

ABSTRACT

The research purposes were to determine species diversity, density of colony, species dominance, food source consisted of pollen source and nectar, form, place and product of the nest of *Trigona* spp. (Kelulut) included nutrition of honey, beebread and propolis. The bees were collected with an insect net by means of caught them from their nests. The research was conducted in Lempake Education Forest of Mulawarman University from September 2008 to August 2010.

The results showed that there were 9 species of bees Kelulut found, namely: *Trigona apicalis*, *T. drescheri*, *T. fuscibasis*, *T. fuscobalteata*, *T. insica*, *T. itama*, *T. laeviceps*, *T. melina* dan *T. terminata*.

Number of colonies were 1,347 with density of the colonies were 49,13/ha. The density of the colony in the third zones (conservation, collection and recreation zones) varied, but overall was dominated by *T. incisa* 343 colonies with a density of 11,43/ha followed by *T. terminata* 300 colonies with a density of 10.00/ha as well as *T. fuscibasis* 172 colonies with a density of 9.03 colonies/ha.

But overall the spread of bees Kelulut were relatively low according to the species, describing no domination ($H' = 0.16$). The climatic condition in the Education Forest Lempake was very wet (the air humidity 70-94%) with relatively high precipitation followed by constant air temperature (23-30°C) which supported the growth and development of colony of bees. This forest area had a large enough potential resources of biodiversity especially bees Kelulut (*Trigona* spp.). In addition, the availability of food source to be one of the factors supporting the development of bee Kelulut colonies.

The results of identification showed that there were 39 plant species of 13 families as source of pollen and 22 plant species of 17 families as source of nectar which included forest plants and crops. Product of Kelulut consisted of honey (15.43%), beebread (20.90%) and propolis (63.67%) which dominated the content of the nest. Results of the chemical analysis of the nest product after compared to the value of existing standards (Indonesian National Standard/SNI), it was obtained that the value levels of ash, protein and carbohydrates were relatively high. Thus, it can be stated, that products of the nest contained nutrients of Kelulut were better than products from other species of bees.

Keywords: *Trigona* spp. (Kelulut), morphology, food source, nest production, Lempake Education Forest