Keanekaragaman Klanceng (Hymenoptera: Meliponini) Di

Taman Nasional Baluran, Jawa Timur

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ABSTRAK

Klanceng (Hymenoptera: Meliponini) merupakan jenis lebah yang tidak memiliki sengat. Klanceng hidup berkoloni di dalam sarang dan berperan sebagai polinator di alam. Klanceng dapat menghasilkan produk campuran madu dan propolis. Studi keanekaragaman klanceng di Taman Nasional Baluran, Jawa Timur belum pernah dilakukan. Penelitian ini dilakukan bertujuan untuk mengeksplorasi keanekaragaman klanceng di Taman Nasional Baluran, Jawa Timur. Pengambilan sampel lebah klanceng telah dilakukan di sembilan lokasi yang mewakili keanekaragaman habitat taman nasional: hutan jati, hutan sekunder, *evergreen*, savana, *mangrove*, dan pemukiman. Klanceng ditangkap langsung dari bukaan sarang menggunakan jaring serangga. Struktur bukaan sarang klanceng diamati dan didokumentasikan. Identifikasi morfologi dan morfometrik klanceng telah dilakukan di Laboratorium Entomologi, Fakultas Biologi UGM. Hasil identifikasi spesies dikonfirmasi dengan analisis molekuler menggunakan gen *16S rRNA* dari DNA mitokondria (mtDNA) di Laboratorium TKHILP, Fakultas Peternakan UGM. Berdasarkan ciri morfologi dan morfometrik, molekular serta bukaan sarangnya, sampel klanceng yang diperoleh diidentifikasi sebagai spesies *Lepidotrigona terminata* dan *Tetragonula laeviceps*. Variabilitas data morfometrik dianalisis menggunakan *Principal Component Analysis* (PCA) dalam software PAST3, menunjukkan nilai eigen PC1 = 6,739 dengan persen varians 98,469. Keanekaragaman klanceng di Taman Nasional Baluran, Jawa Timur termasuk rendah. Indeks keanekaragaman dan kemerataan tertinggi pada hutan sekunder (H'=0.68, E= 0.98), selanjutnya savana dan *evergreen* (H'=0.64, E= 0.92). Dominansi tertinggi pada habitat hutan jati dan *mangrove* (D= 1). Kedua habitat tersebut didominansi oleh salah satu spesies klanceng yaitu *Tetragonula laeviceps*. Distribusi koloni klanceng menunjukkan *T. laeviceps* terdapat di semua lokasi pengambilan sampel dengan nilai FR= 100%, sementara *L. terminata* hanya terdistribusi 55%. *Tetragonula laeviceps* diasumsikan sebagai jenis klanceng yang lebih adaptif terhadap lingkungan karena keberadaannya terdistribusi di semua jenis habitat yang diteliti.

Kata Kunci: klanceng, keanekaragaman, Meliponini, Taman Nasional Baluran.

Diversity of Stingless Bees (Hymenoptera: Meliponini)

in Baluran National Park, East Java

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ABSTRACT

The stingless bee (Hymenoptera: Meliponini) is a type of bee that does not have a sting. The stingless bees live in colonies in nests, act as pollinators in nature, and produce a mixture of honey and propolis. The diversity of stingless bees in Baluran National Park, East Java has never been studied before. This study was conducted to explore the diversity of stingless bees in Baluran National Park, East Java. The sampling of the stingless bees was carried out in nine locations representing the diversity of the national park habitat: teak forest, secondary forest, evergreen, savanna, mangrove, and settlements. The stingless bees were caught directly from the nest entrance using insect nets. The structure of the nest entrance was observed and documented. The identification of the morphology and morphometrics of the stingless bees had been carried out at the Entomology Laboratory, Faculty of Biology, UGM. The species results were confirmed by molecular analysis using the *16S rRNA* gene from mitochondrial DNA (mtDNA) at the TKHILP Laboratory, Faculty of Animal Science, UGM. Based on the morphological and morphometric characteristics, molecular and nest entrance, the samples were identified as *Lepidotrigona terminata* and *Tetragonula laeviceps* species. Variability of morphometric data was analyzed using Principal Component Analysis (PCA) in PAST3 software, showing the eigenvalue PC1 = 6.739 with a percent variance of 98.469. The diversity of stingless bees in Baluran National Park, East Java was low. The highest diversity and evenness index was in the secondary forest (H'=0.68, E=0.98), followed by savanna and evergreen (H'=0.64, E=0.92). The highest dominance was in teak and mangrove forest habitats (D=1). Both of these habitats were dominated by one species of stingless bees, namely *Tetragonula laeviceps*. The distribution of stingless bee colonies showed that *T. laeviceps* was present in all sampling locations with FR = 100%, while *L. terminata* was only distributed 55%. *Tetragonula laeviceps* descended as a stingless bee species that was more adapted to the environment because it was distributed in all types of habitats studied.

Keywords: stingless bees, diversity, Meliponini, Baluran National Park.