



New faunistic records of moths (Lepidoptera: Heterocera) from various agroecosystems of Kerala

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Abstract

34 new records of moths are reported as new records of moths from Kerala. The study was monitored during September 2018 to 2020 by conducting over 152 nights of survey, to study the diversity of moths in the various agro ecosystems of Kerala. The taxonomical analyses of these species were done based on the morphological characters. Geographical distribution of these species and pest status also provided.

Keywords: erebidae, new records, agroecosystems, citations, diagnosis, distribution, pest status, plates

Introduction

Moths perform essential ecosystems services such as pollination, nutrient cycling and providing prey for many other animals. They also pose serious threat to major crops of agriculture, horticulture and forestry and identification and control of them is major concern for scientists and agricultural workers. In agro ecosystems, moth abundance and richness are positively related to a high abundance of crop species, availability of nectar, adjacent vegetations etc. Nocturnal Macro moths are a highly diverse and ecologically important group of insects that play key roles in herbivory, pollination, prey for birds and bats, and are potential indicators of ecosystem health and change across a wide variety of landscapes (Erhardt and Thomas 1991, Kitching *et al.*, 2000, Summerville and Crist 2004) [4, 34].

Due to the high altitude and favourable conditions, Northern Kerala has an abundant and diverse flora and fauna. The region has a wide variety of insects, a major component of which is the order Lepidoptera, but scientific documentation of the moth fauna from Northern Kerala is very much lacking. From Kerala 844 species belonging to 34 families were reported by Balakrishnan valappil in 2019.

In the present study, an effort was made to document new faunistic records of Moths occurring in various agro ecosystems of Kerala.

Materials and Methods

The moths were collected from the various agro ecosystems of Kerala from September 2018 to 2020, using vertical light sheet during 1800 hrs to 0600 hrs the over 152 night of surveys, as followed by Mathew & Rahamathulla, (1995) [21] in Kerala. The survey was conducted from four different zones in each district. A light trap consisting of two 65W CFL bulb and 160-watt mercury vapour lamp was powered by a battery box, portable generator (Honda TM EP 1000) or electrical mains, if available, and placed in front of a 4 × 5 ft. white cotton screen (Shamsudeen *et al.*, 2005). The collected moths were killed by using ethyl acetate and by instant freezing using freezing pads. They were later stretched using standard spreading boards, pinned, and preserved in airtight insect box, having naphthalene balls as fumigant as discussed by Mikkola (1986) [27] and Landry and Landry (1994) [20]. The standard techniques given by Zimmerman (1978) [38] have been followed for spreading of wings. Each specimen was provided with a label indicating the scientific name, locality and date of collection. With regard to systematic arrangement of families, Heppner (1998) was followed. The identification was done with the help of relevant literature (Hampson, 1892, 1894, 1896) [5-7]; Sudheendra kumar and George Mathew, 1999; Mathew *et al.*, 2004a, 2004b, 2005, 2007. Kononenko and Pinratana, 2013; Kirti and Singh, 2015; Kirti and Singh, 2016; Singh *et al.* 2014; Mathew P *et al.*, 2018) [33, 22, 23, 24, 25, 19, 15, 16, 31, 26]. The specimens were deposited in the 'National Zoological Collections' of the Zoological Survey of India, WGRC- Kozhikode (ZSIK). Specimens were photographed using canon Power shot sx430 Camera placing the specimen on graph paper for measurement purpose. Live Specimens collected were killed immediately by instant freezing and also by introducing in to killing jar and processed as per standard techniques in lepidopterology. The dry preservation is done in fumigated entomological boxes and stored in the insect cabinets in the Zoological Survey of India, WGRC- Kozhikode.

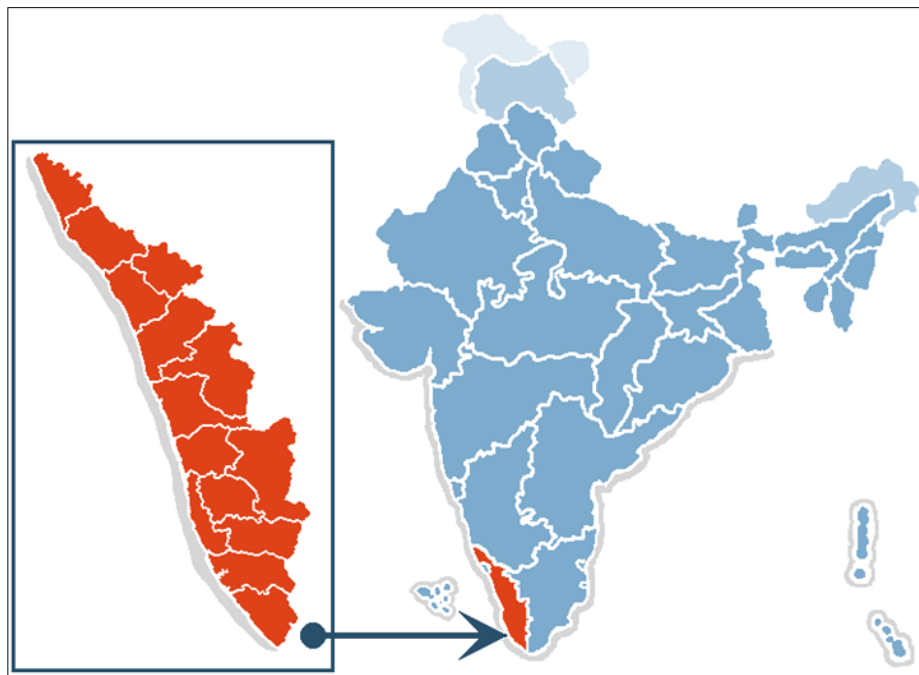


Fig 1: Study area: Map of Kerala (Source: Google map)

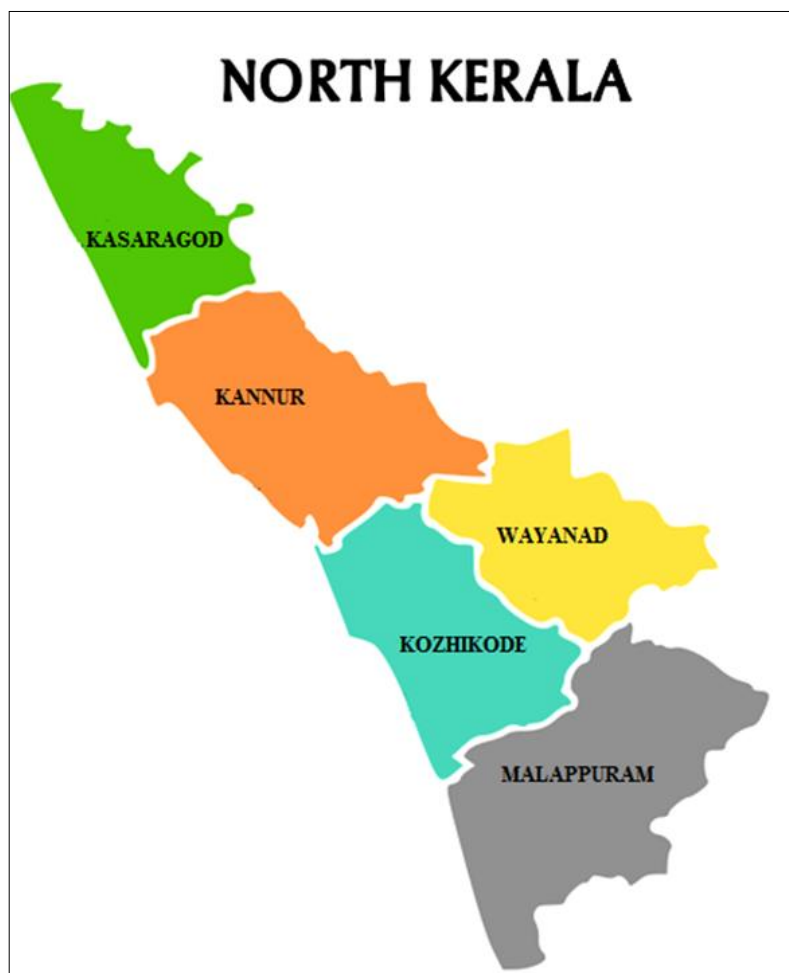


Fig 2: District map of Northern Kerala showing study area.

Results and Discussion

Aeolarcha eaphthalma Meyrick, 1931

Family: Oecophoridae, Subfamily: Oecophorinae

Aeolarcha eophthalma Meyrick, 1931; *Bull. Sect. scient. Acad. roum.* 14: 212



Aeolarcha eaphthalma



Athetis cognata



Bagada lignigera



Barasa lunisigna



Callopietria placodoides



Chadisa basivacua



Cheromettia laleana



Compsoctena barbarella



Condica capensis



Condica sutor



Ctenoplusia furcifera



Demonarosa rufotessellata



Donacaula dodatellus



Dyrzela squamata



Ethmia praeclara



Herminia tarsicrinalis



Hypena thermesialis



Isodemis serpentinana

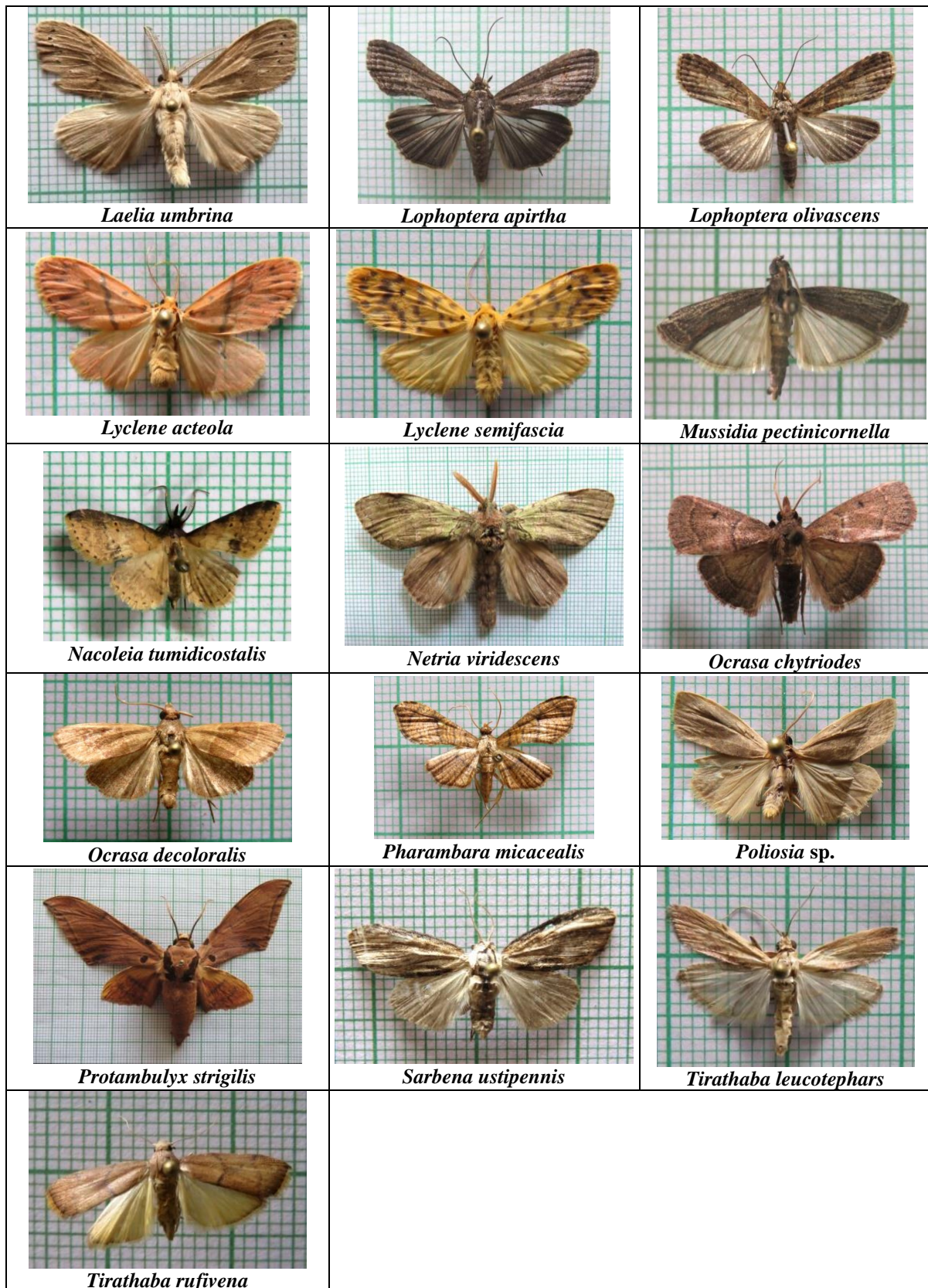


Plate 1

Diagnosis

Head, thorax and abdomen dark brown with white markings in thorax; fore wing pale brown with small black dots and dark upper margin; hind wing transparent with dark inner margin, fringed by cilia; antennae filiform; wings span 26–28 mm.

Distribution

India: Kerala (New Report).

Elsewhere: Hong Kong (Dr. Gary W.J. Ades *et al.*, 2020)

Habitat

They are nocturnal, collected from Banana agroecosystem

Month of activity: August

Remarks: Reported first time from India.

***Athetis cognata* Hampson, 1909**

Family: Noctuidae, Subfamily: Noctuinae

Athetis cognata; Hampson, 1909, *Cat. Lepid. Phalaenae Br. Mus.* 8: 347, pl. 130, f. 16

Diagnosis

Head, thorax and abdomen brown; fore wing brown with pale sub basal, medial, post medial and sub terminal lines; slightly fringed outer margin; hind wing white with pale brown margins; fringed outer margin; antennae filiform; tectiform resting position; Wings span 21–24 mm.

Distribution

India: Kerala (New Report), Sikkim.

Elsewhere: Indonesia; Laos; Nepal; Philippines; South China; Taiwan; Thailand; Vietnam (Kononenko & Pinratana, 2013) ^[19].

Habitat

They are nocturnal, collected from Spices and Coconut agroecosystem

Month of activity

February, November

***Bagada lignigera* Holloway, 1989**

Family: Noctuidae, Subfamily: Hadeninae

Bagada lignigera Holloway, 1989. *The Moths of Borneo 12: Malayan Nature J.* 42 (2-3): 57-225

Diagnosis

Head, thorax reddish brown and abdomen pale brown; fore wing reddish brown with black medial spot and pale black costal area; small black spots on terminal region and the inner margin broadly bordered with dull violet; hind wing pale brown with broadly bordered pale black outer margin; both wing outer margins fringed by cilia; antennae filiform; tectiform resting position; wings span is 22–24 mm.

Distribution

India: Kerala (New Report), Sikkim.

Elsewhere

Malaysia; Thailand (Kononenko & Pinratana, 2013) ^[19].

Habitat

They are nocturnal, collected from Coffee agroecosystem

Month of activity

February, March, June, July, August, September

***Barasa lunisigna* Joshi, Singh & Laszlo, 2019**

Family: Nolidae, Subfamily: Chloephorinae

Barasa lunisigna Joshi, Singh & Laszlo, 2019, *Rec. Zool. Surv. India* 119 (3): 265

Diagnosis

Head, thorax and abdomen pale white; fore wing pale white with pale black antemedial, postmedial lines and broken black subterminal line; hind wing silvery white with brown outer margin; both wings outer margin fringed by small cilia; palpi are porrect; antennae filiform; Wings span 21–22 mm.

Distribution

India: Kerala (New Report), Assam, Khasis.

Elsewhere

Indonesia; Malaysia; Myanmar; Thailand; Vietnam (Kononenko & Pinratana, 2013; Joshi, Singh & Laszlo, 2019) ^[19, 12].

Habitat

They are nocturnal, collected from mixed vegetable and spices agroecosystems

Month of activity

April, December

***Callopietria placodoides* Guenée, 1852**

Family: Noctuidae, Subfamily: Eriopinae

Callopietria placodoides Guenée, 1852; *Hist. nat. Ins., Spec. gén. Lépid.* 6 (Noct. 2): 296

Diagnosis

Head, thorax and abdomen dark violet coloured; fore wing violet coloured with brown sub-basal, medial and post-medial markings; hind wing pale black with fringed outer margin; palpi are porrect; antennae filiform; wings span 28–32 mm.

Distribution

India: Kerala (New Report), West bengal.

Elsewhere

Australia; Borneo; China; Indonesia; Japan; Korea; Laos; Malay Peninsula; Myanmar; Nepal; Philippines; Taiwan; Thailand; Vietnam (Kononenko & Pinratana, 2013; Subrata Majumdar, 2020) ^[19].

Habitat

They are nocturnal, collected from Cashew and Coconut agroecosystems

Month of activity: January***Chadisra basivacua* Walker, 1862**

Family: Notodontidae, Subfamily: Notodontinae

Chadisra basivacua Walker, 1862; *J. Proc. Linn. Soc. (Zool.)* 6: 134

Diagnosis

Head, thorax and abdomen pale green; fore wing pale green with pale white exterior half from mid to inner margin; terminal region with small black dots; hind wing pale white with brown outer margin; antennae serrated; Wings span 37–40 mm.

Distribution

India: Kerala (New Report).

Elsewhere

Thailand; Vietnam (Kononenko & Pinratana, 2013) ^[19].

Habitat

They are nocturnal, collected from Banana, Paddy and Mixed vegetable agroecosystems

Month of activity

February, March

***Cheromettia laleana* Moore, 1859**

Family: Limacodidae, Subfamily: Unassigned

Cheromettia laleana Moore, 1859; *Ann. Mag. Nat. Hist.* 20 (4):417.

Diagnosis

Head, thorax and abdomen reddish brown; fore wing reddish brown with black medial line and outer region; hind wing pale black with transparent central region; antennae bipectinate at base and filiform at tip; tectiform resting position; its wings span is about 38–40 mm.

Distribution

India: Kerala (New Report), Jharkhand, Sikkim.

Elsewhere

Myanmar; Sri Lanka (Sambath, 2014).

Habitat

They are nocturnal, collected from Rubber, Coconut and coffee agroecosystems

Month of activity

January, April

***Compsoctena barbarella* (Walker, 1856)**

Family: Eriocottidae, Subfamily: Compsocteninae

Compsoctena barbarella (Walker, 1856). *List Spec. Lepid. Insects Colln Br. Mus. Part XXVIII.– Tortricites & Tineites*; p. 515

Diagnosis

Head, thorax and abdomen ash-gray in colour; fore wing grey with two oblique very incomplete and much interrupted bands formed by the speckles; hind wing pale grey with pale white base; both wings outer margin fringed by cilia; antennae bipectine; tectiform resting position; Wings span is 30–32 mm.

Distribution

India: Kerala (New Report), Uttarakhand, West Bengal (Anonymous, 2021) ^[1].

Habitat

They are nocturnal, collected from Coffee, Mixed vegetables, Spices, paddy, Coconut and Rubber agroecosystems

Month of activity

January, February, March, July

***Condica capensis* Guenée, 1852**

Family: Noctuidae, Subfamily: Condicinae

Condica capensis Guenée, 1852; *Hist. nat. Ins., Spec. gén. Lépid. 5* (Noct. 1): 213

Diagnosis

Head, thorax and abdomen pale brown coloured; fore wing pale brown with black pale dots; hind wing dull white with termen suffused by pale brown colour; antennae filiform; tectiform resting position; The Wings Span is 26 – 30 mm.

Distribution

India: Kerala (New Report).

Elsewhere

Borneo; Peninsular Malaysia; Philippines; Sri Lanka; Sulawesi; Thailand (Ahmet & Muhabbet, 2017e).

Habitat

They are nocturnal, collected from Spices, Coconut and coffee agroecosystems

Month of activity

February, November

***Condica sutor* Guenée, 1852**

Family: Noctuidae, Subfamily: Condicinae

Condica sutor Guenée, 1852; *Hist. nat. Ins., Spec. gén. Lépid. 5* (Noct. 1): 231.

Diagnosis

Head, thorax and abdomen brown coloured; fore wing dark brown with pale white cell spot; hind wing pale brown with black colouration towards margin; outer and inner margin fringed by brown cilia; antennae filiform; tectiform resting position; Wings span 32–34 mm.

Distribution

India: Kerala (New Report), Sikkim.

Elsewhere

Borneo; Peninsular Malaysia; Philippines; Sri Lanka; Sulawesi; Thailand (Ahmet & Muhabbet, 2017e).

Habitat

They are nocturnal, collected from Spices and Coconut agroecosystem

Month of activity

February

***Ctenoplusia furcifera* Yoshimoto, 1993**

Family: Noctuidae, Subfamily: Plusiinae

Ctenoplusia furcifera; Yoshimoto, 1993, *Tinea 13* (Suppl. 3): 54, pl. 44, f. 30-31

Diagnosis

Head, thorax and abdomen dark brown coloured; fore wing dark brown with wavy subterminal lines; cell and medial area with very small markings; hind wing brown with pale brown colouration towards inner margin; antennae bipectinate; tectiform resting positions; Wings span 28–30 mm.

Distribution

India: Kerala (New Report), Sikkim.

Elsewhere

Afghanistan; Australia; China; Indonesia; Nepal; Pakistan; Taiwan; Thailand; Vietnam (Kononenko & Pinratana, 2013) ^[19]

Habitat

They are nocturnal, collected from Coffee and Coconut agroecosystems.

Month of activity

January

***Demonarosa rufotessellata* Moore, 1879**

Family: Limacodidae, Subfamily: Unassigned

Demonarosa rufotessellata Moore, 1879, *New Ind. Lep.* 1: 73

Diagnosis

Head, thorax and abdomen reddish brown; fore wing whitish yellow with oblique red-brown lines, large reddish brown basal patch, two brown specks on outer margin; hind wing yellowish black with pale white upper margin and base; antennae bipectinate; tectiform resting position; Wings span 22–30 mm.

Distribution

India: Arunachal Pradesh, Kerala (New Report), Nagaland.

Elsewhere

Borneo; Japan; Myanmar; Nepal; northern and central Vietnam; Southern China; Taiwan; Thailand (Ustjuzhanin & Kovtunovich, 2009; Anonymous, 2021) ^[36, 1].

Habitat

They are nocturnal, collected from Cashew, Coffee, Paddy, Coconut and Rubber agroecosystems

Month of activity

January, February, July

***Donacaula dodatellus* Walker, 1864**

Family: Crambidae, Subfamily: Schoenobiinae

Donacaula dodatellus Walker, 1864; *List Spec. Lepid. Insects Colln Br. Mus.* 30: 966

Diagnosis

Head, thorax and abdomen yellowish brown; fore wing yellowish brown with small black spot at cell end; hind wing silvery white with fringed outer margin; antennae filiform; tectiform resting position; the Wings span of the male is about 22–24 mm; female is 26–40 mm.

Distribution

India: Kerala (New Report).

Elsewhere

China; Japan; Myanmar; Sri Lanka; the Philippines and on Sumatra (Nuss, M. *et al.*, 2003; Wu, Chun-Sheng, 2014).

Habitat

They are nocturnal, collected from mixed vegetable agroecosystem

Month of activity

March, May, June, July, August, September

***Dyrzela squamata* Warren, 1913**

Family: Noctuidae, Subfamily: Hadeninae

Dyrzela squamata Warren, 1913; *Gross-Schmett. Erde* 11: 177

Diagnosis

Head, thorax and abdomen dark brown coloured; fore wing pale red with pale brown antemedial and medial region having small black dots; black markings in the outer wing margins towards centre; outer margin fringed by small cilia; hind wing pale black coloured; outer and inner margins fringed by small cilia; antennae filiform; tectiform resting position; Wings span 28–30 mm.

Distribution: India: Kerala (New Report), Maharashtra.

Elsewhere

Malay Peninsula; Myanmar; South China; Thailand (Kononenko & Pinratana, 2013; Satish Nikam, 2019) ^[19].

Habitat

They are nocturnal, collected from Paddy agroecosystem

Month of activity

March

***Ethmia praeclara* Meyrick, 1910**

Family: Depressariidae, Subfamily: Ethmiinae

Ethmia praeclara Meyrick, 1910; *Trans. ent. Soc. Lond.* 1910: 460.

Diagnosis

Head and thorax grey with black dorsal spots; abdomen pale orange with sriese of small black dorsal spots; fore wing grey with with 18 black dots over the surface and a row of eleven dots at margin; hind wing pale orange with black wing apex; both wings outer margin fringed by cilia; antennae filiform; the Wings Span is 31–37 mm.

Distribution

India: Kerala (New Report). ***Elsewhere:*** Australia; Sri Lanka (Subhalaxmi, 2018; Greg Tasney, 2022; Victor W Fazio III, 2022) ^[32].

Habitat

They are nocturnal, collected from Banana agroecosystem

Month of activity

August

***Herminia tarsicrinalis* Knoch, 1782**

Family: Geometridae, Subfamily: Geometrinae

Herminia tarsicrinalis Knoch, 1782; *Beitr. Insektengesch.* 2: 75

Diagnosis

Head, thorax and abdomen brown coloured; fore wing pale brown with pale black cell spot; pale black lines are present in the antemedial, post-medial and sub-terminal regions; hind wing pale brown; antennae filiform; tectiform resting position; the Wings Span is 18–20 mm.

Distribution

India: Kerala (New Report), Mharashtra.

Elsewhere

China; Sri Lanka; Vietnam (Yakovlev & Witt, 2009; Apurv Jadhav, 2020) ^[37].

Habitat

They are nocturnal, collected from Banana, Cashew and Rubber agroecosystems

Month of activity

June, December

***Hypena thermesialis* Walker, [1866]**

Family: Erebididae, Subfamily: Hypeninae

Hypena thermesialis Walker, [1866]; *List Spec. Lepid. Insects Colln Br. Mus.* 34: 1515.**Diagnosis**

Head, thorax and abdomen dark brown coloured; palpi are porrect; fore wing dark blackish grey with reddish brown medial and base region; pale white transverse line in medial region; hind wing blackish grey; both wings outer margins fringed by pale black cilia; antennae filiform; tectiform resting position; wings span 28–30 mm.

Distribution

India: Kerala (New Report).

ElsewhereChina; Sumatra; Thailand (Lödl, 1999e; Kononenko & Pinratana, 2013) ^[19]**Habitat**

They are nocturnal, collected from Mixed vegetable and Coconut agroecosystems

Month of activity

December

***Isodemis serpentinana* Walker, 1863**

Family: Tortricidae, Subfamily: Tortricinae

Isodemis serpentinana Walker, 1863. *List Spec. lepid. Insects Colln Br. Mus.*: 317**Diagnosis**

Head, thorax and abdomen brown coloured; fore wing pale brown with dark brown markings on upper margins and tornus; hind wing grey with orange apex; both wings outer margins fringed by cilia; antennae filiform; wings span 22–24 mm.

Distribution

India: Kerala (New Report).

ElsewhereChina; Indonesia; New Guinea; Philippines; Sri Lanka; Thailand (Diakonoff, 1982) ^[3]**Habitat**

They are nocturnal, collected from Coffee and Spices agroecosystems

Month of activity

August, December

***Laelia umbrina* Moore, 1888**

Family: Erebididae, Subfamily: Lymantriinae

Laelia umbrina Moore, 1888; *Proc. zool. Soc. Lond.* 1888: 398.**Diagnosis**

Head, thorax and abdomen brown coloured; fore wing brown with black dots in subterminal region; hind wing pale brown with pale white towards base; outer margins fringed by cilia; antennae bipectinate; Wings span is 28–32mm.

DistributionIndia: Kerala (New Report), Gujarat, Kerala, Uttarakhand (Anonymous, 2021) ^[1].**Habitat**

They are nocturnal, collected from Banana agroecosystem

Month of activity

January

***Lophoptera apirtha* Swinhoe 1900**

Family: Euteliidae, Subfamily: Stictopterinae

Lophoptera apirtha Swinhoe, 1900; *Cat. Het. Mus. Oxford* (2): 92

Diagnosis

Head, thorax and abdomen black coloured; fore wing pale black with minute dark brown spots; outer margin with black border and fringed by cilia; hind wing pale black with transparent medial region and black post-medial region; outer margin with black border; antennae filiform; Wings span 25–28 mm.

Distribution

India: Kerala (New Report).

Elsewhere

Indonesia; Laos; Malay Peninsula; Myanmar; Nepal; Southwest China; Sri Lanka; Thailand; Vietnam (Kononenko & Pinratana, 2013) ^[19].

Habitat

They are nocturnal, collected from Banana agroecosystem

***Lophoptera olivascens* Moore, 1882**

Family: Euteliidae, Subfamily: Stictopterinae

Lophoptera olivascens Moore, 1882; *Descr. Indian lep. Atkinson* (2): 164

Diagnosis

Head, thorax and abdomen pale black; fore wing narrow, pale brown with a darker shade and a series of dark brown apical flecks; hind wing pale grey with outer margin suffused by pale black; palpi porrect; antennae filiform; wings span 20–21 mm.

Distribution

India: Kerala (New Report). **Elsewhere:** Borneo; Myanmar; Nepal; Philippines; Thailand; Vietnam (Kononenko & Pinratana, 2013) ^[19]

Habitat

They are nocturnal, collected from Paddy and Coconut agroecosystems

Month of activity

February

***Lyclene acteola* Swinhoe, 1903**

Family: Erebiidae, Subfamily: Arctiinae

Lyclene acteola Swinhoe, 1903; *Ann. Mag. Nat. Hist.* (7) 11 (65): 501.

Diagnosis

Head, thorax and abdomen pale orange; fore wing reddish orange with black antemedial line; outer margin with black dots and fringed by cilia; hind wing pale orange with outer margin fringed; antennae filiform; tectiform resting position; wings span 22–24 mm.

Distribution

India: Kerala (New Report), Meghalaya.

Elsewhere: Taiwan (Shipper, 2015; Devin Thabah, 2016) ^[35].

Habitat

They are nocturnal. Collected from Coffee agroecosystems

Month of activity

February

***Lyclene semifascia* Walker, 1854**

Family: Erebiidae, Subfamily: Arctiinae

Lyclene semifascia Walker, 1854; *List Spec. Lepid. Insects Colln Br. Mus.* 2: 521.

Diagnosis

Head, thorax and abdomen yellow with small black dorsal spot on thorax; fore wing yellow with small black basal spot and small black spot at cell end; pale black wavy broken subbasal, antemedian, postmedian lines; subterminal region with series of small black spots; hind wing pale yellow; both wings outer margin fringed by cilia; antennae filiform; tectiform resting position; the Wings span of the male is 20 mm and the female 26 mm.

Distribution

India: Kerala (New Report), Sikkim.

Elsewhere

Myanmar; Sri Lanka (Kitching, 2003; Jagbir Singh, Navneet Singh & Rahul Joshi. 2014) ^[18].

Habitat

They are nocturnal. Collected from Banana, Mixed vegetables, cashew, Rubber, paddy, Spices and coffee agroecosystems

Month of activity

January, February, March, April, June, July, August, November, December

***Mussidia pectinicornella* Hampson, 1896**

Family: Pyralidae, Subfamily: Phycitinae

Mussidia pectinicornella Hampson, 1896. *Fauna of British India, Moths.* 4:88

Diagnosis

Head, thorax and abdomen brown coloured; fore wing dark brown with pale white transverse lines; outer margin fringed by cilia; hind wing white with pale black outer margin, fringed by cilia; antennae filiform; wings span 19–21 mm.

Distribution

India: Kerala (New Report). **Elsewhere:** Bhutan; China; Fiji East; Hong Kong; Japan; Java; Sri Lanka; Taiwan; Thailand; West Malaysia (Hampson 1896a; Robinson *et al.*, 1994; Kendrick 2002) ^[7, 29, 14].

Habitat

They are nocturnal, collected from Paddy agroecosystem

Month of activity

January

***Nacoleia tumidicostalis* Hampson, 1907**

Family: Crambidae, Subfamily: Spilomelinae

Nacoleia tumidicostalis Hampson, 1907.; *J. Bombay nat. Hist. Soc.* V.18. plate E

Diagnosis

Head black; thorax and abdomen brown coloured; fore wing brown with black upper margin; 2 black cell spot and outer wing margin with small black dots; presence of Pale black sub-basal and post-medial lines; hind wing brown with black spots on outer margin; presence of pale antemedial and medial lines; both wings outer margins fringed by cilia; palpi are porrect; antennae bipectinate; its Wings span is 17–18 mm.

Distribution

India: Kerala (New Report).

Elsewhere

Africa; Australia; Hong Kong; Indonesia; Nepal; Philippines; Sri Lanka (Robinson *et al.*, 1995; Kendrick 2002) ^[30, 14].

Habitat

They are nocturnal, collected from Cashew and Spices agroecosystems

Month of activity

June, December

***Netria viridescens* Walker, 1855**

Family: Notodontidae, Subfamily: Dicranurinae

Netria viridescens Walker, 1855; *List Spec. Lepid. Insects Colln Br. Mus.* 6: 1504.

Diagnosis

Head, thorax green and abdomen yellowish brown, with the extremity green; fore wing green with pale lines across; hind wing grayish brown; female fore wing with brown base and central area; underside is paler; palpi are short, slight and upturned; antennae bipectinate; wings span in male 58 mm, female 73 mm.

Distribution

India: Goa, Karnataka, Kerala (New Report), Maharashtra, Meghalaya, Sikkim. *Elsewhere*: Sri Lanka (Subhalaxmi, 2018; Anonymous, 2021) ^[1].

Habitat

They are nocturnal, adult non-feeding. collected from Banana, Coconut and mixed vegetable agroecosystems

Month of activity

August, September

***Ocrasa chytriodes* Nielsen & Rangsi, 1996**

Family: Pyralidae, Subfamily: Pyralinae

Ocrasa chytriodes Nielsen & Rangsi, 1996 Checklist of the Lepidoptera of Australia. *Monogr. Aust. Lepid.* 4: 1-529

Diagnosis

Head, thorax and abdomen pale reddish brown; fore wing reddish brown with black cell spot; presence of black antemedial and post-medial lines; hind wing pale reddish brown with post-medial black line; outer margin fringed by cilia; antennae filiform; wings span 31–33 mm.

Distribution

India: Kerala (New Report).

Elsewhere: Bhutan; China; Fiji East; Hong Kong; Japan; Java; Sri Lanka; Taiwan; Thailand; West Malaysia (Hampson 1896a; Robinson *et al.*, 1994; Kendrick 2002) ^[7, 29, 14].

Habitat

They are nocturnal, collected from Mixed vegetable and Coconut agroecosystems

Month of activity

January

***Ocrasa decoloralis* (Lederer, 1863)**

Family: Pyralidae, Subfamily: Pyralinae

Ocrasa decoloralis (Lederer, 1863); *Wien. Ent. Monatschr.*, 7:10

Diagnosis

Head, thorax and abdomen golden brown; fore wing pale golden brown with broad golden brown medial band; presence of pale black spot at cell end; hind wing similar but paler; both wings outer margin fringed by pale brown cilia; antennae filiform; they have a wings span of about 22–30 mm.

Distribution

India: Kerala (New Report).

Elsewhere

Australia

Habitat

They are nocturnal, collected from mixed vegetable and Coconut agroecosystems

Month of activity

March

***Pharambara micacealis* Walker, 1865**

Family: Thyrididae, Subfamily: Unassigned

Pharambara micacealis Walker, 1865. *List Spec. lepid. Insects Colln Br. Mus.* 1275.

Diagnosis

Head, thorax and abdomen dark orange coloured; fore wing dark orange with black lines in sub basal, antemedial, medial, post medial and subterminal regions; hind wing also dark orange with pale black antemedial line; both wings outer margins fringed by cilia; antennae filiform; Wings span 22–24 mm.

Distribution

India: Kerala (New Report).

Elsewhere

Australia; New Guinea; Sri Lanka (Ahmet & Muhabbet, 2017e)

Habitat

They are nocturnal, collected from Cashew agroecosystem

Month of activity

January, February, April, May, August, October

Remarks

Reported first time from India.

***Poliosia* sp.1 Hampson, 1900**

Family: Erebidae, Subfamily: Arctiinae

Poliosia sp.1 Hampson, 1900: *Cat.Lep.Phal.B.M.*, 2:106

Diagnosis

Head, thorax and abdomen grey coloured; fore wing grey with pale orange base; hind wing pale grey coloured; outer margin fringed by cilia; antennae filiform; tectiform resting position; Wings span 18–22 mm.

Distribution

India: Kerala (New Report).

Elsewhere

Sri Lanka; Myanmar (Subhalaxmi, 2018; Anonymous, 2021) ^[1].

Habitat

They are nocturnal, collected from Coffee agroecosystems

Month of activity

February

***Protambulyx strigilis* Linnaeus, 1771**

Family: Sphingidae, Subfamily: Sphinginae

Protambulyx strigilis Linnaeus, 1771; *Mantissa Plant.* 2: 538.

Diagnosis

Head, thorax and abdomen brown with black dorsal streaks on either sides of thorax; fore wing brown with pale black subterminal lines; there is a brown spot in dorsum near to base and one brown spot in costal area; hind wing reddish brown with pale black medial and postmedial lines; antennae serrated; the wings span is 85–110 mm.

Distribution

India: Kerala (New Report).

Elsewhere

Argentina; Bolivia; Brazil; Central America; Ecuador; French Guiana; Guyana; Peru; Suriname; Venezuela; West Indies south to Colombia (Hodges, 1971) ^[11]

Habitat

They are nocturnal, collected from Coffee agroecosystem

Month of activity

August

***Sarbena ustipennis* Inoue, 1998**

Family: Nolidae, Subfamily: Nolinae

Sarbena ustipennis; Inoue, 1998, *Tinea* 15 (suppl. 1): 95, pl. 140, f. 33

Diagnosis

Head, thorax pale white and abdomen pale black; fore wing dark brown with black upper, outer and inner margin; hind wing grey; antennae filiform; tectiform resting position; Wings span 25–27 mm.

Distribution

India: Kerala (New Report), Assam.

Elsewhere

Bhutan; Nepal; Sri Lanka; Thailand (Kononenko & Pinratana, 2013; Joshi, Singh & Laszlo, 2019) ^[19, 12]

Habitat

They are nocturnal, collected from Coffee, Spices and mixed vegetable agroecosystems

Month of activity

August, September, December

***Tirathaba leucotephars* Meyrick, 1936**

Tirathaba leucotephars Meyrick, 1936. *Bull. Soc. roy. Ent. Egypt.* 206-219

Diagnosis

Head, thorax and abdomen brown coloured; fore wing brown; hind wing pale white with brown outer and inner margin; both wings outer margins fringed by cilia; antennae filiform; tectiform resting position; wings span 18–21 mm.

Distribution: India: Kerala (New Report).

Elsewhere

Philippines; Sri Lanka; Sulawesi; Thailand (Ahmet & Muhabbet, 2017e).

Habitat

They are nocturnal. Collected from Cashew and Coconut agroecosystems

Month of activity

December

Remarks

Reported first time from India.

***Tirathaba rufivena* Walker, 1864**

Lamoria rufivena Walker, 1864; *List Spec. Lepid. Insects Colln Br. Mus.* 30: 960

Diagnosis

Head, thorax and abdomen brown coloured; fore wing brown with dark brown antemedial and pale brown postmedial lines; outer margin fringed by dark yellow cilia; hind wing pale yellow with brown apex and outer margin, which is fringed by pale yellow cilia; antennae filiform; tectiform resting position; wings span is about 20–22 mm.

Distribution

India: Kerala (New Report).

Elsewhere

Australia; Cook Islands; Malaysia; Philippines; Queensland (Herbison-Evans *et al.*, 2015) ^[10]

Habitat

They are nocturnal. Collected from Paddy and Coconut agroecosystems

Month of activity

October

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