

Primeira Sessão: Ecologia e Fisiologia – Pôsteres

Revisiting Current Knowledge and Research Gaps in Seagrass Ecology Worldwide

Pavone, CB (1), Flores, AA (1), Luiz, OJ (2)

(1) Centro de Biologia Marinha da Universidade de São Paulo, USP, (2) Research Institute for the Environment and Livelihoods, Charles Darwin University

Seagrass ecosystems encompass a diverse group of marine flowering plants that occur in coastal waters and play a vital role in supporting oceans biodiversity and resilience, as well as human populations' sustenance. However, they are facing a rapid decline due to growing threats of climate change, pollution, and coastal development, making it increasingly urgent to effectively assess and improve the production and application of seagrass ecological knowledge. Based on a broad literature review and topic Latent Dirichlet Allocation (LDA) modelling analysis, we generated a qualitative and quantitative scrutiny of main published contents to evaluate the relevance of main research topics, and how they connect, through time (1827-2020). We found an increasing trend of contributions on conservation and management science, along with biotechnology and remote sensing, but those topics were largely disconnected to advances on ecological processes that operate at either small (e.g. biotic and abiotic interactions, biogeochemistry fluxes and hydrodynamics, seasonality and productivity) or large spatiotemporal scales (biogeography, landscape ecology, connectivity, shoreline processes). Furthermore, we found that several topics were addressed separately for only one or a few species, mostly larger seagrasses or species with broader geographical ranges compared to smaller species with more restricted distributions, some of which still poorly studied. We reinforce the importance of bridging basic ecological science, at a range of scales, to more applied research and technological developments aiming long-term monitoring, conservation and restoration. Scientific cooperation in broader networks may greatly contribute to a more equitable understanding of seagrass systems, especially by improving our knowledge on species distributed in more neglected ecoregions (including endangered species). This essay highlights the importance of revisiting current knowledge to identify research gaps that may potentially hinder scientific advance on the ecosystem ecology of seagrass, and therefore limit the effectiveness of any conservation policies aiming their sustainable management.

Financiamento: Conselho Nacional de Desenvolvimento Científico e Tecnológico

O trabalho foi desenvolvido com o uso da infraestrutura do CEBIMar? Sim