Advancing conservation practices: Insights and perspectives into the application of terrestrial environmental DNA (eDNA) for conservation.

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The application of environmental DNA (eDNA) techniques in terrestrial environments has become a transformative tool for ecosystem monitoring. The unique characteristics of these environments have led to a rapid expansion of research in this field over the last few years as discoveries are made regarding the ecology of both the environments being sampled and the DNA within those environments. The success of this technique has sparked interest from the broader community and land management agencies as an innovative method for monitoring biodiversity for conservation, particularly in situations where traditional monitoring techniques may be difficult to implement.

In this talk, I will discuss insights gained from terrestrial eDNA studies, with an emphasis on translating research into conservation practice. I will explore several distinctive case studies, including invertebrate-derived DNA (iDNA), and assess the costs and benefits of these methods from a conservation perspective. Concluding with identifying impactful strategies for employing eDNA to enhance conservation efforts, acknowledging that while eDNA may not always be the answer, it remains a crucial tool in the fight to preserve biodiversity.

Kristen is a Research Scientist at the Western Australian Department of Biodiversity, Conservation and Attractions (DBCA). She completed her PhD as a co-enrolled student at the University of Copenhagen and Curtin University in 2022, applying eDNA and metabarcoding techniques on arthropods to document how environments respond to change. She then moved to New Zealand to the University of Otago as a post-doctoral fellow, where she worked on using eDNA techniques to investigate invasive mammalian species. She now manages the eDNA lab at DBCA and works on developing eDNA-based monitoring approaches to aid in conserving Western Australia's unique biodiversity. She is interested in terrestrial eDNA techniques and improving the uptake of these methodologies for conservation management.

Uncategorized January 24, 2025

ABOUT eDNA

The Southern environmental DNA Society (SeDNA) is a newly established Australian and New Zealand society of environmental DNA researchers and end users. We aim to promote best practices and help the adoption of methods across sectors.

Our mission is promoting science and industry collaboration across Australia and New Zealand to advance best practice eDNA methods and adoption in government, private and community sectors.

Visit our website to find more about the society and what we do here. Membership registration is open on our website.

https://sednasociety.com/

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In the spirit of reconciliation we acknowledge the Traditional Custodians of country throughout Australia & New Zealand and their connections to land, sea and community. We pay our respect to their Elders past and present and extend that respect to all peoples today.