Title:	Investigating Olfactory Cues Responsible For Local Mate Competition In Nasonia vitripennis
Authors:	Saikrishnan, P B S
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Abstract:	Nasonia, also known as Jewel wasps, are parasitoids of flesh fly or blow fly pupae (Whiting., 1957). Distributed in scattered patches worldwide, Nasonia exhibits an intrigu- ing reproductive strategy as a haplodiploid insect, wherein males arise parthenogenetically from unfertilized eggs (arrhenotoky), and females from fertilized ones. This phenomenon allows for dynamic responses to local mate competition (LMC), enabling female wasps to selectively lay either fertilized or unfertilized eggs, thereby manipulating the offspring sex ratio within host pupae (Boulton et al., 2020). Since its adoption as a model organism for behavioral ecology, the mechanisms un- derlying Nasonia's ability to discern parasitized hosts and modulate sex ratios have been subject to extensive studies (Gadau et al., 2012). Proposed cues encompass various sensory modalities, including olfaction, venom composition, venom-induced alterations in the host, and vibrational signals (Ruther et al., 2019). However, the specific role of olfactory cues, such as cuticular hydrocarbons (CHCs), in mediating this phenomenon remains poorly un- derstood. This study endeavors to delve deeper into the role of olfactory cues, particularly CHCs, in influencing Nasonia's sex ratio manipulation. Through comprehensive investigation and experimentation, I aim to elucidate the extent to which CHCs contribute to the discrimina- tion of parasitized hosts and subsequent adjustment of offspring sex ratio
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