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# BLACK LEAFHOPPER OF SUGARCANE OF RAJSHAHI, EAST PAKISTAN

BY RANA PARVIN MIRZA AND M. A. H. QADRI

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WHILE conducting a survey of sugarcane farms at Rajshahi (East Pakistan), Qadri detected a serious infestation of a particular leafhopper pest which has not been recorded previously either from India or Pakistan. The general form of this hopper has a close resemblance to the genus *Eoerysa* sp. The authorities of the British Museum have determined it as *Eoerysa flavocapitata* Muir. This hopper was recorded by Muir (1920) from China and Federated States of Malaya but the description available is poor and inadequate. The eggs are deposited deep into the tissues of sugarcane leaf along either side of the mid-rib and the nymphs and adults live highly concealed within the whorls of sheathing leaves near the top of the sugarcane plant. The injury first appears on the plant in the form of drying up of leaves and it is followed by the appearance of sooty mould and red streaks on the leaves

The pest is wide spread in East Pakistan and it is feared that the growing cultivation and transport of sugarcane from one place to another will help this pest to assume an international status.

The following is the detailed morphological description of the pest :

**EGGS:-** Whitish in colour, elongated, cylindrical and slightly curved in the middle, they are deposited deep into the tissues of sugarcane leaf separately along either side of the mid-rib.

**NYMPH:-** (Fig. 1). Body pale; vertex white; frons dark brown; clypeus pale; gena darker in colour. A visible dark band on the metathorax of the fully grown nymphs.

**LEGS :-** Brownish; hind tibial apical spur present; apical margin of the spur dentate.

**TEGMINA :-** Abbreviated; venation indistinct.

**GENITALIA :-** Not distinct in nymphs but is well developed and highly modified in adult forms.

## ADULT (Fig. 2):—

HEAD (Fig. 3) :—Vertex pale; frons dark brown; gena dark brown; single ocellus on each side anterior to the eye. Antennae three segmented. The flagellum arises from the terminal segment which is beset with sensory papillae on the dorsal side. The head is divided into two sections by fronto-clypeal suture. Length of the frons+vertex is more than half the length of the clypeus+labrum. The labrum is narrow towards the tip. Three longitudinal sutures of which two are lateral and one median. The median suture is mid cranial sulcus according to Snodgrass and the lateral ones are the labio-clypeal sutures.

THORAX :—Pro—, meso —, and meta-thorax + brown, but the lateral portions are darker.

TEGMINA (Fig. 4) :—Longer than the hind wing. In the forewing the sub-costa (sc) and radius (R) are coalesced for a considerable distance from the base and the radius bifurcates into R1 & R2. R2 again bifurcates into R3 and R4. Sub costa, and R1 diverge towards the costal margin while the R3 and R4 reach the apical margin of the tegmina. Media (M) connected by short cross veins to radius (R) and cubitus 1 (cu 1). The cubitus (Cu) divides into two branches cu1 and cu2. The latter is unbranched, while the former bifurcates into cu3 and cu4. The claval suture runs parallel to the cubitus and reach the margin. Second and third anals meet at the middle of their length and then reach to the middle of the margin.

LEGS :—Brownish; an apical spur on the hind tibia; tibial spur dentate with 18 teeth (Fig. 5). Hind tibia has two spines and tarsi are three segmented.

GENITALIA :—The male external genitalia comprises of a pair of parameres which are situated in the genital chamber formed by the 9th. and 10th. segments. Parameres are bilobed, these lobes are thickened at their bases and are narrower towards the apex. Aedeagus is a long median tubular process which arises from the

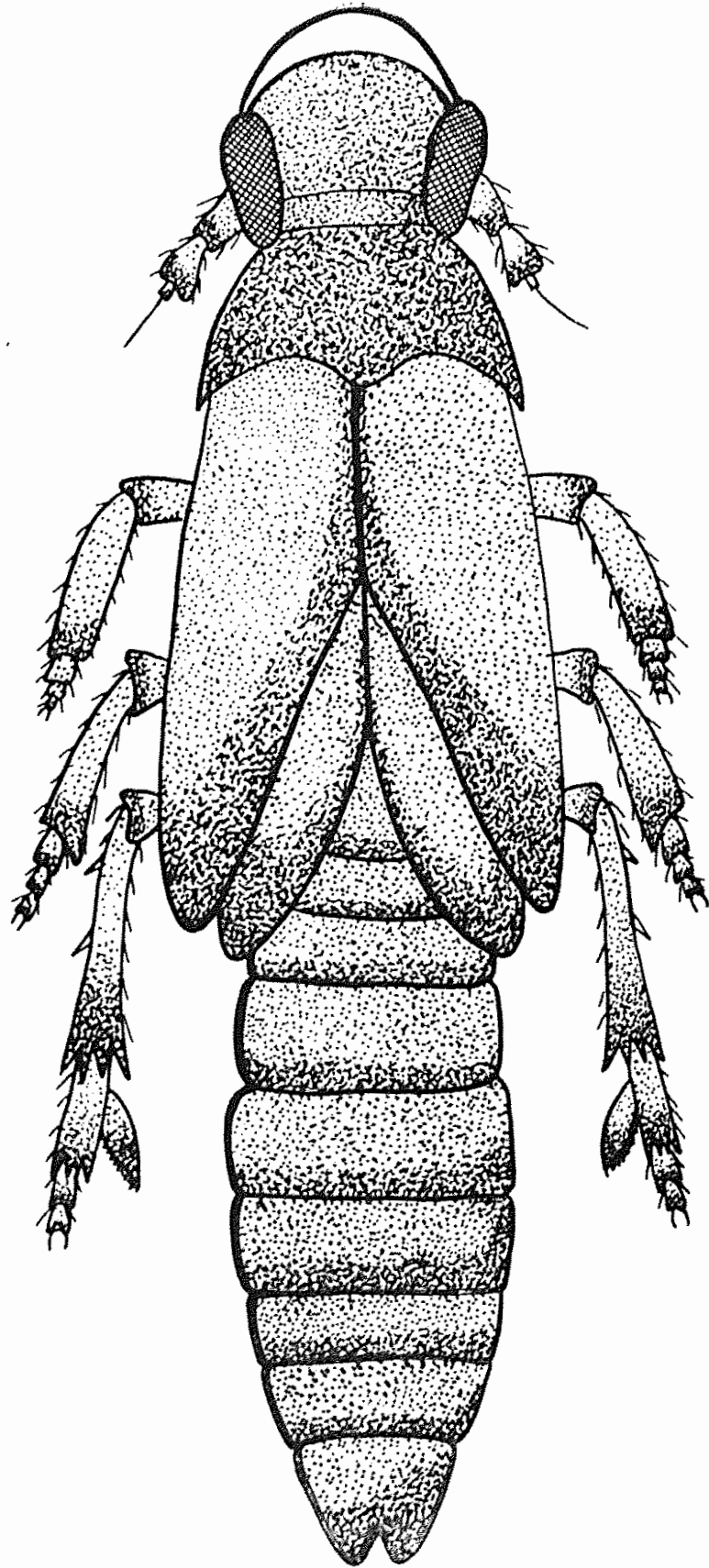


Fig. 1. Nymph

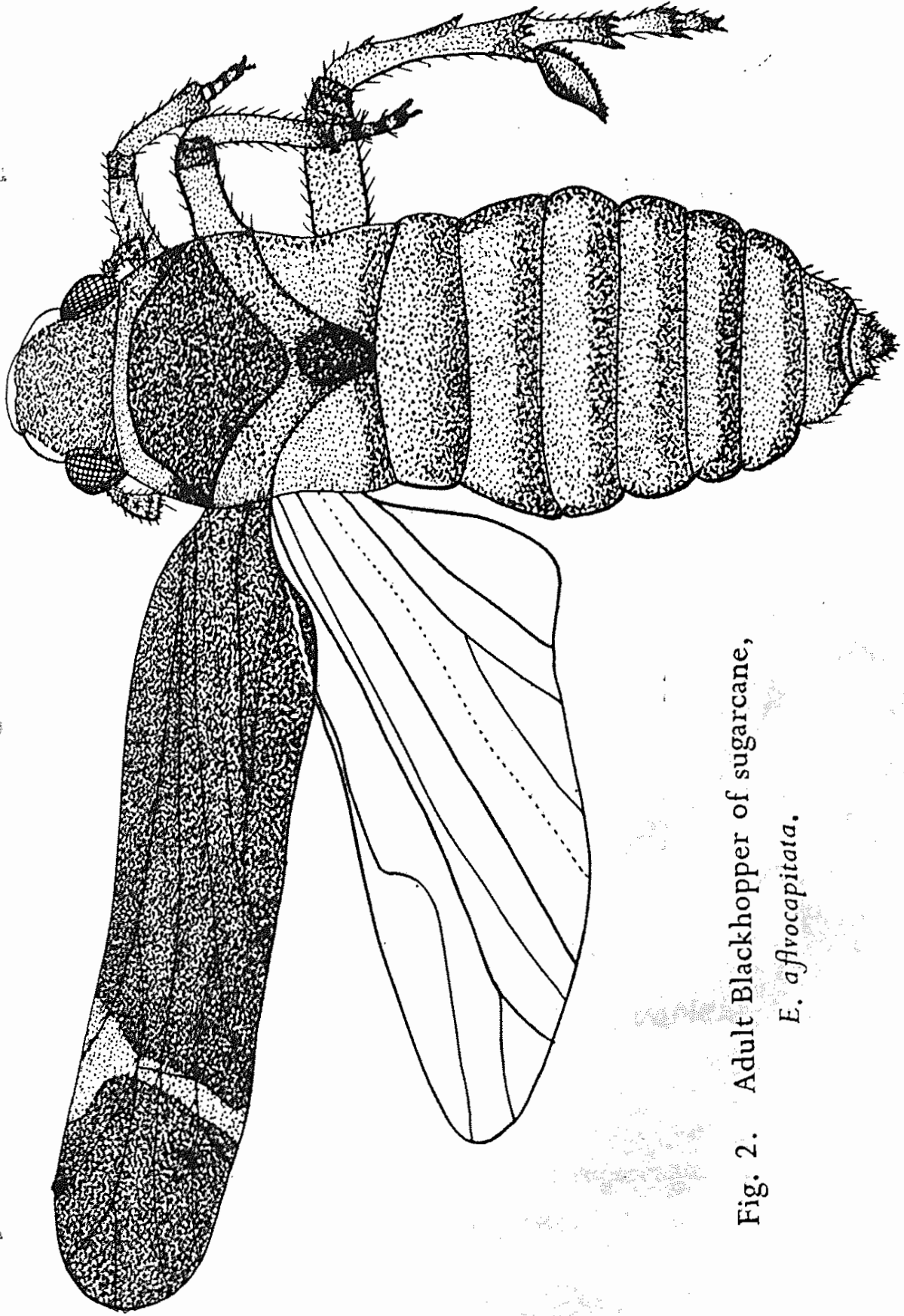


Fig. 2. Adult Blackhopper of sugarcane,  
*E. afrocapitata*.

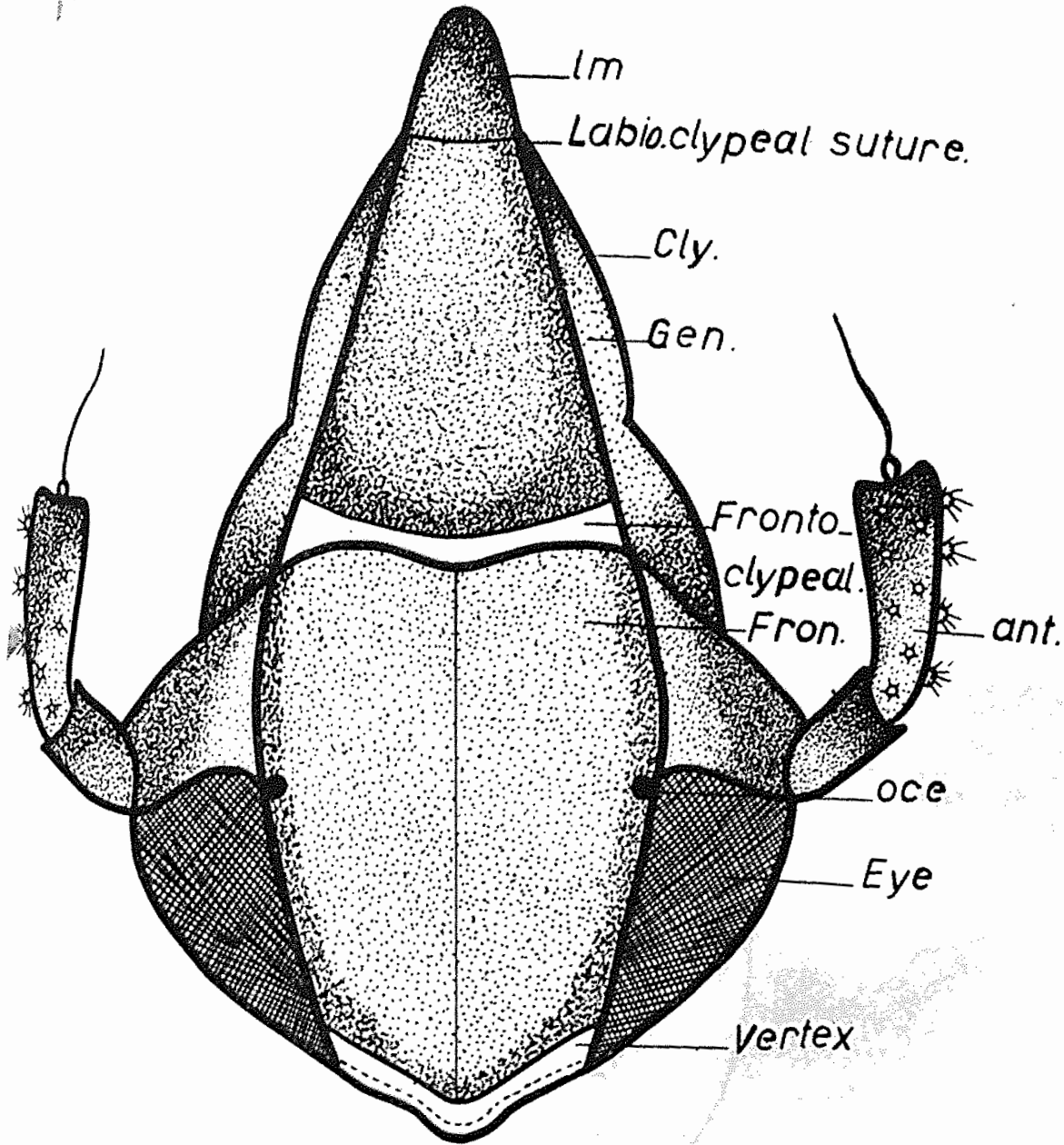


Fig. 3 Head. Blackhopper of sugareane,  
*Eoerysa flavocapitata*.

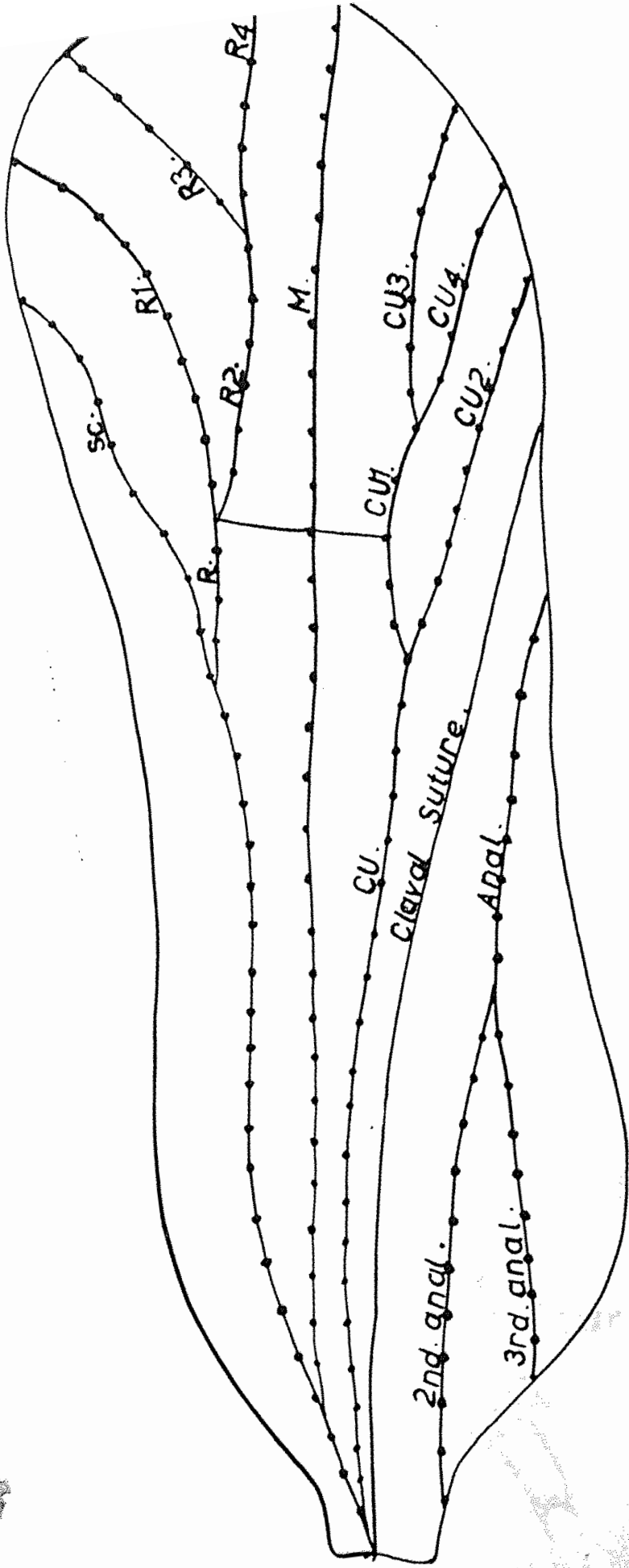


Fig. 4. Fore Wing

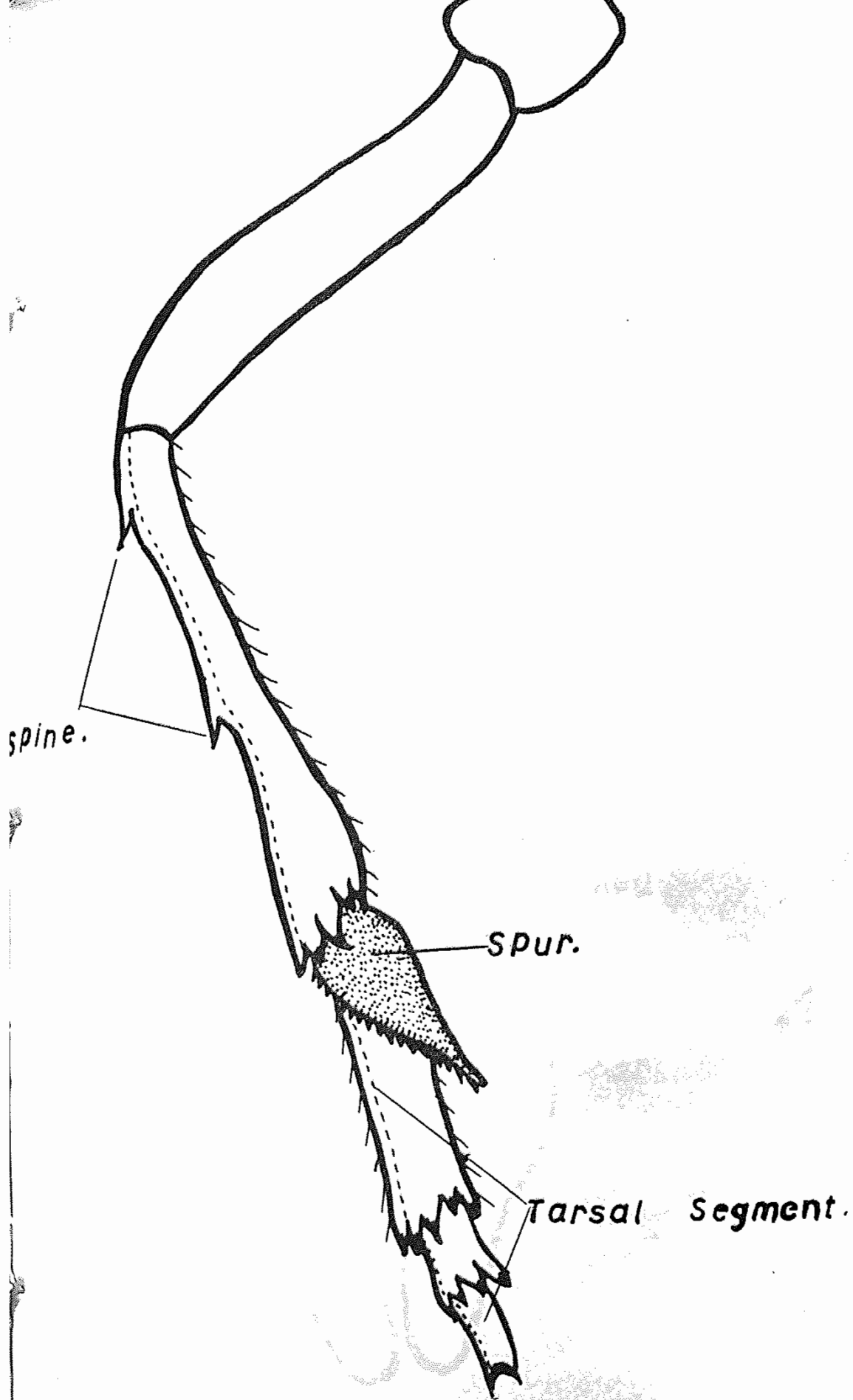


Fig. 5. Hind leg



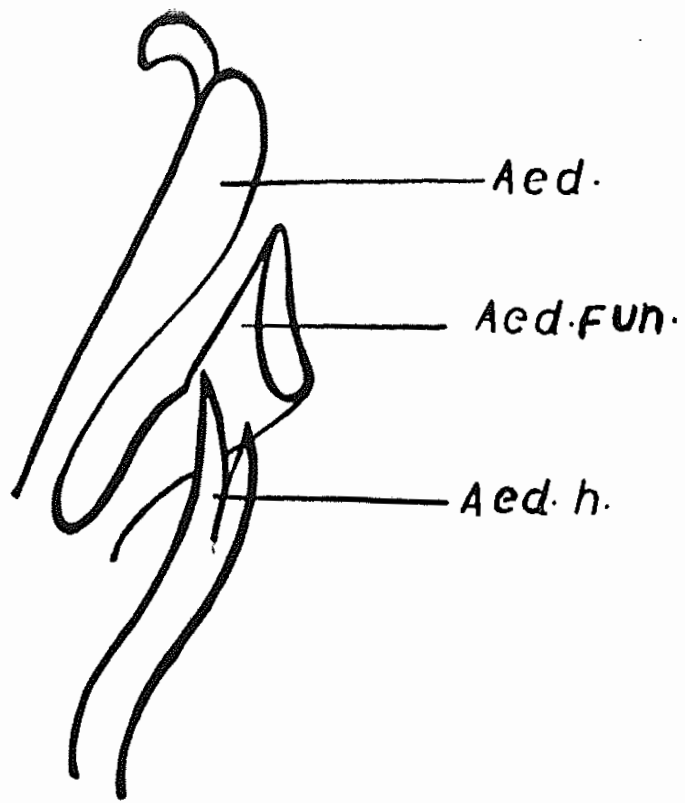


Fig. 6 a Aedeagus (enlarged).

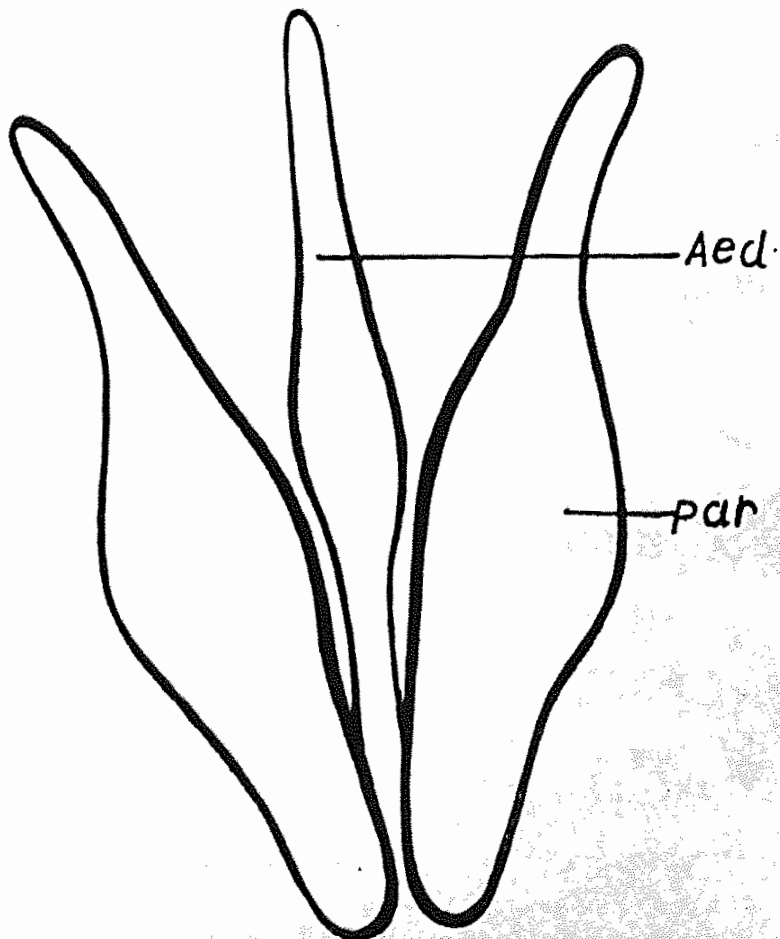


Fig. 6 b. Parameres (Enlarged) Male genitalia.

phalobase, it bears an aedeagal funnel and a pair of aedeagal hooks. Pygofer is prominent (Figs. 6a and 6b).

In the female the ovipositor is of delphacidae type, it is complete and resembles that of cicadallidae. It appears arising from the extreme anterior end of the abdomen due to the telescoping of sternites of the abdomen, all the three pairs of valves are very well developed. The dorsal valves are pointed and sclerotized at their apices, the inner ones are also elongated and reach as far as the apex of the abdomen.

**HABITAT** :—Sugar cane farms at Gopalpur, Rajshahi, Chittagong, Comilla, Dacca and Mymensingh (East Pakistan).

### Summary.

Leafhopper *Eoerysa flavocapitata* Muir (1920), is recorded for the first time from India and Pakistan as a serious pest of sugarcane. The same species prevails in China and Federated States of Malaya and was recorded by Muir in 1920. Either side of the mid-ribs of the leaves are encrusted with the tiny eggs and all the rest of the stages of life-history live highly concealed within the whorls of sheathing leaves at the apex of the plant.

Its serious infestation causes the drying up of the leaves, followed by the appearance of the sooty mould and red streaks on the leaves. It reduces the production of the sugar in East Pakistan. The external morphology of nymphs and adults is described.

### LIST OF TEXT FIGURES

1. Nymph of the last instar.
2. Adult.
3. Head (Adult).
4. Fore wing (Adult).
5. Hind leg (Adult).
6. Male genitalia (Aedeagus and parameres) a and b.

## ABBREVIATIONS USED IN THE TEXT

Aed.....	Aedeagus.
Aed. Fun.....	Aedeagal funnel.
Aed. h.....	Aedeagal hook.
ant.....	Antenna.
Cly.....	Clypeus.
Cu.....	Cubitus.
Gen.....	Gena.
Lm .....	Labrum.
M.....	Media.
Oce.....	Ocellus.
Par.....	Paramere.
R.....	Radius.
Sc.....	Sub-costa.
C.....	Costa.

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