

**Parasitic wasps, *Dinarmus acutus* (Thompson) and *Dinarmus basalis* (Rondani) (Hymenoptera: Pteromalidae) parasitizing pulse beetle *Callosobruchus maculatus* (Fabricius)**

H. C. GUPTA, I. J. GUPTA and S. N. SHARMA  
Seed Technology Research, Agricultural Research Station  
Durgapura, Jaipur 302 018, Rajasthan, India

**ABSTRACT:** A survey of pulse beetle, *Callosobruchus maculatus* (Fabricius) infestation in greengram (*Vigna aureus* Roxb.) was conducted in different villages of districts Alwar and Jaipur (Rajasthan). The parasitic wasps, *Dinarmus acutus* (Thompson) and *D. basalis* (Rondani) have been observed as potential parasitoids, with parasitism ranging from 13 to 29 per cent. Only the last instar larvae and pupae of *C. maculatus* were parasitized.

**KEY WORDS:** *Callosobruchus maculatus*, *Dinarmus acutus*, *Dinarmus basalis*

During a survey of pulse beetle, *Callosobruchus maculatus* (Fabricius) infestation on greengram pulse (*Vigna aureus* Roxb.) seed samples were collected from different types of storage structures from different villages of Alwar and Jaipur (Rajasthan). Seventy eight samples (50g each) were drawn from July to September, 1996 and the infestation of *C. maculatus* was observed in all the samples which ranged from 16 to 57 per cent. Out of these samples, in nine samples, parasitic wasps, *Dinarmus acutus* (Thompson) and *D. basalis* (Rondani) (Hymenoptera: Pteromalidae) were observed parasitizing the pulse beetles, *C. maculatus*. Hundred

seeds were randomly drawn from these nine samples and each seed was carefully dissected under stereoscopic binocular microscope, to observe different developmental stages of pulse beetle and the stage of the host vulnerable to the ectoparasitoids, *D. acutus* and *D. basalis*. The level of parasitization of these ectoparasitoids on pulse beetle ranged from 13 to 29 per cent. It was observed that only the last larval instar and pupal stages of the pulse beetle were parasitized. The occurrence of *D. basalis* had earlier been reported from Madhya Pradesh by Verma (1991). However, this is the first report of *D. acutus* and *D. basalis* as parasitoids on

pulse beetle from Rajasthan, India.

These studies indicate that *D. acutus* and *D. basalis* are important parasitoids of pulse beetle and can be exploited in biological suppression of pulse beetle in leguminous seeds.

#### ACKNOWLEDGEMENT

The authors are grateful to Dr. T. C. Narendran, Department of Zoology,

University of Calicut, Kerala, for the identification of the parasitoids.

#### REFERENCE

Verma, R. 1991. Life history and some aspects of biology of *Dinarmus basalis* (Hymenoptera: Pteromalidae), a parasite of stored legume bruchid. *Acta Entomologica Bohemoslonaka*, **88** (6): 359-366.