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AN ABNORMAL GENITALIA IN CIOJNDELA AULICE DEJ. (COLEOPTERA: CICINDELIDAE) FROM IRAQ

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ABSTRACT

Phenomena of an abnormal genitalia was among some specimens of Cicindela aulica Dej. Collected from Iraq. The fore tarsi of male were asymmetrical having its basal three segments dilated and clothed beneath with fine bristles as in normal male. While those of the right leg were found simple as in normal females. Dissection of the genialia of these specimens showed that they were of two types of both male and female structures.

INTRODUCTION

The male and female genitalia of most Coleoptera have not been revealed. Most species were described externally only. The general variations in the male genitalia of some species were firstly revealed by sharp and Noir(1912), while the female genitalia of few other species were comparatively studied by tanner (1927). pormeroy (1932), Ali (1967) described and illustrated both male and female genitalia of Scarites eulytus fisch (carabidae).

The species of the family Cicindelidae of Iraq have not been investigated from this point. Only the male genital tube of eight newly described Ali (1978) studied species of Cicindelidae from Iraq.

The families Cicindelidae have long been treated as a distinct family. however some working such as Crowson (1955) and Lindroth (1974) have suggested that the Cicindelids should be a subfamily of the Carabidae.

MATERIAL AND METHOD

Specimens of Cicindela aulica Dej. Were collated from Iraq during summer 1993, therefore eight dried specimens were used for the present study. The specimens were relaxed in warm water for about 20 minutes. The abdomen was dissected out was further softened and cleared for 10 minutes in 10% warm KOI-I solution. The ginitalia were dissected by pulling the aedeagus out through the opening between the last abdominal solerites. Pressure was applied on the basal part of median lobe to event the internal sac while pulling this sac through the median orifice.

Examination was made in methyl benzoate under a binocular microscope. Diagrams were performed with aid of an ocular grid and squared papers. Measurements were done with occular micrometer.

RESULTS AND DISCUSSION

normal in females of this Fore tarsi of male in some specimens were found to be asymmetrical having the left leg with basal three tarsal segments and clothed beneath with fine bristles as in normal males. Those of the right leg were all simple as found in species (Fig. I and 2).

Male genitalia, the male genital tube of Cicindelid as figured here for comparison (Fig. 3) and to illustructures. the median lobe is tubular and curve upward. swollen along the distal two thirds and narrowed toward basal end: median orifice being as a slit along ventral side of the distal end the lobe, while the median foramen as a circular opening receiving the ejaculatory duct at basal end of the median lobe (aedeagus). lateral lobes slender styliform and tapering at their distal end, each lobe has a small swollen at the point where it connects to the arms of the basal piece. internal sac large membranous and coiled when not evaginated and when everted through the median orifice it shows small sclerites at the distal end, some of these sclerites have serrate margins. It is found that the male genitalia of the specimens studied here were well developed (Fig. 3). The genital tube consists of a tubular lobe, and has a silt the median at the ventral side toward the distal end, through which the internal sac is evaginated. lateral lobes or the parameres as have been called by snodgress (1935) are slender and pointed apically. both lateral lobes on left side of the aedeagus. basal piece V-shaped. small and connected to the lateral lobes about halfway from their origin, basal piece and the lateral lobes are connected b a membrane encloses the basal end of the aegeagus. the lateral lobes are giabrous at their distal end. having no hairs as in Carabidae Lindroth (1957).

The female genitalia are not well developed in the abnormal specimens there are being located as a half set of the genital appendages on the right side of the male genital tube, they consist of a short stylus and a coxite with a very short rudimentary vulva. The proetiger and the paraprocts may represent the tenth tergite respectively.

This case of combined male and female genital appendages in the came specimen represents a gynandromorphic form in the species. A biological and ecological studies are needed for the future to reveal more informations on this interested case in field.

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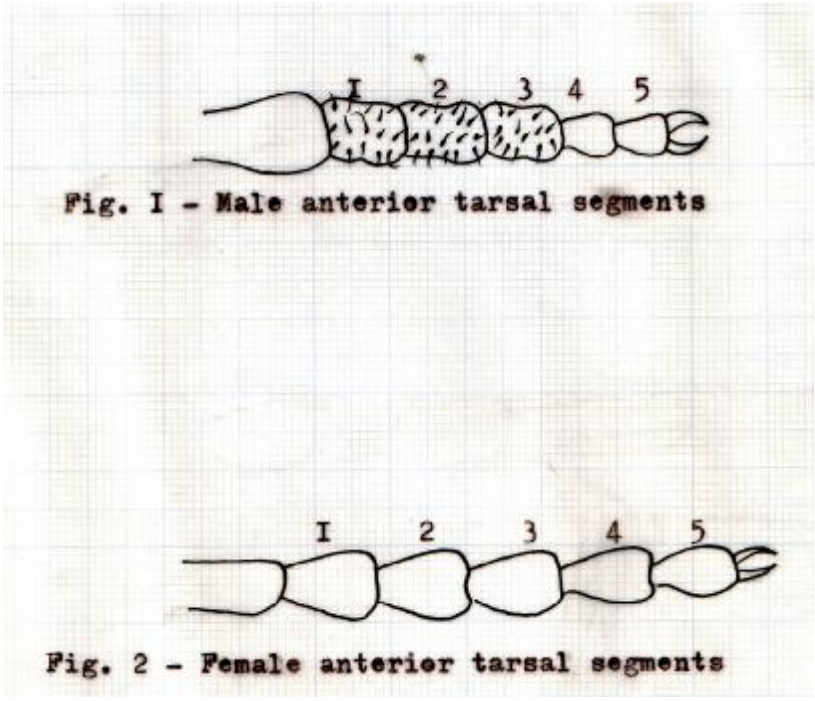

Fig. I - Male anterior tarsal segments

Fig. 2 - Female anterior tarsal segments

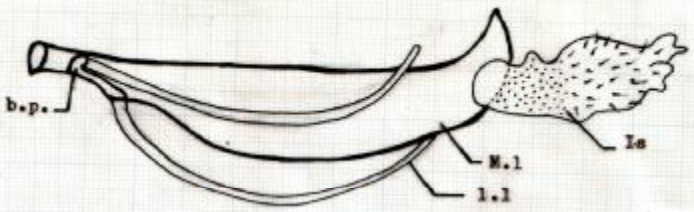

Fig. 3 - Male genitalia (Normal)

0.16 mm

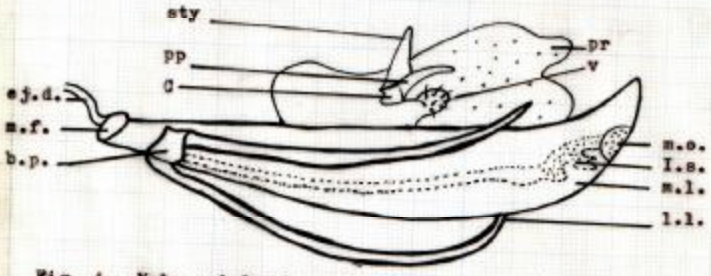

Fig. 4 - Male and female genitalia combined (abnormal condition)

List of abbreviations

Male genitalia

b.p. = basal piece
ej.d = ejaculatory duct
i.s. = internal sac
L.L. = lateral lobes
m.f. = median foramen
m.l. = median lobe
m.o. = median orifice

Female genitalia

c = coxite
sty = stylus
pp = paraproct
pr = proctiger
v = vulva

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