

PST21 - Amphibian communities distribution and conservation in urban ponds – The city of Porto (Portugal) as a case-study

Barbosa, D.^a, Ferreira, A.^b, and Teixeira, J.^b

^aFaculty of Sciences of University of Porto, Portugal

^bCIIMAR – Interdisciplinary Centre of Marine and Environmental Research, Portugal

Ponds and other small water bodies in urban and semi-urban areas provide several environmental services, such as: high primary productivity; carbon sink; flood mitigation and hydrological regulation; water purification; pest control; leisure places; tools for high educational and scientific activities. Also, these habitats are very important for biodiversity, especially amphibians, since they depend on them to complete their life cycle. However, they are critically endangered due to growing urbanization that results in habitat fragmentation; bad management practices; pollution; presence of invasive species. Hence, it's urgent to promote their study and the implementation of correct and specific conservation measures.

The main goal of this study, developed within the scope of Ponds with Life Project (CIIMAR-UP), was to survey and characterize the waterbodies in the city of Porto (Portugal) and study the distribution of their amphibian communities to identify and propose urgent conservation measures. To achieve this, binary logistic and linear regression analyzes were conducted to determine what environmental variables determine the presence of amphibian species and species richness.

A total of 150 water bodies were surveyed and characterized, of which only 48 showed presence of amphibian species. Submerged and emergent vegetation were the environmental variables that seem to have most influence in the presence of amphibians, which, in some way, may reflect a higher natural state of the water bodies and minor human intervention.

With this work, it was possible to prioritize areas for urgent and specific conservation measures aiming for their correct management and protection of the amphibian communities in the city of Porto. Also, these results will allow the elaboration of a manual with proposed guidelines to be delivered to the Municipality and guarantee long-term implementation of such measures.