

Description of Funded Research Projects

1st Call for H.F.R.I. Research Projects
to support Post-Doctoral Researchers



H.F.R.I.
Hellenic Foundation for
Research & Innovation

Research Project Title:

**Bats and their relationship to
water availability and quality in
the Mediterranean sub-basin**

Principal Investigator:
Ioanna Salvarina

Popular Title:

Bats and Water

Scientific Field:
Environment, Ecology

Host Institution:
Aristotle University of Thessaloniki



H.F.R.I.
Hellenic Foundation for
Research & Innovation

Bats play an important role in ecosystems and they are threatened by climate change, degradation of their habitats and decrease of water quantity and quality. They need freshwaters for drinking and many bat species feed on emerging aquatic insects. Mediterranean freshwater systems suffer from anthropogenic influences, such as eutrophication, that can affect insect populations, water quality and quantity, and therefore bats indirectly. The relationship between bats and aquatic ecosystems is not yet well investigated in Greece.

Thus, the general essential aim of this project is to investigate the relationship between bats and freshwater sources in Mediterranean habitats that are prone to dryness and other effects of climate change. As social environmental consciousness is crucial for the success of conservation practices, another objective is to access and increase local public awareness of ecosystem services provided by bats. To achieve all above goals, we will use a combination of well established, scientific methods, including acoustic bat monitoring, waterbody quality assessment using benthic macroinvertebrates, stable isotope analyses, landscape analysis and social survey. We will do acoustic monitoring of bats near water bodies and we will explore how the quality and availability of water and adjacent habitats, influence bat activity and diversity. Our 11-member international team includes competent young and senior researchers with combined expertise in bat ecology, freshwater ecology, landscape ecology and geographical information system analysis, modelling, stable isotope ecology and social sciences, which guarantees the successful outcome of the project goals.

The project will contribute new knowledge on the ecology of bats and their relationship with water, especially in regions that suffer from dryness and might suffer more in the future. Bats consume high amounts of arthropods, including agricultural pests and insects transferring diseases. Protecting bats and letting them act as 'biological pesticides' saves money but is also friendly to the environment and human health.

Our results will provide recommendations for conservation actions. The improvement of aquatic habitats where bats feed and drink water will, on the long term, contribute indirectly to the improvement of local economy, as often aquatic habitats hold appeal for visitors and tourists; visitors may enjoy healthy and clean waterbodies.

Drawing more attention to bats is a step forward for the protection of the environment. Raising public awareness for bats in Greece is especially important as there is a high number of bat species in the country, for European standards, while on the contrary to other countries, there is no non-governmental organization (NGO) focusing on bat protection.

“



I am excited that I am given the opportunity to realize the research I designed - together with the valuable help of my collaborators- and to coordinate a research team of 11 people. This was also a rather unique chance to return in my home country, Greece, and to transfer a body of knowledge and experience I've obtained during my life and work abroad. On the other hand, this project is a challenge because I have to manage to complete everything planned, with the respective quality and quantity, but with a reduced budget. However, I am happy to contribute in a research field which is relatively poor in Greece, bat ecology. In parallel I aim to improve the image of these important, special, agreeable but misunderstood animals, bats, and contribute further to their protection and the protection of their habitats.

*The Principal Investigator,
Ioanna Salvarina*

Funding

Amount: **140,000 €**

Duration: **36 months**

Foundation: **H.F.R.I.**





H.F.R.I.
Hellenic Foundation for
Research & Innovation

CONTACT

127, Vasilissis Sofias Avenue
115 21 Athens, Greece
info@elidek.gr
www.elidek.gr



HELLENIC REPUBLIC
MINISTRY OF
DEVELOPMENT AND INVESTMENTS



GENERAL SECRETARIAT FOR
RESEARCH AND TECHNOLOGY