

Camilleri L. (1)\*, Debono K. (1), Ghose Roy R. (1), Lanfranco S. (1)

## Diversity in Isolation: Dissecting the Drivers of Endemic Plant Richness on Mediterranean Islands and archipelagos

Effective conservation of island floras requires a 'benchmark' of expected relative species richness to compare results against. The framework for this process is provided by the theory of island biogeography that predicts island area and proximity to a mainland as being fundamental drivers of species diversity. The relative contribution of endemic species would then be expected to constitute a proportion of the maximum species richness, although the relationship may be non-linear between islands. Previous observations on the proportion of endemic species in several Mediterranean islands indicated a predictable trend with area but suggested an 'endemicity deficit' for some islands, such as Malta. This study aimed to refine these predictions by collecting data on variables other than the two fundamental ones. These included a re-evaluation of proximity, and also included topographic diversity and human population density. 'Proximity' to a mainland was calculated through the progressive integration of land areas at varying radii from the centre of an island whilst 'topography' was estimated by recording the variance of elevation over a systematic sample of locations within an island. This was done for Crete, Corsica, Cyprus, Sardinia, Malta, Sicily, the Tuscan Archipelago, and the Balearics. GLM models related the proportion of endemic species to the selected constraints, with results indicating that 'topography' and 'area' explained more variation in the number of endemic species than 'proximity' and 'human population density'. Contrastingly, the proportion of endemic species on an island was best explained by 'proximity' and 'topography'.

(1) University of Malta, Department of Biology, Msida, Malta

\* [leanne.camilleri@um.edu.mt](mailto:leanne.camilleri@um.edu.mt)