The Marine Aquarium Fishes of Ilocos Sur

ALMA B. SEGISMUNDO, BS Bio, BEEd
AVELINO B. FELICITAS, JR., Ed.D.

Abstract

A brief profile of the marine aquarium fishing industry in Ilocos Sur was obtained through personal interview with the aquarium fishermen. The researchers went to several coastal municipalities of Ilocos Sur, like Santiago, San Esteban, Sta. Maria, Santa, Magsingal, Cabugao, and Sinait, looking for aquarium fishermen, but it was only in Barangay Nalvo, Sta. Maria, Ilocos Sur, where these fishermen were found.

Underwater shots of the aquarium fishes, were documented in four sampling areas for a duration of six months, with the primary aim of establishing a basic knowledge on the marine aquarium fishes of Ilocos Sur. Catches of the aquarium fishermen in Nalvo, Sta. Maria, Ilocos Sur supplemented the data in this municipality.

Forty-five fishermen were engaged in aquarium fishing and majority earn a monthly income of P3,000.00-P3,999.00. Difficulty in catching, low prices and seasonality of aquarium fishes, and high mortality rate were among the problems encountered.

Results showed that 68 species of aquarium fishes thrived in the four municipalities. Sta. Maria, Ilocos Sur ranked first in terms of the diversity of marine aquarium fishes, with 64 species, followed by Cabugao, San Esteban, and Magsingal.

The most dominant species were blue damsel, cleaner shrimp, domino damsel, longfin bannerfish, nine-banded cardinal fish, ordinary butterfly fish, rock lobster, scorpionfish, and lionfish

Introduction

The marine aquarium fishing industry in the Philippines started in the 1960s with only three aquarium fish exporters. By the 1980s, 35 companies engaged in fierce competition, and exports reached two million kg. in 1980. The trade slumped in the mid-1980s in part because of anti-cyanide publicity generated by the

International Marinelife Alliance (IMA), but the high level of fish mortality experienced by importers and aquarium owners during that period was probably the key factor in the declining demand for Philippine aquarium fishes. In 1991, the establishment of cyanide testing laboratories and enforcement procedures also dampened the trade. Overall, three decades of cyanide use and other destructive fishing practices have debilitated most Philippine reefs, precipitating a sharp decline in the availability of desired aquarium species (Barber and Pratt, 1997). Despite declining wildstock, aquarium fishes still comprise nearly half of the live fish trade volume in the Philippines.

In a preliminary study on aquarium fishes in Sta. Maria, Ilocos Sur conducted by Verzosa, et al. in 2000, 38 species were identified. Puno, et al. in a study on aquarium crustaceans conducted in 2001, identified 15 species. Likewise, Barbosa, et al in 1999, conducted an assessment of the marine aquarium fishing industry, also in Sta. Maria, Ilocos Sur. Findings showed that 40 fishermen were involved in aquarium fishing, that the average monthly income from aquarium fishing was from P3,000-P3,999.00, and problems encountered were difficulty in catching, and low prices and seasonality of aquarium fishes. Preliminary studies on aquarium fishes were conducted only in Sta. Maria, Ilocos Sur, hence, this study aimed to present some basic knowledge on the marine aquarium fishes for the province of Ilocos Sur.

Objectives

This research aimed to:

1. determine a brief profile of the marine aquarium fishing industry in Ilocos Sur in terms of
   a. the number of fishermen involved,
   b. monthly income from aquarium fishing, and
   c. problems encountered by the aquarium fishermen and their possible causes.
2. identify the marine aquarium fishes in the four municipalities namely: Cabugao, Magsingal, Sta. Maria, and San Esteban.
3. identify the dominant species caught.

Methodology

Personal interview with the aquarium fishermen was done by the researchers to get a brief profile of the aquarium fishing industry in Ilocos Sur. Of the coastal municipalities of Ilocos Sur, it was only in Sta. Maria where these fishermen were found.

Sampling Area and Data Collectio

Coral reefs along the municipalities of Cabugao, Magsingal, Sta. Maria, and San Esteban, Ilocos Sur served as the sampling stations. Ten days per month were allotted for every municipality from April to September 2002.

Underwater shots of some of the aqu rium fishes were taken by the research assistants, while fast-swimming fishes were caught and placed in a photo tank for documentation. Catches of the aquarium fishermen in Brgy. Nalvo, Sta. Maria, Ilocos Sur, supplemented the data.

Initial identification of the common names was done by the researchers, research assistants, and the aquarium fishermen from Nalvo, Sta. Maria, Ilocos Sur.

Results and Dicussion

Profile of the Marine Aquarium Fishing Indastry

Table 1. Monthly family income of the Aquarium fishermen in Ilocos Sur.

INCOME BRACKET	NUMBER OF FISHERMEN	PERCENTAGE
P5,000.00 and above	2	4.44%
P4,000.00 – P4,999.00	5	11.11%
P3,000.00 – P3,999.00	21	46.67%
P2,000.00 – P2,999.00	10	22.22%
Pl,000.00– Pl,999.00	7	15.56%
Total	**45**	**100%**

Forty-four fishermen are involved in aquarium fishing. Majority of them (46.67%) earn a monthly income of P3,000.00-P3,999.00, a good indication that aquarium fishing is a good source of income for the people living in the area.

Table 2. Problems of the aquarium fishermen.

PROBLEMS MET	O.	%	RANK
1. Difficultv in catching	40	**88.89%**	1
2. Low prices of aquarium fishes	35	77.78%	2
3. Seasonalitv of fishes	30	66.67%	3
4. Hilh mortality rate	5	11.11%	4

Eighty-eight percent of the forty-five aquarium fishermen experience difficulty in catching. According to the fishermen, they only use the conventional

method, making their catches very low. Furthermore, bad weather would not pennit them to go and catch aquarium fishes, for the pressure would be very strong in the ocean. and the water is very cold. Many of these fishes are also rapid swimmers, making it very bard for the fishermen to catch them.

Low price of aquarium fishes ranks number two. Most of the fishes caught, fetch a price between P2.00-P100.00 per piece only. Sometimes, the fishennen are lucky enough to catch an angel fish which is worth P350.00 if sold in Manila. According to the fishermen, if their catches comprise only the ordinary species, they just deliver them to a pet shop in Vigan at very low prices.

Seasonality of fishes ranks number three. Crabs and shrimps occur all year round, but these are sold at very low prices. For the more expensive species, it is only during the month of March that there is an abundant catch. During the cold months, the fishermen would rarely go to the ocean and fish.

High mortality rate ranks number four. Some fishermen claim that as high as 30% of their total catch die even before delivery. According to them, butterfly fishes are the ones easily affected. One factor which might cause this problem is the lack of proper knowledge on the handling and transportation techniques of these aquarium fishes.

Table 3. 'The marine aquarium fishes in Docos Sur.

Common Name	MUNICIPALITY			
	Cabugao	Magsingal	Sta. Maris	San Esteban
1. African clownfish	•	tr		
2. Anemone crab	•		t	t
3. Anemone fish	•		t	
4. Auriga butterfly	•		t	t
5. Banded eel			•	•
6. Banded shrimp	•		*	t
7. Black crab			t	
8. Black peacock lionfish	•	t	•	
9. Blue fish	•	•	t	
10. Blue coral angel	re			•
11. Blue damsel	•	•	t	t
12. Blue lobster			t	
13. Blue tang			t	
14. Boxer crab	t		•	
15. Bumble bee shrimp			•	
16. Camel shrimp			•	
17. Cleaner shrimp	•	•	•	•
18. Cleaner wrasse			•	
19. Clearfin lionfish			•	
20. Coral beauty			•	
21. Domino damsel	•	•	t	•
22. Devil lionfish			•	

Table 3 continued

Common Name	MUNICIPALITY			
	Cabugao	Maglngal	Sta Maria	San Esteban
23. Dwarf lionfish			*	
24. Emerator		t		
25. False clown anemone	t		t	
26. File fish			•	
27. Fuzzy dwarf lionf5sh		•	t	•
28. Glass shrimp			t	t
29. Handsome clown			t	
30. Harlequin shrimp			t	
31. Leaf scorion fish			4	
32. Lemon damsel			t	
33. Lined bristletooth			t	
34. Longfin bannerfish	t	•	t	*
35. Moorish idol	t		t	
36. Nine-banded cardinal fish	t	t	•	*
37. Orange cang shrimp			I	
38. Ordinary butterfly	t	•	•	•
39. Percula clowfish	•		t	*
40. Pink anthias			t	
41. Powder brown tang	t	•		
42. Punctato/spot-banded butterfly			•	
43. Raccoon butterfly			•	
44. Recfstonefish			t	t
45. Repal angel			*	
46. Ribbon eel	*		t	
47. Rock lobster	•	•	t	•
48. Saddled clowfish			*	*
49. Saddled butterfly			t	•
50. Scissor-tail sergeant			*	*
51. Scorion fish	•	•	*	*
52. Serecant major	t		•	
53. Snowflake eel	*		•	*
54. Spider crab			•	
55. Spotted snake eel			4	*
56. Square anthias		t		
57. Striped pipefish		*	•	
58. Three-spotted damsel			•	
59. Ihreo-spot dascyllus			t	
60. Tibisin angel			•	
61. Tomato clowfish		•	t	
62. Vagabond butterflyfish			I	
63. Wedge-tail triggerfish			t	
64. Whitefin lion	t	•	t	
65. White ribbon eel			t	•
66. Yellow angel			t	
67. Yellow long-nose butterfly	t	*	t	
68. Yellow-tailed coris			t	
TOTAL	26	19	64	23

- presence of aquarium fish in the area

A total of 68 species of aquarium fishes were found in the four municipalities of Ilocos Sur. In terms of the diversity of marine aquarium fishes, Santa Maria ranked number 1 with a total of 64 species, followed by Cabugao with 26 species, San Esteban with 23 species, and Magsingal with 19 species. This result may be due to the following reasons:

1. The Municipal Fisheries Ordinance of Sta. Maria, Ilocos Sur has been strictly implemented, thus preserving the coral reefs which are home to many of the aquarium fish species. Furthermore, the people are properly educated regarding the importance and benefits they derive from coral reef resources, including the aquarium fishes, making them reef stewards.
2. The local officials of the municipality of Cabugao claim that the Municipal Fisheries Ordinance has also been strictly followed by the residents, but fishermen from neighboring municipalities are the ones practicing illegal fishing methods within the municipal waters. Dynamite fishing and cyanide fishing has been very rampant, thereby killing fishes and other marine organisms, and destroying their habitat as well.
3. Coral reefs along Barangay Apatot and Bateria, San Esteban, Ilocos Sur were once considered rich in marine organisms, including aquarium fishes, but due to illegal fishing activities, the once diverse resources are now slowly vanishing. Another is the development of ecotourism in this place. Some divers are not aware of the importance of marine organisms when they explore the seas.
4. One reason why the municipality of Magsingal ranked last is due to the dumping of smuggled appliances into the waters. For some residents, it is easier to throw wastes into the water than on land.

The most dominant species caught were blue damsel, cleaner shrimp, domino damsel, longfin bannerfish, nine-banded cardinal fish, ordinary butterfly fish, rock lobster, scorpion fish, and lion fish.

Summary/Conclusion

I. On the profile of the marine aquarium fishing industry in Ilocos Sur
   a. Forty-five (45) fishermen are involved in aquarium fishing.
   b. Majority of the aquarium fishermen (46.67%) earn a monthly income of P3,000.00-P3,999.00.
   c. Difficulty in catching ranks number one among the problems encountered by the aquarium fishermen, followed by low prices of aquarium fishes, seasonality of fishes, and high mortality rate.
2. On the marine aquarium fishes documented
   a. Sta Maria, Ilocos Sur ranked first in terms of the diversity of marine aquarium fishes caught, with 64 species, followed by Cabugao with 26 species, San Esteban with 23 species, and Magsingal with 19 species.

b. The most dominant species caught were blue damsel, cleaner shrimp, domino damsel, longfin banncrfish, ninc-banded cardinal fish, ordinary butterfly fish, rock lobster, scorpion fish, and lionfish.

Recommendations

1. A year-round data gathering of the marine aquarium fishes should be conducted to determine the seasonality of these resources.
2. Further study on the economic aspect taking into consideration the Return of Investment (ROI) is highly recommended.
3. Financial assistance should be extended to the aquarium fishennen for the development of the aquarium industry in llocos Sur.
4. Technical assistance to the aquarium fishermen with reference to collection methods, suitable and non recommended species, size limits, and holding and transportation methods is also highly recommended.

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