



Diversity and structure of molluscs associated with mangroves in Lunama–Kalametiya lagoon, Sri Lanka

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Abstract: The study aims to assess the abundance, diversity of molluscs associated with the mangrove community in Lunama and Kalametiya lagoons located in the South Eastern coast of Hambantota district, Sri Lanka. Ten sampling sites were selected based on the distribution of mangrove vegetation and mollusc varieties. Belt transect method was applied for the sea mouth area, branching area and salinity changing areas. GPS location, molluscs species, mangrove vegetation and associated plants were recorded in subplots. Photographs were taken of live specimens in their natural surroundings and shells were collected for further identification. Shannon diversity, Margalef's diversity, Pielou's equation, abundance and frequency of occurrence were measured. The highest Shannon diversity value (2.60), highest Margalef's diversity value (1.56), and highest Pielou's evenness value (1.00) were obtained for site 04 in Lunama lagoon and the lowest Shannon diversity value (1.06), lowest Margalef's diversity value (0.43), and lowest Pielou's evenness value (0.41) were obtained for site 03 in Kalametiya lagoon. The highest abundance (26 individuals/m²) of molluscs occurred in site 03 and the highest Simpson value occurred in site 07. The highest species density was recorded for *Melanoides tuberculata* and the lowest species density was recorded for *Physunio superbus*. Fresh water molluscs were dominant in both lagoons and brackish water molluscs were found only in the Kalametiya lagoon. The study reveals that the changes in the mangrove vegetation with the influence of freshwater to the lagoons has an impact on the Mollusc diversity.

Keywords: Community structure, Mangroves, Salinity