

1-4. Faunal comparison among Is. Cheongsando and Other Islands of South Sea in Korea

Park, Seong-Joon and Byung-Jin Kim

Division of Biological Science, Wonkwang University

The information on the distribution of ants in Korea have been increasing with the progress of the taxonomic studies. But little has been studies the difference and/or similarity of ant faunas. This paper attempts to reveal the biogeographic characteristic of ant fauna of islands among the southern Korea, using quantitative analyses.

The data treated in this paper are those from Is. Cheongsando and 10 southern Korea islands which have been well investigated. The faunal similarity is examined using the Nomura-Simpson's Coefficient (NSC) which is defined by the following equation:

$$NSC = c / b, \quad a \geq b \quad (0 \leq NSC \leq 1).$$

Where a and b are the total number of species found in the 1st and 2nd areas respectively, and c is the number of species found in both areas. Futhermore, the obtained NSC values matrix is examined by a cluster analysis using UPGMA method.

The number and the distribution records of each species in the areas are 91 species of ants belonging to 34 genera of 4 subfamilies were recorded from 11 studied islands. Among the islands, Is. Jejudo. which has the largest size species number (67 spp.), while Is. Geogeumdo has the lowest species (21 spp.). Is. Cheongsando has 30 species.

The NSC-values between 11 localities of studies areas ranges from 0.522 (Is. Wando - Is. Sarayngdo) to 1.000 (Is. Namhae - Is. Geojedo). In the islands of southern Korea and Is. Cheongsando, the NSC-values range from 0.522

(Sarayngdo Is.) to 0.833 (Jejudo Is). A cluster analysis using a similarity index (NSC) showed that islands of this area can be divided into 3 groups at the level of 32%. It seemed that Is. Soando and Is. Geomundo were closer (Similarity = 63%) than those between others, Is. Soando and Is. Namhaedo were remote (Similarity = 32%) from each conspecific population. That is, the species composition of Is. Jindo (Similarity = 63%) was similar to that of the Is. Cheongsando, while that of Is. Namhaedo (Similarity = 32%) was different to that.

This research is one of comparison of the ant fauna of Korea peninsular with that of the surrounding islands.

Key words: Ant, Faunal comparison, Nomura-Simpson's Coefficient, Korea.