

Prawn and Shrimp Species in U-To Creek of Chaungtha, Pathein Township, Ayeyawady Region

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Abstract

The occurrence of prawns and shrimps from U-To Creek of Chaungtha, Pathein Township, Ayeyawady Region was investigated from January to December 2011. A total of 14 species belonging to five genera under three families were recorded. A systematic list of the specimens collected was compiled, general ecological aspects as their habitat preferences were given

Key words : Species occurrence, Systematic position, Habitat preferences

Introduction

Mangrove habitats are rich in shrimp and prawn species. Mangrove leaf litter provides an important nutrient base for food webs. Their nutritional value, they support a very valuable, trade export market. Mangrove waters serve as an essential nursery ground for juveniles of many species of prawns and shrimps. The prawns / shrimps are highly associated with the mangrove ecosystems (Macnae, 1968).

According to Holthuis (1980), the prawns/shrimps include about 33 genera with about 2,500 species, of which less than 300 species are of economic interest throughout the world. Family Palemonidae is vast and diverse, as many as 21 valid genera and around 300 species were recorded from different parts of world. There are 154 known species, reportedly found in the global mangroves (Kannupandi *et al.*, 2000).

Materials and Methods

The present study was conducted at U-To Creek situated on the Rakhine Coastal Zone of Pathein Township, Ayeyawady Region (Lat 16° 56' N, Long 94° 28'E) from January to December, 2011.

Samples of prawn and shrimp were collected from monthly visit (three consecutive days / month). During active tidal action, traps were set

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at the ebb tide and retrieved at low tide in the following daytime. Morphometric characters were used to identify according to the standard key of Holthuis (1950), Holthuis (1980), BuruKovskii (1985) and George (1969).

Results and Discussion

U-To creek of Chaungtha possessed brackish water with an abundant supply of aquatic animals during the study period, 14 species of prawn belonging to five genera and three families were recorded. Among them six species from family Penaeidae, seven species from family Palaemonidae and one species from Alpheidae were recorded (Tables 1).

Regarding to their monthly catches, two of species of family Palaemonidae such as *M. Javanicum* and *M. lamarrei* were mostly captured than other species. No catchment of *M. rosenbergii* and *L. fluminicola* was recorded from March to May whereas the species *M. malcolmsonii* was not recorded during March to May and again from October to December. But nearly all species recorded in the present study showed low capturing rates from March to May (Table 2).

According to the pervious literature, Lei Lei Khing (2001) recorded 15 species of prawn from Kan-ywa, and Mya Zin Oo (2004) reported 11 species of prawns from Chaungtha environs. As compare to present records 10 species such as *P. monodon*, *P. indices*, *Metapenaeus papuensis*, *M. equidens*, *M. idae*, *M. Javanium*, *M. lamarrei*, *M. rosenbergii* and *Alpheus euphrosyne* from Kan-Ywa and a total of six species *P. monodon*, *P. merguensis*, *P. semisulcatus*, *M. lamarrei*, *M. rosenbergii* and *Alpheus euphrosyne* from Chaungtha were similarly recorded in the present study.

The largest captured was recorded from families Penaeidae and Palaemonidae. Especially, all species of family penaeidae were caught throughout the year, as *P. monodon*, *P. indicus*, *P. semisulcatus* and *Metapenaeus papuensis* were abundantly captured in the study environs. It is due to the genus *Penaeus* has a worldwide distribution and they spend a part of their life in the brackish water and even in fresh water (Mohamed, 1967).

Habitat preference of prawns and shrimp were provided in Table 3. Among the species recorded, *A. euphrosune* was found only in brackish water. A total of six species *P. monodon*, *P. indicus*, *P. merguensis*, *P.*

caniliculatus, *P. semisulcatus* and *Metapenaeus papuensis* were found in marine and brackish water while a total seven species *M. rosenbergii*, *M. idea*, *M. equidens*, *M. javanicum*, *M. lamarrei*, *M. malcolmsonii* and *L. flumincola* were recorded in brackish and fresh water habitat.

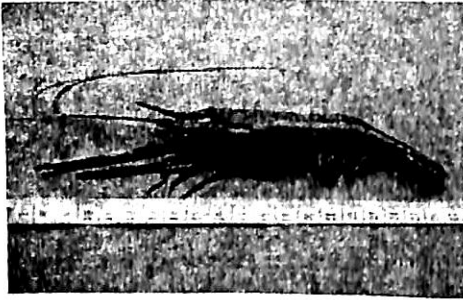
The species *P. indicus* and *P. merguensis*; *P. caniliculatus* and *P. semisulcatus* were found to occur together during the study period. These finding was similar with the report of Muthu and Rao (Undated) stated that species were found to occur together in the same habitat.

Also in the present result observed that all species (except *M. rosenbergii*, *M. malcolmsonii*, and *L. Fluminicol*) belonging to family palaemonidae were recorded throughout the year. It might be due to their migration of those species belonging to the genus *Macobrachiium* from rivers to low saline habitats for breeding. Therefore, they occurred in large numbers in estuarine areas during the monsoon period (George and Suseelaan, 1982). Also Tiwari (1955) stated that this species has marine origin and has acquired freshwater habitat by immigration from the sea to the interior of land through rivers. As a matter of fact that, nearly all species of family Palaemonidae were found in brackish and fresh water.

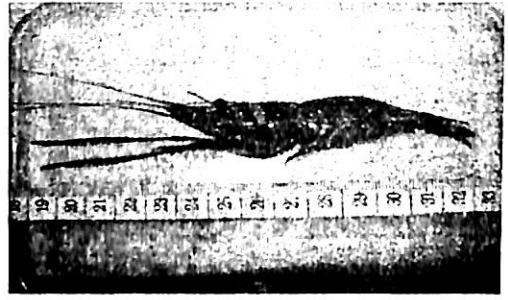
Short (2004) stated that *Macrobrachium* are conspicuous and important component of freshwater and estuarine ecosystems throughout tropical and warm temperate areas of the world and approximately 210 species have been described. In the present result found a total of seven species of *Macrobrachium* in the study area.

The remaining one species, *Alpheus euphrosyne* was caught through the year in the study area. But few numbers of caught was recorded during the study period.

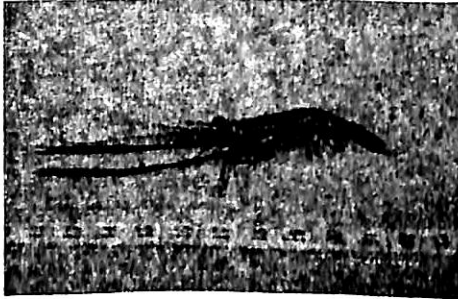
According to the commercial importance, the species belonging to family Penaeidae and Palaemonidae are important species for local income in the present study area based on the interview data from local fisherman. Therefore, the present study highlight the information of fishery sector plays an important for regional economy in the study area.



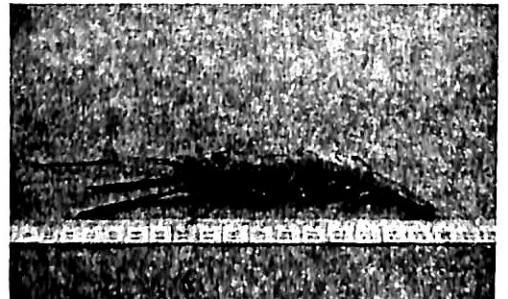
Macrobrachium rosenbergii



M. equidens

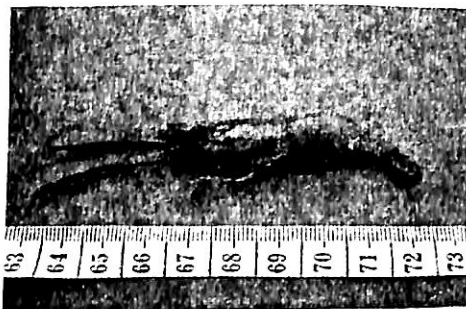


M. idae

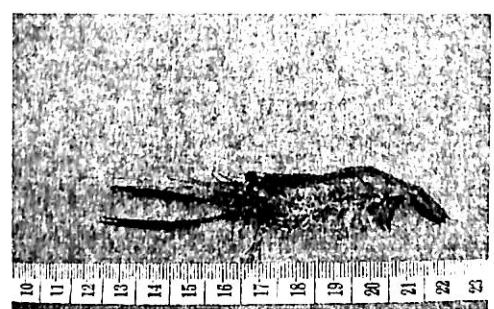


M. malcolmsonii

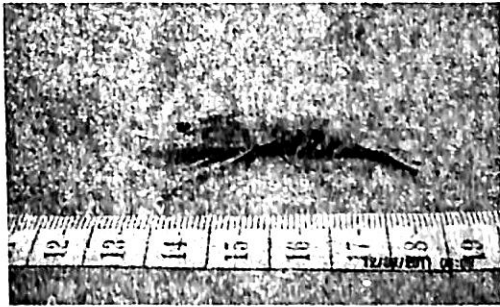
Fig.1 Recorded shrimp and prawn species from U-To Creek sector, Chaungtha environs



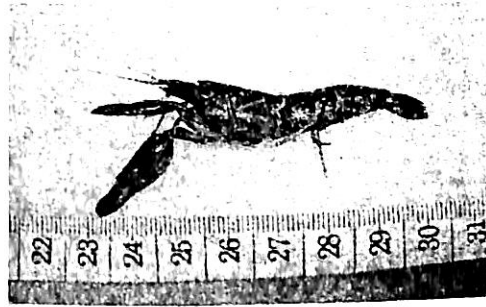
M. lamarrei



M. javanicum



Leptocarpus fluminicola



Alpheus euprosyne



Penaeus monodon

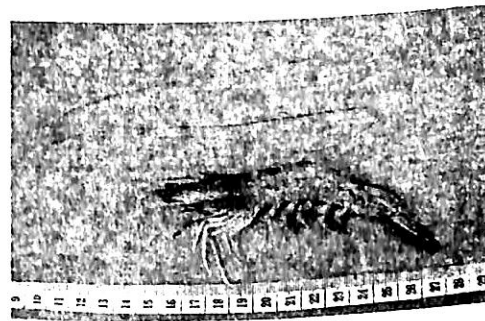


P. canaliculatus

Fig.1. Recorded shrimp and prawn species from U-To Creek sector, Chaungtha environs (continued)



P. indicus



P. merguensis

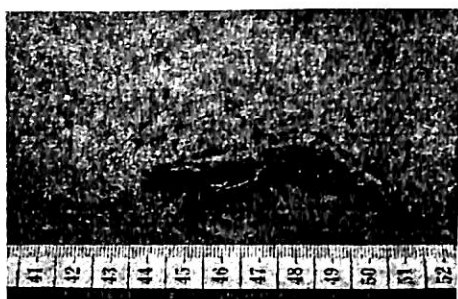
*P. semisulcatus**Metapenaeus papuensis*

Fig.1 Recorded shrimp and prawn species from U-To Creek sector, Chaungtha environs (continued)

Table 1. Collected species of family Penaeidae in U-To creek (Orde: Decapoda)

No	Species	Common Name	Vernacular Name	Family
1	<i>Penaeus monodon</i>	Giant tiger prawn	Kyar-pazun	Penaeidae
2	<i>P. indicus</i>	Indian white prawn	Pazun-phyu	
3	<i>P. merguensis</i>	Banana prawn	Pazun-phyu	
4	<i>P. canaliculatus</i>	Striped prawn	Zebra/Chey-pyar pazun/Kyar/Flower	
5	<i>P. semisulcatus</i>	Green tiger prawn/ Flower prawn	Pazun Sein Gya/ Flower	
6	<i>Metapenaeus papuensis</i>	Papua prawn	Thae-khe/ Gyawt	
7	<i>Macrobrachium rosenbergii</i>	Giant river prawn	Ye-cho-pazun-htoke	Palaemlonidae
8	<i>M. idae</i>	Orana river prawn/ Camaron Orana	Myet-pazun/ Bu-htoke	

No	Species	Common Name	Vernacular Name	Family
9	<i>M. equidens</i>	Rough river prawn	Gaung-pu/ Bu-htoke	
10	<i>M. javanicum</i>	Java river prawn	Bu-htoke	
11	<i>M. lamarrei</i>	Kuncho river prawn	Bu-htoke/ Gaung-pu	
12	<i>M. malcolmsonii</i>	Monsoon river prawn	Ye-cho-pazun-htoke	
13	<i>Leptocarpus fluminicola</i>	Gange delta prawn	Bu-htoke, pazun-seik	
14	<i>Alpheus euprosyne</i>	Nymph snapping shrimp	Nga-let-phyauk	Alpheidae

Table 2. Monthly collection (Present /absent) of shrimp and prawn species

No.	Scientific Name	J	F	M	A	M	J	J	A	S	O	N	D
1	<i>Penaeus monodon</i>	√	√	√	√	√	√	√	√	√	√	√	√
2	<i>P. indicus</i>	√	√	√	√	√	√	√	√	√	√	√	√
3	<i>P. merguensis</i>	√	√	√	√	√	√	√	√	√	√	√	√
4	<i>P. canaliculatus</i>	√	√	√	√	√	√	√	√	√	√	√	√
5	<i>P. semisulcatus</i>	√	√	√	√	√	√	√	√	√	√	√	√
6	<i>Metapenaeus papuensis</i>	√	√	√	√	√	√	√	√	√	√	√	√
7	<i>Macrobrachium rosenbergii</i>	√	√				√	√	√	√	√	√	√
8	<i>M. idae</i>	√	√	√	√	√	√	√	√	√	√	√	√
9	<i>M. equidens</i>	√	√	√	√	√	√	√	√	√	√	√	√
10	<i>M. javanicum</i>	√	√	√	√	√	√	√	√	√	√	√	√

No.	Scientific Name	J	F	M	A	M	J	J	A	S	O	N	D
11	<i>M. lamarrei</i>	√	√	√	√	√	√	√	√	√	√	√	√
12	<i>M. malcolmsonii</i>	√	√				√	√	√	√			
13	<i>Leptocarpus fluminicola</i>	√	√				√	√	√	√	√	√	√
14	<i>A. euphrosyne</i>	√	√	√	√	√	√	√	√	√	√	√	√

Table 3. Habitat preference of different shrimp and prawn species

Sr. no.	Species name	Habitat
1	<i>P. monodon</i>	Marine and brackish water. After low tide, under the mud flat.
2	<i>P. indicus</i>	Marine and brackish water. Abundant near shore during the clear water.
3	<i>P. merguensis</i>	Marine and brackish water. Abundant in shore bank and on the rock.
4	<i>P. canaliculatus</i>	Marine and brackish water. Abundant at sandy shore of river and sea.
5	<i>P. semisulcatus</i>	Marine and brackish water. Abundant at sandy shore of river and sea.
6	<i>M. papuensis</i>	Marine and brackish water. Abundant at the places between plants, debris, leaves and branches.
7	<i>M. rosenbergii</i>	Brackish and fresh water. Mostly found under the leaves and among weeds.
8	<i>M. idae</i>	Brackish and fresh water. Between the trees, leaves, grasses and debris.
9	<i>M. equidens</i>	Brackish and fresh water. Between the trees, leaves, grasses and debris.

Sr. no.	Species name	Habitat
10	<i>M. javanicum</i>	Brackish and fresh water. Between the trees, leaves, grasses and debris.
11	<i>M. lamarrei</i>	Brackish and fresh water. Between the trees, leaves, grasses and debris.
12	<i>M. malcolmsonii</i>	Brackish and fresh water. Between the trees, leaves and debris.
13	<i>L. flumincola</i>	Brackish and fresh water. Between the trees, leaves, grasses and debris.
14	<i>A. euphrosune</i>	Brackish water. Live in burrowing mud.

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