

## **AKASIA DAN KAYU PUTIH PETAK 5 HUTAN PENDIDIKAN WANAGAMA I GUNUNGKIDUL**

Oleh :

SIGIT SUPARMANTO<sup>1</sup>

DARYONO PREHATEN<sup>2</sup>

### **INTISARI**

Kualitas tanah dipengaruhi oleh beberapa faktor, salah satu faktor eksternal adalah makrofauna tanah. Makrofauna tanah mempunyai peranan yang sangat penting dalam kesuburan dan kualitas tanah sehingga mempengaruhi tegakan hutan, namun sebaliknya, tegakan hutan juga menjadi salah satu faktor kelimpahan makrofaunan tanah. Penelitian ini untuk mengetahui pengaruh kondisi lingkungan terhadap kelimpahan, keanekaragaman, dan pemerataan spesies makrofauna tanah di bawah tegakan akasia dan kayu putih.

Penelitian ini dilakukan di Hutan Pendidikan Wanagama, dari bulan oktober sampai november 2016 dengan menggunakan metode perangkap Barber "*pit fall trap*" dengan pengambilan sampel setiap minggu dan masa tunggu selama 24 jam yang dilakukan di dua tegakan, yaitu tegakan pertama didominasi akasia aurikuliformis dan tegakan kedua didominasi kayu putih. Dalam setiap tegakan dilakukan pengujian pada tiga PUP yang berbeda, dan di setiap PUP dilakukan pemasangan perangkap sebanyak 5 buah. Kondisi lingkungan yang dilakukan pengukuran suhu, kelembaban dan intensitas cahaya.

Hasil penelitian menunjukkan kondisi lingkungan berpengaruh signifikan terhadap kelimpahan makrofauna tanah, sedangkan untuk keanekaragaman dan pemerataan tidak berbeda. Kelimpahan makrofauna tanah tertinggi terdapat padat tegakan akasia. Kondisi lingkungan pada tegakan akasia memiliki temperature 30,9°C, kelembaban 72,6%, dan intensitas cahaya 5.027,2 lux, sedangkan tegakan kayu putih memiliki temperatur 32,6°C, kelembaban 67,1%, dan intensitas cahaya 13.973,3 lux. Kondisi lingkungan demikian, pada tegakan akasia diperoleh nilai  $S_I = 11$  spesies,  $DMg_I = 2,04$ ,  $H'_I = 1,78$  dan  $E_I = 0,74$ , sedangkan pada tegakan kayu putih diperoleh nilai  $S_{II} = 10$  spesies,  $DMg_{II} = 1,97$ ,  $H'_{II} = 1,82$ , dan  $E_{II} = 0,79$ . Jenis makrofauna yang ditemui bervariasi, seperti cacing, keong kecil, keong besar, laba-laba, ulat, semut, belalang, cocopet, cengkerik tanah, kumbang pengubur, dan *Thermonectus sp.*

Kata kunci : akasia, kayu putih, makrofauna, *pit fall trap*.

<sup>1</sup>Mahasiswa Program Studi Pengelolaan Hutan SV-UGM, NIM : 14/361784/SV/06048

<sup>2</sup>Dosen Pembimbing Tugas Akhir Program Studi Pengelolaan Hutan SV-UGM

## THE ABUNDANCE OF SOIL MACROFAUNA UNDER ACACIA AND EUCALYPTUS STANDS IN FOREST EDUCATION OF WANAGAMA 1 GUNUNGKIDUL

by :

SIGIT SUPARMANTO<sup>1</sup>

DARYONO PREHATEN<sup>2</sup>

### ABSTRACT

Soil quality is affected by several factors, one external factor is soil macrofauna. Soil macrofauna have a very important role in fertility and soil quality affecting forest stands, but on the contrary, the forest stand is also one factor makrofaunan abundance of land. This study was to determine the effect of environmental conditions on the abundance, diversity, and evenness of species macrofauna soil under stands of acacia and eucalyptus.

This research was conducted at the Forest Education of Wanagama I, since October to November 2016 by using traps Barber "pit fall trap" with sampling every week and a waiting period of 24 hours were carried out in two stands, which stands first dominated by acacia auriculiformis and stands second predominantly white wood. In each of the stand conducted testing on three different PSPs, and in every PUP do trapping as many as five plots. The environmental conditions were conducted measurements of temperature, humidity and light intensity.

The result shows the environment conditions were completely influencing the soil macro fauna abundance; in contrast both diversity and dispersion were not affected significantly. The highest abundance was on first stand. Environment conditions on first stand were 30.9°C in temperature, 72.6% in humidity, and 5,072.2 in light intensity, whereas the second stand were 32.6°C, 67.1%, and 13,973.3. Within those conditions, among first stand was resulting of  $S_I = 11$  species,  $DMg_I = 2.04$ ,  $H'_I = 1.78$  and  $E_I = 0.74$ , while the second stand were  $S_{II} = 10$  species,  $DMg_{II} = 1.97$ ,  $H'_{II} = 1.82$ , and  $E_{II} = 0.79$ . Nonetheless, the soil macro fauna occurred in various types, such as worm, midget snail, bigger snail, spider, caterpillar, ant, grasshopper, Forficula auricularia, Allonemobius fasciatus, Nicrophorus americanus, and Thermonectus sp.

Keywords: acacia, eucalyptus, macrofauna, pit fall trap.

<sup>1</sup>Student of Management Forest Study Program (DIII) SV-UGM, NIM : 14/361784/SV/06048

<sup>2</sup>Lecture of Management Forest Study Program (DIII) SV-UGM