

## **Benthic macrofaunal assemblage in seagrass-mangrove complex and adjacent ecosystems of Punang-Sari Estuary, Lawas, Sarawak, Malaysia**

### **ABSTRACT**

Present study dealt with the on faunal and in faunal assemblage from seagrass bed, mangrove area, and adjacent non-mangrove and seagrass (NMS) in Punang-Sari estuary, Lawas, Sarawak, Malaysia. Samples were collected from June to July 2019 by using quadrates and handpicking from the outside the sampling area to know the real checklist of surface macrofauna in this area. A ten-meter transect line was settled in three habitat areas where sampling was performed by putting three quadrates (0.35m×0.35m). Epifauna and infauna samples were collected from inside the quadrate and sieved using 0.4 mm mesh size sieve. A total of 111 species of gastropod (87 species from 30 families), bivalve (18 species from 9 families), Polychaeta (2 species), echinoderms (1 species), and crustacean (3 species) were recorded during the study period. Seagrass meadows comprised most diverse and abundant faunal (50 species) assemblage followed by mangrove habitats (48 species), and NMS (20 species). The dendrogram revealed two significant habitats in the sampling site. PCA analysis revealed, seagrass habitat sheltered a higher number of species followed by mangrove and NMS area. Jaccard similarity index revealed seagrass and mangrove habitats (0.42) contains the highest similar species amongst all habitats compared to mangrove and non-seagrass-mangrove area (0.26). Out of total species recorded (101), only ten species were reported as least concern, and 2 species hold deficient data status, and the rest are not evaluated. Bio-assemblage in seagrass habitat was found rich compared to other habitats, which could be useful for future ecological investigation and marine ranching.

**Keyword:** Checklist; Ecology; IUCN red list; Malaysian Borneo; Mollusk