Distribution, Species Composition And Size Of Flying Fish (Exocoetidae) In The Ceram Sea

Friesland Tuapetel, Natsir Nessa, Syamsu Alam Ali, Sudirman

Abstract: Ceram Sea is new resources area of catching flying fish. The purpose of study is to determine the species composition, size and distribution of flying fish caught by drifting baits. Flying fish data collection was conducted in June until October 2013 in three locations i.e: Kaimana, East Ceram and Fak-Fak. There are three flying fish species collected namely Hirundichthys oxycephalus (Torani), Cypselurus poecilopterus (Banggulung) and Chellopogon abeia (yellow wing). The results was showed that in Fak-Fak and Kaimana, there are two types of fly fishing that H. oxycephalus andC. poecilopterus, whereas in East Ceram found three types including: H. oxycephalus, C. poecilopterus and C. abeia. The dominant type of flying fish in three locations is H. oxycephalus. Flying fish has a variety size range of body size from 195.6 to 243.6 mm in Kaimana; East Ceram range from 206.3 to 284.3 mm while Fak-Fak range from 187.1 to 243.1 mm. The result is expected to be a reference literature as basic data for the management and sustainable utilization of flyling fish in Ceram sea.

Index Terms: flying fish, size, Ceram sea, species, distribution,

1. INTRODUCTION

Ceram sea is a part of the Indonesian waters located between West Papua and East Ceram-Moluccas. In every east season from May to September, Ceram sea to be the main destination of people from various regions, especially fisherman from Takalar, South Sulawesi. They comes to catch flying fish eggs because its product has a high prices as the exports commodity. Ceram Sea was categorized as a new fishing areas, since 2001 it was first discovered by Daeng Ngerang, the one of Takalar's fisherman. After he found the new habitat of flying fish, the fisherman from Makassar strait and Flores sea was moved to the Ceram Sea waters as the new destination. As a new area of fishing ground is need to study about the species composition, size and distribution of fly fishing in Ceram sea.

2. METHODS

Flying fish distribution and selectivity data was carried out from fisherman in fishing season June to October 2013. The drifting baits or bale-bale as the traditional catching tools was used by fisherman to catch flying fish eggs in Kaimana, East Ceram and Fak-Fak. The flying fish sample was used in study, the fish trapped by their own eggs in drifting baits. To determine the species composition, the flying fish was identified refer to Parin (1999) [6]. The size of the flying fish body is measured only on Hirundichthys oxycephalus as the dominant species.

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3. RESULT AND DISCUSSION

The distribution of flying fish in Ceram sea was categorized based on the sampling location as shown in Figure 1. There are three types of flying fish was caught in the Ceram sea including; H. oxycephalus, Cypselurus poecilopterus and yellow wings (Chellopogon abeia). Torani and Banggulung is the local name for H. oxycephalus and C. poecilopterus (Fig. 2). The proportion flying fish is: 650 individual in Kaimana consist 529 individual H. oxycephalus and 121 individual C. poecilopterus; in the East Seram as much as 991 individual consist as many as 678 individual H. oxycephalus, C. poecilopterus and C. abei is 221 and 92 individual, respectively. In Fak-Fak, total flying fish is H. oxycephalus 486 individual and C. poecilopterus 123 individual. H. oxycephalus or Torani is a dominant flying fish and were selected for further observation.

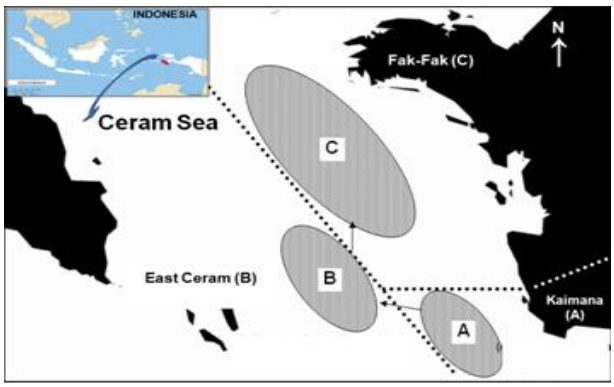

Figure 1. *Three Location of Flying Fish Sample: Kaimana sea (A), East Ceram (B) dan Fak-Fak sea (C)*

Total H. oxycephalus from three sampling location is 1.693 individual with all variant sizes with total body length 187,1 - 281,1 mm. The number flying fish from Kaimana is 529 individual (range of total body size is 195,6 - 243,6 mm), 678 individual from East Ceram (range of total body size 206,3 – 284,3 mm) and 486 individual from Fak-Fak (range of total body size 187, 1 – 243,1 mm). The flying fish from East Ceram more longer and narrow than flying fish from two another area (Fig. 2).

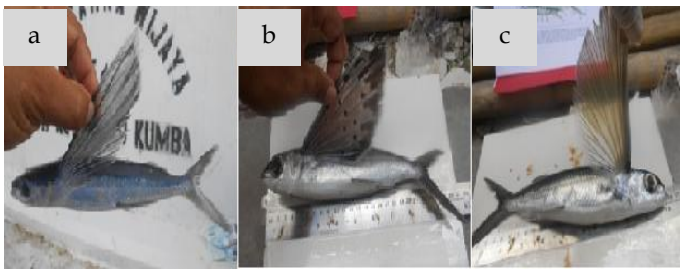

Figure 2. *Three types of flying fish: H. oxycephalus / Torani (a), C. Poecilopterus / Banggulung (b) and C. abeia / yellow wings (c).*

Based on the results of body size, we found that: more flying fish from Kaimana have range of their body size 223.1 to 225.1 mm. This condition is no more different from Fak-Fak,when the range of body size from 203.1 to 205.1 mm. The body size of flying fish in East Ceram which start from 206.3 to 284.3 mm (Fig. 3).

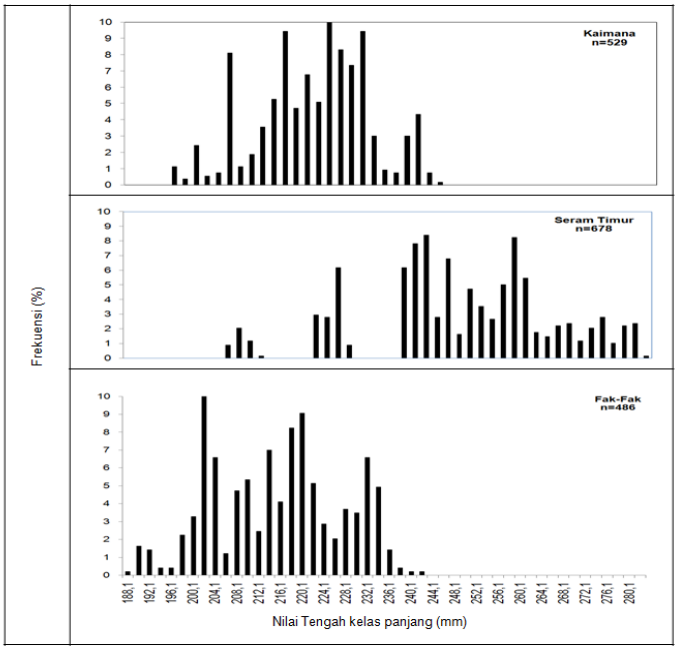

Figure 3. *The Range of H. oxycephalus body lenght from Three Sample Location*

The flying fish body size has many variance. For example, flying fish H. oxycephalus from South Sulawesi has body size 174 - 222 mm (Dwiponggo, Sujastani and Nurhakim, 1983) [3]. Ali (1981) [1] stated that H. oxycephalus body size in Flores sea start from 195 to 203 mm. Syahailatua (2006) [7] state that body size of H. oxycephalus start from 139 to 253 mm was found in surrounding Moluccas. H. oxycephalus from Binuangeun Banten, West Java about 214,5 to 278,5 mm (Harahap and Djamali, 2005) [4]. Their body size more longer than the same species from another area. Overall, the size of flying fish H. oxycephalus is different one to another. This is presumably the level of exploitation is relatively low, especially around East Ceram. If body size was compared in three locations in the Ceram sea, the average of flying fish is relatively large. This is presumably upwelling around Ceram sea on the east season (Wyrtki, 1958) [8]. Mixing water period that occurs in these waters was caused the movement of the water past the entrance of the Banda sea and Arafura sea. There was characterized by average wind direction in the month of May to October is 180 degree or blowing from the South (Local Climatology Station data in Kaimana, East Ceram and Fak-Fak year 2008-2012). It makes these waters rich in nutrients that allow abundant food needs for flying fish development in this area.

4. CONCLUSION

Based on the result, there are two types of flying fish in Kaimana and Fak-Fak: H. oxycephalus (torani) and C. poecilopterus (banggulung), whereas in East Ceram found three types namely H. oxycephalus, C. poecilopterus and C. abeia (yellow wing). The dominant species in three location is H. oxycephalus. Body sizes ranging from 195,6 to 243,6 mm in Kaimana; East Ceram from 206,3 to 284,3 mm while Fak-Fak from 187,1 to 243,1 mm. When compared with H. oxycephalus from other location, the fish were larger or un-exploitation categorized.

5. ACKNOWLEDGMENT

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