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An Ecological Study on the Variation of Vegetation and Flora in Mt. Deogyu

In-Teak Kim, Se-kyu Song and Jong-su Lee

Department of Biology, Changwon University, Changwon city, 641-773, Korea.

The vegetation of Mt. Deogyu was investigated using the methodology of the Z-M school of phytosociology, from May, 2004 to September, 2008. The vascular plants of Mt. Deogyu consists of 43 orders, 99 families, 313 genera, 481 species, 2 subspecies, 65 varieties, 6 formas in 2004 and 45 orders, 103 families, 374 genera, 596 species, 2 subspecies, 80 varieties, 11 formas in 2008. Endemic plants of Mt. Deogyu was 27 species in 2004, 42 species in 2008 and naturalized plants was 31 species in 2004, 39 species in 2008. The life form spectrum based on the Raunkiaerian system was 22.53% of Hemicryptophytes, 21.51% of Geophyte, 14.83% of Therophytes, 12.50% of Megaphanerophytes, 11.77% of Nanophanerophytes, 8.43% of Microphanerophytes, 4.07% of Hydatophytes, 3.78% of Chamaephytes, 0.58% of Epiphyten. The vegetation was classified into 7 communities (*Quercus mongolica* community, *Quercus serrata* community, *Fraxinus mandshurica* community, *Carpinus tschonoskii* community, *Taxus cuspidata* community, *Abies koreana* community, *Pinus densiflora* community) in 2004 and 15 communities in 2008. Mt. Deogyu is plenty worth preserving, from *Abies koreana-Taxus cuspidata* community and *Paeonia obovata* was founded in this study.

Key words: Mt. Deogyu, Variation, Vegetation, Flora

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Phytosociological Analysis of Distribution and Association Structure on the Sawtooth Oak (*Quercus acutissima*) Forest in Korea

In-Taek Kim, Min-Sub Song and Sung-Hun Jung

Department of Biology, Changwon National University, Changwon city, 641-773, Korea.

This study has targeted *Quercus acutissima* forest in Korea and has classified the association of *Quercus acutissima* forest by using the phytosociological method. As a result of the factor analysis of DECORANA, Quercetum serrato-acutissimae forms in basal zone of mountain, and Quercetum mongolico-acutissimae is formed in highland where is relatively high mountain area, and Carpino-Quercetum acutissimae is mainly distributed in valley. However, each association structure is often mixed up, so it is not obvious. This result is caused by inhomogeneousness of *Quercus acutissima* forest and the most of it is distrubuted in basal zone or around farmland where has severe disturbance factors. The proposed potential natural vegetation of *Quercus acutissima* forest in Korea is as follows;

A: Quercetum serrato-acutissimae → *Quercus aliena-Quercus serrata* community → *Quercus serrata* community

B: Quercetum mongolico-acutissimae → *Quercus aliena-Quercus mongolica* community → *Quercus mongolica* community

C: Carpino-Quercetum acutissimae → *Quercus aliena-Carpinus laxiflora* community → *Carpinus laxiflora* community

Key words: DECORANA, Sawtooth Oak, Phytosociological, Distribution