



National Environmental
Research Program

MARINE BIODIVERSITY *hub*

Describing the evolutionary history of Australia's marine fauna

An understanding of the ecological processes and historical biogeography of Australia's marine fauna is a key factor in Australia's marine bioregionalisation.

It has been widely thought that many Australian marine species originated in the tropics and expanded southwards. Work by the CERF Marine Biodiversity Hub, however, suggested some Australian fish groups actually were ancestral to their tropical relatives.

These groups are more likely to have originated in southern Australia and radiated towards the tropics. These findings highlight the fact that Australia's fish fauna may be far more ancient than previously thought.

This project is examining phylogenetic relationships within several informative fish groups, such as groups recognised as important biogeographic indicator. The aim is to determine the timing and pathways of evolution within these groups, and to test for generalised patterns.

The work will foster a better understanding of marine areas that may have acted as refugia during earlier extinctions, and could offer clues to the response of species to future change.



Sea robin *Lepidotrigla* (Family Triglidae)



Flounder (Family Bothidae)

The Marine Biodiversity Hub is investigating the evolution of fish groups that include sea robins and flounders. (Images: CSIRO)



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