ROSINWEED STEM GALL WASP RESPONSE TO FIRE

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Abstract: Rosinweed (*Silphium integrifolium*), and to a lesser extent cup plant (*S. perfoliatum*), appear to be the exclusive hosts for a Cynipidae (Hymenoptera) gall-forming wasp, *Antistrophus silphii*. This wasp forms distinctive terminal stem galls than can reach the size of a golf ball. The wasps spend 95% of there annual life cycle above ground within the galls, making them exceedingly sensitive to fire. In addition, their apparent restriction to hosts plants that are now limited on the landscape make them a species of conservation concern, especially in light of their extreme vulnerability to fire. To test *A. silphii* recover from a spring fire, I laid out a sampling grid, in September 2008, across a 5-acre site with a healthy rosinweed population supporting gall wasps. A portion of the site had been burned in April, 2008. I counted the number of rosinweed stems and terminal stem-galls per unit area across the site, both burned and un-burned areas. The site averaged more than 400 galls per acre, an infestation rate per stem of nearly 2%. Surprisingly, I found no reduction in gall frequency in the burned areas, which had a maximum distance of 80 meters from un-burned habitat. In fact, the rate of stems with galls was nearly 5 times greater in the burned area than the unburned, and there was no decline in gall occurrence with increasing distance from the un-burned areas. I will present possible explanations for these findings.