基于 AHP 的广东东莞湿生乡土植物在湿地修复中的应用潜力评价

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摘 要：【目的】以广东东莞市为例，探究乡土植物在湿地生态修复中的应用潜力。【方法】基于实地调查和文献分析，通过层次分析法（Analytic Hierarchy Process，AHP）构建评价指标体系，对东莞地区 24 种湿生乡土植物（包括 15 种木本植物和 9 种草本植物）在湿地修复中的应用潜力进行综合评价。【结果】净化潜力、景观效应、生长适应性、栽培繁殖特性 4 个准则层权重分别为 0.282、0.109、0.414、0.195，14 个指标层的权重范围为 0.032～0.131，权重排名前五的分别为:耐水湿能力（0.131）、富营养化水体净化潜力（0.122）、重金属污染水体修复潜力（0.112）、耐重金属能力（0.100）、抗病虫害能力（0.085）。综合评价结果显示，应用潜力最大的 5 种木本植物依次为水翁蒲桃 Syzygium nervosum、玉蕊 Barringtonia racemosa、银叶树 Heritiera littoralis、小叶榕 Ficus microcarpa、铁冬青 Ilex rotunda，应用潜力最大的 5 种草本植物依次为荷花 Nelumbo nucifera，黄菖蒲 Iris pseudacorus，美人蕉 Canna indica，菖蒲 Acorus gramineus，金鱼藻 Ceratophyllum demersum。【结论】水翁蒲桃、玉蕊、银叶树、荷花、美人蕉、黄菖蒲等可作为湿地污染修复的优选植物，同时还有助于维持湿地功能。本研究对于湿地修复植物筛选具有一定参考意义。

关键词：层次分析法；湿地修复；调查与评价；植物选择；重金属

Comprehensive evaluation of native plants' potential application in wetland rehabilitation based on AHP--a case study in Dongguan

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Abstract:【Objective】*Take Dongguan City as a case to explore the application potential of native plants in wetland ecological restoration.*【Method】*Based on the field survey and literature analysis, an evaluation index system was constructed through the Analytic Hierarchy Process (AHP) to comprehensively evaluate the application potential of 24 wet native plants (including 15 woody plants and 9 herbaceous plants) in wetland restoration in Dongguan.* 【Result】*The weight of the four criteria layers of purification potential, landscape effects, growth adaptability, and cultivation and reproduction characteristics is 0.282, 0.109, 0.414, and 0.195 respectively. The weight range of the 14 indicator layers is 0.032~0.131, the top five are: water resistance（0.131）, purification potential of eutrophic wetlands（0.122）, potential for remediation of heavy metal contaminated wetlands（0.112）, heavy metal resistance（0.100）, pest and disease resistance（0.085）. The comprehensive evaluation results show that the five woody plants with the greatest application potential are* Syzygium nervosum, Barringtonia racemosa, Heritaria littoralis, Ficus microcarpa, Ilex rotunda*, respectively, and the five herb plants with the greatest application*

potential are Nelumbo nucifera, Iris pseudoacorus, Canna indica, Acorus gramineus, Ceratophyllum demersum. 【Conclusion】Syzygium nervosum, Barringtonia racemosa, Heritiera littoralis, Nelumbo nucifera, Canna indica, Iris pseudacorus, *etc. can be used as preferred plants for wetland pollution remediation, while also helping to maintain wetland functions. This study has certain reference significance for the selection of wetland restoration plants.*

Key words: analytic hierarchy process; wetland restoration; investigation and evaluation; plant selection; heavy metal