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THE EFFECT OF DIFFERENT TYPES OF FRESH BAIT ON THE CATCH OF MUD CRAB (SCYLLA SERRATA) IN FOLDING TRAP FISHING GEAR IN MANGROVE WATERS IN PANIMBANG DISTRICT, BANTEN

Pengaruh Perbedaan Jenis Umpan Segar Terhadap Hasil Tangkapan Kepiting Bakau (Scylla Serrata) Pada Alat Tangkap Bubu Lipat Di Lingkungan Perairan Mangrove Kecamatan Panimbang, Banten

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ABSTRACT

The increasing demand for mangrove crab production requires effective innovation to increase mangrove crab production. One of the efforts made to increase mangrove crab production is by conducting operational activities to catch mangrove crabs using folding traps and effective bait, because the success of the catch depends on the bait. The objective of this study was to determine how different types of fresh bait affect mangrove crab catches and to determine the most optimal fresh bait for mangrove crab catches. This study was conducted using a randomized block design (RCD) consisting of three treatments and nine trips. The results showed that the highest average catch was in fresh pepetek fish bait (treatment A) with an average value of 4.33, and the lowest average catch was fresh chicken offal bait (treatment C) with an average catch value of 1.00. Based on the results of the Anova test, the results show that the comparison of the P value is 0.000 <0.05, so H0 is rejected and Hi is accepted, meaning mangrove crab catches were strongly influenced by the different types of fresh bait used, followed by the Duncan test which shows that different notations are obtained from all treatments, where no treatment is located in one subset, meaning that between treatments do not have the same results or each treatment has a difference number of catches. In treatment C using fresh chicken offal bait obtained the lowest mean catch and the highest treatment A when compared to treatments A and B. The order of the average mangrove crab catches from lowest to highest occurred in treatments C, B and A.

Keywords**:** Folding Trap, Fresh Bait, Mangrove Crab

ABSTRAK

Meningkatnya permintaan terhadap produksi kepiting bakau dilakukan inovasi yang efektif agar produksi kepiting bakau meningkat. Upaya yang dilakukan untuk meningkatkan produksi kepiting bakau salah satunya dengan melakukan kegiatan operasional penangkapan kepiting bakau menggunakan bubu lipat dan umpan yang efektif, karena keberhasilan penangkapan bergantung pada umpan. Tujuan penelitian ini adalah untuk mengetahui bagaimana berbagai jenis umpan segar berdampak pada hasil tangkapan kepiting bakau dan mengetahui umpan segar yang paling optimal terhadap hasil tangkapan kepiting bakau. Penelitian ini melakukan eksperimen menggunakan rancangan acak kelompok (RAK) yang terdiri dari tiga perlakuan dan sembilan trip. Hasil penelitian menunjukan rata-rata tangkapan tertinggi terdapat pada umpan ikan pepetek segar (perlakuan A) dengan nilai rata-rata 4,33, dan rata-rata hasil tangkapan terendah yaitu umpan jeroan ayam segar (perlakuan C) dengan nilai rata-rata tangkapan 1,00. Berdasarkan hasil uji Anova hasil menunjukan bahwa perbandingan nilai P adalah 0,000 < 0,05 maka H0 ditolak dan Hi diterima, artinya hasil tangkapan kepiting bakau benar-benar dipengaruhi oleh berbagai jenis umpan segar yang digunakan, dilanjutkan dengan uji Duncan menunjukan diperoleh notasi yang berbeda dari semua perlakuan, dimana tidak ada perlakuan yang terletak pada satu subset artinya antar perlakuan tidak memiliki hasil yang sama atau setiap perlakuan memiliki perbedaan jumlah hasil tangkapan. Pada perlakuan C dengan menggunakan umpan jeroan ayam segar memperoleh mean hasil tangkapan terendah dan yang tertinggi perlakuan A jika dibandingkan dengan perlakuan A dan B. Urutan rata-rata hasil tangkapan kepiting bakau dari terendah hingga tertinggi terjadi pada perlakuan C, B dan A.

Kata kunci: Bubu Lipat, Kepiting Bakau, Umpan Segar

INTRODUCTION

Mangrove crab (Scylla serrata) is one of the highly valued fishery resources in coastal areas. Many people at home and abroad like it because it has a fairly high protein content and has such a good taste. According to the results of proximate analysis, mangrove crabs contain 44.85-50.58% protein, 10.52-13.08% fat, and energy 3,579-3,724 kcal/g (Pramudya et al., 2013), the total crab production in Indonesia in 2022 is 74,032 tons/year. Banten Province, especially the Panimbang District area, is an area that has mangrove forests and is one of the areas where there are many crab fishermen. Not only the fishermen are many, but the consumers of mangrove crabs are no less. This has led to an increase in demand for mangrove crab production. Efforts to increase mangrove crab production can be carried out by operational activities of mangrove crab fishing.

Folding bubu is a conventional trap used to catch mangrove crabs. With its trap shape and collapsible construction, the folding bubu is easy to store when not in use. In the operation of folding bubu, bait is used as an attraction for crabs to approach and enter it (Susanto *et al*., 2014).

The success of crab fishing depends on the bait used; The bait must be durable when immersed in the water and be able to strengthen the crab's olfactory organs. (Muhamad, 2017). In mangrove crab fishing operations, fishermen in Panimbang District usually use pepetek fish, chicken innards, wideng, and sea eels. In this study, fresh petek fish, fresh chicken innards (intestines, liver and gandarrow) and fresh sea eel were used. This is almost the same as research (Karmila, 2022) using petek fish bait, chicken intestines, and dried eels. But what distinguishes this experiment from the previous experiment is the use of fresh bait and the addition of bait such as in chicken offal bait and sea eel. The study (Karmila, 2022) shows that pepetek fish get good results from other baits, so this study aims to find out whether pepetek bait still dominates if the comparison of other baits is replaced with the addition of fresh chicken innards (intestines, liver and gandlas) and fresh sea eels. Research should be conducted on how different types of

fresh bait impact the outcomes of catching mangrove crabs (Scylla serrata) in folding bubu traps.

METHODS

Place and Time

The implementation of this research was carried out on May 14 – June 1, 2024 at the Waters of Panimbang District, Pandeglang Regency, Banten Province.

Tools and Material

The tools and materials include 30 units of folding bubu fishing gear, 3 types of bait used, namely fresh petek fish, fresh eel and fresh chicken offal, stopwatch, stationery and flags.

Research Methods

In this study, the researcher used an experimental fishing research method. Experimental research is a type of quantitative research in which one or more independent variables are changed, controlled by other relevant variables, and observed how changes affect dependent variables. An experiment incorporates changes deliberately and systematically and then sees how those changes have an impact. Only research problems allow researchers to adjust experimental research conditions (Rukminingsih et al., 2020). The treatment in this study used 3 treatments with 9 repetitions, the treatment was as follows:

1. Treatment A = Fresh Pepetek Fish Bait
2. Treatment B = Fresh sea eel bait
3. Treatment C = Fresh chicken offal bait (liver, gizzard and intestines)

Procedure

1. Preparation stage

Before making a catch, first prepare fishing gear and bait and other equipment needed during the activity. After the preparations are complete, the seaniut departs for the fishing location, which has been determined based on the experience of fishermen and adjusted to the natural environment of the mangrove crab (Scylla serrata).

2. Installation of folding bubu fishing gear (*setting*)

The installation of fishing gear (setting) is carried out after being at the location where the arrest operation is intended. At the location of the arrest in one trip, there were 30 folding bubu used with each treatment using 10 units of folding bubu. The bait is placed in the middle of the folding bubu net by tying it to one of the nets, but specifically the eel bait before being tied to the fishing rod is first cut into several parts, after which it is tied to the fishing rod. After the installation of the bait is complete, the setting process begins by lowering all folding bubu fishing gear to the bottom of the water. The fishing gear is randomly placed at a distance of 5 meters from each other and tied to a tree located at the edge of the water, then left submerged in the water. After the installation of the folding bubu, a marker flag is given for each treatment to distinguish each treatment. Yellow flag for petek fish bait, blue for sea eel, and white for chicken offal bait.

3. Lifting of folding bubu fishing gear (*hauling*)

Control of the folding bubu fishing gear is carried out every thirty minutes. This time is determined based on the experience of local fishermen and the way they use the folding bubu. This is because the longer the folded bubu has been in the water, the more often it is found that the bait has run out and the crab is no longer there. This is because fishing gear does not have a good trap system, which is a large net mouth that allows the crab to escape. After counting the number of pipiting caught, the next setting is done.

Data Analysis

Fingerprint analysis was used in this study to determine the influence of different types of bait on mangrove crab catches. From the ANOVA results, if the treatment shows significantly different results, then it can be continued with the Duncan Multiple Distance test by comparing the P value or P value with the:

1. If the P value < 5 % can be taken as a result that H0 is rejected and Hi is accepted.
2. If the P value > 5 % can be taken that H0 is accepted and Hi is rejected.

RESULT

The results of this study show that treatment A (fresh petek fish) produces the highest catch of mangrove crabs. Shown below.

Table 1. Mangrove Crab Catch (Scylla serrata) During Research

Trip	Pepetek fish	Sea eel	Chicken offal
Day 1	3	4	2
Day 2	4	2	1
Day 3	5	2	1
Day 4	5	2	0
Day 5	4	3	1
Day 6	4	2	1
Day 7	5	3	1
Day 8	4	2	1
Day 9	5	3	1
Total catch	39	23	9
Average	4,33	2,56	1,00
Standard Deviation	0,707	0,726	0,500

Source: Primary Data (2024)

The one-lane ANOVA test was carried out to find out how different types of fresh bait had an impact on the results of catching mangrove crabs (Scylla serrata), therefore the ANOVA test was carried out.

Table 2. ANOVA Test Results of Mangrove Crab Catch (Scylla serrata)*)*

	Sum of squares	df	Mean square	F	Sig.
Between groups	50.074	2	25.037	58.783	0.000
Within groups	10.222	24	0.426		
Total	60.296	26			

Based on the ANOVA test, P value < 5%, it is necessary to carry out a further test, namely a multiple comparator test using the Duncan test.

Table 3. Difference in Notation of Duncan Test Results on Average Mangrove Crab Catch (Scylla serrata)

		Subset		
Bait	N	1	2	3
Chicken Offal	9	1.00		
Sea Eel	9		2.56	
Pepetek Fish	9			4.33
Sig.		1.000	1.000	1.000

DISCUSSION

Based on the calculation results that P = 0.000 < 0.05, it means that the use of different types of fresh bait has an effect on the catch of mangrove crabs. Based on the results of the 5% anova test, the use of different types of fresh bait had a real effect (P < 0.05) on the catch of mangrove crabs where the highest catch was obtained in treatment A using fresh petek bait resulting in a catch of 39 fish with an average catch of 4.33, while the lowest catch was obtained in treatment C as many as 9 fish with an average catch of 1.00.

The results of the test use of fresh bait differ against the catch because the bait used must be qualified to allow the target catch to feel and smell. Crabs are very sensitive to the smell of organic and anogranic matter. Odors dissolved in water can stimulate fish's olfactory receptors (Karnila, 2022). Peperek fish has a pungent odor so it can be used as an attractant in catching Scylla serrata. In the research conducted (Yuliana, 2017) it was stated that fresh fish bait, such as peperek fish bait, produces more bait than chicken intestines bait, therefore the catch of each treatment is significantly different from the catch of mangrove crabs.

The results of the Duncan test showed that no treatment was included in one subset, so no results were the same between treatments or each treatment had a different number of catches. Treatment A was the largest with an average catch of 4.33, followed by treatment B with an average of 2.56 and the lowest was treatment C with an average of 1.00.

In treatment C using fresh chicken innards bait, the average catch of mangrove crabs (Scylla serrata) from the lowest to the highest occurred in treatments C, B and A. Treatment A using fresh petek bait resulted in the average catch of mangrove crabs (Scylla serrata) which was 4.33.

This is in accordance with the statement (Karmila, 2022) that the peperek fish bait caught more chicken intestines and dried eel than the peperek fish bait, which caught 127 fish, 91 chicken intestines, and 68 dried eels, respectively. Peperek bait produces the best catch compared to other types of bait. Peperek fish bait appears as much as 100% on crabs (Portunus pelagicus) and mangrove crabs (Scylla serrata), the same as chicken intestines and dried eel bait. According to (Karmila, 2022) Peperek bait, which is resistant to water, can be used repeatedly, the catch target is easy to digest, and has a shiny color in the water, providing better catch results.

CONCLUSION

Based on the results of the study, the effect of different types of fresh bait on the catch of mangrove crab (Scylla serrata) can be concluded as follows:

1. The difference in the type of fresh bait has a real effect on the catch of mangrove crabs (Scylla serrata), it can be concluded that the initial hypothesis of H0 is rejected and Hi is accepted, namely the use of a different type of fresh bait has a significant effect on the number of mangrove crab catches (Scylla serrata).
2. Fresh petek fish bait (Treatment A) gave the best results to the catch of mangrove crab (Scylla serrata) which was 39 fish, then fresh sea eel bait (Treatment B) which was 23 fish, and fresh chicken offal bait (Treatment C) produced 9 fish. Thus, the effective treatment is treatment A, namely petek fish bait.

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