

**B101** Call Pattern and Acoustic Behaviour of *Rana plancyi*(Anura, Ranidae)  
in Korea

Byung Keun Lee, Shi Ryong Park, and Suh Yung Yang\*

Department of Biology Education, Korea National University of Education.

\*Department of Biology, Inha University.

This study of the *Rana plancyi*, was done during the calling period at a pond in Osong, Chungbuk, Korea from may to the middle of august of 1996 and 1997. Five basic types of calls - A, B, C, D, E - were given to *Rana plancyi* according to the structure of call types. The structure of A type call has only one pulse, B type call has two pulses and C, D type call has one seperated pulse which is called introductory call and pulse group as follow it. On the other hand, E type call has 3 ~ 6 seperated pulses. The interval between introductory call and pulse group is  $0.69 \pm 0.24$  sec. (N=159) in C type call and  $0.60 \pm 0.21$  sec. (N=48) in D type call. The number of pulses in the pulse group is  $28.92 \pm 7.10$  in C type call and  $15.78 \pm 2.31$  in D type call. An increase in water temperature induces a decrease in C and D type call duration(C type call ;  $r = -0.4153$ ,  $p < .001$ , D type call ;  $r = -0.7064$ ,  $p < .001$ ). In case of C , D type call, the interval between introductory call and pulse group much more influenced call duration than pulse group duration. We regarded A, B type call as a territorial call and C, D type call as a mating call and we estimated that E type call has the function of threat or alarm.

**B102** Mating call structure and Variation of *Rana nigromaculata*

Department of Biology Education, Korea National University of Education.

\*Department of Biology, Inha university

Shi-Ryong Park and Suh-Yung Yang\*

The structure and variation of the mating call in *Rana nigromaculata* was studied in a population at Darakri, Ceongwon, Chungbuk in Korea. The mating call consists of 3 to 8 pulse groups divided by clear silent intervals. Each pulse group is also composed of fine pulses. Temperature and body size affect the temporal and spectral characteristics of the mating call. Pulse, pulse group repetition rate and dominant frequency rise with increasing temperature, whereas pulse group repetition rate and dominant frequency decrease with increasing body size. A playback experiment was designed to establish the effect of potential intruder on male calling. During the stimulus periods, resident males markedly decreased the pulse repetition rate, and increase the rate of pulse groups, dominant frequency, and the number of call group. This result indicates that this species responds in a graded fashion when interacting with other individuals.