B202

Morphlogical Analysis on the *Kaloparax pictus* of Korean Populations

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Morphological characteristics of *Kaloparax pictus* Nakai were studied to examine population differentiation of this species. Based on a phenogram using 23 morphological characteristics, differentiation of regions were distinct. Collections of 132 specimens from ten populations served as operational taxonomic unit (OTU's) were examined for phenotypic similarity and morphological variation using clustering (Ward's minimum variance method) and principal component analysis (PCA). The first three principal components were responsible for 77.0% of the variance. Principal component 1 explained 52% of the total variance and was contributed to by the number of palmately parted, the number of pinnately lobed, and width between two lateral lobe apex.

B301

Changes of Bacterial Community Structure in Nak-Dong River Using FISH Method

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For conducting the comparative analysis of the eubacterial community structure at 8 sampling sites throughout the Nak-Dong River, FISH(fluorescence *in situ*hybridization) method was employed. The total ratio of each determined eubacterial group such as 綱綴-subclasses proteobacteria and *Cytophaga-Flavobacterium*(CF) group to total counts stained by DAPI at each site varied 9.3~42.5% with the highest value at uppermost part. And each ratio of determined eubacterial groupsreached mostly under 10% except those of CF group(23%) at uppermost part. Furthermore, compared to lower part, upper part represented higher proportions of -subclass proteobacteria comprised almost fast growing bacteria on degradable organics. Overall, it implies that the upper part of Nak-Dong River represented comparatively better degradabilities of organic materials than their lower part except at one site in upper part passed An-Dong City. Based on detectability of FISH resulted from their cellular activity, it could be said that the lower part of Nak-Dong River, especially after merging the Gum-Ho River might be a ecosystem of which physico-chemical environment may have inhibited the activities of bacteria functioned as decomposer of organic matter.

B302

The Effects of the Molting-hormone Mimetid Insecticide on Chironomids Larvae

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The effects of the molting hormone agonistic insecticide tebufenozide on fourth larvae of the midge *Chironomus flaviplumus* and *C. riparius* were tested growth development from fourth-instar to adult. Fourth-instar larvae were exposed test concentrations were chosen control, 10㎍/L, 30㎍/L, 60㎍/L and 100㎍/L in static contamination. In both species mortality was not immediate and the effect exclusively linked to the processes of pupation and emergence. Pupal mortality in *C. flaviplumus* was higher than *C. riparius*. If the exposure concentration was high, the death periods wrer short. The periods of median death times of larvae were decreased along the concentration. Due to the molting hormone disruption, development of midge was postponed relatively low concentration such as 10㎍/L.

B303

춘계에 안계댐, 영천댐 및 안동댐의 식물플랑크톤 군집 변동의 비교

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본 연구는 영남 지역에 위치한 안계댐, 영천댐 및 안동댐의 식물플랑크톤 군집의 변동을 비교하기 위해 2003년 4월, 5월 그리고 6월에 채집 조사하였다. 환경요인중 온도는 안계댐이 17.9~24.4℃, 영천댐은 17.3~23.3℃, 안동댐은 15.6~25℃였고, pH는 안계댐이 7.53~9.48, 영천댐이 7.53~8.44, 안동댐이 8.5~9.43이었다. EC는 안계댐이 93~119.8S/cm, 영천댐이 106.8~114.6S/cm, 안동댐이 164.1~178.1S/cm로 안동댐이 약간 높았다. DO는 안계댐이 10.85~13.21mg/l, 영천댐이 6.38~13.2mg/l, 안동댐이 10.13~10.49mg/l였다. Chlorophyll-*a*는 안계댐이 4.37~17.1g/l, 영천댐이 7.75~19g/l, 안동댐이 4.39~5.86g/l였고, 조사댐 모두 5월에 수치가 낮았다. 각 댐의 식물플랑크톤 출현 종 수에서 안계댐은 54분류군이, 영천댐이 66분류군, 안동댐이 66분류군이 출현하였으며, 현존량 변화에서 안계댐은 6200~211200 indl./ml, 영천댐은 3700~202100 indl./ml, 안동댐은 30300~18700 indl./ml으로 안동댐의 현존량이 가장 낮았다. 그리고 3개댐 모두 규조강의 현존량이 높게 나타났으며, 6월에 안계댐과 영천에서 남조량의 현존량이 급격히 증가하였다. 우점종의 변화에서는 안계댐과 영천댐은 규조강의 *Asteronella formosa*와 *Synedra acus*가 우점종으로 출현하였고, 안동댐은 4월에 규조강인 *Synedra acus*, 5월은 녹조강의 *Glaucocystis cingulata*, 6월은 규조강의 *Fragilaria* cf *nanana*가 우점종으로 출현하였다.