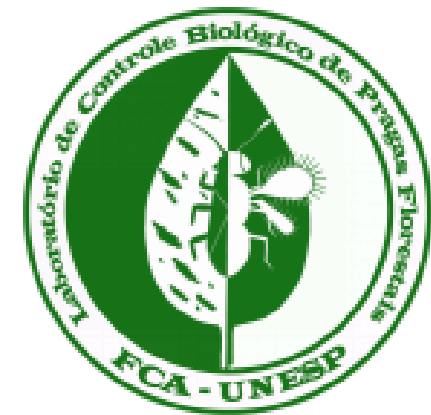


Effect of temperature on flight of *Cleruchoides noackae* (Hymenoptera: Mymaridae), parasitoid of *Eucalyptus* bronze bug



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Introduction and Aims

The egg parasitoid *Cleruchoides noackae* (Hymenoptera: Mymaridae) is the main biological control agent of *Thaumastocoris peregrinus* (Hemiptera: Thaumastocoridae), an exotic pest that threatens *Eucalyptus* plantations worldwide (Fig.1). Was evaluate the quality of *C. noackae* in the laboratory by the flight test, at different temperatures.



Fig.1. Damages in *Eucalyptus* plantations by *T. peregrinus*, and the egg parasitoid *C. noackae*.

Material & Methods

The ESALQ model test unit was used, consisting of a PVC cylinder (18 cm in high and 11 cm in diameter) with the interior covered by black cardboard. On the inner wall an entomological stick ring (0.5 cm wide) was placed to 3.5 cm from the lower to determine parasitoid walkers. To determine flying parasitoids, a Petri dish with stick was embedded in the upper part of the cylinder. A hundred eggs of *T. peregrinus* parasitized by *C. noackae* were individualized in glass tubes, fixed in the center of the test units and placed in B.O.D at 20, 25 and 30 ± 2°C, RH: 60 ± 10% and 24:0 photoperiod (L/D). The experimental design was completely randomized with five replicates. Data were analyzed by ANOVA and compared by Tukey test.

Results & Discussion

The increase in the percentage of flying parasitoids was directly proportional to the temperature increase, varying from 29 to 74%, at 20 and 30°C, respectively. Highest percentage of walking parasitoids (60%) was observed at 20°C, while at 25°C there was no difference between flying and walkers. At 30°C, 74% of the parasitoids were classified as flying and 20% as walkers (Fig.2).

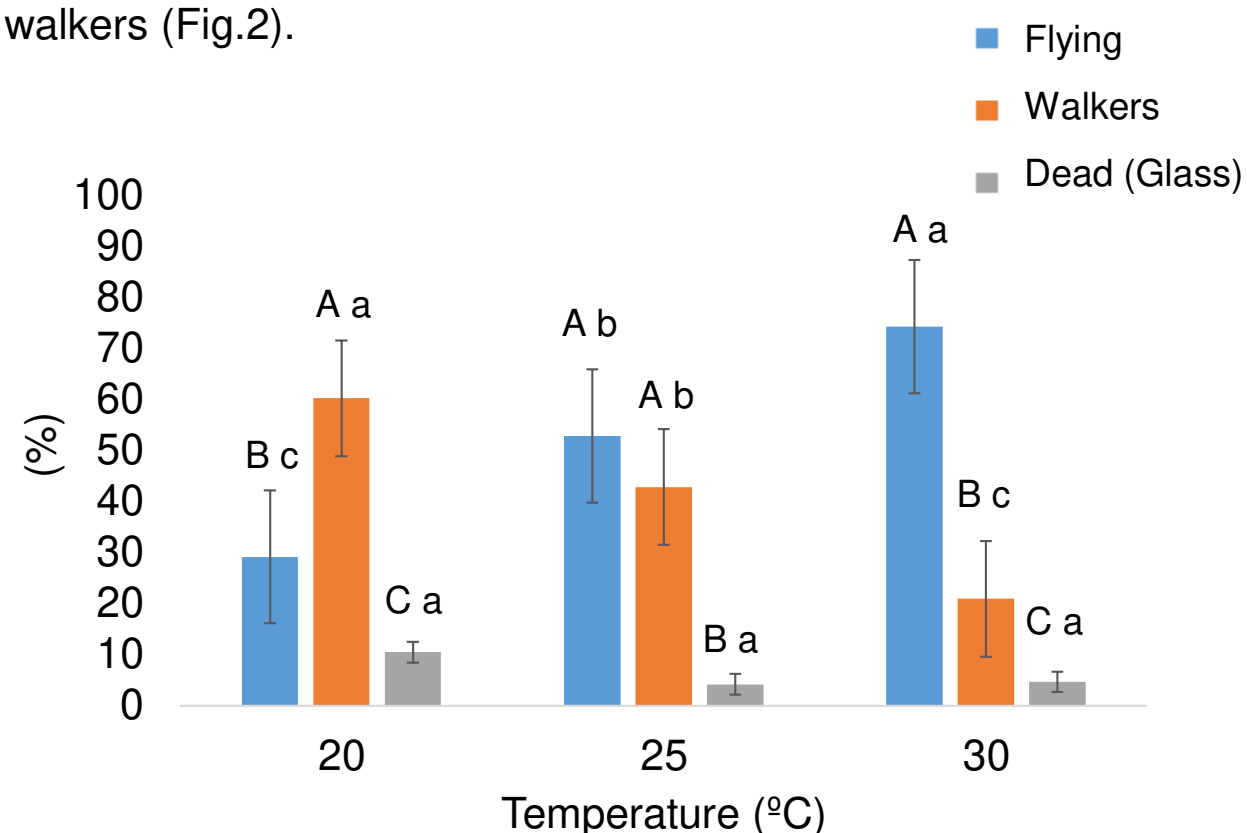


Fig.2. *Cleruchoides noackae* (Hymenoptera: Mymaridae) walkers, flying, dead in the glass (%) at different temperatures (60 ± 10% RH and 24:0 photoperiod (L/D)). Means followed by the same letters (uppercase within each temperature and lowercase between temperatures) do not differ amongst themselves ($P \leq 0.05$) by Tukey's test.

Conclusions

The temperature affected the *C. noackae* flight in the laboratory. It is suggested to release *C. noackae* in the field at temperatures above 20°C.

