Effect of alternate food sources on biological parameters of *Stethorus pauperculus* Weise (Coleoptera: Coccinellidae)

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ABSTRACT: The effect of different alternate food sources on survival, mating frequency, fecundity and egg hatchability of *Stethorus pauperculus* was tested under laboratory conditions. None of the alternative hosts was able to maintain fertility of the female *S. pauperculus*, except the primary hosts which included two spotted red spider mite (*Tetranychus urticae* Koch), sorghum mite (*Oligonychus indicus* (Hirst)) and yellow mite (*Polyphagotarsonemus latus* (Banks)). Although some eggs were laid when *S. pauperculus* was supplied with pollen and honey mixture, they did not hatch. The most effective food source for maintaining adult longevity was *T. urticae* (39.30±1.08 days), followed by sorghum mite, *O. indicus* (29.75±0.67 days) and yellow mite (25.25±0.78 days). © 2015 Association for Advancement of Entomology

Key words: *Stethorus pauperculus*, alternate food sources, biological parameters

Several natural enemies of spider mites have been recorded all over the world (Granham, 1985). Among them the beetles belonging to family Coccinellidae are predators of spider mites specially *Stethorus* spp. are specialized mite predators in Coccinellidae (Felland and Hull, 1996; Hoy and Smith, 1982 and McMurry *et al.*, 1970). The ladybird beetles of the genus *Stethorus* (*Stethorus punctillum*, *S. gilvifrons*, *S. punctum picipes*) are the most effective natural enemies of the phytophagous mite species *Tetranychus piercei* McGregor, *Panonychus citri* McGregor, *Panonychus ulmi* (Koch) and *Tetranychus urticae* Koch (Lui and Lui, 1986; Lorenzato, 1987; Wen, 1988; Pasaulini and Antropoli, 1994; Cakmak and Aksit, 2003; Gencer *et al.*, 2005; James *et al.*, 2001 and Perez *et al.*, 2004). *Stethorus pauperculus* Weise is one of the most effective—coccinellid predators of the two-spotted spider mite. Their larval and adult stages feed on different stages of the two-spotted spider mites.

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