

What Grows on Your Rose? Gall Wasp Communities in Urban and Rural Roses
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As human populations continue to expand and fragment natural landscapes, the understanding of urbanization and land use on species biodiversity becomes increasingly important. Gall-inducing insects are specialized organisms which cause abnormal growths on host-plants to be used for shelter, reproduction, and nutrition. These developing galls also harbor parasitoids, developing within the host insect's larvae, and inquiline which lay eggs in the galls of the gall-inducer, all together forming mini-communities with varying biodiversity. This study aimed to compare communities that develop in the galls of the mossy rose gall wasp (*Diplolepis rosae*) collected in urban and rural areas in Western Washington. Dog rose bushes were measured at 3 rural and 3 urban sites, approximately 20 galls were collected per site and all emerging insects were identified. We compared plant and gall size, gall predation, parasitism rates, species abundance, and diversity. Of the measured factors, we find no significant differences between urban and rural galls; however, predation and species richness were significant by site. Out of all sites, the highest Shannon Diversity Index was calculated for the rural Soos Creek site (0.67) and the site with the highest wasp abundance per gall was the rural JBLM site with 104 wasps. The parasitoid wasp *Orthopelma mediator* was found in greater numbers in urban galls while the parasitoid wasps *Torymus bedeguaris* and *Eurytoma rosae* were found in greater numbers in rural galls. These results suggest that there are significant differences in gall wasp community assemblages sampled from different locations across Western Washington, although future research is needed to explore the factors driving the variability seen in this study.