

研究报告

历山森林群落物种多样性与群落结构研究

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摘要

采用多样性指数、丰富度指数和均匀度指数对山西历山森林群落物种多样性进行了研究.结果表明,各群落类型的物种多样性指数的顺序为:青榨槭+五角枫林>青榨槭+鹅耳枥林>辽东栎林>栓皮栎林>华山松+红桦林>油松+栎林>白桦林>侧柏+栓皮栎林>红桦林>华山松林>侧柏林>油松林>红桦+山杨林;森林群落灌木层多样性指数和丰富度指数大于草本层和乔木层,而均匀度指数在乔木层、灌木层和草本层则表现出多样化的趋势;海拔1 000~1 920 m之间,Shannon-Wiener指数、Hill多样性指数及物种丰富度与海拔梯度均呈正相关($P<0.05$),海拔大于1 920 m则呈现负相关;这些指数沿海拔梯度的变化呈现出“中间高度膨胀”的规律,即中等海拔高度上物种多样性高而低海拔和高海拔物种多样性低.这主要是由于在中海拔(约1 900 m)地段水热条件组合较好,人类活动干扰较少所致.

关键词 [物种多样性](#) [丰富度](#) [均匀度](#) [森林群落](#) [历山](#)

分类号

Species diversity and community structure of forest communities in Lishan Mountain

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Abstract

Lishan Mountain is belonged to the Zhongtiao Ranges in Southeast Shanxi,and situated between 35°16'30"~35°27'20"N and 111°51'~112°5'35"E.The climate is cool and arid in winter,but warm and rainy in summer.This paper studied the species diversity and community structure of forest communities there,based on field investigation data and by using diversity,richness and evenness indices.The results showed that the species diversity and evenness of the communities were in the order of *Acer davidii* + *Acer mono*>*Acer davidii*+*Carpinus turczaninowii*>*Quercus liaolugensis*>*Quercus varibilis*> *Pinus armandii* + *Betula albo-sinensis*>*Pinus tabulaeformis* + *Quercus glandulifera*>*Betula platyphylla*>*Platyclusus orientalis* + *Quercus variabilis*>*Betula albo sinensis*>*Pinus armandii*>*Platyclusus orientalis*>*Pinus tabulaeformis*>*Populus davidiana* + *Betula albo-sinensis*.The diversity and richness of shrub layer were higher than those of herb layer and arbor layer,but the evenness of arbor,shrub and herb layers had no significant difference.There were positive correlations ($P<0.05$) between Shannon-Wiener index,Hill index,and species richness from 1 000 m to 1 920 m above sea level,but negative correlations ($P<0.05$) from 1 920 m to the top of the Mountain.The species diversity showed a "mid-altitude bulge" pattern with the change of altitude,and the reason was that the combination of temperature and moisture conditions from 1 000 m to 1 920 m above sea level was improved,and human disturbance was

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decreased gradually.

Key words

[Species diversity](#) [Richness index](#) [Evenness index](#) [Forest community](#) [Lishan Mountain](#)

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