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Submission date: 09-May-2022 10:33PM (UTC-0500)

Submission ID: 1832646794

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Identification Species Of Crustaceans And Molluscs At Lendang Luar Beach, North Lombok Regency

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Abstract

Crustaceans and Molluscs are one of the important components in the food chain and have economic value. This study aims to determine the various species of crustaceans and molluscs located on the coast of Lendang Beach, North Lombok Regency. The study was conducted from October to November 2018. The study was conducted by roaming methods along the coast of Lendang Luar, covering seagrass ecosystems that are sand-graded and dead corals. From the results of the study found 8 crustacean families namely Portunidae, Majidae, Palinuridae, Gonodactylidae, Stenopodidae, Ocypodidae, Xanthidae and Hippidae. Whereas for molluscs, there are 3 Class Molluscs, namely cephelopoda, bivalvia and gastropods consisting of family 9, namely Octopodidae, Arcidae, Pinnidae, Trochidae, Collumbelidae, Olividae, Nassariidae, Conidae, and Aplysiidae. It is expected that the results of this study can be used as references in related research.

Keywords: Crustaceans, Molluscs, identification, Lendang Luar, North Lombok Regency

1. Introduction

Crustacea and molluscs are one of the benthos groups that have very high commercial value. Animal macrobenthos has an important role in the nutrient cycle. Called Montagna et al. (1989) in Suartini et al. (2006), states that in ecosystems, macrobenthos as one of the link chains in energy flow and cycles from planktonic algae to high-level consumers.

The island of Lombok as a small island that is surrounded by sea and ocean, has a long beach of 2,333 km which is certainly quite rich in marine products. Based on BPS data (2016) states that the results of fisheries and marine capture specifically for species of



shrimp and squid from 2010 to 2014 are on the highest curve among other fisheries catches. This shows that the consumption of Lombok people to the types of crustaceans and molluscs is very high.

LendangLuar Beach, North Lombok Regency is one of the beaches that has high potential as a habitat for various types of crustaceans and molluscs, because on this beach there are seagrass ecosystems. According to Ekaningrum, et al. (2012) seagrass is an ecosystem that is widely used as a place to live, a place to spawn or lay eggs, find food and shelter for various crustaceans and molluscs. Therefore, a study was conducted to determine the types of crustaceans and molluscs found in LendangLuar Beach, North Lombok Regency.

2. Material and method

2.1 The tools used in this study include:

Cameras for documentation, sample bottles and plastic (zip lock) to put crustacean and mollusca specimens obtained. The materials used in this study are, the types of crustacean and mollusca caught, sea water for temporary preservation and 70% alcohol for preservation of specimens.

2.2 Time and place of research

This research was conducted from October to November 2018 located at LendangLuar Beach, North Lombok Regency. The crustacean and molluscs samples obtained were taken to the BiologyLaboratory, Faculty of Mathematics and Natural Sciences,Mataram Universityfor identification.

2.3 Method of sampling

This type of research is descriptive exploratory research where the results of the research will be delivered in accordance with the conditions that occur during the field. The sampling technique is done by roaming methods with a free collection using manual methods, namely capturing empty-handed. Specimens collected and preserved using 70% alcohol were then taken to the BiologyLaboratory, Faculty of Mathematics and Natural Sciences,Mataram Universityto be identified. The book used as a reference in identifying the types of crustaceans and molluscs obtained was Crabs (PKLNg, 1998), Shrimps and

Prawns (Chan, TY 1998), Compendium of Seashells (R. Tucker Abbott and S. Peter Dance, 1998), and Private Lives Expose of Singapore's Shores (Peter KL NG, Shirley SL Lim, Wang Luan-Keng and Leo WH Tan., 2007).



Figure 1. Map of sampling area

3. Result and Discussion

3.1 Types of Crustaceans at Lendang Luar Beach

Based on the results of research at Lendang Luar Beach, North Lombok Regency, 11 individual crustaceans were classified into 8 families, namely Portunidae, Majidae, Palinuridae, Gonodactylidae, Stenopodidae, Ocypodidae, Xanthidae and Hippidae. Data on the types of crustaceans found in Lendang Luar Beach, North Lombok Regency can be seen in Table 1.

Based on data from Table 1. The crustacean species found at Lendang Luar Beach, North Lombok Regency are types commonly consumed by local people such as crustaceans from the families of Portunidae, Palinuridae, Gonodactylidae, Stenopodidae and Hippidae.

The crustacean species of the Portunidae family namely *Charybdis annulata* and *Thalamicarenata* are types of swim crab. The results of the observation showed that two



types of crabs have paddle pad that functions as a swimming leg. While the characteristics that distinguish these two species, namely for the type of *Charybdis annulata* on the merus, there are 3 or 4 spines on the anterior border; palm with more than 2 spines; and in first anterolateral tooth not truncate or notched. *Thalamitacrenata* has a characteristic surface of carapace smooth, low but distinct ridges; front with 6 equal-sized, rounded lobes. Family Portunidae is a type of crab that has habitat in offshore on muddy, sandy, or stony substrates.

Table 1. Species Crustaceans at LendangLuar Beach

No.	Family/Species
	Portunidae
1.	- <i>Charybdis annulata</i> - <i>Thalamita crenata</i>
	Majidae
2.	- <i>Maja squinadox</i>
	Palinuridae
3.	- <i>Panulirus versicolor</i>
	Gonodactylidae
4.	- <i>Gonodactylus chiragra</i>
	Stenopodidae
5.	- <i>Spongicola venusta</i>
	Ocypodidae
6.	- <i>Ocypode</i> sp. - <i>Grapsus</i> sp.
	Xanthidae
7.	- <i>Zosimus aeneus</i> - <i>Myomenippe</i> sp.
	Hippidae
8.	- <i>Emerita</i> sp.



The family Hippidae found at the location is *Emerita* sp. this type is also commonly consumed by the surrounding population. *Emerita* sp. has a local name Tempeyon, including from the order decapoda. This type of crab has a morphological characteristic of grayish round carapace, found under rocks. Family Palinuridae is commonly known as spiny lobsters or longoustes, which consists of eight genera namely *Jasus*, *Justitia*, *Linuparus*, *Palinurus*, *Palinustus*, *Panulirus*, *Projasus* and *Peurulus* (Latreille, P. A., 1802). *Panulirus versicolor* is a type of lobster commonly consumed. Based on IUCN data (2013) this type of lobster is included in the least concern category, which means that the number is still large and easy to find. *P. versicolor* is a type of solitary nocturnal animal, this type can be found hiding under dead rocks or coral reefs.

Family Gonodactylidae and Stenopodidae are crustaceans of the type of crustaceans that can be consumed and cultivated for decoration in aquariums. *Gonodactylus chiragra* is a type of mantis shrimp that represents Family Gonodactylidae. *G. chiragra* has the morphological characteristics of the olive green body color to cream color, has a dactylus of raptorial claw unarmed on inner margin, buttressed share, inflated claw, but has the inner margin of the claw unarmed and are much smaller. While *Spongicolavenusta* is a type of shrimp that represents the family of Stenopodidae.

The other three families, Xanthidae, Majidae and Ocypodidae, are a group of land crabs. This can be seen from the type of foot, where each species representing the three families does not have a paddle pad. So that it allows it to run fast, hide under rocks and even be able to climb trees.

3.2 Types of Molluscs at LendangLuar Beach

Based on the results of research at LendangLuar Beach, North Lombok Regency, 10 individual molluscs belonging to 9 families namely Octopodidae, Arcidae, Pinnidae, Trochidae, Collumbelidae, Olividae, Nassariidae, Conidae and Aplysiidae were identified. Data on the types of molluscs found in LendangLuar Beach, North Lombok Regency can be seen in Table 2.



Table 2. Species Molluscs at Lendang Luar beach

No.	Family/Species
	Octopodidae
1.	- <i>Hapalochlaena lunulata</i>
	Arcidae
2.	- <i>Barbatia</i> sp.
	Pinnidae
3.	- <i>Pinna</i> sp.
	Trochidae
4.	- <i>Calliostoma</i> sp.
	Collumbelidae
5.	- <i>Pyrene</i> sp.1 - <i>Pyrene</i> sp.2
	Olividae
6.	- <i>Oliva</i> sp.
	Nassariidae
7.	- <i>Nasarius</i> sp.
	Conidae
8.	- <i>Conus</i> sp.
	Aplysiidae
9.	- <i>Aplysia</i> sp.

Based on LIPI (1998) oysters, scallops, hard clams, blood cocle, squid, cuttle fish and octopus are types of molluscs that can be found throughout Indonesian waters. Molluscs found in LendangLuar Beach North Lombok Regency are divided into three classes namely Chephalopods, Bivalves and Gastropods. From the Chephalopoda class represented by one individual, the blue ring octopus (*Hapalochlaenalunulata*). *H. lunulata* is one of the species of blue ring octopus, this type of octopus is capable of camouflage so that it can resemble



the color of sand (aquatic substrate). This octopus cannot be consumed considering that this octopus is a type of poisonous octopus. Based on Mujiono (2008) blue ring octopus is often found in shallow waters with a depth of 0-20 m below or gap in coral reefs or on the sidelines of seaweed colonies found in the intertidal zone. In accordance with the results of the study, the blue ring octopus at LendangLuar Beach was found in rock slits and dead coral reefs. *H. lunulata* has saliva that is toxic and can kill its prey in minutes.

Mollusca from the bivalvia class is grouped into two families, namely Pinnidae and Arcidae where the species is *Pinna* sp. and *Barbatiasp.* These two species of shellfish are generally consumed by the surrounding community. *Pinna* sp. has a shape similar to an ax, with a cream-colored shell and has thorns that are used to stick to the substrate. Whereas, *Barbatiasp.* has an oval shape with fine ribs. There is a layer of fine brown hair (called the periostracum) covering the shell (Souji, et al., 2014).

Based on the results of the mollusc study from the gastropod class, the most dominant in LendangLuar Beach, North Lombok Regency can be seen in Table 2. That there are 6 families belonging to the gastropod class namely Trochidae, Collumbelidae, Olividae, Nassariidae, Conidae and Aplysiidae. Of the 6 family molluscs from the gastropod class, there is one family found which includes the non-shelled gastropods, namely family Aplysiidae.

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4. Conclusion

Based on the results of research that has been conducted on the identification of the types of crustaceans and molluscs found on the coast of LendangLuar North Lombok Regency, we found 8 crustacean families, namely Portunidae, Majidae, Palinuridae, Gonodactylidae, Stenopodidae, Ocypodidae, Xanthidae and Hippidae. Whereas for molluscs, there were 3 Class Molluscs, namely cehpalopoda, bivalvia and gastropod which consisted of 9 families namely Octopodidae, Arcidae, Pinnidae, Trochidae, Collumbelidae, Olividae, Nassariidae, Conidae, and Aplysiidae.



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