

Coral Taxonomy with Ecolinguistic Approach at Dive Spot in Pulisan Village, Likupang District, North Minahasa Regency

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Abstract— Corals are animals known as polyps which belong to the phylum Cnidaria. In simple forms, corals can consist of only one polyp, in many species of coral and individual corals develop into many individuals called colonies. Ecolinguistics is a branch of linguistics that studies changes between the environment and language, environmental changes participate in the loss of language. The destruction of nature through coral bombing, coral harvesting, physical development in an area will have a negative impact on the environment but also on changes in the attitudes of language speakers themselves. Coral genus data was collected using the cruising survey method at a depth of 3-5 meters at high tide. After that, several pictures were taken for representatives of the genus using an underwater camera for further identification purposes using the coral finder book. Based on identification, there are 33 genera of coral in the waters of Pulisan Village, namely at a depth of 3-5 meters at the highest tide. From the results of interviews with 20 respondents from Pulisan Village residents who work as fishermen, tourism workers, representatives from the Village Government and private workers, where there are 23 variants of regional names. The findings prove that the names of corals in unknown local languages are 31 percent and the remaining 69 percent are known. The name of the coral is explained by known knowledge based on similarities, colors, terms, shapes.

Keywords—component; formatting; style; styling; insert (key words)

I. INTRODUCTION

Indonesia as a maritime country has considerable potential in the marine sector and needs to be developed and managed properly. In this case, Indonesia has a water area of 3,257,483 km² with a coastline length of 99,093 km² and a total of 13,466 islands (Suharsono et al., 2012). Along the coastline

and around the existing islands there are coral reef ecosystems that have many roles but are vulnerable to change. Based on satellite imagery, it is estimated that the area of coral reefs in Indonesia is 2.5 million hectares (Giyanto et al., 2017).

Corals are animals known as polyps which belong to the phylum Cnidaria (Reid et al., 2009). In simple forms, corals can consist of only one polyp, in many species of coral and individual corals develop into many individuals called colonies (Rembet, 2012). Each polyp is like a fibrous sac with a ring of tentacles around its mouth, and looks like a small anemone (Allen & Steene, 1994 in Miththapala, 2008).

Coral reefs are ecosystems built by limestone-producing marine biota, especially by coral animals together with other biota that live on the seabed and in the water column such as molluscs, crustaceans, achinoderms, sponges and tunicates, as well as other biota that free living in the surrounding waters including plankton species and fish species Reskiwati et al., 2018; Lalamentik 1995). As for Reid (2009) stated that coral reefs have an area of about 250,000 km² in the ocean and are home to 25% of known marine species. Because of this, coral reefs are often called marine rain forests which have the highest productivity and biodiversity (Knowlton et al., 2010 in Andi Haerul, 2014).

Ecolinguistics is a branch of linguistics that studies changes between the environment and language, environmental changes participate in the loss of language itself (Yusradiusman, 2010). According to Renjaan (2014), the destruction of nature through coral bombing, coral harvesting, physical development in an area will have a negative impact on the environment but also on changes in the attitudes of language speakers themselves. Local speakers who have a language heritage as a local cultural heritage, this also

happens in Pulisan as an anticipation of the development of an integrated economic area after the determination of this area to be one of the super priority areas in Indonesia, Likupang itself is a destination that has been prioritized to become a special economic area which will later bring in tourists from various countries, therefore it is necessary to prepare resources through knowledge. Regarding dive spots, various coral resources found in Pulisan and its surroundings, the taxonomy of corals acquired through knowledge must be enriched with the taxonomy of the languages of the Archipelago, including the taxonomy of corals, which are thought to have originated from the Sangihe ethnic group, which has always come from the Migratory Austronesian language family from Midanou Philippines through Sangihe to the Sitaro Islands to the coast including in Pulisan and around Likupang sub-district, North Minahasa coast, they came as a migration that joined some ethnic Minahasa.

The basic assumptions of coral names are very diverse so that there are variations in names in the form of combinations based on several tribes and customs (Palmer & Richard, 2005). The function of language is very important because it is considered equal or parallel to the function of culture, ethnic culture, while this study examines the names or terms of corals found in snorkeling and diving spots using coral taxonomy with an ecolinguistic approach.

II. METHOD

This research was carried out in the waters of Pulisan Village, East Likupang District, North Minahasa Regency, North Sulawesi in July 2021. Meanwhile, the location for data collection is located at the coordinates of 1°41'03" North Latitude and 125°08'51" East Longitude. Prior to data collection, a site survey was conducted using the manta tow method to determine the location for data collection (Hill and Wilkinson, 2004).

Coral genus data was collected using the cruising survey method at a depth of 3-5 meters at high tide. After that, several pictures were taken for representatives of the genus using an underwater camera for further identification purposes using the coral finder book.

The identification book used is the Coral Finder series 2.0 from Russell Kelley. This identification book is very easy for users because there are stages to identify corals down to the genera level. Where previously divers have gone through the training process using the identification book in question and have a certificate.

The purpose of this study is to identify, describe and local naming systems in special communities living on the coast of Pulisan village, to explain the

form of naming corals in taxonomy as a linguistic eco study.

III. RESULT

In this study, the results obtained from the two methods used, namely data collection; (1) coral genus and (2) ecolinguistics. Then the results of the documentation in visual form are shown to the public while conducting interviews, identification, scientific names, local names, the shape of the coral are then analyzed. The naming of these corals was identified based on the theory of description, namely naming based on the reference entity (Seed, 2000).

Based on identification, there are 33 genera of coral in the waters of Pulisan Village, namely at a depth of 3-5 meters at the highest tide. The identified coral genera include; *Acanthastrea*, *Acropora* Branching, *Acropora* Digitata, *Acropora* Tabulate, *Astreopora*, *Cyphastrea*, *Diploastrea*, *Echinophyllia*, *Echinopora*, *Euphyllia*, *Favia*, *Favites*, *Fungia*, *Galaxea*, *Goniastrea*, *Goniopora*, *Leptoseris*, *Lobophyllia*, *Merulina*, *coralcediumporatrea* (fire), *Platygyra*, *Plesiastrea*, *Pocillopora*, *Porites*, *Sandalolitha*, *Seriatopora*, *Stylophora*, *Symphyllia*, *Tubipora* (organ pipe coral), *Turbinaria*, *Antipatharian* (black coral).

From the results of interviews with 20 respondents from Pulisan Village residents who work as fishermen, tourism workers, representatives from the Village Government and private workers, where there are 23 variants of regional names. The population is those who are conditionally resident in Pulisan Village, using a sampling technique using purposive sampling Sudaryanto (2014). The table below is a naming category that is adapted to the regional language and coral genus. Where there are 10 unknown coral genus names.

Table 1. Category that is adapted to the regional language and coral genus

No	Nama Genus	Nama Daerah
1	Acanthastrea	Karang Bulat
2	Acropora Branching	Karang Sirih
3	Acropora Digitata	Karang Payung
4	Acropora Tabulate	Karang Piring
5	Astreopora	Karang Pakeluase
6	Cyphastrea	Karang Jamur Laut
7	Diploastrea	Karang Batu Hemang
8	Echinophyllia	Karang Bunga
9	Echinopora	None
10	Euphyllia	Karang Pakis
11	Favia	None
12	Favites	None
13	Fungia	None
14	Galaxea	None
15	Goniastrea	None
16	Goniopora	None
17	Leptoseris	Karang Daong
18	Lobophyllia	Karang Tengkorak
19	Merulina	Karang Meja
20	Millepora (fire coral)	Karang Api
21	Montastrea	Karang Nuning
22	Mycedium	Karang Dapela
23	Platygyra	Karang Huso
24	Plesiastrea	None
25	Pocillopora	Karang Kribo
26	Porites	Karang Jare
27	Sandalolitha	Karang Ulat Rambut
28	Seriatorpora	None
29	Stylophora	Karang Jare Alus
30	Symphyllia	Karang Otak
31	Tubipora (organ pipe coral)	None
32	Turbinaria	Karang Gorango
33	Antipatharian (<i>black coral</i>)	Komansilang (akar bahar)

IV. CONCLUSION AND SUGGESTION

Based on the results of the study, 33 genera of corals were found scattered on the reef flat in the waters of Pulisan Village. Temporary residents and will experience changes in the environment from fishermen to tourism workers and the construction of embankments will eventually eliminate coral and over time the people will forget local names whose existence no longer exists, known as ecolinguistic theory as a reciprocal relationship between language and the environment. The findings prove that the names of corals in unknown local languages are 31 percent and the remaining 69 percent are known. The name of the coral is explained by known knowledge based on similarities, colors, terms, shapes.

The researcher's findings can be used as a reference for continuing sustainable research, especially in unknown coral genera. It is necessary to disseminate information about the research findings to the population so that they continue to use the local language specifically the findings of the local language of coral so that it will not experience extinction, so that the local names of these corals can be passed on to the younger generation as local wisdom of the people who live in Pulisan village.

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