

Temporal and Spatial Dynamic of Yellow Stem Borer (YSB), *Scirpophaga incertulas*, and Possible Trophic Interaction in Agricultural Landscape

Damayanti Buchori, Akhmad Rizali, Bandung Sahari, and Adha Sari

This study examined the temporal and spatial dynamics of yellow stem borer (YSB), *Scirpophaga incertulas*, to obtain the basic ecological information important for control management. The ecological research component was conducted in paddy fields of Cikarawang subvillage, Situ Gede, Bogor, Indonesia. A YSB population consisting of adults, larvae, and egg mass, were monitored weekly in 1m x 1m permanent plot that were regularly spread with stratified method in paddy patch. Insect diversity and its natural enemies were also sampled and mapped to examine the dynamics of YSB occurrence, and understand the possible trophic interaction among them. The dynamics of YSB in temporal and spatial scales was then mapped using geographical information system (GIS) tools. Based on larvae maps, YSB adults were laying their egg masses randomly in the whole area, although some areas were found to have abundant YSB larvae. In conclusion, landscape appears to affect insect community structure and the occurrence of natural enemies, which together shape the occurrence, distribution and pattern of YSB population.

Keywords: YSB, natural enemies, insect diversity, GIS