

Mediterranean, Mediterranean, and Irano-Turanian representatives exhibited an opposite pattern. Aestival, geophilous, and diurnal grasshoppers (*Oedipoda aurea*) were larger on SFS, whereas spring-scarab beetles (*Pygopleurus libanonensis*) were larger on NFS. *O. aurea* from dark barren-soil habitats were significantly darker than their conspecifics on nearby light-colored rocks. Additionally, animals from the sunnier and more open SFS were lighter than those from the lush NFS. Genetic diversities of earthworms, landsnails, diplopods, and beetles were significantly higher on SFS. Average interslope genetic distance (Wright's $F_{st} = 0.033$) indicates gene flow. Taxonomic, genetic, and morphological evidence indicate that gene flow is not powerful enough to counter the process of interslope diversifying selection.

Modes of predator specialization revealed by tail loss in lizards

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Lizards often shed their tails to escape predators. In some studies, frequencies of regenerated tails (T) were used to estimate predation on lizards, but other studies detected no link between T and directly-measured predation pressure. Apparently, T reflects predation efficiency, rather than predation pressure. I reanalyzed the relation of T to predation in published data, splitting the predation on lizards into generalist and specialist predators. The proportion of lizards among all prey items in the predator diet (L) was assumed to be proportional to the predator's specialization. In a multiple regression analysis, the sum of all lizards from a species preyed on by generalists ($L < 0.01$), and those preyed on by specialists ($L > 0.01$) explained 98 and 95% of the interspecific variation in T at one Spanish and one Californian locality, respectively. The boundary between predator modes ($L = 0.01$) was empirically determined in each of the two localities, and may reflect presence versus absence of learning by predators. The explanatory power of this dichotomous model was superior to those derived from any of several models assuming continuity between specialization categories, or to those derived from models combining dichotomy and continuity. Frequencies of regenerated tails reflect a combination of generalist and specialist modes of predation. Generalist predation increases T, and specialist predation decreases it. A sharp boundary at $L = 0.01$ exists between predator-specialization modes.

Evolutionary effects of microclimate on morphology of an insular lizard, *Podarcis pityusensis*

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The endemic *Podarcis pityusensis* is the only lacertid lizard inhabiting the Pityusic islands. Populations of *Podarcis* found on the numerous islets surrounding Eivissa have wide morphological variation, both in scale and body measurements. Islets differ in microclimate. Temperature gradients exist from south to north and from west to east. The distance from the large island decreases the extent of temperature fluctuations, as a result of water thermal inertia. Temperature affects development during embryogenesis (scales) and ontogenesis (body size). To a large extent, the inter-island morphological variation is explained by the island's position, making possible indirect estimation of temperature gradients. Lizards on islands directly exposed to the sun at sunrise and sundown differ from those exposed only at sunrise or sundown in the scale characters

determined during embryogenesis. Comparison between populations of islands exposed at sunrise and those exposed at sundown reveal differences in ontogenetic characters (body proportions). Isolation between islet populations is not a major factor in the radiation process. Therefore, it seems that the morphological radiation on islets is due to adaptations to minute microclimate variations among islets, rather than to the history of migrations among islands or random genetic drift.

Are scorpions exposed to higher predation risks on moonlit nights?

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Adult *Buthus occitanus israelis* scorpions were found in a previous study to lower significantly their above-ground activity on full moon nights. Such a reduction in activity is usually assumed to be caused by higher predation risk from visual predators. To test this hypothesis, experiments were carried out on 18 nights, half moonlit and half dark. On the nights of the experiment, 20 large and 20 small scorpions were each tethered by a fishing line to a nail in the ground in their natural habitat. The scorpions were thus forced to remain exposed to predation throughout the night. On the following mornings, the surviving scorpions were collected and predators' footprints were read. Predation risk did not differ between dark and moonlit nights, both for large and small scorpions. I conclude that factors other than predation risk should be considered to explain the decrease in activity levels of *B. o. israelis* on moonlit nights.

Coexistence among two *Acomys* species: Population biology and spatial relationships

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Two ecologically similar congeners coexist in arid rocky habitats in the south of Israel: the nocturnal *Acomys cahirinus* and the diurnal *A. russatus*. To gain insight into the temporal relationships between them, we carried out a 25-month study using 100–200 traps. Mice were trapped every month for 72 hrs in a 0.5 hectare grid near En Gedi. Estimated population densities of *A. cahirinus* and *A. russatus* were 20–40 and 30–65 individuals per hectare, respectively. However, doubling the trapping grid did not increase population size, so these estimates are inflated. Young *A. cahirinus* appeared in spring and summer (April–September), as did young *A. russatus* (April–July). Mean body masses of *A. cahirinus* females and males were 33 g and 35 g, respectively. Mean body mass of *A. russatus* was 43 g in both sexes. *A. russatus* showed a consistent and significant microhabitat preference for boulders, while such a significant preference in *A. cahirinus* was only observed 50% of the time. Home ranges of individuals of both sexes of the two species showed great overlap.

Estimation of competition from census data in a Central Negev desert rodent community

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Data on competition in natural communities are insufficient. The direct mode of receiving such data, field removal experiments, is limited by the practical impossibility of performing an experimental study on each pair of species in each habitat. Thus, it is necessary to use a technique that estimates competition from field-census data. Two different approaches based on regression