Spanish MECD to MI (FPU fellowship, FPU12/04148), by the Fundación Biodiversidad (Convocatoria de Ayudas 2012), and the project MICI-IN-CGL2011-24150/BOS.

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