

**KARAKTER MORFOLOGIS DAN BIOAKUSTIK
ANGGOTA TETTIGONIIDAE (ORDO: ORTHOPTERA)
DI TAMAN NASIONAL GUNUNG MERAPI, YOGYAKARTA**

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ABSTRAK

Penelitian ini bertujuan untuk mengetahui karakter morfologis; bioakustik; aktivitas akustik serta korelasi morfologis organ stridulator dan bioakustik belalang Tettigoniidae TNGM. Pengambilan sampel dilakukan di hutan wisata Turgo-Tritis, Desa Purwobinangun, Kecamatan Pakem. Perekaman dan observasi aktivitas akustik dilakukan di Turgo. Karakter morfologis yang diobservasi meliputi karakter morfologi; morfometri dan meristik secara umum maupun karakter organ stridulator. Analisis suara menggunakan software Avisoft SASLab Lite; Praat dan Audacity. Korelasi antara morfologis organ stridulator dan parameter bioakustik dianalisis menggunakan *Pearson product-moment correlation* pada Minitab portable 17. Hasil penelitian menunjukkan enam spesies yang umum ditemui di hutan wisata Turgo-Tritis, yaitu *Mecopoda elongata*; *Paramorsimus acutelaminatus*; *Conocephalus adustus*; *Ducetia japonica*; *Phaneroptera brevis*; dan *Elimaea kraussi*. Karakter morfologis yang dapat digunakan untuk membedakan keenam anggota Tettigoniidae TNGM antara lain ukuran tubuh; genitalia serta *file* stridulator. Keenam anggota Tettigoniidae TNGM memiliki tipe suara nonresonansi dengan kisaran frekuensi yang luas dan *pulse* yang rapat. *M. elongata*; *P. acutelaminatus*; *D. japonica*; dan *E. kraussi* merupakan belalang yang aktif bersuara secara nokturnal, *C. adustus* aktif secara diurnal, sedangkan *P. brevis* aktif diurnal maupun nokturnal. Korelasi ditunjukkan pada hubungan luas *mirror* dan frekuensi fundamental *E. kraussi* dan *M. elongata* serta hubungan panjang *file* dan frekuensi fundamental *C. adustus*. Namun secara umum, korelasi antara morfologis organ stridulator dan bioakustik suara nonresonansi sulit untuk dideteksi.

Kata kunci: Tettigoniidae, karakter morfologis, karakter bioakustik, TNGM

**MORPHOLOGICAL AND BIOACOUSTIC CHARACTERS
OF TETTIGONIIDAE MEMBERS (ORDO: ORTHOPTERA)
IN NATIONAL PARK OF MERAPI MOUNTAIN, YOGYAKARTA**

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ABSTRACT

This study aimed to describe morphological characters; bioacoustic characters; acoustic activity and correlation between morphological characters of stridulator organ and bioacoustic of Tettigoniidae katydids in National Park of Merapi Mountain. Sampling was conducted in Turgo-Tritis ecotourist forest, Purwobinangun, Pakem. Sound recording and observation of acoustic activity was conducted in Turgo. Morphological characters which were observed include morphology; morphometric and meristic, general and stridulator organ characters. Sound was analyzed by Avisoft SASLab Lite; Praat and Audacity software. Correlation between morphological of stridulator organ and bioacoustic parameters were analyzed by Pearson product-moment correlation in Minitab portable 17. The result of this study showed that six species were found in Turgo-Tritis ecotourist forest were *Mecopoda elongata*; *Paramorsimus acutelaminatus*; *Conocephalus adustus*; *Ducetia japonica*; *Phaneroptera brevis*; and *Elimaea kraussi*. Morphological characters were used to diagnose six members of NRMM Tettigoniidae consisted of body size; genitalia and *file* stridulator. Six members of NPMM Tettigoniidae had nonresonant sound type with broad frequency and fused pulse. *M. elongata*; *P. acutelaminatus*; *D. japonica*; and *E. kraussi* were nocturnal katydids, *C. adustus* was diurnal katydid whereas *P. brevis* was nocturnal as well as diurnal. Significant correlation was showed between mirror size and fundamental frequency of *E. kraussi* and *M. elongata*; also between length of *file* and fundamental frequency of *C. adustus*. However, generally correlation between morphological of stridulator organ and bioacoustic of nonresonant sound was difficult to be detected.

Keywords: Tettigoniidae, morphological character, bioacoustic character, National Park or Merapi Mountain