First observations of oophagy in a wild population of the sand boa (*Eryx jaculus*)

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The sand boa *Eryx jaculus* (Linnaeus, 1758) is found in the southern Balkans, Middle East and North Africa (Sindaco et al., 2013). Only recently the presence of this species has been confirmed in Italy, in a small area of southern Sicily (Insacco et al., 2015). Knowledge of the sand boa in Sicily is limited with few data on geographical distribution, morphology, and habitat (Insacco et al., 2015; Faraone et al., 2017). Even at a global scale the biology of this species is little known due to its secretive habits (Tokar & Obst, 1993).

As predators, sand boas have been reported to adopt both "sit-and-wait" and "active foraging" strategies (Tokar & Obst, 1993) and their prey has been listed as small mammals, lizards and, occasionally, birds, insects, and slugs (Tokar & Obst, 1993; Schleich et al., 1996). Oophagy has only been reported in captivity and only of snake eggs (Schleich et al., 1996). In this paper we report the first field observations of oophagy by the sand boa.

On 7 July 2017, at the locality "Contrada San Francesco di Paola" near Licata (province of Agrigento) (see Insacco et al., 2015), a young female (SVL: 21 cm) that had fallen into an abandoned cistern was rescued. On 13 July 2017, at 9:30 pm, a sub-adult male (SVL: 31 cm) was found lying on the surface of the road SP11 (3 km north-east of Licata) and an adult female (SVL: 41 cm) was found dead close by. All snakes were found in an agricultural area dominated by arable land and olive groves where, if alive, they were quickly released. During a rapid health-check before release, the two live individuals defecated and the faeces were collected and preserved in absolute alcohol. The roadkill female was dissected and the stomach contents were preserved in the same way. Faecal remains and ingesta were analysed using a stereomicroscope. In the faeces of the young female and sub-adult male and in the ingesta of the adult female, one, four, and five saurian eggs were found respectively (Fig. 1). The eggs were rehydrated by the addition of water and were then measured using a digital calliper, with 0.01 mm precision. The average polar diameter was 13.04 mm (SD: 0.77; range: 12.00-14.41). The proportions and the parchment texture of eggs allow us to attribute them to the genus *Podarcis*. Both the Italian wall lizard (*Podarcis siculus*) and the Sicilian wall lizard (*P. waglerianus*) coexist in the area. As a consequence, it is quite difficult to correctly attribute the eggs to specific level. The ingesta of the roadkill female were found in different sections of the gut. One egg seems to have been freshly ingested while the others were close to the cloaca. This arrangement suggests at least two different predation events.

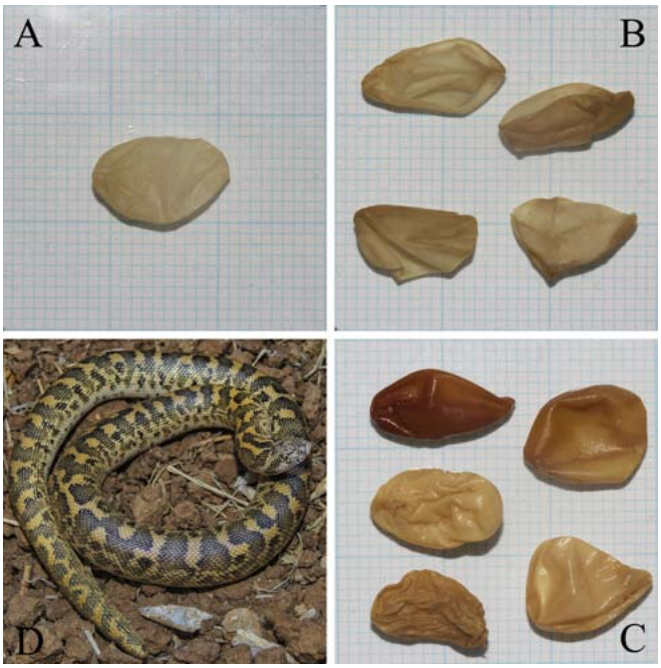

Figure 1. Lizard eggs in the faeces of the young (A) and sub-adult male (B) sand boas. Eggs ingested by the adult female (C). Sand boa, sub-adult male, July 13 2017 (D).

Lizard eggs have been found in the diet of a several species of European snakes. In the smooth snake (*Coronella austriaca*) oophagy of saurian eggs is well known in Spain (Galán, 1988, 1991; Galán & Fernández-Arias, 1993; Amat, 1998; Moreira et al., 2011), and single cases have been observed in the peninsular Italy (Lunghi et al., 2015) and Sicily (F. P. Faraone, unpublished data). This behaviour has also been recorded in the southern smooth snake (*C. girondica*) (Luiselli et al., 2001) and in the ladder snake (*Zamenis scalaris*) (Pleguezuelos et al., 2007).

The cases described in this paper are the first known regarding the sand boa. It is striking that all three specimens had ingested lizard eggs, suggesting that this is a common prey item. *P. siculus* and *P. waglerianus* can lay

eggs throughout much of the spring and summer months (Corti & Lo Cascio, 1999) suggesting that they could be a frequently exploited resource.

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