

Article

Phenetic relationships among selected synanthropic beetles inferred from morphometric analysis

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Received 8 March 2024; Accepted 25 March 2024; Published online 30 March 2024; Published online 1 June 2024



Abstract

Changes in the size of insect morphology, notably in beetles (Insecta: Coleoptera), may come from disturbances happening in anthropogenic contexts. Beetles living in anthropogenic situations may evolve similar sizes in their physical characteristics, which can lead to systematic discrepancy. This study examined how synanthropic beetles' morphometric characteristics varied within and between species. The present investigation collected 149 individual beetles from 18 families, and 11 morphological parameters were measured. Adonis and Similarity Percentage (SIMPER) analyses were performed after an NMDS (non-metric multidimensional scaling) plot was created to evaluate the similarities between various groups. The length of the body, elytra, antennae, and pronotum width were the most distinctive characteristics among beetles, which all share similar shorter character attributes. This work provides insights into the morphometrics of synanthropic beetle species in Mindanao, Philippines. The findings not only corroborate prior studies but also emphasize how the environment may influence the size and adaptability of beetles.

Keywords anthropogenic; Coleopterans; disparity; morphometry; Philippines.

Proceedings of the International Academy of Ecology and Environmental Sciences

ISSN 2220-8860

URL: <http://www.iaees.org/publications/journals/piaees/online-version.asp>

RSS: <http://www.iaees.org/publications/journals/piaees/rss.xml>

E-mail: piaees@iaees.org

Editor-in-Chief: WenJun Zhang

Publisher: International Academy of Ecology and Environmental Sciences

1 Introduction

For characterizing a taxon, qualitative evaluations of biological structures are frequently used. However, this approach has several drawbacks, especially when evaluating characteristics that can be measured. Morphological qualities, such as body size, length, and shape, are quantifiable characteristics that majorly

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