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Description of male and female genitalia of *Euplexia chlorogrammata* Hampson

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Abstract
Genitalic attributes are very important for authentic identification of any species. In the present communication, external male and female genitalic attributes of *Euplexia Chlorogrammata* Hampson has been done studied in detail.

Keywords: Lepidoptera, Noctuidae, *Euplexia* Stephens, Genitalia.

1. Introduction
Stephens (1829) proposed genus *Euplexia* for its type species *Phalaena lucipara* Linnaeus. Walker (1869) included new species *morosa* Walker under it. Felder & Rogenhofer (1874) described a new species *augens* Felder & Rogenhofer. Moore (1882) included *sinuata* Moore and Leech (1889) added *japonica* Leech from Japan under this taxon. Hampson (1891) described new species *fasciata* Hampson from Nilgiria. After two years, Hampson (1893) described *albonota* Hampson from Sri Lanka and included another species *plumbeomarginata* Hampson in 1895 in this group. Swinhoe (1895) added new species *chlorerythra* Swinhoe from Khasia hills. Turner (1902) studied a new species *polycmeta* Turner and in the same year, Hampson (1902) described another new species *chlorogrammata* Hampson from Sikkim. Bethune-Baker (1906) discussed in detail a new species *dinawa* Bethune-Baker under this taxon. Hampson (1908) studied six more new species i.e. *poliochroa* Hampson, *azyga* Hampson, *chalybsa* Hampson, *catephiodes* Hampson, *melanistis* Hampson and *melanocycla* Hampson. Warren (1912) studied 13 new species under the present genus. Rothschild (1915) described *internimarginata* Rothschild in this genus, whereas Warren (1913) described new species *latibasalis* Warren. Wileman (1914) described new species *albirena* Wileman in this taxon. Warren (1916) studied *albiclausa* Warren and Strand (1920) described *amblypennis* Strand. Berio (1940) described new species *viridisparsa* Berio. Bryk (1949) described species *koreaplexia* Bryk from Korea and Draudt (1950) erected *jordansi* Draudt from Yunnan. Viette (1957) discovered a new species *borbonica* Viette. Sugi (1958) described a new species *splendida* Sugi from Japan. Fletcher (1961) studied new species *pericalles* Fletcher in detail. Clarke (1971) described new species *vetula* Clarke. Berio (1973) erected *ikondae* Berio from Tanzania and Laporte (1977) described three species i.e. *imperator* Laporte, *mercieri* Laporte and *pinoni* Laporte from Ethiopia. Poole (1989) catalogued as many as 123 species in genus *Euplexia* from the Globe. Kononenko (1996) described two species *likianga* Kononenko and *likianga* Kononenko. Hreblay & Ronkay (1998) described two more new species i.e. *annapurna* Hreblay & Ronkay and *lilacina* Hreblay & Ronkay under this taxon. In the present work, 10 representatives of *Chlorogrammata* Hampson were collected, studied and described in detail.
Genus *Euplexia* Stephens is a very large genus and it includes large number of species distributed in many parts of the world but in present study, only one species of this genus i.e. *Euplexia Chlorogrammata* Hampson has been studied. Male and female genitalia of this species have been described in detail in this manuscript.

2. Materials and Methods
A total number of ten representatives of *Euplexia Chlorogrammata* Hampson have been collected with the help of light traps from different localities of Arunachal Pradesh. The collected specimens were killed with the help of ethyl acetate vapours and processed as per standard techniques in Lepidopterology. The identification of captured specimens was done with the help of relevant literature (Hampson, 1894).

3. Observations

Genus *Euplexia* Stephens

Stephens, 1829. *Nom. Br. Ins*, 41.

Type-species

Phalaena lucipara Linnaeus.

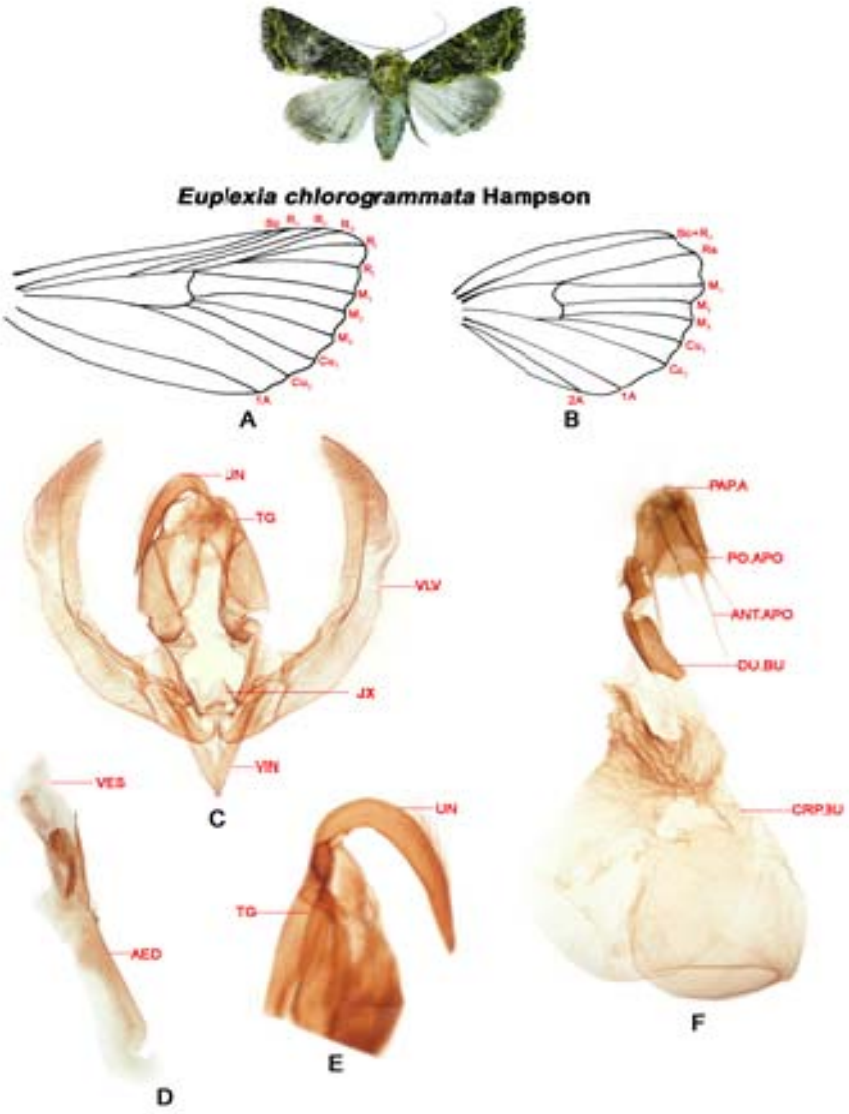
Diagnosis

Proboscis fully developed; palpi upturned, the 2nd joint reaching about to middle of frons and moderately scaled, the 3rd short; frons smooth; eyes large, rounded; antennae of male typically ciliated. Head and thorax clothed chiefly with scales, the vertex of head with ridge of scales. The pro and metathorax with spreading crests. Abdomen with dorsal series of crests, the crest on 3rd segment large and lateral tufts of hair on terminal segments. Fore wing with the apex angular, the termen slightly waved; veins Cu_1 and M_2 from near angle of cell; M_1 from upper angle; R_2 from R_1 anastomosing with R_4 to form the areole; R_1 from cell. Hind wing with veins Cu_1 and M_3 from angle of cell M_2 obsolescent from just below middle of discocellulars; M_1 and Rs from upper angle; $Sc+R_1$ anastomosing with the cell near base only.

***Euplexia Chlorogrammata* Hampson**

Euplexia Chlorogrammata Hampson, 1902, *J. Bomb. Soc*., **14**: 200

PLATE



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

4. Description

Head moss- green, mixed with dark brown scales; palpi upturned, ocherous in front; antennae ciliated; collar moss-green, mixed with brown scales. Thorax green- brown, with some fuscous patches. Forewing black brown and pinkish brown, suffused in parts with green; a green spot at base of costa; a short green subbasal line; an irregularly waved antemedial green line with black line on its outer edge; a series of green spots on terminal half of costa; orbicular and reniform large; brown centered, ringed with green and edged with black; the latter with pale patch at upper extremity; a green postmedial line edged by waved black lines and excurved beyond the cell; a sinuous green subterminal line connected with the postmedial line by a streak on inner margin and with a pale spot on its inner side above vein M_2; terminal series of black lunules; cilia brown and green. Hindwing pale yellowish with obscure fuscous discoidal spot and sinuous postmedial line; the terminal area broadly suffused with fuscous; cilia ocherous with blackish line through them. Abdomen fuscous mixed with ocherous. Underside ocherous, with large fuscous suffusion and cell spot in hindwing.

5. Male genitalia

Uncus long, well developed, simple, curved, cylinder, narrow towards tip, setosed, tip pointed; tegumen inverted U- shaped, transtilla membranous; juxta squarish, plate like; vinculum V-shaped; saccus tube like; valve long, narrow, curved, sword-shaped, saccular margin with a notch towards cucullus; cucullus pointed, heavily setosed, basal process long, narrow, curved, pointed at tip; aedeagus simple, cylinder, weakly sclerotized, with serrate band at tip; vesica scobinated; ductus ejaculatorius enters into the aedeagus apically.

6. Female genitalia

Ovipositor lobes well developed, setosed; anterior and posterior apophysis almost of same length; ductus bursae sclerotized towards papilla analis; corpus bursae large bag like, bilobed, upper half scobinated; signum absent.

7. Material Examined

Arunachal Pradesh: Bomdila 09.x.2010- 2♀♀, 02.iv.2011- 1♂; Dirang 07.x.2010- 1♂, 1♀; Hunli 18.ix.2011- 1♂, 3♀♀; Lumla 15.iv.2011- 1♀.

8. Distribution

Arunachal Pradesh, Sikkim.

9. Abbreviations

AED: Aedeagus; PAP.A: Papilla analis; ANT. APO : Anterior apophysis; CRP.BU : Corpus bursae; DU. BU : Ductus bursae; PO.APO : Posterior apophyses; Cu1 : First cubital vein; Cu2 : Second cubital vein; 1A : First anal vein; 2A : Second anal vein; M1 : First medial vein; M2 : Second medial vein; M3 : Third medial vein; R_1 : First radial vein; R_2: Second radial vein; R_3 :Third radial vein; R_4 : Fourth radial vein; R_5 : Fifth radial vein; Rs : Radial sector; Sc+R_1 : Stalk of Sc and R_1; JX : Juxta; TG : Tegumen; UN : Uncus; VES: Vesica; VN :Vinculum; VLV : Valva.

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