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Descriptions of Three New Genera and a New Species of Family Lymantriidae from India, with a Key to Certain Known Indian Genera [1]

(Lepidoptera, Noctuoidea)

With 12 Figures

S. L. GUPTA [2], S. I. FAROOQI [2] & H. S. CHAUDHARY [3]

New Delhi | Gorakhpur

The family Lymantriidae is a comparatively small but economically important family under superfamily Noctuoidea. Adults of this group are commonly referred to Tussock moth, Gold Tail, Gypsy moth, Brown Tail or Non moth and are of great concern to the forest plantation especially to broad leaved deciduous trees in temparate regions. According to recent estimates Lymantriidae contain about 200 genera and 2500 species (FERGUSON, 1978) and occupies fourth position under the superfamily Noctuoidea with respect to its abundance and economic importance.

The present paper is based on the study of type material in British Museum (Natural History), London (BMNH) and some unidentified material lying in National Pusa Collection of Division of Entomology, Indian Agricultural Research Institute, New Delhi (NPC) and collection of Forest Research Institute, Dehradun (FRI).

In the following lines an identification key is provided for the separation of 29 Indian genera including 3 new genera which follows with the description of new genera and a new species.

Key to genera examined

1	Forewings always with an areole which is formed by the coalescence of vein 7 with the stalk of veins 8 and 9.	2
—	Forewings without an areole, if present, then formed by the coalescence of vein 10 with the stalk of veins 8 and 9 or 7, 8 and 9.	15
2	Forewings with veins 9 and 10 stalked.	4
	Forewings with veins 9 and 10 free.	3
3	Forewings with vein 10 given off towards apex.	**Mahoba** MOORE
—	Forewings with vein 10 given off shortly after areole.	**Mardara** WALKER
4	Palpi porrect.	5
—	Palpi upturned.	13

[1] Part of the Ph. D. thesis submitted by S. L. Gupta to the University of Gorakhpur, Gorakhpur

[2] Division of Entomology, Indian Agricultural Research Institute, New Delhi – 110012 (India)

[3] University of Gorakhpur, Gorakhpur (India)

5 Palpi extending beyond frons. 7
— Palpi not extending beyond frons. 6
6 Middle and hind tibiae with minute terminal pairs of spurs. **Lachana** MOORE
— Middle and hind tibiae without spurs. **Varmina** MOORE
7 Fore tarsi with lateral tuft of hairs to the joint. **Dasychira** HÜBNER
— Fore tarsi without lateral tuft of hairs to the joint. 8
8 Forewings short and broad. 9
— Forewings more produced. 11
9 Hind wings short and hardly extending beyond the abdomen. **Aroa** WALKER
— Hind wings broad and extending beyond the abdomen. 10
10 Palpi orange. **Birnara** BUTLER
Palpi pale fuscous. **Pantana** WALKER
11 Hind wings with veins 6 and 7 originated from cell separately. **Casama** WALKER
— Hind wings with veins 6 and 7 stalked. 12
12 Palpi just reaching beyond frons. **Malachitis** HAMPSON
Palpi extending more beyond frons. **Laelia** STEPHENS
13 Palpi reaching above vertex of head. 14
— Palpi just reaching vertex of head. **Numenes** WALKER
14 Head and thorax reddish-brown, forewings yellowish-white and closely striated with black, abdomen orange-yellow. **Locharna** MOORE
— Head and thorax pale brown, forewings pale brown irrorated with dark scales, abdomen blackish. **Pida** WALKER
15 Forewings with veins 7, 8, 9 and 10 stalked. 16
Forewings with veins 7, 8 and 9 stalked, 10 arising from cell but sometimes from vein 11 also. 22
16 Hind wings with vein 7 present. 17
— Hind wings with vein 7 absent. **Paraporthesia gen. n.**
17 Hind tibiae with spurs. 18
— Hind tibiae without spurs. **Aruta** SWINHOE
18 Hind tibiae with one pairs of spurs. 19
— Hind tibiae with two pairs of spurs. 20
19 Forewings with veins 7, 8, 9 and 10 stalked. **Perina** WALKER
— Forewings with veins 7, 8 and 9 stalked. **Dendrophleps** HAMPSON
20 Hind wings with vein 5 present. 21
— Hind wings with vein 5 absent. **Porthesia** STEPHENS
21 Forewings with vein 3 from before lower angle of cell, 4 and 5 from angle, 6 from upper angle; hind wing with vein 5 from above lower angle of cell. **Kanchia** MOORE
— Forewings with veins 3, 4 and 5 from near lower angle of cell, 6 from upper angle; hind wing with vein 5 from near lower angle of cell. **Himala** MOORE
22 Forewings with vein 10 arising from 11. **Redoa** WALKER
— Forewings with vein 10 not arising from 11. 23
23 Forewings with vein 10 given off near the apex. 24
— Forewings with vein 10 given off near the cell. 25
24 Forewings with vein 10 given off very close to the point from where veins 8 and 9 bifurcate. **Hampsona gen. n.**
— Forewings with vein 10 given off close to after vein 7 and away from where veins 8 and 9 bifurcate. **Euproctis** HÜBNER
25 Forewings with vein 10 anastomosing with veins 8 and 9. **Leucoma** HÜBNER
— Forewings with vein 10 not anastomosing with veins 8 and 9. 26
26 Vein 7 in forewing arising just before the point of bifurcation of 8 and 9. **Ceylonica gen. n.**
— Vein 7 in forewing arising away from the point of bifurcation of 8 and 9. 27

27 Forewings with vein 10 arising mostly within the cell. **Lymantria** HÜBNER
— Forewings with vein 10 arising from just after the cell. 28
28 Head and thorax yellowish-white, forewing with apex slightly rounded, hind wing ochreous white with an irregular hyaline patch in and beyond the end of cell, abdomen yellowish-white. **Carriola** SWINHOE
— Head and thorax dark brown, forewing with the apex rounded, hind wing fuscous brown, abdomen fulvous. **Heracula** MOORE

1. **Ceylonica gen. n.** (Figs. c, d, g, h)

Type species *Macrauzata fenestrata* HAMPSON, 1893 (Monotypic)

Diagnostic characters Head and thorax sandy red, palpi upturned, antennae bipectinated; hind tibiae with two pairs of spurs; forewings with a transparent patch covering the outer half of cell and extending beyond it, reaching to just below the median, the outer edge of the patch lunulate, veins 7, 8 and 9 stalked, vein 10 arising from cell a little far off from vein 11 and run very close to the stalk of veins 7, 8 and 9 upto a point where vein 7 separates from 8 and 9; hind wings with a transparent patch covering the end of cell and extending above, below and beyond it in the interspaces above the median nervure, veins 3 and 4 separately originated from the lower angle of cell, veins 6 and 7 stalked. Underside of both the wings with dark lines round the outer edges of the transparent patches.

Distribution India: Nagarhole (South Coorge); Sri Lanka.

Remarks The above genus is different from *Carriola* SWINHOE because of the forewings with vein 7 arising just before the point of bifurcation of 8 and 9 whereas in *Carriola* vein 7 arising away from the point of bifurcation of 8 and 9.

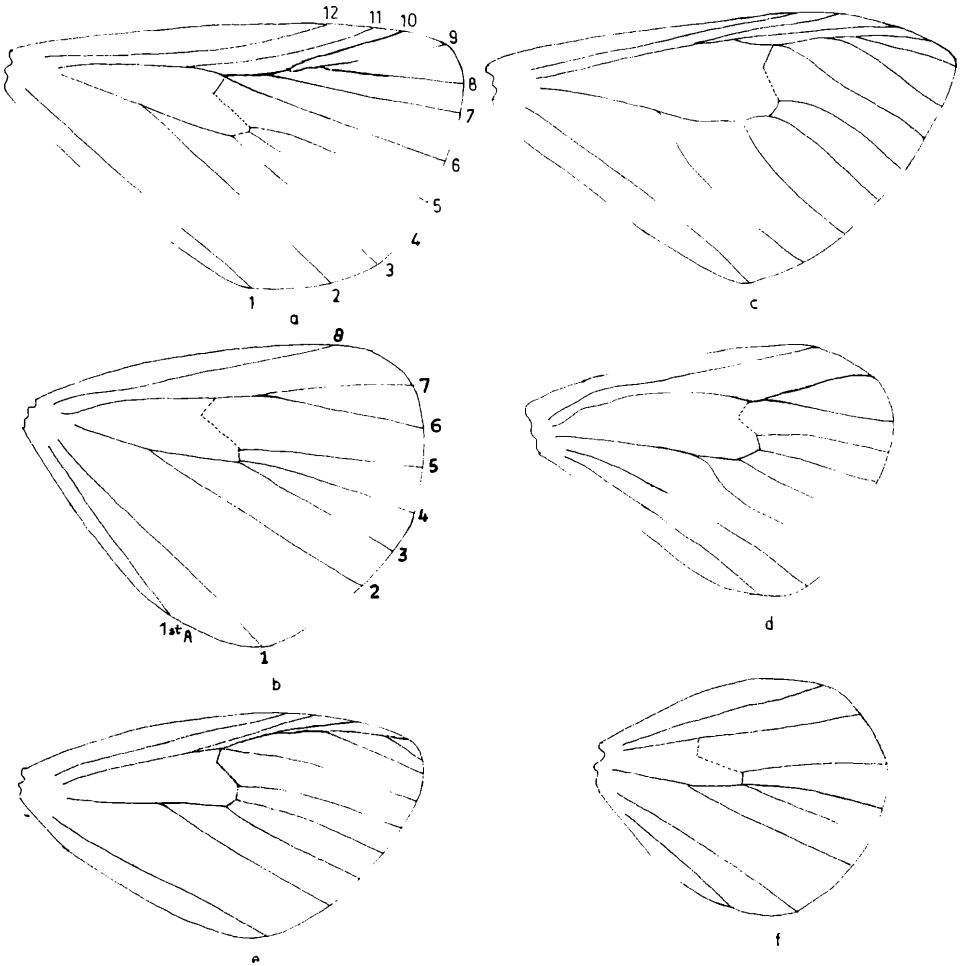
Ceylonica fenestrata (HAMPSON, 1893) **comb. n.**

Macrauzata fenestrata HAMPSON, 1893
Leucoma fenestrata, HAMPSON, 1893a
Carriola fenestrata, SWINHOE, 1922

HAMPSON (1893) described this species from Ceylon based on unspecified number of male specimens available in BMNH under genus *Macrauzata* BUTLER of family Drepanulidae but in remark he has mentioned that this should go under genus *Leucoma* HÜBNER. As a result he kept it under genus *Leucoma* in his Fauna of British India Moths. SWINHOE (1903) also treated it under genus *Leucoma*. Again SWINHOE (1922) described a new genus *Carriola* with type species *Leucoma ecnomoda* SWINHOE and transferred *Macrauzata fenestrata* to his new genus. COLLENETTE (1932) put it back under genus *Leucoma* but BRYK (1934) in his catalogue of the family transferred it under genus *Carriola*. The senior author could examine the type specimen of *Macrauzata fenestrata* HAMPSON, a male from Ceylon in BMNH. After examining the type specimen the author reached on the conclusion that the species *fenestrata* does not fit least under genus *Carriola*. Therefore as discussed in the remark with genus, the species should go under the new genus *Ceylonica*.

Male genitalia Vinculum V-shaped, uncus with the tip rounded and well sclerotized, valvae with costal margin nearly straight, tip broader, aedeagus with the tip bluntly pointed, vesica well developed and without cornutus.

Material examined ♂, Ceylon, *Macrauzata fenestrata* HAMPSON (Holotype) (BMNH); ♂, Nagarhole range (South Coorge), def. *Helicteres isore*, 26. XII. 1941, Coll. R. N. Mathur, RR/0113 (FRI).



Figs. a–f. Wing venations; c+d: Fore and hind wing of *Ceylonica fenestrata* (HAMPSON), a+b: Fore and hind wing of *Hampsona campbelli* (HAMPSON), e+f: Fore and hind wing of *Paraporthesia indica* sp. n.

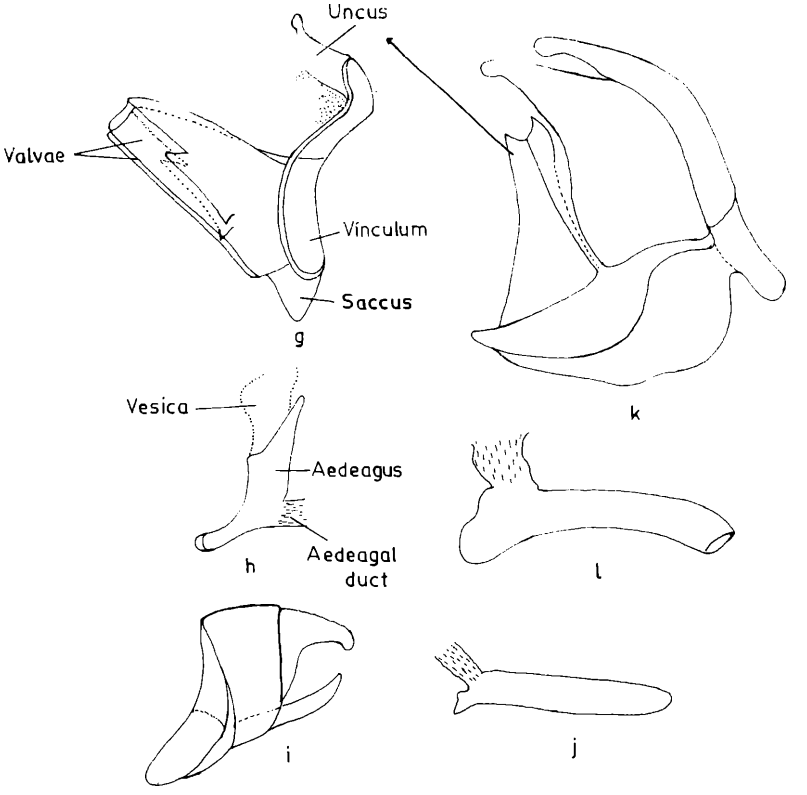
Hampsona gen. n. (Figs. a, b, i, j)

Type species *Aroa campbelli* HAMPSON, 1905 (Monotypic)

Diagnostic characters Head and thorax olive brown, palpi porrect, antennae bipectinated; hind tibiae with two pairs of spurs; forewings with veins 7, 8, 9 and 10 stalked near the apex, vein 10 arising from 8 and 9 after 7, areole absent; hind wings with vein 4 nearer to vein 3 as compared to vein 5, veins 6 and 7 stalked.

Distribution India: Coimbatore, Palni Hills.

Remarks The type of the new genus was described under genus *Aroa* WALKER but it appears to be completely different from genus *Aroa* because of the veins 7, 8, 9 and 10 being stalked in the forewings and as a result areole is absent. Because of this character it goes near to genus *Euproctis* HÜBNER but differs from it in the forewing being with vein 10 given off from close to the point from where veins 8 and 9 bifurcate.



Figs. g–l. Male genitalia; g+ h: Male genitalia of *Ceylonica fenestrata* (HAMPSON), i+j Male genitalia of *Hampsona campbelli* (HAMPSON), k+l: Male genitalia of *Paraporthesia indica* sp. n.

Hampsona campbelli (HAMPSON, 1905) **comb. n.**

Aroa campbelli HAMPSON, 1905

HAMPSON (1905) described this species under genus *Aroa* WALKER on the basis of unspecified number of male specimens from Palni Hills, collected at the height of 6000 ft., by Campbell. In the text the original author has mentioned that type is located in BMNH. During the course of present study it was possible to examine ten males in BMNH from Palni Hills. Out of them, six specimens appear to be of some other series and not of original series because the date of collection of those specimens are post-dated to the publication of this species. Out of the remaining four specimens, three are not having any indication about the elevation of hill with the data labels. As a result only one specimen under BMNH registration number 1901/139 remained there which fulfil the data in the text. This specimen is hereby treated as holotype of *Aroa campbelli* HAMPSON because it is labelled as type in Hampson's own handwritting. No female specimen was available for the study. As mentioned in the remark with the genus, it goes under new genus *Hampsona*.

Male genitalia Vinculum slightly V-shaped, uncus with the tip bluntly curved, valvae simple and small in size, aedeagus cylindrical and without cornutus.

Material examined ♂, Palni Hills, 6000 ft. (South India), Coll. Campbell, 1901/139, *Aroa campbelli* Hampson (Holotype); 3 ♂♂, Palni Hills, Coll. Campbell (BMNH); ♂,

Palni hills, 6000 ft. (Shembangur), Coll. Andries, L11/855; 2 ♂♂, Coimbatore, at light, 10. VII. 1976, Coll. S. L. Gupta (NPC).

3. **Paraporthesia gen. n.** (Figs. e, f, k, l)

Type species *Paraporthesia indica* sp. n. (Monotypic)

Diagnostic characters Palpi upturned, reaching vertex of head, antennae bipectinated with the branches long in male whereas short in female, forelegs without lateral tuft of hairs to the joint, hind tibiae with two pairs of spurs; forewings with veins 7, 8, 9 and 10 stalked, vein 10 arising before vein 7, areole absent; hind wing with veins 3 and 4 stalked, vein 7 absent (a character which is nowhere found in any genera of the family).

Distribution India: Simla.

Remarks This genus is nearer to *Euproctis* HÜBNER in its general appearance but differs in palpi being upturned. Because of this characters it goes near to genera *Heracula* MOORE and *Carriola* SWINHOE but differs both of them in hind wing being without vein 7

Paraporthesia indica sp. n.

Male Head yellow, thorax and abdomen brownish, anal tuft orange, forewing vinous brown, irrorated with dark scales which extend as two fork-like structures across the yellow marginal area below the apex and to the centre of the margin, costa often yellow, hind wing fuscous brown with a broad dorsal yellowish stripe on uniformally brown surface.

Male genitalia Vinculum U-shaped, uncus bifid, valvae with the costal margin curved, tip bluntly pointed, aedeagus almost cylindrical and without cornutus.

Female It is similar to male in appearance but the antennae are with short pectinations.

Material examined ♂, Simla, at light, 15. VI. 1976, Coll. S. L. Gupta (Holotype); ♂, ♀, same data as of Holotype (Paratypes) (NPC).

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