

BLOOD CELLS COMPOSITION OF DIFFERENT DEVELOPMENT STAGES OF *CERATITIS CAPITATA* (DIPTERA: TEPHRITIDAE)

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Mediterranean fruit fly is considered to be one of the world most destructive fruit pests because of its global distribution, wide host range and rapid dispersal. The insects have very effective defense system against different pathogens and parasites. The cellular immune response is realized by some types of circulating hemocytes. According to our knowledge, no investigation on immune cells structure of different development stages of the species was reported.

The **aim of present study** is to follow changes of blood cell structure in all larval stages and imago of *C. capitata*.

Material and Methods. Hemolymph 100 specimens of each instar larvae stage of laboratory population of med-fly were taken by cutting the end of abdomen. Hemolymph of imago was obtained by centrifuging of punctured specimens. Hemolymph of each 5 specimens was stained by Gimza's method on a slide. The hemocyte identification was performed on micro photograph images taken with camera DP70 under microscope Olympus BX51. Stage values means and variances were analyzed by Kruskal-Wallis ANOVA and Tukey HSD test by pairs.

Results. Six type of hemocytes were observed in all studied stages: Granulocytes (GR), Spherulocytes (SP), Prohemocytes (PR), Oenocytoids (OE), Plasmacytes (PL), and Podocytes (PO)

In early development stages I and II larval instar plasmocytes and granulocytes were more than 40% of all hemocytes. In III larval instar SP and OE, PL and GR decrease significantly as far as podocytes increase their relative part more than 38%. PR had part about 10-15% of in all studied stages. No significant difference was observed between IV larval instar and imago and female and male specimens.

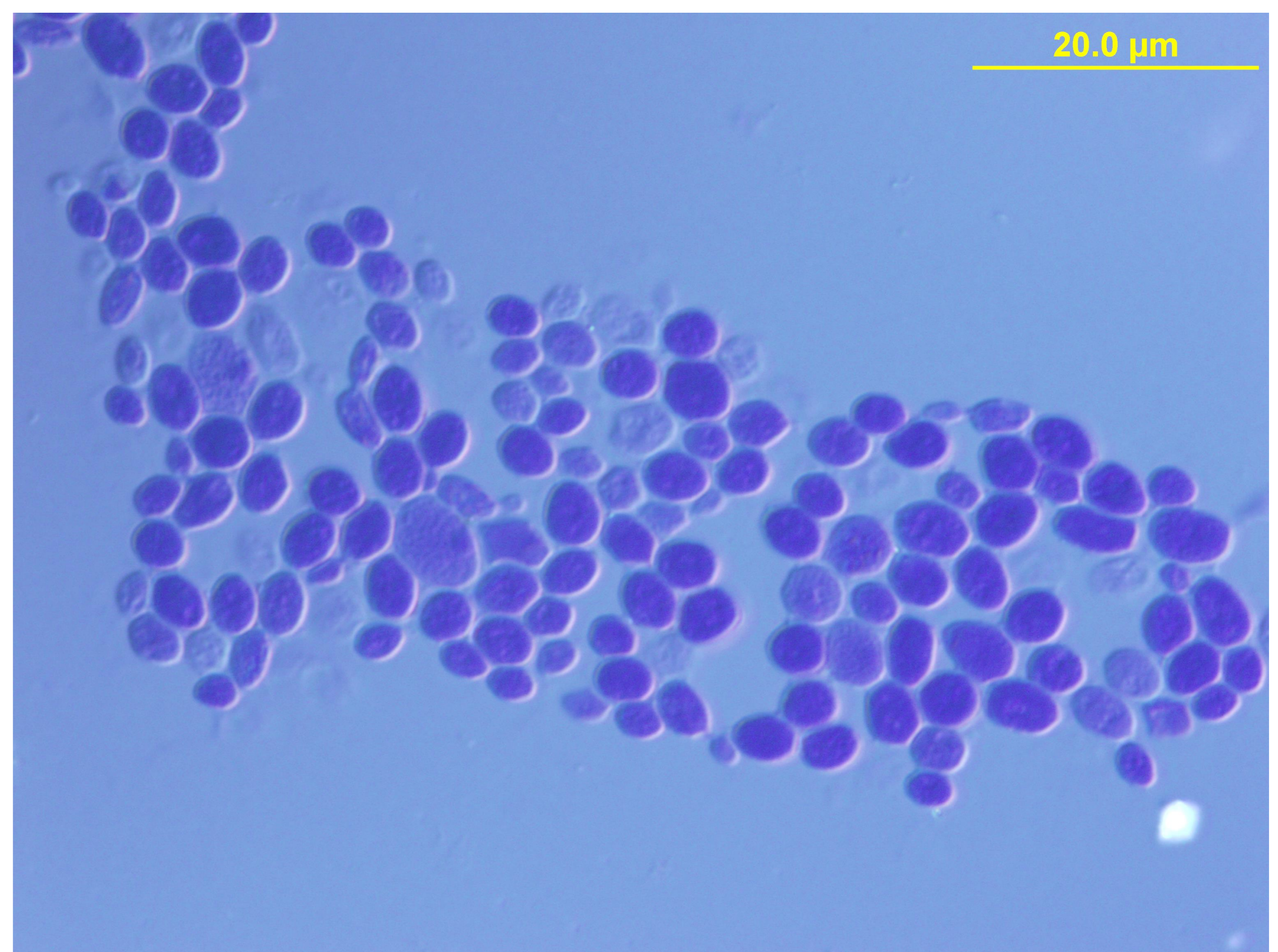


Figure 1. Hemocytes of instar II of *C. capitata* –(DIC microphotograf)

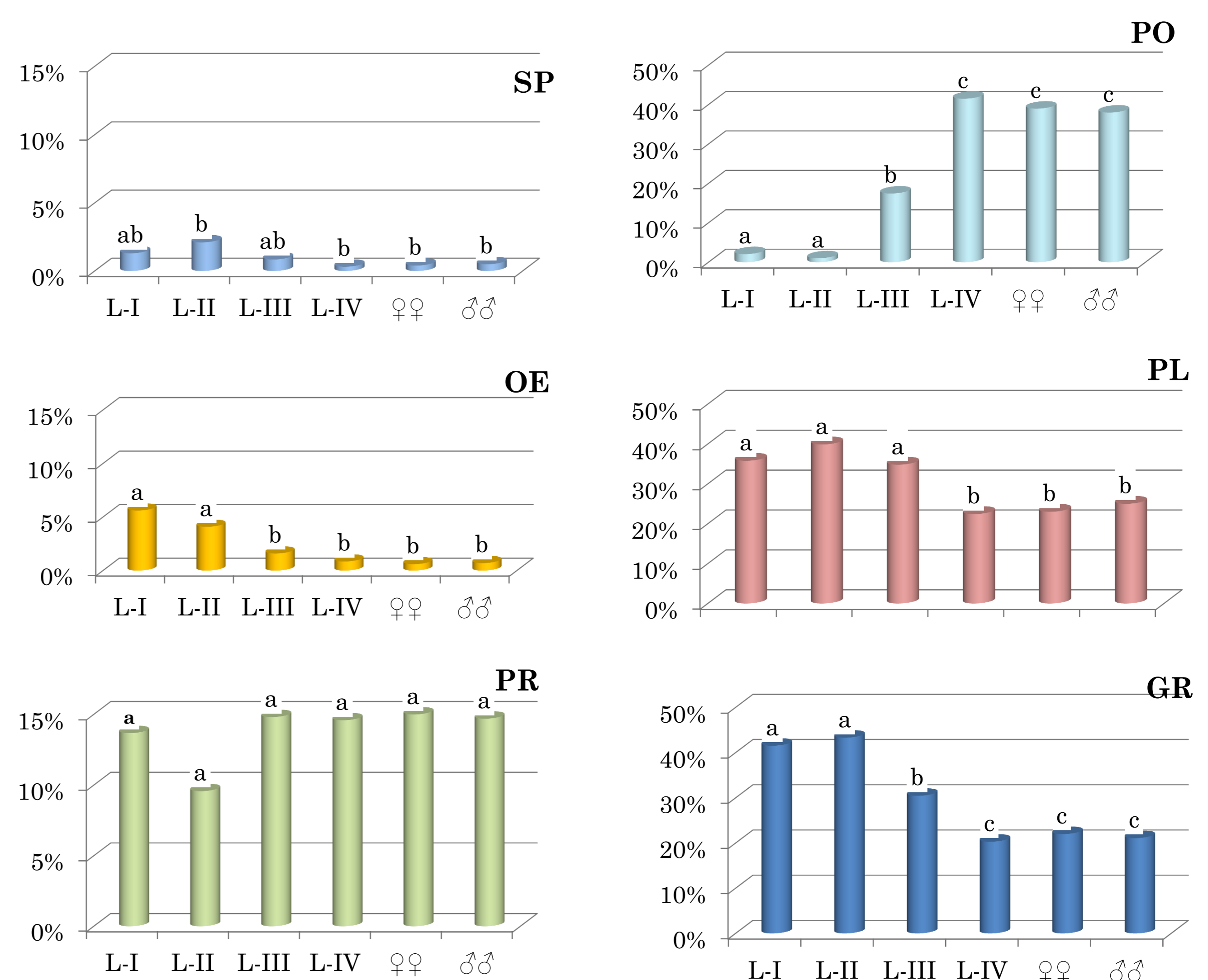


Figure 2. Relative part of hemocytes during development stages of *Ceratitis capitata*: SP – Spherulocytes; OE – Oenocytoids; Pr – Prohemocytes; PO – Podocytes; Pl – Plasmacytes and GR – Granulocytes. Numbers followed by different letters are statistically different $p \leq 0.05$ (Tukey's test).