

Abstract

For a *Nasonia* male, emerging first from the host puparium and staying in the vicinity of it ensures and increases the possibility of meeting and eventually courting and mating either with its sisters or females from adjacent pupa. *Nasonia* males survive for 2-3 days only (P. E. King and C. R. Hopkins, 1963) and hence, are under a considerable selection pressure to mate with as many females as possible whereas female mates only once. It is advantageous for a male to detect unborn virgin females, inside a patch of available hosts (parasitized and unparasitized). Hence, it becomes a necessity for *Nasonia* males to discriminate between a parasitized and unparasitized pupa, to receive potential mates.

The present study investigates the sex of first emerging individuals in *Nasonia* and whether *Nasonia* males can detect parasitized pupa.

N. vitripennis males emerge as the first individual in most of the pupa but for its sibling species *N. giraulti* and *N. longicornis*, male and female as well can be the first emerging individual. Due to higher proportion of within host mating in *N. giraulti* and *N. longicornis* sex ratio is more female biased as compared to *N. vitripennis*. In *N. vitripennis* 65% females were present in the average family size of 26 individuals (N=30) whereas in *N. giraulti* 87.5% and *N. longicornis* 85% females were present in the average family size of 24 (N=27) and 26 (N=35) respectively.

We found that *Nasonia* males can detect parasitized pupa from unparasitized pupa.