

B415 Predation Effect of Juvenile Fish on Zooplankton Community in the Nakdong River

*Kwang-Hyeon Chang¹, Soon-Jin Hwang², Sang-Ho Choi¹, Min-Ho Jang¹, and Gea-Jae Joo¹

¹ Department of Biology, Pusan National University

² Department of Agricultural Engineering, Konkuk University

Predation effect of juvenile fish, including *Hemiramphus sajori*, *Rhinogobius brunneus*, *Acanthorhodeus macropterus*, *Opsariichthys bidens*, and *Micropterus salmoides*, was evaluated by laboratory experiment and stomach and gut analysis in the Nakdong River. It was found at Mulgum that juvenile fish mainly consumed *Moina* sp., *Brachionus* spp., and *Asplanchna* spp. *Micropterus salmoides* consumed other juvenile fish as well as cladoceran and copepod zooplankton. In the laboratory experiment, juvenile fish (size: 1.5 - 2cm) showed the highest individual preference values on *Moina* sp., based on the Manly-Chesson index (*Hemiramphus sajori*: 0.89, *Rhinogobius brunneus*: 0.88, *Opsariichthys bidens*: 0.89). During the developmental period of juvenile fish, cladoceran density dropped from 11,000 ind./m³ to 1,000 ind./m³, while rotiferan density increased, suggesting their selective feeding on large zooplankton in the Nakdong River.

B416 **Fish Fauna of Chiri National Park**

*Min-ho Jang¹, Hyunwoo Kim¹, Ho-bok Song², Hwa-kun Byeon², and Geajae Joo¹

¹Dept. of Biology, Pusan National University, Pusan, 609-735,

²Dept. of Biology, Kangweon National University, Chunchon, 200-701, Korea

Mt. Chiri (total area: 440.45 km², height: 1915 m) is located in southern area of the Sobaek mountains (Lat. 36° - 37° N and Long. 127° - 128° E) in southern part of Korea and streams within the national park drain into the two river systems (Nakdong and Sumjin River). We investigated fish fauna of mountain streams at 33 sites in Chiri National Park area from March to Sept., 1997 and 1999 (three visits to 33 sites). Total 3023 individuals of fishes were collected, which could be classified into 30 species and 12 families. Among the total species, 13 species belong to endemic species (7 families, 17.3% of 3023 individuals). In this study, *Zacco temmincki* (Relative Abundance: RA 61%) were confirmed to be the most abundant inhabitant. Subdominant species were *Zacco platypus* (RA 7%), *Hypomesus olidus* (RA 6%), *Pungtungia herzi* (RA 5%), and *Coreoleuisiscus splendidus* (RA 5%). Dominant Korean endemic species were *C. splendidus* (RA 29% of Korean endemic species) and subdominant species were *Coreoperca herzi* (RA 22%), and *Liobagrus mediadiposalis* (RA 19%). In this study, *L. mediadiposalis* was collected at first (11 sites, 52%), second (5 sites, 24%), and third order streams (5 sites, 24%). *Moroco oxycephalus* of *Moroco* sp., the dominant species of South Korean headwater streams, were collected from only 3 sites (13 ind.). Constancy value of *Z. temmincki* was 97%. In the 1st order stream, constancy values of *L. mediadiposalis*, *C. herzi*, *S. microdorsalis*, and *C. splendidus* were over 50%. These species are Korean endemic species and are distributed over the headwater stream. A positive relationship is drawn between stream order and number of species ($r=0.995$ N=30). *Moroco* species were generally distributed among headwater streams of the Korea peninsula but were rarely observed in this study. *Z. temmincki* were dominant in this stream order (1st~3rd). *Z. platypus* increases as the stream order increases.