ABSTRACT

Bionomics and Aedes spp. Population Control Model in Endemic area of Chikungunya Urban and Rural Areas of Malang Regency

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The aims of this research were to study the (1) bionomics of Aedes spp. (Ae. aegypti and Ae. albopictus) (larval density, breeding places, blood feeding habit, and influencing environmental factors; (2) competition between Ae. aegypti and Ae. albopictus; (3) development a model of population density control to both species of mosquitoes.

The study design used was a observational study. The sample is determined for any suspected cases of chikungunya, a population density of larvae studied at 200 houses representing urban and rural areas. Competition of Ae. aegypti and Ae. albopictus performed in the laboratory and the field. The habit of blood feeding habit mosquitoes were analyzed by ELISA.

The results showed that population density of Ae. aegypti and Ae. albopictus was high. Breeding places of the two species in urban areas were: generally same consisted: the bath plastic containers, bath of cement containers, water closed, and tin cans. The difference is, there are bromeliads and pot of flower in urban and bamboo stumps, jars, and the leaf axill in the rural area. Most of Ae. aegypti is endophilic while Ae. albopictus exophilic entirely. Blood feeding habit of both species mostly in urban areas Ae.aegypti is anthropophilic and Ae. albopictus are zoophilic while in rural areas there were a lot of animals Ae. aegypti was anthropophilic and Ae. albopictus zoophilic. Environmental parameters such as air temperature and relative humidity in urban and rural area fulfilled the optimum requirement to support the the life cycle and biological environment requirement to support the breeding places and resting places of mosquitoes. Competition between the two species show that survival rate and longevity of Ae. aegypti was higher than Ae. albopictus. Control models larval population is performed such as habitat elimination and implemented of PSN 3plus equipped with: (1) keep plants that have leaf axill (banana, taro, and pandanus); at least 100 meters from human dwelling; (2) levelling or filling in the top bamboo stumps to prevent accumulation of water; and (3) raising livestock vertebrate animals (cattle barrier) can reduce the percentage of Ae. aegypti and Ae. albopictus suck human blood.

Keywords : Bionomics, population control models of Aedes spp., chikungunya endemic area, Malang Regency.
Ilmu akan lebih bermanfaat bilamana dapat dimanfaatkan sebanyak-banyaknya oleh orang lain tanpa hambatan teknis dan psikologis.