

Meidita Ika F. M., 2018, **Isolasi dan Uji Potensi *Bacillus* sp. Entomopatogen Lokal dari Tanah Endapan Penampungan Air Tempat Perindukan Nyamuk *Aedes aegypti*.**, Skripsi ini di bawah bimbingan Drs. Salamun, M.Kes dan Dr. Fatimah, S.Si., M.Kes., Departemen Biologi Fakultas Sains dan Teknologi Universitas Airlangga, Surabaya.

ABSTRAK

Demam berdarah merupakan penyakit endemik di Indonesia yang disebabkan oleh virus *dengue* dan ditularkan melalui vektor *Aedes aegypti* betina. Surabaya, Sidoarjo dan Gresik merupakan 3 kota di Provinsi Jawa Timur yang memiliki data kelimpahan larva tertinggi pada tahun 2013 – 2016. Tujuan penelitian ini untuk mendapatkan isolat *Bacillus* sp. entomopatogen lokal dari tanah endapan penampungan air tempat perindukan nyamuk *Aedes Aegypti* dan mengetahui potensinya dalam membunuh larva *Aedes Aegypti*. Sampel tanah endapan diambil dari 10 lokasi di Surabaya, 10 lokasi di Sidoarjo dan 10 lokasi di Gresik. Bakteri diisolasi dengan menggunakan media pertumbuhan *Bacillus* sp., diidentifikasi dengan pewarnaan Gram dan spora, kemudian dilakukan uji potensi *Aedes Aegypti* pada larva instar III. Hasil isolasi didapatkan 8 isolat *Bacillus* sp. yang mampu membunuh lebih dari 50% larva *Aedes Aegypti* instar III. Tingkat daya bunuh *Bacillus* sp. paling tinggi adalah isolat dari Gresik yaitu G6.4 dengan mortalitas larva sebesar 100%, diikuti oleh isolat dari Surabaya yaitu S7.3 dan S4.3 yang mampu membunuh larva sebanyak 96,7% dan isolat S4.5 membunuh larva sebanyak 80% pada waktu pendedahan 48 jam dengan nilai absorbansi yang sama ($A_{600\text{ nm}} = 0,8$).

Kata kunci: *Bacillus* sp., entomopatogen, *Aedes aegypti*, uji potensi.

Meidita Ika F. M., 2018, **Isolation and Potential Test of Native Entomopathogenic *Bacillus* sp. from Soil Sediment of Water Reservoir of Breeding Sites of *Aedes aegypti*.**, This script is guided by Drs. Salamun, M.Kes and Dr. Fatimah, S.Si., M.Kes., Departement of Biology, Faculty of Science and Technology, Airlangga University, Surabaya.

ABSTRACT

Dengue Haemorrhagic Fever is an endemic disease caused by *dengue* virus and transmitted to humans through female *Aedes aegypti* mosquitoes. Surabaya, Sidoarjo and Gresik are 3 cities in East Java which have the highest density of *Aedes aegypti* larvae in 2013 – 2016. This research aimed to isolate the Native Entomopathogenic *Bacillus* sp. from Soil Sediment of Water Reservoir of Breeding sites of *Aedes aegypti* and to know their potential biolarvacidal potency against *Aedes aegypti* larvae. The Soil sediments were taken from 10 sites in Surabaya, 10 sites in Sidoarjo and 10 sites in Gresik. Isolation of bacteria was performed using growth media of *Bacillus* sp., identified with Gram and spore stainings, and biolarvacidal potency test was performed on the third instar larval stage of *Aedes Aegypti*. Eight Native Entomopathogenic *Bacillus* sp. were isolated and those isolates were toxic to the third instar larvae of *Aedes Aegypti* more than 50% mortality. The highest level of killing power of these *Bacillus* sp. are isolate from Gresik, G6.4 which has 100% mortality, then followed by isolates from Surabaya, S7.3 and S4.3 which has 96,7% mortality and S4.5 which has 80% mortality at 48 hours exposure time with the same optical density ($A_{600\text{ nm}} = 0,8$).

Key words: *Bacillus* sp., entomopathogenic, *Aedes aegypti*, potential test.