

**POLA REPRODUKSI TERIPANG *Phyllophorus sp.*
DI SELAT MADURA
PADA PERIODE MEI, JUNI, DAN JULI 2012**

SKRIPSI



NURUL INSANI SHULLIA

**PROGRAM STUDI S-1 BIOLOGI
DEPARTEMEN BIOLOGI
FAKULTAS SAINS DAN TEKNOLOGI
UNIVERSITAS AIRLANGGA
SURABAYA**

2013

Nurul Insani Shullia, 2013, Pola Reproduksi Teripang Lokal *Phyllophorus* sp. di Selat Madura pada Periode Mei, Juni, dan Juli 2012.

Skripsi ini dibimbing oleh Dr. Dwi Winarni, M.Si. dan Drs. Moch. Affandi, M.Si. Departemen Biologi, Fakultas Sains dan Teknologi, Universitas Airlangga, Surabaya

ABSTRAK

Penelitian ini bertujuan untuk mengetahui ciri-ciri struktur morfologi dan histologi gonad *Phyllophorus* sp. serta mengetahui pola reproduksi *Phyllophorus* sp. di Selat Madura berdasarkan indeks gonad dan tahap perkembangan gonad pada periode Mei, Juni, dan Juli 2012. Sampel *Phyllophorus* sp. sebanyak 20-25 individu perbulan diambil di Selat Madura. Sampel kemudian diukur berat basah lalu dibedah dan dikeluarkan gonadnya lalu diamati warna gonad. Berat gonad kemudian diukur untuk menghitung nilai Indeks Gonad (IG). Tiga tubulus gonad diambil dan dibuat sayatan melintang dengan metode parafin. Pada penampang histologi gonad diamati tebal dinding, diameter oosit, dan jenis oosit. Perbedaan IG betina setiap bulan diuji menggunakan uji Anova satu arah dan dilanjutkan dengan uji Duncan sedangkan perbedaan IG jantan diuji dengan *Brown-Forsythe* dan dilanjutkan dengan uji Games-Howell ($\alpha=0,05$). Untuk melihat korelasi antara fase perkembangan gonad dan tebal dinding tubulus digunakan uji korelasi Spearman. Gonad *Phylloporus* sp. terdiri atas tubuli dengan panjang 1-2 cm, berwarna coklat pada gonad jantan dan hijau pada gonad betina. Ada perbedaan nilai IG jantan dan IG betina pada bulan Mei, Juni, dan Juli 2012. Indeks gonad bulan Mei dan Juli 2012 tidak berbeda nyata tetapi keduanya berbeda nyata dengan bulan Juni 2012 sebesar 0,002 pada gonad jantan dan 0,000 pada gonad betina. Dinding tubulus cukup tebal dan menipis seiring kematangan gonad. Hasil uji korelasi menunjukkan bahwa semakin matang gonad, semakin tipis pula dinding tubulus. Pada gonad betina dapat diamati oosit previtelogenik ($<150 \mu\text{m}$), oosit vitelogenik ($150\text{--}350 \mu\text{m}$), dan oosit post vitelogenik ($>350 \mu\text{m}$). Pola reproduksi *Phylloporus* sp. bersifat asinkron. Perkembangan gonad pada bulan Mei, Juni, dan Juli 2012 menggambarkan berbagai fase perkembangan, yang meliputi fase *recovery* (pemulihan), *growth* (pertumbuhan), *advanced growth* (pertumbuhan tingkat lanjut), *mature* (pematangan), dan *after spawning* (setelah memijah).

Kata kunci : *Phylloporus* sp., pola reproduksi, dan fase perkembangan gonad.

Nurul Insani Shullia, 2013, Reproduction Pattern of Phylloporus sp. at Madura Strait in Mey, June, and July 2012. This bachelor degree thesis was in under advisory of Dr. Dwi Winarni, M.Si. and Drs. Moch. Affandi, M.Si. Biology Department, Faculty of Science and Technology, Airlangga University, Surabaya

ABSTRACT

The aim of this study is to find out the gonad morphological and histological characteristics of *Phylloporus sp.* and to know the reproduction pattern of this species at Madura Strait in May, June, and July 2012 according to Gonadal Index (GI) and developmental phase of gonad. About twenty five sample of *Phylloporus sp.* were taken at Madura Strait every month. Then, its drained wall weight and gonad weight was measured to know GI value. The gonads were fixed in neutral buffered formalin, and tree tubules were taken from each gonad to made histological preparation by paraffin method. The gonad wall thickness, phase of developmental gonad, diameter and the type of oocyte were observed from cross section of gonad. The female Gonadal Index (GI) value from each month was analyzed by using One-way Anova and Duncan, while the male Gonadal Index (GI) was analyzed by using Brown-Forsythe and Games-Howell ($\alpha=0,05$). The correlation between the gonad wall thickness and phase of developmental gonad was analyzed by using Spearman Correlation. The gonad of *Phylloporus sp.* consists of numerous tubules with length 1-2 cm. The female gonad was always green and male gonad was always brown. There are differences between female IG and male IG in May, June, and July 2012. The Gonadal Index in May and June was not different, but both of them were significant different with IG in July about 0,002 on male gonad and 0,000 on female gonad. The gonad wall was thick and become thin along with gonad maturity. There are previtellogenic oocytes ($<150 \mu\text{m}$), vitellogenic oocytes ($150\text{--}350 \mu\text{m}$), and postvitellogenic oocytes (>350) in gonad lumen. Reproduction pattern of population of *Phylloporus sp.* is asynchronous, but reproduction pattern of individual is synchronous. The developmental phase of *Phylloporus sp.* gonad is distinguishable. They are recovery phase, growth phase, advanced growth phase, mature phase, and after spawning phase.

Keywords: *Phylloporus sp.*, reproduction pattern, and gonadal development phase