ENCONTROS SCIENTIA

Assessing the effects of oil pollution using a multiple ecosystem functions approach

Marco Ferrante

Postdoctoral scholar, Mitrani Department of Desert Ecology, Jacob Blaustein Institutes for Desert Research, Ben-Gurion University of the Negev, Midreshet Ben-Gurion, Israel

Videoconferência

The effects of anthropogenic disturbance on ecosystems are traditionally investigated by monitoring changes in the densities of one or few species, which are supposed to sensitively react to the disturbance and signal its effects on the entire ecosystem (i.e. bioindicators). However, the ecological functions (EFs) taking place within ecosystems, which are crucial for their persistence, are not always well described by bioindicators. Therefore, developing monitoring methodologies to directly quantify EFs is necessary to provide quantitative data that are essential for our understanding of ecosystems, and to track their health.

Evrona Nature Reserve (ENR), southern Israel, is a hyper-arid desert ecosystem that has been affected by two large oil spills in 1975 and 2014. Most of the animal community in ENR depends on *Acacia* trees, which is a keystone genus in this ecosystem. The aim of my current project is to assess the short and long-term effects of oil pollution in ENR by evaluating predation, parasitism, seed predation and herbivory, four crucial EFs in desert ecosystems, on oil-polluted and non-polluted *Acacia* trees. In this lecture, I will present preliminary results from this ongoing project.

Understanding and quantifying how oil pollution affects both biodiversity and EFs is pivotal to improve monitoring programs and to develop effective strategies to mitigate negative effects. Results from this project will help to evaluate the long- and short-term effects of oil spills, providing complementary and quantitative data that will enhance our understanding of how desert ecosystems respond to anthropogenic disturbance.

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FCUL (Building C2), 12h00-13h00, room 2.2.14

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