

Sexing of the Coccinellid *Chilocorus bijugus* Mulsant.

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The coccinellid, *Chilocorus bijugus* Mulsant, is a key predator of scale insects in India. Morphological descriptions of *Chilocorus* spp. with emphasis on male and female genitalia were furnished by Kapur (1954) and Nagaraja and Hussainy (1967) but no distinguishing features were described to sex the live adults. Only dead beetles can be sexed on genitalia basis as the latter remains invaginated in genital pocket. In this communication, morphological charac-

teristics which can be used to sex the beetle in adult and pupal stages are reported.

In permanent mounts of adult beetles, sexual dimorphism was noticed with respect to the sub-genital plate (apparently last sternal plate). It was entire and somewhat semicircular in the female (Fig. 1) but in the male, it was more or less quadrangular with a slight notch (depression) in the middle of its apical margin. The notch was thick and darker (Fig. 2). In the

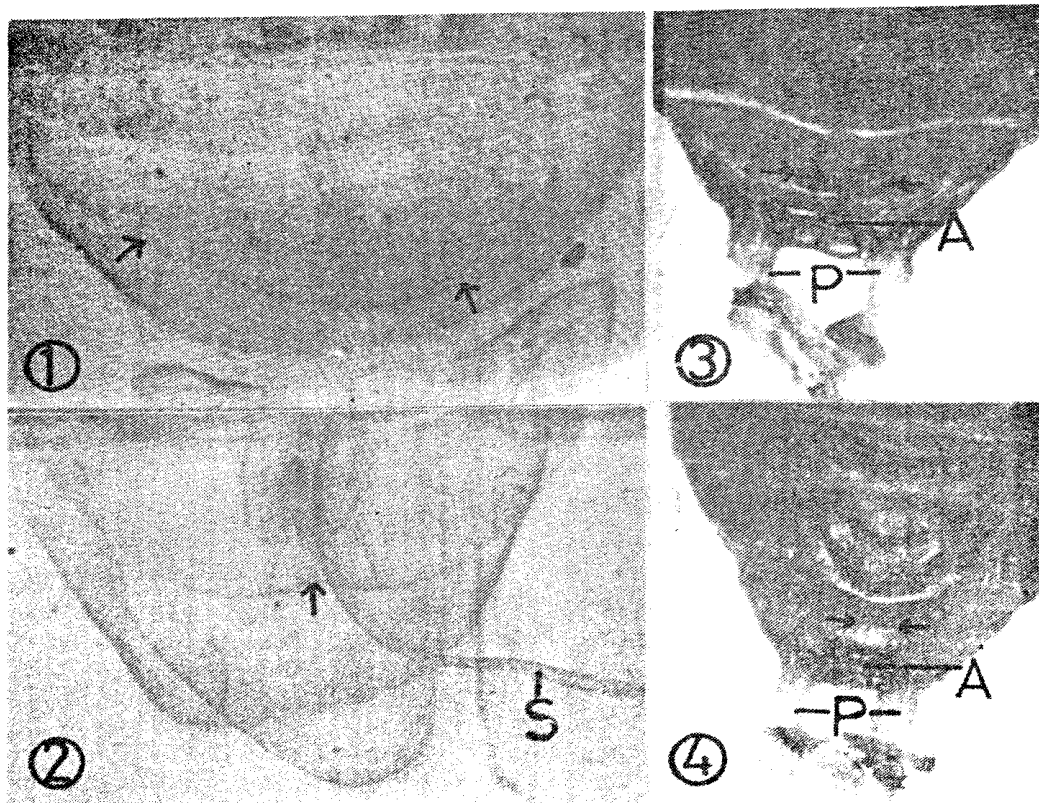


Fig. 1-4. Subgenital plate (VI countable sternite) of adult *C. bijugus*, semicircular and entire (arrows) in the female (Fig. 1) and with a notch (arrow) in the male (Fig. 2). In pupa, venter of the penultimate uromere with distinct tubular projections (arrows) in the female (Fig. 3) and without such structures (arrows) in the male (Fig. 4). A - anus; P - anal processes holding remains of the larval exuvium; S - siphon.

freshly fledged male, the notch was distinct and from it began a cuticular ridge that extended through mid ventral line to the base of the subgenital plate and on either side of this ridge was present a depression making subgenital plate in the male more discernible. Older beetles having abdominal tip smeared with excreta or debris were difficult to sex. Males were only slightly smaller (range: 4.0-5.6 mm long, 4.0-4.7 mm broad; average: 4.995 mm X 4.390 mm) than females (range: 3.5-6.0 mm long, 3.0-4.9 mm broad; average: 5.147 mm X 4.338 mm). Hence, sexing is not feasible on body size basis.

An attempt was made to sex the beetles on the basis of pupal characters. Venter of the ultimate uromere (X) had a distinct anus flanked by long anal projections which held the larval exuvium. On either side of mid of the sternum of penultimate abdominal segment were present a pair of robust cylindrical to slightly conical processes which were apically round in some pupae (Fig.3), while others were

without such structures (Fig. 4). From pupae with tubular outgrowths emerged the female beetles, sex of which was confirmed by observing the shape of the subgenital plate. From the pupae without such processes emerged the males. Similar tubular outgrowths have also been seen in the female pupae of the phytophagous coccinellid, *Epilachna*, by Gupta and Dogra (1990).

Key Words : *Chilocorus bijugus*, sexing, adult, pupa

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