

Use of an artificial refuge for oviposition by a female ocellated lizard (*Timon lepidus*) in Italy

CLAUDIO GHIGLIONE^{1,2*}, FEDERICO CROVETTO¹, MARCO MAGGESI¹, STEFANO MAFFEI¹

¹Department of Earth, Environment and Life Sciences (DISTAV), University of Genoa, Italy

²Italian National Antarctic Museum (MNA), Section of Genoa, Italy

*Corresponding author Email: claudio.ghiglione@rftia.eu

The ocellated lizard, *Timon* (formerly *Lacerta*) *lepidus* (Daudin, 1802), is found in the Iberian Peninsula, southern France and Italy (Doré et al., 2015). It is one of the largest lizards in Europe and the only representative of the genus *Timon* in Italy where its distribution is confined to the Ligurian area, in particular from the French border to the Province of Savona (Salvidio et al., 2011). The species lives in typical Mediterranean ecosystems like shrublands, oak forests (especially *Quercus ilex* and *Q. suber*) and pine woodlands. It is also found in olive groves and near human settlements (Salvidio et al., 2004, 2011; Doré et al., 2015). In Italy it is regarded as “extremely endangered” (Capula, 1998; Salvidio et al., 2004) and is listed in Annex III of the Convention on the Conservation of European Wildlife

and Natural Habitats (Bern Convention) and considered as “Near Threatened” by IUCN (Pleguezuelos et al., 2009).

The observation here reported arose during a study of a population of this lizard located in the Site of Community Importance “Monte Acuto - Poggio Grande - Rio Torsero” (Savona Province, Italy). In April 2013, six artificial shelters were placed in this area in the framework of the master thesis of one of the authors (MS), done under the umbrella of the Montemarcello-Magra Park project dedicated to the conservation of the minor fauna. The project aimed at facilitating the spread of the species in the environment and to improve its observability by the provision of artificial shelters.

The shelters consisted of simple concrete bricks



Figure 1. a) Artificial shelter. b) Specimen observed. c) Specimen during the egg-laying moment; the arrows show the eggs d) Nine eggs observed.

camouflaged by stones and branches collected in situ to make the shelter as natural as possible. Each shelter had an opening of 12x7 cm with a depth of 40 cm (Fig. 1a, 1b). These were located in the area where *T. lepidus* was observed in the past (unpublished data). After the installation of the shelters in 2013, each site was randomly monitored in the most favourable season to observe the species (i.e. between the second part of March until October) seven times during 2013, once in 2014 and twice in 2015.

On June 6, 2015 a female lizard was observed laying nine eggs in one of the refuges (Fig. 1b-1d). This observation documents for the first time the use of this kind of shelter by *T. lepidus* for oviposition. Unfortunately, at the following inspection, on the 29th August 2015, we found that the shelter had been shattered, probably by wild boar present in the area, and could not find any eggs remnant. In France a different kind of shelter, that simulates the burrows of European rabbits (*Oryctolagus cuniculus*), has been successfully used to facilitate the spread and conservation of ocellated lizards (Grillet et al., 2010), highlighting the general importance of artificial shelters to this aim. The potential effectiveness of concrete block shelters, reported here, warrants further investigation both for aiding monitoring programmes, especially during the reproductive season, and as a conservation tool for this species of lizard.

ACKNOWLEDGMENTS

The authors are grateful to Sebastiano Salvidio for supervision of the project and to Dr Roger Avery and Stefano Schiaparelli for their advice on the manuscript.

REFERENCES

- Capula, M. (1998). *Lucertole minacciate*. In *Libro Rosso degli Animali d'Italia*. Vertebrati. WWF Italia, Roma p. 45.
- Doré, F., Cheylan, M. & Grillet, P. (2015). *Le lézard ocellé. Un géant sur le continent Européen*. Meze: Biotope Editions.
- Grillet, P., Cheylan, M., Thirion, J., Dor, éF., Bonnet, X., Dauge, C., Chollet, S. & Marchand, M.A. (2010). Rabbit burrows or artificial refuges are a critical habitat component for the threatened lizard, *Timon lepidus* (Sauria, Lacertidae). *Biodiversity and Conservation* 19: 2039-2051.
- Pleguezuelos, JM., Sá-Sousa, P., Pérez-Mellado, V., Marquez, R., Cheylan, M., Corti, C. & Martínez-Solano, I. (2009). *Timon lepidus*. The IUCN Red List of Threatened Species: e.T61583A12498949. Downloaded on 9 November 2015.
- Salvidio, S., Lamagni, L., Bombi, P. & Bologna, M.A. (2004). Distribution, ecology and conservation status of the ocellated lizard (*Timon lepidus*) in Italy (Reptilia, Lacertidae). *Italian Journal of Zoology* 71: 125-134.
- Salvidio, S., Bologna, M.A. & Cheylan, M. (2011). *Timon lepidus* (Daudin, 1802). In *Fauna d'Italia Reptilia*, pp. 441-449. Bologna: Calderini.

Accepted: 29 December 2015