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论文

闽江河口湿地互花米草入侵机制

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摘要:

为了阐明湿地植物入侵的机制,选择闽江河口湿地为研究区域,通过野外采样和室内分析,对入侵种互花米草和土著种短叶茳芏根冠生物量、养分在植物体内的分配以及植物养分的生态化学计量学特征进行了测定与分析。结果表明:①互花米草根冠比季节变化范围是0.49~1.64,平均值为1.11,低于短叶茳芏(变化范围是3.11~7.95,平均值为5.29);②互花米草季节平均的氮磷养分分配顺序为叶>根>茎,而土著种短叶茳芏按照叶>茎>根的顺序分配;③互花米草叶、茎季节平均C/N和C/P均表现出高于短叶茳芏,而根则低于短叶茳芏,N/P则均表现为互花米草叶、茎、根高于短叶茳芏;④较高的地上生物量分配、同化器官(叶)和繁殖器官(根)养分分配以及C/N、C/P和N/P是互花米草得以成功入侵的主要原因之一。

关键词: 入侵种 土著种 生态化学计量学 湿地 闽江河口

Invasion Mechanism of *Spartina alterniflora* in Minjiang River Estuarine Wetland

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Abstract:

To clarify the mechanism of plant invasion, based on field investigation and laboratory analysis, taking Minjiang River estuarine wetland as a case, root-shoot ratio, nutrient distribution and nutrient ecological stoichiometry were measured and analyzed. The results showed that seasonal root-shoot ratio of *Spartina alterniflora* was 0.49—1.64 and the averaged value was 1.11, which was lower than that of native *Cyperus malaccensis* var. *brevifolius* (root-shoot ratio was 3.11—7.95 and the averaged value was 5.29). Seasonal averaged nutrient distribution to root, stem and leaf followed the order of leaf>root>stem for *Spartina alterniflora*, but leaf>stem>root for *Cyperus malaccensis* var. *brevifolius*. *Spartina alterniflora* leaf and stem seasonal averaged C/N and C/P were higher than *Cyperus malaccensis* var. *brevifolius*, and the root C/N and C/P were lower, *Spartina alterniflora* leaf, stem and root seasonal averaged N/P were higher than *Cyperus malaccensis* var. *brevifolius*. Successful invasion of *Spartina alterniflora* was caused by higher allocation of aboveground biomass, assimilation organ (leaf) and reproduction organ (root) nutrients, as well as higher C/N, C/P and N/P ratios.

Keywords: invasive species native species ecological stoichiometry wetland Minjiang River estuary

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