A Comparative Study on the Structural Characteristics of the Forest Vegetation at the Southern and Northern Slopes of the Eastern Ridge in Mt. Cheonma, Central Korea

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ABSTRACT

The plant communities of the eastern ridge in Mt. Cheonma, Central Korea, Quercus mongolica, Q. mongolica—Acer pseudo-sieboldianum, and Q. mongolica—Rhododendron schlippersbachii communities in the northern slope and Q. variabilis and Q. acutissima communities in the southern slope were detected by Zurich–Montpellier method.

The undergrowth of Q. mongolica community in the northern slope was dominated by Ainsliaea acerifolia, Carex siderosticta, Astilbe chinensis var. davidii, Heloniopsis orientalis, Pseudostellaria palbiniana, ranging 3·3 to 2·2 in dominance–sociability, while the those of Q. variabilis and Q. acutissima in the southern slope were dominated by Spodiopogon cotylifer, Artemisia keiskeana, Carex humilis, Atractyloides japonica, Lysimachia clethroides and Disporum smilacinum with similar degree in dominance–sociability to that of Q. mongolica community.

The two communities were considered as regenerating forest after severe disturbance judging by their age structure. The relationship between Shannon’s diversity index (H') and Simpson’s dominance index (λ) was in reciprocal proportion in both two communities. The Q. mongolica and Q. variabilis communities were showed 13 and 12 m respectively.

Seasonal changes of undergrowth coverage in the two communities were seemed to be affected especially with soil moisture content among other environmental factors such as temperature, light intensity, relative humidity and organic matter.

論

最近 10數年 사이에 韓國의 森林植生型의 氣候傾度에 따른 分布와 種組成的 構造가 많이

박혀져 왔으나 韓半島에 널리 分布해 있는 신갈 나무群集이나 이와 類似한 分布域을 가진 다
본 식물群集들의 분포 형태와 그 특성에地形要因이 어떻게 影響을 미치고 있는지를 아직 밝혀지지 않았다. 地形은 複合環境로서生態學에서 오래도록 물기 어려운 問題로 남아 있었다.

京畿道 南楊州郡에 位置한 天摩山에는 東쪽으로 約 1 km가량 길게 뻗은 咸線(標高 480.1 m)이 있는데 東・南・北斜面이 다른 地面로부터 影響을 받지 않는 地形을 이루고 있어 斜面의 植生의 特徵을 두텁게 나타내고 있다. 而且 地形이 植生에 미치는 影響을 물기에 좋은 村所이다.

調査地의 概況

天摩山은 太白山脈으로부터 分岐된 廣州山脈의 中部에 位置하여 東西南北으로 나누어진 4개의 穂線으로 構成되어 있다. 地質은 신갈무라기의 岩類에 속하며 花崗片岩에서 自來한 墳壿土를 形成하고 있다(韓國動力資源研究所, 1981).

Fig. 1. Topography of the southern and northern slopes of the eastern ridge in Mt. Cheonma and sample sites.