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The Study of Eco-lexicons in The Identification of Marine Ornamental Fish in Indonesia

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ABSTRACT

The purpose of this study is to examine the ecolexicons of marine ornamental fish among fishermen in the Banyak Islands, Indonesia, focusing on naming conventions and their cultural significance. Using qualitative methods and ecolinguistic theory supported by semantic analysis, the research identifies 58 ecolexicons, categorized into groups such as anemonefish, surgeonfish, and butterflyfish. Data were collected through purposive and snowball sampling, with local fishermen as key informants. Findings reveal five naming criteria: resemblance (62%), distinctive features (31%), inventor/maker (9%), place of origin (9%), abbreviation (2%), and newly coined terms (7%). Notably, novel criteria emerged, including fish life stage, size, pidginization, and hybrid naming systems, prompting a reevaluation of Chaer's Inquisitive Semantics theory. The predominance of resemblance and distinctive traits in naming reflects the community's observational precision and ecological familiarity. The lexical choices are deeply rooted in cultural philosophy, expressed through ideological (conservatism), sociological (community norms), and biological dimensions. These interconnected influences shape how fishermen name and perceive marine life, reinforcing their bond with the local ecosystem. This study contributes to ecolinguistics by documenting unique naming practices and their sociocultural underpinnings, offering insights into how language encodes environmental knowledge. The findings underscore the importance of preserving indigenous lexicons as part of ecological and cultural heritage.

Keywords: Language; Ecolinguistics; Eco-lexicons; Marine Ornamental Fish and Qualitative

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1. Introduction

Indonesia is a country that has a very high level of biodiversity and endemism, making it one of the megadiverse countries. Indonesia is the largest archipelagic country in the world because it has a large sea area and a large number of islands. Indonesia has a total of 17,504 islands. The length of Indonesia's coast reaches 95,181 km with a sea area of 5.4 million km^2, dominating Indonesia's total territorial area of 7.1 million km^2 [1]. Indonesia is also blessed with the potential large marine resources including the greatest wealth of marine biodiversity and non-biological diversity. According to FishBase, Indonesia has 4,605 species of finned fish, including 1,193 species of freshwater fish, 3,496 species of marine fish, 104 species of pelagic fish, and 310 species of deepwater fish. Not to mention the position of Indonesia which is in the center of the world's coral reef triangle or commonly called "The Coral Triangle" which is also known by the world community as the area of "The Amazone Sea", has various species of coral reefs that are widespread throughout Indonesia, with an estimated area of reaching 50,000 km^2, which is almost 25% of the world's coral reefs, with the number of genera ranging from 70–80, and more than 500 species, or constitutes almost 75% of the diversity of coral reef species in the world.

Aceh Singkil Regency with the capital city of Aceh Singkil is a district located at the southern tip of Aceh province island of Sumatra. Aceh Singkil consists of two regions, namely mainland and islands, the islands that are part of Aceh Singkil are Banyak islands and western Banyak islands. Banyak Island is directly adjacent to the Indian Ocean, precisely at the western tip of Sumatra Island. As an archipelago, Panjang Island has the beauty of coral reefs. The beauty of coral reefs cannot be separated from the biota associated with coral reefs, one of which is coral fish. The large diversity of reef fish makes this area widely used for community activities such as recreational areas and motor boat trajectories.

This present study has a very important relevant dealing with the problems often arises as the result of misidentification because of the fish naming systems of marine ornamental fish. This condition can lead to Illegal, Unreported and Unregulated (IUU) fishing which include: fishing in closed areas or during prohibited times, using illegal gear, catching prohibited species, mislabeling and falsifying documents, fraud, and smuggling in the marine ornamental fish trading. Without proper stewardship, Indonesia can lose the source of wild marine ornamental fish which has become one of the essential components in global economy.

Thus, the goal of this study is to provide a means of structuring vernacular names, which, although in wide use, are highly variable and do not necessarily meet trade requisites. Large disparities in the number of vernacular names were found between species and among sites. Much of this variability is due to pronunciation and syllable adjunction, which do not affect the root name structure. Pronunciation aside, for the most part the analyzed variability in vernacular names of fishes is of linguistic origin stemming from geographic and thus cultural groups. Most efforts at standardization should then be invested at fish markets in order to integrate fish identification and labelling processes prior to selling.

Misidentification of the fish naming systems of marine ornamental fish also causes another problem between fishermen and exporters. Often, fishermen cannot fulfill orders for the types of fish needed by exporters because they cannot identify these types of fish. This problem arises because of differences in the names of fish by exporters with what is understood and recognized by fishermen. It is undeniable; each region must have a different name or term for each biota in the area. This misidentification problem has long-term implications because the catches of fishermen cannot be accepted by exporters, resulting in the inhibition of ornamental fish export activities. This is one of the phenomena gaps that often occur in the business of marine ornamental fish, which is caused by misunderstanding between the trader and buyers or between fishermen and consumers over the names of categories of fish. Thus, a study needs to be done to solve the problem among the traders.

Different regions of Indonesia have different names for fish species. A study on the folk names of marine ornamental fish is rarely conducted in Indonesia. The study of folk names of fish was conducted by Kurniawan in 2019 which discusses the marine ecolexicons in Batubara Malay in the millennial generation in Dahari Selebar Village,

Talawi District, Batubara Regency [2]. This study aims to describe the marine ecolexicons found in Batubara Malay in Dahari Selebar Village and describes the understanding of the community, especially the millennial generation, regarding marine ecolexicons in Batubara Malay in Dahari Selebar Village, Talawi District, Batubara Regency. The theory used in this research is ecolinguistic theory.

In Pulau Banyak, Aceh Singkil, the Folk naming of fish, which has an important role in people's lives, especially for the fishermen. The local names of fish serve as a symbol to mark each fish that has been caught. Identification of fish species has an important meaning when viewed from a scientific point of view because the entire sequence of subsequent work is highly dependent on the correct identification of a species. In reality, the folk fish names are used in business of ornamental fish. This research gap indicates that a study of naming fish is worth doing.

According to Haugen [3], the relationship between fauna and language has been widely studied from various disciplines, including from a literary, cultural and linguistic perspective. In linguistic studies, the relationship between language and the natural surroundings can be investigated through an ecolinguistics approach. Ecolinguistics is an approach that combines ecology and linguistics. The merging of these two fields results in the definition of ecolinguistics as the study of the interaction between language and the environment. In principle, ecolinguistics can be divided into two parts, namely the section that analyzes environmental discourse or environmental discourse analysis which is often referred to as eco-critical discourse analysis and the section that focuses on research on the interaction between humans, the human mind, and the environment, or a study of how humans adapt linguistically to a new or unfamiliar environment [4].

Ecolinguistics is a field of linguistic studies that looks at language from the perspective of its environment. The language environment referred to the physical and social environment in which a language lives and develops. Furthermore, ecolinguistics observes human and cultural resources related to the natural environment which is symbolized verbally in the local language. This clarifies and reinforces a language relationship with the environment, both the social and natural environment, including language and cultural symbols that describe the verbal symbolic relationship between humans and humans, humans and their creators, and humans and their natural surroundings.

Furthermore, There are three basic components in dissecting ecolinguistics [5], namely (1) ideology: language exists only in the minds of its speakers, and will function if the speakers relate to one another naturally as in their social and natural environment, (2) psychological: the relationship with other languages in the minds of bilingual or multilingual speakers, and (3) sociological: the relationship with the community as a communication medium. Furthermore, three parameters used in ecolinguistics research are interrelationships (language and environment interrelation), environment (physical and social environment), and diversity (language and environmental diversity).

Naming, according to Kridalaksana (as cited by Aryanegara), is a process of searching for language symbols to describe objects, concepts, processes, and so on [6]. The existence of differences in fish naming systems, namely: Scientific, Common, and Folk Naming Systems, creates problems and complications. The complexity of the people's naming system or the problem of using professional and commercial names, of course, must be solved in order to find a similar or equivalent naming system.

In Pulau Banyak, Aceh Singkil, the Folk naming of fish, which has an important role in people's lives, especially for the fishermen. The local names of fish serve as a symbol to mark each fish that has been caught. Identification of fish species has an important meaning when viewed from a scientific point of view because the entire sequence of subsequent work is highly dependent on the correct identification of a species. In reality, the folk fish names are used in business of ornamental fish. This research gap indicates that a study of naming fish is worth doing.

The fishermen on Banyak Island, Aceh Singkil, have local names for fish species caught in their region. For example, *Clownfish* or *ikan badut* is known as "*Anak Rabu-rabu.*" For fishermen in Pulau Banyak. "This fish is called *Anak Rabu Rabu*, because it lives inside the anemone. In Pulau Banyak, the Anemone is called *Rabu Rabu*. Rabu-rabu is also divided into *Mio Mio*, where different types of anemonefishes live inside, namely *Giro Pasir* and *Balong*.

In addition**,** *Rabu-rabu* or anemone is usually con-

sumed when there is a celebration or feast and the taste is very delicious, similar to the taste of stomach of a cow or buffalo or more similar to the taste of *kikil*. *Anak rabu rabu or clownfish* became increasingly known as *Nemo* when it first appeared in 2003 as the main character in an animated film by director Andrew Stanton entitled *Finding Nemo*. Nemo fish are marine ornamental fish that are cute, tame, always beautiful and easy to cultivate. This fish is usually brightly colored, yellow, orange, reddish or black, has a wide body and is equipped with a small mouth (**Figure 1**).

Figure 1. Clownfish, Known as *anak rabu rabu (Wednsdays Kid), ikan badut (Clown Fish)* and *nemo* in Pulau Banyak, Aceh Singkil.

In studying the meaning of the naming of marine ornamental fish in Pulau Banyak, Aceh Singkil, sufficient knowledge and understanding is needed. One of which is by using semantic studies. Semantics is the study of meaning. According to Aminuddin [7], semantics implies "the study of meaning". In line with the opinion of Tarigan [8], semantics examines symbols or signs that express meaning, the relationship of one meaning to another, and its influence on humans and society.

Chaer classifies the meanings of lexical meanings and grammatical meanings, referential meanings and non-referential meanings, denotative meanings and connotative meanings, word meanings and general or specific meanings and special meanings, associative, collocative, reflective, idiomatic, and so on [9]. Leech et al. distinguish the seven types of meanings: (1) conceptual meanings, (2) connotative meanings, (3) stylistic meanings, (4) affective meanings, (5) reflective meanings, (6) collocative meanings, and (7) thematic meanings [10].

Types of Meanings in folk naming of fish in Banyak islands, Aceh Singkil are constructed by language units that contain various meanings in accordance with the criteria or point of view used. There are 5 (five) types of meaning contained in the naming system. The five types of meaning are (1) lexical meaning, (2) grammatical meaning, (3) referential meaning, (4) denotative meaning, and (5) connotative meaning [11,12].

The purpose of this study is to provide a response to the problems that arise as a result of naming fish species. The results of the study on the marine ecolexicons on Pulau Banyak are expected to be able to solve the problem of information gaps and contribute to fisheries management in the Pulau Banyak region, in particular and in Indonesia in general.

2. Method

2.1. Approach

This study employs an ecolinguistic-semantic approach to analyze the lexicon of marine ornamental fish in Banyak Island, Aceh Singkil. The ecolinguistic approach examines the cultural context of local fishermen, while the semantic approach analyzes the linguistic expressions reflecting their cultural practices. As a qualitative study, this research aligns with Moleong's (as cited by Moleong) definition [13], which emphasizes descriptive data collection through written and oral sources in natural settings. Similarly, Djajasudarma underscores that qualitative research focuses on descriptive linguistic data from speech communities in their natural environments [14], prioritizing in-depth interpretive analysis. The study specifically investigates the naming conventions, semantic meanings, and cultural influences behind marine ornamental fish nomenclature in the region.

2.2. Data Collection and Sources

The primary data for this study consists of eco-lexicons related to marine ornamental fish, as used by fishermen in the Banyak Islands. Data were collected from key informants who are directly involved in the marine ornamental fish trade, including local fishermen, traders, and exporters. Field research was conducted across three islands within the Banyak Islands district—Pulau Balai, Pulau Panjang, and Pulau Asok—situated off the western coast of Sumatra along the Indian Ocean. This archipelago is ecologically significant for its coral reef ecosystems, which support a high diversity of marine ornamental species.

Informants were selected using purposive sampling, targeting individuals with extensive knowledge and experience in marine biodiversity and traditional ecological terminology. A total of 24 informants participated in the study, with 8 informants interviewed on each island. Data collection continued until thematic saturation was reached—defined as the point at which no new eco-lexicons or categories emerged from additional interviews. Saturation was generally observed after three consecutive interviews produced repetitive and overlapping lexical items, indicating that the core eco-lexical inventory had been sufficiently documented.

2.3. Rationale for Site Selection

The study location was selected due to its socio-ecological relevance: fishing is the primary livelihood for most residents, and the local language remains actively used in daily communication (**Figure 2**). Fish names serve not only as identifiers but also as cultural markers, reflecting the community's intimate relationship with their marine environment. Folk taxonomy plays a vital role in fisheries practices, underscoring the interplay between language, ecology, and cultural identity.

Figure 2. Maps of Pulau Banyak, Aceh Singkil, Aceh, Indonesia.

Source: https://www.flickr.com

3. Findings

There are 58 ecolexicons related to marine ornamental fish in the waters of Banyak Island, Aceh Singkil. These ecolexicons can be categorized into anemonefish, surgeon fish, angelfish, butterflyfish, wrasses, batfish, pufferfish, blennies and coralfish, scorpionfish. The ecolexicons are shown in **Table 1**.

Table 1. The Ecolexicons of Marine Ornamental Fish in Pulau Banyak Waters, Aceh Singkil.

No	Local Name	Common Name	Scientific Name	Classification
1	Anak rabu rabu	Nemo, ikan badut, clownfish	Amphiprion Ocelaris	Anemonefish
2	Giro Pasir	Polimas/ Clark's Anemonefish	Amphiprion Clarkii	
3	Tompel	Tompel/ Tomato Clownfish	Amphiprion Frenatus	
4	Balong Padang	Balong/ Maroon Clownfish	Premnas Biaculatus	
5	Taji-taji biru	Dory/ Blue Tang/ Letter Six	Paracanthurus Hepatus	Surgeonfish
6	Keranjang Padang	Ikan Keranjang/ Desjardini Sailfin Tang	Zebrasoma Desjardini	
7	Naso Padang	Ikan Naso/ Smooth Headed Unicornfish	Naso Lituratus	
8	Burung Laut	Brown Sailfin Tang	Zebrasoma Scopas	
9	Cemong	Ondulatus Scopas Tang	Zebrasoma Favescens	
10	Botana Biru	Bobi/ Powder Blue Tang	Acanthurus leucostemon	
11	Botana Kasur	Clown Tang	Acanthurus Lineatus	
12	Botana Kacamata	Gold rimmed tang	Acanthurus glacopareius	
13	Injel Napoleon/ Angel Napoleon	Blue-faced Angelfish	Enxiphipops xanthometopon	Angelfish
14	Some'/ Ikan Napoleon	Hump Head Wrasse	Cheilinus Undulatus	
15	Injel Betmen/ Angel Batman	Emperor Angelfish	Pomacanthus Imperator	
16	Injel Doreng Padang	Royal Empress Angelfish	Pygoplites diacanthus	
17	Injel Asli/ Angel Kuning	Three spotted angelfish/ Flagfin Angelfish	Aplemichtys Trimaculatus	
18	Blustun Napoleon/	Blue faced Angelfish Juv	Enxiphipops xanthometopon	
19	Blustun Asli/ Bluestone Asli	Emperor Angelfish Juv	Pomacanthus Imperator	
20	Injel/ Angel Anularis	Blue Ring Angelfish	Pomacanthus Annnularis	
21	Injel Koran	Koran Angelfish	Pomacanthus Semicirculatus	
22	Injel Abu Doreng	Grey Orange-striped Angelfish	Centropyge eibli	
23	Kepe-kepe Telur	Oval Butterflyfish	Chaetodon Lunulatus	Butterflyfish
24	Kepe-kepe Belanda	Brown and white butterflyfish	Hemitaorichthys zoster	
25	Kepe-kepe Monyong Asli	Long snouted butterflyfish	Forcipiger falvissinmus	
26	Kepe-kepe kalong	Kepe Pakistan, Pakistani Butterflyfish	Chaetodon collare	
27	Kepe-kepe Auriga	Kepe Auriga, Threadfin Butterflyfish	Chaetodon Auriga	
28	Kepe-kepe Bulan	Kepe Bulan, Oval-spot Butterflyfish	Chaetodon Seculum	
29	Melo Melo/ Keling Kuning	Keling Kuning Padang, Four-spotted Wrasse	Halicheres trispilus	Wrasses
30	Ikan Dokter	Cleaner Wrasse	Labroides dimidatus	
31	Keling Liris	Six lined wrasse	Pseudocheilimus licxataenia	
32	Keling Batik	Assoorted Macro Wrasse	Macroparyngodon spec	
33	Keling Tanduk	Dragon Wrasse	Novaculichthys taeuriues	
34	Keling Merah	Yellowtail coris	Coris gaimard	
35	Platak Daun	Orbiculate Batfish	Platax Orbicularis	Batfish
36	Platak Asli	Orange-ringed Batfish	Platax Pinnatus	
37	Platak Jenggot	Long finned batfish	Platax Teira	
38	Buntel Anjing	Dog faced puffer	Arothron Nigropunctatus	Puffer
39	Buntel Sapi	Long horned cowfish	Lactoria corntula	
40	Buntel Duren	Porcupine Puffer	Diodon hystrix	
41	Buntel koper	Polkadot Boxfish	Ostracion cubicus	
42	Buntel valentin	Black Saddled Toby	Canthignster valentini	
43	Buntel Mutiara	White spotted Boxfish	Ostracion Meleagris	
44	Gabu surek lintang	Ikan pidana, golden trevally	Guatanodon Speciocus	
45	Rainbow/ rembo	Lyre tail coralfish	Anthias Squamipinnis	Blennies and Coralfish
46	Bajulan Putih/ Girik-Girik Talingo Buayo	Paxton Pipefish	Carythoichtys Paxtomi	
47	Timunan	Yellow tail cleaner	Diprotacunthus xanthurus	
48	Ikan Tempel/ Remora/ Tapak Sepatu	Shark sucker	Echeneis Sucrates	
49	Surendang/ Mata Belok	Big eye squirrelfish	Myripristis spec	
50	Kerapu Naneh	Coral Rockcod/ Blue Spotted Grouper	Cephalopholis miniata	
51	Khadam-khadam/ Sersan Mayor	Sergeant Major Damselfish	Abudefduf Saxatilis	
52	Khadam Hitam	Betok Dakocan, Domino Damselfish	Dascyllus Trimaculatus	
53	Khadam Siang Malam	Betok siang malam, Betok neon, Yellow tail damselfish	Pomacentrus Coelistis	
54	Khadam Zebra	Betok Zebra, Black Tail Damselfish	Dascylus Melanurus	
55	Samadar Cecet	Foxfish	Lo Vulpinus	
56	Lempu Ayam	Volitan Lionfish	Pterois Volitans	Scorpionfish/ Lionfish
57	Lempu Kembang	Zebra Lionfish	Dendrochirus Zebra	
58	Lempu Radiata	White fin lionfish	Pterois Radiata	

The naming systems of kinds of marine ornamental fish in the waters of Banyak Island, Aceh Singkil refers to Chaer's theory which classifies nine naming systems which based on (1) imitation of sound, (2) mention of parts, (3) mention of special characteristics, (4) inventor and maker, (5) place of origin, (6) materials, (7) Similarity, (8) shortening, and (9) new naming [11].

Based on the results of analysis, five forms of naming were found, namely (1) mentioning the distinctive characteristics 31%, (2) inventor and maker 9%, (3) place of origin 9%, (4) similarity 62%, (5) shortening 2%, and (6) new name 7% (**Table 2**). The naming of marine ornamental fish in Pulau Banyak does not have the criteria of naming based on imitation of sounds, materials, and mention of parts.

Table 2. The Criteria of Naming System by Chaer's Semantic Theory.

No	Naming	Data Number	Total Data	Percentage
1	Mentioning the distinctive characteristics	1,2,3,5,9,10,11, 15, 17, 22, 25, 29, 31, 33, 34, 44, 49, 52	18	31%
2	Inventor and maker	7, 27, 36, 42, 58	5	9%
3	Place of origin	3,4, 6,7, 15	5	9%
4	Similarity	3,6,8,11,12,13, 14, 15, 18, 19, 20, 21, 23, 24, 26, 28, 30, 32, 35, 37, 38, 39, 40, 41, 43, 45, 46, 47, 48, 50, 51, 53, 54, 55, 56, 57	36	62%
5	Shortening	10	1	2%
6	New name	10, 11, 12, 13	4	7%

A new type of naming was also discovered, namely the naming system which is based on (1) the life phase of the fish (2) the size of the fish (3) Pidginization (4) the combination of the 2 naming systems. These new findings have implications for the reconceptualization of Chaer's Inquisitive Semantics theory and the novelty of this research.

The naming of marine ornamental fish in Pulau Banyak waters, Aceh Singkil appears due to the interaction of four components, namely the object, the author of the text, the reader, and the social constituents. These four components interact in space and situations based on ideological dimensions, namely conservatism, sociological dimensions in society, and biological dimensions. These dimensions are interrelated so that the naming and messages contained in the ecolexicon of marine ornamental fish in the waters of Aceh Singkil Island emerge.

4. Discussion

4.1. The First Finding

Ecolinguistics Analysis on the Ecolexicons of Marine Ornamental fish in Banyak waters, Aceh Singkil Lexicon is a linguistic unit that has form and meaning, and can stand alone in linguistic construction. Lexicons can be used as an element to form more complex language constructions (sentences, paragraphs and discourse). The presence of the lexicon in both oral and written communication also contributes to the presentation of an environmental or Ecolexicon (ecological lexicon).

Fill & Muhlhauser state that the vocabulary or lexicon of a language very clearly reflects the physical environment and social environment of the speakers of that language [15]. The vocabulary or lexicon of a language can be seen as a complex inventory that contains various thoughts, interests and other things that are the center of attention in language communication. Apart from that, vocabulary can also function as information that helps describe the characteristics of the physical environment and cultural environment of the speaker, indicating the existence of verbal symbols between the speaking group and its environment, namely with plants and animals, including other natural elements.

The researcher found 58 ecolexicons related to marine ornamental fish in the waters of Banyak Island, Aceh Singkil. These ecolexicons can be categorized into anemonefish, surgeon fish, angelfish, butterflyfish, wrasses, lionfish, groupers, damselfish and miscellaneous. In the analysis of the ecolinguistic trilogy, the ecolexicons are

part of the biological dimension. Lindo and Jeppe state that the biological dimension is connected to the natural environment and living side by side with nature and all its contents [12], including species of flora, fauna, rocks, microorganisms and macroorganisms. Thus, there is a close relationship that is mutualistic symbiotic. These mutually guarding and nurturing relationships, especially in the biological development of the ecolexicons of marine ornamental fish in Pulau Banyak waters, are included in the order of the biological dimension.

This is also supported by Bundsgaard and Steffensen who state that there are three dimensions that influence the dynamics of development and change in a language [16], namely (1) Ideological Dimension, (2) Sociological Dimension and (3) Biological Dimension. The diversity of naming ecolexicon of marine ornamental fish on Banyak Island is part of the Biological Dimension which is related to the balanced diversity of biota in an ecosystem as well as the level of species vitality and life force that differs between one species and another; the big/strong dominate and eat the small/weak, so that the small/weak are marginalized and consumed. This biological dimension verbally records all the lexicon treasures in each language, so that these entities can be coded and also understood as a diversity of lingual-lexical forms that refer to and represent a diversity of social and natural relationships.

4.2. The Second Finding

4.2.1. Naming Patterns of Marine Ornamental Fish

Based on the analysis, six naming patterns were identified in the eco-lexicons of marine ornamental fish in the Pulau Banyak region. These include: similarity (62%), distinctive characteristics (31%), inventor or discoverer (9%), place of origin (9%), new name (7%), and shortening (2%). The dominant pattern is naming based on similarity, where the name of the fish is derived from its resemblance to known objects, animals, or other familiar references. Naming based on distinctive characteristics typically refers to visible traits such as color, fin shape, or movement style. Some fish are named after the person who discovered or first captured them, while others are linked to the specific locations in which they were found. A smaller number of names represent entirely new lexical creations or abbreviated forms of longer names. Interestingly, the naming system in Pulau Banyak does not include categories such as sound imitation, material association, or naming based on anatomical parts, which are commonly found in other regions and ethnolinguistic studies.

4.2.2. Naming Based on Life Phase

An important novel finding in this study is the naming of fish according to their life phase. In many cases, juvenile and adult forms of the same species have entirely different names, reflecting a nuanced local understanding of marine life cycles. For instance, the blue-faced angelfish is called *Blustun B* or *Bluestone Napoleon* during its juvenile stage due to its distinct coloration and appearance. As the fish matures and its physical traits change, it is renamed *Angel Napoleon*. This pattern is not isolated; it is also observed in the naming of other species such as the Koran angelfish, blue-ring angelfish, emperor angelfish, dragon wrasse, and red wrasse. This system demonstrates a high level of ecological awareness among local fishermen, who track and identify marine species not just by type but also by developmental phase. Such a practice adds depth to the traditional eco-lexicon and reflects a close relationship between language and environmental observation.

4.2.3. Naming Based on Size

In addition to life-phase-based naming, the study identified a culturally significant pattern in Aceh communities where fish are named based on their size. This size-based variation is especially prevalent among widely known species. For example, *ikan tongkol* (mackerel tuna) may be referred to by different names—*jeureubok*, *suree*, *ame-ame*, *timpik*, and *pa-ak*—depending on its size category. Similarly, mullet fish (*ikan belanak*) are called *seurampung*, *kadra*, or *subon* as they grow. The bagok fish is known as *suwiek* in its smaller form and *bagok* when fully grown. Tuna and similar species exhibit an even more complex size-based naming system, with labels such as *ubiet*, *kadra*, *subon*, and finally *rapeung* applied sequentially as the fish increases in size, sometimes up to 5 kg in weight. These naming conventions are deeply embedded in

the fishing culture and serve as practical tools for classification, trade, and ecological knowledge transmission.

4.2.4. Pidginization and Hybrid Naming

A particularly noteworthy phenomenon observed in Pulau Banyak is the process of pidginization and the emergence of hybrid naming systems. As local fishermen interact more frequently with agents, exporters, and tourism stakeholders—many of whom use English or scientific names—a linguistic adaptation occurs. Because these foreign terms can be difficult for locals to pronounce or remember, simplified or localized versions have emerged. Examples include *injel* for angelfish, *blustun* for bluestone, *klonpis* for clownfish, and *botana* for blue tang. These adaptations reflect a pidginization process, where lexical elements from multiple languages are merged to form practical, locally intelligible terms. This shift is not merely a result of phonetic convenience but is also a reflection of socio-economic adaptation. In some cases, local and foreign terms are fused, such as *ikan kuning butterfly* ("yellow butterflyfish"), blending Indonesian descriptors with English identifiers. This hybridization indicates a form of linguistic agency and innovation that allows fishermen to participate in global trade while maintaining elements of their linguistic heritage.

4.2.5. Combination of Naming Systems and Theoretical Implications

The coexistence and combination of naming strategies in Pulau Banyak suggest a dynamic linguistic environment shaped by both tradition and globalization, demonstrating an ecolexicon that is both fluid and responsive. This mirrors findings from Myanmar fishing communities, where individual fish species often have multiple synonyms—sometimes four to eight distinct names—reflecting local sociolinguistic variation and ecological knowledge. These naming systems are influenced by occupation, age, and gender, with reef-associated species carrying more synonyms than commonly caught nearshore species [17]. Similarly, the hybrid and pidginized names in Pulau Banyak—such as *injel*, *botana*, and *klonpis*—reflect functional multilingualism and adaptation to trade and tourism contexts. While Myanmar's case illustrates regional lexical variation, Pulau Banyak showcases global-local negotiation through eco-lexical innovation.

In contrast to classical folk taxonomy, which assumes direct one-to-one correspondences between names and species, recent studies sai that document naming systems that are multivalent and shaped by context. Your findings extend these patterns by including naming based on fish size and life phase (e.g., *injel* for juvenile tuna), revealing layers of perceptual and experiential categorization. Such naming practices reflect how community members dynamically interpret their environment beyond formal taxonomic models.

Moreover, while the Vaie community in Sarawak encodes traditional ecological knowledge in their fish names through metaphor, sensory experience, and cultural values, these names remain largely insulated from global influences [18]. In contrast, the Pulau Banyak eco-lexicon demonstrates greater hybridity, lexical borrowing, and pidginization—especially driven by tourism and trade. This shift illustrates how globalization introduces new semantic pressures and functional demands into naming practices.

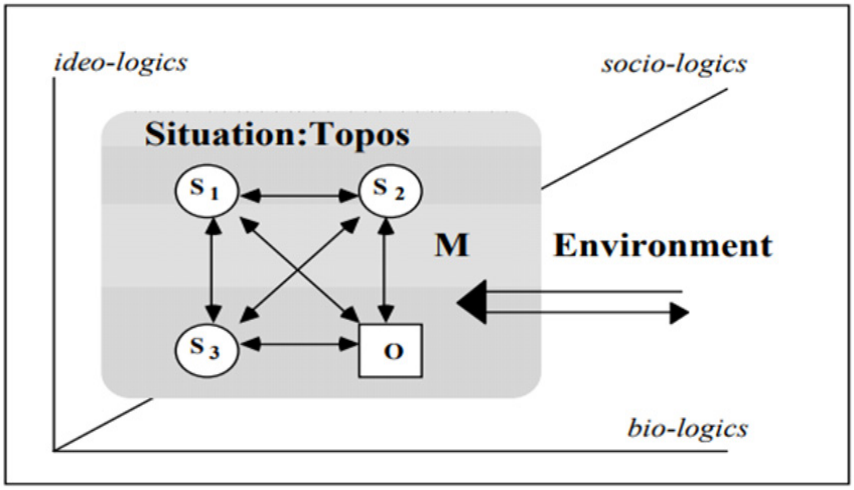
Finally, Ha emphasizes the growing importance of ecolinguistics in understanding how language, culture, and environment intersect in the context of globalization [19]. However, few studies provide empirical data on how language contact and economic activity influence ecological naming. This study contributes a novel, practice-based lens that advances the reconceptualization of Chaer's Inquisitive Semantics, highlighting how naming practices mediate between local knowledge and global pressures [20].

4.3. The Third Finding

Naming is a symbol of an object. Naming has a relationship with the cause or origin of the name being created and naming was created initially based on a mere agreement between members of the language community in the past. Each name arises due to interactions in space and situations which are motivated by the ideological dimension, sociological dimension and biological dimension in society. These dimensions are interrelated so that names emerge based on three ecolinguistic parameters, namely (1) interrelationships 'the interconnectedness of language and the environment', (2) environment 'the physical and socio-cultural environment), and (3) diversity (diversity of

languages and environments).

To find out what underlies the naming of marine ornamental fish in Pulau Banyak, Aceh Singkil, the researcher used a dialogue analysis model by Bang and Døør to interpret the background of naming [21]. The framework of the dialogue analysis model can be illustrated in **Figure 3**.



Signatures:

S:	Subject/Subjects
M:	Medium/Media
O:	Object/Objects
×:	Dialectic relation = ⟺
Topos:	Space, Time & Place

Figure 3. Dialogue Analysis Model.

In **Figure 3**, S1 is the text-maker, i.e. the speaker or writer; S2 is the consumer of the text, i.e. the speech partner or reader; and S3 is the anonymous subject or category that is involved and O is the object referred to in the communication. The dialogue of the four constituents, denoted by the sign "↔", takes place within TOPOS (Time, place, and space), against the backdrop of the three dimensions of social praxis, namely the ideological, sociological, and biological dimensions [12].

The fishing community on Banyak Island has a local name for *clownfish* or *nemo*. The People in Pulau Banyak (S1) named the fish as *anak khabu khabu* (O). Reader (S2) responded to both lexemes as this fish is called that way because it lives inside the anemone. In Pulau Banyak, Anemone is called *khabu khabu*. The sociocultural constituent (S3) identifies both lexemes *anak khabu khabu* to indicate that a child should not be separated from its mother. These four constituents then interact in TOPOS (time, pace and space) based on three aspects: ideological, sociological, and biological dimensions.

The cultural philosophy underlying the name given to the fish is that even though marine ornamental fish on Pulau Banyak have high economic value, the people on Pulau Banyak still maintain their preservation of the marine ecosystem by not destroying coral reefs and only taking types of fish whose populations are still large and whose status is not protected. Even though they know that the selling price of coral reefs and anemones is high, they do not take anemones from the sea because anemones and Coral reefs are home to many types of marine ornamental fish. Taking and destroying coral reefs means destroying the habitat of marine ornamental fish. This indicates the presence of conservative ideology in the naming of marine ornamental fish in Pulau Banyak, Aceh Singkil.

The ideology of conservatism and environmental preservation held by the fishing community in Pulau Banyak is also supported by the results of interviews conducted by the researcher with a number of informants. A fisherman and tourism actor in Pulau Asok tirelessly seeks to raise awareness and remind tourists who come to his place to be more responsible in protecting the environment by not indiscriminately feeding fish on the beach, as it can make the fish sick. He also cautioned tourists who are swimming or snorkeling not to step on the coral reef,

as this will damage the reef, which is home to many fish in the area. Moreover, coral reefs take a long time to grow.

In the ecolinguistic view, the use of language in social life, as in the socio-cultural context, is not only to express the thoughts and feelings of its speakers, but also has a specific purpose according to the context of the situation that surrounds it [22]. Therefore, such expressions are used, both interpersonally and transactionally both to establish and maintain compatibility of relationships between speakers and to inherit and instill value between generations.

This is due to the fact that language lives in the social environment of a speaking society to interact, interdependence, and interrelation with the environment. A language survives and lives, if its speakers always use it [23]. Thus, the language will be preserved and remain in the mind or cognition of its speaker. Indeed, a lexicon can survive and or shrink, shift or even disappear or become extinct can be influenced by various factors that occur in society.

The naming of marine ornamental fish lexicons appears as a result of cultural philosophy firmly held by the speech community in Pulau Banyak waters, Aceh Singkil. This cultural philosophy presents in the three dimensions of social practice, which include ideological dimensions, sociological dimensions in society, and biological dimensions. These dimensions are interrelated so that the naming and messages contained in the ecolexicons of marine ornamental fish in Pulau Banyak waters Aceh Singkil emerge.

First, the Ideological Dimension. This dimension states that language only exists in the minds of its speakers, and will function if the speakers relate to each other naturally as in their social and natural environment [24]. In the realm of the ideological dimension, a symbol must fulfill the principles of appropriateness, perfection and adhere to the principles that bind the community [25], which then becomes an understanding and is embedded in the cognitive mentality of the fishing community on Banyak Island, Aceh Singkil. The fishing community on Banyak Island has a local name for clownfish or nemo. They named it *anak rabu rabu*. This fish is called that way because it lives inside the anemone. In Pulau Banyak Anemone is called as *rabu rabu*. The naming of this clown fish as *anak rabu rabu*, indicate that a child should not be separated from its mother. The cultural philosophy underlying the name given to the fish is that even though marine ornamental fish on Banyak Island have high economic value, the people on Banyak Island still maintain their preservation.

Marine ecosystem by not destroying coral reefs and only taking type of fish, whose populations are still large and whose status is not protected. Even though they know that the selling price of coral reefs and anemones is high, they do not take anemones from the sea because anemones and Coral reefs are home to many types of marine ornamental fish. Taking and destroying coral reefs means destroying the habitat of marine ornamental fish.

The sociological domain describes the relationship between the people of Pulau Banyak and nature, especially with the symbols of flora in the waters of Pulau Banyak. It turns out that society's relationship with animals and plants is not just a functional relationship but involves a fraternal relationship. Therefore, the people of Pulau Banyak must care for, preserve and use plants and animals wisely and responsibly.

In the biological realm, the naming of marine ornamental fish on Banyak Island is motivated by the biological characteristics of these symbols. The findings in the form of an ecolexicon of naming marine ornamental fish show that there is a cultural philosophy underlying the local naming of this marine ornamental fish. This philosophy is based on three dimensions of social practice, which include ideological, sociological and biological dimensions [16].

The previous relevant studies are used to show the originality and novelty of the study. They are also used to see the similarities and differences between studies that will be or are being carried out with previous studies. This study aims to discuss the lexicons related to the folk naming system of marine ornamental fish on the Banyak Islands, Aceh Singkil. All the relevant studies referred to merely naming with no consequence to the social problem. This study is highly relevant as it addresses problems that often arise due to misidentification caused by the naming systems of marine ornamental fish. This condition can also lead to Illegal, Unreported and Unregulated (IUU) fishing, which includes: fishing in closed areas or during prohibited times, using illegal gear, catching prohibited species, mislabeling and falsifying documents, fraud, and smuggling in the marine ornamental fish trading. Without proper stewardship, we could lose our last sustainable source of wild marine ornamental fish, causing loss of Indonesian resources and heritage, which is an essential component of a functioning global economy.

5. Conclusions

This study identifies 58 ecolexicons pertaining to marine ornamental fish in the waters of Pulau Banyak, Aceh Singkil, categorized into distinct groups including anemonefish, surgeonfish, angelfish, butterflyfish, wrasses, batfish, pufferfish, blennies, coralfish, and scorpionfish. Analysis of naming conventions reveals five primary criteria: (1) resemblance (62%), (2) distinctive physical characteristics (31%), (3) inventor or maker (9%), (4) geographical origin (9%), (5) abbreviation (2%), and (6) newly coined terms (7%). Notably, resemblance and distinctive features constitute the predominant naming strategies, while conventional criteria such as onomatopoeia, material composition, or anatomical references are absent.

The study further uncovers novel naming conventions based on (1) life stage, (2) fish size, (3) pidginization, and (4) hybrid naming systems, contributing new insights to the theoretical framework of ecolinguistics and necessitating a reconsideration of existing semantic models.

These naming practices reflect the cognitive and cultural frameworks of the Pulau Banyak community, shaped by local language, ecological familiarity, and sociocultural traditions. From an ecolinguistic perspective, the nomenclature emerges from an interconnected triad of social practice dimensions: ideological (conservatism), sociological (community norms), and biological (environmental interaction). This interdependence underscores how language encodes ecological knowledge while preserving cultural identity.

The findings highlight the intrinsic relationship between linguistic expression, environmental perception, and cultural heritage, emphasizing the need to document and safeguard indigenous lexicons as part of both biological and cultural conservation efforts.

Author Contributions

Conceptualization, A.P.S.; formal analysis, A.P.S.; investigation, A.P.S.; writing—original draft preparation, A.P.S.; writing—review and editing, S., F.H. and A.S. All authors have read and agreed to the published version of the manuscript.

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Conflicts of Interest

The authors declare no conflict of interest. The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript; or in the decision to publish the results.

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