

## A preliminary ecological survey on *Podarcis tiliguerta* from Lavezzu Island, southern Corsica (France)

Pietro LO CASCIO<sup>1</sup>, Claudia CORTI<sup>2</sup>,  
Michel DELAUGERRE<sup>3</sup>, Flavia GRITA<sup>1</sup>

<sup>1</sup> Associazione Nesos. Via Vittorio Emanuele, 24 – 98055 Lipari (ME), Italy;  
plocascio@nesos.org

<sup>2</sup> Museo di Storia Naturale dell'Università di Firenze, Sezione di Zoologia "La Specola".  
Via Romana, 17 – 50125 Firenze, Italy; claudia.corti@unifi.it

<sup>3</sup> Conservatoire du Littoral. 3 rue Luce de Casabianca – 20200 Bastia, France;  
m.delaugerre@conservatoire-du-littoral.fr

**Abstract.** Vengono forniti dati preliminari sull'ecologia di *Podarcis tiliguerta* dell'Isola di Lavezzu (Corsica, Francia), raccolti in giugno 2010. Il 75% e il 50% degli individui esaminati, rispettivamente di sesso maschile e femminile, presentava la coda rigenerata. La temperatura media corporea dei maschi è risultata pari a 32,2 °C, quella delle femmine pari a 31,8 °C. La dieta è risultata essere essenzialmente insettivora; le prede principali sono rappresentate da Imenotteri, Coleotteri, Isopodi e ragni; alcuni costumi alimentari tipici delle popolazioni insulari, come l'erborivismo o la mirmecofagia, non sembrerebbero caratterizzare la dieta della popolazione studiata, almeno per quanto concerne la tarda primavera.

**Keywords.** *Podarcis tiliguerta*, ecology, islands, Mediterranean.

Ecological information on the Corsican populations of the endemic wall lizard, *Podarcis tiliguerta* (Gmelin, 1789), is scarce. In this paper, we give preliminary data on the diet and body temperatures of this species on Lavezzu Island (0.729 Km<sup>2</sup>, 40 m a.s.l.), the second largest island of the Lavezzi small archipelago located in the Bonifacio Strait, which separate Corsica and Sardinia. According to Lanza & Poggesi (1986), this population owns to those isolated since a long time (about 7,500-8,000 yrs). On Lavezzu *P. tiliguerta* is syntopic with the European leaf-toad gecko, *Euleptes europaea* (Gené, 1839), and the Western whip snake, *Hierophis viridiflavus* (Lacépède, 1789) (Thibault *et al.*, 1987).

Field sampling was performed in June 2010. All body measurements have been taken using a caliper, and for each individual, tail status (regenerated/broken) has been recorded. Field body temperatures (T<sub>b</sub>) were taken in active lizards using a quick reading cloacal-thermometer (Miller thermometers, 0.2 °C accuracy), while air (T<sub>a</sub>) and soil (T<sub>s</sub>) temperatures

were taken using a digital thermometer (Ta ranges from 23.4 to 28.4 °C). Faecal pellets were obtained exclusively by handling, and examined by binocular stereoscope. Preys were identified and assigned to different taxonomical categories (at order or family level). When possible, prey length was also measured using a micrometer and calculated following the regression equations proposed by Hódar (1997).

Adult males (N = 29: snout-vent length mm 57.49, SD 3.50, SE 0.65) are larger than females (N = 10: SVL mm 50.45, SD 3.37, SE 1.07). Regenerated tails were more common among males (75.8% of the examined individuals) than in females (50%). Mean Tb of males (N = 29: Tb 32.2 °C, SD 2.3, SE 0.4) resulted slightly higher than females mean Tb (N = 10: Tb 31.8 °C, SD 2.3, SE 0.7). For both sexes, no significant correlation has been found between Tb and Ts (MM:  $r = 0.268$ ,  $P = \text{NS}$ ; FF:  $r = 0.319$ ,  $P = \text{NS}$ ) or Tb and Ta (MM:  $r = 0.200$ ,  $P = \text{NS}$ ; FF:  $r = 0.169$ ,  $P = \text{NS}$ ). Diet composition is described by prey abundance (percentage of a given prey item relative to the total number of prey items, % column in Tab. 1) and the relative prey occurrence (percentage of individuals consuming each item category, %P column in Tab. 1). 53 prey items were found in 29 faecal pellets. Among prey, the groups mainly represented resulted Hymenoptera, Coleoptera, Crustacea Isopoda and Araneae (see Tab. 1). Flying preys (wasps, bees, flies) are consumed less frequently than terrestrial ones. Food categories differ significantly among sexes ( $\chi^2$  test = 72.983,  $2 \times 12$  contingency table,  $P = 0.000$ ). In average, *P. tiliguerta* captured preys 3.85 mm long (SD 2.13, SE 0.49; range 0.80-9.00 mm, N = 19 preys measured); no significant correlation has been found between lizards SVL and prey length ( $r = 0.181$ ,  $P = \text{NS}$ ).

The relatively high number of individuals (particularly among males) with regenerated tail could suggest a quite high predation pressure as well as intraspecific competition (Pérez-Mellado *et al.*, 1997). Among potential predators, *Falco tinnunculus* is known to nest on the island (Thibault *et al.*, 1987) as well as, *Hierophis viridiflavus* which occurs in high density (M. Delaugerre, pers. obs.). Both males and females mean body temperatures seems to be congruent with those known for other Mediterranean lacertid lizard populations (ranging between 31.9 and 35.5 °C, see Castilla *et al.*, 1999); the apparent lack of correlation between body and air, or soil temperatures probably reflects the small sample size and need further investigation. The late spring diet seems therefore to be strictly based on arthropods and mainly on insects. These preliminary results seem more similar to the typical feeding habits observed in continental populations, as on most of the observed island ones (e.g. large consumption of plant matter and ants, see Pérez-Mellado and Corti, 1993).

Preys	%	%P
unidentified Arthropoda	7.5	13.7
Pseudoscorpiones	3.7	3.4
Araneae	11.3	20.6

Crustacea Isopoda	13.2	24.1
Insects (larvae)	7.5	10.3
Orthoptera	3.7	6.8
Dermaptera	1.8	3.4
Homoptera	5.6	10.3
Heteroptera	3.7	6.8
Coleoptera	13.2	24.1
Diptera	7.5	10.3
Hymenoptera Formicidae	3.7	6.8
Other Hymenoptera	16.9	27.5

Tab. 1. Diet of *Podarcis tiliguerta* at Lavezzi Island, percentage of each prey item found (%) and percentage of faecal pellets in which the prey item was recorded (%P).

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