

SPATIAL AND TEMPORAL ANALYSIS FOR BIOLOGICAL DIVERSITY OF KINGDOM ANIMALIA AT THE IMGJ RIVER, BUSAN-CI PROVINCE IN KOREA

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ABSTRACT

Biodiversity or biological diversity is the sum of the species on Earth, including all their interactions and variations with their biotic and abiotic environment in space and in time. Spatial and temporal analyses were performed to study the spatial pattern of the temporal dynamics of the animal species for four stations at the Imgi River in Korea. The fauna community at the Imgi River on 2016 was identified with 69 taxa, representing five classes. Birds (Aves) exhibited the greatest species diversity with 19 taxa identified, followed by invertebrates (18 taxa); mammals with 10 taxa, reptiles/amphibians (Sauropsida/Amphibia) with 11 taxa, and fish represented by 11 taxa. Shannon-Weaver indices (H') of diversity for mammals was varied from 1.735 to 2.223. H' for birds was varied from 2.059 to 2.515. Reptiles/amphibians, fish, and invertebrates also varied among the stations and seasons. The values of β -diversity for animals were varied from 0.211 for reptiles/amphibians to 0.303 for birds. Middle region (C) was considerable high richness in birds and reptiles/amphibians. Upper region (D) was considerable high richness in mammals. Although evenness indices for five animal kingdoms were different from each other, there were not shown significant differences ($p < 0.05$).

Keywords: Animal kingdoms, biodiversity, Imgi River, richness indices, Shannon-Weaver indices.