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Conference Abstract

Conservation concern' bryophytes find refuge on cave entrances in the Azores

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Abstract

Bryophytes, including mosses, liverworts and hornworts, are terrestrial plants, with a particular life cycle where the gametophyte is dominant over the sporophyte; many species are pokilohydric, meaning that they achieve a quick equilibrium between the cell water content and that of the environment, suspending their life, but not dying, in the absence of water. Due to their light spores, these plants have a great dispersal ability and may be found from the poles to the equator. In the Azores, there are almost 500 species (Gabriel et al. 2010), colonizing a large number of habitats and substrata, but forming particularly luxuriant communities inside native forests. Nevertheless, these forests are presently restricted to medium-high elevations (above 500 m) and below this altitude, adequate habitats for many bryophyte species are scarce (Henriques et al. 2016). Cave entrances, at different elevations, serve as surrogate habitats for bryophyte species, since they present an adequate relative humidity, fewer competitor species and are usually not disturbed by chemical products such as herbicides or pesticides. The aims of this work are twofold:

1. present the results of the first IUCN red-list assessment of the conservation status of Azorean conservation concern bryophytes; and

2. present an overview of the major threats involving the conservation of those species.

The assessments of extinction risk were based on the most updated categories and criteria. Seven liverworts (*Calypogeia azorica, Cheilolejeunea cedercreutzii, Fuscocephaloziopsis crassifolia, Leptoscyphus porphyrius* subsp*. azoricus, Lophocolea fragrans Plagiochila longispina and Radula holtii,*) and seven mosses (*Andoa berthelotiana, Echinodium renauldii, Heterocladium flaccidum, Hookeria lucens, Microcampylopus laevigatus, Rhynchostegiella trichophylla* and *Thamnobryum rudolphianum*) benefit from populations at cave entrances, mostly the Azorean and Macaronesian endemic species. The three most common threats harming “cave” bryophytes include: climate change & severe weather, habitat change and degradation and invasive plant species of native forest. These threats are also documented in the literature (e.g. Patiño et al. 2016; Ferreira et al. 2016; Triantis et al. 2010 and Silva et al. 2008). Cave habitats are thus an important part of bryophyte conservation in the Azores, and should be both legally protected and monitored to the mutual benefit of species and habitat conservation.

Keywords

IUCN, species conservation profiles, rarity, Mosses, Liverworts, Macaronesia (Azores, Madeira, Canary Islands)

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Hosting institution

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Author contributions

All three authors participated in the IUCN evaluation of the species; RG organized and presented the data.

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