Diurnal, land-based predation on shore crabs by moray eels in the Chagos Archipelago

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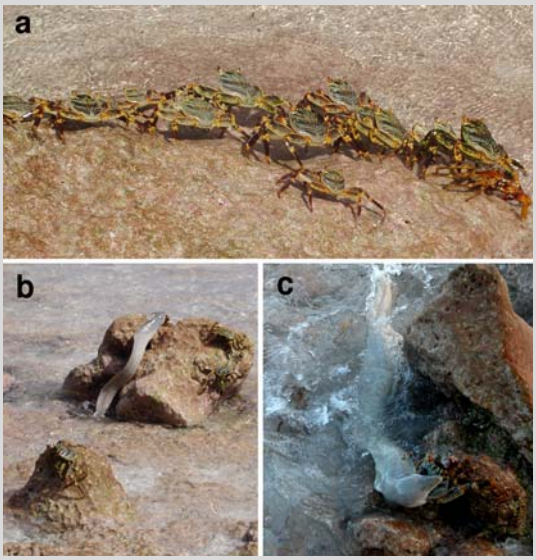

Fig. 1 Shore crabs, *Grapsus tenicrustatus*, forage along the waterline (**a**). Peppered moray eels, *Gymnothorax pictus*, actively hunt and leap clear of the water to capture their prey (**b**, **c**)

Moray eels are important predators on coral reefs. They normally hide in holes and crevices, ambushing prey and actively hunt and forage only at night. During a research expedition to the remote Chagos Archipelago, central Indian Ocean in 2006, we observed moray eels in high abundance that were not only feeding during the day, but were leaving the water to capture their prey. The north coast of Ile Passe Island, Salomon Atoll, comprises a wide raised reef flat with an eroded carbonate surface creating a habitat of shallow rocky tide pools. Such terraces are comparatively rare coastal features in the Chagos islands and may result from localized tectonic uplift, or were deposited during an episode of raised sea-level such as occurred during the last interglacial (~125,000 years BP).

The shoreline adjacent to the reef flat was populated by the shore crab, *Grapsus tenicrustatus*, which were foraging in the intertidal region (Fig. 1a). In nearby tidal pools, many moray eels, *Gymnothorax pictus*, actively searched the shallows. Densities of up to 2/5 m^2 were observed, all of which made no attempt to hide in rocks or crevices. These moray eels were hunting the shore crabs, leaping clear of the water over jagged rocks in order to catch their prey (Fig. 1b, c). When successful, eels would commonly ingest their prey whole while remaining partially or fully emerged from the water. This behaviour of *Gymnothorax pictus* has been previously noted by taxonomists (e.g., Lieske and Myers 1994), but is rarely observed. The remaining rare, remote and pristine environments, such as the Chagos Archipelago, may provide interesting insights into the natural dynamics of many species whose abundance and behaviour have been altered due to human activity elsewhere.

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