



# FrontiersEcoPics

## A tropical fish out of water

**T**he foureye rockskipper (*Dialommus macrocephalus*) is an amphibious fish endemic to the Tropical Eastern Pacific, inhabiting shallow areas along rocky shores from Baja California to the central Colombian Pacific coast. This small blenny, together with a closely related species, *Dialommus fuscus* (endemic to the Galapagos Islands), are the only members of the Family Labrisomidae that have adapted to live both in water and on land.

We saw this *D macrocephalus* on a rocky part of the northern Colombian Pacific coast (Playa El Almejal, Bahía Solano). Thirty-two other fish families (~200 species) from multiple clades have at least one representative that displays amphibious behavior, a characteristic that in many instances appears to have evolved independently.

Two main features make the foureye rockskipper a unique case of adaptation to life on land: (1) its ability to see when out of water, due to the flattened corneal surfaces in its eyes, which are vertically divided; and (2) its capacity for aerial respiration through the gills and skin, which allows for similar respiration rates as when underwater. The foureye rockskipper's terrestrial excursions last no longer than 30 minutes but provide this fish with opportunities to avoid predators, to feed



on small intertidal crabs, and to escape from heavy wave action during the tidal cycle. Fish like the foureye rockskipper still have much to teach us about the central evolutionary process behind the colonization of previously uninhabited environments.

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