

(1.4%). Furthermore dominant species was *Tetraspora gelatinosa* (53.4%) and subdominant species were *Microcystis incerta* (13.4%), *Stephanodiscus hatschii* (8.1%), *Synedra acus* (1.9%), *Nitzschia palea* (1.8%) and *Cyclotella comta* (1.5%). Species diversity was highest at Nakdong River (147 species) and Chlorophyll *a* was Youngsan River (mean 35.1 \pm SD 43.2). Nutrients reveal (TN, 0.11 ~ 17.3 mg/l; TP, 39.5~702.7 mg/l), temperature (1.2~32.6°C) and water retention time (3~1,207 CMS) during the study period seems to be important factors for the phytoplankton community composition and biomass.

B501

**Effects of Insecticide on
Decomposition of Mushroom, *Russula
bella***

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Mass loss and nutrient dynamics were analyzed during the decomposition of mushroom, *Russula bella*, for 13 days from July 25 to August 6, 2000 on the oak forest in Kongju, Korea. We used litter bag method. Half of the litter bags were treated with the insecticide (treatment) to eliminate microarthropods. After 13 days, remaining mass of the control and the treatment was 4.9% and 29.8%, respectively. The rate of weight loss of the control was significantly higher than that of the treatment after 3 days. Initial concentration of N, P, K, Ca and Mg of the *R. bella* was 28.1 mg/g, 0.82 mg/g, 14.5 mg/g, 0.53 mg/g, 0.33 mg/g, respectively. Remaining N and P of the control and the treatment was 5.5 and 41.7% for nitrogen, 3.8 and 34.9%, respectively. Remaining K, Ca and Mg of the control and the treatment was

0.8 and 7.2% for K, 77.1 and 306.8% for Ca, 7.4 and 51.8% for Mg, respectively. Potassium contents in *Russula bella* was much greater than those of Ca and Mg. Except for Ca, there was no immobilization period in all nutrients during decomposition. Lower mass loss rate in treatment indicate that microarthropods play a significant role in mushroom decomposition in temperate oak forest.

B502

**Mass Loss and Changes of Nutrient
during Decomposition of *Zizania
latifolia***

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Mass loss and changes of mineral nutrient during the decomposition of macrohydrophytes, *Zizania latifolia*, were investigated for one year from November in 1998 to November in 1999 in Boryeong, Korea. Plant materials which are collected on September 1998, are divided into leaves, stems and rhizomes, and used for litter bag preparation. After 13 months, remaining mass of leaves, stems and rhizomes was 16.9%, 14.7%, 10.1%, respectively. The rate of weight loss of the rhizomes was significantly higher than those of the leaves and stems. Initial concentration of nitrogen, phosphorus, potassium, calcium and magnesium of leaves, stems and rhizomes was 18.0, 14.5, 44.0 mg/g for N, 0.18, 0.12, 0.67 mg/g for P, 14.1, 14.2, 14.8 mg/g for K, 3.60, 1.47, 0.30 mg/g for Ca and 1.07, 0.48, 0.53 mg/g for Mg, respectively. In general, concentrations of nutrients were higher in rhizomes than in leaves and culms. Except for Mg in rhizomes, there was no immobilization period during the decomposition.