15 LIFE ON LAND

PROTECT, RESTORE AND PROMOTE SUSTAINABLE USE OF TERRESTRIAL ECOSYSTEMS, SUSTAINABLY MANAGE FORESTS, COMBAT DESERTIFICATION, AND HALT AND REVERSE LAND DEGRADATION AND HALT BIODIVERSITY LOSS

The African Houbara (Credit: Yohay Wasserlauf, University of Haifa)

RESEARCH

The Social Life of Ants

Dr. Eyal Privman and his Lab team research the social life of insects. Insect societies are a unique model system for investigating the genetic and evolutionary mechanisms at the basis of animal sociality. Relative to vertebrates, insect social behavior is more mechanistic so it is easier to find its genetic basis. In one of their latest papers, published in *Nature Communications*, their team found that social Isolation shortens ants' lifespan, these findings have important implications on our understanding of social isolation's impact on our own lifespan in general.

Tropical Tree Diversity

A study by Dr. Edwin Lebrija-Trejos of the Biology and Environment Department published in Nature, shows that in central Panama plant diversity increased with soil moisture during the first year of life, persisting for over 15 years. Negative density-dependent interactions among conspecifics were stronger in wetter years, contributing to increased diversity. Climate change and habitat degradation could impact these relationships and tropical tree diversity.

A Tale of Drones and Rodents

A new study led by a group of UofH scientists from the Department of Evolutionary and Environmental Biology, Shamir Research Institute and the Department of Geography and Environmental Studies examines the impact of using drones to determine rodents' location and damage in crops. Conducted on 120 plots, the study revealed that rodents' damage to crops can be controlled by using drone-generated data. This discovery contributes to increasing the efficiency of pest control, decreasing the amount of rodenticides, and water conservation.

PUBLIC ENGAGEMENT

How Many is Too Many?

A PhD thesis by Rakefet Diamond conducted under the supervision of Prof. Noga Collins-Kreiner, School of Environmental Sciences, and in collaboration with Dr. Lior Chen Levin, the social scientist of the Nature and Parks Authority, assesses the carrying capacity of nature reserves and national parks. It examines how many visitors can stay and visit reserves without causing harm, both to the natural environment and to the visitors' experience. The work is in advanced stages and it has significant implications and influence on the management of nature reserves and national parks in Israel.

Saving the African Houbara

The University of Haifa ,in collaboration with the Israeli Nature and Parks Authority has launched a research project led by doctoral students Yohay Wasserlauf and Assaf Miroz, supervised by Prof. Nir Sapir of the Department of Evolutionary and Environmental Biology. The study actively

monitors the migratory patterns of the Houbaras

(also known as Houbara Bustard) in different regions of the Negev, in an effort to save the Houbaras and other endangered species.

The project secured funding totaling 440,000 ILS through an agreement between the Israeli Nature and Parks Authority and the Abu Dhabi Research Institute.

LEARNING AND STUDENT

Plastic Waste and the Dead Sea

Under the guidance of Prof. Beverly Goodman-Chernov, postdoctoral student Dr. Akos Kalman led a study on plastic waste in Israel and tracked the decline of the Dead Sea level over decades. The research, involving students from a course on advanced technologies, revealed significant amounts of old plastic waste at the Dead Sea. The findings were widely covered in news outlets, including YNET and the Jerusalem Post.

To what extent do we value our forests?

A new study conducted by Dr. Keren Kaplan-Mintz from the Department of Learning and Instructional Sciences and the Shamir Institute for Research, Prof. Ofira Ayalon from the Department of Natural Resource and Environmental Management, along with a team of researchers from the Shmuel Ne'eman Institute at the Technion, found that many of us are willing to pay for the existence of forests and only few venture into them alone. The full research findings were published on the YNET website.

OPERATIONS

Safe Environment for Kestrels

The Department of Information Systems and the 'Friends of the Kestrels' Association constructed a kestrel nesting box for barn owls (a type of bird) on the roof of the Amir Building. Kestrels are migratory birds that arrive in the spring to nest, primarily in old buildings in cities. Modern construction and the use of sealed technologies do not allow kestrels to nest, and their numbers are declining in Israel and worldwide. The settlement provides a safe environment for kestrels to nest, and they also help control mosquito populations, contributing to preventing this nuisance.

Flight for Hope

The Swift sculptures displayed on campus were generously donated by the Friends of the Swifts Association and represent the hope for peaceful coexistence among three Abrahamic religions: Christianity, Islam, and Judaism. In efforts to conserve these small migratory birds, whose populations are decreasing, they built nesting chambers and livestream their activities to raise public awareness and gather valuable scientific information. This colony's data will be available online for ornithologists, scientists, and Swift enthusiasts worldwide.

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