

## **Abundance of *Apis dorsata* (Hymenoptera: Apidae) in respond to general-flowering in Lambir Hills National Park Miri, Sarawak, Malaysia**

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The giant honey bee, *Apis dorsata*, which is known to be a very effective pollinator of many plants in tropical rainforests, inhabits lowland tropical rainforests in South East Asia, where a supraannual community-wide mass-flowering, so-called general flowering, occurs at intervals of 4 years on average. A lot of studies had been conducted with much attention to the roles of honey bee in promoting the general flowering in the area. The temporal trend of the giant honey bee was obtained by monthly light trapping and nest counts in a lowland dipterocarp forest in Sarawak. The trend demonstrated how the honey bee respond to general flowering; the numbers of *A. dorsata* workers collected by light traps drastically increased during general flowering periods, the number of bee nests increased in correspondence with the worker number, and, in contrast, the trapped workers and nests were very few during non-flowering periods. These data suggest that the *A. dorsata* population increases rapidly in response to general flowering. Drones of *A. dorsata* were present during the general flowering period but there is no evidence that reproduction by *A. dorsata* occurs only in general flowering periods. Recently, some pieces of indirect evidence have been obtained that the honey bees migrate from swamp forests on riversides to lowland forests in response to occurrence of general flowering in Sarawak. These suggest that the honey bee responds numerically to drastic increase of floral resources such as those at general flowering through their long distance migration. Considering a few studies showing evidence that the giant honey bee highly contributes to pollination of canopy trees in lowland forests there, the long distance migration by the honeybee corresponding to general flowering could be the proximate factors that promote and maintain the general flowering in tropical rainforests in South East Asia.