



Fig. 11

Fig. 12

Fig. 13

Troilus luridus (Fabricius) (= *Podisus luridus*) (Fig. 11) is also called the bronze shield bug, is a widely distributed Palearctic species. It is distributed in the northern part of India especially in Himachal Pradesh and Uttarakhand. It is brown coloured bug with scattered ochraceous and black markings on dorsum. It is a predator of larvae of both Lepidoptera (Geometridae) and Coleoptera.

Picromerus griseus (Dallas) (Fig. 12) is a brownish bug with head and lateral margins of pronotum including humeri, black; lateral margins of pronotum is prominently serrated. This species is distributed in Sikkim, Naga Hills, Tripura and Himachal Pradesh. They prey upon a wide array of insect pests especially larvae of leaf feeding lepidopteran and coleopteran pests. This is yet another species which is amenable for multiplication as other species of *Picromerus* like *P. bidens* (Linnaeus), which was successfully



Fig. 14



Fig. 16



Fig. 15

multiplied in the laboratory, on larvae of lepidopteran host like *Galleria mellonella* in European countries.

Zicrona caerulea (Linnaeus) (Fig. 13) is a metallic blue coloured, medium sized bug (7-8 mm) resembling beetle in its external appearance. They are widely distributed in India and are associated with rice and ornamental plants like rose. Both adults (Fig. 14) and nymphs (Fig. 16) feed on leaf beetles belonging to *Altica* spp. (Fig. 15) especially stages like adults and grubs. Though it is particularly noted as a predator of Chrysomelidae, it has been reported to prey on larval forms of Coleoptera, Lepidoptera, Heteroptera and Diptera.

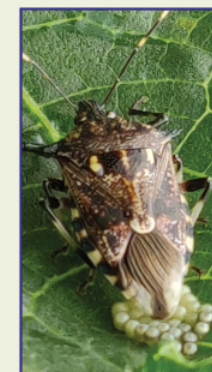
Asopinae as biocontrol agents and future challenges

It is reported that the first instars often feed on plant juices, which provide them moisture and supplementary nutrients at critical times. But unlike other predatory heteropterans, plant feeding asopines have not been reported to injure crops. They are usually generalist predators attacking prey belonging to various taxa.

Though India is represented by nearly 30 species of Asopinae, majority of these remain unexplored for their potential to use as biological control agents in managing pests of various crop plants. Biological control using predatory pentatomids can be effective mainly in augmentative release method, for which the major challenge is the artificial production of quality predators in large numbers at reasonable cost.

Standardization and mechanization of rearing procedures, improvement of storage facilities for the predators, development of suitable application systems and compatibility of predators with commonly used pesticides are other future challenges for their effective use as biological control agents in the field.

Beneficial fauna of Stink bugs of India



Salini, S
David, K.J
Rabbani, M.K



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ICAR-National Bureau of Agricultural Insect Resources
P.O. Box 2491, H.A. Farm Post, Hebbal, Bengaluru 560 024, India
Phone: +91 80 2341 4220 ♦ Fax: +91 80 2341 1961
Website: www.nbair.res.in Email: director.nbair@icar.gov.in
(ISO 9001: 2008 Certified Institution)