Evaluating the Hymenopteran parasitoid community of the redheaded pine sawfly, *Neodiprion lecontei*

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**Introduction**

- Insects, especially plant-feeding and parasitoid lineages, are the most diverse group of animals.4,7
- Studying these diverse animals can help us understand how biodiversity is generated.6
- *Neodiprion lecontei*, the redheaded pine sawfly (Fig 1), has a wealth of historical information available owing to its status as a pest1,2 and is attacked by an understudied community of parasitoids.4
- This community presents an excellent system to study biodiversity and parasite-host interactions.

**Materials & Methods**

- *N. lecontei* sawfly colonies were collected between 2004-2019 from across eastern North America and reared to adulthood in the lab. Emerging parasitoids were frozen at -80°C until use.
- 750 hymenopteran parasitoid specimens were sorted to ~22 morphospecies.
- Morphospecies were keyed5,8 to lowest taxonomic level possible (generally genus and/or species) and potential undescribed species noted.

**Results**

**Wasp Diversity**

**Perilampus hyalinus** putative range

**Ichneumonid 1** putative range

**Future Work**

- Barcode of mitochondrial COI region3 of each keyed species and suspected undescribed species to corroborate morphological identification.
- Compare distribution of parasitoids to environmental conditions and community structure of parasite and hosts.
- Test for sequential divergence in one or more parasitoid species.
- Examine the possible *Perilampus hyalinus* species complex.
- Evaluate if host tree damage volatiles predict parasitoid presence.

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**References**