

Detailed Ecological character description

Vegetation

Apart from the plant communities mentioned in section 12, other plants include: *Scirpus triangulates* community, *Triadenum japonicum*, *Juncus papillosus*, *Deinostema violacea*, Sneezewort (*Centipeda minima*), Claspingleaved Dogbane (*Apocynum sibiricum*), and Swamp Millet (*Isachne globosa*).

73 Families, 138 Genera, and 166 Species, were observed in the Dongbaekdongsan. The total number of hydrotophytes (hydrophyte) (HH) consisted of 30 taxa and accounted for 18.1%, giving them the highest percentage. Hydrotophytes are followed by the therophytes (Th), and geophyte (G) etc. The megahydrotophytes include Watershield (*Brasenia schreberi*) J. F. Gmel, *Isoetes sinensis* T. C. Palmer, etc which consists of 36 taxa. The emerged plants consist of 20 taxa, the floating leaved plants consists of 3 taxa, and the submerged plants consist of 1 taxon.

Phytoplankton

A total of 101 taxa were identified. Among these taxa, the most significant algal group is Chlorophyceae (63 taxa), followed by Euglenophyceae (16 taxa), Bacillariophyceae (9 taxa), Cyanophyceae (8 taxa), Dinophyceae (3 taxa) and Synurophyceae (2 taxa). The number of species varies from 29 taxa (the min. number) in April to 83 taxa (the maximum number) in July. The phytoplankton community was characterized by a higher percentage (62.1 - 62.7%), particularly, an abundant number of Chlorophyceae (especially desmids) were collected.

The standing crops were observed as 34 cells/ml, 3,387 cells/ml and 2,112 cells/ml in April, June and July, respectively. The phytoplankton communities were characterized by Euglenophyta of a large biomass and an abundant species composition of Chlorophyta during the summer.

Zooplanktons

In a survey of zooplankton in a small pond at Dongbaekdongsan, 3 species of rotifers, 11 species of cladocerans (water fleas), and 4 species of copepods were identified. The water flea *Daphnia pulex*, and the copepod, *Acanthodiaptomus pacificus*, were found to be the dominant zooplankton. Surprisingly, unlike other areas in Korea, *Daphnia pulex* is active during winter too.

Macroinvertebrates

21 species in 23 genus, 14 families, 9 orders, 4 classes, and 3 phyla were identified. Ephemeroptera (EPT) richness is low, BMWP1 was between 14 and 34, species diversity index was from 0.2249 to 1.7389, and the dominant index was in the range of 0.85-0.99. Tubificidae and Chironomidae are dominant in Dongbaekdongsan.

Amphibians and Reptiles

The total number of amphibians observed: 2 orders, 5 families, and 5 species and the total number of reptiles: 1 order, 4 families, and 8 species. For amphibians, *Hynobius quepartensis* is dominant, followed by *Rana dybowskii*, *Pelophylax nigromaculatus* (formerly *Rana nigromaculata*), Japanese Tree Frog (*Hyla japonica*) and *Kaloula borealis*. Reptiles observed, Tiger Keelback (*Rhabdophis tigrinus tigrinus*) is dominant, followed by *Agkistrodon ussuriensis*, Mountain Grass Lizard (*Takydromus wolteri*), Japanese Keelback (*Amphiesma vibakari ruthveni*), *Elaphe dione*, Tsushima Ground Skink (*Scincella vandenburghi*), *Sibynophis chinensis* and *Zamenis spinalis*.

The species richness, general diversity and evenness of amphibians were 0.727, 1.447 and 0.899, whereas for reptiles, the numbers were 1.438, 1.700, and 0.818. Nationally endangered species

observed include *Sibynophis chinensis* and *Kaloula borealis*. These species are protected through conservation and management.

Birds and Mammals

A total of 48 bird species and 3 mammal species are observed. For more information see section 22.