Tuesday 19/06/18 11:15-12:00

Plenary lecture

Spatio-temporal trends in two lacertids in Mediterranean coastal dunes and the response to dune restoration

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Reptile diversity has been monitored on three dune types (mobile, semi-fixed and fixed dunes) in Nizzanim Dunes Nature Reserve, as part of the Long Term Ecological Research project in collaboration with the Israel Nature & Parks Authority for more than 12 years. This is the largest experimental habitat-manipulation ever conducted in Israel to create knowledge-based conservation management plans. Unlike most coastal restoration projects that seek to stabilize (fix) dunes, the attempt to restore Nizzanim's dunes involved vegetation removal to recreate more mobile-like dune states in two different ways; (1) intentional removal of vegetation across the whole dune and (2) removal of vegetation on the wind facing slopes. In addition, we monitored the consequences of passive vegetation removal due to disturbance caused by recreational vehicle usage.

We present the spatio-temporal changes among two lacertid species; Acanthodactylus scutellatus and A. schreiberi (in the older nomenclature), across different dune types, as well as the responses of these two species to the three different treatment types. A. scutellatus is a widespread desert psammophile (from Mauritania to Oman), mostly annual. In contrast, A. schreiberi is found in the eastern Mediterranean only, but in more diverse soil types and it reaches larger size and older age. In untreated (control) dunes, A. scutellatus is the only lacertid in mobile dunes, while A. schreiberi is the only lacertid in fixed dunes. Both species coexist on the semi-fixed dunes. Observations of A. schreiberi declined in response to wind-facing vegetation removal, which indicates a shift towards the target composition of mobile dunes. Meanwhile A. scutellatus appears to show no response to any vegetation removal treatments. The presence of both species in the disturbed dunes is similar to that in mobile sands, suggesting that some form of controlled disturbance may be beneficial to conserving A. scuttellatus in coastal habitats of Israel.