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BIOLOGY OF *Triatoma melanosoma* MARTINEZ, OLMEDO & CARCAVALLO, 1987 IN LABORATORY (HEMIPTERA, REDUVIIDAE)

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In 1987 Martinez, Olmedo & Carcavallo, describes a new subespecies of triatomine, that came from Misiones, Argentina, and because of its totally black color was called *Triatoma infestans melanosoma.* Recently the *status* of this subespecies was modified to species by Lent et al. (1994); they redescribed the insect calling as *Triatoma melanosoma.* Its afinity with *T. infestans,* one of the principal vector of Chagas' disease, let them observe its development period and its vetorial potential in laboratory conditions. The eggs were randomly selected from a colony of the LNIRTT, were grouped in accordance with the date of oviposition and were mantained in a BOD chamber (28 +/- 1°C and 80 +/- 5% UR) , alternating 12 hours with ligth and 12 hours without light. After hatching nymphs were individualized in Borrel flasks properly listed. The food is being done with pigeons (*Columba livia*), with a daily offer until the 1st blood meal occurs, then will be done weekly. The first results showed that the nymphs stayed on the 1st instar for 21.7 days in average with minimum and maximum periods of 14 and 51 days respectively; on the 2nd the average was aproximately 24.3 days (Min.=12, Max.=52); on the 3rd the average grown up reaching 36.9 (Min.= 16, Max.=88) and on the 4th, the medium value was 39.3 (Min.=20, Max.=65). The 5th instar was where the nymphs stayed for a long period, more than 2 months (X=69.8, Min.=40, Max=150). The results shown that with this species would be possible occur around 2 generations per year, representing an excelent biotic potential.

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THE EFFECT OF LABORATORY MAINTENANCE OF *Panstrongylus megistus* ON ITS FLIGHT ACTIVITY.

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In this study we compared two lines of *P. megistus* which differed only by its laboratory maintenance time. PM1 (more than five generations in insectarium) and PM2 (one or two generations under laboratory conditions). The parameters studied were temperature (tp), humidity (hm), the weight:lenght ratios (nutritional status, w/l), isoenzyme electrophoresis at 7 locus (ME, GPI, LDH, ICD and alfa-GPD), as well as the enzymatic activity of alfa-glycerophosphate dehydrogenase (alfa-GPD ac.), a crucial flight activity related enzyme. Insects were processed according to SCHOFIELD (1980) and observed through a period of 30 days. The temperature and humidity were measured daily at the same time, and the insects that had flighted, "good" flyers (gf), were also measured for the determination of the nutritional status. Muscle extraction was made for isoenzyme and alfa-GPD enzymatic studies. At the end of this period the same number of insects that did not fly, "bad" flyers (bf), were used as control and submitted to the same analysis. No isoenzyme difference was observed between gf and bf for the two populations. Main external factors influencing flight activity were w/l (PM1 P=0.0027; PM2 P=0.0209) and tp (PM1 P=0.0814; PM2 P=0.0118). However, PM1 and PM2 strongly differed with respect to alfa-GPD activity: it was the main difference found between PM1-gf and PM1-bf (P=0,0001), whereas it did not present any evidence for heterogeneity in PM2 (P=0.5995). We used two multivariate approaches to verify the differences between gf and bf (logistic regression and canonical variate analysis, CVA). Logistic regression was able to separate "good" from "bad" flyers of the old established laboratory strain (PM1) using as the unique parameter value the alfa-GPD activity (87 to 93% of correct attribution), while it reached lower scores (78 to 86%) in PM2, needing the combination of two or more parameters excluding alfa-GPD activity. Discriminant function (CVA) separating gf and bf was highly significant in PM1, and not at all in PM2. These data suggested that after five generations laboratory maintenance could result in strong physiological changes, as revealed by the predominant role of alfa-GPD activity in PM1 versus PM2. This highlights the importance of using freshly captured specimens when studying traits such as flying behavior, and probably other features concerning the biology of Triatominae.

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