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Diversity of Shrimp Species Based on Fishermen's Catches in the Coastal Area of Pematang Cengal Village, Langkat Regency, North Sumatra

Keanekaragaman Jenis Udang Berdasarkan Hasil Tangkapan Nelayan Kawasan Pesisir Desa Pematang Cengal, Langkat, Sumatera Utara

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Abstrak

Penelitian ini bertujuan untuk mengetahui keanekaragaman, morfologi, dan studi morfometrik udang hasil tangkapan nelayan di wilayah pesisir Desa Pematang Cengal, Tanjung Pura, Sumatera Utara. Penelitian dilaksanakan pada tanggal 9-12 Juni 2025, dengan metode deskriptif kuantitatif. Pengambilan sampel dilakukan melalui wawancara dengan nelayan dan pengamatan langsung hasil tangkapan. Hasil penelitian menemukan 10 spesies udang yang terdiri dari 3 famili (Penaeidae, Palaemonidae, dan Squillidae) dari 2 ordo (Decapoda dan Stomatopoda). Spesies-spesies udang yang ditemukan adalah *Penaeus merguiensis, Penaeus monodon, Palaemonid shrimps, Harpiosquilla raphidea, Parapenaeopsis sculptilis, Penaeus indicus, Metapenaeus affinis, Litopanaeus vannamei, Macrobrachium rosenbergii*, dan *Metapeneus brevicornis*. Pengukuran morfometrik menunjukkan variasi yang berbeda antar spesies udang. Berdasrkan panjang total, ukuran udang yang tertangkap di Kawasan Pesisir Desa Pematang Cengal tergolong stabil dan berada dalam kategori ukuran sedang. Penelitian ini memberikan informasi penting terkait keanekaragaman jenis udang di kawasan pesisir Desa Pematang Cengal, dapat dijadikan langkah awal konservasi sumber daya udang di wilayah itu.

Kata kunci: kawasan pesisir Desa Pematang Cengal, keanekaragaman, hasil tangkap nelayan, udang

Abstract

The This study aims to determine the diversity, morphology, and morphometric studies of shrimp caught by fishermen in the coastal area of Pematang Cengal Village, Tanjung Pura, North Sumatra. The study was conducted on June 9-12, 2025, using a quantitative descriptive method. Sampling was carried out through interviews with fishermen and direct observation of the catch. The results of the study found 10 species of shrimp consisting of 3 families (Penaeidae, Palaemonidae, and Squillidae) from 2 orders (Decapoda and Stomatopoda). The shrimp species found were Penaeus merguiensis, Penaeus monodon, Palaemonid shrimps, Harpiosquilla raphidea, Parapenaeopsis sculptilis, Penaeus indicus, Metapenaeus affinis, Litopanaeus vannamei, Macrobrachium rosenbergii, and Metapeneus brevicornis. Morphometric measurements showed different variations between shrimp species. Based on total length, the size of shrimp caught in the Pematang Cengal Village Coastal Area is relatively stable and falls into the medium-sized category. This research provides important information regarding shrimp species diversity in the Pematang Cengal Village coastal area and can serve as a starting point for shrimp resource conservation in the area.

Keywords: coastal area of Pematang Cengal Village, diversity, fishermen's catch, shrimp

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INTRODUCTION

With approximately 18,000 islands spanning 6,400 km from east to west, Indonesia is the world's largest archipelago. Indonesia's outer region covers approximately 81,000 km^2, of which about 80% is ocean. With a land area of 1,937,000 km^2, Indonesia has a sea area of 3,100,000 km^2 and an exclusive economic zone (EEZ) of 2,700,000 km^2 [1]. The sea is a vast body of saltwater that separates and connects continental landmasses and islands. Therefore, the sea covers most of the land surface and typically contains salt, imparting a salty taste to the surrounding land. Fresh water from the land generally flows into the sea, which also serves as a habitat for various types of biota, including shrimp [2].

In addition to being a preserved natural resource with considerable economic value, shrimp play an essential role in driving national economic growth. The contribution is significant in improving employment opportunities and the overall standard of living of the community, including small fishermen and business actors in the fisheries sector, while maintaining environmental and resource sustainability [3]. Shrimp are a vital economic resource and need to be protected. In addition to contributing to the country's foreign exchange through exports, shrimp are also rich in protein and contain vitamins A and B1, making conservation efforts crucial. Shrimp play a vital role in enhancing the economy of coastal communities in the fishing industry. In addition to meeting their nutritional needs, shrimp can also be a source of daily sustenance for fishermen [4].

The village of Pematang Cengal spans an area of approximately 300 hectares (23 km^2), and approximately 8,735 people reside there in the subdistrict of Tanjung Pura. This village has a significant marine biodiversity potential that the local community can harness due to its coastal location. Most of the villagers work as fishermen, and one of their main catches is shrimp [5].

Given the importance of shrimp as a commodity, there is limited information available about the types of shrimp caught by fishermen in Pematang Cengal Village. As a result, researchers conducted a study as the first step in conservation efforts, aimed at assessing the level of shrimp diversity in the coastal waters of Pematang Cengal Village. Additionally, this study conducted a morphometric analysis of various shrimp types based on catches obtained by fishermen in the Tanjung Pura District, North Sumatra.

METHODS

Research Location

The researchers conducted the study in the coastal area of Pematang Cengal Village from June 9 to 12, 2025, collecting data after the fishermen had finished their shrimp catch.

Research Procedure

Using a quantitative descriptive approach, this study objectively observed shrimp on the coast of Pematang Cengal Village, reviewing the morphological characteristics of each shrimp species. The researchers conducted sampling for this study through open-ended interviews and direct surveys at the research location, visiting several fishermen who were catching shrimp in the coastal area of Pematang Cengal Village, Tanjung Pura, North Sumatra. Additionally, open-ended interviews were conducted with the fishermen directly. The study documented the species found at the sampling location. The shrimp species obtained were then observed, identified, and morphometrically measured using a ruler. The results were recorded in the form of observation data tables using an identification book. The identification results were then analyzed and described based on the morphology and morphometry observed at the research site to determine the most commonly found shrimp species at the site [6].

This study measured several parts of the shrimp, such as rostrum length (RST), head length (PK), first segment length (PRP), second segment length (PRD), third segment length (PRT), fourth segment length (PRE), fifth segment length (PRL), sixth segment length (PRN), telson length (TLS), prosartema length (PST), antennules length (PNL), antenna length (PAN), and total length (PTO). For the telson, lower head length (PKB), first lower segment length (PPB), second lower segment length (PDB), third lower segment length (PTB), fourth lower segment length (PEB), fifth lower segment length (PLB), sixth lower segment length (PNB), tail length (PE), and headless length (PTK) [7].

RESULTS AND DISCUSSION

Based on open interviews with fishermen, the shrimp found in the Pematang Cengal Village area showed high diversity. Table 2 presents 10 species belonging to 7 genera, 3 families, and 2 different orders. The study identified these species in the hamlets of Bagan Udang and Paluh Nipah, both located within the Pematang Cengal Village area.

Table 1. Results of an open interview with a fisherman

No	Fisherman's name	Occupation	Shrimp Fishing Area	Time	Fishing Gear Used	Duration	Shrimp Species Caught	Total Catch
1.	Arbani	Shrimp Fisherman	Serapuh Sea	5 a.m – 5 p.m.	Seine net	1 hr 30 min	Udang kelong, udang teger, udang swalo, udang putih.	18 kg
2.	Muhammad ahyu	Shrimp Fisherman	Serapuh Sea	5 a.m – 5 p.m.	Seine net	1 hr	Udang kapur, udang kelong, udang teger, udang batu.	16 kg

No	Fisherman's name	Occupation	Shrimp Fishing Area	Time	Fishing Gear Used	Duration	Shrimp Species Caught	Total Catch
3.	Mansyur	Shrimp Fisherman	Serapuh Sea	5 a.m – 5 p.m.	Seine net	1 hr	Udang Teger, Udang kapor, Udang kelong, udang koneng	17 kg
4.	Hassanudin	Shrimp Fisherman	Serapuh Sea	5 a.m – 5 p.m.	Seine net	1 hr	Udang kapur, udang kelong, udang teger, udang batu.	14 kg
5.	Nanda	Shrimp Fisherman	Serapuh Sea	5 a.m – 5 p.m	Seine net	1 hr 30 min	Udang kelong, udang teger, udang swalo, udang putih, udang kapur	15 kg
6	Jen	Shrimp Fisherman	Serapuh and Kuala Gebang Sea	5 a.m – 5 p.m	Seine net	1 hr	Udang kapur, udang kuning, udang kelong, Udang Batu	12 kg
7	Ijul	Shrimp Fisherman	Serapuh and Kuala Gebang Sea	5 a.m – 5 p.m	Seine net	1 hr	Udang kapur, udang kuning, udang kelong	10 kg
8	Anto	Shrimp Fisherman	Serapuh Sea	5 a.m – 5 p.m	Seine net	1 hr	Udang kapur, udang kuning, udang kelong	12 kg

Table 2. Order, family, and species of shrimp based on identification results

Order	Family	Genus	Species
Decapoda	Penaeidae	*Penaeus*	*Penaeus merguiensis*
			Penaeus indicus
			Penaeus monodon
		Parapenaeopsis	*Parapenaeopsis sculptilis*
		Litopenaeus	*Litopanaeus vannamei*
		Metapenaeus	*Metapenaeus affinis*
			Metapeneus brevicornis
	Palaemonidae	*Macrobrachium*	*Macrobrachium rosenbergii*
		Palamonid	*Palaemonid shrimps*
Stomatopoda	Squllidae	*Harpiosqulla*	*Harpiosqulla raphidea*

Tables 1 and 2 show that the shrimp species found, based on the catch results of fishermen in the coastal area of Pematang Cengal Village, vary in species composition. The survey identified ten species belonging to three families (Penaeidae, Palaemonidae, and Squillidae) and two orders (Decapoda and Stomatopoda). This species diversity was observed in adjacent areas, particularly in the hamlets of Bagan Udang and Paluh Nipah within Pematang Cengal Village. This finding suggests that the hamlets of Bagan Udang and Paluh Nipah within Pematang Cengal Village provide suitable habitats for the breeding of various shrimp species.

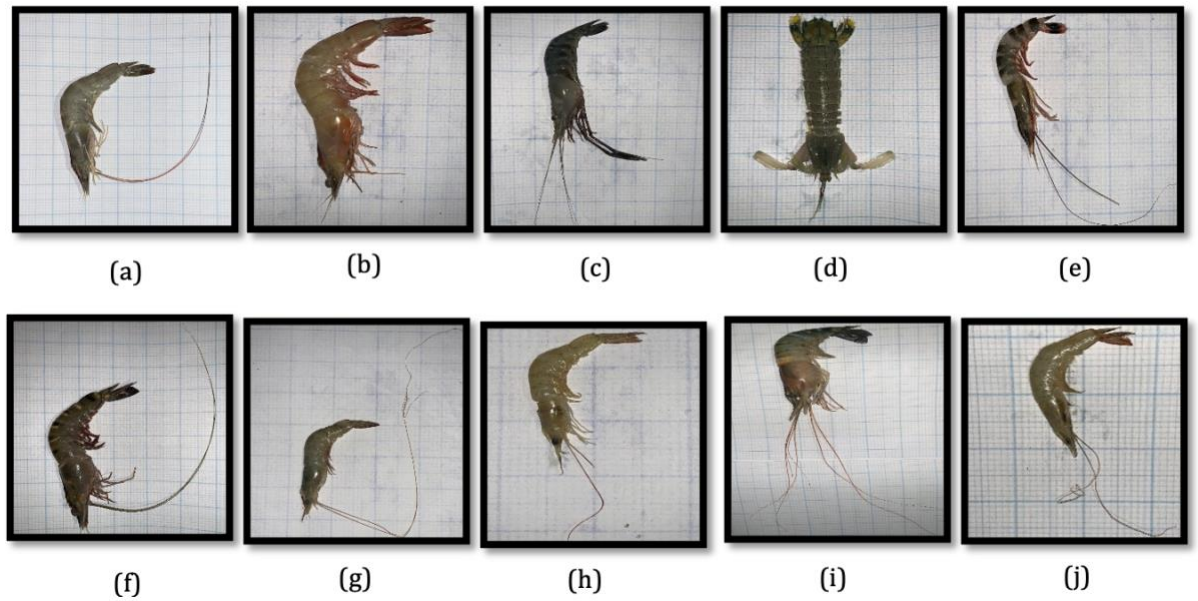

Figure 1. Shrimp species caught by fishermen: (a) *Penaeus merguiensis,* (b) *Penaeus monodon,* (c) *Palaemonid shrimps,* (d) *Harpiosqulla raphidea*, (e) *Parapenaeopsis sculptilis,* (f) *Penaeus indicus,* (g) *Metapenaeus affinis,* (h) *Litopanaeus vannamei,* (i) *Macrobrachium rosenbergii,* (j) *Metapeneus brevicornis*

The Penaeidae family, also known as the suborder Dendrobranchiata, includes many species, such as *Penaeus merguiensis* (white tiger shrimp), *Penaeus indicus* (red tiger shrimp), *Penaeus monodon* (tiger shrimp), *Parapenaeopsis sculptilis* (rock shrimp), *Litopanaeus vannamei* (white shrimp), and *Metapenaeus affinis* (Swallow shrimp). The family Palaemonidae of the infraorder *Caridea* occurs in freshwater, brackish, and marine environments. Species belonging to this family are Palaemonid shrimps and *Macrobrachium rosenbergii*, which is a giant river prawn. Mantis shrimp from the order Stomatopoda belong to the family Squillidae. Species belonging to the family Palaemonidae include *Harpiosqulla raphidea* (Lipan shrimp).

Table 3 presents 22 morphometric characteristics analyzed across all shrimp species collected from fishermen. All shrimp from the coastal area of Pematang Cengal Village were classified as medium-sized based on total length.

Table 3. Morphometric data of shrimp based on fishermen's catch

No	Morphometric	SP 1 Udang KP	SP 2 Udang KM	SP 3 Udang Teger	SP 4 Udang Gantung	SP 5 Udang Lipan	SP 6 Udang Batu	SP 7 Udang Swallo	SP 8 Udang Kapur Putih	Sp 9 Udang Galah	SP 10 Udang Kuning
1	Rostrum Length (RST)	4 cm	4,5 cm	5,5 cm	3,1 cm	2 cm	3,2 cm	2,5 cm	0,8 cm	7 cm	2 cm
2	Head Length (PK)	5 cm	6 cm	6,6 cm	4,7 cm	3,1 cm	4,7 cm	4 cm	2 cm	9 cm	3 cm
3	First Segment Length (PRP)	1,5 cm	1,7 cm	2,2 cm	1,2 cm	1 cm	1 cm	1 cm	0,6 cm	1 cm	0,5 cm

No	Morphometric	SP 1 Udang KP	SP 2 Udang KM	SP 3 Udang Teger	SP 4 Udang Gantung	SP 5 Udang Lipan	SP 6 Udang Batu	SP 7 Udang Swallo	SP 8 Udang Kapur Putih	Sp 9 Udang Galah	SP 10 Udang Kuning
4	Second Segment Length (PRD)	2 cm	1,9 cm	2 cm	1,1 cm	0,8 cm	1 cm	1,2 cm	1,1 cm	1,8 cm	0,8 cm
5	Third Segment Length (PRT)	1,7 cm	2 cm	1,2 cm	1,3 cm	0,9 cm	1,2 cm	1,4 cm	1 cm	2 cm	0,9 cm
6	Fourth Segment Length (PRE)	1,5 cm	2 cm	1 cm	1,1 cm	0,9 cm	1 cm	1,3 cm	0,7 cm	1,8 cm	1 cm
7	Fifth Segment Length (PRL)	1 cm	1,5 cm	1,5 cm	0,5 cm	0,9 cm	6,8 cm	0,7 cm	0,6 cm	1 cm	0,6 cm
8	Sixth Segment Length (PRN)	2 cm	2 cm	1,4 cm	0,9 cm	0,8 cm	1,2 cm	1,5 cm	1 cm	1,2 cm	1,1 cm
9	Telson Length (TLS)	2 cm	2 cm	12,2 cm	1,5 cm	2 cm	1,4 cm	0,5 cm	0,9 cm	1,9 cm	1 cm
10	Prosartema Length (PST)	2,5 cm	3 cm	4 cm	2,5 cm	4,5 cm	2 cm	2,5 cm	2 cm	3 cm	1,3 cm
11	Antennules Length (PNL)	2,2 cm	4,5 cm	6,5 cm	11 cm	4,7 cm	1,5 cm	1 cm	1 cm	25 cm	1,5 cm
12	Antenna Length (PAN)	21,5 cm	20,5 cm	27 cm	15 cm	4 cm	12 cm	9,5 cm	5,5 cm	30 cm	7,5 cm
13	Total Length (PTO) -> measured up to the telson	16 cm	19 cm	18 cm	11 cm	16,8 cm	10,7 cm	11 cm	7,5 cm	19 cm	8 cm
14	Lower Head Length (PKB)	4 cm	4,5 cm	5 cm	2,5 cm	3,4 cm	3,3 cm	3 cm	1,5 cm	4,5 cm	1,8 cm
15	First Lower Segment Length (PPB)	1,5 cm	2,2 cm	2 cm	0,6 cm	1,3 cm	0,9 cm	1,2 cm	0,5 cm	1 cm	0,7 cm
16	Second Lower Segment Length (PDB)	1 cm	1,1 cm	1,2 cm	1,3 cm	1 cm	0,6 cm	0,8 cm	0,6 cm	1,5 cm	0,5 cm
17	Third Lower Segment Length (PTB)	0,8 cm	1 cm	1,1 cm	0,4 cm	1 cm	0,5 cm	0,6 cm	0,4 cm	0,7 cm	0,3 cm
18	Fourth Lower Segment Length (PEB)	1,1 cm	1,7 cm	1,4 cm	0,3 cm	1 cm	0,6 cm	0,6 cm	0,5 cm	1,3 cm	0,7 cm
19	Fifth Lower Segment Length (PLB)	1 cm	1,5 cm	1,3 cm	0,4 cm	1 cm	0,5 cm	0,5 cm	0,4 cm	0,9 cm	0,4 cm
20	Sixth Lower Segment Length (PNB)	2 cm	2 cm	1,4 cm	0,9 cm	0,3 cm	1 cm	1,4 cm	0,8 cm	1,5 cm	1 cm
21	Tail Length (PE)	3 cm	3 cm	3,2 cm	1,3 cm	3,3 cm	2 cm	2 cm	1 cm	3 cm	1,5 cm
22	Headless Length (PTK)	11 cm	11 cm	10 cm	5,2 cm	10 cm	6 cm	6,8 cm	5,8 cm	9,5 cm	5,7 cm

The characteristics of sea shrimp and river shrimp exhibit significant differences, particularly in morphological aspects, including shape and color. One factor that shows this difference is the limited ability of sea shrimp to tolerate changes in salinity. Sea shrimp can generally only live in areas with high salinity. Marine shrimp exhibit more vivid coloration than freshwater shrimp because pigments in their exoskeleton produce brighter colors. Various shrimp species can adapt their skin color to their environmental conditions, and sea shrimp tend to be larger and broader in

size. Conversely, river shrimp cannot survive in environments with low salinity [8].

The diversity of shrimp species will help describe the distinct characteristics of each type, thereby facilitating their classification into the appropriate taxon based on their unique qualities [9].

Description of Shrimp Species

***Penaeus merguiensis* (Udang Kelong Putih)**

Penaeus merguiensis (family Penaeidae, order Decapoda) is a species of shrimp within the genus *Penaeus*. This shrimp consists of two main components: the head, which has two head fins, two simple eyes, five very short rostrum segments, five pairs of walking legs (three of which have claws), two mouthparts, two antennae, and two branched antennae [10]. *Penaeus merguiensis* has six dorsal segments, five pairs of pleopods, one telson, and a fan-shaped tail. This shrimp also has a short rostrum and can reach a length of up to 24 cm. Specifically, the body length of *Penaeus merguiensis* is 9 cm, with the antennae reaching 6 cm in length. It is adorned with red color and features black rings throughout its body. The natural habitat of this shrimp is shallow waters with depths ranging from 15 to 35 meters, and it prefers muddy and turbid environments [2].

***Penaeus monodon* (Udang Tiger)**

Penaeus monodon (family Penaeidae, order Decapoda) is a species of shrimp within the genus *Penaeus*. This species has two main body segments: the head, protected by a hard shell, and the abdomen. The anterior aspect of the head shows an S-shaped curve, called the rostrum, and has seven teeth. The head has a pair of stalked compound eyes, a pair of head fins, five pairs of locomotor legs, a pair of mouth appendages, and two pairs of antennae [11]. *Penaeus monodon* consists of six segments connected by a thin membrane. Five sets of swimming appendages occupy the first to fifth abdominal segments. The swimming appendages on the sixth segment form a fantail, consisting of two fan-shaped uropods and a central pointed telson. The two pairs of fan-shaped tails have a single pointed telson. The exoskeleton of *Penaeus monodon* is very rigid, with a body length of up to 15 cm and antennae of about 25 cm. Its body color is blackish green with transverse yellow stripes. *Penaeus monodon* is nocturnal, meaning it is active and forages for food at night. When exposed to bright light, this shrimp tends to hide at the bottom of the water. This species is usually found in deep waters [2].

***Palaemonid shrimps* (Udang Gantung)**

Palaemonid shrimps (family Penaeidae, order Decapoda) are a species of shrimp within the genus *Palaemonid*. Two compound eyes, two head fins, eight segments on the serrated rostrum, two antennae, and four pairs of antennae on the head are the two main parts of a shrimp. Three pairs of walking legs, two pairs of

mouth legs, and a pair of claws between the walking legs are other characteristics. Each of the six segments that make up the body of the *Palaemonid shrimps* has four pairs of swimming legs, two pairs of fan-shaped tails, and a pointed telson between the fan-shaped tails. The body length of this shrimp reaches 8.5 cm, with antennae approximately 6 cm long, and it has a greenish-white color. Its habitat is in murky waters containing sand and mud [2].

***Harpiosqulla raphidea* (Udang Lipan)**

Harpiosqulla raphidea (family Squllidae, order Stomatopoda) is a species of shrimp within the genus *Harpiosqulla*. This species has a body structure consisting of antenulae, antennae, carapace, eyes, rostral plate, thorax, periopods, raptorial claws, abdomen, telson, uropods, and pleopods. On the head, the carapace protects only part of the head and the first three segments of the thorax. The shrimp has a pair of compound eyes capable of seeing up to 90 degrees frontally and adjusting their focus to shorten or lengthen when observing prey [12]. This shrimp has a radar-like detection device that can rotate 360 degrees, namely its eyes. Its visual abilities are extraordinary; it can distinguish a mixture of 11–12 primary colors, detect ultraviolet light reflected from colors, and sense color variations through light polarization. *Harpiosqulla raphidea* possesses three pairs of mouthparts, three pairs of walking legs, a pair of claws, and two antennules, all of which are characteristic features. The telson has six small spines, eight shell segments, five pairs of swimming legs, one fan-shaped telson, and one pair of fan-shaped tails. The abdomen consists of ten segments. The shrimp's skin is covered in sharp spines and protected by a hard, calcium-based layer. The second pair of maxillipeds, which resemble pincers and are pretty significant, give it a mantis-like appearance. Its abdomen is broad and elongated [1].

Harpiosqulla raphidea is a chalk-white animal with a body length of about 18 cm and antennae measuring 4 cm. The thoracic cleft consists of three propundus segments with small, sharp spines, and the outer and inner uropods are black with fine hairs. A dark line is visible between the telson. It is essential to be careful when catching this type of shrimp because its head, sides, and tail have sharp weapons [13]. *Harpiosqulla raphidea* is a carnivorous mammal that is active throughout the day (diurnal), at night (nocturnal), and at dusk (crepuscular). This predatory shrimp can capture and kill prey up to five times its own size. Characteristics of *Harpiosqulla raphidea* include black pigment on the anterior edge of the antennae and a black line on the back between the antennae and the eye somites. In addition, a distinct boundary separates the thoracic somites from the anterior and posterior regions of the carapace. The surface of this shrimp's body is yellowish in color. *Harpiosqulla raphidea* can be found in

brackish water and marine environments, often inhabiting coastal areas and ponds. Its primary habitat is the coast, where it prefers to live on the seabed, especially in sandy and muddy areas. This shrimp is typically found in waters with depths of approximately 7 to 15 meters, about 20 kilometers below the surface [2].

***Parapenaeopsis sculptilis* (Udang Batu)**

Parapenaeopsis sculptilis (family Panaeidae, order Decapoda) is a species of shrimp within the genus *Parapenaeopsis.* The skin of *Parapenaeopsis sculptilis* is firm and reddish brown in color. The uropods, which curve over the eyes and along the rostrum, have small bristles. It carries a louder warning call than other Penaidae species. It is usually found in sandy and muddy areas, as well as in shallow waters approximately 90 meters from the shore [14].

***Paneus indicus* (Udang Kelong Merah)**

Paneus indicus (family Panaeidae, order Decapoda) is a species of shrimp within the genus *Panaeus*. *Penaeus indicus* has a semi-transparent, reddish body; its skin is thin and smooth; its eyes are light brown. To see its surroundings and hunt for prey, *Penaeus indicus* uses two antennae, two head fins, two easily movable compound eyes, and two antennae that function as touch, taste, and smell receptors [15]. The rostrum of *Penaeus indicus* is long and has yellow or brown stripes. It usually has 3-6 teeth on the underside and 7-9 teeth on the upper side. This shrimp also has one mouth arm and five walking legs. *Penaeus indicus* has two pairs of fan-shaped tails on its body, five pairs of swimming legs, one pointed telson in the middle of the tail, and six abdominal segments. *Penaeus indicus* has antennae sixteen centimeters long and a body length of nineteen centimeters. This shrimp is resistant to temperature and water fluctuations and is not easily affected. It lives on sandy and muddy sea floors, approximately ninety meters from the shore [2].

***Metapenaeus affinis* (Udang Swallo)**

Metapenaeus affinis (family Palaemonidae, order Decapoda) is a species of shrimp within the genus *Metapenaeus*. *Metapenaeus affinis* has dark brown spots as a grayish warning sign. It has a serrated rostrum around the distal edge of the rostrum that extends beyond the eye stalk. The telson has two colors: the tip of the telson is red, and the base of the telson is white. The telson has lateral weapons: on the periopoda, there is a small spine called the telson spine. About 90 meters from the coastline, in the soil and sand, is its habitat [14].

***Litopanaeus vannamei* (Udang Kapur Putih)**

Litopenaeus vannamei (family Panaeidae, order Decapoda) is a species of shrimp within the genus *Litopenaeus. Litopenaeus vannamei* consists of two main body parts: the cephalothorax and the abdomen. The cephalothorax bears compound eyes, antennae, antennules, four pairs of

maxillipeds, and five pairs of walking legs—one to three of which are chelate (bearing claws). It also possesses a rostrum and a telson forming the tail fan. Six body segments, five swimming legs, a pointed telson on two fan tails, and thin, transparent skin are characteristic of Litopanaeus vannamei. The body of *Litopanaeus vannamei* is book-shaped. *Litopanaeus vannamei* has a body size of 9 cm, antennae of 13 cm, and a clear white body with black spots. *Litopenaeus vannamei* inhabits waters 10–30 m deep, where it usually burrows into the mud. This type of shrimp is very popular and is preserved by Indonesian communities from Sumatra to Java [2].

***Macrobrachium rosenbergii* (Udang Galah)**

Macrobrachium rosenbergii (family Palamonidae, order Decapoda) is a species within the genus *Macrobrachium*. *Macrobrachium rosenbergii* has five pairs of walking legs and five pairs of soft, hairy legs. It also has a head with relatively small claws. The carapace and rostrum have upper teeth (11-15) and lower teeth (8-14), which are used to describe the cephalothorax. Above the head is a podium with serrations on the left side. This rostrum is relatively short and curves downward. This shrimp has two pegs on its antennae, which are no more than 10 cm long, and the antennae themselves. In addition, there is also a compound eye and a fin on the second leg [16]. The length of an adult giant river prawn can reach 1.5 times its body length, demonstrating the considerable size and length of this species. However, the growth of female giant river prawns is not noticeable at all. *Macrobrachium rosenbergii* has six abdominal segments and a hard shell covering the abdomen. At the tail end, there is one pointed telson and two pairs of fan-shaped structures, while the abdomen features five pairs of swimming legs. *Macrobrachium rosenbergii* has a clear, greenish color, with a body length of 9 cm and a claw length of 7.9 cm [17]. *Macrobrachium rosenbergii* has a segmented body, characterized by a pair of swimming legs, hard chitinous skin, and a second pleura consisting of the third and first pleura. The giant river prawn is a carnivorous species. Several studies show that its main diet consists of debris and mollusks. *Macrobrachium rosenbergii* can eat plant and animal fragments, including fish, algae, mollusks, worms, and metabolic detritus produced by fish. This prawn also practices cannibalism as a response to environmental stress and food shortages. *Macrobrachium rosenbergii* inhabits slow-flowing or calm river habitats [8].

***Metapeneus brevicornis* (Udang Kuning)**

Metapeneus brevicornis (family *Panaidae,* order *Decapoda*) is a species within the genus *Macrobrachium*. White color with slightly upward-curving brown spots is a morphological characteristic of *Metapeneus brevicornis*. The telson has only a row of

small spines. This type is found in historical contexts or in sediments approximately 90 meters high; it is typically located at depths of 30 to 40 meters and may even be submerged [14].

CONCLUSION

Interviews with fishermen on the coast of Pematang Cengal Village revealed the capture of 10 shrimp species. These shrimps belonged to 7 different genera, three families, and two orders. Shrimp in the order Decapoda from the family Penaeidae include *Penaeus merguiensis*, *Penaeus indicus*, *Penaeus monodon*, *Parapenaeopsis sculptilis*, *Litopenaeus vannamei*, *Metapenaeus affinis*, and *Metapenaeus brevicornis*. The family Palaemonidae includes *Macrobrachium rosenbergii* and *Palaemonid shrimps*—order Stomatopoda: Family Squllidae, namely *Harpiosqulla raphidea*. Morphometric measurements show considerable variation in size between shrimp species, as seen in the length of the rostrum, head, body segments, telson, prosartema, antennules, antennae, and total body length. The most commonly found shrimp species based on fishermen's catches are the giant tiger prawn (*Penaeus merguiensis*), the black tiger prawn (*Penaeus monodon*), and the white shrimp (*Metapenaeus affinis*). Overall, the diversity of shrimp species in the coastal area of Pematang Cengal Village is relatively high, covering various species from the Penaeidae, Palaemonidae, and Squillidae families. This finding suggests that shrimp resources have the potential to be utilized by the local fishing community. Conservation efforts and wise management of shrimp resources in the coastal area of Pematang Cengal Village are needed to ensure their sustainable use.

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CONFLICT OF INTEREST

The authors declare there is no conflict of interest.

REFERENCES

[1] A. Faqih and R. R. Juramang, “Keanekaragaman Dan Kelimpahan Jenis Crustacea Di Kawasan Hutan Mangrove Pesisir Langala Kecamatan Dulupi Kabupaten Boalemo,” *Jambura Edu Biosfer Journal*, vol. 5, no. 2, pp. 65–71, Sep. 2023, doi: 10.34312/jebj.v5i2.22077.

[2] F. R. Harahap, E. H. Kardhinata, and H. M. ZNA, “Inventarisasi Jenis Udang Di Perairan Kampung Nipah Kecamatan Perbaungan Kabupaten Serdang Bedagai Sumatera UtarA,” *BIOLINK (Jurnal Biologi Lingkungan Industri Kesehatan)*, vol. 3, no. 2, pp. 92–102, Aug. 2017, doi: 10.31289/biolink.v3i2.837.

[3] D. Hariyani, A. Hamidah, and T. Sukmono, “Studi Jenis-Jenis Udang Hasil Tangkapan NelayanDi Keluharahan Nipah Panjang I Kabupaten TanjungJabung Timur Jambi,” Jambi, 2018.

[4] I. Ketut Mahardika, S. Baktiarso, F. Nurul Qowasmi, A. Wulansari Agustin, and Y. Listian Adelia, "Pengaruh Intensitas Cahaya Matahari Terhadap Proses Perkecambahan Kacang Hijau Pada Media Tanam Kapas," *Jurnal Ilmiah Wahana Pendidikan, Februari*, vol. 2023, no. 3, pp. 312–316, doi: 10.5281/zenodo.7627199.

[5] S. Kondjol, M. H. Toha, P. Boli, and S. S. Suruan, "Identifikasi Hasil Tangkapan Nelayan Udang Di Kampung Bakoi Kabupaten Sorong Selatan Provinsi Papua Barat," *Jurnal Riset Perikanan dan Kelautan*, no. 2, pp. 212–24, Jul. 2020.

[6] B. Lantang, E. H. P. Melmambessy, and A. C. Rini, "Shrimp Of Catch In The Kumbe Coastal Waters And Kaiburse Coastal Waters At Malind District, Merauke," *Jurnal IPTEKS PSP*, vol. 7, no. 14, pp. 163–176.

[7] T. Maulani, F. X. Widadi, P. S. Si, and M. Si, "Keanekaragaman Jenis Udang Di Muara Namhoi Kecamatan Mempawah Hilir Kabupaten Mempawah, Kalimantan Barat Diversity Of Shrimp Types In Muara Namhoi, Mempawah Hilir Sub-District, Mempawah Regency, West Kalimantan," vol. 2, no. 1, pp. 35–44, doi: 10.26418/akuatik.

[8] M. Mawardi, M. A. Sarong, S. Suhendrayatna, and M. Irham, "The relationship between crustacean diversity and population dynamics of Blood Cockle Tegillarca granosa in the coastal area of West Langsa, Aceh Province, Indonesia," *Biodiversitas*, vol. 25, no. 2, Feb. 2024, doi: 10.13057/biodiv/d250228.

[9] H. A. Nasution, N. Syahfitri, R. P. Irmanda, S. Muliana, S. F. Nur, and A. Wahyuni, "Identifikasi Keanekaragaman Bivalvia Hasil Tangkapan Nelayan di Desa Pematang Cengal, Tanjung Pura, Sumatera Utara," *Jurnal Jeumpa*, vol. 10, no. 2, pp. 223–230, Aug. 2023, doi: 10.33059/jj.v10i2.7769.

[10] M. M. Nuralam, D. Hernawati, and D. Agustian, "Keanekaragaman Dan Potensi Jenis Ikan Hasil Tangkapan Nelayan Di Tempat Pelelangan Ikan (TPI) Pamayangsari Kabupaten Tasikmalaya," *Jurnal Biosilampari : Jurnal Biologi*, vol. 5, no. 2, pp. 154–162, May 2023, doi: 10.31540/biosilampari.v5i2.2000.

[11] S. Maria, N. MZ, and A. Supendi, "Pertumbuhan Udang Galah (*Macrobrachium rosenbergii*) yang Diberi Perlakuan Vegetable Floating Raft (VFR)," *Zebra: Jurnal Ilmu Peternakan dan Ilmu Hewani*, vol. 2, no. 2, p. 2743, Oct. 2024, doi: 10.62951/zebra.v2i2.75.

[12] M. Puspita Sari, M. R. Syahrir, M. Jurusan Manajemen Sumberdaya Perairan, and S. Pengajar Jurusan manajemen Sumberdaya Perairan, "Studi Morfometrik Udang Jerbung (*Penaeus merguiensis*) Yang Tertangkap Di Perairan Muara Ilu Kabupaten Kutai Kartanegara Morfometric Study Of Jerbung Shrimp (*Penaeus merguiensis*) In The Waters Of Muara Ilu, Kutai Kartanegara Regency," *Tropical Aquatic Sciences*, vol. 2, no. 1, pp. 92–98, doi: 10.30872/tas.v2i1.

[13] P. Rahayu and A. Annawaty, "Keanekaragaman Jenis Udang Air Tawar (Decapoda: Caridea) Di Pulau Labobo, Sulawesi," *Zoo Indonesia*, vol.

28, no. 2, Apr. 2021, doi: 10.52508/zi.v28i2.4096.

[14] R. Rahmi, A. Annawaty, and F. Fahri, "Keanekaragaman Jenis Udang Air Tawar Di Sungai Tinombo Kecamatan Tinombo Kabupaten Parigi Moutong Provinsi Sulawesi Tengah," *Natural Science: Journal of Science and Technology*, vol. 5, no. 2, Sep. 2016, doi: 10.22487/25411969.2016.v5.i2.6707.

[15] F. D. Shahra, S. Jayanthi, Z. S. G. F. Sentosa, M. Ayu, and M. K. Syahputra, "Keanekaragaman Mollusca Sebagai Indikator Kualitas Air di Kuala Langsa, Aceh," *Jurnal Jeumpa*, vol. 10, no. 1, pp. 49–57, Apr. 2023, doi: 10.33059/jj.v10i1.5726.

[16] A. Solichin, S. W. Saputra, W. T. Taufani, and D. Ayuningrum, "Studi Molekular Udang *Pennaeus* (Fenneropenaeus) *merguiensis* Di Perairan Pantai Utara Jawa (Molecular Study Of Shrimp *Pennaeus* (Fenneropenaeus) *merguiensis* On The North Coast Of Java Sea)," *Saintek Perikanan : Indonesian Journal of Fisheries Science and Technology*, vol. 16, no. 4, pp. 294–299, Dec. 2020, doi: 10.14710/ijfst.16.4.294-299.

[17] S. Sukarni, R. Rina, A. Samsudin, and Y. Purna, "*Harpiosquilla raphidea*, Udang Belalang Komoditas Unggulan dari Provinsi Jambi," *Jurnal Penyuluhan Perikanan dan Kelautan*, vol. 12, no. 3, pp. 179–193, Dec. 2018, doi: 10.33378/jppik.v12i3.108.

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