



## Phenology and effects of relative humidity and temperature on *Phyllocoptes fructiphilus*\*

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Rose rosette disease (RRD) is a serious rose disease in North America. RRD is caused by rose rosette virus transmitted by *Phyllocoptes fructiphilus* (Acari: Eriophyidae). The disease symptoms include deformed terminal shoots resembling witches' brooms. There is no cure for RRD, and affected plants reduce the aesthetic value of the landscape. Thus, it is important to understand the biological information of *P. fructiphilus* to develop effective management strategies. Limited information is available on the phenology of *P. fructiphilus* and its response to abiotic factors, such as relative humidity (RH) and temperature. *P. fructiphilus* populations were present throughout the growing season from April to December on RRD-symptomatic and asymptomatic roses (Monterrosa *et al.* 2022). On asymptomatic rose, a spike in mite population was observed during July and August compared to the rest of the months. More numbers of mites were observed on the RRD-symptomatic than on the asymptomatic roses. *P. fructiphilus* densities were similar on closed and opened flower buds. Greater densities of *P. fructiphilus* were found on sepals and leaf bases than on leaves, anthers, stigma, and other plant parts. When exposed to varying RH conditions, more numbers of *P. fructiphilus* were found on rose at 60% RH than at 95% or 20% RH. However, the RRD symptoms were greater at 95% RH than at 20% RH (Monterrosa *et al.* 2021). Greater numbers of *P. fructiphilus* were observed at 32.2°C than at 15.6 or 21.1°C (Joseph 2022).

### References

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