

INVENTORY OF SECUDASTER (*Holothuroidea*) IN NAMTABUNG VILLAGE  
MALUKU PROVINCE

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ABSTRACT

Coastal waters of Namtabung village sub-district Selaru West Southeastern Moluccas is the water areas that have all kinds of marine biota one of which is *Holothuroidea*. The coastal waters of Namtabung village are in good condition for the marine organisms lives. This research aims to know the specieses of *Holothuroidea* in Namtabung village sub-district Selaru West Southeastern Moluccas. Type of the research is descriptive qualitative, with procedures observation and identification. The results of this research there are eight species of *Holothuroidea*, among there are from *Aspidochirotida* order with 7 species consist of *Holothuria scabra*, *Holothuria atra*, *Holothuria edulis*, *Holothuria leucospilota*, *Actinopyga lecanora*, *Stichopus ocellatus* and *Bohadschia argus*, whereas from *Apodida* order there are only one species that is *Synapta maculata*

**Keywords:** sea, cucumber, inventory.

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INTRODUCTION

Indonesia is a region with considerable marine potential, one of the marine biological resources that has economic value is the sea cucumber (*Holothuroidea*) group which has the largest life in coastal waters. There are several types of sea cucumbers, some of which are fishery commodities that can be exported (Darsono, 2007). In Indonesian waters there are 53 species of sea cucumbers which include the genera *Holothuria*, *Bohadschia*, *Labiodemas*, *Thelenota*, and *Stichopus*. Of the species found, only 29 species were traded internationally, including the *Holothuriidae* and *Stichopodidae* tribes (Brucner, 2003). There are currently around 28 species of commercial sea cucumbers in Maluku waters. This commercial sea cucumber belongs to the class *Holothuroidea*, tribe *Holothuriidae* and *Stichopodidae*. Types of sea cucumbers that fall into the category of main economic value are sand or white sea cucumbers (*Holothuria scabra*), red-bellied sea cucumbers (*Holothuria edulis*), milk sea cucumbers (*Holothuria nobilis*), black sea cucumbers (*Holothuria atra*), and pineapple sea cucumbers (*Thelenota ananas*). While those included in the category of moderate economic value are sea cucumbers (*Actinopyga lecanora*) and sea cucumbers (*Actinopyga mauritiana*) which belong to the genus *Actinopyga*. Other types that fall into the category of low economic value, for example *Holothuria atra*, *Holothuria fuscopunctata* and *Actinopyga mauritiana*. Several types of sea cucumbers are widely used as food ingredients such as white sea cucumber (*Holothuria scabra*), red belly sea cucumber (*Holothuria edulis*), latex sea cucumber (*Holothuria vacabunda*), red sea cucumber (*Holothuria vatiensis*),

and brown sea cucumber (*Holothuria marmorata*) which are then processed into something like dried gonads (konoko), dry intestine (konowata) or crackers (Yusron, 2003; Kustuariyah, 2007).

Sea cucumbers play a significant role in aquatic ecosystems (Purcell, 2016 as follows: (1). Maintain and improve sediment quality by carrying out bioturbation to redistribute the sediment surface and affect biotic interactions with sediment water, then sea cucumbers also clean sediments to regenerate and mineralize the sediment surface (Purcell, 2016); (2). The nutrient cycle of sea cucumbers is one of the main functions in the ecosystem, dissolved nitrates and phosphates excreted by sea cucumbers to the surroundings can be absorbed by nearby corals, microalgae, macroalgae and bacteria. Microalgae and bacteria that have consumed the secretions will then be eaten again by sea cucumbers; (3). It can affect the chemical properties of its habitat because the metabolic activity of sea cucumbers can buffer the effects of acidification (dissolving CO<sub>2</sub>) by increasing pH and providing nutrients to help photosynthesis from zooxanthellate; (4). Having various symbiotic relationships, namely being a host for ectokomensals, endocommensals, and parasites; (5). Plays a role in the food chain because it is a significant food source for many consumers at each trophic level. In addition to having an ecological function, sea cucumbers also have an economic function as a fishery or trade commodity with a high selling value and have been widely used as a material with a fairly high nutritional content (Hartati, 2009). Looking at the benefits of sea cucumbers which have good prospects as an export commodity and high protein content for people living around coastal areas, it is necessary to conduct a study on sea cucumber resources (Holothuroidea), because the community's need for sea cucumbers is increasing so that their existence is decreasing in Namtabung Village coastal waters. Based on this background, the researchers tried to conduct research on "Inventory of Sea Cucumbers (Holothuroidea) in Namtabung Village, Maluku Province.

## METHOD

This research was conducted in the coastal waters of Namtabung Village, Selaru District, West Southeast Maluku Regency, Maluku.



(Google Earth 2020)

## Population and Sample

The population in this study were all types of sea cucumbers in the total area of the study, namely 525,000 m<sup>2</sup>. The sample in this study was 10% of the total types of sea cucumbers in the study area.

## Tools and materials

The tools used in this study were sea cucumber identification books, rulers, refractometers, pH meters, DO meters, notebooks, and stationery. The material used in this study is sea cucumbers.

## Data Collection Techniques

The data obtained in this study consisted of primary data and secondary data. Primary data was obtained directly at the research site by identifying the types of sea cucumbers found in Namtabung Village using the free collection method. Secondary data was collected through literature review in the form of related books and journals.

#### Procedure

Observation. It was carried out to find out firsthand the condition of sea cucumber habitat in Namtabung Village, Selaru District, West Southeast Maluku Regency, Maluku Province. Identification. This was done by matching the results of the research with the sea cucumber identification book (Clark, 1971).

#### Data Analysis Techniques

The data obtained was then analyzed descriptively in the form of pictures and tables.

### DISCUSSION RESULT

#### Jenis-jenis teripang (*Holothuroidea*) yang ditemukan pada Perairan Pantai Desa Namtabung.

Dari penelitian yang telah dilakukan, ditemukan 8 jenis teripang (*Holothuroidea*) yang terdiri dari 2 bangsa, 2 suku, 5 marga, dan 8 jenis.

#### Types of sea cucumbers (*Holothuroidea*) found in the coastal waters of Namtabung Village.

The research that has been done, it was found 8 types of sea cucumbers (*Holothuroidea*) consisting of 2 nations, 2 tribes, 5 genera, and 8 species.

Table 1. Types of Sea Cucumbers (*Holothuroidea*) Found in the Coastal Waters of Namtabung Village

Ordo	Class		Family	Species	
1. <i>Aspidochirotida</i>	1. <i>Aspidochirotidae</i> <i>Holothuroidea</i>	atau	1. <i>Holothuria</i>	1. <i>H. Scabra</i>	
				2. <i>H. Atra</i>	
				3. <i>H. Edulis</i>	
				4. <i>H. Leucospilota</i>	
			2. <i>Actinopyga</i>	5. <i>A. lecanora</i>	
				3. <i>Stichopus</i>	6. <i>S. ocellatus</i>
				4. <i>Bohadschia</i>	7. <i>B. argus</i>
				5. <i>Synapta</i>	8. <i>S. maculata</i>
2. <i>Apodida</i>	2. <i>Synaptidae</i>				

#### Classification and Description of the Types of Sea Cucumbers (*Holothuroidea*) in the Coastal Waters of Namtabung Village

##### 1. *Holothuria scabra*

This species is found on sandy substrates mixed with coral and seagrass vegetation. *Holothuria scabra* in the coastal waters of Namtabung Village has a round and long body shape, white in color, and has a black-brown dashed line. According to Hartati et al (2009), the sand sea cucumber or *Holothuria scabra* has a round, elongated or flattened cylindrical body shape and has black transverse stripes on its body. This sea cucumber has a whitish yellow color on the belly and gray to black on the back. *Holothuria scabra* lives in shallow waters associated with sea grasses and mangrove areas. This sea cucumber has a high price in South Pacific and Asian countries, so *Holothuria scabra* is widely used by the people of Namtabung Village (Hartati, 2009).

##### 2. *Holothuria atra*

This species is found in sandy substrates and there are seagrass meadow ecosystems. *Holothuria atra* which is found in these waters has a black body and is covered with sand on almost all of its body. *Holothuria atra* when lifted or touched his body will shrink.

According to Elfidasari et al (2012), morphologically this sea cucumber has a round body cross section, the ventral side tends to be flat. Black body color, soft and thick skin. The types of spicules found dorsally are table, rosette, and plate types. It is found in areas with coarse sand substrates and its body is covered with fine sand (Elfidasari et al, 2012). *Holothuria atra* found in Namtabung Village is not utilized by the community.

### 3. *Holothuria edulis*

This species is found in sandy and sandy substrates mixed with dead coral rubble. *Holothuria edulis* whose body was found was black all over its body and there were fine nodules. According to Elfidasari et al (2012), *Holothuria edulis* has a round body cross section, the ventral side tends to be flat. The dorsal part of the body is black, while the ventral part is pink. This sea cucumber is found in areas with a coarse sand substrate and its body is covered with fine sand (Elfidasari, et al, 2012).

### 4. *Holothuria leucospilota*

This species is found in sandy substrates mixed with coral with seagrass vegetation. Its body is black and its body size is long, if it is held by *Holothuria leucospilota* it will shrink to a small size. According to Wulandari et al (2012), this sea cucumber has a round body cross-section with the posterior being wider than the anterior. The dorsal side is black and the ventral side is dark brown (Wulandari, 2012).

### 5. *Stichopus ocellatus*

This species is found in sandy substrates mixed with dead coral and seagrass vegetation. *Stichopus ocellatus* is brownish in color with a large body size. There are fine spots on the body. From the results of research obtained by Wulandari et al (2012), sea cucumbers of the type *Stichopus ocellatus* tend to have a grayish-yellow body color on the dorsal and ventral parts which are yellowish white. Podia located on the ventral side, gray in color (Wulandari, 2012).

### 6. *Bohadschia argus*

This species was found on sandy substrates in Namtabung Village. This is in line with research conducted by Lagio et al (2014), namely *Bohadschia argus* has a round, elongated body shape, the back is blackish brown, the color of the belly is milky white yellow and there are red spots, the body feels a bit rough when touched. , and is found on sandy substrates and between living corals (Lagio, 2014).

### 7. *Actinopyga lecanora*

This species is found on sandy substrates mixed with dead coral. *Actinopyga lecanora* has a long, round body and is dark brown in color. There are nodules on the body so that when held it feels a bit rough. In a study conducted by Wulandari et al (2012), *Actinopyga lecanora* has a round body cross section, the ventral side of the body is not too flat and the body tends to be fat. His body skin is thick and will harden like a rock if disturbed. *Actinopyga lecanora* has different colors on the dorsal side, but the basic body color is generally brown (Wulandari, 2012).

### 8. *Synapta maculata*

This species is found on sandy substrates with seagrass vegetation. *Synapta maculata* has a round and flabby body shape, small but very long. *Synapta maculata* has a body color of light brown (in the form of stripes) and white. From the research results obtained by Wulandari et al (2012), *Synapta maculata* is a sea cucumber that has an elongated body like a worm and does not have podia. The basic body color is brown with black and gray bands along the body (Wulandari, 2012).

## CONCLUSION

Research conducted in Namtabung Village, West Southeast Maluku, it was found 8 species of sea cucumber *Holothuroidea*, including from the *Aspidochirotida* order there were 7 species namely *Holothuria scabra*, *Holothuria atra*, *Holothuria edulis*, *Holothuria leucospilota*, *Actinopyga lecanora*, *Stichopus ocellatus* and *Bohadschia argus*, while from the order *Apodida* there is only 1 species, namely *Synapta maculata*.

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