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A review of seaweeds in Brazilian lagoon environments

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INTRODUCTION & AIM

Lagoons occupy 13% of the planet's coastal area, provide 26 ecosystem services and are among the most threatened ecosystems in the world, mainly due to the intense urbanization of their surroundings. [1,2]. Macroalgae are efficient bioindicators used worldwide for monitoring aquatic environments [3]. In Brazil, studies on macroalgae are concentrated in marine regions.

The objective of this work was to conduct a systematic review of studies on marine macroalgae in Brazilian lagoons.

METHOD

Using Google Earth, the lagoons were located and mapped to assess national patterns. Between 09/2021 and 03/2022, searches were conducted in five databases in all languages, using the following keywords: (*alga* OR seaweed) AND (lagoon) AND (Brazil* OR Brazil*).

Scopus® WEB OF SCIENCE™ Google Scholar SciELO CAPES .periodicos.

RESULTS & DISCUSSION

- About 300 coastal lagoons were identified, distributed across the five marine ecoregions that make contact with the Brazilian coast.
- This systematic review cataloged 39 studies on macroalgae conducted in only 11 lagoons (channel with the sea)
- 216 macroalgal taxa were identified
- Of the 17 coastal states, only four have studies of macroalgae in lagoons.

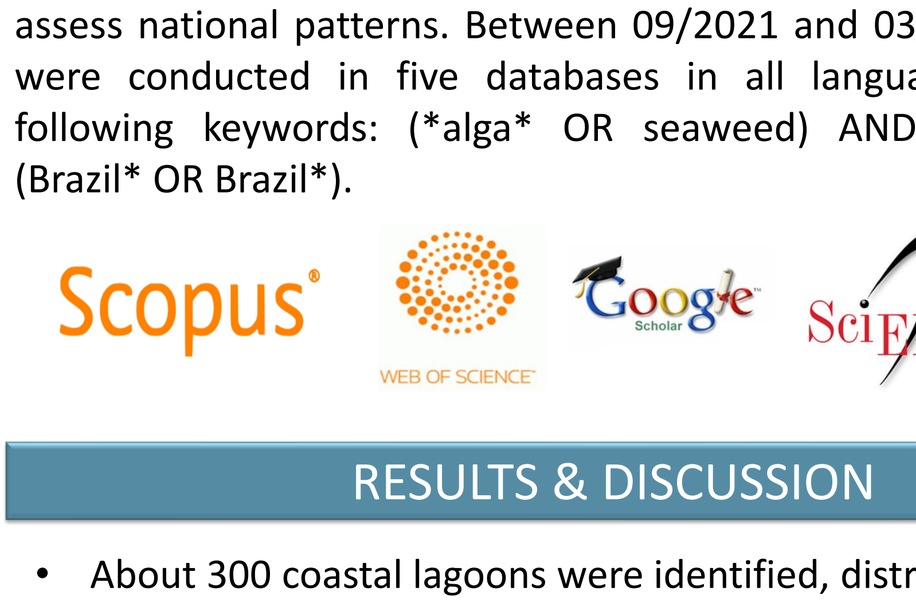

Figure 1: Percentage of distribution of coastal lagoons in Brazil marine ecoregions. In parentheses, the number of lagoons and next to it, the number of lagoons that have studies with macroalgae

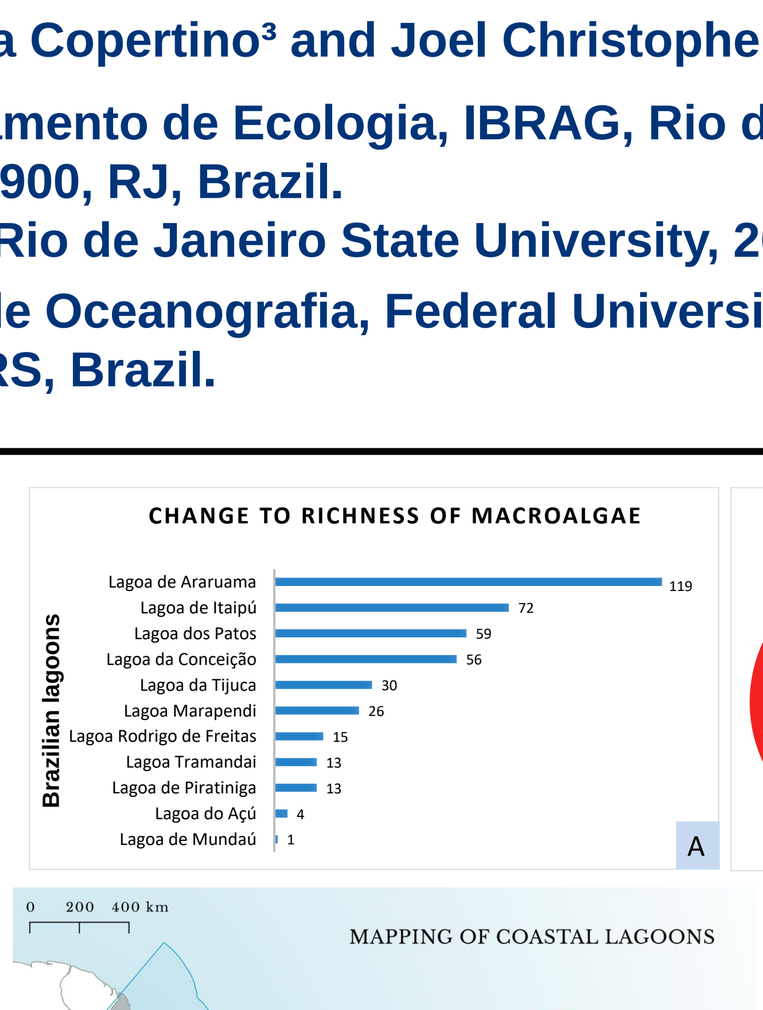

Figure 2: (**A**) Distribution of macroalgae richness among the 11 lagoons that have studies. (**B**) Percentage of occurrence of the three groups of macroalgae. (**C**) Map showing the distribution of coastal lagoons in Brazil, indicating those that have phycological studies.

The Araruama lagoon is the largest permanent hypersaline lagoon in the world and was the one that presented the greatest richness of species. Lagoa dos Patos is the only lagoon that has a Long Duration Ecological Program (PELD) and is the one that has the largest number of phycological studies

CONCLUSION

There are a lack of phycological studies in Brazilian lagoons. The use of these organisms as bioindicators is essential for monitoring the ecological state of these environments. The natural conservation of coastal lagoons is important not only for their ecological significance, but also for the valuable ecosystem services they provide for human well-beings.

FUTURE WORK / REFERENCES

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