

**POTENSI BERUDU *Duttaphrynus melanostictus* (Schneider, 1799)
SEBAGAI AGEN PENGENDALI NYAMUK *Aedes* spp.
DI KEBUN BIOLOGI, FAKULTAS BIOLOGI UGM, YOGYAKARTA**

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INTISARI

Berudu *Duttaphrynus melanostictus* memiliki potensi sebagai agen pengendali hayati nyamuk penyebab demam dengue melalui predasi telur. Penelitian mengenai potensi tersebut masih terbatas pada skala laboratorium. Perlu dipelajari lebih lanjut mengenai potensi berudu *Duttaphrynus melanostictus* sebagai agen pengendali hayati nyamuk penyebab demam dengue di alam terbuka. Kebun Biologi yang terletak di lingkungan Fakultas Biologi, Universitas Gadjah Mada, Yogyakarta, merupakan wilayah yang sesuai untuk melakukan percobaan karena diketahui merupakan habitat dari dua jenis nyamuk urban yang berperan sebagai vektor dengue, yaitu *Aedes aegypti* dan *Aedes albopictus*. Penelitian ini bertujuan untuk mempelajari potensi berudu *Duttaphrynus melanostictus* dalam mengendalikan telur nyamuk *Aedes* di Kebun Biologi. Pengambilan data dilakukan pada bulan Januari hingga April 2019. Terdapat tiga perlakuan yaitu kontrol, media berisi berudu yang berenang bebas, dan media berisi berudu di dalam kurungan, dengan masing-masing tiga ulangan, menggunakan rancangan acak lengkap. Ember hitam berisi 800 mL air digunakan sebagai media. Setiap media diisi oleh 10 berudu kecuali pada media kontrol. Penelitian dilakukan pada tiga stasiun pengambilan data di Kebun Biologi, yaitu bagian Selatan, Tengah, dan Utara. Untuk mengetahui perbedaan antar perlakuan, digunakan One Way ANOVA serta analisis Tukey Post-hoc (PSPP 1.2.0.). Hasil yang diperoleh menunjukkan bahwa rata-rata telur nyamuk pada media berisi berudu berenang bebas di tiga bagian Kebun Biologi selalu lebih sedikit dibanding media tanpa berudu. Meskipun demikian, potensi berudu *Duttaphrynus melanostictus* dalam mengurangi keberadaan telur nyamuk *Aedes* hanya terlihat pada stasiun pengambilan data di Kebun Biologi bagian Utara dan Selatan.

Kata Kunci: Pengendalian, Biologi, Nyamuk, Berudu, *Duttaphrynus melanostictus*

**POTENCY OF *Duttaphrynus melanostictus* (Schneider, 1799) TADPOLES
AS *Aedes* spp. BIOCONTROL AGENT IN BIOLOGICAL GARDEN,
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ABSTRACT

Tadpoles of Common Asian Toad Duttaphrynus melanostictus are known by their role as dengue vector biocontrol agent through predation of egg. The Study about its potency are limited to a laboratory condition. It necessary to learn their potency as mosquito biocontrol agent in the natural condition. Biological Garden of Faculty of Biology, Universitas Gadjah Mada, Yogyakarta are suitable place to performing this study, because its known to be habitat for two urban mosquito that play a role as vector of dengue fever like Aedes aegypti and Aedes albopictus. Aims of this study is to discover the potency of Duttaphrynus melanostictus tadpoles as mosquito's eggs biocontrol agent in Biological Garden. This study were held on January - April 2019. Three groups of treatment with each three replication were used in this study, that is medium without tadpole as control, medium with free tadpoles, and medium with caged tadpoles. Oviposition medium were made from black colored round plastic bucket and fulfilled by 800 mL of tap water. Every medium were fulfilled by 10 tadpoles with exception for control media. Randomize block design were used in this study. Study were divided into three region, that is South region, Middle region, and North region of Biological Garden. One-way ANOVA and Tukey post-hoc test (PSPP 1.2.0) were performed to find out the difference between treatment. This study showed that the average of Aedes egg that deposited on oviposition media with free Duttaphrynus melanostictus tadpole are less compared to average of Aedes egg that deposited into oviposition media without tadpoles. Although, potency of Duttaphrynus melanostictus tadpole as biocontrol agent only exist at South and North region of Biological Garden.

Keyword : Biocontrol, Tadpole, Mosquito, Natural, *Duttaphrynus melanostictus*