

INTISARI

Penelitian ini bertujuan untuk menentukan aspek biologi dan parameter populasi yang meliputi laju pertumbuhan, pola rekrutmen, laju mortalitas dan eksploitasi lobster batu (*Panulirus penicillatus*) di pantai selatan DIY. Hasil tangkapan lobster batu yang diperoleh dari beberapa pengepul selama bulan Februari-Agustus 2017 sebanyak 546 ekor dijadikan sebagai sampel. Setiap sampel yang diperoleh diukur panjang karapas dan ditimbang beratnya. Data dianalisis menggunakan Metode ELEFAN I (*Electronic Length-Frequency Analysis*) yang terdapat dalam program FISAT II versi 1.2.2. Hasil penelitian menunjukkan bahwa panjang karapas lobster batu berkisar 35,2-120,5 mm, dengan rerata 63,5 mm. Persamaan hubungan panjang dan berat adalah $W=0.005CL^{2.540}$, dengan sifat pertumbuhan allometrik negatif. Nisbah kelamin yang diperoleh antara jantan dan betina adalah 1,12:1, dengan proporsi betina yang tidak membawa telur 93,39%. Fekunditas berkisar antara 30.624-140.346 butir. L_c yang diperoleh sebesar 38,32 mm. Persamaan pertumbuhan $L_t=125(1-e^{-0,55(t+0,69)})$, dengan puncak rekrutmen pada bulan Januari dan Agustus. Laju mortalitas total (Z) sebesar 1,82/tahun, laju mortalitas alami (M) sebesar 0,81/tahun, dan laju mortalitas penangkapan (F) sebesar 1,01/tahun. Lobster batu di pantai selatan DIY telah mengalami *overfishing* dengan tingkat eksploitasi (E) sebesar 0,55. Berbagai upaya pengelolaan sangat dibutuhkan seperti pembatasan ukuran tangkap lobster dan pengaturan waktu penangkapan.

Kata kunci: aspek biologi, *overfishing*, *Panulirus penicillatus*, parameter pertumbuhan

ABSTRACT

The purpose of this study was to determine biological aspect and population parameters included growth rate, recruitment pattern, mortality rate and exploitation of double-spined rock lobster (*Panulirus penicillatus*) at the Southern Coast of DIY. The double-spined rock lobster caught by collectors during February-August 2017 were collected as much as 546 individuals as samples. Each sample was measured its carapace length and body weight. Next, the data was analyzed by ELEFAN Method I (Electronic Length-Frequency Analysis) contained in the FISAT II version 1.2.2 program. The results showed that the carapace length (CL) of double-spined rock lobster caught was ranged 35.2-120.5 mm, with the mean 63.5 mm. Carapace length-body weight relationship equation was $W = 0.005CL^{2.540}$, with the growth characteristic was allometric negative. Sex ratio between males and females were 1.12:1, with females that didn't carry eggs were 93.39%. Fecundities ranged between 30.624-140.346 granules. L_c obtained by 38.32 mm. The equation of growth parameter was $L_t = 125 (1 - e^{-0.55(t+0.69)})$, with the peak of recruitment in January and August. The total mortality rate (Z) was 1.82 year⁻¹, the natural mortality rate (M) was 0.81 year⁻¹ and the mortality rate of catch (F) was 1.01 year⁻¹. Double-spined rock lobster in southern Yogyakarta has been overfishing, with the exploitation rate (E) of 0.55. Various fisheries management efforts such as limiting lobster catch size and catching season management are needed in order to ensure double-spined rock lobster sustainability.

Keywords: biological aspect, growth parameter population, *overfishing*, *Panulirus penicillatus*