

ABSTRAK

DAYA TETAS TELUR NYAMUK *Aedes aegypti* AKIBAT PEMBERIAN ISOLAT BAKTERI ENTOMOPATOGEN (*Escherichia coli*, *Klebsiella* sp., DAN *Bacillus* sp.)

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Entomopatogen merupakan agen biologis yang bersifat patogen terhadap serangga yang dapat menghambat proses perkembangan serangga. Entomopatogen memiliki beberapa variasi seperti fungi, bakteri, ataupun virus. Dalam menekan populasi nyamuk *Ae. aegypti* menggunakan isolat bakteri entomopatogen, isolat entomopatogen yang digunakan pada penelitian ini terdiri (*Escherichia coli*, *Klebsiella* sp., dan *Bacillus* sp.). Media yang digunakan dalam masa perindukan nyamuk *Ae. aegypti* yakni air sumur. Diberikan isolat bakteri entomopatogen (*E. coli*, *Klebsiella* sp., dan *Bacillus* sp.) sebagai perlakuan. Tujuan dari penelitian ini untuk mengetahui pengaruh isolat bakteri entomopatogen (*E. coli*, *Klebsiella* sp., dan *Bacillus* sp.) terhadap persentase jumlah telur nyamuk *Ae. aegypti*. Penelitian ini dilakukan pada bulan Januari - Februari 2024 di Laboratorium Zoologi dan Laboratorium Mikrobiologi, Jurusan Biologi FMIPA Universitas Lampung. Penelitian menggunakan Rancangan Acak Lengkap (RAL) dengan 6 kali pengulangan serta parameter yang diuji adalah nilai pH, Suhu, *Dissolved Oxygen* (DO). Data yang diperoleh di analisis dengan SPSS ver 23.0 secara statistik dengan uji normalitas *Shapiro-Wilk* lalu dilanjutkan dengan uji homogenitas dengan uji *Levene*, kemudian dianalisis kedalam uji *Kruskal Wallis* dan uji lanjut dengan uji *Dunn*. Hasil dari penelitian ini terdapat perbedaan jumlah daya tetas telur nyamuk *Ae. aegypti* pada setiap perlakuan. Hal tersebut dibuktikan dalam uji *Dunn* didapatkan hasil paling signifikan pada bakteri *Bacillus* sp. – *E.coli* dengan dengan nilai signifikansi $\alpha=0,025$ ($\alpha < 0,05$) yang menunjukkan adanya perbedaan terhadap isolat bakteri entomopatogen (*Escherichia coli*, *Klebsiella* sp., dan *Bacillus* sp.) pada jumlah telur nyamuk *Ae. aegypti* yang menetas.

Kata Kunci : *Aedes aegypti*, daya tetas, isolat bakteri entomopatogen, faktor abiotik

ABSTRACT

HATCHING RATE OF *Aedes aegypti* MOSQUITO EGGS DUE TO THE ADDITION OF ENTOMOPHATOGENIC BACTERIA ISOLATES (*Eschericia coli*, *Klebsiella* sp., DAN *Bacillus* sp.)

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Entomopathogens are biological agents that are pathogenic to insects that can inhibit the process of insect development. Entomopathogens have several variations such as fungi, bacteria, or viruses. In suppressing the population of *Ae. aegypti* mosquitoes using entomopathogenic bacterial isolates, entomopathogenic isolates used in this study consisted of (*Escherichia coli*, *Klebsiella* sp., and *Bacillus* sp.). The media used in the breeding period of *Ae. aegypti* mosquitoes is well water. Entomopathogenic bacteria isolates (*E. coli*, *Klebsiella* sp., and *Bacillus* sp.) were given as treatments. The purpose of this study was to determine the effect of entomopathogenic bacterial isolates (*E. coli*, *Klebsiella* sp., and *Bacillus* sp.) on the percentage of *Ae.aegypti* mosquito eggs. This research was conducted in January - February 2024 at the Zoology Laboratory and Microbiology Laboratory, Department of Biology FMIPA, University of Lampung. The study used a completely randomized design (CRD) with 6 repetitions and the parameters tested were pH, temperature, *dissolved oxygen* (DO). The data obtained were analyzed with SPSS ver 23.0 statistically with the *Shapiro-Wilk* normality test then continued with the homogeneity test with the *Levene test*, then analyzed into the *Kruskall Wallis* test and further test with the *Dunn* test. The results of this study showed a difference in the number of hatchability of *Ae. aegypti* mosquito eggs in each treatment. This is evidenced in the *Dunn's* test obtained the most results. This is evidenced in the *Dunn* test, the most significant results were obtained in *Bacillus* sp. - *E.coli* bacteria with a significance value of $\alpha = 0.025$ ($\alpha < 0.05$) which indicates a difference in entomopathogenic bacterial isolates (*Escherichia coli*, *Klebsiella* sp., and *Bacillus* sp.) on the number of hatching *Ae.aegypti* mosquito eggs.

Keywords: *Aedes aegypti*, hatching rate, entomopathogenic bacteria isolates, abiotic factor