ABSTRACT

TITLE:	The Effects of Invasive Shrub Tamarix on Riparian Arthropod Communities
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ABSTRACT: Riparian areas in the southwest United States have been invaded by the invasive shrub Tamarix ramosissima, which has displaced native vegetation, created monotypic stands, and reduced biodiversity, among other impacts. The effect on the arthropod community, however, is still unclear, with many different studies showing either little effect or a lessened abundance and diversity. Our study sought to determine the effect of Tamarix compared to two different native counter-part habitats: a willow (Salix exigua) habitat and a shrub (Atriplex canescens, Sarcobatus vermiculatus, Gutierrezia spp., and Forestiera pubescens) habitat. 30,913 arthropods were organized into over 300 different taxa in 7 different 48 hour pit trapping sample periods, with 3 habitat types, each with 3 replicate sites. We found that Tamarix had no effect on arthropod abundance. Shrub had a higher Shannon-Wiener diversity index, but Tamarix and willow habitats did not significantly differ. Functional feeding groups (predator, herbivore, omnivore, and detritivore) did differ significantly between habitat types at different dates in the season. Also a NMS ordination showed that all three habitat types represent unique arthropod communities, with different taxa making up the abundance in each. Our overall conclusion is thus: Tamarix does not decrease arthropod abundance or diversity, but does form its own unique community of arthropods different from native counter-part habitats.