

Alternative phenotypes of male mating behaviour in the two-spotted spider mite

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Abstract Severe intraspecific competition for mates selects for aggressive individuals but may also lead to the evolution of alternative phenotypes that do not act aggressively, yet manage to acquire matings. The two-spotted spider mite, *Tetranychus urticae*, shows male mate-guarding behaviour and male–male combat for available females. This may provide opportunity for weaker males to avoid fighting by adopting alternative mating behaviour such as sneaker or satellite tactics as observed in other animals. We investigated male precopulatory behaviour in the two-spotted spider mite by means of video-techniques and found three types of male mating behaviour: territorial, sneaker and opportunistic. Territorial and sneaker males associate with female teleiochrysales and spend much time guarding them. Territorial males are easily disturbed by rival males and engage themselves in fights with them. However, sneaker males are not at all disturbed by rival males, never engage in fights and, strikingly, never face attack by territorial males. Opportunistic males wander around in search of females that are in the teleiochrysalis stage but very close to or at emergence. To quickly classify any given mate-guarding male as territorial or sneaker we developed a method based on the instantaneous response of males to disturbance by a live male mounted on top of a brush. We tested this method against the response of the same males to natural disturbance by two or three other males. Because this method proved to be successful, we used it to collect

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