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## VI- Summary

Mites frequently cause concern in premises where food stored. Mites can damage and give the food materials unpalatable, unpleasant taste and smell, over that unacceptable to human or livestock. On other hands, the contaminated stored products with mites can caused many medical symptoms as irritation, perennial rhinitis, asthma, or atopic dermatitis in a large portion of patients with allergic disease to persons whose dealt with it. The ingestion of contaminated food can also cause unexplained anaphylaxis, gastric and intestinal disturbances.

### 1- Ecological studies:-

#### 1.1- Survey:

A complete survey was carried out on six localities at Dakahlia governorate: Al-Mansoura, Aga, Sherbeen, Alsynblawain, Dekrness and Meet-Ghamer from April 2004 up to May 2005. In the present study, 25 samples were examined they were wheat, wheat-flour, barley, maize, bran, rice, broad-bean, bean, onion, garlic, biscuits, tea, wheat straw, cheese, sesame, date, sorghum, chocolates, bean straw, rice straw, animal feeds, bird feeds, bird nests and hulling rice. 66 mite species representing 44 genus and 25 families under 4 suborders was conducted. They are classify according to their feeding nature into 41 species of predacious and 25 species of non-predacious mites as follows;

#### The non-predacious mites:-

25 species belonging to 18 genus under 13 families and 4 suborders;  
*Tyrophagus putrescentiae*, *T.tropicus*, *Rhizoglyphus echinopus*, *R. robini*, *Aleuroglyphus ovatus*, *Caloglyphus berlesi*, *C. beta*, *C. Rhizoglyphoides*, *Chortoglyphus arcuatus*, *Glycyphagus destructor*, *Suidasia nesbitti*, *Gohieria fusca*, *Tyroglyphus farinae*, *Dermatophagoides farinae*, *Pyemotes herfesi*, *P.tritici*, *Acarophenax tribollii*, *Tydeus californiocus*, *T. kochi*, *Rhagidius* sp., *Scutacarus* sp., *S. pigrus*, *Tarsonemus* sp., *Klemania pluomusus* and *Oppia stica*.

**The predacious mites :-**

22 species belonging to 13 genus and 8 families under suborder Prostigmata and 19 species belonging to 13 genus and 8 families under suborder Mesostigmata;

*Spinebdella cortices*, *S. bifurcate*, *Cunaxa carpreolus*, *Neocunaxoides smiley*, *N. andrei*, *Nodele calamodia*, *Ker summeris*, *Cheyletus eruditus*, *C. ornatus*, *C. baloghi*, *C. malaccensis*, *Acaropsella notchi*, *A. docta*, *Pronematus ubiquitous*, *P. ryeki*, *Neognathus oblongus*, *N. oteifi*, *Raphignathus ehari*, *R. bakeri*, *Samaris* sp., *Apostigmaeus aegyptiacus*, *Stigmaeus africanus*, *Sejus* sp., *Proctolaelaps pygmaeus*, *Proctolaelaps* sp., *Blattisocius dentriticus*, *B. keegani*, *Gamasiphis* sp., *Leionychus krameri*, *Ololaelaps oliv*, *Androlaelaps casalis*, *Hypoaspis sarrdoa*, *H. miles*, *H. aculeifer*, *Hypoaspis* sp., *Parasitus* sp., *Poecilochirus necrophori*, *Urodiaspis* sp., *Phaulodinychus* sp., *Macrocheles muscaedomesticae* and *M. carinatus*.

**2- Population dynamic of the non-predacious mites and their predaceous mites associated with some stored products wheat flour and wheat bran in two localities Sherbeen and Meet-Ghamer in Dakahlia Governorate from May 2004 up to April 2005 it was found that:-**

The most abundant non-predacious mites in the wheat flour samples were those of families Acaridae, Tyroglyphidae, Pyemotidae, Tydeidae and Ameroseiidae and their predacious mites were of families Cheyletidae, Bdellidae, Stigmaeidae, Raphignathidae and Ascidae. On other hand, the most abundant non-predacious mites in the wheat bran samples were those Acaridae, Glycyphagidae, Tarsonemidae and Tydeidae and the predacious mites associated with them were Cheyletidae, Bdellidae, Ascidae and Cunaxidae.

The appearance and disappearance of the collected mites (non-predacious and predacious) once depend up on the presence of different factors such as biotic factors as other mites, insects, fungi...etc, and abiotic factors as maximum temperatures, minimum temperatures and relative humidity, other factors not taken in consideration, all affecting on the population dynamics of the collected mites.

From the obtained results we can determined that, the peak was attributed to rise of temperature and relative humidity which favoured the mite reproduction and shortened its life cycle. Generally, Sherbeen region was observed harbored more mites than those obtained at Meet-Ghamer district.

**(B) Biological Studies:-**

In this investigation, biological studies were occurred on *Caloglyphus beta* Attiah when reared on *Aspergillus flavus* fungi at 25 and 35 °C and 75% R.H. The results revealed the following:-

**a)At 25°C the results were:-**

- 1-The female life cycle lasted  $18.57 \pm 3.00$  days.
- 2-The male life cycle lasted  $16.78 \pm 2.96$  days.
- 3-The incubation period lasted  $2.80 \pm 0.52$  days in female.
- 4-The incubation period lasted  $2.31 \pm 0.62$  days in male.
- 5-Duration of the four immature stages ( larva, protonymph, deutonymph and tritonymph ) were  $3.7 \pm 0.67$ ,  $3.25 \pm 0.61$ ,  $5.00 \pm 0.67$  and  $3.82 \pm 0.42$  days in female.
- 6-Duration of the four immature stages ( larva, protonymph, deutonymph and tritonymph ) were  $3.45 \pm 0.85$ ,  $2.90 \pm 0.50$ ,  $4.30 \pm 0.39$  and  $3.82 \pm 0.49$  in male.
- 7-The female longevity lasted  $29.35 \pm 6.11$  days.
- 8- The male longevity lasted  $24.29 \pm 4.52$  days.
- 9- The total female life span was  $47.62 \pm 7.10$  days.
- 10- The total male life span was  $41.07 \pm 7.00$  days.
- 11- The fecundity of female were  $148.50 \pm 19.62$  eggs.

**a)At 35°C the results were:-**

- 1-The female life cycle lasted  $17.12 \pm 2.11$  days.
- 2-The male life cycle lasted  $15.51 \pm 1.95$  days.
- 3-The incubation period lasted  $2.65 \pm 0.48$  days in female.
- 4-The incubation period lasted  $2.10 \pm 0.41$  days in male.

5-Duration of the four immature stages ( larva, protonymph, deutonymph and tritonymph ) in female were  $3.41\pm 0.79$ ,  $3.93\pm 0.28$ ,  $4.53\pm 0.38$  and  $3.60\pm 0.49$  days.

6-Duration of the four immature stages ( larva, protonymph, deutonymph and tritonymph )were in male  $3.2\pm 0.39$ ,  $2.75\pm 0.37$ ,  $3.95\pm 0.42$  and  $3.51\pm 0.29$  days.

7-The female longevity lasted  $23.59\pm 3.90$  days.

8- The male longevity lasted  $19.95\pm 2.95$  days.

9- The total female life span was  $40.71\pm 6.62$  days.

10- The total male life span was  $35.46\pm 5.11$  days.

11- The fecundity of female were  $160.11\pm 23.81$  eggs.

From the last results we can observed that, the males emerged earlier than the females at both two temperature degrees. But at the higher temperature  $35^{\circ}\text{C}$  all the stages occurred faster than the lower temperature  $25^{\circ}\text{C}$ .