

around midday. Marmots spent about 35% of their time on the surface, of which 32% was dedicated to feeding activity and 42% to resting. The pattern of feeding showed maximum values during June and July, which may suggest an early build-up of adipose tissue. Friendly interactions (greeting, grooming) between adults were most frequent in June, prior to the emergence of the young. The interactions among the young were most common during their 1st month of surface activity (July). Playing activity by the young decreased significantly with time whereas vigilance activity tended to increase with time. Not surprisingly vigilance by adults showed maximum values following the emergence of the young on the surface in July.

Activity cycles and seasonal variation of body temperature in *Podarcis sicula*

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Seasonal and diel cycles and activity temperatures in a population of *P. sicula* inhabiting the coastal plains at Pisa have been studied. The work was carried out during the period January-December 1988 in a flat study area of 150 m², 1.5 km from the Ligurian sea. We measured as an index of lizard activity the number of lizards observed every hour, from sunrise to sunset, for 3 days every month during the study period. Together with the number of lizards we recorded also: sex and age of lizards, soil temperature, and the cloacal temperature of the specimens collected near the study area.

Adults of *P. sicula* were observed during all months of the year, but activity in January and in December was sporadic and only very few specimens were seen. In February and November the number of active individuals was reduced with respect to the other months. Males and females showed similar monthly cycles of activity. The length of the period during which adults were seen varied seasonally, from 2-3 hr in January and December to 14 hr in June-July. Adult lizards showed bimodal activity in July-August, unimodal in the other months. Bimodality appeared with soil temperature higher than 35 °C. Juvenile lizards first appeared in July and they did not show a period of significantly reduced activity at mid-day in July-August.

The monthly activity temperature was found to be lower in winter and in spring (overall mean = 29 °C) than in summer (overall mean = 32.7 °C). These results suggest that *P. sicula* shows acclimatization.

Yawning in macaques: an ethological study

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Most of the current knowledge on yawning behaviour in Old World monkeys comes from either anecdotal reports or laboratory studies involving small numbers of subjects.