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**'Swimming crab *Charybdis smithii* of the Indian Ocean: key link in the pelagic trophic web'**

**(abstract only, to be published elsewhere)**

**by**

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## ABSTRACT

Surface swarms of the swimming crab *Charybdis smithii* are still considered as an unusual phenomenon in the open Indian Ocean, although its high pelagic abundance was already reported in waters off Indian coast and in the north Arabian Sea. Based on an extensive large-scale data series of 45 years long, we demonstrate that *C. smithii* is common in the pelagic provinces of the western Indian Ocean driven by the wind monsoon regime. Swimming crabs are dispersed by the monsoon currents throughout the equatorial Indian Ocean. They aggregate at night in the upper 150 m layer where estimated biomass using pelagic trawling data can exceed 450 kg nmi<sup>-2</sup>. Abundance of *C. smithii* can reach > 53,000 ind. nmi<sup>-2</sup> in July (i.e., the peak of the southwest monsoon), declines by 50-fold in March and is negligible in May. *C. smithii* is an important prey for more than 30 species of abundant epipelagic top predators and feeds on mesopelagic species. This swimming crab is a major species of the intermediate trophic levels and represents a crucial seasonal trophic link in the open ocean ecosystem of the western Indian Ocean. Conversely, pelagic portunids and galatheids in the Pacific and Atlantic Oceans are abundant within narrow zones of coastal upwelling ecosystems. Outbursts in pelagic waters of huge biomasses of ordinarily benthic crustaceans (*C. smithii* and *Natosquilla investigatoris*) are a remarkable feature of the Indian Ocean although similar events are already reported in the Pacific and Atlantic Oceans, but in a lesser extend.