

**EFEKTIVITAS EKSTRAK ETANOL UMBI BAWANG DAYAK
(*Eleutherine palmifolia* (L.) Merr.) SEBAGAI BIOLARVASIDA
Aedes aegypti L. 1762 DARI PRAMBANAN**

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INTISARI

Tahun 2024 kasus DBD di wilayah Sleman meningkat hampir empat kali lipat dibandingkan tahun 2023. Pengendalian vektor nyamuk biasa dilakukan dengan abate dan insektisida sintetis yang menimbulkan beberapa masalah salah satunya adalah resistensi terhadap nyamuk sehingga diperlukan inovasi ramah lingkungan yaitu biolarvasida, salah satunya dengan ekstrak etanol bawang dayak (*Eleutherine palmifolia* (L.) Merr.) yang mengandung alkaloid, flavonoid, fenolik, dan saponin. Penelitian ini dilakukan dengan tujuan untuk mengetahui kondisi lingkungan yang mempengaruhi angka HI dan ABJ wilayah sampling, mengetahui kandungan metabolit sekunder ekstrak etanol bawang dayak serta mengetahui efektivitas ekstrak etanol bawang dayak terhadap larva *Aedes aegypti*. Penelitian ini dilakukan pengambilan sampel telur nyamuk di Padukuhan Kenaran, Sumberharjo, Prambanan, Sleman. Metode yang digunakan meliputi, persiapan *simplisia powder*, maserasi dengan etanol 95%, uji metabolit sekunder golongan tanin, alkaloid, flavonoid, fenolik, saponin dengan KLT, *rearing* larva *Ae. aegypti*, menentukan konsentrasi uji, uji mortalitas larva, HI dan ABJ, efek *knockdown*, analisis statistik non-parametrik, analisis probit, dan membuat laporan. Hasil menunjukkan nilai HI dan ABJ di daerah Kenaran, Sumberharjo, Prambanan tergolong tinggi dan masih ada risiko penularan penyakit DBD, hal ini berkaitan dengan suhu dan kelembaban wilayah yang ideal untuk perkembangan nyamuk. Ekstrak etanol umbi bawang dayak mengandung alkaloid, flavonoid, fenolik, dan saponin yang toksik terhadap larva *Aedes*. Konsentrasi 2000 ppm, 3000 ppm, 4000 ppm, dan 5000 ppm efektif mematikan larva berturut-turut sebanyak 40%; 47,5%; 67,5%; dan 97,5%. Nilai LC₅₀ pada konsentrasi 2994,60 ppm dan LC₉₀ pada konsentrasi 4652,85 ppm.

KATA KUNCI: *Aedes aegypti*, bawang dayak, biolarvasida, efektivitas, metabolit sekunder

**EFFECTIVENESS OF ETHANOL EXTRACT OF DAYAK
ONION BULB (*Eleutherine palmifolia* (L.) Merr.) AS A
BIOLARVICIDE AGAINST *Aedes aegypti* L. 1762 FROM
PRAMBANAN**

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Abstract

In 2024, dengue cases in Sleman increased almost four times compared to 2023. Mosquito vector control is usually done with abate and synthetic insecticides which cause several problems, one of which is resistance to mosquitoes, therefore there is a need for innovations that are more environmentally friendly, namely biolarvicides, one of them is with ethanol extract of dayak onion (*Eleutherine palmifolia* (L.) Merr.) which contains alkaloids, flavonoids, phenolics, and saponins. The aim of this study is to determine the environmental conditions that affect HI and ABJ in the sampling area, to determine the secondary metabolite content of ethanol extract of dayak onion (*E. palmifolia*) and to determine the effectiveness of ethanol extract of dayak onion (*E. palmifolia*) against *Aedes aegypti* larvae. This study was conducted sampling mosquito eggs in Kenaran, Sumberharjo, Prambanan. The methods used in this study include, preparation of simplisia powder, maceration with 95% ethanol, secondary metabolite test of tannins, alkaloids, flavonoids, phenolics, saponins by Thin Layer Chromatography (TLC), rearing *Ae. aegypti* larvae, determining test concentrations, larval mortality test, HI and ABJ, knockdown effect, non-parametric statistical analysis, probit analysis, and making reports. The results showed that the HI and ABJ values in Kenaran, Sumberharjo, Prambanan were high and there was still a risk of DHF transmission, this also related to the temperature and humidity of the area which is ideal for mosquito. Dayak onion extract contains flavonoids, phenolic compounds, alkaloids, and saponins that can cause toxicity in larvae. Concentrations of 2000 ppm, 3000 ppm, 4000 ppm, and 5000 ppm were effective in killing 40%, 47.5%, 67.5%, and 97.5% of larvae, respectively. LC₅₀ value at a concentration of 2994.60 ppm and LC₉₀ at a concentration of 4652.85 ppm.

KEYWORDS: *Aedes aegypti*, biolarvicide, dayak onion, effectiveness, secondary metabolites