

INTISARI

INFEKSI JAMUR *Metarhizium anisopliae* PADA LARVA *Oryctes rhinoceros* (Coleoptera:Scarabaeidae)

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Metarhizium anisopliae merupakan salah satu jamur patogen serangga yang sering digunakan untuk mengendalikan *Oryctes rhinoceros*. *M. anisopliae* sangat berpotensi sebagai agen hayati pemutus siklus hidup larva *O. rhinoceros*. Tujuan dari penelitian ini untuk mengetahui instar stadia larva *O. rhinoceros* yang paling rentan terhadap infeksi *M. anisopliae* dan efek negatif *M. anisopliae* dalam menghambat pertumbuhan dan perkembangan larva *O. rhinoceros*. Metode penelitian menggunakan analisis uji T-test dengan 7 perlakuan dan 3 ulangan. Jamur diaplikasikan pada semua instar larva dimulai dari larva instar 1, pre-molting larva instar 2, larva instar 2 aktif, post-molting larva instar 2, pre-molting larva instar 3, larva instar 3 aktif, dan pra-pupa yang dibandingkan dengan kontrol setiap masing-masing instar. Hasil penelitian menunjukkan bahwa jamur *M. anisopliae* menghambat pertumbuhan dan perkembangan *O. rhinoceros*. Jamur menyebabkan mortalitas tertinggi sebesar 86,6% pada larva instar 3 dan mortalitas terendah sebesar 26,6% pada larva instar 1. Jamur juga berpengaruh terhadap lama stadia larva, pada post-molting larva instar 2 yang diaplikasikan *M. anisopliae* lama stadia larva adalah 40 hari dibandingkan dengan kontrol 135 hari, pada pre-molting larva instar 3 lama stadia larva adalah 25 hari dibandingkan dengan kontrol 120 hari, pada larva instar 3 lama stadia larva hanya mencapai 15 hari dibandingkan dengan kontrol mencapai 110 hari dan pada stadia pra-pupa hanya bertahan selama 6 hari sedangkan pada kontrol mampu bertahan hingga 15 hari. Jamur juga berpengaruh terhadap tingkat keberhasilan larva menjadi pupa pada semua stadia larva *O. rhinoceros*, keberhasilan terendah pada pre-molting larva instar 3 yang diaplikasikan *M. anisopliae* yaitu 7% dibandingkan dengan kontrol yaitu 100% dan keberhasilan tertinggi pada larva instar 1 yaitu 47% dibandingkan dengan kontrol yaitu 93%. dan menyebabkan pupa cacat tertinggi pada larva instar 1 sebesar 88,66% dibandingkan dengan kontrol yang tidak mengalami pupa cacat.

Kata kunci : infeksi, menghambat, pertumbuhan, perkembangan

ABSTRACT

Metarhizium anisopliae Fungi Infection In The Larva Of *Oryctes rhinoceros* (Coleoptera: Scarabaeidae)

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Metarhizium anisopliae is one of the insect pathogenic fungi that is often used to control *Oryctes rhinoceros*. *M. anisopliae* has great potential as a biological agent to break the life cycle of *O. rhinoceros* larvae. The purpose of this study was to determine which instar stages of *O. rhinoceros* larvae were most susceptible to *M. anisopliae* infection and the negative effect of *M. anisopliae* in inhibiting the growth and development of *O. rhinoceros* larvae. The research method used T-test analysis with 7 treatments and 3 replications. The fungus was applied to all larval instars starting from 1st instar larvae, pre-molting 2nd instar larvae, active 2nd instar larvae, post-molting 2nd instar larvae, pre-molting 3rd instar larvae, active 3rd instar larvae, and pre-pupae compared with control each of each instar. The results showed that the fungus *M. anisopliae* inhibited the growth and development of *O. rhinoceros*. Fungi caused the highest mortality of 86.6% in 3rd instar larvae and the lowest mortality of 26.6% in 1st instar larvae. Fungi also affected the length of larval stadia, in post-molting 2nd instar larvae applied by *M. anisopliae*, the length of larval stage was 40 days compared to control 135 days, in pre-molting 3rd instar larvae the larval stage was 25 days compared to 120 days, in 3rd instar larvae the larval stage only reached 15 days compared to control it reached 110 days and in pre-pupae stage only lasted for 6 days while the control was able to survive up to 15 days. Fungi also affect the success rate of larvae into pupae at all larval stages of *O. rhinoceros*, the lowest success in pre-molting 3rd instar larvae applied to *M. anisopliae* is 7% compared to control, which is 100% and the highest success is in 1st instar larvae, which is 47%. compared to the control that is 93%. and caused the highest deformed pupae in 1st instar larvae of 88.66% compared to controls that did not experience deformed pupae

Keywords: infection, inhibition, growth, development