

Genetic diversity of the Indian prawn (*Fenneropenaeus indicus*) along the coastline of Madagascar

Nicholson Ella Louise, Ratsimbazafy Hajaniaina Andriavalonarivo and Kochzius Marc

Marine Biology, Ecology and Biodiversity, Vrije Universiteit Brussel (VUB), Pleinlaan 2, 1050 Brussel, Belgium

E-mail: ella_1403_nicholson@hotmail.com

The prawn species *Fenneropenaeus indicus* (Indian prawn) is one of the most important commercial species around the world, with its distribution ranging from (South) East Africa, India to Indonesia. In Southeast Asia it is a common target species of marine fisheries, but it is also cultivated in the aquaculture industry in countries from Vietnam to Saudi Arabia. In Madagascar these shrimps form a large part of the daily catches and therefore this species is of major commercial importance. *Fenneropenaeus indicus* starts its life cycle in the sea, after which it goes through an estuarine juvenile stage. As sub-adults, they return to the marine environment and will live in depths from 2 – 90 meters. Given the significance of the shrimp for the local people for consumption, it is important to conduct a connectivity analysis to aid conservation. We will investigate the genetic diversity and gene flow among populations of *Fenneropenaeus indicus* by performing a population genetics analysis on various collected samples around the island, using the cytochrome c oxidase subunit I (CO I) as a genetic marker. To achieve the best statistical representation for all populations along the coastline, around 30 samples were selected from the four sides of the island: Nosy Be (N), Sainte Marie (E), Morondava (S) and Ambohibola (W) to obtain a total sample size of about 120. The samples were collected based on the morphological descriptions of *F. indicus*, so it will also be important to verify if all samples can be attributed to this taxon (this will evidently become clear after DNA barcoding). A statistical analysis will allow the establishment of the phylogeographic relationship among the populations around the island and can shed some light on the dispersal of the shrimp species around Madagascar.

Keywords: indian prawn; DNA barcoding; Madagascar; connectivity