

Volume 157, Issue 4_Supplement April 2025



Meeting abstract. No PDF available.

APRIL 01 2025

Vertical acoustic stratification of tropical marine ecosystems

FREE

Xavier Raick; Mélanie Vendramme; Eric Parmenier

Check for updates

Author & Article Information J. Acoust. Soc. Am. 157, A258 (2025) https://doi.org/10.1121/1.5063736

Split-Screen Share Tools

Vertical stratification shapes the structure and function of tropical marine ecosystems, yet its acoustic dimension remains poorly understood, especially in deeper zones. Extending our knowledge of reef dynamics across depth gradients is crucial not only to uncover the functioning of these largely unexplored ecosystems but also to advance non-invasive monitoring methods. This study provides the first insights into the soundscape of the lower rariphotic zone, revealing vertical acoustic stratification from aliphotic coral reefs, upper and lower mesophotic coral ecosystems (MCEs), to the rariphotic zone. Fish vocalizations decreased with depth overall but showed the reverse pattern at sunset, with sound activity rising from 20 m, 60 to 120 m, and peaking at 300 m. This sunset-driven surge was primarily driven by one dominant sound type, a phenomenon previously observed in environments such as MCEs and temperate seagrass meadows. This study represents the first exploration of vertical acoustic stratification, offering valuable insights into a region that remains largely unknown.

View Metrics

Citing Articles Via

Google Scholar

Submit your article

Sign up for alerts

Table with 2 columns: Most Read, Most Cited. Row 1: Variation in global and intonational pitch settings among black and white speakers of Southern American English. Authors: Aini Li, Ruaradh Purse, et al.

