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## Arbuscular Mycorrhizal Fungal Mediation of Plant-Plant Interactions in a Marshland Plant Community

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## Abstract

Obligate aerobic AMF taxa have high species richness under waterlogged conditions, but their ecological role remains unclear. Here we focused on AM fungal mediation of plant interactions in a marshland plant community. Five cooccurring plant species were chosen for a neighbor removal experiment in which benomyl was used to suppress AMF colonization. A Phragmites australis removal experiment was also performed to study its role in promoting AMF colonization by increasing rhizosphere qz{igp" eqpegpvtcvkqp0" O{eqttjk|cn" hwpicn" g gevu" qp" rncpv" kpvgtcevkqpu" ygtg"fk gtgpv"hqt"fqokpcpv"cpf"uwdfqokpcpv"rncpv" urgekgu0"COH"eqnqpk|cvkqp"jcu"ftkxgp"rqukvkxg"pgkijdqt"g gevu" for three subdominant plant species including Kummerowia striata, Leonurus artemisia, and Ixeris polycephala. In contrast, COH"eqnqpk|cvkqp"gpjcpegf"vjg"pgicvkxg"g gevu"qh"pgkijdqtu"

qp" vjg" fq o kpcpv" Eqp{ | c" ecpc fgpuku" cpf" jcf" pq" uk i pkłecpv" impact on the neighbor interaction to the dominant Polygonum pubescens. AM colonization was positively related to oxygen concentration. P. australis increased oxygen concentration, enhanced AMF colonization, and was thus indirectly capable qh"kpłwgpekpi" rncpv" kpvgtcevkqpu0" Cgtqdke" CO" hwp i k" cr rgct" vq" be ecologically relevant in this wetland ecosystem. They drive positive neighbor interactions for subdominant plant species, g gevkxgn{" kpetgcukpi" rncpv" fkxgtukv{0" Yg" uwi i guv." vjgtghqtg." that AM fungi may be ecologically important even under waterlogged conditions.