
Transdisciplinary Bioblitz project at the Biological Field Station of Paimpont opens new research opportunities

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Abstract

The Biological Field Station of Paimpont (Station Biologique de Paimpont, SBP), owned by the University of Rennes and located in the Brocéliande Forest of Brittany (France) has been hosting student scientific research and field trips during the past 60 years. Historical surveys in the study area of the SBP focused on butterflies and birds, however some of the records lack exact occurrence information and metadata.

With this study, we aimed at increasing the range of taxa observations, observing changes in species composition and landscape, and providing a basis for interdisciplinary research perspectives.

We gathered historical data, implemented all taxon biodiversity inventory (ATBI) in different habitats of the SBP study area, measured abiotic factors in the air, water and soil and started a photographic landscape observation during the BioBlitz held in July 2017.

During the 24h BioBlitz organized at the SBP, different habitats were individually sampled. Seventy-five experts accompanied by 120 citizens and 12 European volunteers observed, identified and databased over 700 species and over 1600 occurrences. Historical data collection resulted in about 700 species in time series. We also recorded climatic, soil and water parameters. Habitat cartography was further detailed by new biotic and abiotic observations. Socio-ecological landscape changes were assessed with a comparative approach using 32 historical photographs and historical maps.

The coupling of historical biodiversity data with new biotic and abiotic data and a photographic comparative approach allows an integrative understanding for how the SBP changed from agriculturally-used land into managed natural area within the last 60 years. Hence, this BioBlitz represents an important holistic sampling of biodiversity for studies on trophic webs or on trophic interactions, or on very diverse but connected habitats. The integration of social, biotic and abiotic data opens innovative research opportunities on the evolution of socio-ecosystems and landscapes.

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