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林业科学

香料植物桂花野生种群分布格局的分形分析

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摘要:

采用分形理论中的计盒维数、信息维数和关联维数对长汀县石峰寨桂花野生种群分布格局的多尺度分布规律进行比较分析。结果表明,桂花野生种群的分布格局具有分形特征,其计盒维数为0.8622~1.0058,信息维数为0.8670~0.9849,关联维数为1.0037~1.0757。桂花种群的计盒维数、信息维数、关联维数相差不大,表明该种群的分布格局强度相对复杂,局域空间占据较强,具有集聚分布的趋势。

关键词: 桂花 分布格局 计盒维数 信息维数 关联维数

Fractal Properties of Distribution Pattern of Natural Osmanthus fragrans Populations

Abstract:

Based on the investigation data of Osmanthus fragrans populations in Shifengzai Scenery, Fujian Province, the fractal properties of distribution pattern were analyzed by using box-counting dimension, information dimension and correlation dimension of fractal theory. The results showed that the distribution pattern of O. fragrans populations could be described by fractal dimensions. The box-counting dimension of O. fragrans populations ranged between 0.8622 and 1.0058, the information dimension ranged from 0.8670 to 0.9849, and the correlation dimension from 1.0037 to 1.0757. It showed that the distribution pattern had relatively little difference among box-counting dimension, information dimension, and correlation dimension. According to the results, the distribution pattern of the O. fragrans populations tended to be aggregative.

Keywords: Osmanthus fragrans, distribution pattern, box-counting dimension, information dimension, correlation dimension

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