**Job Description:** Estación Biológica de Doñana (EBD)

| **Role**: Research Assistant**Website**: [www.ebd.csic.es](http://www.ebd.csic.es/inicio) | **Location**:Estación Biológica de Doñana CSIC (EBD)C/ Americo Vespucio, s/n, 41092, Isla de la Cartuja, Sevilla |
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**Company Description**:

Doñana Biological Station is a public research institute belonging to the Consejo Superior de Investigaciones Científicas, CSIC, within the area of Natural Resources. Our primary mission is to carry out multidisciplinary research at the highest level, directed at understanding, from an evolutionary point of view, how biodiversity is generated, how it is maintained and damaged, in addition to the consequences of its loss and the chances of their preservation and restoration. Furthermore, it also promotes the transfer of scientific knowledge to society. The institute consists of a main building in Seville, which has an innovative Stable Isotope Laboratory (LIE) and two field stations, the ICTS Doñana Biological Reserve, (Doñana Natural Area, Almonte, Huelva) and Roblehondo Field Station (Parque Natural de las Sierras de Cazorla, Segura and Las Villas).

**Role Description**:

This project is called *Factors driving the interactions between mastic trees (Pistacia lentiscus) and their associated insect herbivore communities in Doñana National Park*. The trophic interactions between plants and herbivorous insects play a critical role in the functioning and nutrient cycling of terrestrial ecosystems worldwide. Unravelling the ecological drivers of these interactions is a fundamental step towards better understanding their evolution and impact in natural systems. We investigate how and why insect herbivore communities and associated damages vary among individual plants in natural populations of mastic tree (Pistacia lentiscus), a dominant keystone species in many Mediterranean forest ecosystems. Specifically, we examine the role of plants’ phenotypic variation on the composition of herbivore communities and related levels of leaf and seed damage. We combine state-of the art study approaches spanning entomology, functional ecology and phytochemistry.

The goal is to evaluate how among-tree variation in leaf and seed traits shapes plant-herbivore networks, and leaf and seed consumption of insect herbivores that are associated with mastic tree (Pistacia lentiscus) in the Doñana National Park (South Spain). Mastic tree is an abundant forest tree species in Mediterranean environments with a great diversity of documented associated insect herbivores. The specific research objectives are to: disclose the community composition of insect herbivores; quantify the consequences of the plant-herbivore interaction (i.e., insect herbivory); and assess among-tree variation in the production of leaf and seed traits involved in tree-herbivore interactions.

Mastic tree sites have been selected and sampled. Leaf and insect material necessary to conduct this study will be provided to the student. The student will be in charge of the quantification of insect herbivory and the processing of samples with insects so that the laboratory can subsequently perform insect identification through metabarcoding. She/he will further conduct statistical analyses. She/he will work closely with ecologists. The student will therefore develop statistical and laboratory competences skills, as well as conceptual and technical skills in trophic, community and ecology.

**Required Applicant Profile:**

EBD are looking for a motivated student who can work autonomously as well as collectively with interest in ecology and in plant-insect interactions. Prior experience in entomology will be appreciated but is not compulsory. A taste for statistical modelling will be strongly appreciated.