

# Bugs & ALL

Newsletter of the  
Invertebrate Conservation & Information Network of South Asia (ICINSA)

## Moths Heterocera from Pench National Park

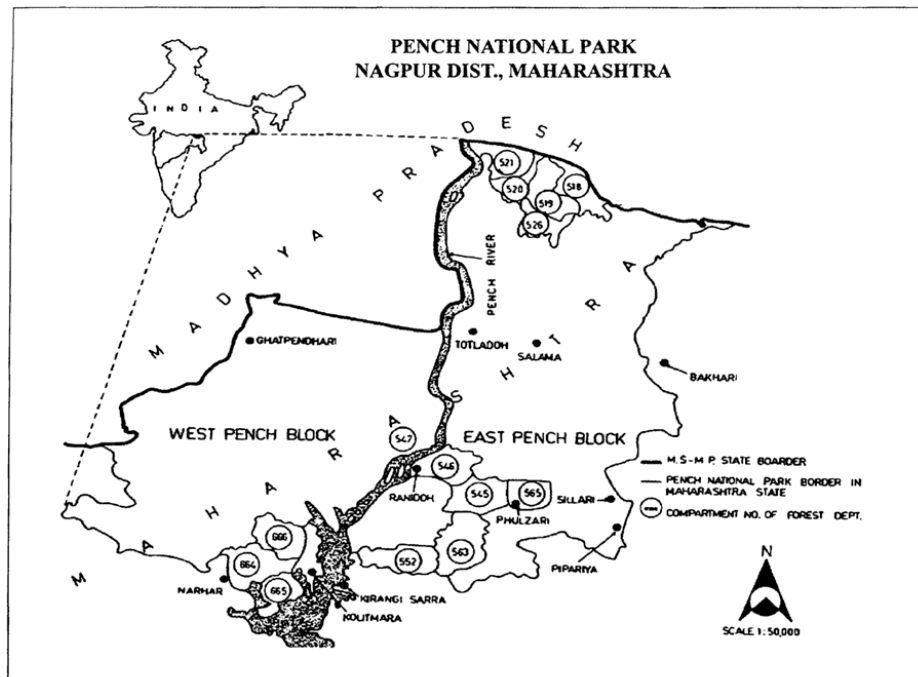


Fig. 1. Study area in Pench National Park, Nagpur, Maharashtra.

Conservation Area Series 20, Fauna of Pench National Park

Pench National Park is one of the five National Parks of Maharashtra State and has the unique distinction of being one of the oldest Protected Areas (Mahabal 2004). The park is 257.26 sq. kms covered with southern tropical dry deciduous forest. Pench National Park has its area contiguous with Pench National Park and Sanctuary of Madhya Pradesh State (Mahabal 2004). This paper documents the moth fauna of Pench National Park falling under the jurisdiction of Maharashtra State. Recent estimates reveal the report of over 1,27,000 species of Moths from the world. Of which, over 12,000 species are recorded from India (Chandra & Nema 2007). Chandra & Nema (2007) reported 60 species belonging to 53 genera divided in 12 families from Pench National Park of Madhya Pradesh. Ramakrishna et al. (2006) reported 96 species from 16 families belonging to 82 genera from Pench National Park of Madhya Pradesh state. A total of 53 species were found common from the reports of the above stated authors. After deducting, the common species from total number of species reported by Ramakrishna et al. (2006) and Chandra & Nema (2007) and 07 and 43 species respectively were uncommon species. Fauna of Pench National Park of Maharashtra state was published in 2004 wherein a chapter on moths was lacking, hence, an attempt has been made to identify and document the moth collection from Pench National Park available at Western Regional Centre, Zoological Survey of India, Pune.



### Material and Methods:

Faunistic survey of Pench National Park was conducted by Western Regional Centre of Zoological Survey of India, Pune. The map of Pench National Park, Nagpur (Maharashtra) is shown in Fig. 1. The project was undertaken from 1994 to 1999. A Total of eight surveys were conducted and specimens were collected and brought to laboratory for further studies. The collection of moths was made at light traps. The collected moth specimens were relaxed, identified and preserved. The moths were identified with the help of available literature viz. Hampson (1892, 1893, 1894, 1896), Bell & Scott (1937) and Holloway (1988; 1987, 1998). The modern classification of moths given by Holloway (1988, 1998), Kristensen (1999) was followed by incorporating recent changes in the superfamily Noctuoidea (Lafontaine & Schmidt 2010; Nieukirken et al. 2011; Zahiri et al. 2010, 2011). The identified specimens were deposited at National Zoological Collection, Zoological Survey of India, Western Regional Centre, Pune, Maharashtra, India. The distribution and host plants of moths were checked from available literature i.e. Holloway (1988; 1998), Chandra et al. (2013), Sambath (2014), Shubhalaxmi et al. (2011), Sood et al. (2006) etc.

### Results:

The present paper provides the information on moth fauna of Pench National Park (Maharashtra) along with their systematic account, local & global distribution and host plants. A total of 21 species of moths belonging to 20 genera under 5 families is presented based on the collections present at the Centre.

From Table 1 and Fig 2 it is apparent that Erebidae was most diverse family recorded from the area.

As per best of our knowledge all the species are reported for the first time from this region. Though some of the species are reported by Ramakrishna et al. (2006) and Chandra & Nema (2007) and but there is no record of those species from Pench National Park of Maharashtra State.

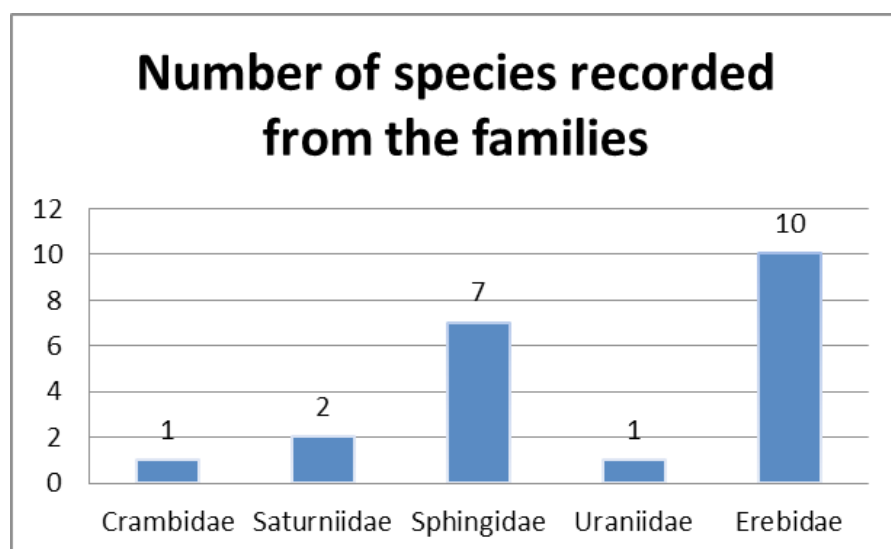


Fig. 2 Number of species recorded from respective families.



**Table 1. The diversity of moths in Pench National Park of Maharashtra state as recorded in the present study**

	Superfamily	Family	Number of		
			Subfamily	Genus	species
1.	Pyraloidea	Crambidae	Spilomelinae	1	1
2.	Bombycoidea	Saturniidae	Saturniinae	2	2
			Sphingidae	Smerinthinae	2
		Sphinginae		2	2
		Macroglossinae		2	3
3.	Geometroidea	Uraniidae	Microniinae	1	1
4.	Noctoidea	Erebidae	Arctiinae	7	7
			Erebinae	3	3
	<b>Total</b>			<b>20</b>	<b>21</b>

**Table 2 List of Taxa recorded from the study area.**

Scientific Name	
Order LEPIDOPTERA	
Suborder HETEROCERA	
<b>A</b>	<b>Family CRAMBIDAE</b>
1.	<i>Diaphania indica</i> Saunders, 1851
<b>B</b>	<b>Family SATURNIIDAE</b>
2.	<i>Actias selene</i> (Hubner, 1807)
3.	<i>Antheraea mylitta</i> Drury, 1773
<b>C</b>	<b>Family SPHINGIDAE</b>
4.	<i>Polyptychus dentatus</i> Cramer 1777
5.	<i>Marumba dyras</i> Walker, 1856
6.	<i>Agrius convolvuli</i> Linnaeus, 1758
7.	<i>Psilogamma incerta</i> Walker, 1865
8.	<i>Theretra alecto</i> Linnaeus, 1758
9.	<i>Hippotion rosetta</i> Swinhoe, 1892
10.	<i>Hippotion celerio</i> (Linnaeus, 1758)
<b>D</b>	<b>Family URANIIDAE</b>
11.	<i>Micronia aculeata</i> Guenee, 1857
<b>E</b>	<b>Family EREBIDAE</b>
12.	<i>Syntomoides imaon</i> Cramer, 1780
13.	<i>Cretonotus gangis</i> (Linnaeus, 1763)
14.	<i>Utetheisa lotrix</i> Cramer, 1777
15.	<i>Mangina astrea</i> Drury, 1773
16.	<i>Rajendra vittata</i> Moore, 1879
17.	<i>Cyana puella</i> (Drury, 1773)
18.	<i>Oeonistis entella</i> Cramer, 1779
19.	<i>Mocis undata</i> Fabricius, 1775
20.	<i>Chalciope mygdon</i> Cramer, 1777
21.	<i>Bastilla crameri</i> Moore, 1885

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## Systematic account

Order LEPIDOPTERA, Suborder HETEROCERA  
Clade: OBECTOMERA, Superfamily PYRALOIDEA  
Family CRAMBIDAE, Subfamily SPILOMELINAE  
Tribe Spilomelini Munroe, 1995

### 1. Genus *Diaphania* Hubner, 1818

#### 1. *Diaphania indica* Saunders, 1851 (Image 1)

1851. *Eudiotpes indica* Saunders, *Trans ent. Soc. Lond.*, (2) 1: 163, pl 12. figs. 5-7.

1854. *Phakellura gazoralis* Guenee, in Boisduval & Guenee, *Hist. nat. Ins., Spec. gen. Lepid.* 8: 297

1854. *Phakellura zygaenalis* Guenee, in Boisduval & Guenee, *Hist. nat. Ins., Spec. gen. Lepid.* 8: 297

1915. *Glyphodes indica* Rothschild, *Novit. Zool.* 22 (2): 226

1997. *Diaphania indica*: Bhatt., *Fauna of W. Bengal*, 7: 385.

**Material examined:** 1 ex. Totladoh Forest, Pench, Nagpur District (Maharashtra). Date 10.10.1996. Coll. A.S. Mahabal. Reg. No. L-1392

**Diagnostic Characters:** Wingspan 26 mm. Head and thorax is brown. Abdomen is white but 7<sup>th</sup> and 8<sup>th</sup> segments are brown. There is a tuft of light brown "hairs" on the tip of the abdomen, vestigial in the male but well-developed in the female. The coastal and inner areas are broadly black-brown in forewing having a triangular pearly hyaline white patch. Hind wing is white. A marginal black-brown band is present at costa.

**Distribution:** Andaman & Nicobar Islands (Great Nicobar), Bihar (Pusa; Ranchi), Haryana (Ambala), Madhya Pradesh (Mhow), Maharashtra (Bombay; Pune, Nashik, Amravati), Sikkim, Tripura, Tamil Nadu (Nilgiri Hills), Uttar Pradesh (Dehra Dun), West Bengal (Calcutta).

**Elsewhere:** Australia, Myanmar, China, Central America, Hong-Kong, Java, Japan, Korea, Pakistan, Sri Lanka, Sulawesi, The Ethiopian region.

**Host plant:** Cucurbitaceae, Fabaceae, Leguminosae, Solanaceae and Malvaceae.

**Remarks:** This species is reported by Chandra and Nema, (2007) from Pench Tiger Reserve of Madhya Pradesh.

Clade: MACROHETEROCERA

Superfamily BOMBYCOIDEA

Family SATURNIIDAE, Subfamily SATURNIINAE

Tribe SATURNIINI Boisduval, [1837] 1834

### 2. Genus *Actias* Leach, 1815

#### 2. *Actias selene* (Hubner, 1807) (Image 2)

1806. *Echidna caudata selene* Hubner, *Samml. Exot. Schmett.*, 1: 3.

1892. *Actias selene* Hampson, *Fauna Brit. India*, Moths, 1: 13-14.

1979. *Actias selene*: Arora & Gupta. *Mem. Zool. Surv. India*, 16(1): 12

**Material examined:** 1 male & 1 female. Totladoh Forest, Pench, Nagpur District (Maharashtra). Date 12.10.1996. Coll. A.S. Mahabal. Reg. No. L-1410

**Diagnostic characters:** Male: Head, thorax and abdomen is white. A dark pink band is present on prothorax. Legs are pink. Fore wing is pale green and white at base. A dark pink costal fascia which is darkest along subcostal nervure. An outwardly-oblique pale yellow ante medial line; two inwardly-oblique slightly curved submarginal lines; a pale yellow marginal band; a dark red-brown lunule at end of cell, with a grey line on it, bounding inwardly a round ochreous spot with pinkish centre. Hind wing similar to the fore wing. The central portion of the tail is pink. Wing span is 115 mm.

**Female:** The outer margin is less excised and waved. The yellow markings are less developed. The antemedial line of fore wing is near to the base. It is absent in Hind wing. The tail is less pink. The wing span is about 135 mm.

**Distribution:** Throughout India.

**Elsewhere:** Afghanistan, Bangladesh, Bhutan, China, Hong Kong, Indonesia, Korea, Japan, Myanmar, Nepal, North America, Pakistan, Sri Lanka, Russia.

**Host plant:** Sweetgum, *Rhododendron*, *Prunus* (including cherry), *Malus* (including apple), *Pieris*, *Hibiscus*, *Salix*, *Crataegus*, *Juglans regia* and Banana.

**Remark:** This species is reported by Ramakrishna et al. (2006) and Chandra & Nema, (2007) from Pench Tiger Reserve of Madhya Pradesh.

### 3. Genus *Antheraea* Hubner, 1819

#### 3. *Antheraea mylitta* Drury, 1773 (Image 3)

1773. *Phalaena mylitta* Drury, *Illust. Nat. Hist. Exot. Insects* 2: 8, index, pl. 5, f. 1

1855. *Bombyx mylitta* Guerin-Meneville, *Rev. Zool.*, 2 (7): 297.99.

1864. *Bombyx (Antheraea) mylitta* Guerin- Meneville, *Rev. Mag. Zool.*, (2) 16: 138-182.

1887. *Antheraea mylitta* Cotes and Swinhoe, *Cat. Moths of India*, 2; 228, No. 1564.

**Material examined:** 1 ex. Bodhaljira, Pench, Nagpur District (Maharashtra). Date 03.12.1994. Coll. P.P. Kulkarni. Reg. No. L-1411

**Diagnostic characters:** In male the antenna, head, thorax, and abdomen is pale brown. Collar, prothorax, and basal half of costa of fore wing is pinkish brown, powdered with grey colour. Reddish or yellowish fore wing. The costal brown and grey fascia of fore wing reaching the apex; the hyaline and ocellated spots are larger, the inner lunule and postmedial line bright pinkish. The submarginal line of the hind wing is near to the margin. Marginal yellow line is absent. Wing span is 140 mm.

**Female:** the body is pink- brown or bright yellowish fawn. Hyaline and ocellated spots are larger. Wing Span is 150-190 mm.

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Image 1. *Diaphania indica*

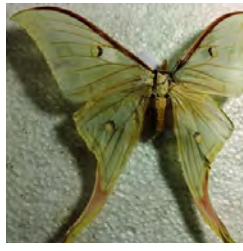


Image 2. *Actias selene*



Image 3. *Antheraea mylitta*



Image 4. *Marumba dyras*



Image 5. *Agrius convolvuli*



Image 6. *Psilogamma incerta*



Image 7. *Theretra alecto*



Image 8. *Hippotion rosetta*



Image 9. *Hippotion celerio*



Image 10. *Micronea aculeata*



Image 11. *Syntomoides imaon*



Image 12. *Creatonotus gangis*



Image 13. *Utetheisa lotrix*



Image 14. *Mangina astrea*



Image 15. *Rajendra vittata*



Image 16. *Cyana puella*

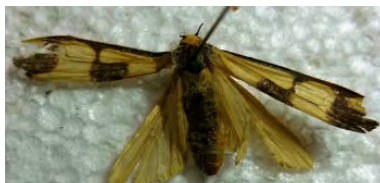


Image 17. *Oeonistis entella*



Image 18. *Mocis undata* (Dark form)



Image 19. *Mocis undata* (Light form)



Image 20. *Chalciopse mygdon*



Image 21. *Bastilla crameri*



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**Distribution:** Throughout India including Andhra Pradesh, Assam, Bihar, Himachal Pradesh, Jammu & Kashmir, Karnataka, Madhya Pradesh, Maharashtra, Manipur, Orissa, Rajasthan, Telangana, Uttar Pradesh, Zharkhand.

**Elsewhere:** China, Nepal, Sri Lanka.

**Host plant:** *Terninalia*, *Shorea robusta*, Indian jujube, axlewood, *Syzygium cumini*, *Careya arborea*, *Hardwickia binata*, and *Tectona* spp.

## Family SPHINGIDAE, Subfamily SMERINTHINAE

### Tribe SMERINTHINI Grote & Robinson, 1865

#### 4. Genus *Polyptychus* Hubner, (1819)

##### 4. *Polyptychus dentatus* Cramer 1777

1777. *Sphinx dentatus* Cramer, *Pap. Exot.*, 2: 42.

1937. *Polyptychus dentatus*, Bell & Scott, *Fauna Brit. India, Moths*, 5: 169.

**Material Examined:** 1 ex., Totladoh, Pench, Nagpur District (Maharashtra). Date 10.10.1996. Coll. A.S. Mahabal. Reg. No. L-1413.

**Diagnostic characters:** Head, thorax and abdomen are Gray coloured. Legs are with short spurs. Wings with the outer margins are crenulated. Fore wing is with a diffused medial band; oblique antemedial, postmedial, and submarginal lines. The last is curved in some specimens. An indistinct wavy line is present between the postmedial and submarginal lines. Apical area is clouded. Hind wing with a wavy postmedial line. Cilia chequered brown & white. Underside: forewing with submarginal. Hind wing with medial and submarginal lines. Wingspan: 110 mm.

**Distribution:** India: Eastern and Northwest Himalaya, Madhya Pradesh (Indore, Pench National Park, Seoni), Maharashtra (Bombay, Nashik, Nandurbar), Sikkim, Southern peninsula, Uttar Pradesh (Allahabad), Uttarakhand, West Bengal and Zharkhand (East Singhbhum)

**Elsewhere:** Bhutan, Myanmar, China, Java, Malaysia, Nepal, Pakistan, Philippines, Sri Lanka, Sumatra, Thailand, Vietnam.

**Host plant:** *Cordia dichotoma*, *Cordia sebestena* and *Ehretia laevis*

**Remark:** Reported by Ramakrishna et al. (2006) and Chandra & Nema, (2007) from Pench Tiger Reserve of Madhya Pradesh.

#### 5. Genus *Marumba* Moore, 1882

##### 5. *Marumba dyras* Walker, 1856 (Image 4)

1856. *Smerinthus dyras* Walker, *List Specimens lepid. Insects Colln. Br. Mus.* 8: 250.

1869. *Smerinthus dyras*, Walker, *Cat. Lep.Het. Brit. Mus.*, 8: 250.

1937. *Marumba dyras dyras*, Bell & Scott, *Fauna Brit. India, Moths*, 5: 179.

2013. *Marumba dyras* Gorule & Nikam, *J. Threatened Taxa*,

5(12): 4697

**Material examined:** 01 ex. Pench, Nagpur District (Maharashtra). Date 26.09.1997. Coll. D.B. Bastawade. Reg. No.L-1412.

**Diagnostic characters:** Body is pale brown. A dark obsolete line is running from head to the end of abdomen. Fore wing is with a subbasal line. Three antemedial lines converging towards the inner margin, slightly bent two oblique postmedial lines. The outer one is obsolescent; another postmedial line, curved from the costa to vein 2, then recurved upwards and inwards and enclosing a red-brown spot surrounded by an indistinct line; two curved submarginal lines. Hindwings are red-brown. The area at anal angle is paler, with two red-brown spots on it. Underside of fore wing with lines on the outer half is present. Hind wing is with two postmedial straight lines and two submarginal curved lines. Wingspan: 90mm.

**Distribution:** India: Andamans, Chhattisgarh, Madhya Pradesh (Damoh, Hoshangabad, Mandla, Seoni), Maharashtra (Nashik, Nandurbar), Western and Eastern Himalayas, South India.

**Elsewhere:** Myanmar, Borneo, China, Hong Kong, Java, Malaya, Nepal, Philippines, Sri Lanka, Thailand, Sumatra.

**Host plant:** *Bombax*, *Ceiba*, *Cajanus*, *Hibiscus*, *Kydia*, *Buettneria*, *Helicteres*, *Pterospermum*, *Sterculia*, *Grewia*, *Bridelia*, *Sapindus* and *Schleichera*.

**Remark:** The subspecies is reported by Ramakrishna et al. (2006) and Chandra & Nema, (2007) from Pench Tiger Reserve of Madhya Pradesh.

## Subfamily SPHINGINAE

### Tribe SPHINGINI Latreille, [1802]

#### 6. Genus *Agrilus* Hubner, 1819

##### 6. *Agrilus convolvuli* Linnaeus, 1758 (Image 5)

1758. *Sphinx convolvuli* Linnaeus, *Syst. Nat.* edn.10:490.

1903. *Herse convolvuli* Linnaeus; Rothschild & Jordan, 11. 1937. *Herse convolvuli convolvuli*: Bell & Scott, *Fauna Brit. India, Moths*, 5: 61.

**Material examined:** 01 ex. Pench, Nagpur District (Maharashtra). Date 26.09.1997. Coll. D.B. Bastawade. Reg. No.L-1409.

**Diagnostic characters:** Head, Thorax and abdomen are grey. Lateral transverse bands of pink and black are present on each segment and grey below. Fore wing grey with grey powdering of the most distal double line, the external one much heavier than proximal one. Hind wing reddish to yellowish with fuscous base and large anal spot. Antenna one-third length of fore wing in male, a little shorter in female. Wingspan: 120 mm.

**Distribution:** Assam, Arunachal Pradesh, Andamans, Gujarat, Himachal Pradesh, Jammu & Kashmir, Uttarakhand, Manipur, Maharashtra, Meghalaya, Mizoram, Nagaland, Sikkim.

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Elsewhere: Africa, Australia, Borneo, China, Hong Kong, Indonesia, Japan, Pakistan, The Pacific and Southern Europe, Myanmar, Malaysia, Mongolia, Nepal, Sri Lanka, Siberia, Thailand.

**Host plant:** Leguminosae and Convolvulaceae.

**Remark:** Reported by Ramakrishna et al. (2006) from Pench Tiger Reserve of Madhya Pradesh.

## 7. Genus *Psilogramma* Rothschild & Jordan, 1903

### 7. *Psilogramma incerta* Walker, 1865 (Image 6)

1864. *Anceryx increta* Walker, *List Lep. Ins. B. M.* 31: 36.  
1903. *Psilogramma increta* Roths. & Jord., *Rev. Sping.* : 43.

**Material examined:** 01 ex. Pench, Nagpur District (Maharashtra). Date 26.09.1997. Coll. D.B. Bastawade. Reg. No.L-1407.02 exs. Totladoh Forest, Nagpur District (Maharashtra). Date 10.10.1996. Coll. A.S.Mahabal. Reg. No.L-1408.

**Diagnostic characters:** Body is grey. Dark brown bands are present on sides of palpi and thorax which meets on metathorax, also few blue and yellow scales are present. The underside of the abdomen is usually pure white. Fore wing is with some dark strings from the costa. Two dark streaks are present in the interspaces below veins 2 and 3. A dark streak from the costa before the apex, curved down to vein 6, then upwards and bent back before reaching the apex. A series of submarginal lunules is present. Hind wing is brown. A pale patch with two dark lines across it are present near anal angle. Wing span: 90 mm.

**Distribution:** Jammu & Kashmir, Maharashtra (Malshej ghat, Bhimashankar Wildlife Sanctuary, Nashik, Dhule), Uttarakhand.

**Elsewhere:** China, Japan, Korea, Malaysia, Myanmar, Nepal, North Pakistan, Sri Lanka, Thailand, Taiwan, Vietnam.

**Host plant:** Oleaceae, Scrophulariaceae and Verbenaceae.

## Subfamily Macroglossinae, Tribe Macroglossini

### 8. Genus *Threotra* Hubner, [1819]

#### 8. *Threotra alecto* Linnaeus, 1758 (Image 7)

1758. *Sphinx alecto* Linnaeus, *Syst. Nat.* (Edn 10) 1: 492.  
1903. *Threotra alecto* Linnaeus, Rothschild & Jordan: 776.

**Material examined:** 01 ex. Pench, Nagpur District (Maharashtra). Date 26.09.1997. Coll. D.B. Bastawade. Reg. No.L-1404.01 ex. Totladoh Forest, Pench, Nagpur District (Maharashtra). Date 16.10.1996. Coll. A.S. Mahabal. Reg. No.L-1405.01 ex. Purva Kutumba, Pench, Nagpur District (Maharashtra). Date 04.10.1996. Coll. A.S. Mahabal. Reg. No.L-1406.

**Diagnostic characters:** Body is brown. Lateral black patches are present at the base of the abdomen. Forewings are brown, six faint oblique lines are present near apex and extends to inner margin. Hind wings

are pink, base and dorsum strongly blackened and a diagnostic pale zone is present at the tornus. Anal angle is flesh colour. Wingspan: 90-110 mm

**Distribution:** Assam, Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Manipur, Mizoram, Maharashtra, Meghalaya, Nagaland, Sikkim, Uttarakhand.

**Elsewhere:** Africa, Arabia, China, Europe, Hong Kong, Japan, Pakistan, Philippines, Sri Lanka, Turkey.

**Host plant:** *Saurauia*, *Dillenia*, *Tetracera*, *Leea*, *Psychotria*, *Rubia*, *Cissus*, *Vitis* (Holloway 1988)

**Remarks:** The subspecies *Threotra alecto alecto* is reported by Ramakrishna et al. (2006) from Pench Tiger Reserve of Madhya Pradesh.

## Tribe: Choerocampina

### 9. Genus *Hippotion* Hubner, 1819

#### 9. *Hippotion rosetta* Swinhoe, 1892 (Image 8)

1892. *Chaerocampa[sic] rosetta* Swinhoe, *Cat. Het. Mus. Oxford* (1): 16,  
1941. *Hippotion depictum* Dupont, in Dupont, F. & Roepke, *Verh. Ned. Akad. Wet.* (Tweede Sectie) 40: 70.

**Material examined:** 02 exs. Chikalkhari Nallah, Pench, Nagpur District (Maharashtra). Date 27.09.1994. Coll. M.S. Pradhan. Reg. No.L-1402.02 exs. Bodhaljeera, Pench, Nagpur District (Maharashtra). Date 03.12.1994. Coll. P.P. Kulkarni. Reg. No.L-1403.

**Diagnostic characters:** Head, thorax and abdomen is pale brown. Abdomen is with light brown stripes without black patches. The outer margin of fore wing is more convex with dull pattern and appears less striped. Hind wings are pink. Dark brown band is present on apical margin. Wingspan is about 50-60 mm.

**Distribution:** Assam, Arunachal Pradesh, Andhra Pradesh, Andaman & Nicobar Islands, Bihar, Goa, Gujarat, Himachal Pradesh, Haryana, Karnataka, Lakshadweep Islands, Maharashtra, Meghalaya, Orissa, Sikkim, Tamil Nadu, Uttar Pradesh, Uttarakhand, West Bengal.

**Elsewhere:** Borneo, Eastern Indonesia, New Guinea, Papua, Pakistan, Philippines, Sri Lanka, Southern China, Thailand, Taiwan, Southern Japan (Ryukyu Archipelago).

**Host plant:** *Borreria*, *Morinda citrifolia*, *Morinda umbellata* and *Pentas lanceolata*.

### 9. Genus *Hippotion* Hubner, 1819

#### 10. *Hippotion celerio* (Linnaeus, 1758) (Image 9)

1758. *Sphinx celerio* Linnaeus *Syst Nat.* ed. 10: 491.  
1865. *Chaerocampa celerio* Moore., *Proc. Zool. Soc. Lond.* 794

1903. *Hippotion celerio* Linnaeus, Rothschild & Jordan: 751.

1937. *Hippotion celerio*, Bell & Scott. *Fauna Brit. India, Moths*, 5: 417-420.

**Material examined:** 01 ex. Chikalkhari Nallah, Pench,

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Nagpur District (Maharashtra). Date 27.09.1994. Coll. M.S. Pradhan. Reg. No.L-1386.

**Diagnostic characters:** Head, thorax, and abdomen are brown with a white lateral stripe. Thorax is with some obscure pale streaks. Abdomen is with a white spot on each segment between the dorsal white lines. Fore wing are paler brown with some silvery band from apex to inner margin with a median dark line all along its length and some ochraceous and pale brown lines behind it. Hind wings with the base and anal angle bright pink. Disk is blackish. The outer area isochreous brown, with a black submarginal band and the veins between this and the cell is black. Wingspan: 74 mm.

**Distribution:** Throughout India

**Elsewhere:** Africa, Australia, Arabia, Borneo, China, Europe, Fiji, Hong Kong, Japan, Java, Pakistan, Sri Lanka, Thailand, Timor.

**Host plant:** Grape vine, *Cissus*, *Impatiens*, *Arum* lily, *Alocasia*, *Caladium*, *Colocasia*, *Cryptocoryne*, *Typhonia*, *Zantedeschia*, *Podranea*, *Beta*, *Ipomoea*, *Hibbertia*, *Gossypium*, *Boerhavia*, *Mirabilis*, *Emex*, *Rheum*, *Rumex*, *Morinda*, *Pentas*, *Nicotiana*, *Cayratia*, *Clematicissus*, *Parthenocissus*, *Vitis*.

**Clade: MACROHETEROCERA**

**Superfamily GEOMETROIDEA**

**Family URANIIDAE, Subfamily MICRONIINAE**

**10. Genus *Micronia* Guenee, 1857**

**11. *Micronia aculeate* Guenee, 1857 (Image 10)**

1857. *Micronia aculeata* Guenee, *Hist. nat. Ins. Spec. gen. Lep.*, 10: 26.

1895. *Micronia aculeate* Hampson, *Fauna Brit. India*, *Moths*, 3: 117.

1991. *Micronia aculeate* Mandal & Ghosh, *Rec. Zool. Surv. India*, 88(3 & 4): 321.

2007. *Micronia aculeate* Chandra & Nema, *Fauna of Madhya Pradesh (including Chattisgarh) State Fauna Series*, 15:385.

**Material examined:** 01 ex. Bodhaljeera, Pench, Nagpur District (Maharashtra). Date 03.12.1994. Coll. P.P. Kulkarni. Reg. No.L-1414.01 ex. Pench, Nagpur District (Maharashtra). Date 26.09.1997. Coll. D.B. Bastawade. Reg. No.L-1389.

**Diagnostic characters:** Adult is white, with a fuscous tinge. Wings are white, closely striated with fuscous, somewhat ill-defined antemedial, medial and postmedial fuscous oblique bands. Fine marginal line and black spot is present at base of tail of hind wing. Underside is white or fuscous. Wingspan: 50 mm.

**Distribution:** Throughout India including Andaman and Nicobar Islands, Assam, Himachal Pradesh, Jharkhand (East Singhbhum), Madhya Pradesh, Maharashtra, Sikkim, Tamil Nadu, Tripura, Uttar Pradesh and West Bengal.

**Elsewhere:** Bhutan, Borneo, China, Hong Kong, Indonesia, Java, Myanmar, Sri Lanka, Taiwan.

**Host plant:** *Wattakaka volubilis*.

**Remark:** Reported by Ramakrishna et al. (2006) from Pench Tiger Reserve of Madhya Pradesh.

**Clade: MACROHETEROCERA**

**Superfamily NOCTOIDEA**

**Family EREBIDAE, Subfamily ARCTIINAE**

**TRIBE SYNTOMINI Herrich-Schaffer, [1846]**

**11. Genus *Syntomoides* Hampson, 1893**

**12. *Syntomoides imaon* Cramer, 1780 (Image 11)**

1780. *Syntomoides imaon* Cramer, *Pap. Exot.* 3: 94.

1894. *Syntomoides imaon* Hampson, *Fauna Brit. India*, *Moths*, 1: 210.

**Material examined:** 02 exs. Forest Rest house at Sillari, Pench, Nagpur District (Maharashtra). Date 03.12.1999. Coll. P.P. Kulkarni. Reg. No.L-1401.

**Diagnostic characters:** Frons and collar yellow; metathorax with a yellow streak; abdomen with first yellow band sometimes obsolescent. Fore wing with the hyaline patches large, one filling the cell, another nearly the whole interno-median interspace, one at junction of vein 2 and 3, two subapical and two submarginal. Hind wing with a subbasal hyaline patch extending hardly beyond the cell. Tips of antennae and proximal joints of tarsi white. The spots of the forewing vary considerably in size. Wingspan: 34 mm.

**Distribution:** Throughout India including Dehradun, Jharkhand (East Singhbhum), Meghalaya, Maharashtra (Nashik, Dhule, Nandurbar) and Sikkim.

**Elsewhere:** Myanmar, China, Hong Kong, Indonesia, Myanmar, Sri Lanka.

**Host plant:** *Anacardium* and *Citrus*.

**Tribe ARCTIINI Leach, [1815]**

**12. Genus *Cretonotus* Hubner, (1819)**

**13. *Cretonotus gangis* (Linnaeus, 1763) (Image 12)**

1764. *Plalaena gangis* Linnaeus, *Amoen. Acad.*, 6: 410.

1894. *Cretonotus interruptus*: Hampson, *Fauna Brit. India*, *Moths*, 2: 26-27.

1901. *Cretonotus gangis*, Hampson, *Cat. Up. Phau. Brit. Mus.*, 3: 333.

1991. *Cretonotus gangis*, Mandal & Ghosh, *Fauna of Tripura, Rec. Zool. Surv. India* 88 (3&4): 313-314.

**Material examined:** 01 ex. Bodhaljeera, Pench, Nagpur District (Maharashtra). Date 3.12.1999. Coll. P.P. Kulkarni. Reg. No.L-1400.

**Diagnostic characters:** Head and thorax are pinkish grey, from above the abdomen is crimson, series of black spots are present on lateral and dorsal side. Antennae black. The ventral surface of body is black. Legs are black. Fore wings are pale pinkish ochreous with a black fascia below





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median nervure. Hind wings are pale or dark fuscous sometimes with a series of submarginal black spots. Wingspan: 40 mm.

**Distribution:** Throughout India including Andhra Pradesh, Assam, Arunachal Pradesh, Gujarat, Jharkhand (East Singhbhum), Kerala, Madhya Pradesh, Maharashtra, Meghalaya, Rajasthan, Tamil Nadu, Tripura, West Bengal.

**Elsewhere:** Australia, Myanmar, Bhutan, China, Hong Kong, Indonesia, Java, Malaysia, Myanmar, Nepal, Pakistan, Philippines, Sumatra, Sri Lanka, Western Malaysia.

**Host plant:** Groundnut, Rice, Ragi, Sorghum, Pearl millet, Coffee, Sweet potato, Lucerne, etc.

**Remark:** Reported by Ramakrishna et al. (2006) from Pench Tiger Reserve of Madhya Pradesh.

### 13. *Utetheisa* Hubner, [1819]

#### 14. *Utetheisa lotrix* Cramer, 1777 (Image 13)

1779. *Phalaena (Geometra) lotrix* Cramer, *Uitl. Kapellen* 2:109.

1939. *Utetheisa lotrix* Cramer, Jordan, *Novit. Zool.*, 41: 287.

1983. *Utetheisa lotrix* Arora, *Rec. Zool. Surv. India, Occ. Paper* 60: 13

2014. *Utetheisa lotrix* Singh, Singh & Joshi, *Rec. Zool. Survey India. Occ. Pap* 367: 19

2013. *Utetheisa lotrix* Gorule & Nikam, *J. Threatened Taxa*, 5(12): 4698

**Material examined:** 01 ex. Totladoh Forest and around, Pench, Nagpur District (Maharashtra). Date 06.12.1994. Coll. P.P. Kulkarni. Reg. No.L-1393.

**Diagnostic characters:** Head and thorax is pale yellow. Antennae are ciliated. Fore wing is white, long and narrow. The outer margin is short. Five interrupted scarlet bands with series of black spots between them are present on fore wing. Series of marginal black spots is present on fore wing. Hind wing are white and black marks are seen on the discocellulars. An irregular black submarginal band is present which is broad at apical area. Wingspan is about 33 mm.

**Distribution:** Throughout India including West Bengal (Sunderban), Maharashtra (Amravati, Nashik, Dhule), Garhwal (Dhoran Khas) Andaman and Nicobar Islands. Elsewhere: Africa, Sri Lanka; Indonesia; China; Philippines; Hong Kong; Australia

**Host plant:** *Crotalaria*, Leguminosae, *Dahlia*, *Oryza sativa*.

### 14. Genus *Mangina* Kaleka & Kirti, 2001

#### 15. *Mangina astrea* Drury, 1773 (Image 14)

1773. *Phalaena astrea* Drury, *Illust. nat. Hist. exot. Insects*, 2: index 11, pl. 6, fig. s.

1894. *Argina cribraria* Hampson, *Fauna Brit. India*, Moths, 2: 51

2013. *Mangina astrea* Gorule & Nikam, *J. Threatened Taxa*,

5(12): 4697

**Material examined:** 04 exs. Totladoh and around, Pench, Nagpur District (Maharashtra). Date 06.12.1994. Coll. P.P.Kulkarni. Reg. No.L-1385.

**Diagnostic characters:** Palpi upturned. In both the sexes antennae are ciliated. Head, thorax and abdomen is orange yellow. Two black yellow ringed spots are present on collar, two on tegulae and three on thorax. Abdomen with dorsal, ventral and two paired lateral series of black spots. Fore wing orange yellow. The black spots of fore wings are surrounded by white bands. Hind wing is bright orange. Wingspan is about 41 mm.

**Distribution:** India including Andaman & Nicobar Is, Andhra Pradesh (Sri Lankamalleswara forest reserve) Maharashtra (Nashik, Amravati), Arunachal Pradesh.

**Elsewhere:** Australia, Africa, Myanmar, Bangladesh, China, Hong Kong, Indonesia, Japan, Nepal, New Guinea, Philippines, Sri Lanka, Taiwan.

**Host Plant:** *Crotalaria*

**Remark:** Reported by Ramakrishna et al. (2006) and Chandra & Nema, (2007) from Pench Tiger Reserve of Madhya Pradesh.

### Tribe SPILOSOMINI

#### 15. *Rajendra* Moore, 1879

#### 16. *Rajendra vittata* Moore, 1879 (Image 15)

1879. *Rajendra vittata* Moore, *Proc. Zool Soc.*:396.

1894. *Alphaea vittata* Hampson, *Fauna Brit. India*, Moths, 2: 23.

1919. *Estigmene vittata* Strand, *Lep. Catalogue, Pars.*22.p: 258.

2013. *Rajendra vittata*, Gorule & Nikam, *J. Threatened Taxa*, 5(12): 4698

**Material examined:** 01 ex. Totladoh Forest and around, Pench, Nagpur District (Maharashtra). Date 10.10.1996. Coll. A.S.Mahabal. Reg. No.L-1398.:02 exs. Totladoh Forest and around, Pench, Nagpur District (Maharashtra). Date 04.10.1996. Coll. A.S. Mahabal. Reg. No.L-1397.

**Diagnostic characters:** Head and thorax is black. Antennae black. A white band is present on vertex of head. Tegulae is white with a black spot. Abdomen is crimson above, black below with a series of short dorsal black bands. Fore wings are black with a white fascia from the base to the apex forming an even curve. Hind wings are crimson and a brown band is present on the costa. Also a black spot at end of cell is present. Series of submarginal spots are present, the two towards apex sometimes obsolete. Wingspan is about 35 mm.

**Distribution:** India: Jharkhand (East Singhbhum), Kerala, Maharashtra (Nashik, Dhule, Nandurbar), Tamil Nadu, West Bengal.

**Elsewhere:** Myanmar.

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## Tribe Lithosiini Billberg, 1820

### 16. Genus *Cyana* Walker, 1854

#### 17. *Cyana puella* (Drury, 1773) (Image 16)

1773. *Phalaena puella* Drury, *Illust. Nat. Hist. Exot.*

*Insects* 2: index & 3, : pl. 2

1882. *Bizone puella* Moore, *Lepid. Ceylon* 2 (1): 60, pl. 103

1894. *Cyana puella* Hampson, *Fauna Brit. India*, Moths, 2: 57

1900. *Chionaema puella* Hampson, , *Cat. Lep. Phalaenae Br. Mus.* 2 : 298

2002. *Chionaema puella* Kaleka, , *Zoos' Print J.* 17 (10) : 896

2013. *Cyana puella* Kirti, Joshi & Singh, , *J. Chem. Biol. and Phys. Sci.* 3 (2)

2013. *Cyana puella* Gorule & Nikam, *J. Threatened Taxa*, 5(12): 4698

2016. *Cyana puella* Sondhi & Sondhi, *J. Threatened Taxa*, 8(5): 8761

**Material examined:** 01 ex. Bodhaljeera, Pench, Nagpur District (Maharashtra). Date 03.12.1994. Coll. P.P. Kulkarni. Reg. No.L-1396.

**Diagnostic characters:** Head and thorax are white. A scarlet band one on collar and two on thorax is present. Abdomen is with crimson tinge. Fore wings are white with three black spots in male and single in female near discocellulars. Subbasal scarlet and antemedial band curved outwards below the costa region. The postmedial band is incurved. The antemedial band is inwardly edged with black and postmedial is outwardly. Hind wings are pale crimson. Wingspan: 36mm.

**Distribution:** Chhattisgarh (Bastar), Garhwal (Mussories, Dhoran Khas, Danda Lokhand), Maharashtra (Mumbai), Madhya Pradesh (Seoni, Umaria), North West Himalayas, South India, Sikkim.

**Elsewhere:** Ethiopia, Java, Kenya, Nepal, Sri Lanka, Tanzania, Uganda.

**Host Plant:** Lichens

### 17. *Oeonistis* Hubner, [1819]

#### 18. *Oeonistis entella* Cramer, 1779 (Image 17)

1768. *Phalaena (Noctua) altica* Linnaeus, *Iter in Chinam*: 10, 11

1769. *Phalaena (Noctua) altica* Linnaeus, *Amoenitates Academicae*, 7: 502.

[1779]. *Phalaena entella* Cramer, *Uitl. Kapellen* 3 (17-21): 27, pl. 208

1781. *Noctua convoluta* Fabricius, *Spec. Ins.* 2: 215

1787. *Oeonistis entella* Moore, *Proc. zool. Soc.*

*Lond.* 1878 (4): 847;

1894. *Philagra entella* Hampson, *Fauna Brit. India*, Moths, 2: 71

1900. *Oeonistis entella* Hampson, *Cat. Lep. Phalaenae Br. Mus.* 2: 185

2014. *Oeonistis entella* Singh, Singh & Joshi, *Rec. Zool. Survey India. Occ. Pap* 367: 49

**Material examined:** 01 ex. Totladoh, Pench, Nagpur District (Maharashtra). Date 09.10.1996. Coll. A.S. Mahabal. Reg. No.L-1387.

**Diagnostic characters:** Palpi is porrect and the second joint fringed with hair. Antennae of male is bipectinate, branches are short and with a bristle. Fore wing is long and narrow. It is pale orange coloured at costa, except the apex, blue-green. A medial blue-green band which is expanding in a large quadrate patch is present below the cell. A band from the costa before the apex joined to a large quadrate patch on outer margin. Hind wing is pale orange. Wingspan: 43 mm.

**Distribution:** India including Arunachal Pradesh, Maharashtra (Amravati), Tamil Nadu,.

**Elsewhere:** Borneo, Myanmar, New Hebrides, Sri Lanka.

**Host Plant:** Lichens

## Subfamily EREBINAE, Tribe OPHIUSINI Guenee, 1837

### 18. Genus *Mocis* Hubner, [1823]

#### 19. *Mocis undata* Fabricius, 1775 (Image 18, 19)

1775. *Noctua undata* Fabricius, *Syst. Ent.*, p. 600.

1913. *Mocis undata* Hampson *Cal. Lep. Phal. Brit. Mus.*, 13: 91, fig.25.

1852. *Remigia gregalis* Guenee, *Hist. Nat. Insectes, Spec. gen. Lepid.* 7: 320.

1923. *Mocis uberia* Wileman, *Entomologist*, 56: 190.

**Material examined:** 01 male. Totladoh, Pench, Nagpur District (Maharashtra). Date 20.09.1997. Coll. D.B. Bastawade. Reg. No. L-1394., 01 Female. Purva Kutumba, Pench, Nagpur District (Maharashtra). Date 04.10.1996. Coll.A.S. Mahabal. Reg. No.L-1395., 01 male. Totladoh, Pench, Nagpur District (Maharashtra). Date 04.10.1996. Coll. A.S. Mahabal. Reg. No.L-1399.

**Diagnostic characters:** Abdomen is pale fuscous and ochreous and anal tuft is present. Fore wing with a short subbasal red-brown line, an oblique antemedial pale line with diffused red-brown band on its outer edge present. An indistinct pale waved submarginal line consists of a series of black specks. A dark waved marginal line is also present. Hind wing ochreous fuscous with narrow fuscous medial band and diffused submarginal band. Sometimes a black spot on the antemedial in males is present. Females are redder brown, the underside is strongly tinged rufous and more darkly banded than males. These bands are not oblique on the underside. Wingspan: 45 to 57 mm.

**Distribution:** Assam (Dibrugarh), Andaman and Nicobar Islands (Nancowry), Bihar (Darbhanga), Himachal Pradesh (Dharmasala), Kerala (Travancore), Meghalaya (Shillong), Manipur, Maharashtra (Bombay; Ratnagiri; Nashik, Nandurbar, Thane; Wangni), Madhya Pradesh (Jabalpur), Punjab, Tripura, Uttar Pradesh (Allahabad), Tamil Nadu



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(Nilgiris) Uttarakhand, West Bengal (Calcutta).

**Elsewhere:** Australia, Africa, Bangladesh, China, Java, Japan, Korea, Madagascar, Myanmar, Philippines, Sri Lanka, Sumatra, Sri Lanka, Western Malaysia,

**Host plant:** Soybean, Kindney beans, Cotton, *Cytisus*, Desmodium, Groundnut, *Butea*, Soybean, Kindney beans, Cotton, *Cytisus*, Desmodium, Groundnut, *Butea*, *Cajanus*, *Calopogonium*, *Crotalaria*, *Derris*, *Vigna*, *Shorea*, *Hevea*, *Nephelium* and *Solanum* species.

**Remark:** Reported by Ramakrishna *et al.* (2006) and Chandra and Nema, (2007) from Pench Tiger Reserve of Madhya Pradesh.

### Tribe Poophilini Guenee, 1852

#### 19. Genus *Chalciope* Hubner, [1823]

##### 20. *Chalciope mygdon* Cramer, 1777 (Image 20)

1777. *Chalciope mygdon* Cramer, *Pap. Exot.*, 2: 94.

1787. *Noctua triangulum* Fabricius, *Mantissa Insectorum*, 2: 145.

1894. *Grammodes mygdon*: Hampson, *Fauna Brit. India*, Moths, 2: 531.

1976. *Chalciope mygdon* Holloway, *Mal. Nat.Soc.*: 31

**Material examined:** 01 ex. Totladoh, Pench, Nagpur District (Maharashtra). Date 06.12.1994. Coll. P.P. Kulkarni. Reg. No.L-1390., 01 ex. Bodhaljeera, Pench, Nagpur District (Maharashtra). Date 03.12.1994. Coll. P.P. Kulkarni. Reg. No.L-1391.

**Diagnostic characters:** Head and thorax dark red-brown. Abdomen is greyish fuscous. Fore wing is purplish grey. The costa is ochreous. A large red-brown patch occupying the whole wing except the costal and outer region and is crossed by an oblique ochreous band. The costal and outer edges are bordered by reddish ochreous. Their angle is joined by a red-brown streak from the apex. Hind wing is fuscous. Wingspan is about 31mm.

**Distribution:** Throughout India including Jharkhand (East Singhbhum), Maharashtra (Nashik), Madhya Pradesh, Nicobar Islands, Sikkim.

**Elsewhere:** Borneo, Cambodia, China, Hong Kong, Indonesia, Java, Japan, Laos, Malaysia, Myanmar, Nepal, Philippines, Singapore, Sri Lanka, Thailand, Taiwan, Vietnam.

**Host plant:** *Phyllanthus* and Citrus.

**Remark:** Reported by Ramakrishna *et al.* (2006) from Pench Tiger Reserve of Madhya Pradesh.

#### 20. Genus *Bastilla* Swinhoe, 1918

##### 21. *Bastilla crameri* Moore, 1885 (Image 21)

[1780]1782. *Phalaena (Noctua) achatina* Cramer, *Uitlandsche Kapellen* 3: 171.

1885. *Dysgonia crameri* Moore, *Lep. Ceylon*, 3: 177.

1885. *Dysgonia discalis* Moore, *Lep. Ceylon*, 3: 177.

1985. *Parallelia crameri* Moore; Kobes, *Heteroc. Sumatr*,

45.

#### Material

**examined:** 01 ex. Bodhaljeera, Pench, Nagpur District (Maharashtra). Date 03.12.1994. Coll. P.P. Kulkarni. Reg. No.L-1388.

#### Diagnostic

**characters:** In the postmedial line, the white band is reduced to a line and slightly outlined with purplish grey from the angle to inner margin. The white medial band of fore wing is wider at costal and inner margin. Hind wing is with wider medial band. The outer margin is grey at centre. Wingspan: 60mm.

**Distribution:** India including Andaman Islands, Himachal Pradesh (Chamba), Maharashtra (Nashik, Dhule, Jalgoan, Nandurbar), Tamil Nadu.

**Elsewhere:** Cambodia, China, Hong Kong, Indonesia, Malaysia (Borneo), Myanmar, Nepal, Pakistan, Sri Lanka, Thailand, Vietnam.

**Host Plant:** *Phyllanthus*

#### Discussion:

In the present collection the moth family Erebiidae was the dominant registering 10 species. After Erebiidae, family Sphingidae recorded the maximum moths. Similar findings were obtained by Gorule & Nikam (2013) from North Maharashtra wherein, recorded 101 species from Erebiidae. Chandra & Nema (2007) studied the moth diversity and reported 60 species belonging to 53 genera divided in 12 families from Pench National Park of Madhya Pradesh state. Noctuidae including Erebiidae (25 species) was dominant in their study. Similarly, Ramakrishna *et al.* (2006) studied the faunal resources of National Parks of Madhya Pradesh and Chhattisgarh. Also, in their study Noctuidae including Erebiidae (37 species) was dominant. Further, extensive surveys are needed to document the moth diversity of the Pench National Park (Maharashtra).

As reported by Spitzer *et al.* (1997) moths are strongly influenced by the local weather and are highly sensitive to environmental changes. Hence, study on diversity of moth fauna of particular region especially National Park is vital to assess the biodiversity loss of that area.

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**Moths are strongly influenced by local weather and highly sensitive to environmental changes**



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