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

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Research Project Title:

Species on the brink of extinction

Principal Investigator:

Konstantinos Kougioumoutzis

Popular Title:

Greece’s most vulnerable species

Scientific Field:

Agricultural Science

Host Institution:

Agricultural University of Athens, Greece

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Research Project Summary

The planet is facing an unprecedented biodiversity crisis, with current extinction rates 1000 times higher than the background extinction rate. In order to halt this phenomenon, the Convention on Biological Diversity targets to prevent the extinction of known threatened species and to improve their conservation status by 2020. Nevertheless, extinction rates under current management schemes will continue to increase under any potential future climate scenario. Greece constitutes one of the most important biodiversity hotspots worldwide and hosts 74 Critically Endangered (CR) taxa at national and global level. Fifty of the CR taxa were assessed prior to 2012 and were classified as such, based solely on geographical criteria and without any data regarding their population trend; the latter being one of the most fundamental criteria regarding the threat categorization according to IUCN.

The persistent and escalating threats to biodiversity, coupled with underfunding, make it inevitable that conservation managers apply a triage procedure in decision making, that focuses on prioritizing species based on biodiversity benefits, recovery potential and costs to achieve a desired goal. An effective tool towards that end is Population Viability Analysis coupled with Species Distribution Models. There is an urgent need to include genetic data and species distribution modelling in the extinction risk estimation of threatened and endangered taxa, so as to improve the assessment of such taxa, since not a single taxon has been evaluated under this integrated and multidisciplinary scheme

Thus, the current project will address this gap, by compiling and assessing scientific information on the geographical distribution, population dynamics, and genetic diversity in order to provide a solid informative background for designing more effective conservation measures. This will be carried out for all the Critically Endangered species reported from Greece and the current project will actually constitute the first synthetic assessment of the most prone to extinction species in the EU and the globe.

Project Impact on Society

The proposed research is methodologically innovative since it implements a multi-level approach in the evaluation of the vulnerability status of the species concerned and could serve as a pilot study for the threat assessment of any taxon. It will also provide international and national authorities with ecological and genetic data and the results of a synthetic approach that will allow them to design and prioritize species-specific conservation actions.

Project results will provide a solid background for the species under question and allow for more targeted conservation initiatives. The results constitute important added-value, taking also into account global, European and national priorities concerning biodiversity and sustainability. Finally, through the dissemination actions planned for the project, we will increase the awareness of both the broader and more specialized audiences for the threats being faced by all the species under study. Public awareness is a major issue in every conservation initiative and is the ultimate criterion for the effectiveness of every conservation action.

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To me, H.F.R.I. funding would mean...

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It constitutes the most important step towards my professional and academic advancement, since I am for the first time able to form my own research team and address research questions that I deem fundamental for the refinement of ecological theory and conservation status assessment, in a quicksand-free academic environment.

The Principal Investigator,
Konstantinos Kougioumoutzis

Funding

Amount: **200,000 €**

Duration: **30 months**

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

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