

## ABSTRAK

Telah berhasil diisolasi senyawa AM-12-22-01 dan AM-12-60-01 dari fraksi etil asetat ekstrak metanol jamur *Aspergillus niger* simbiotik sarang ratu anai-anai *Macrotermes gilvus* Hagen. Pemisahan dan pemurnian senyawa dilakukan dengan metode kromatografi kolom dan rekristalisasi. Kedua senyawa ini diuji aktivitas antibiotikanya menggunakan metode dilusi dengan tiga kali pengulangan. Senyawa AM-12-22-01 (35 mg, rendemen 1,19 % dari fraksi etil asetat, jarak leleh 151-153 °C, kristal jarum berwarna putih) menunjukkan aktivitas terhadap *Pseudomonas aeruginosa* ATCC 27853 (*Minimum Inhibitory Concentration* / MIC 1.000 ppm) dan *Enterococcus faecalis* ATCC 29212 (MIC 125 ppm). Sementara itu, senyawa AM-12-60-01 (15 mg, rendemen 0,51 % dari fraksi etil asetat, jarak leleh 91-93 °C, kristal jarum berwarna putih) menunjukkan aktivitas terhadap *Pseudomonas aeruginosa* ATCC 27853 dan *Enterococcus faecalis* ATCC 29212 (MIC berturut-turut 500 dan 1.000 ppm). Kedua senyawa ini tidak menunjukkan aktivitas terhadap 10 bakteri uji dan 5 jamur uji pada konsentrasi  $\leq$  1.000 ppm. Dari data pemeriksaan kimia, kromatografi lapis tipis, spektroskopi ultraviolet dan inframerah dapat disimpulkan bahwa senyawa AM-12-22-01 dan AM-12-60-01 merupakan golongan fenolik.

Kata kunci : isolasi, *Aspergillus niger*, simbiotik, *Macrotermes gilvus* Hagen., antibiotika.



## ABSTRACT

The compounds AM-12-22-01 and AM-12-60-01 were successfully isolated from ethyl acetate fraction of methanolic extract of the fungus *Aspergillus niger* which was symbiosis with termite queen's nest *Macrotermes gilvus* Hagen. Separation and purification of these compounds were done by column chromatography and recrystallization method. These compounds were also examined for antibiotic activity by dilution method and was repeated three times. The compound AM-12-22-01 (35 mg, yield 1.19 % ethyl acetate fraction, melting point / mp. 151-153 °C, white needle crystals) showed the activity against *Pseudomonas aeruginosa* ATCC 27853 (Minimum Inhibitory Concentration / MIC 1,000 ppm) and *Enterococcus faecalis* ATCC 29212 (MIC 125 ppm). While, the compound AM-12-60-01 (15 mg, yield 0.51 % ethyl acetate fraction, mp. 91-93 °C, white needle crystals) also had activity against *Pseudomonas aeruginosa* ATCC 27853 and *Enterococcus faecalis* ATCC 29212 (MIC 500 and 1,000 ppm respectively). These compounds showed no activity against 12 bacteria and 5 fungi tested at  $\leq$  1,000 ppm. Based on the chemical analysis, thin layer chromatography, ultraviolet and infrared spectra data it is identified that AM-12-22-01 and AM-12-60-01 compounds was a phenolic.

Keywords : isolation, *Aspergillus niger*, symbiotic, *Macrotermes gilvus* Hagen., antibiotic.

