

Effect of different temperatures on the development of *SCYMNUS SYRIACUS*

(Col.: Coccinellidae)

M. S. EMAMI, SAHRAGARD A. AND HAJI-ZADEH J.

Agricultural Research Center of Esfahan ; College of Agricultural
Sciences, Guilan University

ABSTRACT

The effects of ambient temperature on different developmental stages of *Scymnus syriacus* Marseul were examined under controlled conditions. The critical base temperature and the number of day - degrees required to complete each stage were determined.

Developmental times from egg to adult averaged 38.8, 22.7, 17.2 and 13.71 days at constant temperatures of 20, 25, 30 and 35 °c, respectively. Calculated stage-specific developmental thresholds ranged from 9.35 for pupa to 16.95 for fourth larval instars. Developmental times from egg to adult required an average of 323.71 degree-days above a base of 11.35 °c.

References

- FURSH, H. 1989. The Arabian species of the *Scymnus (pullus)* guimeti-group (Col. Coccinellidae); Fauna of Saudi Arabia. 10: 113-122.
- HAGEN, K.S. 1962. Biology and ecology of predaceous Coccinellidae, Ann. Rev. Entomol. 7: 389-326.
- HAGEN, K.S., S. BOMBOSCH AND J.A. MCMURTY. 1976. The biology and impact of predators, PP.93-124. in C. Huffaker and P. Messenger, theory and

- practice of biological control. Academic press. New York.
- HAGSTRUM, D.W., W.R. HAGSTRUM. 1970. A simple device for producing fluctuating temperature with an evaluation of the ecological significance of fluctuating temperatures. *Ann. Entomol. Soc. Am.* 63:1385-1389.
- NARANJO, S.E., R.L. GIBSON and D.D. WALGENBACH. 1990. Development, survival and reproduction of *Scymnus frontalis* an imported predator of Russian wheat aphid, at four fluctuating temperature. *Ann. Entomol. Soc. Am.* 83 (3): 527-532.
- VANKIRK, J.R., M.T. ALINIAZEE. 1981. Determining low - temperature thresholds for pupal development of the western cherry fruit fly for use in phenology models. *Environ. Entomol.* 10: 968-971.
- WALL, R., N. FRENCH and K.L. MORGAN. 1992. Effects of temperature on the development and abundance of the sheep blowfly *Lucilia sericata* (Diptera: Calliphoridae). *Bull. Entomol. Res.* 82: 125-131.
-

Address of authors: Eng. M.S.EMAME. Plant Pests & Diseases Research institute, Agricultural Research Center of Esfahan. P.O. Box 1447-81445, Iran.

Dr.A.SAHRAGARD & Dr. J. HAJI-ZADEH. Department of plant protection, College of Agricultural Sciences, Guilan University. Rasht, Iran.