



## Natural parasitisation by the exotic parasitoid, *Leptomastix dactylopii* Howard on *Planococcus citri* (Risso) infesting custard apple

M. MANI, A. KRISHNAMOORTHY and P. N. GANGAVISALAKSHY

Division of Entomology and Nematology  
Indian Institute of Horticultural Research (ICAR)  
Hessaraghatta Lake Post, Bangalore 560 89, Karnataka, India  
E-mail: mmani@iihr.ernet.in

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**ABSTRACT:** The citrus mealybug, *Planococcus citri* (Risso) was found in large numbers infesting custard apple at Indian Institute of Horticultural Research Farm, Bangalore during August-October 2004. Sampling of infested custard apple fruits during this period revealed the presence of *Leptomastix dactylopii* Howard. Adult parasitoids were recovered after five years of its release in 1983 and again in 2004 in the present study indicating the permanent establishment. In general, the activity of parasitoids particularly on mealybugs on custard apple was very low. The natural parasitisation by *L. dactylopii* ranged from 0.41 to 2.72 per cent but the presence of *L. dactylopii* indicated that there is some scope of exploiting *L. dactylopii* in the suppression of *P. citri* infesting custard apple.

**KEY WORDS:** Custard apple, *Leptomastix dactylopii*, *Planococcus citri*

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About 20 insect pests have been found attacking custard apple, *Annona squamosa* (Linnaeus) in India (Butani, 1976). During the search for the natural enemies of insect pests of custard apple in 2004, the citrus mealybug, *Planococcus citri* (Risso), was found in large numbers infesting custard apple at IHR Farm, Bangalore North. About 50 per cent of the custard apple fruits was found covered with *P. citri* in August-October 2004. It was reported earlier as a minor pest of custard apple in Karnataka (Mani and Krishnamoorthy, 1989).

Twenty custard apple fruits covered with the mealybugs were collected at different dates from

August to October in 2004, brought and kept in cloth walled wooden cages (30 x 30 x 30cm) for emergence of natural enemies, if any. Initial sampling revealed the presence of the exotic parasitoid, *Leptomastix dactylopii* in August 2004. The parasitism ranged from 2.72 to 0.41 per cent. A maximum of 2.72 per cent was observed on 19<sup>th</sup> August, followed by 0.92, 0.68, 0.73, 1.00, 0.41 on 21<sup>st</sup> & 27<sup>th</sup> August, 1<sup>st</sup> & 6<sup>th</sup> September and 11<sup>th</sup> October, respectively. Besides *L. dactylopii*, only the larvae of the coccinellid predator, *Cryptolaemus montrouzieri* Mulsant were observed in negligible numbers.

The recovery of *L. dactylopii* in 2004 even

after 20 years of initial release in 1984 (Krishnamoorthy and Singh, 1987) indicated that the parasitoid had established at IHR farm. The parasitoid was also recovered in 1989 by Krishnamoorthy and Mani (1989) on *P. citri* infesting pomegranate, grapes and mango, but the impact on the mealybug population was almost negligible.

The recovery of *L. dactylopii* was very high in acid lime, lemon and guava orchards infested with *P. citri*, which was controlled very effectively (Krishnamoorthy and Singh, 1987; Mani, 1994a and 1994b). In general, the activity of parasitoids particularly on mealybugs on custard apple was very low (Mani & Krishnamoorthy, 1989). The natural parasitisation of *L. dactylopii* observed in the present study indicated that perhaps there is scope of exploiting the parasitoid in the suppression of *P. citri* on custard apple.

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