

## 黑河下游额济纳绿洲植物群落物种多样性的空间异质性

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## Spatial heterogeneity of plant community species diversity in Ejina Oasis at the lower reaches of Heihe River.

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**摘要** 采用地统计学方法研究了黑河下游额济纳绿洲物种多样性的空间异质性. 结果表明: Margalef丰富度指数( $M_a$ )、Shannon多样性指数( $H'$ )、Simpson多样性指数( $D_s$ )和Pielou均匀度指数( $J'$ )均服从正态分布, 变异系数(CV)为55.8%~67.8%, 均属中等变异;  $M_a$ 和 $H'$ 符合指数模型,  $D_s$ 和 $J'$ 符合球体模型;  $H'$ 的空间变异程度最高, 其次是 $M_a$ 和 $J'$ ,  $D_s$ 最小; 在变程范围内, 各物种多样性指数空间变异的结构性因子占主导地位, 所占比例为81.1%~93.0%. 各多样性指数沿河流方向的格局变化明显, 绿洲核心区达来呼布镇(42° N, 101° E)附近为显著高值区, 在100°—101° E和102°—102° 30' E的带状范围内呈明显的低值区, 主要包括东、西戈壁及巴丹吉林沙漠腹地.

**关键词:** 物种多样性 空间异质性 额济纳绿洲 黑河

**Abstract:** By the method of geostatistics, this paper studied the spatial heterogeneity of plant community species diversity in Ejina Oasis at the lower reaches of Heihe River. In the study area, the Margalef richness index ( $M_a$ ), Simpson diversity index ( $D_s$ ), Shannon diversity index ( $H'$ ) and Pielou evenness index ( $J'$ ) were in normal distribution, and the coefficient of variation (CV) ranged from 55.8% to 67.8%, suggesting a moderate variability. The  $M_a$  and  $H'$  were accorded with exponential models, and the  $D_s$  and  $J'$  were accorded with spherical models. The  $H'$  had the highest extent of spatial variation, followed by  $M_a$ ,  $J'$  and  $D_s$ . Within the variable range, the structural factors in the spatial variation of  $M_a$ ,  $D_s$ ,  $H'$ , and  $J'$  were dominant, ranging from 81.1% to 93.0%. The indices changed obviously parallel to the river, with significantly high values near Dalaihubu Town (42° N, 101° E), and obviously low values within the strips 100° -101° E and 102° -102° 30' E, mainly including east and west Gobi and the hinterland of Badain Jaran Desert.

**Key words:** species diversity spatial heterogeneity Ejina Oasis Heihe River

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