



Partial checklist of moths (Lepidoptera) of Darjeeling hills, West Bengal, India

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Abstract

In this study, 407 species of moths belonging to 293 genera, 62 subfamilies, and 24 families were recorded and identified within the survey of 102 days covering all seasons of Darjeeling hills. Out of these 407 species of moths, family Geometridae dominated with 34.39% of the total species followed by Erebiidae with 22.85%, Crambidae with 14.49%, family Noctuidae with 5.41% while the rest 22.86% species belonged to 20 other families.

Keywords: biodiversity, moth, darjeeling hills, west bengal

Introduction

Moths are commonly nocturnal, holometabolous, and phytophagous insects that provide valuable ecosystem services such as pollination of crepuscular and night flowering plants and their role as prey in the food chain (Shah & Mitra, 2015)^[33]. Moths have immense diversity and can adapt to virtually any climatic condition, which has made them some of the most successful creatures on earth (Sekhon, 2015)^[32]. Chandra & Nema (2007)^[4] recorded over 12,000 species of moths from India. In West Bengal, India recently (Shah *et al.*, 2018)^[34] have documented information of 1058 species belonging to 614 genera and 36 families. Darjeeling hills being situated within the Eastern Himalayas is host to rich biodiversity. Located at the tri-junction of Indo-Chinese, Indo-Malayan, and Palaearctic biogeographic realms the region exhibits diverse hilly terrain with wide-ranging altitudinal range. (Takthtajan, 1969)^[40]. Hampson G.F., Bell and Scott documented moths from this region in the 19-20th century and described in the books on Fauna of British India moths (Hampson, 1892, 1894, 1895, 1896)^[9-12], (Bell & Scott, 1937)^[2]. Shah & Mitra (2015)^[33] had reported 39 species of moths associated with a few tea gardens of Darjeeling district. However, substantial work on literature and documentation of the moth diversity in Darjeeling hills is still scarce. This present study attempts to make a preliminary checklist of moth species found in the Darjeeling Hills.

Study area

The partial checklist of moths presented in this paper is based on both systematic and opportunistic surveys that were conducted primarily in Darjeeling hills of West Bengal over two years, 2018 and 2019. The study sites were, six places covered along with two subdivisions of Darjeeling District with varying altitudinal range (Fig.1). 1. St. Mary's Hill 2. Bagora 3. Dowhill 4. 3rd-mile Senchal Forest 5. Batasia and 6. Shanti Parbat with altitude ranging from 1500 mt to 2460 mt (Table 2).

Table 1: Overview of Survey Sites

Study site	GPS coordinate	Altitude (m)
Darjeeling		
Shanti Parbat	27°03'46''N & 88°15'14''E	1890±7
Batasia	27°01'67''N & 88°24'71''E	2258±7
3rd Mile Senchal Forest	26°59'38''N & 88°15'55''E	2460±7
Kurseong		
St. Mary's Hill	26°53'40''N & 88°16'53''E	1568±7
Bagora	26°93'78''N & 88°31'27''E	2179±7
Dowhill	26°52'40''N & 88°16'38''E	1556±7

Materials and Methods

A total of 102 survey nights were conducted and the moths were observed for about five hours every night from 6:00 pm till 11:00 pm (Table 1), while opportunist surveys were conducted every week for diurnal moths. Moths were not collected but were primarily identified using digital colour photographs.

The light trap used was simply made up of white cloth measuring 4 by 6 feet with light-emitting actinic source i.e. fluorescent light bulb (15W) and incandescent light bulb (60W).

Identification were carried out using different scientific literature, illustrated guides and online biodiversity portals available like (Hampson, 1892, 1894, 1895, 1896)^[9-12], (Bell & Scott, 1937)^[2], (Schintlmeister & Pinratana 2007)^[31], (Kononenko & Pinratana 2013)^[24], (Haruta 1992,1993,1994,1995,1998,2000)^[13-18], (Mishra *et al.* 2016)^[25], (Sanyal *et al.* 2013,2018)^[29,30], (Singh *et al.* 2017a,b)^[36,37], (Sondhi & Sondhi 2016)^[39], (Giellis & Wangdi 2017)^[8], (Shah *et al.* 2018)^[34], (Irunbam *et al.* 2016,2017)^[19,20], Kirti and Singh (2015)^[22], Kirti *et al.* (2019)^[23], Jiang *et al.* (2012)^[21], Shubhalaxmi, (2018)^[35], Ghosh & Chaudhury (1997)^[6], (Singh *et al.* 2019)^[38], (Volynkin *et al.* 2019)^[41], LepIndex (Beccaloni *et al.* 2003)^[1]. The species are classified following van (Nieukerken *et al.* 2011)^[26]. The images were compared through visual similarities and then verified for identification. The identified photographed species were then catalogued as in (Table.3). Species contribution to the diversity of each family was determined by calculating the dominance index= $n_i \times 100/N$ where (n_i) is individuals of particular species and (N) is the total no. of species.

Table 2: Overview of survey effort

Area	Season (2018-2019)	No. of survey nights
Darjeeling	March, June, July, August, October, November, December	48
Kurseong	February, April, May, June, July, August, September, October, November	54
Total		102

Table 3: Partial Checklist of moths recorded.

Sl. No.	Family	Sub-family	Scientific name	Author and year of description	Location
1.	Bombycidae	Bombycinae	<i>Ernolatia moorei</i>	Hutton, 1865	SM
2.	Bombycidae	Bombycinae	<i>Mustilia</i> sp.	Moore, 1879	BG
3.	Bombycidae	Bombycinae	<i>Penicillifera apicalis</i>	Walker, 1862	SM
4.	Cossidae	Zeuzerinae	<i>Zeuzera multistrigata</i>	Moore, 1881	DW,SP
5.	Crambidae	Acentropinae	<i>Parapoynx fluctuosalis</i>	Meyrick, 1899	SM, SP
6.	Crambidae	Acentropinae	<i>Thysanoidma octalis</i>	Hampson, 1891	SM,BT
7.	Crambidae	Crambinae	<i>Calamotropha latella</i>	Snellen, 1890	SM,SP,SF
8.	Crambidae	Glaphyriinae	<i>Crociodolomia luteolalis</i>	Hampson, 1893	SP,BT
9.	Crambidae	Odontiinae	<i>Autocharis hedypheas</i>	Turner, 1913	SM,SF
10.	Crambidae	Odontiinae	<i>Pitama lativitta</i>	Moore, 1888	BG,SM,SP
11.	Crambidae	Pyraustinae	<i>Agathodes ostentalis</i>	Geyer, 1837	SP,BT
12.	Crambidae	Pyraustinae	<i>Crociodophora flavofasciata</i>	Moore, 1888	SM
13.	Crambidae	Pyraustinae	<i>Hyalobathra coenostolalis</i>	Snellen, 1890	BG,SM,BT
14.	Crambidae	Pyraustinae	<i>Neadeloides cinerealis</i>	Moore, 1867	SM,SP
15.	Crambidae	Pyraustinae	<i>Nosophora semitritalis</i>	Lederer, 1863	SM
16.	Crambidae	Pyraustinae	<i>Pagyda botydalis</i>	Snellen, 1880	DW,SM
17.	Crambidae	Pyraustinae	<i>Pagyda salvialis</i>	Walker, 1859	SP,BT
18.	Crambidae	Pyraustinae	<i>Parotis marginata</i>	Hampson, 1893	SM,SP,SF
19.	Crambidae	Pyraustinae	<i>Patania verecunda</i>	Walker, 1896	SP,BT
20.	Crambidae	Pyraustinae	<i>Spoladae recurvalis</i>	Fabricius, 1775	SM,SP,SF
21.	Crambidae	Schoenobiinae	<i>Ramila angustifimbrialis</i>	Warren in Swinhoe, 1890	SM
22.	Crambidae	Scopariinae	<i>Scoparia biplagiialis</i>	Walker, 1866	SM,SP
23.	Crambidae	Spilomelinae	<i>Aethaloessa calidalis</i>	Guenee, 1854	SM
24.	Crambidae	Spilomelinae	<i>Arthroschista hilaralis</i>	Walker, 1859	BG,SM,SP
25.	Crambidae	Spilomelinae	<i>Ategumia adipalis</i>	Lederer, 1863	SM,SP,SF
26.	Crambidae	Spilomelinae	<i>Botyodes asialis</i>	Guenee, 1854	SM,SP
27.	Crambidae	Spilomelinae	<i>Bradina diagonalis</i>	Guenee, 1854	SM,SP
28.	Crambidae	Spilomelinae	<i>Cnaphalocrocis medinalis</i>	Walker, 1859	BG,SM
29.	Crambidae	Spilomelinae	<i>Conogethes punctiferalis</i>	Guenee, 1854	SM
30.	Crambidae	Spilomelinae	<i>Cydalima laticostalis</i>	Guenee, 1854	DW,SM,SP
31.	Crambidae	Spilomelinae	<i>Diaphania indica</i>	Saunders, 1851	SM
32.	Crambidae	Spilomelinae	<i>Diathraustodes fulvofusa</i>	Hampson in Leech, 1901	SM,BT
33.	Crambidae	Spilomelinae	<i>Dichocrocis definita</i>	Butler, 1889	SM
34.	Crambidae	Spilomelinae	<i>Eurrhyarodes bracteolalis</i>	Zeller, 1852	SM
35.	Crambidae	Spilomelinae	<i>Eurrhyarodes tricoloralis</i>	Zeller, 1852	SM
36.	Crambidae	Spilomelinae	<i>Eusabena miltochristalis</i>	Hampson, 1896	DW
37.	Crambidae	Spilomelinae	<i>Filodes fulvidorsalis</i>	Geyer in Hubner, 1832	DW,SM,SP
38.	Crambidae	Spilomelinae	<i>Glyphodes caesalis</i>	Walker, 1859	SP,SF
39.	Crambidae	Spilomelinae	<i>Glyphodes crithealis</i>	Walker, 1859	SM
40.	Crambidae	Spilomelinae	<i>Glyphodes stolallis</i>	Guenee, 1854	DW,SM
41.	Crambidae	Spilomelinae	<i>Herpetogramma cf. luctuosalis</i>	Bremer, 1864	SP
42.	Crambidae	Spilomelinae	<i>Lamprosema commixta</i>	Butler, 1873	SM,BT
43.	Crambidae	Spilomelinae	<i>Lamprosema tampusalis</i>	Walker, 1859	DW
44.	Crambidae	Spilomelinae	<i>Leucinodes orbonalis</i>	Guenee, 1854	SP,BT
45.	Crambidae	Spilomelinae	<i>Maruca vitrata</i>	Fabricius, 1787	DW,SM,SP
46.	Crambidae	Spilomelinae	<i>Meroctena tullalis</i>	Walker, 1859	BG,DW,SM,SP
47.	Crambidae	Spilomelinae	<i>Metoeca foederalis</i>	Guenee, 1854	DW,SM
48.	Crambidae	Spilomelinae	<i>Omiodes noctescens</i>	Moore, 1888	SM
49.	Crambidae	Spilomelinae	<i>Palpita annulifer</i>	Inoue, 1996	DW,SM,SP
50.	Crambidae	Spilomelinae	<i>Palpita nigropunctalis</i>	Bremer, 1864	SP
51.	Crambidae	Spilomelinae	<i>Pilerocera sodalis</i>	Leech, 1889	SM,DW
52.	Crambidae	Spilomelinae	<i>Patania balteata</i>	Fabricius, 1798	SM,SP
53.	Crambidae	Spilomelinae	<i>Patania deficiens</i>	Moore, 1887	SP,BT
54.	Crambidae	Spilomelinae	<i>Patania iopasalis</i>	Walker, 1859	SM
55.	Crambidae	Spilomelinae	<i>Nagiella quadrimaculalis</i>	Kollar & Redtenbacher, 1844	SM
56.	Crambidae	Spilomelinae	<i>Poliobotys ablactalis</i>	Walker, 1859	SP
57.	Crambidae	Spilomelinae	<i>Pygospila tyres</i>	Cramer, 1780	DW,SM,SP
58.	Crambidae	Spilomelinae	<i>Rehimena phrynealis</i>	Walker, 1859	SM
59.	Crambidae	Spilomelinae	<i>Rhimphalea trogusalis</i>	Walker, 1859	SM,SP

60.	Crambidae	Spilomelinae	<i>Rhodonuera cf. erubescens</i>	Warren, 1908	BG
61.	Crambidae	Spilomelinae	<i>Syllepte gastralis</i>	Walker, 1866	DW,SM,SF
62.	Crambidae	Spilomelinae	<i>Synclera cf. univocalis</i>	Walker, 1859	SM
63.	Crambidae	Spilomelinae	<i>Syngamia falsidicalis</i>	Walker, 1859	SP,BT
64.	Depressariidae	Ethmiinae	<i>Ethmia lineatonotella</i>	Moore, 1867	DW
65.	Drepanidae	Cyclidiinae	<i>Cyclidia rectificata</i>	Walker, 1862	BG,SP
66.	Drepanidae	Cyclidiinae	<i>Cyclidia substigmata intermedia</i>	Hubner, 1831	SP,BT
67.	Drepanidae	Drepaninae	<i>Ditrigona triangularia</i>	Moore, 1868	SP
68.	Drepanidae	Drepaninae	<i>Drepana pallida</i>	Warren, 1922	SM,BT,SF
69.	Drepanidae	Drepaninae	<i>Callidrepana patrana</i>	Moore, 1866	SM
70.	Drepanidae	Drepaninae	<i>Sewa orbiferata</i>	Walker, 1862	SP
71.	Drepanidae	Drepaninae	<i>Teldenia vestigiata</i>	Butler, 1880	SP
72.	Drepanidae	Drepaninae	<i>Thymistida cf. nigrincta</i>	Warren, 1923	DW,SM
73.	Drepanidae	Thyatirinae	<i>Gaurena florens</i>	Walker, 1865	BG,SM,SP
74.	Drepanidae	Thyatirinae	<i>Gaurena florescens</i>	Walker, 1865	BG,SP,BT
75.	Drepanidae	Thyatirinae	<i>Habrosyne pyritoides</i>	Hufnagel, 1766	DW
76.	Drepanidae	Thyatirinae	<i>Spica luteola</i>	Swinhoe, 1889	SP,BT
77.	Drepanidae	Thyatirinae	<i>Thyatira batis</i>	Linnaeus, 1758	SP,BT
78.	Endromidae	Prismostictinae	<i>Andraca angulata</i>	Kishida, 1993	DW,SM
79.	Erebidae	Acontiinae	<i>Eugnathia pulcherrima</i>	Butler, 1897	SM
80.	Erebidae	Aganainae	<i>Asota caricae</i>	Fabricius, 1775	SP,BT
81.	Erebidae	Arctiinae	<i>Aglaomorpha plagiata</i>	Walker, 1855	DW,SM,SP
82.	Erebidae	Arctiinae	<i>Amata multigutta</i>	Walker, 1854	SP,SF
83.	Erebidae	Arctiinae	<i>Areas galactina</i>	Hoeven, 1840	SM
84.	Erebidae	Arctiinae	<i>Ammatho cuneonata</i>	Walker, 1855	BG
85.	Erebidae	Arctiinae	<i>Barsine defecta</i>	Walker, 1854	BG,SM,SP
86.	Erebidae	Arctiinae	<i>Barsine euprepioides</i>	Walker, 1862	DW,SM,SP
87.	Erebidae	Arctiinae	<i>Barsine flammealis</i>	Moore, 1878	SP,BT
88.	Erebidae	Arctiinae	<i>Barsura nubifascia</i>	Walker, 1865	BG
89.	Erebidae	Arctiinae	<i>Barsine orientalis</i>	Cerny, 2009	BG,SM,SP
90.	Erebidae	Arctiinae	<i>Brunia antica</i>	Walker, 1854	SM,SP
91.	Erebidae	Arctiinae	<i>Chrysozabdia bivitta</i>	Walker, 1856	SM,SP
92.	Erebidae	Arctiinae	<i>Chrysozabdia viridata</i>	Walker, 1865	BG,SM,SP
93.	Erebidae	Arctiinae	<i>Cretonotos transiens</i>	Walker, 1855	SM,SP
94.	Erebidae	Arctiinae	<i>Cyana arama</i>	Moore, 1859	SP,BT
95.	Erebidae	Arctiinae	<i>Cyana detrita</i>	Walker, 1854	SM,BT,SF
96.	Erebidae	Arctiinae	<i>Cyana dudgeoni</i>	Hampson, 1895	SM,SF
97.	Erebidae	Arctiinae	<i>Cyana puer</i>	Elwes, 1890	SM,SP,SF
98.	Erebidae	Arctiinae	<i>Cyana ridleyi</i>	Hampson, 1900	SP,SF
99.	Erebidae	Arctiinae	<i>Cyana signa</i>	Walker, 1854	DW
100.	Erebidae	Arctiinae	<i>Diduga flavicostata</i>	Swollen, 1879	SP
101.	Erebidae	Arctiinae	<i>Dolgoma reticulata</i>	Moore, 1865	SP
102.	Erebidae	Arctiinae	<i>Eilema chrysochlebs</i>	Hampson, 1895	SM
103.	Erebidae	Arctiinae	<i>Eilema cf. costalis</i>	Moore, 1878	SM
104.	Erebidae	Arctiinae	<i>Eugoa bipunctata</i>	Walker, 1862	DW,SP
105.	Erebidae	Arctiinae	<i>Hesudra divisa</i>	Moore, 1878	SP,SF
106.	Erebidae	Arctiinae	<i>Lemyra multivittata</i>	Moore, 1865	SM
107.	Erebidae	Arctiinae	<i>Lemyra obliquivitta</i>	Moore, 1879	SP
108.	Erebidae	Arctiinae	<i>Miltochrista dasara</i>	Moore, 1859	SM
109.	Erebidae	Arctiinae	<i>Miltochrista undulata</i>	Moore, 1859	BG,SM
110.	Erebidae	Arctiinae	<i>Macotasa nubecula</i>	Moore, 1879	SM
111.	Erebidae	Arctiinae	<i>Miltochrista alikangiae</i>	Strand, 1917	SM
112.	Erebidae	Arctiinae	<i>Miltochrista phaeodonta</i>	Hampson 1911	BG,SM
113.	Erebidae	Arctiinae	<i>Nyctemera adversata</i>	Schaller, 1788	DW
114.	Erebidae	Arctiinae	<i>Oenistis entella</i>	Cramer, 1779	SP,BT
115.	Erebidae	Arctiinae	<i>Prabhasa distorta</i>	Moore, 1894	SM
116.	Erebidae	Arctiinae	<i>Sidyra albifinis</i>	Walker, 1856	SM,SP
117.	Erebidae	Arctiinae	<i>Spilarctia casigneta</i>	Rothschild, 1910	BG
118.	Erebidae	Arctiinae	<i>Spilarctia sagittifera</i>	Moore, 1888	SM
119.	Erebidae	Arctiinae	<i>Syntomoides imao</i>	Cramer, 1780	SM
120.	Erebidae	Arctiinae	<i>Teulisna protuberans</i>	Moore, 1878	SM
121.	Erebidae	Arctiinae	<i>Teuloma nebulosa</i>	Walker, 1862	SM
122.	Erebidae	Arctiinae	<i>Thysanoptyx tetragona</i>	Walker, 1854	DW
123.	Erebidae	Arctiinae	<i>Vamuna remelana</i>	Moore, 1866	BG,SM,SP
124.	Erebidae	Boletobiinae	<i>Ataboruza lauta</i>	Butler, 1878	SM
125.	Erebidae	Boletobiinae	<i>Tamba apicata</i>	Hampson, 1902	SM
126.	Erebidae	Calpinae	<i>Calyptra fasciata</i>	Moore, 1882	SM,SF
127.	Erebidae	Calpinae	<i>Eudocima homaena</i>	Hubner, 1816	DW

128.	Erebidae	Calpinae	<i>Eudocima hypermnestra</i>	Cramer, 1780	DW
129.	Erebidae	Calpinae	<i>Eudocima phalonia</i>	Linnaeus, 1763	DW
130.	Erebidae	Calpinae	<i>Eudocima salamina</i>	Cramer, 1777	DW
131.	Erebidae	Calpinae	<i>Eudocima</i> sp.		DW
132.	Erebidae	Calpinae	<i>Phyllodes enydhovii</i>	Vollenhoven, 1858	DW
133.	Erebidae	Calpinae	<i>Rusicada leucolopha</i>	Prout, 1892	SM
134.	Erebidae	Erebinae	<i>Ischyja inferna</i>	Swinhoe, 1902	DW
135.	Erebidae	Erebinae	<i>Anisoneura aluco</i>	Fabricius, 1775	DW
136.	Erebidae	Erebinae	<i>Bastilla amygdalis</i>	Moore, 1885	SM
137.	Erebidae	Erebinae	<i>Chalciope mygdon</i>	Cramer, 1777	DW
138.	Erebidae	Erebinae	<i>Erebus glaucopis</i>	Walker, 1857	BG
139.	Erebidae	Erebinae	<i>Erebus macrops</i>	Linnaeus, 1768	BG
140.	Erebidae	Erebinae	<i>Hypena laceratalis</i>	Walker, 1859	BG,SF
141.	Erebidae	Erebinae	<i>Hypena longopennis</i>	Walker, 1866	BG
142.	Erebidae	Erebinae	<i>Mocis frugalis</i>	Fabricius, 1775	DW,SP,BT
143.	Erebidae	Erebinae	<i>Mocis undata</i>	Fabricius, 1775	DW,SF
144.	Erebidae	Erebinae	<i>Pindara illibata</i>	Fabricius, 1775	DW
145.	Erebidae	Erebinae	<i>Spirama helicina</i>	Hubner, 1824	DW
146.	Erebidae	Erebinae	<i>Thyas coronate</i>	Fabricius, 1775	DW
147.	Erebidae	Erebinae	<i>Thyas honesta</i>	Hubner, 1824	DW
148.	Erebidae	Hermiinae	<i>Herminia grisealis</i>	Denis & Schiffermuller, 1775	DW,SM,SP
149.	Erebidae	Hermiinae	<i>Hydrillodes lentalis</i>	Guenee, 1854	BG,SM
150.	Erebidae	Hermiinae	<i>Simplicia niphona</i>	Butler, 1878	SM
151.	Erebidae	Lymantriinae	<i>Arctornis submarginata</i>	Walker, 1855	SP,BT
152.	Erebidae	Lymantriinae	<i>Artaxa digramma</i>	Boisduval, 1844	DW,SM,SP
153.	Erebidae	Lymantriinae	<i>Artaxa guttata</i>	Walker, 1855	BG
154.	Erebidae	Lymantriinae	<i>Artaxa inconcisa</i>	Walker, 1865	BG,DW,SM,SP
155.	Erebidae	Lymantriinae	<i>Calliteara complicata</i>	Walker, 1865	SP,BT
156.	Erebidae	Lymantriinae	<i>Calliteara grotei</i>	Moore, 1859	DW,SP
157.	Erebidae	Lymantriinae	<i>Euproctis bipartite</i>	Moore, 1879	DW,SP
158.	Erebidae	Lymantriinae	<i>Euproctis dispersa</i>	Moore, 1879	SM,SF
159.	Erebidae	Lymantriinae	<i>Euproctis magna</i>	Swinhoe, 1891	DW
160.	Erebidae	Lymantriinae	<i>Euproctis plagiata</i>	Walker, 1855	DW,SM
161.	Erebidae	Lymantriinae	<i>Lymantria bivittata</i>	Moore, 1879	DW
162.	Erebidae	Lymantriinae	<i>Lymantria mathura</i>	Moore, 1866	DW
163.	Erebidae	Lymantriinae	<i>Nygmia plana</i>	Walker, 1865	DW
164.	Erebidae	Lymantriinae	<i>Euproctis varia</i>	Walker, 1855	SM
165.	Erebidae	Lymantriinae	<i>Orgyia postica</i>	Walker, 1855	DW
166.	Erebidae	Lymantriinae	<i>Ramadra caligramma</i>	Walker, 1865	SP,BT
167.	Erebidae	Lymantriinae	<i>Somena scintillans</i>	Walker, 1856	SM
168.	Erebidae	Lymantriinae	<i>Somena similis</i>	Moore, 1860	DW,SF
169.	Erebidae	Pangraptinae	<i>Pangrapta pannosa</i>	Moore, 1882	SM
170.	Erebidae	Scoliopteryginae	<i>Anomis flava</i>	Fabricius, 1775	SM
171.	Erebidae	Scoliopteryginae	<i>Anomis fulvida</i>	Guenee, 1852	DW
172.	Eupterotidae	Eupterotinae	<i>Eupterote geminata</i>	Walker, 1855	BG,SM
173.	Eupterotidae	Eupterotinae	<i>Palirisa lineosa</i>	Walker, 1855	SM
174.	Eupterotidae	Eupterotinae	<i>Pseudojana incandescens</i>	Walker, 1855	SM
175.	Geometridae	Desmobathrinae	<i>Ozola sinuicosta</i>	Prout, 1910	SM,SF
176.	Geometridae	Ennominae	<i>Abraxas martaria</i>	Guenee, 1857	SP,BT
177.	Geometridae	Ennominae	<i>Abraxas neomartaria</i>	Inoue, 1970	DW,SP,BT
178.	Geometridae	Ennominae	<i>Abraxas sublepid</i>	Inoue, 1995	SM,SF
179.	Geometridae	Ennominae	<i>Achrosis incitata</i>	Walker, 1862	SM
180.	Geometridae	Ennominae	<i>Alcis admissaria undularia</i>	Wileman, 1911	BG
181.	Geometridae	Ennominae	<i>Alcis albifera</i>	Inoue, 1965	BG,SF
182.	Geometridae	Ennominae	<i>Alcis maculate</i>	Moore, 1867	BG,SM
183.	Geometridae	Ennominae	<i>Alcis neoclarata</i>	Sato, 1993	SM,SF
184.	Geometridae	Ennominae	<i>Anonychia grisea</i>	Butler, 1883	SM
185.	Geometridae	Ennominae	<i>Antipercnia belluaria</i>	Guenee, 1858	DW
186.	Geometridae	Ennominae	<i>Arichanna interplagata</i>	Guenée, 1858	BG
187.	Geometridae	Ennominae	<i>Arichanna transfasciata</i>	Warren, 1893	SM
188.	Geometridae	Ennominae	<i>Arichanna tramesata</i>	Moore, 1867	SM,BT
189.	Geometridae	Ennominae	<i>Biston regalis</i>	Moore, 1888	DW,SP,BT
190.	Geometridae	Ennominae	<i>Biston contextaria</i>	Walker, 1863	SM
191.	Geometridae	Ennominae	<i>Callierinnys obliquilinea</i>	Moore, 1888	SM
192.	Geometridae	Ennominae	<i>Celenna festiviaria</i>	Fabricius, 1794	DW
193.	Geometridae	Ennominae	<i>Chiasmia xanthonora</i>	Walker, 1861	DW
194.	Geometridae	Ennominae	<i>Chorodna creataria</i>	Guenée, 1857	SM
195.	Geometridae	Ennominae	<i>Chorodna erebusaria</i>	Walker, 1860	DW

196.	Geometridae	Ennominae	<i>Chorodna mauraria</i>	Guenee, 1858	BG
197.	Geometridae	Ennominae	<i>Chorodna metaphaearia</i>	Walker, 1863	SM,SF
198.	Geometridae	Ennominae	<i>Chorodna pallidularia</i>	Moore, 1867	DW
199.	Geometridae	Ennominae	<i>Cleora alienaria</i>	Walker, 1860	DW,SP,BT
200.	Geometridae	Ennominae	<i>Cleora contiguata</i>	Moore, 1868	BG
201.	Geometridae	Ennominae	<i>Cleora fraterna</i>	Moore, 1888	SP,BT
202.	Geometridae	Ennominae	<i>Corymica deducta</i>	Waker, 1866	SM
203.	Geometridae	Ennominae	<i>Corymica specularia</i>	Moore, 1888	SM,SF
204.	Geometridae	Ennominae	<i>Dalima patularia</i>	Walker, 1860	SM
205.	Geometridae	Ennominae	<i>Dalima schistacearia</i>	Moore, 1867	SM
206.	Geometridae	Ennominae	<i>Dalima truncataria</i>	Moore, 1867	SM
207.	Geometridae	Ennominae	<i>Darisa firmilinea</i>	Prout, 1962	SM
208.	Geometridae	Ennominae	<i>Ectropis bhurmitra</i>	Walker, 1860	SM
209.	Geometridae	Ennominae	<i>Erebomorpha fulgurita</i>	Walker, 1860	SM
210.	Geometridae	Ennominae	<i>Fascellina plagiata</i>	Walker 1866	DW,SP,BT
211.	Geometridae	Ennominae	<i>Fascellina porphyreofusa</i>	Hampson, 1895	DW
212.	Geometridae	Ennominae	<i>Heterabraxas spontaneata</i>	Walker, 1862	SM
213.	Geometridae	Ennominae	<i>Heterostegane subtessellata</i>	Walker, 1862	SM,SP,BT
214.	Geometridae	Ennominae	<i>Heterostegane urbica</i>	Swinhoe, 1885	SM
215.	Geometridae	Ennominae	<i>Hypomecis cineracea</i>	Moore, 1888	DW
216.	Geometridae	Ennominae	<i>Hypomecis fulvosparsa</i>	Hampson, 1895	SM
217.	Geometridae	Ennominae	<i>Hypomecis transcissa</i>	Walker, 1860	DW,SP
218.	Geometridae	Ennominae	<i>Hyposidra aquilaria</i>	Walker, 1862	SM
219.	Geometridae	Ennominae	<i>Krananda oliveomarginata</i>	Swinhoe, 1894	DW
220.	Geometridae	Ennominae	<i>Krananda semihyalina</i>	Moore, 1868	DW,SP
221.	Geometridae	Ennominae	<i>Luxiaria tephrosaria</i>	Moore, 1868	SP,SF
222.	Geometridae	Ennominae	<i>Medasina albidaria</i>	Walker, 1866	SM,SP
223.	Geometridae	Ennominae	<i>Medasina pravalbidaria</i>	Inoue, 1978	SP,BT
224.	Geometridae	Ennominae	<i>Medasina quadrinotata</i>	Warren, 1893	SM,SP
225.	Geometridae	Ennominae	<i>Menophra serpentinararia</i>	Warren, 1896	SP
226.	Geometridae	Ennominae	<i>Menophra decorate</i>	Moore, 1867	BG
227.	Geometridae	Ennominae	<i>Metaperchnia ductaria</i>	Waker, 1862	SM
228.	Geometridae	Ennominae	<i>Monocerotesa radiata</i>	Warren, 1897	SP,BT
229.	Geometridae	Ennominae	<i>Myrteta planaria</i>	Walker, 1861	BG
230.	Geometridae	Ennominae	<i>Nothomiza costalis</i>	Moore, 1868	SP
231.	Geometridae	Ennominae	<i>Omiza herois</i>	Prout, 1932	SP,BT,SF
232.	Geometridae	Ennominae	<i>Orthocabera sericea</i>	Butler, 1879	SM
233.	Geometridae	Ennominae	<i>Ourapteryx clara</i>	Butler, 1880	DW,SP
234.	Geometridae	Ennominae	<i>Ourapteryx picticaudata</i>	Walker, 1860	BG,SP
235.	Geometridae	Ennominae	<i>Ourapteryx prunularis</i>	Butler, 1886	BG,DW
236.	Geometridae	Ennominae	<i>Paralcis pallidaria</i>	Moore, 1888	SM,SP
237.	Geometridae	Ennominae	<i>Peratophyga grata totifasciata</i>	Jiang et al., 2012	SM,SP
238.	Geometridae	Ennominae	<i>Peratophyga hyalinata</i>	Kollar, 1844	SM
239.	Geometridae	Ennominae	<i>Percnia felinaria</i>	Guenee, 1857	SP,BT
240.	Geometridae	Ennominae	<i>Percnia maculata</i>	Moore, 1867	SM
241.	Geometridae	Ennominae	<i>Petelia medardaria</i>	Herrich Schaffer, 1856	SM,SP
242.	Geometridae	Ennominae	<i>Plutodes costatus</i>	Butler, 1886	SM
243.	Geometridae	Ennominae	<i>Plutodes lamisca</i>	Swinhoe, 1894	SM
244.	Geometridae	Ennominae	<i>Pseudomiza cruentaria</i>	Moore, 1867	SM,SP
245.	Geometridae	Ennominae	<i>Psilalcis albivasis</i>	Hampson, 1895	SM
246.	Geometridae	Ennominae	<i>Psilalcis bisinuata</i>	Hampson, 1895	SM,SP
247.	Geometridae	Ennominae	<i>Psyra angulifera</i>	Walker, 1860	SM
248.	Geometridae	Ennominae	<i>Sirinopteryx rufivincata</i>	Walker, 1862	SM,SP
249.	Geometridae	Ennominae	<i>Tanaoetenia haliara</i>	Walker, 1861	SM,SP
250.	Geometridae	Ennominae	<i>Thinopteryx crocoptera</i>	Kollar, 1844	SM,SP
251.	Geometridae	Ennominae	<i>Thinopteryx nebulosa</i>	Butler, 1883	DW
252.	Geometridae	Ennominae	<i>Vindusara metachromata</i>	Walker, 1862	SM
253.	Geometridae	Ennominae	<i>Vindusara moorei</i>	Thierry-Meig, 1899	DW,SP,BT
254.	Geometridae	Ennominae	<i>Xandrames dolaria</i>	Moore, 1868	SP
255.	Geometridae	Ennominae	<i>Xenoplia foraria</i>	Guenee, 1857	SM,SP,BT
256.	Geometridae	Geometrinae	<i>Agathia carissima</i>	Butler, 1878	SM
257.	Geometridae	Geometrinae	<i>Comibaena pictipennis</i>	Butler, 1880	SM
258.	Geometridae	Geometrinae	<i>Comostola laesaria</i>	Walker, 1861	SM
259.	Geometridae	Geometrinae	<i>Cosmostolodes albicantena</i>	Warren, 1895	SM
260.	Geometridae	Geometrinae	<i>Dindicodes apicalis</i>	Moore, 1888	SM
261.	Geometridae	Geometrinae	<i>Osteosema pastor</i>	Butler, 1880	BG,DW,SP
262.	Geometridae	Geometrinae	<i>Hemithea aquamarina</i>	Hampson, 1895	SP,BT
263.	Geometridae	Geometrinae	<i>Hemithea tritonaria</i>	Walker, 1863	SP,BT

264.	Geometridae	Geometrinae	<i>Jodis ctila</i>	Prout, 1926	SM
265.	Geometridae	Geometrinae	<i>Jodis inumbrata</i>	Warren, 1896	BG,DW,SM
266.	Geometridae	Geometrinae	<i>Lotaphora iridicolor</i>	Butler, 1880	SM
267.	Geometridae	Geometrinae	<i>Maxates thetydaria</i>	Guenee	BG,SM,SP
268.	Geometridae	Geometrinae	<i>Maxates veninotata</i>	Warren, 1894	SM,SP,SF
269.	Geometridae	Geometrinae	<i>Mixochlora vittata</i>	Moore, 1867	SM
270.	Geometridae	Geometrinae	<i>Ornithospila avicularia</i>	Guenee, 1857	SM
271.	Geometridae	Geometrinae	<i>Pachyodes varicoloraria</i>	Moore, 1868	SM
272.	Geometridae	Geometrinae	<i>Pingasa chlora</i>	Stoll, 1782	DW
273.	Geometridae	Geometrinae	<i>Pingasa pseudoterpnaria</i>	Guenee, 1858	SM
274.	Geometridae	Geometrinae	<i>Pingasa rubicund</i>	Warren, 1894	DW,SP,BT
275.	Geometridae	Geometrinae	<i>Pingasa ruginaria</i>	Guenee, 1857	DW,SP
276.	Geometridae	Geometrinae	<i>Tanaorhinus kina</i>	Swinhoe, 1893	BG
277.	Geometridae	Geometrinae	<i>Tanaorhinus viridiluteatus</i>	Walker, 1861	DW,SM,SP
278.	Geometridae	Geometrinae	<i>Thalassodes quadraria</i>	Guenee, 1857	SM,SP,BT
279.	Geometridae	Larentiinae	<i>Acolutha pictaria</i>	Moore, 1888	SM
280.	Geometridae	Larentiinae	<i>Docirava fulgurata</i>	Guenee, 1858	BG
281.	Geometridae	Larentiinae	<i>Docirava pudicata</i>	Guenee, 1858	BG
282.	Geometridae	Larentiinae	<i>Ecliptopera mixtilineata</i>	Hampson, 1895	SM
283.	Geometridae	Larentiinae	<i>Ecliptopera silaceata</i>	Denis & Schiffermuller, 1775	BG
284.	Geometridae	Larentiinae	<i>Ecliptopera triangulifera</i>	Moore, 1888	BG,SM,SP
285.	Geometridae	Larentiinae	<i>Ecliptopera umbrosaria</i>	Motschulsky, 1861	SM,SP
286.	Geometridae	Larentiinae	<i>Electrophaes fulgidaria</i>	Leech, 1897	BG
287.	Geometridae	Larentiinae	<i>Eustroma hampsoni</i>	Prout, 1958	BG
288.	Geometridae	Larentiinae	<i>Harutalcis atrostipata</i>	Walker, 1862	SM
289.	Geometridae	Larentiinae	<i>Hastina pluristrigata</i>	Moore, 1868	SP,SF
290.	Geometridae	Larentiinae	<i>Hastina subfalcaria</i>	Christoph, 1881	SM,SP,SF
291.	Geometridae	Larentiinae	<i>Hydrelia bicolorata</i>	Moore, 1868	SM,SP
292.	Geometridae	Larentiinae	<i>Hydrelia sericea</i>	Butler, 1880	SM,SP
293.	Geometridae	Larentiinae	<i>Hysterura multifaria</i>	Swinhoe, 1889	BG
294.	Geometridae	Larentiinae	<i>Macrohastina gemmifera</i>	Moore, 1868	SP,BT
295.	Geometridae	Larentiinae	<i>Melanthia catenaria mesozona</i>	Prout, 1939	SM
296.	Geometridae	Larentiinae	<i>Naxidia punctata</i>	Butler, 1880	SP,BT
297.	Geometridae	Larentiinae	<i>Palpoctenidia phoenicosoma</i>	Swinhoe, 1895	SM,SP
298.	Geometridae	Larentiinae	<i>Perizoma maculata</i>	Moore, 1888	BG,SM
299.	Geometridae	Larentiinae	<i>Perizoma seriata</i>	Moore, 1888	SP,BT,SF
300.	Geometridae	Larentiinae	<i>Physetobasis griseipennis</i>	Moore, 1888	DW
301.	Geometridae	Larentiinae	<i>Polynesia curtitibia</i>	Prout, 1922	SM,SP
302.	Geometridae	Larentiinae	<i>Sauris</i> sp.		SM
303.	Geometridae	Larentiinae	<i>Xanthorhoe saturata</i>	Guenee, 1857	SM
304.	Geometridae	Oenochrominae	<i>Sarcinodes carnearia</i>	Guenée, 1857	SM
305.	Geometridae	Sterrhinae	<i>Chrysocraspeda sanguinea</i>	Warren, 1896	SM
306.	Geometridae	Sterrhinae	<i>Discoglypha aureifloris</i>	Warren, 1896	SM,SP
307.	Geometridae	Sterrhinae	<i>Idaea costiguttata</i>	Warren 1896	SM,SP
308.	Geometridae	Sterrhinae	<i>Idaea violacea</i>	Walker, 1861	DW,SP
309.	Geometridae	Sterrhinae	<i>Perixera absconditaria</i>	Walker, 1862	DW,SP
310.	Geometridae	Sterrhinae	<i>Scopula inductata</i>	Guenee, 1857	SM,SP,BT
311.	Geometridae	Sterrhinae	<i>Synegiodes histrionaria</i>	Swinhoe, 1892	BG,SM,SP
312.	Geometridae	Sterrhinae	<i>Synegiodes hyriaria</i>	Walker, 1866	BG,DW,SM,SP
313.	Geometridae	Sterrhinae	<i>Synegiodes nguinararia</i>	Moore, 1868	BG,SM,SP
314.	Geometridae	Sterrhinae	<i>Timandra correspondens</i>	Hampson, 1895	DW,SM,SP
315.	Gracillariidae	Gracillariinae	<i>Calybites</i> sp.		SM,SP
316.	Lasiocampidae	Lasiocampinae	<i>Euthrix</i> sp.		DW
317.	Lasiocampidae	Lasiocampinae	<i>Gastropacha pardale</i>	Walker, 1855	DW
318.	Lasiocampidae	Lasiocampinae	<i>Kunugia lineata</i>	Moore, 1879	SM
319.	Lasiocampidae	Lasiocampinae	<i>Metanastria aconyta</i>	Cramer 1777	DW
320.	Lasiocampidae	Lasiocampinae	<i>Paralebeda plagifera</i>	Walker, 1855	DW
321.	Lasiocampidae	Lasiocampinae	<i>Trabala ganeshia</i>	Roepke, 1951	DW
322.	Lasiocampidae	Lasiocampinae	<i>Trabala vishnou</i>	Lefebvre, 1827	BG,DW,SM
323.	Limacodidae	Limacodinae	<i>Birhamoides junctura</i>	Walker, 1865	DW
324.	Limacodidae	Limacodinae	<i>Caissa fasciatum</i>	Hampson, 1893	SM
325.	Limacodidae	Limacodinae	<i>Chalcoscelides castaneipars</i>	Moore, 1865	SM
326.	Limacodidae	Limacodinae	<i>Cheromettia apicata</i>	Moore, 1879	SP
327.	Limacodidae	Limacodinae	<i>Setora fletcheri</i>	Holloway, 1987	SP,BT
328.	Limacodidae	Limacodinae	<i>Squamosa ocellata</i>	Moore, 1879	SM
329.	Noctuidae	Acronictinae	<i>Diphtherocome discibrunnea</i>	Moore, 1867	SM,SP
330.	Noctuidae	Acronictinae	<i>Diphtherocome pallida</i>	Moore, 1867	BG,SP
331.	Noctuidae	Acronictinae	<i>Nacna splendens</i>	Moore, 1888	DW

332.	Noctuidae	Agaristinae	<i>Sarbanissa bala</i>	Moore, 1865	SM
333.	Noctuidae	Condicinae	<i>Condica leucospila</i>	Walker, 1857	SM
334.	Noctuidae	Cuculliinae	<i>Sydiva nigrogrisea</i>	Moore, 1882	BG
335.	Noctuidae	Eriopinae	<i>Callopietria maillardi</i>	Guenee, 1862	DW, SM
336.	Noctuidae	Eriopinae	<i>Callopietria repleta</i>	Walker, 1858	DW, SM
337.	Noctuidae	Heliothinae	<i>Helicoverpa armigera</i>	Hubner, 1808	SM
338.	Noctuidae	Noctuinae	<i>Anaplectoides virens</i>	Boursin, 1955	BG
339.	Noctuidae	Noctuinae	<i>Conservula indica</i>	Moore, 1867	SP, BT
340.	Noctuidae	Noctuinae	<i>Hermonassa phenax</i>	Boursin, 1968	SM
341.	Noctuidae	Noctuinae	<i>Mythimna intertexta</i>	Chang, 1991	SM
342.	Noctuidae	Noctuinae	<i>Mythimna seperata</i>	Walker, 1865	BG, SM
343.	Noctuidae	Noctuinae	<i>Ochropleura triangularis.</i>	Moore, 1867	SM, SP, SF
344.	Noctuidae	Noctuinae	<i>Spodoptera litura</i>	Fabricius, 1775	SM, SP
345.	Noctuidae	Noctuinae	<i>Trachea auriplena</i>	Walker, 1857	SP, BT
346.	Noctuidae	Noctuinae	<i>Xestia renalis</i>	Moore, 1881	SM, SF
347.	Noctuidae	Pantheinae	<i>Tambana albipalga</i>	Warren, 1912	SM, SP
348.	Noctuidae	Plusiinae	<i>Ctenoplusia agnata</i>	Staudinger, 1892	SM, SP, SF
349.	Noctuidae	Plusiinae	<i>Ctenoplusia tarassota</i>	Hampson, 1913	SM, SP
350.	Noctuidae	Plusiinae	<i>Thysanoplusia orichalcea</i>	Fabricius, 1775	SM
351.	Nolidae	Chloephorinae	<i>Siglophora sanguinolenta</i>	Moore, 1888	DW
352.	Nolidae	Chloephorinae	<i>Tyana pustulifera</i>	Walker, 1866	SM
353.	Nolidae	Eligminae	<i>Iscadia pulchra</i>	Butler, 1886	DW, BT
354.	Nolidae	Nolinae	<i>Blenina quinaria</i>	Moore, 1882	DW, SM, SP
355.	Nolidae	Nolinae	<i>Carea nitida</i>	Hampson, 1894	SM
356.	Nolidae	Nolinae	<i>Meganola denticulata</i>	Moore, 1888	SM
357.	Notodontidae	Notodontinae	<i>Acmeshachia albifascia</i>	Moore, 1879	DW, SP, SF
358.	Notodontidae	Notodontinae	<i>Chadisra bipars</i>	Walker, 1865	DW, BT
359.	Notodontidae	Notodontinae	<i>Neocerura liturata</i>	Walker, 1855	DW
360.	Notodontidae	Cerurinae	<i>Syntypistis comatus</i>	Leech, 1898	DW, SP, SF
361.	Notodontidae	Cerurinae	<i>Syntypistis pallidifascia</i>	Hampson, 1892	DW
362.	Notodontidae	Pygaerinae	<i>Clostera anachoreta</i>	Denis & Schiffermüller, 1775	DW
363.	Notodontidae	Pygaerinae	<i>Clostera pallida</i>	Walker, 1855	SP, BT
364.	Notodontidae	Pygaerinae	<i>Spatialia sikkima</i>	Moore, 1879	SP, BT
365.	Notodontidae	Stauropinae	<i>Harpyia longipennis</i>	Walker, 1855	DW, SF
366.	Notodontidae	Thaumetopoeinae	<i>Gazalina apsara</i>	Moore, 1859	SM
367.	Notodontidae	Thaumetopoeinae	<i>Gazalina chrysolopha</i>	Kollar, 1844	BG, SM, SP, BT
368.	Notodontidae	Thaumetopoeinae	<i>Gazalina transversa</i>	Moore, 1879	SM
369.	Oecophoridae	Oecophorinae	<i>Hofmannophila pseudospretilla</i>	Stainton, 1849	SM
370.	Oecophoridae	Oecophorinae	<i>Promalactis sp.</i>		SM, SP
371.	Plutellidae	-	<i>Plutella sp.</i>		DW, SM, SP
372.	Pyalidae	Epipaschiinae	<i>Lista ficki</i>	Christoph, 1881	SM, SP
373.	Pyalidae	Epipaschiinae	<i>Teliphasa nubilosa</i>	Moore, 1888	SM, SP
374.	Pyalidae	Pyalinae	<i>Arippara indicator</i>	Walker, 1863	SM, SP, BT
375.	Pyalidae	Pyalinae	<i>Endotricha flammealis</i>	Denis & Schiffermüller, 1775	SP, BT
376.	Pyalidae	Pyalinae	<i>Endotricha mesenterialis</i>	Walker, 1859	SM, SP, BT, SF
377.	Pyalidae	Pyalinae	<i>Endotricha ruminalis</i>	Walker, 1859	SM, SP
378.	Pyalidae	Pyalinae	<i>Orybina flaviplaga</i>	Walker 1863	SP
379.	Pyalidae	Pyalinae	<i>Orybina plangonalis</i>	Walker, 1859	SM, SP
380.	Saturniidae	Saturniinae	<i>Anthereae mylitta</i>	Drury, 1773	SM, SF
381.	Saturniidae	Saturniinae	<i>Anthereae roylei</i>	Moore, 1858	DW
382.	Saturniidae	Saturniinae	<i>Caligula grotei</i>	Moore 1858	SP, SF
383.	Saturniidae	Saturniinae	<i>Caligula zuleika</i>	Hope, 1843	SM
384.	Saturniidae	Saturniinae	<i>Loepa miranda</i>	Moore, 1865	SP, SF
385.	Saturniidae	Saturniinae	<i>Loepa sikkima</i>	Moore, 1865	SP, SF
386.	Sphingidae	Macroglossinae	<i>Hippotion boerhaviae</i>	Fabricius, 1775	DW
387.	Sphingidae	Macroglossinae	<i>Acosmeryx shervillii</i>	Boisduval, 1875	DW, SF
388.	Sphingidae	Macroglossinae	<i>Daphnis nerii</i>	Linnaeus, 1758	SP, BT
389.	Sphingidae	Macroglossinae	<i>Macroglossum bombylans</i>	Boisduval, 1875	SM
390.	Sphingidae	Macroglossinae	<i>Macroglossum corythus</i>	Walker, 1856	SM
391.	Sphingidae	Macroglossinae	<i>Theretra clotho</i>	Drury, 1773	DW, SF
392.	Sphingidae	Macroglossinae	<i>Theretra nessus</i>	Drury, 1773	DW, SF
393.	Sphingidae	Macroglossinae	<i>Cechetra scotii</i>	Rothschild, 1920	DW, SP
394.	Sphingidae	Sphinginae	<i>Acherontia lachesis</i>	Fabricius, 1798	SM
395.	Sphingidae	Sphinginae	<i>Agrius convulvuli</i>	Linnaeus, 1758	DW, SF
396.	Stathmopodidae	-	<i>Stathmopoda sp.</i>		SM, SP
397.	Thyrididae	Siculodinae	<i>Calindoea fasciata</i>	Moore, 1888	SM, SP
398.	Thyrididae	Siculodinae	<i>Hypolamprus striatalis</i>	Swinhoe, 1886	SM, SP
399.	Thyrididae	Siculodinae	<i>Opula sp.</i>		SM, SP, SF

400.	Thyrididae	Striglininae	<i>Striglina duplicifimbria</i>	Warren, 1896	SM
401.	Thyrididae	Striglininae	<i>Striglina scitaria</i>	Walker, 1862	DW
402.	Uraniidae	Epipleminae	<i>Dysacthria quadricaudata</i>	Walker, 1861	DW
403.	Uraniidae	Epipleminae	<i>Epiplema bicaudata</i>	Moore, 1867	BG
404.	Uraniidae	Epipleminae	<i>Epiplema reticulata</i>	Moore, 1888	SM,SP,BT
405.	Uraniidae	Epipleminae	<i>Phazaca</i> sp.		SM
406.	Zygaenidae	Chalcosiinae	<i>Pidorus gemina</i>	Walker, 1854	SP,BT
407.	Zygaenidae	Chalcosiinae	<i>Soritia pulchella</i>	Kollar, 1844	SP

Notes: (1) Survey sites: St. Mary’s Hill (SM), Bagora (BG), Dowhill (DW), 3rd-mile Senchal Forest (SF), Batasia (BT), Shanti Parbat (SP).

(2) Genus level identifications are represented as sp. Provisional identifications as cf. or near, the former for close matches and the latter for poor matches.

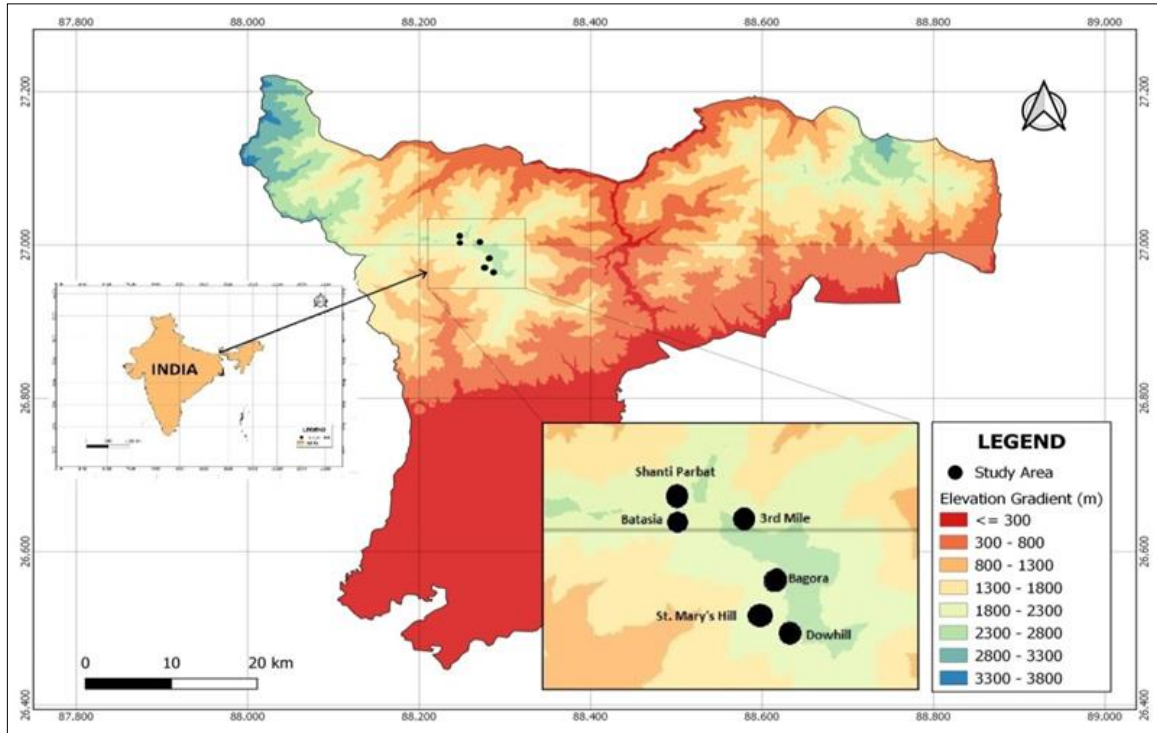


Fig 1: Map showing study sites and surrounding areas with elevation gradient.

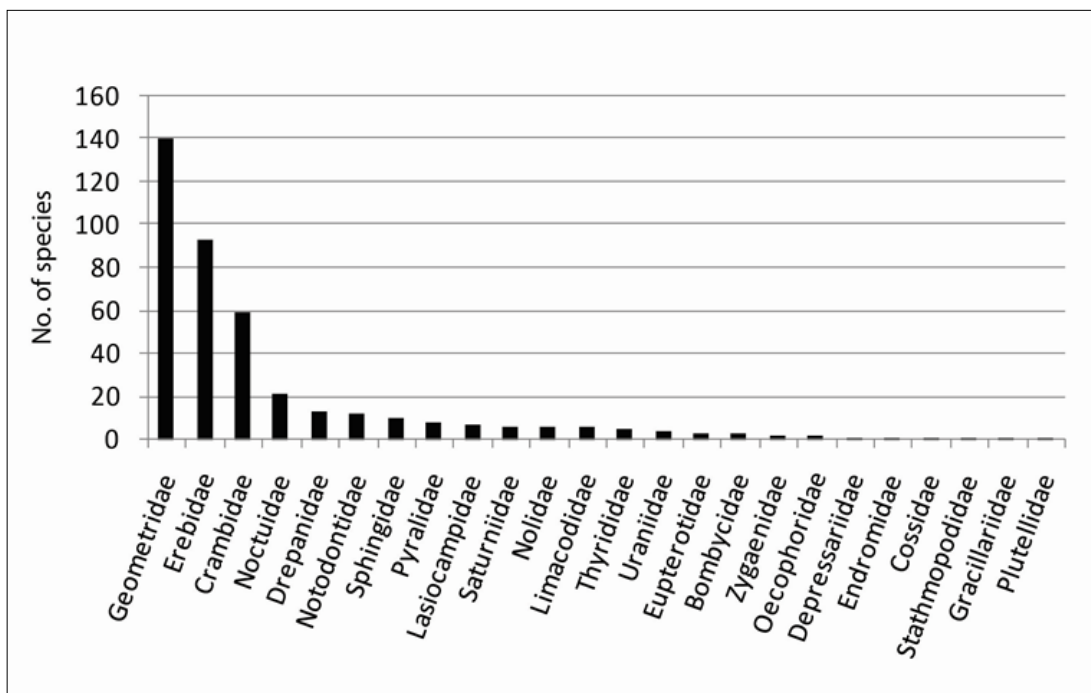


Fig 2: Number of species belonging to different families from Darjeeling Hills.



Images 1-20: *Chadisra bipars*, *Syntypistis comatus*, *Clostera anachoreta*, *Barsine euprepioides*, *Cyana ridleyi*, *Teuloma nebulosa*, *Abraxas sublepida*, *Alcis admissaria*, *Arichanna interplagata*, *Celenna festiviaria*, *Dalima truncataria*, *Erebomorpha fulgurita*, *Eustroma hamptoni*, *Hastina pluristrigata*, *Heterostegane subtessellata*, *Krananda oliveomarginata*, *Pingasa rubicunda*, *Plutodes lamisca*, *Vindusara moorei*, *Omiza herois*

Results and Discussion

The present study recorded 407 species of moths belonging to 293 genera, 62 subfamilies, and 24 families. Out of these 407 moth specimens, 398 have been identified up to the species level while the rest 9 have been identified till the genus level. From this study, it was noted that family Geometridae had the highest dominance with 34.39% of the total species that was followed by Erebidae and Crambidae with 22.85% and 14.49% of the total species respectively. The next predominant family was Noctuidae with 22 species. The rest of the families accounted for 22.86% of the total species (Fig. 2). Similar species composition has also been reported from other parts of India by (Sondhi & Sondhi 2016)^[39], (Sambath & Kailash 2013)^[28], (Mishra *et al.* 2016)^[25], and (Ghosh 2003)^[7].

The family Geometridae is one of the largest families of the order Lepidoptera and is represented by Geometrinae, Ennominae, Larentiinae and Sterrhinae. The increase in distribution of the members of moths under subfamily Larentiinae and Ennominae is related to elevational gradient (Ghosh 2003)^[7], (Brehm & Fiedler 2003)^[3]. However, in the present study, the subfamily Ennominae outnumbers the members of other subfamilies and families. Comparative rich species compositions in all the study areas were seen during the months of August and October. This may be due to the ambient temperature or due to synchrony of the life cycle with the host plant phenology which have full foliage during pre and post monsoon (Russel & Louda 2004)^[27]. The high species richness within a small study area may be

due to the vegetation which composed of both agro and forest ecosystem types which may have provided an ideal habitat to complete the life cycle. It was found that species from the family Bombycidae were observed only from the study sites of Kurseong subdivision (Bagora and St. Mary's Hill). Whereas *Chadisra bipars*, *Syntypistis comatus* and *Clostera anachoreta* from family Notodontidae, *Barsine euprepioides*, *Cyana ridleyi* and *Teuloma nebulosa* from family Erebidae, *Abraxas sublepida*, *Alcis admissaria*, *Arichanna interplagata*, *Celenna festiviaria*, *Dalima truncataria*, *Erebomorpha fulgurita*, *Eustroma hamptoni*, *Hastina pluristrigata*, *Heterostegane subtessellata*, *Krananda oliveomarginata*, *Pingasa rubicunda*, *Plutodes lamisca*, *Vindusara moorei* and *Omiza herois* from family Geometridae were first time report for the state of West Bengal. (Image1-20).

This checklist does not aim in providing comprehensive data, however; it aims to provide an insight into the moth diversity of Darjeeling and its surrounding areas which may act as a baseline for more detailed and comprehensive studies of the moths of this region.

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