

Research Article

**EXTERNAL MALE GENITALIC STRUCTURES OF
DIERNA STRIGATA (MOORE) (NOCTUIDAE: LEPIDOPTERA)**

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ABSTRACT

Dierna strigata (Moore), a Noctuid species collected for the first time from far flung localities of Arunachal Pradesh. The collected specimens were identified by using standard techniques of Lepidopterology. The external male genitalia has been studied in detail for the first time. The studied male genitalic features will strengthen the diagnosis of this economically significant species and have been incorporated for updating the status of present taxa.

Keywords: *Dierna strigata*, Male genitalia, Noctuidae, Lepidoptera.

INTRODUCTION

Walker (1859) established the genus *Dierna* and also designated its type species i.e. *Dierna acanthusalis* Walker. Moore (1867) added one more species i.e. *D. multistriata* Moore in this genus. Hampson (1895) studied two species i.e. *D. strigata* (Moore) and *D. acanthusalis* Walker of genus *Dierna* from British India. Alpherakyi (1897) also included one new species *D. timandra* Alpherakyi in this genus. Bethune-Baker (1906) described another new species of this genus i.e. *D. lilaceae* Bethune- Baker from North Guinea. Poole (1989) catalogued two species i.e. *D. patibulum* Fabricius and *D. strigata* Moore in genus *Dierna* Walker from the Globe and synonymies *N. clavifera* Walker under species *D. patibulum* Fabricius. Sivasankarn *et al.* (2012) listed 3 species i.e. *D. acanthusalis* Walker, *D. strigata* (Moore) and *D. transversa* Moore in the same genus within checklist of Noctuidae of India.

In the present work, external male genitalic attributes has been studied in detail for incorporating these structures in the diagnosis of species *Dierna strigata* (Moore).

MATERIALS AND METHODS

The moths were collected with the help of vertical sheets and mercury bulb light traps fitted

both in plains and hilly areas during night time. The collected moths were killed with the help of Ethyl Acetate vapors and processed as per standard techniques in Lepidopterology (Zimmerman, 1978; Robinson, 1976). The identification of collected specimens was done with the help of relevant literature.

Material examined

Arunachal Pradesh: Hunli 18.IX.2011 11 .
Dirang 07.X.2010 1 .

Distribution: India (Arunachal Pradesh, Khasis, Bombay, Nilgiris) Thailand, Laos, Cambodia, Vietnam, Nepal, Bangladesh, China, Taiwan.

RESULTS

Genus *Dierna* Walker

Walker, 1859. *List. Spec. Lepid. Insects Colln. Br. Mus.* 16: 204.

Type species: *Dierna acanthusalis* Walker.

Diagnosis: Palpi with the 2nd joint upturned, slender, and reaching above vertex of head, the 3rd long and acute; thorax and abdomen smoothly scaled and slender. Fore wing with the apex acute. Hind wing with the inner margin short; the outer margin angled at vein CU₂; vein M₂ from near lower angle of cell.

***Dierna strigata* (Moore) (Plate 1)**

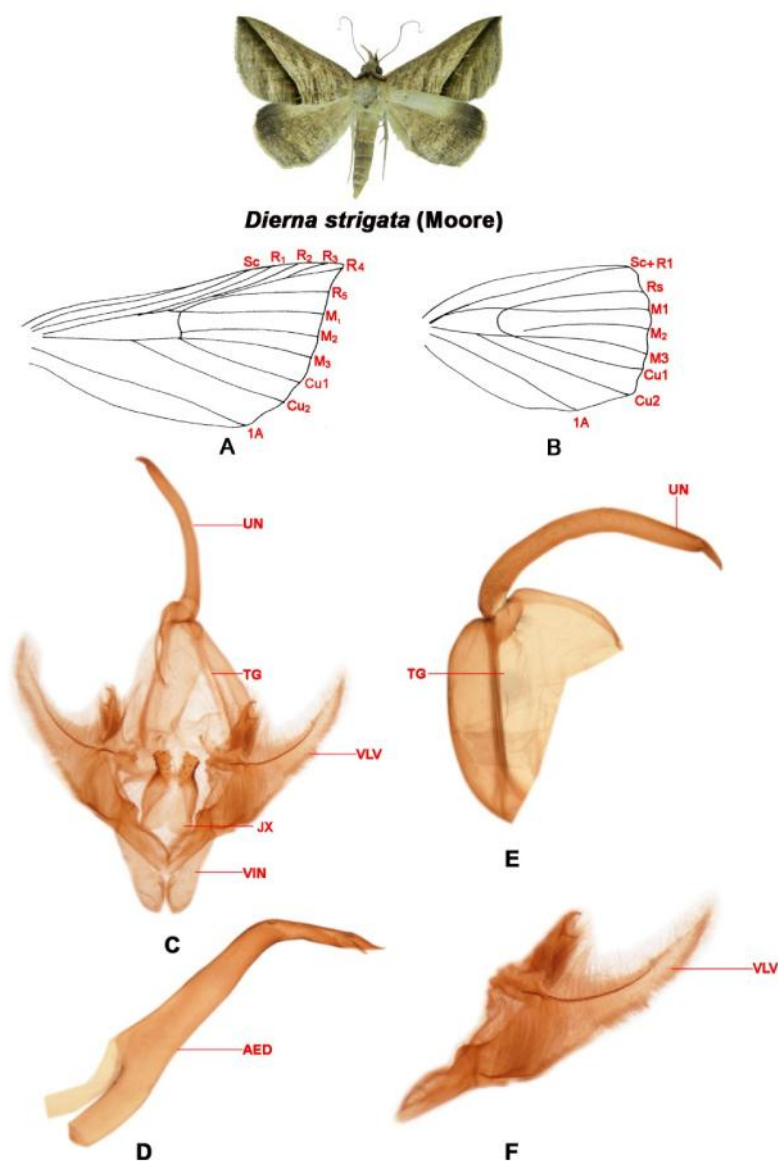
Phurys strigata Moore, 1867, P. Z. S. 1867: 80.

Diagnosis: Head grey brown; Palpi upturned, pale, first joint chestnut at sides; Antennae ciliated; Collar grey at base, followed by pale band and chocolate band at tips; Thorax grey. Forewing brown, irrorated with black; An oblique black line from apex to inner margin, area beyond it more suffused with black; A terminal series of black dots; A crenulated black marginal line; Hindwing grey brown; Outer area striated with fuscous; the apical area fuscous;

Abdomen pale brown; Underside pale brown. Forewing with large speck beyond cell.

Male genitalia (Plate 1, A-F): Uncus long, curved, tip pointed; tegumen small, broad, sclerotized; transtilla membranous; juxta large, flower pot- shaped, upper half bilobed, strongly sclerotized, spiculate; vinculum weakly sclerotized; saccus absent; valve reduced, costal process long, bifid, one lobe long and curved; cuculus long, pointed, knife like; aedeagus long, curved apically, pointed; vesica small; ductus ejaculatoris enters medially.

Plate 1



A. Forewing, B. Hindwing, C. Male genitalia, D. Aedeagus, E. Uncus, F. Valva (Enlarged)

DISCUSSIONS

Only two species of genus *Dierna* namely *D. strigata* (Moore) and *D. acanthusalis* Walker were reported from India. Two specimens of species *D. strigata* (Moore) have been collected for the first time from Arunachal Pradesh. It is worth to mention here that the male genitalia of this species has been studied for the very first time.

CONCLUSIONS

Genitalia has been studied to update the diagnostic characters of species, various parts of male genitalia like Uncus, tegumen, transtilla, juxta, vinculum, saccus, cuculus, vesica and ductus ejaculatoris described in detail. These features will be helpful in identification of this species authentically in future.

CONFLICT OF INTERESTS

There is no conflict of interests associated with this article.

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