

OP-08

## **Comparison of Aquatic Insect Biodiversity between Tropical Vietnamese Stream and Temperate Korean Stream**

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The purpose of this study is not only to provide basic data on biodiversity and conservation but also to test hypotheses on stream ecology through a comparative investigation on aquatic insect communities between a tropical Vietnamese stream (the Dak Pri Creek in southern Vietnam) and a temperate Korean stream (the Gapyeong Creek in South Korea). Field investigations were conducted at eight sites (order 2-5, two sites each order; 80-1000m in altitude) from each stream in March 2001 and April 2000. As results, a total of 268 species, most of which were undescribed, in 233 genera, 90 families, and 9 orders occurred in the Dak Pri Creek; and a total of 164 species in 103 genera, 54 families, and 8 orders occurred in the Gapyeong Creek. The species diversity index ( $H'$ ) was higher in the Dak Pri Creek (4.13-4.59) than that in the Gapyeong Creek (3.29-4.20) while dominance index (DI) was higher in the Gapyeong Creek (0.25-0.54) than that in the Dak Pri Creek (0.21-0.27). Functional feeding groups (FFG) in both of the streams represented that shredders were predominant in the lower-order sites, scrapers in the mid-order sites, and collectors in the higher-order sites in accord with food resources. As a consequence, a peak in biodiversity occurred in the mid stream sections (V4, K4) with diversity indices 4.59 and 4.30, respectively. Such environmental factors as water temperature, substrate, and food resources played major roles on determining the aquatic insect biodiversity in the streams. In general, the river continuum concept (RCC) was well fit to those two streams. However, the tropical Vietnamese stream contained more aquatic insect species (mean  $H'$  4.37) than the temperate Korean stream did (mean  $H'$  3.73). In addition, Plecoptera, Trichoptera, and Megaloptera were more diverse in the temperate Korean stream while Coleoptera, Ephemeroptera, Diptera, Odonata, Hemiptera, and Lepidoptera were more diverse in the tropical Vietnamese stream.

**Key words** : aquatic insects, community, biodiversity, tropical stream, temperate stream, Vietnam, Korea