

LITTORARIA (GASTROPODA: LITTORINIDAE) AS BIOINDICATORS OF MANGROVE HEALTH

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- SARChI: Research Chair in Shallow Water Ecosystems
- Invertebrate biodiversity and alien invasive species
- South Africa



Ecology and Conservation of Estuarine Ecosystems

Lake St Lucia as a Global Model

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Background

- *Littoraria* snails in South Africa
 - strong ecological ties with mangroves
 - distinct niches
 - measurable responses to change in habitats
- Can *Littoraria* be useful bioindicators?



Methods

- Survey South African mangrove forests
- Correlate snail species richness and densities with ecosystem health indices
- Compare past and present



Findings

- Positive correlations between ecosystem health and snail biodiversity
- Research on snails reveals complexities
 - Poleward range expansions



- e.g. *Littoraria scabra*, *L. pallescens*, *L. intermedia*



- (e.g. *Cerithidea decollata*)

- Disappearance of species from some areas



- e.g. *L. scabra*, *L. subvittata*, *L. pallescens*, *L. intermedia*, *L. coccinea glabrata* disappeared from St Lucia



- (e.g. *Terebralia palustris* disappeared from other locations in South Africa)

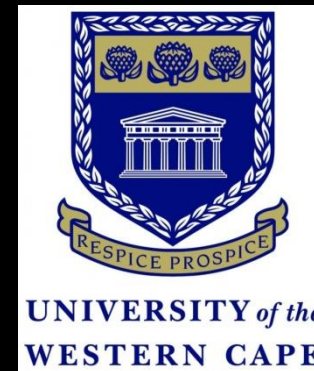
Mangrove snails are easy to track!

- Snails provide insights into ecological change
 - management / rehabilitation
 - climate / land use changes
 - pollution impacts



Poster # 85

Thank you



Selected references

- a Torres P, Alfiado A, Glassom D, Jiddawi N, Macia A, Reid D G, Paula J, 2008. Species composition, comparative size and abundance of the genus *Littoraria* (Gastropoda: Littorinidae) from different mangrove strata along the East African coast. *Hydrobiologia* 614, 339-351
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