

REDESCRIPTION OF *MYLLOCERUS UNDECIMPULATUS* FAUST (COLEOPTERA: CURCULIONIDAE) WITH REFERENCE TO MALE AND FEMALE GENITALIA FROM PAKISTAN

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ABSTRACT

Myllocerus undecimpulatus Faust is redescribed with reference to its male and female genitalia from Sindh, Pakistan. The present taxon is compared with its closest allies.

Key words: Redescription, *Myllocerus undecimpulatus* Faust, coleoptera, genitalia, Sindh, Pakistan.

INTRODUCTION

Curculionidae is a largest among all. Approximately 60,000 species have been described. The genus *Myllocerus* is restricted to Indian subcontinent of which numerous species have been described as serious pest. *Myllocerus undecimpulatus* Faust is a serious pest of cotton in Pakistan. The taxonomic work of this species is unknown in Pakistan. Hashmi and Tashfeen (1992) listed out only 28 species of *Myllocerus* from Pakistan while Chaudhary *et al.* (1966) gave only the distribution of 14 species of *Myllocerus* from Pakistan. So, presently detailed taxonomic worked has been taken into account with reference to its male and female genitalia.

MATERIALS AND METHODS

The present taxon was collected from a cultivated field in Malir near Karachi. The measurements and illustrations were made by using ocular grid microscope. For the study of male genitalia, the abdomen was excised at the base and boiled in 10 % KOH solution for about 10 minutes. It was then washed in tap water. The aedeagus and spermatheca were dissected out and examined under glycerin. After studying the male genitalia, these were placed in microvials with a drop of glycerin and pinned with the specimens for Natural History Museum University of Karachi (NHMUK).

RESULTS

Myllocerus 11-pustulatus Faust, 1891: 266; Marshall, 1916: 350 (SMTD).

Myllocerus marmoratus Faust, 1897: 360; Marshall, 1916: 350 (SMTD).

Myllocerus 11-pustulatus var. *marmoratus* (Faust): Marshall, 1916: 352.

Myllocerus maculosus Desbrochers des Loges, 1899: 111; Stebbing, 1914: 402; Marshall, 1916: 350 (ZSI).

Myllocerus 11-pustulatus var. *maculosus* (Desbrochers des Loges): Marshall, 1916: 351.

Myllocerus 11-pustulatus var. *pistor* Faust, 1897: 361; Marshall, 1916: 351 (SMTD).

Myllocerus undecimpulatus Faust (Latinised according to the International Code of Zoological Nomenclature).

(Fig. 1A -F)

Coloration:

Head with eyes black, vestiture light green and brown rounded scales with whitish brown recumbent hairs; thorax blackish brown with rounded green scales and recumbent hairs; elytra black with rounded green scales; antennae up to funicle black with light green recumbent hairs, club dark brown; legs black with light green, scaling and hairs.

Head:

Almost equal to rostrum; eyes black, faceted, subdorsal, strongly convex, almost oval; apex of rostrum dilated, apical emargination acute, central and lateral carinae distinct; antennae inserted from scrobes at apex of rostrum, scape long, cylindrical, slightly clavate at apex, funicle seven segmented, 2nd segment long 0.4mm (0.35mm-

0.45mm) than 1st segment 0.3mm (0.30mm-0.35mm), club 3 segmented, mucronate, 3rd segment long and pointed at apex.

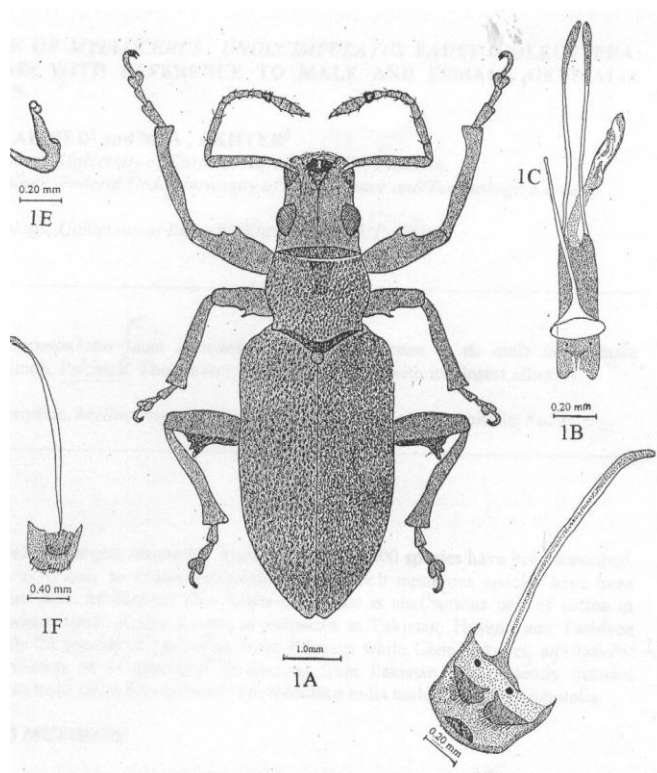


Fig.1 (A-F), 1A: *Myllocerus undecimpulatus*, Male: dorsal view; 1B: Aedeagus, 1C: Tegmen; 1D: Spiculum gastrale; 1E: Spermatheca, 1F: Spiculum.

Thorax:

Slightly longer 1.4mm (1.2mm-1.6mm) than broad 1.2mm (1.1mm-1.4mm), apex truncate, base strongly bisinuate, lateral sides almost rounded but concave at the base, angles slightly acute; mesosternum shorter than metasternum, mesosternum at middle but dilated laterally, mesoepimera small and almost rectangular shaped, metasternum broad, metaepisternum rectangular and strongly dilated, metaepimera elongate, cylindrical at margin, scutellum small, rounded with whitish green scales; shoulders of elytra broader than base of prothorax, apex sinuate, slightly sinuate at middle, narrow at base; striae ten in numbers, punctuation distinct; between intervals whitish green rounded scales with short recumbent hairs; metacoxal cavities oblong; legs simple, prothoracic and mesothoracic femora with two teeth, one small and other evidently large and slightly curved, metathoracic femora with 3 teeth, all tibiae internally sinuate, tarsi 4 segmented, 3rd segment bilobed and hairy, claws curved.

Abdomen:

Convex beneath, evidently longer than broad.

Total length: male 6.50mm (6.00mm-7.00mm) (**Fig. 1A**) ; female 7.00mm(6.8mm-7.4mm)

Male Genitalia:

Aedeagus (**Fig. 1B**) with penis not broad at apex, apical process well protruded and conical, internal sac elongated, internal sac valves small and rounded, basal and apical piece cylindrical, middle and apical piece well chitinated with tubercles and papillae, flagellum indistinct, apophyses one and a half times as long as penis, apices clubed, tegmen (**Fig. 1C**) with dorsal piece slender, manubrium with apex flat; spiculum gastrale twice as thick as apophyses, apex slightly curved and flat, basal prongs subequal, apices rounded.

Female Genitalia:

Spermatheca (**Fig. 1D**) with proximal arm cylindrical, apex double rounded, ramus slightly raised, distinctly

away from apex of proximal arm, cornu cylindrical, curved and slightly taper at end; spicule (**Fig. 1E**) long, apically curved and rounded at tip, base taper.

Material Examined:

Three male, 5 female, Pakistan; Sindh: Karachi, 8-6-01, 13-7-02, 20-6-03 on rose, *Gossypium spp.*; leg. Ahmed, Z., in NHMUK.

Comparative Note:

Mylocherus undecimpulatus pistor Faust is very close to *Mylocherus dentifer* (Fabricius) and *Mylocherus discolor* Boheman but they are different in having apical emargination acute, 2nd segment of funicle longer than 1st segment, vestiture of body greenish scales and by the other characters noted in the description.

DISCUSSION

Mylocherus undecimpulatus was first described under the name of *Mylocherus 11-pustulatus* by Faust in 1891, later Marshall in 1916 described this species under , *Mylocherus 11-pustulatus var. marmoratus*. In 1899 Desbrochers reviewed species names of Marshall and described as *Mylocherus maculosus*, after that according to in international code of Zoological nomenclature, this species Latinized and described as *Mylocherus undecimpulatus* Faust.

Due to a lot of variation of morphological characteristics viz; vestiture shape, between intervals scale color, position and also specially variability of male and female organs such as length breath ratio of aedeagus, internal sac shape with chitinized papillae and tubercles of different areas, flagellum exerted or inside, parameres shape at apex, apical process exerted or not, in female genitalia, spermathecia with proximal and distal arms different shape and structure, spicule with apex different shape, give a systematic variable position.

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