

ABSTRACT

Helopeltis bradyi (Waterhouse) was found attacking tea plantations in Batang District, cocoa plantations in Sleman District, and cocoa plantations in Kulon Progo District. Information about the life of *H. bradyi* which is reared using alternative feed in the form of cucumbers in the laboratory, needs to be known for accurate pest control. Demographic studies of *H. bradyi* can be carried out as a basis for control information. The entomopathogenic fungi *Lecanicillium lecanii* (Zimmermann) has the potential to control *H. bradyi*. The purpose of this study was to determine the cohort and demographics of *H. bradyi* from three different locations and to determine the infection of *L. lecanii* to *H. bradyi*. The research method consisted of cohort & demographic analysis of 3 populations and a non-parametric U Mann Whitney test with 2 treatments and 30 replications. The results of the cohort observations showed that there were differences in the number of living individuals, mortality, and life duration of the three populations of *H. bradyi*. The survival type of the three *H. bradyi* populations was classified as type IV. The survival of the three populations of *H. bradyi* is thought to be influenced by adaptation ability and type of host plant. From the three populations of *H. bradyi* that were observed, only the Sleman population survived longer so that demographic analysis could be carried out. Testing of the suspension of *L. lecanii* fungi with a density of 5.05×10^7 spores/mL showed that the fungi had the potential to control *H. bradyi* as evidenced by the presence of white mycelium growing on the surface of its body.

Keywords: cohort, demography, infection, mortality.

INTISARI

Helopeltis bradyi (Waterhouse) ditemukan menyerang perkebunan teh di Kabupaten Batang, perkebunan kakao di Kabupaten Sleman, dan perkebunan kakao di Kabupaten Kulon progo. Informasi tentang kehidupan *H. bradyi* yang dipelihara menggunakan pakan alternatif berupa ketimun di laboratorium perlu diketahui untuk pengendalian hama yang akurat. Studi demografi *H. bradyi* dapat dilakukan sebagai dasar informasi pengendalian. Jamur entomopatogen *Lecanicillium lecanii* (Zimmermann) memiliki potensi untuk pengendalian *H. bradyi*. Tujuan penelitian ini adalah untuk mengetahui kohort dan demografi *H. bradyi* yang berasal dari tiga lokasi berbeda dan mengetahui infeksi *L. lecanii* terhadap *H. bradyi*. Metode penelitian terdiri dari analisis kohort & demografi terhadap 3 populasi dan uji non parametrik U Mann Whitney dengan 2 perlakuan dan 30 kali ulangan. Hasil pengamatan kohort menunjukkan terdapat perbedaan jumlah individu hidup, mortalitas, dan durasi hidup ketiga populasi *H. bradyi*. Tipe kelangsungan hidup dari ketiga populasi *H. bradyi* tergolong tipe IV. Kelangsungan hidup ketiga populasi *H. bradyi* diduga dipengaruhi oleh kemampuan adaptasi dan jenis tanaman inang. Dari tiga populasi *H. bradyi* yang diamati, hanya populasi Sleman yang bertahan lebih lama sehingga dapat dilakukan analisis demografi. Pengujian suspensi jamur *L. lecanii* kerapatan $5,05 \times 10^7$ spora/mL menunjukkan bahwa jamur berpotensi dalam mengendalikan *H. bradyi* yang dibuktikan dengan adanya miselium putih yang tumbuh di permukaan tubuhnya.

Kata kunci: demografi, infeksi, kohort, mortalitas.