DISTRIBUSI SPASIAL DAN TEMPORAL BURUNG RANGKONG DI KAWASAN HUTAN DESA TAHAWA, KALIMANTAN TENGAH

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INTISARI

Bucerotidae berperan dalam meregenerasi hutan jangka panjang, dengan kemampuannya dalam menyebarkan biji pada area jelajah yang luas. Tipe ekosistem di kawasan hutan Desa Tahawa merupakan habitat bagi Bucerotidae. Pada kawasan hutan ini masih banyak ditemukan adanya aktivitas antropogenik berupa fragmentasi lahan skala besar, berpotensi menjadi gangguan terhadap kehadiran Bucerotidae. Penelitian ini bertujuan untuk mengetahui distribusi spasial dan temporal Bucerotidae, serta faktor habitat yang menjelaskan distribusi spasial Bucerotidae di Desa Tahawa, Kabupaten Pulang Pisau, Kalimantan Tengah.

Penelitian ini dilakukan dengan pendekatan bioakustik *Passive Acoustic Monitoring*. Metode ini menggunakan 21 *recorder* SwiftOne, dengan jarak antar alat 600 meter. Analisis data vokal dilakukan pada periode perekaman bulan Februari – Maret 2023, pukul 05.00 – 18.00. Hasil distribusi spasial tiap jenis disajikan menggunakan *software* QGIS dengan *plugin*s *heatmap*. Sedangkan distribusi temporal disajikan dalam bentuk grafik *Kernel Density Estimation*. Faktor habitat dianalisis menggunakan *Generalized Linear Model* untuk menjelaskan distribusi spasial Bucerotidae.

Hasil penelitian berhasil mendeteksi vokal dari empat spesies Bucerotidae antara lain *A. malayanus* (174 deteksi), *B. rhinoceros* (35 deteksi), *R. corrugatus* (56 deteksi), dan *A. galeritus* (6 deteksi). Keempat spesies ini memiliki nilai tumpang tindih (*overlap*) secara spasial dan temporal. Deteksi vokal *A. malayanus* diketahui paling mendominasi, memiliki nilai *overlap* secara spasial (47,62%) dan nilai *overlap* temporal (0,824) tertinggi dibandingkan spesies lain. Adanya hasil deteksi dan tumpang tindih ini diduga dipengaruhi oleh beberapa faktor yang mencakup kondisi habitat dan karakter tiap spesies Bucerotidae. Hasil GLM menunjukkan variabel elevasi berpengaruh signifikan terhadap *A. malayanus*, dan variabel rata-rata tinggi pohon terhadap *A. galeritus*. Perlu ada penelitian lanjutan terkait perilaku tiap jenis Bucerotidae yang ditinjau dari vokalisasinya.

Kata kunci: Bucerotidae, deteksi vokal, Desa Tahawa, tumpang tindih, distribusi spasial dan temporal

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SPATIAL AND TEMPORAL DISTRIBUTION OF HORNBILLS AT TAHAWA VILLAGE FOREST AREA, CENTRAL KALIMANTAN

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ABSTRACT

Bucerotidae have an important role in long-term regeneration, with their ability to spreads seeds over a wide range. The ecosystem type in the Tahawa Village forest area is a habitat for Bucerotdae. In this forest area, there are anthropogenic activities in the form of large-scale land fragmentation, which could potentially disrupt the presence of Bucerotidae. This research aims to determine the spatial and temporal distribution of Bucerotidae, as well as the habitat factors that could explain the spatial distribution of Bucerotidae at Tahawa Village, Pulang Pisau Regency, Central Kalimantan.

This research employed a bioacoustic approach called Passive Acoustic Monitoring (PAM). A total of 21 Swiftone recorders were utilized, with each placed at 600 meters intervals. Vocal data analysis was conducted during the recording period in February to March 2023, from 05:00 to 18.00. Spatial distribution was presented using QGIS software with heatmap plugins. Temporal distribution was represented using Kernel Density Estimation graphs. Habitat factors were analyzed using Generalized Linear Model to explain the spatial distribution of Bucerotidae.

This study detected vocalizations from four Bucerotidae species i.e. *A. malayanus* (174 detections), *B. rhinoceros* (35 detections), *R. corrugatus* (56 detections), and *A. galeritus* (6 detections). Among those species, temporal and spatial overlap was found. The vocal detection of *A.* malayanus was the most frequent, having the highest value of spatial overlap (47,62%) and temporal overlap (0,824) with other species. The detection results and overlap were believed to be influenced by several factors, including habitat conditions and the characteristics of each Bucerotidae species. The GLM results showed that elevation variable significantly affects *A. malayanus,* and the average tree height variable significantly affects *A.galeritus.* Future studies may also be investigated to determine Bucerotidae behaviour based on their vocalizations.

Keywords: Bucerotidae, vocal detection, Tahawa Village, overlap, spatial and temporal distribution

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