

ON A NEW SPECIES OF THE GENUS *BRACHYLIA* FELDER  
FROM INDIA (COSSIDAE : LEPIDOPTERA)

By

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(With 1 Text-figure and 1 Plate)

INTRODUCTION

Moore (1879) described an Indian species *acronyctoides* under the genus *Brachylia* Felder from Bombay for the first time, but the species was transferred to the genus *Zeuzera* Latreille (*vide* Cotes & Swinhoe, 1887), and ultimately to the genus *Cossus* Fabr. (*vide* Hampson, 1892) under which genus the species was treated till as recently as 1976 (*vide* Arora, 1976). The genus *Brachylia* remained mostly as a synonym of the *Cossus* till Clench (1959) revived and redefined the genus and included in it a new species, *B. eutelia* from African region. A new species, *Brachylia clenchi*\* is described from Himachal Pradesh, extending the distribution of the genus to India, this being the first species since the earlier one has been already assigned to *Cossus*.

DESCRIPTION

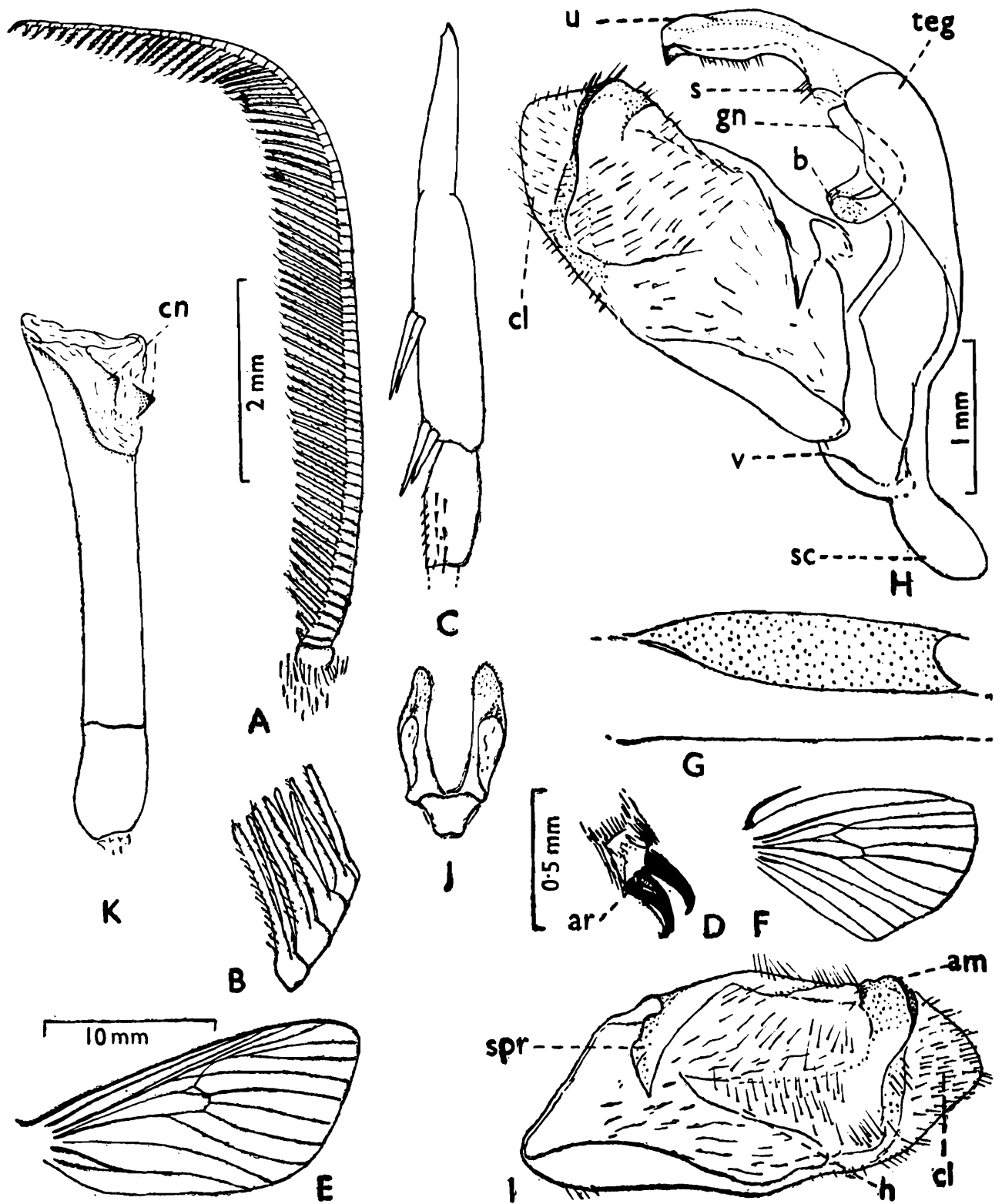
***Brachylia clenchi*, sp. nov.**

(Text-fig. 1A-K ; Plate XII)

Head with the labial palpi brown ; antennae blackish brown ; eyes dark. Thorax greyish-brown to brownish. Fore wings blackish-brown nearly up to the basal half, with the costa darker ; the distal half lighter in colour, being greyish-brown, marked by faint transverse striae inbetween veins throughout, a few striations prominent, especially the postmedial line which is excurved from subcosta to vein  $M_3$ , then incurved up to  $Cu_2$  below which it runs straight up to  $2A$  ; another prominent line in the submarginal area runs from below the apex to tornal angle and almost single throughout except at the area between  $M_3$ — $Cu_1$ , where it is paired. Hind wings pale greyish-brown, marked with very faint transverse striae on cost and from beyond cell angle to apex distally and up to vein  $Cu_2$  in inner area. Underside both wings of slightly paler in colour especially in basal half of fore wing.

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\* Named after late Mr. Harry K. Clench, Carnegie Museum, Pittsburg (U. S. A.), who had revived the genus.



Text-fig. 1. *Brachyilia clenchi*, sp. nov. : (A) Male antenna, showing pectination on one side. (B) A few basal segments of the antenna showing bipectination. (C) A part of the hind-leg showing dilated tibia, with spurs, and the 1st tarsal segment with spines. (D) Tarsal claws, with an arolium. (E) and (F) Fore- and hind wing venation, respectively. (G) Retinaculum. (H) Male genitalia in a latero-ventral view, without one clasper. (I) An inner view of the clasper. (J) Juxta with lobes. (K) Aedeagus. (Mag. of C same as of A; B and G as of D; F as of E; and I-K as of H).

Abdomen blackish brown. Legs blackish brown, marked with white bands on all the tarsal segments.

Head with the frons smooth ; labial palpi long, well developed, closely appressed to face but upturned and reaching about the bases of antennae. Antennae strongly bipectinate except at the tip (Text-figs. 1, A-B), the shaft about 73-74 segmented, the last segment simple and elongate, the rami short towards base as well as apex, the longest ramus as long as about seven segments. Legs with a pair of spurs on mid-tibiae and two pairs on hind-tibiae, the latter (Text-fig. 1, C) and the first tarsal segment dilated ; spines present on all the tarsal segments ; arolium present, though small (Text-fig. 1, D).

*Venation*.—Fore wing (Text-fig. 1, E) : All the veins present. Vein  $R_1$  free, arising from the cell before the origin of areole which is in line with the origin of median cell ; areole very short ;  $R_2$  from end of the areole,  $R_3$  stalked with  $R_4$ - $R_5$ , arising almost halfway between tip of the areole and the origin of Radial veins 4-5 ;  $M_1$  from upper angle or slightly above it ; median cell short, with its upper branch ending at the middle of discocellulars and the lower at  $M_2$  ;  $M_2$  from above the lower angle of cell and as far from  $M_3$  as the latter from  $Cu_{1a}$  which is from angle of the cell ;  $Cu_{1b}$  from before the lower angle ;  $Cu_2$  present ; 2A forming a fork with 1A. Hind wing with 8 veins ; Sc free ; Rs and  $M_1$  connate and arising from the upper angle of cell ; median cell short, with both the branches ending at discocellulars ;  $M_2$ - $M_3$  and  $Cu_{1a}$ - $Cu_{1b}$  as in fore wing ; three Anal veins present ; frenulum present, well developed but not held by the retinaculum which is short and broad but functionless (Text-fig. 1, G).

*Male genitalia* (Text-figs. 1, H-K).—Uncus about twice as long as its width at middle, broader at base than at the apex which is truncated, with its end produced into a downwardly directed point. Gnathos arms slender directed inwards, then bent outwardly and meeting each other through a slightly chitinised membrane, the bulla. Tegumen broad, narrowing gradually and continued with 'U' shaped short vinculum ; saccus very short. Claspers broader at middle, about two and a half times as long as the width at the middle ; the cucullus slightly membranous and setose ; ampulla highly sclerotised and with ridges ; costa produced into a short prolongation ; juxta formed of two lobes, the latter with their tips blunt and beset with minute spines and produced on the underside into short but blunt projections. Aedeagus well developed, sclerotised, with the distal end narrowed ; the vesica with two conical cornutal projections on the underside.

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PLATE XII



3 cm

A male holotype : Himachal Pradesh, Chamba 20. v. 1927 (S. L.  
*Hora* coll.)

Holotype.—One male as follows : India : Himachal Pradesh, Chamba, 20. v. 1927 (*S. L. Hora* coll.) (Regd. No. 3192/H10 at Z. S. I.).

*Expanse*.—42 mm.

*Remarks*.—*Brachylia clenchi*, sp. nov. is close to *Cossus acronyctoides* (Moore) in the structural plan of the genitalia, particularly in the poor development of costal process, in the shape of juxta and in well developed aedeagus. The two species, however, differ from each other in antennal pectinations which are bipectinate in *clenchi*, sp. nov. *vs* unipectinate in *acronyctoides*, juxtal lobes being rounded and blunt in *clenchi*, sp. nov. *vs* narrow and pointed lobes in *acronyctoides*, and the aedeagus with two cornutal spines in *clenchi*, sp. nov. on the underside *vs* four in *acronyctoides*.

Phylogenetically, the genus assumes an important position among the Indian Cossidae, particularly between the genus *Catopta* Staudinger and *Cossus* Fabricius of the subfamily Cossinae. The genus *Catopta* is characterised by the bipectinate antennae with well developed rami, presence of ocelli (*vide* Arora, 1976) and in the poorly developed costal process, passing through the transitional stage of the genus *Brachylia* which is having bipectinate antennae with well developed rami and a poorly developed costal process, as in *Catopta*, but is without ocelli and with a functionless retinaculum as in the genus *Cossus* where the antennae are, however, unipectinate.

*Brachylia clenchi*, sp. nov. is thus an interesting species as far as the systematics of Indian Cossidae are concerned.

#### ACKNOWLEDGEMENT

The author is indebted to the Director, Zoological Survey of India, Calcutta, for various facilities provided in the laboratory.

The author records his grateful thanks to Late Mr. Harry K. Clench, Carnegie Museum, Pittsburg, for having sent the relevant literature on the group, particularly on the genus *Brachylia*, so as to help identify the species as a new one under this genus.

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