KERAGAMAN POLEN DAN KANDUNGAN SENYAWA BIOAKTIF PROPOLIS LEBAH KLANCENG *Tetragonula laeviceps* Smith, 1857 DI WILAYAH SLEMAN DAN GUNUNGKIDUL, DAERAH ISTIMEWA YOGYAKARTA

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INTISARI

Berkembanganya banyak penyakit karena virus dan bakteri membuat peningkatan obat alternatif alami. Salah satu sumber obat alami adalah madu dan propolis lebah *T.laeviceps.* Khasiat, sifat fisik dan kimia madu dipengaruhi oleh jenis polen dan lingkungan sedangkan komposisi propolis dipengaruhi faktor geologis. Karena itu penelitian ini dilakukan untuk mempelajari keragaman jenis polen koleksi dan komposisi senyawa bioaktif propolis lebah *T. laeviceps* di wilayah Wonokerto, Turi, Sleman dan Kedungpoh, Nglipar Gunungkidul, Daerah Istimewa Yogyakarta. Identifikasi lebah dilakukan menggunakan *Digital Microscope Supereyes*. Preparasi polen dilakukan dengan metode asetolisis dan hasilnya diamati menggunakan mikroskop cahaya. Adapun senyawa bioaktif propolis diteliti dengan GC-MS (*Gas Chromatograph-Mass Spectrometry*). Hasil penelitian menunjukan terdapat perbedaan karagaman polen koleksi dan kandungan senyawa bioaktif pada propolis lebah *T.laeviceps* di kedua lokasi. Keragaman polen di wilayah Wonokerto, Turi, Sleman, Yogyakarta berjumlah 31 famili yang didominasi polen famili Arecaceae (46.60%), Asteraceae(6,90 %) dan Malvaceae (5,70 %) dengan senyawa bioaktif paling dominan *Lanosta-8,24-dien-3-one* (C30H48O) (37,39%) dari golongan terpenoid. Adapun keragaman polen di Kedungpoh, Nglipar, Gunungkidul, Daerah Istimewa Yogyakarta berjumlah 27 famili yang didominasi polen famili Arecaceae (26,00%), Araceae (12,80 %) dan Amaranthaceae (8,60%) dengan senyawa bioaktif paling dominan (Z)-3-(pentadec-8-en-1-yl)phenol (C21H34O) (23,32%) dari golongan fenolik.

Kata Kunci: Keragaman Polen,Propolis,*Tetragoluna laeviceps*,Senyawa Bioaktif.

POLLEN DIVERSITY AND PROPOLIS BIOACTIVE COMPOUNDS OF KLANCENG BEES *Tetragonula laeviceps,* Smith 1857 IN SLEMAN AND GUNUNGKIDUL, DAERAH ISTIMEWA YOGYAKARTA

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ABSTRACT

The development of many diseases due to viruses and bacteria makes for an increase in natural alternative medicine. One source of natural medicine is honey and propolis of *T.laeviceps* bee. Efficacy, physical and chemical properties of honey are influenced by the type of pollen and the environment while the composition of propolis is influenced by geological factors. Therefore this research was conducted to study the diversity of pollen types and the composition of propolis bioactive compounds of *T.laeviceps* bee in Wonokerto, Turi, Sleman and Kedungpoh, Nglipar Gunungkidul, Yogyakarta. Identification of bees was carried out using a *Digital Microscope Supereyes*. Pollen preparation was carried out by acetolysis method and the results were observed using a light microscope. The bioactive compounds of propolis were investigated by GC-MS (*Gas Chromatograph-Mass Spectrometry*). The results showed that there were differences in the diversity of pollen collections and the content of propolis bioactive compounds of *T.laeviceps* bee in both locations. The diversity of pollen in Wonoketo, Turi, Sleman, Yogyakarta was 31 families, dominated by Arecaceae (46.60%), Asteraceae (6.90%) and Malvaceae (5.70%), with the most dominant bioactive compounds is Lanosta-8,24-dien-3-one (C30H48O) (37.39%) from the terpenoid group. The diversity of pollen in Kedungpoh, Nglipar, Gunungkidul, Yogyakarta was 27 families dominated by Arecaceae (26.00%), Araceae (12.80%) and Amaranthaceae (8.60%) with the most dominant bioactive compounds (Z) -3-(pentadec-8-en-1-yl) phenol (C21H34O) (23.32%) from the phenolic group.

Keywords:Pollen Diversity,Propolis,*Tetragoluna laeviceps*,Bioactive Compounds