

## XXIII INTERNATIONAL CONGRESS OF ENTOMOLOGY: ICE 2008

6-12 July 2008, International Convention Centre, Durban South Africa

### Investigation on developmental stages and host range of *Clitostethus arcuatus* (Col.: Coccinellidae)

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**Introduction:** *Clitostethus arcuatus*, has recorded as whitefly predator in Mediterranean, Russia, North African, Asia minor, Europe and Iran. This research was carried out to study its life cycle and host range in Iran.

**Methods:** Newly emerged ladybirds collected from ash whiteflies colonies in early spring then reared in controlled conditions ( $25\pm 2^{\circ}\text{C}$ ,  $65\pm 5\%$  RH and L-D: 16-8). They fed daily with different life stages of Ash whitefly and related data collected daily. In the other hand, its host range was evaluated by random sampling of ladybirds from whiteflies host plants throughout of central parts of country (Kerman province).

**Results:** Results showed that, mean of longevity of egg, 1-4<sup>th</sup> larvae, pupa, female and male were  $3/5\pm 0/93$ ,  $3/5\pm 0/53$ ,  $4/63\pm 0/92$ ,  $5/38\pm 1/41$ ,  $10/75\pm 1/16$ ,  $4/5\pm 0/53$ ,  $77/3\pm 6/9$  and  $67/5\pm 7/2$  days respectively. Consequently, it has 5 generations annually that the entire life cycle from egg to adult takes an average of  $32/9\pm 3/11$  days. Adults remain in diapause for 5 months in the last generation. 2<sup>nd</sup> and 3<sup>rd</sup> generations fall on aestivation in hot summer. Females laid an average of  $3/89\pm 1/76$  eggs/day. Host range studies showed that the matured adults appeared in late May on Ash Whitefly, *Siphoninus phillyreae* but its larval stages were found on another whitefly colony, *Bulgariodes cotessii*. Also in late June they are seen on pomegranate trees too.

**Conclusions:** This predator can control all life stages of Ash whitefly on different hosts specially the Ash and pomegranate trees. In addition the *Bulgariodes cotessii* is a suitable host for predator in absent of main prey, Ash whitefly.

Poster Submission  
Section 16  
Symposia 16.4