

**KARAKTERISTIK EKOLOGIS SERANGGA PENGGEREK BATANG
PADI
(LEPIDOPTERA : PYRALIDAE DAN NOCTUIDAE)
DI SAWAH ORGANIK DAN NON-ORGANIK**

INTISARI

Tujuan penelitian ini adalah mengkaji karakteristik ekologis serangga penggerek batang padi (PBP) di ekosistem sawah organik dan non-organik selama tiga kali musim tanam padi. Penelitian dilakukan selama 14 bulan (tiga kali musim tanam padi) di sawah organik dan non-organik Desa Bakalrejo, Kecamatan Susukan, Kabupaten Semarang. Pengambilan data dilakukan dua minggu sekali selama tiga musim tanam padi berturutan. Data kelompok telur dan ngengat PBP diambil dengan *plot sampling* secara diagonal dengan 3 ulangan. Data parasitoid, predator dan herbivor selain PBP diambil dengan jaring ayun (pengamatan siang hari) pada tiga area pematang sawah sepanjang 50m dan perangkap lampu (pengamatan malam hari) secara diagonal. Hasil penelitian menunjukkan bahwa karakteristik ekologis PBP tidak berbeda nyata antara sawah organik dengan sawah non-organik. Penggerek batang padi dominan adalah PBP kuning (*Schirpophaga incertulas*) yang berfluktuasi selama tiga kali musim tanam padi. Musuh alami berupa parasitoid telur dominan adalah *Tetrastichus schoenobii* dan *Telenomus rowani*, sedangkan serangga predator dominan adalah semut *Ponera* sp dan *Odontoponera* sp, anggota Formicidae dan *Paederus* sp, anggota Staphylinidae. Serangga herbivor lain dominan adalah *Oxya* (Orthoptera), *Psilopa* (Diptera), *Typula* (Diptera), *Orcealia* (Diptera), Empididae (Diptera), Sciaridae (Diptera), Chironomidae (Diptera), dan Chrysomelidae (Coleoptera). Parameter jumlah jenis, jumlah individu, indeks keragaman dan indeks pemerataan PBP, parasitoid, predator dan herbivor selain PBP pada sawah organik tidak berbeda nyata dengan sawah non-organik, kecuali parasitoid pada pengamatan siang yang berbeda nyata. Hubungan karakteristik ekologis dengan faktor lingkungan biotik dan abiotik berkorelasi sedang hingga kuat. Karakteristik ekologis PBP dipengaruhi faktor biotik dan abiotik lingkungan 23,7 hingga 58,0 persen, dan faktor biotik dan abiotik lingkungan ini tidak menunjukkan keteraturan pola dalam mempengaruhi fluktuasi PBP. Faktor biotik dan abiotik lingkungan secara bersama-sama mempengaruhi karakteristik ekologis PBP secara nyata, kecuali jumlah individu, keragaman di sawah non-organik malam dan pemerataan di sawah non-organik siang yang tidak berbeda nyata, namun secara individual masing-masing faktor bekerja sendiri dalam memberi pengaruh terhadap karakteristik ekologis PBP. Model regresi linier hubungan karakteristik ekologi PBP dengan faktor biotik dan abiotik lingkungan tidak dapat diterapkan secara general.

Kata kunci : karakteristik ekologi, penggerek batang padi (PBP), sawah organik.

**ECOLOGICAL CHARACTERISTICS OF RICE STEM BORER INSECTS
(LEPIDOPTERA: PYRALIDAE AND NOCTUIDAE)**

IN ORGANIC AND NON-ORGANIC RICE FIELD

ABSTRACT

The objective of this study are to assess the ecological characteristics of rice stem borer insect (RSB) and its natural enemies (parasitoid eggs, predator insects, other herbivore insects) in organic and non-organic rice paddy ecosystems over three times of rice planting season. The study was conducted over 14 months (three times of rice planting season) on the rice fields of organic and non-organic in Bakalrejo Village, District Susukan, Semarang regency. Data was collected every two weeks for three successive planting seasons. Data egg groups and moths of RSB taken from diagonally sampling plots with three replications. Data of parasitoids, predators and other herbivores aside of RSB taken using insect net (during the day observation) along 3x50m and using light traps (evening observation) diagonally. The results shows that the ecological characteristics of RSB are not significantly different between organic and non-organic rice field. Yellow RSB is the most fluctuated over three times of rice planting season, the dominant egg parasitoids are *T. schoenobii* and *T. rowani*, which also fluctuates over three times of rice planting season. The dominant predatory insects of RSB are *Ponera* sp, *Odontoponera* sp, Formicidae and *Paederus* sp, Staphylinidae which fluctuated over three times of rice planting season. The dominant herbivore insects other than RSB are *Oxya* (Orthoptera), *Psilopa* (Diptera), *Typula* (Diptera), *Orcealia* (Diptera), member of Empididae (Diptera), Sciaridae (Diptera), Chironomidae (Diptera), and Chrysomelidae (Coleoptera). The parameters of number of species, number of individuals, diversity index and evenness index, parasitoids, predators and herbivores other than PBP on organic rice field are not significantly different from non-organic rice field, except parasitoid for the day observation. The association of ecological characteristics between biotic and abiotic factors are correlated ranging from moderate to strong level. The ecological characteristics of RSB are influenced by biotic and abiotic environment which only ranging from 23.7 to 58.0 %. The biotic and abiotic environmental factors did not show regularity pattern in fluctuation in affecting the fluctuation of RSB. Both biotic and abiotic factors affect the ecological characteristics of RSB significantly, except the number of individuals, non-organic diversity during night observation and non-organic evenness were not significantly different, but individually each factor works independently in affecting the ecological characteristics of RSB. The linear regression model of relationship between ecological characteristics of RSB with biotic and abiotic environmental factors can not be applied in general.

Keywords: ecological characteristics, rice stem borer (RSB), organic rice field.