

## 五台山高山、亚高山草甸植物种分布的环境梯度分析和种组划分

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### 摘要:

通过野外植被调查,结合景观尺度生境因子的测定与模拟,运用CCA排序分析研究区内高山、亚高山草甸地段植物物种分布与环境因子之间的定量关系,综合TWINSpan分类结果对五台山高山草甸植物种进行了生态种组划分。

结果表明:1)五台山的高山、亚高山草甸分布地段,温度和太阳辐射是控制着草甸植物种分布的关键因子;2)依据草甸物种在CCA排序图上的分布位置,划分出高山冷干型、高山冷湿型、亚高山典型种、亚高山凉干型、亚高山凉湿型、山地暖干型和山地暖湿型几类物种,可以较好地指示研究区的生境特征;3)TWINSpan划分结果与CCA划分的生态种组比较吻合。

关键词: TWINSpan;CCA;种组;高山草甸;五台山

## Environmental gradient analysis and species group division of herb species distribution in alpine Meadow on Mt.Wutai

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### Abstract:

With the data of field work on vegetation investigation and habitat conditions survey, as well as solar radiation and soil wetness index simulation based on GIS technique, the relationship between herb species and ecological factors which directly act on species were analyzed by TWINSpan and CCA ordination. The results showed that: 1) Temperature and solar direct radiation was the key factors that control the distribution of herb species in the study area of Mt.Wutai, where is covered by alpine meadow. 2) According to the distribution pattern of plant species along the habitat gradients, seven types of species can be distinguished, i.e., alpine cold dry favoring species, alpine cold humid favoring species, subalpine typical species, subalpine cool dry favoring species, subalpine cool humid favoring species, montane warm dry favoring species, montane warm humid favoring species. Those specie groups can be indicators as the habitat characteristics.3) The TWINSpan results coincide with CCA ordination about the herb specie groups division.

Keywords: TWINSpan CCA species group alpine meadow Mt.Wutai

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