

## A New Record of *Ooencyrtus papilionis* (Hymenoptera : Encyrtidae) on the Eggs of *Papilio demoleus* (Linn.) from India\*

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The citrus leaf-eating caterpillar *Papilio demoleus* (Linn.) is a key pest of citrus in India causing extensive damage especially in nurseries and to tender flushes of foliage of different citrus cultivars in the field. A number of natural enemies were recorded by earlier workers (Pruthi and Mani, 1985; Singh, 1980, 1985; Krishnamoorthy and Singh, 1986; Krishnamoorthy, 1987). During the course of observations in the campus, a large number of eggs laid by *P. demoleus* on citrus were found to be parasitised. Such eggs were brought to the laboratory and kept individually in glass tubes (7.5 x 2.5 cm) and on emergence, the parasitoids were separated based on visual characters. Subsequently, the parasitoids were indentified by Commonwealth Institute of Entomology, London.

Observations revealed the presence of three parasitoids viz. *Telenomus* sp., *Trichogramma* sp. and *Ooencyrtus papilionis* Ashmead. The latter is a new record from the eggs of *P. demoleus* in India. The specimens of *O. papilionis* could be a form of *Ooencyrtus malayensis* (Ferriere) (J.S.Noyes, personal communication). Total egg parasitism was to the extent of 62 per cent, of which *O. papilionis* accounted for 56.4%. *O. papilionis* was previously known only from the Philippines where it parasitised eggs of a number of *Papilio* species (Ferriere, 1931). Recently, Tryapitsyn *et al.* (1977) also recorded it from the eggs of various papilionids from Vietnam.

Three to seven adults emerged from a single egg. Total developmental period was 11-13 days and adults lived for 5 days. *O. papilionis* readily parasitised *P. demoleus* eggs

when offered, but failed to parasitise the eggs of laboratory host *Corcyra cephalonica* Stainton. *O. papilionis* had been recorded from sugarcane leafhopper *Pyrilla perpusilla* Walker by many workers in India (Rahman and Nath, 1940; Subba Rao, 1979). Vital information on its biology under constant and variable temperature on *P. perpusilla* has already been published (Madan *et al.*, 1984).

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Key Words : *Papilio demoleus*, egg parasitoids, *Ooencyrtus papilionis*, *Telenomus* sp., *Trichogramma* sp.

### REFERENCES

- FERRIERE, CH. 1931. New Chalcidoid egg parasites from south Asia. *Bull.Ent.Res.*, 22, 279-295.
- KRISHNAMOORTHY, A. 1987. Record of *Telenomus (Aholcus)* sp. nr. *incommodus* Nixon on citrus butterflies, *Papilio* spp. *Sci. & Cult.*, 53, 156.
- KRISHNAMOORTHY, A. and SINGH, S.P. 1986. Record of the egg parasite *Trichogramma chilonis* on *Papilio* spp. in citrus. *Curr.Sci.*, 55, 461.
- MADAN, Y.P., MRIG, K.K. and CHAUDHARY, J.P. 1984. Biology of *Ooencyrtus papilionis* Ashmead - an egg parasite of *Pyrilla perpusilla* Walker under constant and variable temperature conditions. *Haryana Agric. Univ. J. Res.*, 14, 472-475.
- PRUTHI, H.S. and MANI, M.S. 1945. Our knowledge of the insect and mite pests of citrus in India and their control. *Sci.Monogr.Coun. Agri.Res.*, 16, 42 pp.

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- RAHMAN, K.A. and NATH, R. 1940. Bionomics and control of the Indian sugarcane leafhopper, *Pyrilla perpusilla* Walker (Rhynchota : Fulg.) in the Punjab. *Bull. Ent. Res.*, **31**, 179-190.
- SINGH, S.P. 1980. Biological Control of insect pests of citrus. In - Proceedings of the third workshop of AICRP on Biological Control of Insect Pests and Weeds, pp 45-47.
- SINGH, S.P. 1985. Biological control of insect pest of horticulture. *Proc. Natl. Sem. Entomoph. Ins. Calicut*, pp 221-231.
- SUBBA RAO, B.R. 1979. Taxonomic studies on some encyrtid genera (Hymenoptera : Chalcidoidea : Encyrtidae). *Orien. Ins.*, **13**, 139-148.
- TRYAPITSYN, V.A. MYARTSEVA, S.N. and KOSTYUKOV, V.V. 1977. A new species of parasitic Hymenoptera of the genus *Ooencyrtus* Ashmead, 1900 (Hymenoptera, Chalcidoidea, Encyrtidae) from Vietnam. *Entomologicheskoe oboz.*, **56**, 670-675.