

A shift in reptile diversity and abundance over the last 25 years

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The south-facing slopes in canyons north of the equator are often hotter and drier, than north facing slopes, promoting differences in the biotic and abiotic characteristics of the opposing slopes. Between 1993-1994 Eviatar Nevo and colleagues studied the reptiles of lower Oren Stream (Carmel Mountains, Israel). They found 307 individuals belonging to 13 species from both slopes and the valley bottom. We surveyed the same locations during 2016-2018 using similar methods, survey area and effort, in order to study whether diversity and abundance patterns have changed during the passing 25 years. We found 319 individuals belonging to 14 species from the slopes and the valley bottom. The three dominant species in both periods were *Stellagama stellio*, *Phoenicolacerta laevis* and *Ptyodactylus guttatus*, but while the abundance of *P. laevis* remained the same, the relative abundance of *S. stellio* decreased by 67%, and that of *P. guttatus* increased by 79%. Six species, (including *S. stellio* and *P. guttatus*) were more abundant on the south-facing slope during both periods, among them, whereas *P. laevis* (only) was more abundant on the north-facing slope. *Chamaeleo chamaeleon*, *Hemidactylus turcicus*, *Platyceps collaris* and *Testudo graeca*, however, which were equally abundant on both slopes or more abundant on the south-facing slope in the 1990's, were found more often, or even exclusively on the north-facing slope now. These results suggest that, although the overall diversity and the dominant species across slopes did not change, some changes occurred in the abundance of species between slopes and periods. Warming may have caused some heat-sensitive species to become scarce on the south-facing slope, while more heat-tolerant species survived and even thrived. These results however may also derive from better detection ability of some species over others between study teams.