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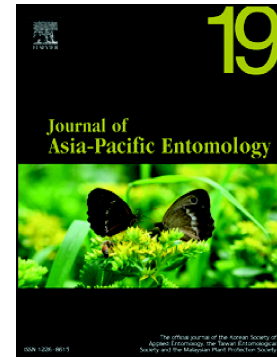
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Area effect of distribution of Silphids (Coleoptera, Silphidae) on Korean islands

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Abstract

We investigated the spatial patterns in the distribution of carrion beetles on 26 islands to test the area and distance effects on species diversity. The relationships between species richness and assemblage and island area, distance from the mainland, and shortest distance from the largest island within 2 km were analyzed using linear regression, Canonical Correspondence Analysis (CCA) and Multi-Response Permutation Procedures (MRPP). We hypothesized that both area and distance from the mainland played a significant role in species richness, while geographic location in the sea influenced aggregation of carrion beetles on islands. Area was the only factor influencing species richness of carrion beetles on islands. Moreover, distance from the mainland and close islands did not significantly influence to carrion beetles. In addition, geographic location in the same Sea did not influence beetle assemblages. Taken together, the results of this study indicated that carrion beetles on Korean islands were largely affected by island size and that dispersal was stochastic.

Key words. Carrion beetle; Silphidae; area; distance; dispersal; insular biogeography; Korea

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