

Effects of Military-Training Activities on Spider Communities of the Fall-Line Sandhills at Fort Benning, Georgia. (A02-graham121430-Poster)

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Abstract:

Arthropods have short generation times and rapid population growth, making them ideal indicators of environmental disturbance. In this study, we examined the effect of disturbance caused by military training activities at Fort Benning, GA on species diversity and community composition of spiders in the Fall Line Sandhills. This ecoregion is characterized by pines (especially longleaf pine), oaks, and sandy soils. We collected spiders from highly, moderately, and lightly disturbed sites, using pitfall traps and sweep nets. Highly disturbed sites had greatly reduced plant cover, much bare soil, gullies, and signs of active erosion, soil compaction, little leaf litter, and evidence of mechanized training. Lightly disturbed sites had normal plant cover, little or no bare soil, and no signs of recent erosion, no obvious soil compaction, and little or no sign of usage by vehicles. There were no differences in species diversity or abundance of spiders among the three disturbance regimes. There were, however, more families of spiders in the moderately disturbed sites than in the lightly disturbed sites. This may reflect increased habitat diversity at those sites, and perhaps reflects the influence of broad feeding guilds. The response of the spiders to disturbance contrasted with that of the ants (parallel study), which had significantly lower species diversity in the heavily disturbed areas.

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