ABSTRACT

Species richness, diversity, similarity and shared species are basic measurements that are needed in quantifying abundances of animal in their natural habitat. Specifically, species richness, species diversity, species similarity and shared species of non-volant small mammal abundances in Gunung Gading National Park is reported here by comparing line transect and grid sampling which were conducted with ten sampling occasions within January 2012 to December 2012. A total of 19 species were captured in line transect and 14 species were captured from grid with 396 and 295 number of individuals respectively. Five families represented by four orders, which comprises of 691 individuals were observed in total. Shannon index for line transect was slightly higher than for grid sampling with value of 2.48 and 2.13, respectively. Diversity *t*-test also concludes that there is a significant difference between line transect and grid, thus, the null hypothesis is rejected. Program *EstimateS* Version 9.1.0 (Colwell, 2013) was used to evaluate ACE, Chao1 and Jack1 species richness with our data sets. For line transect arrangement, estimated about 20 to 23 species are to be expected while for grid sampling, an estimated 15 to 16 species of non-volant small mammals are to be expected. This means that both study designs have at least average of two unseen species during these ten sampling occasions. Morisita similarity index estimated that transect and grid were 92% similar in terms of species.

Keywords: Transect, Grid, Richness, Diversity, Similarity, Shared Species.

ABSTRAK

Kekayaaan spesies, kepelbagaian spesies, persamaan dan perkongsian spesies adalah antara agenda penting yang diperlukan dalam kajian penganggaran haiwan yang terdapat di habitat yang tertentu. Secara jelasnya, kekayaaan spesies, kepelbagaian spesies, persamaan dan perkongsian spesies mamalia kecil di Taman Negara Gunung Gading telah dibuat untuk membuktikan perbezaan kaedah persampelan melalui dua teknik yang berbeza iaitu garis transek dan grid. Kajian ini telah dikendalikan sepuluh kali persampelan berulang di Gunung Gading bermula di antara bulan Januari 2012 hingga ke Disember 2012. Sejumlah 19 spesies tertangkap di transek manakala 14 didapati di grid dengan jumlah 396 dan 295 individu untuk setiap satu teknik yang digunakan. Lima Famili dari empat Order haiwan dengan jumlah 691 mamalia kecil telah direkod. Indeks kepelbagaian bagi transek adalah tinggi berbanding dengan grid iaitu 2.48 kepada 2.13 menunjukkan transek lebih kaya dari segi bilangan spesiesnya. Ujian t-test terhadap indeks tersebut telah mndatangkan konklusi dimana ada perbezaan antara kaedah transek dan grid. Program EstimateS Versi 9.1.0 (Colwell, 2013) digunakan untuk mengira kekayaan spesies menggunakan penganggar ACE, Chao1 dan Jack1. Sekurang-kurangnya dua spesies haiwan dianggar belum dijumpai sepanjang tempoh kajian. Indeks Morisita menganggarkan 92% persamaan diantara teknik transek dan grid dalam persamaan spesies.

Kata Kunci: *Transek, Grid, Kekayaan, Kepelbagaian, Persamaan, Perkongsian.*