

# Vegetation Analysis of the Broad-leaved Forest of Mt. Wulai, Northern Taiwan

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## ABSTRACT

The vegetation analysis of natural broad-leaved forest of Mt. Wulai, northern Taiwan, was carried out using the point-centered quarter method. A total of 58 tree species were encountered. The dominant species were *Persea thunbergii*, *Myrsine sequinii*, *Schefflera octophylla*, *Limlia uraiana*, *Meliosma squamulata*, *Elaeocarpus japonicus*, *Cyclobalanopsis glauca*, *Ardisia sieboldii*, *Engelhardtia roxburghiana*, *Syzygium buxifolium*, *Diospyros morrisiana*. None of them was overwhelmingly dominant.

Two vegetation types were recognized according to the dominance types. The first one was *Myrsine sequinii*-*Cyclobalanopsis glauca* type appearing on the mountain top and ridges; the second one was *Schefflera octophylla*-*Persea thunbergii*-*Ardisia sieboldii* type appearing on the slope below the mountain ridge. The results obtained from gradient analysis suggested that topograph was the most important environmental factor.

The population structure of eight major component species was analyzed based on the size-classes distribution to evaluate the successional status. Most dominant species presented the negative exponential or power function distribution with the highest frequency value occurred in the first size-class. *Schefflera octophylla*, *Limlia uraiana* and *Cyclobalanopsis glauca* exhibited another pattern with the second size-class attaining the highest value.

**Keywords:** gradient analysis, natural broad-leaved forest, population structure, succession, vegetation analysis.

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