

INTISARI

Rayap merupakan salah satu komponen biologi terpenting dalam ekosistem tropis dan memiliki diversitas tinggi, terutama pada jenis *Subterranean termites* atau rayap tanah. Di dalam habitat berperan sebagai dekomposer material organik, nutrisi, perputaran karbon, dan berperan penting dalam menentukan komposisi tanah. Selain perannya yang bermanfaat didalam suatu ekosistem, koloni rayap menyebabkan kerugian pada produk yang berbahan dasar kayu. Sampai saat ini, belum ada penelitian di Daerah Istimewa Yogyakarta yang mendeskripsikan jenis dan kelimpahan rayap sehingga kerusakan pada berbagai produk berbahan kayu belum ditanggulangi secara baik. Kabupaten Sleman memiliki perbedaan gradien ketinggian mulai dari 100 mdpl - ≥ 2000 mdpl. Penelitian ini bertujuan untuk mengetahui diversitas, distribusi, dan populasi rayap pada ketinggian berbeda di Kabupaten Sleman. Pengambilan sampel menggunakan jebakan kayu pinus (*Pinus merkusii*) usia >10 tahun dan pengambilan langsung selama 30 menit, melakukan analisa kadar lengas, kadar karbon organik tanah pada setiap titik pengambilan. Preparasi dan identifikasi spesimen dilakukan di Laboratorium Entomologi UGM, analisa tanah dilakukan di BPPT dan BPTKLPP. Analisa data menggunakan indeks keanekaragaman Shannon – Winner dan Indeks pemerataan jenis (*evenness*). Hasil identifikasi didapatkan 5 jenis rayap perusak bangunan pada ketinggian yang berbeda. Keanekaragaman tertinggi terdapat pada kecamatan Depok dan Pakem serta indeks keanekaragaman terendah pada kecamatan Prambanan dan Ngaglik. Indeks Pemerataan tertinggi pada kecamatan Depok dan terendah pada kecamatan Ngaglik. Karena itu, ketinggian yang optimal untuk hidup rayap berkisar ≤ 500 mdpl dan ≥ 900 mdpl.

Kata kunci: Rayap, *Subterranean termites*, kerusakan bangunan, Keanekaragaman, Pemerataan,

ABSTRACT

Termites one of the most important biological component in tropical ecosystems. Termites have high diversity, especially on subterranean termites or soil termites. In the habitat, termites acts as a decomposition of organic materials, nutrients, carbon cycle, and plays an important role in determining the soil composition. In the ground, they make a tunnel-shaped holes used to pick up and distribute nutrients. In addition to the role within an ecosystem, the colonies of termites make a loss in various sectors especially in wood-based products both on construction and equipment. Therefore, the aims of this research to study the diversity of termite species, distribution at each altitude and how the population status at each research site is expected to know the type of termites, and provide the basis for termite pest control in Special Region of Yogyakarta, especially in Sleman Regency. Sleman have a highly gradient start from 100 mdpl- \geq 2000 mdpl. The trapping at 8 points in 1 district for each location using trapping with *Pinus markusii* age > 10 years for 1 month. Furthermore, each sample inserted on a flacon in which there is 80% alcohol and is labeled. At the time of placement of trapping, the researcher took samples on the area directly with 2 researchers for 30 minutes. Taking around the house also includes a dry tree, wetland residue and soil with a distance of 10 m x 2 m from the location of the house. The samples were analyzed using Shannon-wiener index to know the type of diversity, and using the evenness index to know the evenness of the species in each research location. Based on the identification, termites in 5 districts namely Prambanan, Depok, Ngaglik, Turi and Pakem district found 5 species building destroy. The highest diversity in Pakem and Depok and highest evenness index in Depok district, lower diversity and evenness index in Ngaglik and Prambanan. Highly optimum for termite life in <500 mdpl and \geq 900 mdpl.

Keyword: Termites, *subteraanean termites*, buildings destroy, diversity, eveness.