Dr Navneet Singh is currently a scientist in Zoological Survey of India, GPRC, Patna where his primary research is to continue the taxonomic studies on 'Moths of Bihar & Jharkhand' with further studies on Indian Arctiidae and Pyralidae. Dr. Singh has 13 years of research experience in the field of taxonomy of Indian moths. He has published three books and more than 70 research papers on the Taxonomy of Indian Arctiidae, Pyralidae, Noctuidae and Geometridae. Through these research papers Dr Singh enriched the knowledge on these groups with five new Genera, four new Subgenera, 29 new species and more than 45 new records. Dr Singh has the distinction of working in Natural History Museum, London with the renowned lepidopterist of the world. Dr Singh was selected and invited as one of the hundred entomologists of the world to attend the 2nd "Inter symposium on Insect biodiversity: Achievement and Challenge" organized by Institute of Plant, Medicine, Kyungpuk National University Deagu, Korea held in Yecheon country from August 17 to 19, 2012. Dr Singh delivered many invited talks, chaired/co-chaired various sessions in National/International conferences. He is also member of many professional bodies/ organization of National repute.

About the Book

This book is based on a large number of collections of family Arctiidae, mainly collected from North West Himalayas, North East India and Western Ghats and housed in the laboratory of the first author. All the scattered information on the taxonomy of included species is compiled in this work. The book provides a compendium of taxonomic details of 150 species of family Arctiidae under 48 genera of three subfamilies, Arctiinae (45 species and 13 genera), Lithosiinae (92 species and 31 genera) and Syntominae (13 species and 04 genera). Of these, five new genera and 59 new species are described. Six genera and nine species are reported for the first time from India. Besides this, one genus is synonymised, status of one species upgraded, new combinations for 10 species proposed and old combinations for 04 species revalidated. For each of the included genus: first reference, type species, diagnosis, remarks and the known species from India is given. Whereas, for each of the included species: first reference, diagnosis/description, distribution in India are given. This book is intended for use by wide readership, particularly all those interested in exploring, studying, and documenting the Indian Arctiidae.

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Arctiid Moths of India Volume 2

Kirti & Singh

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Arctiid Moths of India

Volume 2

Jagbir Singh Kirti
Navneet Singh

Professor Jagbir Singh Kirti, Department of Zoology and Environmental Sciences, Punjabi University, Patiala did his graduation and post graduation from Panjab University, Chandigarh and PhD from Punjabi University, Patiala. Professor Kirti is a distinguished entomologist and environmentalist, working in the field of Vector Biology and taxonomy/systematics of Indian Arctiidae, Pyralidae, Noctuidae and Geometridae. He has published three five books and 247 research papers in National and International journals. He has received research funding from University Grants Commission, Department of Science and Technology, Ministry of Environment and Forests, Govt. of India and is an expert member of MoEFCC, DST and ICMR. He has guided 21 research scholars to Ph.D. degree and an equal number of M. Phil students. His contributions have received International acclaims.

Prof. Kirti is recipient of many National and International awards: young scientist award by DST in1990; an International award of Japanese Society of Electron Microscopy and Kochi Medical School, Japan in May 1997; an award from National Academy of Vectors and Vector Borne Diseases (2004); 'Roll of Honour' in Canada from Panjab University Alumni Association (2005); International Vegetable Centre known as AVRDC, Taiwan sponsor as key resource person for training Entomologist in the field of Taxonomy in 2010; Gold Medal by Indian Academy of Environment Sciences (IAES), 2011; an award by Indian Society for the advancement of Insect sciences (2011); Bio-Tech International award (2011); Global Vigyanik Award (2012) by Global Punjab Foundation; 'Rachel Reuben Medal'(2012); Eminent Scientist Award (2014); Life time achievement award by school of Entomology, Saint John College, Agra (2016); Life time achievement award by Ronald Ross Institute, Osmania University, Hyderabad (2016); Dr. J. S. Yadav oration award by Department of Zoology, Kurukshetra University, Kurukshetra. Dr Kirti deliberated in numerous National and International scientific gatherings throughout the world.

Arctiid Moths of India

Volume 2

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PREFACE

This book is in continuation of 'Arctiid Moths of India' vol. 1. The aim of this book is to cover maximum species of family Arctiidae housed in the laboratory of first author, which were not included in the first volume. The collections are mainly done by the first author and his team, Dr Amrit Pal Singh Kaleka, Dr Jagpreet Singh Sodhi, Dr Navneet Singh, Dr Rahul Joshi and Ms Kavita Sharma. This book deals with the systematics of 150 species of family Arctiidae under 48 genera of three subfamilies, Arctiinae (45 species and 13 genera), Lithosiinae (92 species and 31 genera) and Syntominae (13 species and 04 genera). Of these, five new genera and 59 new species are described. Six genera and nine species are reported for the first time from India. Besides this, one genus is synonymised, status of one species has been upgraded, new combinations for 10 species have been proposed and old combinations for 04 species have been revived. For each of the included genus: first reference, type species, diagnosis, remarks and the known species from India is given whereas, for each of the included species: first reference, diagnosis/description, distribution in India are given. The generic details of all the genera which were included in 'Arctiid moths of India' vol. 1 have been updated, if required, or kept as such. Photographs of adult and external genitalia of each and every species are included in this book. The authors decided to submit all the 331 species (included in 'Arctiid Moths of India' Vol. 1 & 2) of Indian Arctiidae to the National Zoological Collections of Zoological Survey of India, Kolkata. This will increase the scope of these publications to many folds and will help in a great way to undertake remaining taxonomic studies on left out fauna of Indian Arctiidae.

Jagbir Singh Kirti
Navneet Singh

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The authors are grateful to Dr. Karol Bucsek, Slovak National Museum, Bratislava for the review of included genera: *Barsine* Walker, *Miltochrista* Hübner, *Eugoa* Walker, *Aemene* Walker, *Brunia* Moore, *Wittia* De Freina, *Teulisna* Walker; Dr. Karel Černý (Austria) for review of genera: *Lemyra* Walker, *Miltochrista* Hübner; Dr. Vladimir V. Dubatolov of Siberian Zoological Museum, Novosibirsk, Russia for review of genera: *Spilarctia* Butler, *Creatonotos* Hübner, *Tatargina* Butler, *Micraloa* Dubatolov, *Nebrarctia* Watson. We are thankful to Dr. J.D. Holloway, Dr. Martin Honey, Dr. Alberto Zilli, Natural History Museum (NHM), London, U.K, for their expert opinion, advice and providing required information on different aspects of many species, especially types of different genera. We acknowledge Dr. Kailash Chandra, Director, Zoological Survey of India, Kolkata for his encouragement and whole hearted support for compilation of this work. The Department of Science and Technology (DST), SERB, Govt. of India, New Delhi provided financial help in form of three major research projects entitled, 'Taxonomic revision of Indian Arctiidae (Lepidoptera)'Part 1, 2 & 3, without which this treatise would have remained an imagination only. The forest officers including PCCFs, CCFs, CWLWs, DFOs, RFOs and other forest staff from different states of India is also acknowledged for their kind cooperation during the collection cum survey tours. We record our sincere thanks for the renowned Arctiid workers of the World: G. E. King (U.K), De Friena, Jöel Minet, Amel Bendib and George Orhant (France), Karel Černý (Austria), Karol Bucsek (Slovakia), J.D. Holloway (NHM, London); Vladimir V. Dubatolov (Novosibirsk, Russia), Anton Volynkin (Russia), Y. Kishida (Japan) and Rob De Vos (Netherlands) who were kind enough for sending their valuable research publications. Thanks are due to, Dr. Rahul Joshi, (BFC, Bathinda), Mr. Jaleel Ahmad (ZSI, Patna), Mr. Dino, Mr Harwinder Singh, Mr. Harsimran Singh, Mr. Santosh Kumar and Mr. Rahul Ranjan (PU, Patiala) for their help in dissections, slide preparations and photography. We are thankful to the authorities and staff of Zoological Survey of India, Kolkata; ZSI, Patna and Department of Zoology & Environmental Sciences, Punjabi University, Patiala for their kind support. We express

our deep sense of gratitude to Dr. Chanan Singh Sidhu and his family for cooperating the second author during his visit to NHM, London in 2007. The visit played a great role in compilation of Arctiid Moths of India. The authors are grateful to their parents and families for their selfless cooperation during the compilation of this work.

CONTENTS

INTRODUCTION

Family Arctiidae of order Lepidoptera is clearly defined by the presence of a pair of dorsal pheromone glands associated with the ovipositor lobes (Holloway, 2001). In addition, there are tymbal organs present on the metepisternum of both sexes, though these are lost or reduced in Syntominae. These organs produce sound in defence, possibly aposematically, as many are distasteful or toxic, and in courtship (Simmons & Conner, 1996; Kitching & Rawling in Kristensen, 1998). Several groups have prothoracic glands in the adult from which a noxious froth is produced as a further mean of defence. The adult Arctiids are small to fairy large and usually beautiful moths with striking colours and patterned in yellow, white, red, orange, brown, black & grey. Arctiids are extremely diverse in form and represented by 10,945 species from the World, out of which 1929 species are reported from the Oriental region (Heppner, 1991) and 525 species from India (Singh *et al.,* 2014) with some further additions by Joshi *et al*. (2015, 2016, 2016a) and Kirti & Singh (2015). The diagnostic characters of three subfamilies included in this book are as follows: most of the **Arctiinae** are mainly diagnosed due to presence of an elongated retinaculum in adult males and larvae with heteroideous crochets (Kitching & Rawling in Kristensen, 1998). The **Lithosiinae** are mainly with narrow forewings and deep hindwings that may equal or exceed them in area. Some important characters of Lithosiinae are: larval mandibles have an enlarged basal area associated with the specialized diet of lower plants, there is a characteristic arrangement of larval labral setae, the eggs are smooth with shallow depression, tymbal organ is frequently distinct in character and the thoracic spiracle of pupa is usually fused shut or vestigial (Holloway, 2001a). The **Syntominae** often mimic Hymenoptera with much smaller hindwings and reduction of wing veins through loss of M_1, M_2, one anal vein and sometimes one branch of CuA. Abdomen

is ringed with yellow or white. The male retinaculum is often lost and the frenulum is often reduced. The larvae are distinguished by homoideous crochets in most groups (Holloway, 2001a).

Review of literature revealed that 'Catalogue of moths of India' by Cotes and Swinhoe (1887) was the first published catalogue on this group of moths from then limits of India (including Sri Lanka and Myanmar) with 204 species under 82 genera from Indian main land. Later on, many Lepidopterists worker extensively on the taxonomy of Indian Arctiidae, important publications are as follows: Hampson (1891, 1892, 1894, 1896, 1898, 1900, 1901, 1903, 1907, 1914, 1918, 1919, 1920), Zerny (1912), Seitz (1913), Draudt (1914), Rothschild (1914, 1936), Strand (1919, 1922), Fletcher (1925), Bryk (1937), Daniel (1943, 1954), Sevastopulo (1944, 1948), Bhattcharjee & Gupta (1969), Arora & Singh (1975), Arora (1976, 1980, 1983), Arora & Chaudhury (1982), Gupta (1981), Barlow (1982), Holloway (1982, 1988, 2001), Orhant (1986, 2000, 2000a), Kirti & Singh (1994, 1994a, 1995, 1996, 1996a), Kirti & Kaleka (1999, 2002), Kirti & Sodhi (2002, 2002a, 2003), Kirti *et al.* (2005, 2007, 2010, 2013, 2013a, 2013b, 2013c, 2013d, 2014, 2014a), Kirti & Gill (2008,2008a, 2008b, 2008c, 2008d, 2008e, 2008f, 2009, 2009a, 2010, 2010a, 2010b, 2010c), Kirti & Joshi (2013, 2013a), Mathew & Rahamathulla (1995), Singh & Singh (1997, 1998, 1998a, 1999), Kaleka & Kirti (1998, 2000, 2001), Kaleka (1999, 1999a, 2000, 2000a, 2001, 2002, 2002a, 2002b, 2003, 2003a, 2003b, 2004, 2005, 2005a, 2005b, 2006, 2007, 2011), Kaleka & Kaur (2000), Kaleka & Rose (2001, 2002), Kaleka & Sharma (2014), Sood *et al.* (2007), Dubatolov (2010), Dubatolov & Zolotuhin (2011), Dubatolov *et al.* (2012), Singh & Singh (2011, 2011a, 2012, 2012a, 2013, 2013a), Singh, J. *et al.* (2013), Singh, N. *et al.* (2013) and Joshi *et al.* (2015. 2015a, 2016, 2016a) In addition, some more publications regarding the important information on the distribution of Indian Arctiidae are by Chandra and Kumar (1992), Chandra (1993, 1994, 1996, 1996a, 1997, 2008, 2009, 2009a), Chandra and Rajan (1995), Chandra & Neema (2003, 2006, 2007, 2008), Chandra *et al.* (2010, 2010a), Chandra & Sambath (2013), Ghosh & Chaudhury (1997, 1998), Ghosh & Majumdar (2007), Chaudhury (2003, 2004), Gupta & Majumdar (2006), Ramakrishnan *et al.* (2006), Majumdar (2007, 2010) and Singh (2013).

This book is in continuation to 'Arctiid moths of India' volume-1 and includes a total number of 150 species under 48 genera of three subfamilies, Arctiinae (45

species and 13 genera), Lithosiinae (92 species and 31 genera) and Syntominae (13 species and 04 genera). Of these, five new genera and 59 new species are described. Six genera and 09 species are reported for the first time from India. Besides this, one genus is synonymised, status of one species has been upgraded, new combinations for 10 species have been proposed and old combinations for 04 species have been revived. For each of the included genus: first reference, type species, diagnosis, remarks and the known species from India is given whereas, for each of the included species: first reference, diagnosis/description, distribution in India are given. The generic details of all the genera which were included in 'Arctiid moths of India' vol. 1 have been updated, if required, or kept as such.

This work is based on large number of collections of Indian Arctiidae preserved in the laboratory of first author in the Department of Zoology & Environmental Sciences, Punjabi University Patiala, Punjab. These collections represent different localities of this mega-bio diverse country. The collections were mainly done by the first author and his team, Dr Amrit Pal Singh Kaleka, Dr Jagpreet Singh Sodhi, Dr Navneet Singh, Dr Rahul Joshi and Ms Kavita Sharma.

As far as the nomenclature and diagnosis of the included genera and subgenera is concerned, the following publications have been followed: Koda (1987, 1988); Holloway (1988, 2001); Kishida (1993, 1998), Dubatolov (2004, 2006, 2010); Dubatolov & Kishida (2005, 2005a, 2006, 2010); Dubatolov, Haynes & Kishida (2007, 2009); Dubatolov & Holloway (2007); Dubatolov & Zolotuhin (2011); Vos (1995, 2002, 2007); Vos & Černý (1999); Singh & Singh (2011, 2013). As per the recent developments in the classification of Noctuoidea and its families, Arctiidae is downgraded as Arctiinae, a subfamily of Erebidae (Zahiri *et al*., 2010, 2012). However, in this book the old status and names 'Arctiidae', 'Arctiinae', 'Lithosiinae' and 'Syntominae' is used.

SYSTEMATIC ACCOUNT

Family ARCTIIDAE Leech, 1815

Leech [1815], *in Brewster, Edinburgh Encycl.*, **9**:133 (as Arctides).

Subfamily ARCTIINAE

Type genus: ***Arctia*** Schrank, 1802.

Genus *Lemyra* Walker

Walker, 1856; *List. Spec. Lepid. Ins. Colln. Br. Mus.,* **7**: 1690.

Type species: *Lemyra extensa* Walker, 1856.

Diagnosis: Members of genus *Lemyra* Walker are relatively less robust than those of *Spilarctia* / *Spilosoma* species, particularly the abdomen which is relatively short. Male genitalia is also smaller. The forewing fasciations are made up of blocks of dark brown or grey in the spaces, rather than the black in *Spilarctia* / *Spilosoma.* The male genitalia with valvae simple, relatively narrow, sometimes with a small lateral lobe; aedeagus vesica is small, globular, with an extensive, even array of small spine; the aedeagus has no apical ornamentation. Female genitalia have the corpus bursae small, its base sclerotized and contiguous with sclerotized ductus.

Remarks: Genus *Lemyra* Walker was described for single species, *Lemyra extensa* Walker, 1856 from Celebes (Sulawesi). The taxonomic review of the genus was done by Thomas (1990) and furthermore, by Dubatolov (2010). Most of the *Lemyra* / *Thyrgorina* species of India belong to the sub genus *Thyrgorina* Walker. Majority of the *Lemyra* species are distributed in Oriental region. Some important publications on the new species of *Lemyra* are by: Černý & Pinratana (2009), Černý (2014).

Known species of genus *Lemyra* Walker from India: *Lemyra venosa* (Moore, 1879); *Lemyra (Thyrgorina) angularis* Strand, 1922; *Lemyra (Thyrgorina) bimaculata* (Moore, 1879); *Lemyra (Thyrgorina) biseriata* (Moore, 1877); *Lemyra (Thyrgorina) bucseki* Singh

& Kirti, sp. nov.; *Lemyra (Thyrgorina) cernyi* Singh & Kirti, sp. nov.; *Lemyra (Thyrgorina) collarlis* Singh, Kirti & Kaleka, sp. nov.; *Lemyra (Thyrgorina) coorgensis* Singh & Kirti, sp. nov.; *Lemyra (Thyrgorina) cornutiata* (Kirti and Gill, 2008) comb. nov.; *Lemyra (Thyrgorina) costalis* (Singh & Singh, 1998); *Lemyra (Thyrgorina) excelsa* Thomas, 1990; *Lemyra (Thyrgorina) eximia* (Swinhoe,1891); *Lemyra (Thyrgorina) flavalis* (Moore, 1865); *Lemyra (Thyrgorina) khasiana* Thomas, 1990; *Lemyra (Thyrgorina) latauncus* Singh & Kirti, sp. nov.; *Lemyra (Thyrgorina) magnaproteus* Singh & Kirti, sp. nov.; *Lemyra (Thyrgorina) malshejensis* Kirti & Gill, 2008; *Lemyra (Thyrgorina) melanochroa* (Hampson, 1918); *Lemyra (Thyrgorina) melanosoma* (Hampson,1894); *Lemyra (Thyrgorina) multivittata* (Moore, 1865); *Lemyra (Thyrgorina) neglecta* (Rothschild, 1910); *Lemyra (Thyrgorina) neurica* (Hampson,1911); *Lemyra (Thyrgorina) nigrescens* (Rothschild, 1910); *Lemyra (Thyrgorina) nigrifrons* (Walker, 1865); *Lemyra (Thyrgorina) obliquivitta* (Moore, 1879); *Lemyra (Thyrgorina) orhanti* Singh & Kirti, sp. nov.; *Lemyra (Thyrgorina) pilosa* (Rothschild, 1910); *Lemyra (Thyrgorina) pseudoburmanica* Singh & Kirti, sp. nov.; *Lemyra (Thyrgorina) pseudobimaculata* Singh & Kirti, sp. nov.; *Lemyra (Thyrgorina) pseudocollarlis* Singh, Kirti & Kaleka, sp. nov.; *Lemyra (Thyrgorina) pseudoneurica* Singh & Kirti, sp. nov.; *Lemyra (Thyrgorina) punctilinea* (Moore, 1879); *Lemyra (Thyrgorina) rhodophila* (Walker, 1864); *Lemyra (Thyrgorina) rubidorsa* (Moore, 1865); *Lemyra (Thyrgorina) saputarensis* Singh & Kirti, sp. nov.; *Lemyra (Thyrgorina) sikkimensis* (Moore, 1879); *Lemyra (Thyrgorina) sordidescens* (Hampson, 1901); *Lemyra (Thyrgorina) spilosomata* (Walker, [1865] 1864); *Lemyra (Thyrgorina) spinisinferma* Singh & Kirti, sp. nov.; *Lemyra (Thyrgorina) stigmata* (Moore, 1865); *Lemyra (Thyrgorina) tawaghatensis* Singh & Kirti, sp. nov.; *Lemyra (Thyrgorina) wokhaensis* Singh, Kirti & Joshi, sp. nov.

Subgenus *Thyrgorina* Walker

Walker, [1865] 1864; *List Spec. lep. Ins. Colln. Br. Mus.*, **31**: 317.

Type species: *Thyrgorina spilosomata* Walker, [1865] 1864.

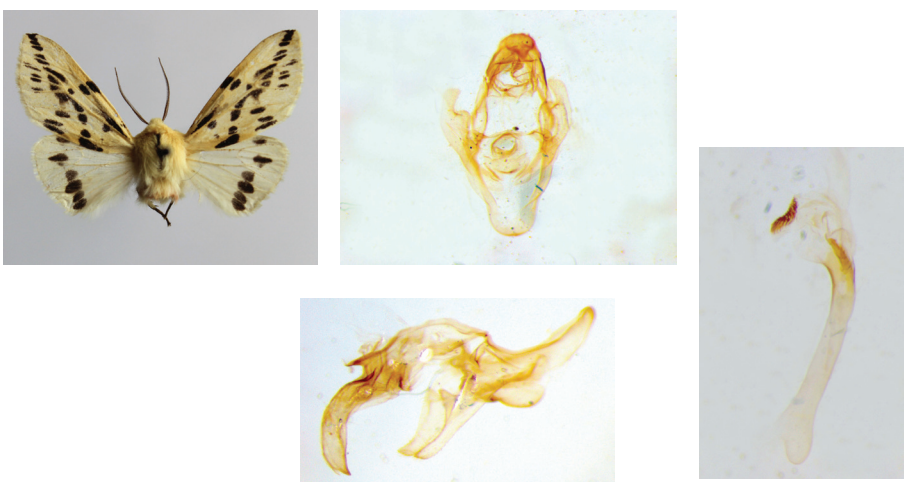
Diagnosis: Dubatolov (2010) kept all the *Lemyra* species with two pairs of spurs on hind tibia under subgenus *Thyrgorina* Walker, while others with single pair of spurs on hind tibia were treated as *Lemyra* s.str. The same is followed here.

Lemyra (Thyrgorina) stigmata (Moore, 1865)

Spilosoma stigmata Moore, 1865; *Proc. Zool. Zoc. Lond.*, **1865**: 809.

Adult dull creamish. Forewing with a short subbasal streak; some points below costa and cell; a medial series of spots angled beyond cell and strongly incurved to meet a short streak on inner margin; a postmedial oblique series of short streaks; a subterminal series of short streaks from vein M_3 to Cu_2. Hindwing with a submarginal series of black spots. Male genitalia with uncus curved, almost equals to the length of tegumen; vinculum long, forming a prominent saccus; valvae short, ventral edge incurved to form medial process; aedeagus long with an apical saw like process; vesica with narrow, elongated patch of spines at apex.

Distribution: Indian Himalayas, Assam, West Bengal (Darjeeling).



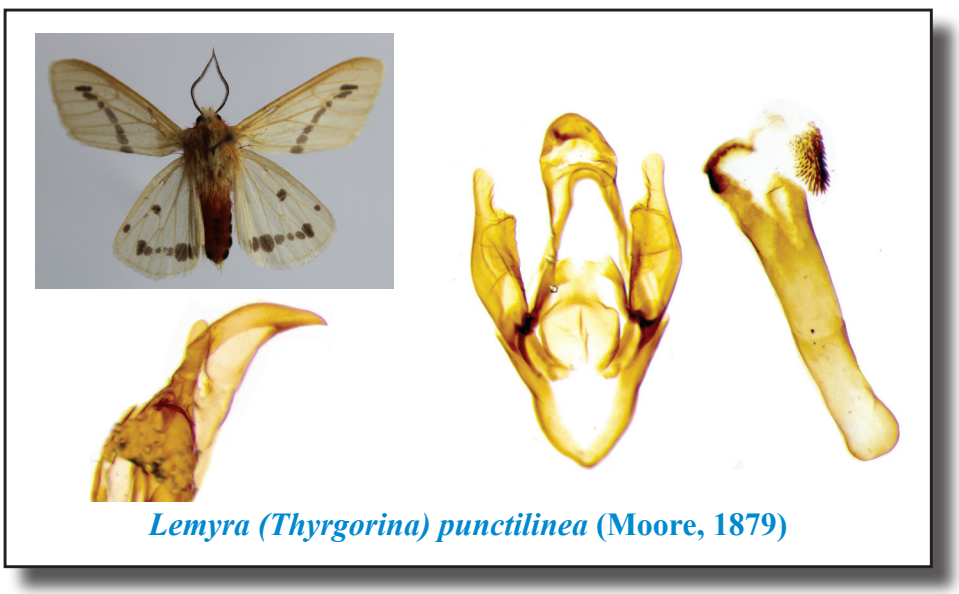
Lemyra (Thyrgorina) stigmata (Moore, 1865)

Lemyra (Thyrgorina) punctilinea (Moore, 1879)

Icambosida punctilinea Moore, 1879; *Descr. New. Indian. Lep. Ins. Atkinson, Lond.*: 40-41.

Adult dull yellowish. Crimson below neck and fore coxae. Forewing with a slightly curved series of short streaks from vein M_3 to mid of inner margin. Hindwing with a discoidal black spot; a subapical spot below costa; submarginal series of black spots from vein M_3 to anal angle. Male genitalia with uncus half the length of tegumen, beak like from lateral side and strongly concaved on inner side; vinculum almost straight from lateral side; valvae broad, narrow at the apical 1/5 part; subapical process present; aedeagus with a lateral sclerotization, a spined process at apex; vesica with a patch of dense spines opposite to the apical process of aedeagus.

Distribution: From Kashmir to West Bengal (Darjeeling), Sikkim.



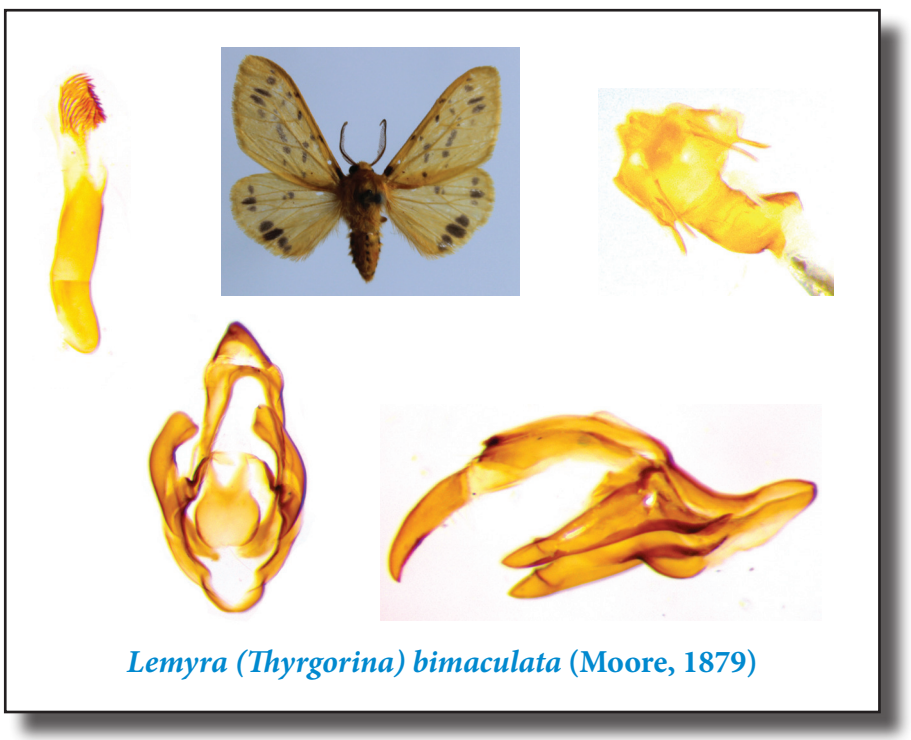
Lemyra (Thyrgorina) punctilinea (Moore, 1879)

Lemyra (Thyrgorina) bimaculata (Moore, 1879)

Challa bimaculata Moore, 1979; *Proc. Zool. Soc. Lond.,* **1879**: 398-399.

Adult orange. Forewing with a subbasal black spot below costa; antemedial series of spots; postmedial series excurved beyond cell and then incurved; submarginal series from apex to cubital vein. Hindwing with submarginal series of spots, markings may reduce significantly. Abdomen with dorsal and lateral series of spots. Male genitalia with uncus concaved, broad at base, almost half the length of tegumen; vinculum slightly curved to form prominent saccus; valvae simple, with a subapical notch very near to apex; juxta with notched apex; vesica with a large field of compactly packed spines, arranged in semi circular fashion. Female genitalia with ductus bursae broad and flat, corpus bursae very short, unornamented.

Distribution: North West Himalayas.



Lemyra (Thyrgorina) bimaculata (Moore, 1879)

Lemyra (Thyrgorina) pseudobimaculata Singh & Kirti, sp. nov.

Description: Adult orange yellow. Head, collar, and thorax darker. Forewing with a subbasal spot on costa; submarginal spots beyond lower angle of cell. Hindwing slightly paler; a marginal series of black spots. Male genitalia with uncus almost half the length of tegula, attached to latter through fine membrane; tegumen slightly broader at apex; vinculum bent to form a v shaped saccus; juxta pot shape, with a v shape groove at tip; vesica with an elongated patch of spines arranged in semi-circular fashion.

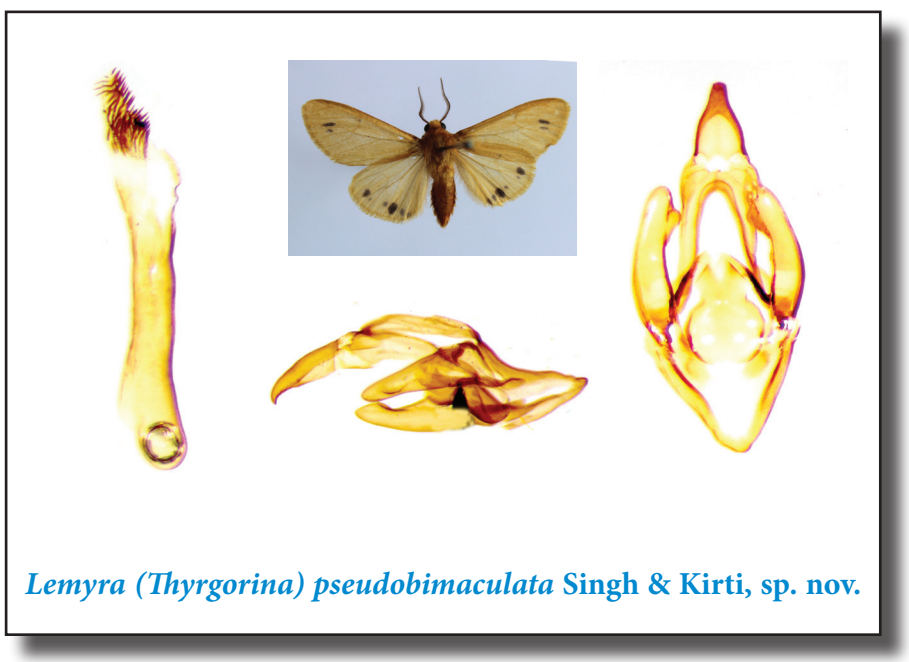
Wing span: Males, 30 mm.

Material examined

Holotype: Uttarakhand, Tawaghat, 15.vi.2008- male.

Remarks: *L. (T.) pseudobimaculata* is distinct from *L. (T.) bimaculata* due to v shape saccus, shape of aedeagus and smaller patch of spines on vesica.

Etymology: The species is named due to its resemblance with *L. (T.) bimaculata*.



Lemyra (Thyrgorina) pseudobimaculata Singh & Kirti, sp. nov.

Lemyra (Thyrgorina) tawaghatensis Singh & Kirti, sp. nov.

Description: Adult pale ochreous. Head and thorax slightly darker. Forewing with a subbasal black spot below costa. Hindwing with traces of spots near anal angle. Male genitalia with uncus almost half the length of tegumen, minutely curved at tip, attached to tegumen with fine membrane; vinculum slightly wavy, bent at 90 degree to form saccus; valvae with a subapical process, tip rounded; vesica with a large elongate patch of spines.

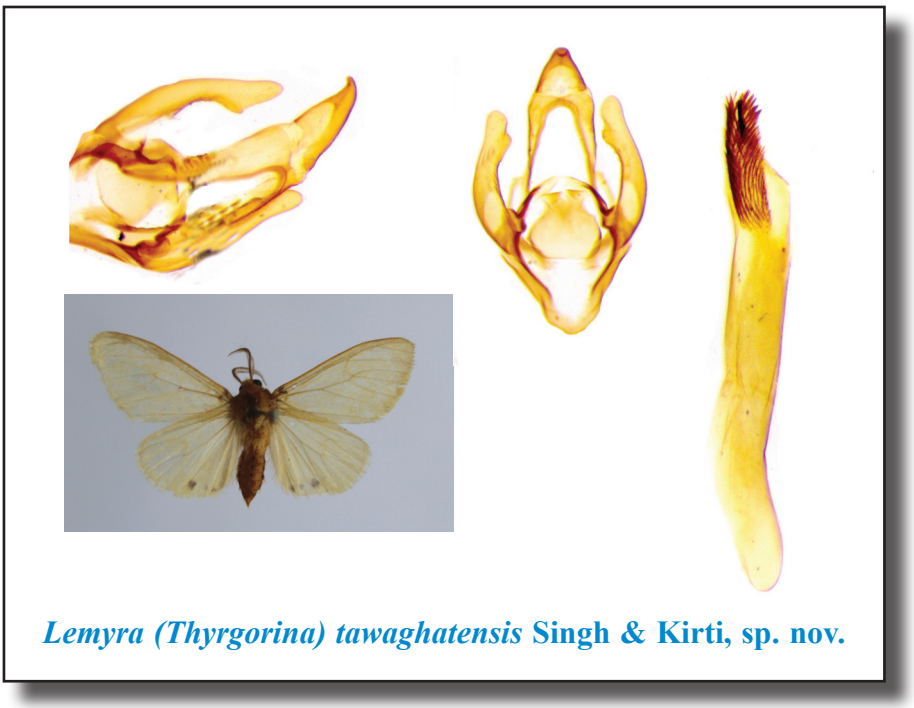
Wing span: Males, 36 mm.

Material examined

Holotype: Uttarakhand, Tawaghat, 15.vi.2008-male.

Paratype: Uttarakhand, Munsiyari, 17.vi.2008-01 male.

Etymology: The species is name after its type locality, Tawaghat.



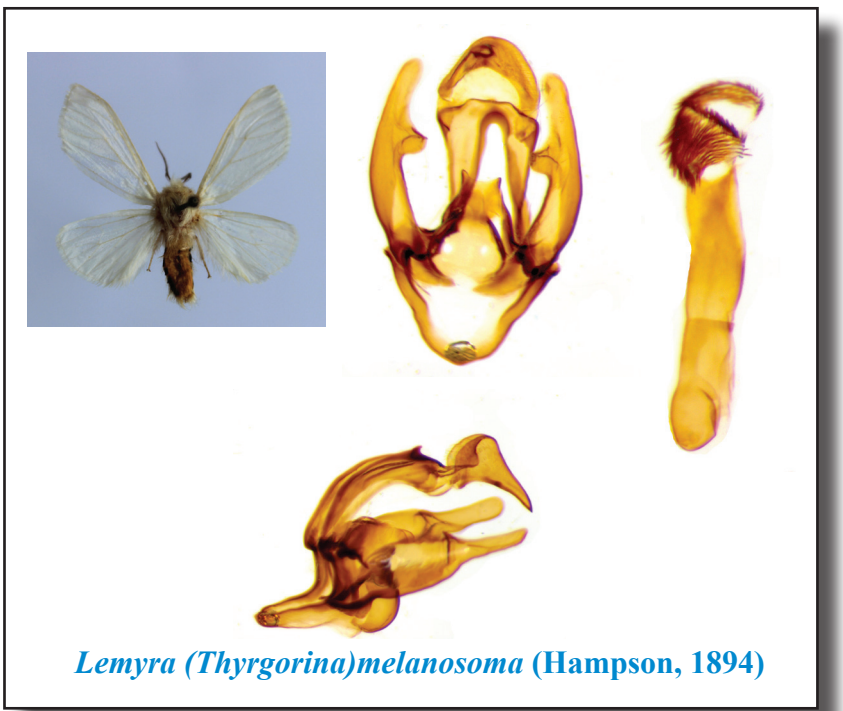
***Lemyra (Thyrgorina) tawaghatensis* Singh & Kirti, sp. nov.**

Lemyra (Thyrgorina)melanosoma (Hampson, 1894)

Thyrgorina melanosoma Hampson, 1894; *Fauna of India, Moths including Ceylon and Burma*, **2**: 15.

Adult pure white. Shoulders, underside of labial palpi and surrounding area yellow. Thorax and forewing costa pale ochreous. Male genitalia with uncus3/4 the length of tegumen, looks like bird's head, hollow from inner side and attached to tegumen with lateral edges only; vinculum curved at 90 degree to form saccus; valvae simple with asmall process beyond middle, apex rounded; aedeagus straight; vesica with 3/4 area filled with spines.

Distribution: North West Himalayas (Shimla, Dalhousie, Kulu), West Bengal (Darjeeling), Sikkim, Meghalaya (Khasi Hills).



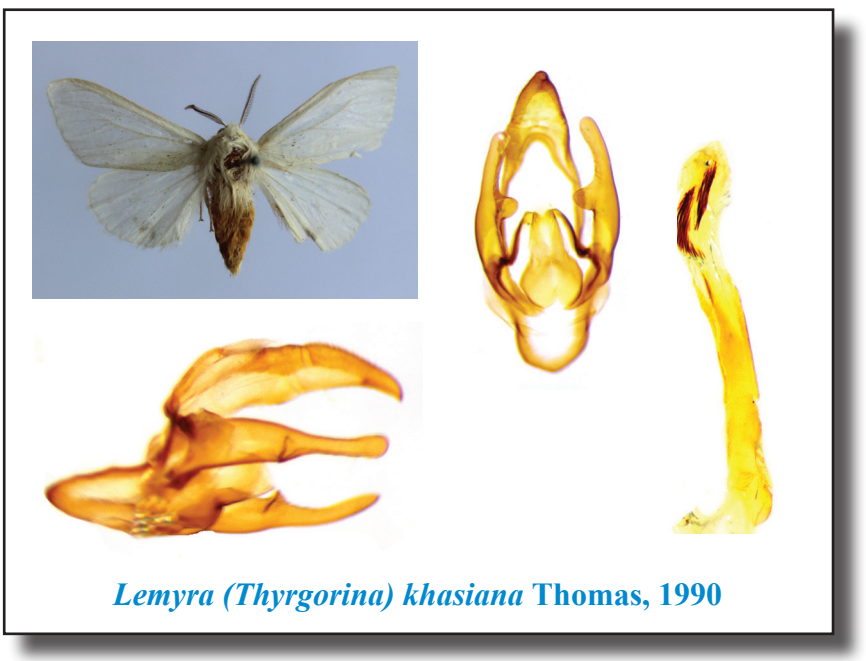
***Lemyra (Thyrgorina)melanosoma* (Hampson, 1894)**

Lemyra (Thyrgorina) khasiana Thomas, 1990

Lemyra khasiana Thomas, 1990; *Nachr. Ent. Ver. Apollo. Suppl.* **9**: 42.

Adult pure white. Some yellow scales on shoulder, pectus and underside of labial palpi, the latter with black scales on lateral side. Male genitalia with uncus about 3/4 the length of tegumen, broad at base, firmly attached to tegumen; vinculum bent at 90degree to form a slightly wavy saccus; valvae simple, with a small process at middle, apex rounded; vesica with two elongate patches of spines.

Distribution: Assam, Meghalaya (Khasi Hills).



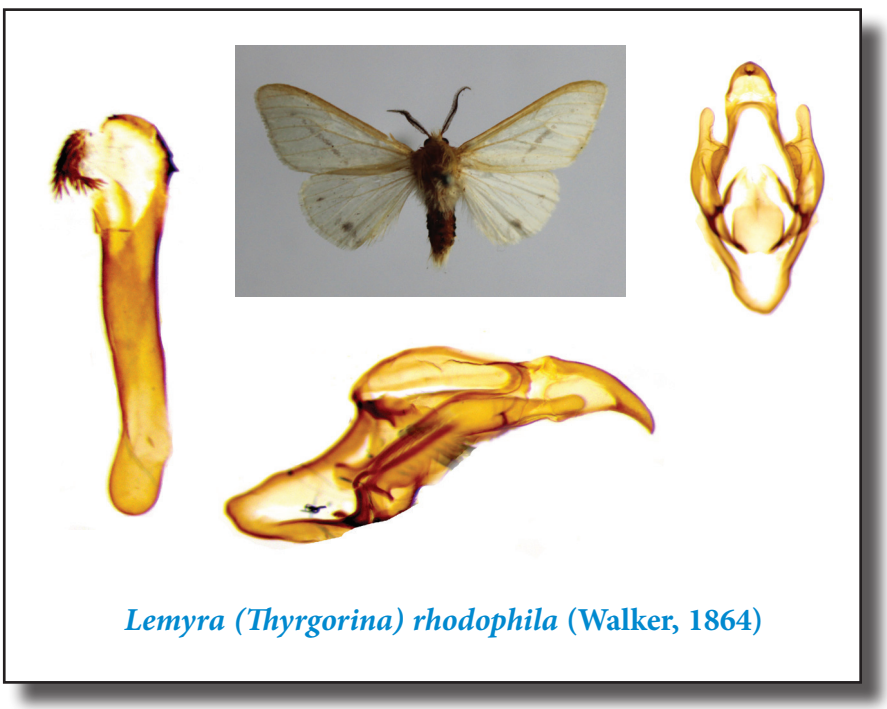
Lemyra (Thyrgorina) khasiana Thomas, 1990

Lemyra (Thyrgorina) rhodophila (Walker, 1864)

Spilosoma rhodophila Walker, 1864; *List spec. Lep. Ins. Colln. Br. Mus.*, **31**: 294.

Adult white. Thorax yellowish. Forewing with costa yellowish; an oblique, faded band from lower angle of cell to middle of inner margin. Hindwing with traces of submarginal spots. Male genitalia with uncus curved; vinculum forming a broad v shape saccus; valvae with subapical process slightly farther from apex; aedeagus apex with a lateral series of spines; vesica with a large patch of spines.

Distribution: North West Himalayas, Sikkim, Nagaland, Manipur.



Lemyra (Thyrgorina) rhodophila (Walker, 1864)

Lemyra (Thyrgorina) collarlis Singh, Kirti & Kaleka, sp. nov.

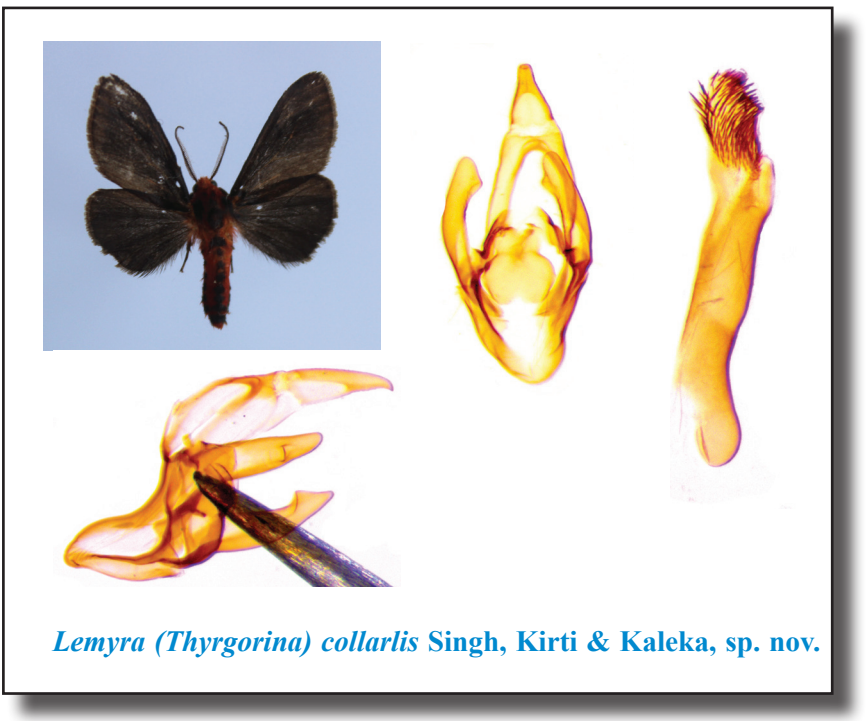
Description: Adult black. Head, collar, base and tip of tegula crimson. Thorax with crimson border. Male genitalia with uncus almost half the length of tegumen, attached to it with a membrane; vinculum smoothly curved to form a strong saccus; juxta pot shape; valvae with subapical process near to rounded apex; vesica with a broad and large patch of spines.

Wing span: Males, 30 mm.

Material examined

Holotype: Assam, Jatinga, 28.ix.1995- male.

Remarks: The name of the species was given by Kirti & Singh [Kaleka] but is unpublished, so far. The same name is used here.



Lemyra (Thyrgorina) collarlis Singh, Kirti & Kaleka, sp. nov.

Lemyra (Thyrgorina) pseudocollarlis Singh, Kirti & Kaleka, sp. nov.

Description: Adult black. Head, pectus and collar crimson; tip of tegula and thorax with few crimson scales. Forewing with crimson base; a subbasal, elongated crimson patch from costa to vein A_1; a medial crimson patch from costa to lower angle of cell; veins of postmedial area paler. Hindwing with basal area crimson, and extended along the inner margin; some crimson scales on costa and lower angle of cell. Male genitalia with uncus approximately half the length of tegumen, attached to it with fine membrane; vinculum bent at 90 degree to form saccus; juxta triangular; valvae simple; vesica with an elongate patch of spines arranged in circular fashion, some of them are in linear fashion

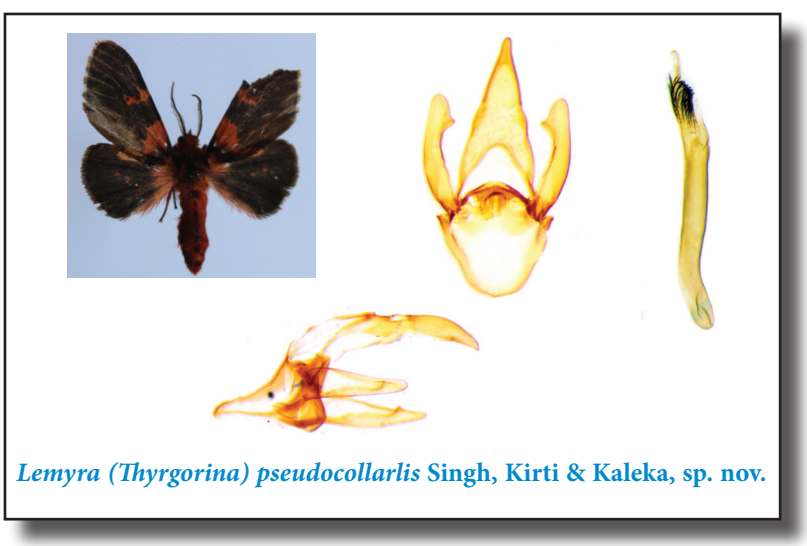
Wing span: Males, 30 mm.

Material examined

Holotype: Assam, Jatinga, 29.ix.1995- male (coll. Amritpal Singh Kaleka).

Remarks: Morphologically, *L (T.) pseudocollarlis* is closely similar to *L (T.) collarlis*. However, is distinct due to following attributes: male genitalia is comparatively bigger and juxta is with six edges. Whereas, in *L. (T.) collarlis* male genitalia is smaller and juxta is pot shaped.

Etymology: The species is named due to its morphological resemblance with *L. (T.) collarlis.*



***Lemyra (Thyrgorina) pseudocollarlis* Singh, Kirti & Kaleka, sp. nov.**

Lemyra (Thyrgorina) cernyi Singh & Kirti, sp. nov.

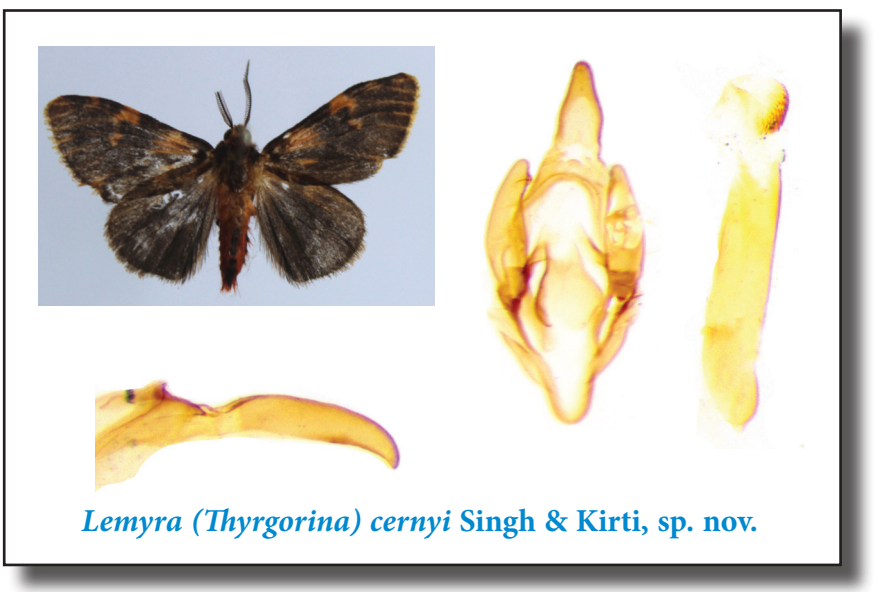
Description: Adult black. Head with yellow scales; collar with crimson border; thorax with some yellow scales. Forewing with a subbasal reddish-yellow patch extends from below costa to cell; a medial patch on costa, extending up to lower angle of cell; veins of outer area reddish-yellow. Hindwing with some yellow scales below costa. Male genitalia with uncus almost equals to the length of tegumen, broad at base; vinculum minutely bent and waved to form narrow saccus;valvae small, with an apical process facing towards tegumen; vesica with an elongated patch of small spines.

Wing span: Males, 30 mm.

Material examined

Holotype: Kerala, Vadaserikara, 21.xi.2008-male.

Etymology: The species is named after a renowned Arctiid worker, Dr Karel Černý (Austria).



Lemyra (Thyrgorina) cernyi Singh & Kirti, sp. nov.

Lemyra (Thyrgorina) wokhaensis Singh, Kirti & Joshi, sp. nov.

Description: Adult black. Head and collar ochreous, the latter bordered with crimson. Tegula and thorax bordered with ochreous. Forewing with a basal ochreous spot; antemedial ochreous spot below costa, another ochreous spot at middle of costa; veins ochreous. Hindwing with a basal ochreous patch extending on costa. Male genitalia typical of genus *Lemyra*; uncus 3/4 the length of tegumen, attached with fine membrane; vinculum bent at 90 degree to form saccus; juxta pot shape with long neck; valvae with a subapical process near apex; vesica with a long, elongated patch of dense spines.

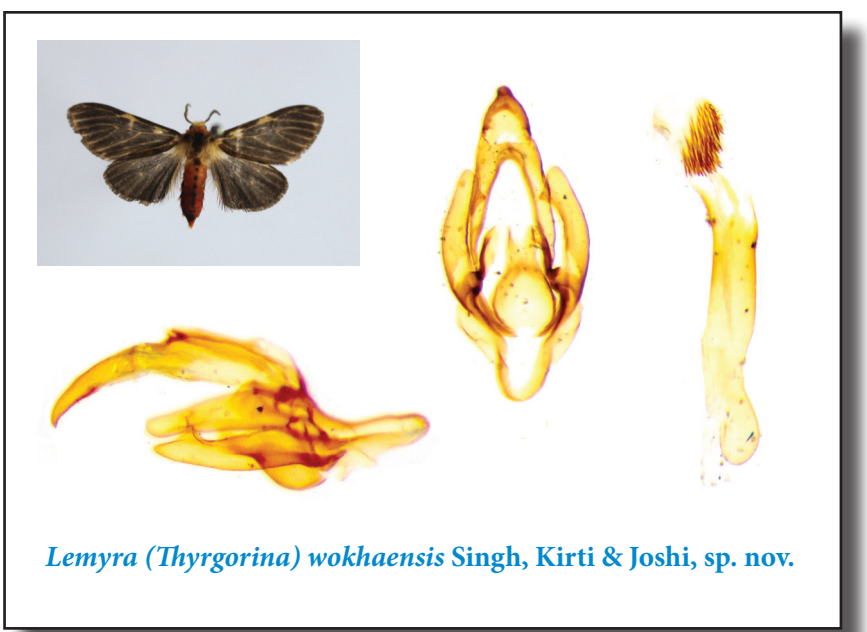
Wing span: Males, 30 mm.

Material examined:

Holotype: Nagaland, Wokha, 30.v.2010- male (Coll.: Rahul Joshi).

Remarks: Morphologically, *L (T.) wokhaensis* is closely similar to the previously described two species, but is distinct due to broader uncus, longer juxta, necked saccus and smaller patch of spines in vesica.

Etymology: The species is named after its type locality.



Lemyra (Thyrgorina) wokhaensis Singh, Kirti & Joshi, sp. nov.

Lemyra (Thyrgorina) bucseki Singh & Kirti, sp. nov.

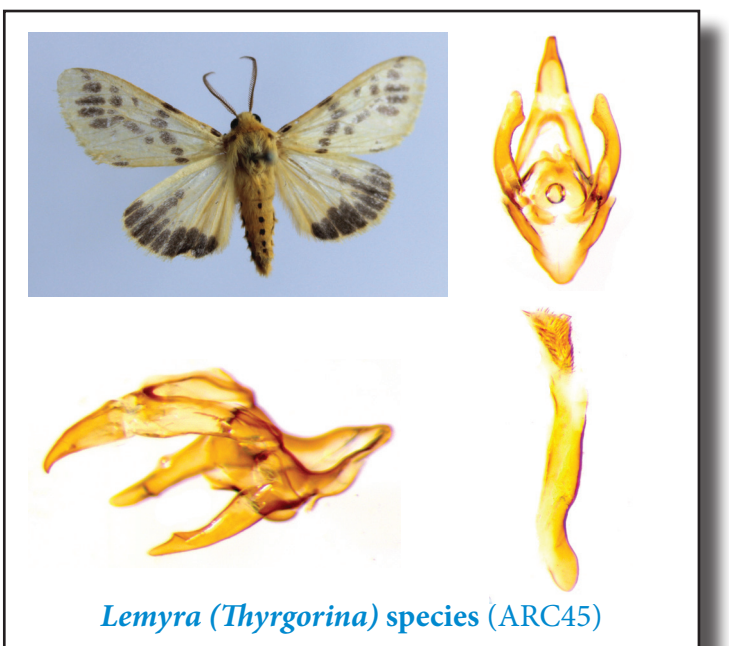
Description: Adult pale yellow. Head, collar and thorax slightly darker. Tegula with a basal black spot. Forewing with a subbasal spot on costa; antemedial series of slightly elongated spots, excurved in cell and then obliquely incurved; discocellular black; a postmedial series from below costa to vein Cu_1, slightly out curved beyond cell; a submarginal series of elongated spots from apex to vein Cu_2. Hindwing with marginal series of elongated spots between interspaces, the apical third spot reaching discal cell. Male genitalia with uncus half the length of tegumen, attached with a fine membrane; vinculum bent at 90 degree to form saccus; juxta pot shape, with a small neck and notched tip; valvae simple with a subapical process; aedeagus with apical lateral process, having minute spines; vesica with an elongated patch of spines arranged in semi-circular fashion.

Wing span: Males, 32 mm.

Material examined:

Holotype: Himachal Pradesh; Vazula, 19.vi.2008- 01 male.

Etymology: The name of the species pertains to an Actiid specialist, Dr Karol Bucsek of Bratislava (Slovakia).



***Lemyra (Thyrgorina)* species** (ARC45)

Lemyra (Thyrgorina) magnaproteus Singh & Kirti, sp. nov.

Description: Adult dull yellow. Head slightly dark, shoulders and border of collar dark orange. Tegula with basal black spot. Forewing with a subapical band of small streaks; a medial band of elongated spots, excurved in cell; discocellular black; a postmedial spot on costa, other three postmedial spots below vein Cu_2; a marginal black band, broadest at middle and narrow towards apex and tornus; veins crossing it dull yellow. Hindwing with inner area suffused with orange; a black spot on upper angle of cell; marginal black band, with inner edge irregular. Male genitalia with uncus broad at base; tegumen with a groove at apex; vinculum forming a notched saccus; juxta with a broad base and narrow apex; valvae with a subapical process near to rounded apex; vesica with an elongated patch of spines, having broad bases and arranged in a semi-circular fashion.

Wing span: Males, 30 mm.

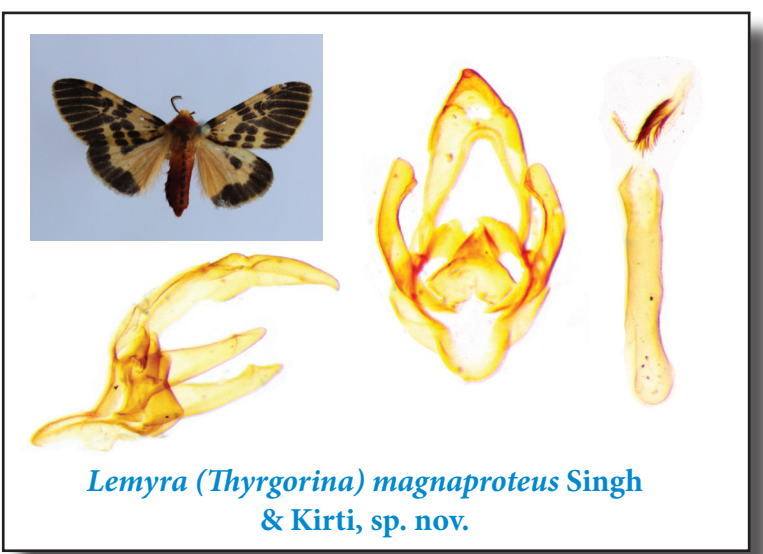
Material examined:

Holotype: Nagaland, Wokha, 30.v.2010- male .

Paratype: Nagaland, Wokha, 30.v.2010- 2 males.

Remarks: *L. (T.) magnaproteus* is larger (30 mm) than its closely similar species, *Lemyra proteus* De Jong (20 mm).

Etymology: The species is named due to its larger size than *L. proteus*.



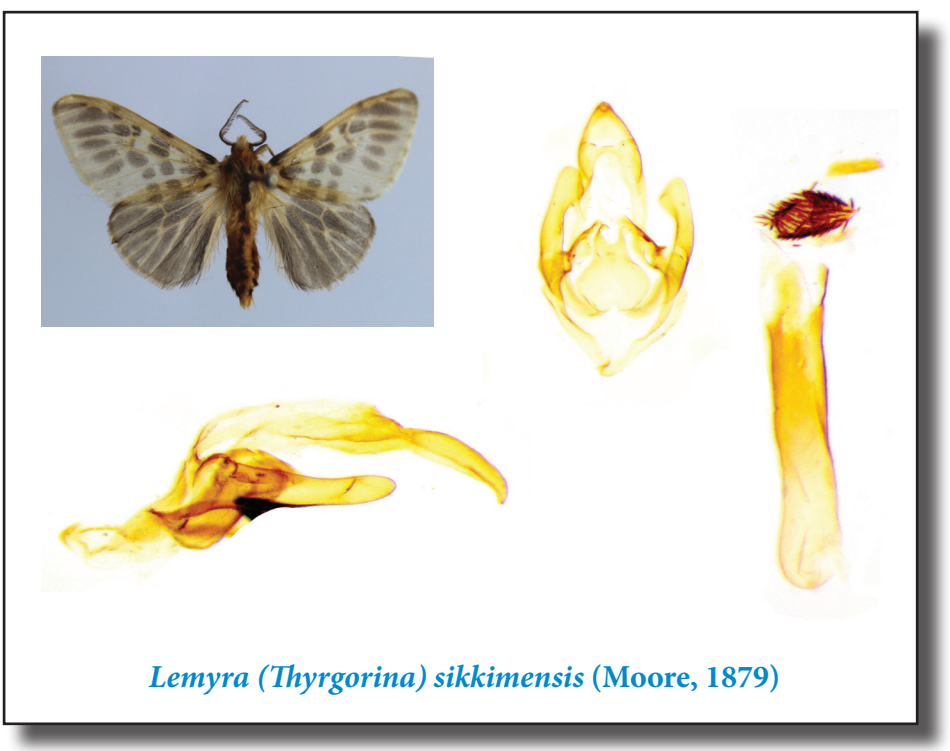
***Lemyra (Thyrgorina) magnaproteus* Singh & Kirti, sp. nov.**

Lemyra (Thyrgorina) sikkimensis (Moore, 1879)

Euchaetes sikkimensis Moore, 1879; *Descr. New Indian Lepid. Ins. Colln. Late Mr. W.S. Atkinson* **(1)**: 39.

Adult dull brownish. Head and collar with orange border. Tegula with a basal black spot. Forewing with costa yellowish; subbasal series of three spots; medial series of elongated black spots, slightly excurved in cell; discocellular black; postmedial series of black spots; submarginal series of elongated spots, from apex to vein Cu_1. Hindwing blackish, basal area dull brownish; veins paler. Male genitalia with uncus 3/4 the length of tegumen, firmly attached; vinculum slightly bent to form a deep saccus; juxta pot shape; valvae with a subapical process; vesica with a large patch of prominent spines, arranged in semi-circular fashion, an apical sclerotized patch with minute spines.

Distribution: West Bengal (Darjeeling), Assam, Meghalaya (Khasi Hills), Sikkim.



Lemyra (Thyrgorina) sikkimensis (Moore, 1879)

Lemyra (Thyrgorina) spinisinferma Singh & Kirti, sp. nov.

Description: Adult dull yellow. Shoulder, pectus and border of collar crimson. Forewing with costa black up to middle; subbasal spots on costa and below costa; a medial series of elongated spots, excurved in cell; discocellular black; postmedial series excurved beyond cell and then incurved and almost conjoint to medial series; submarginal series of elongated spots, excurved beyond cell, then incurved and again excurved to meet tornus. Hindwing blackish, basal area dull yellow; veins paler. Male genitalia with uncus almost half the length of the tegumen; vinculum bent in semicircular fashion to form deep saccus; juxta broad u shape; valvae broad, subapical process facing towards tegumen; vesica with a patch of weak spines.

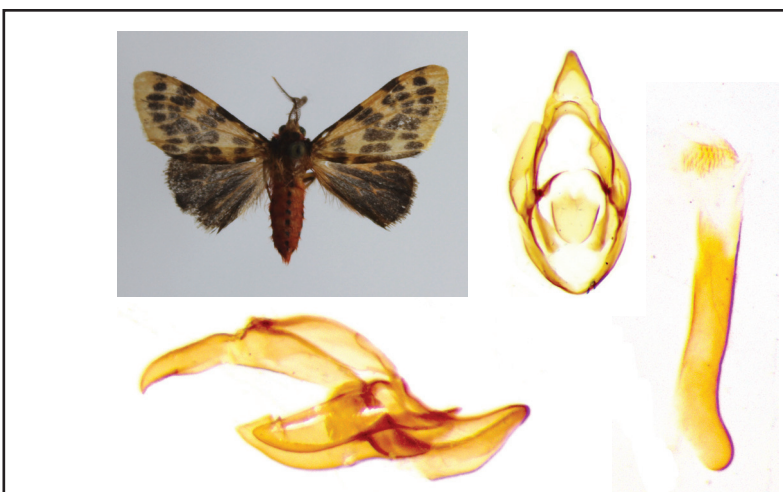
Wing span: Males, 30 mm.

Material examined

Holotype: Kerala, Vallakadavu, 11.ix. 2004 - male.

Remarks: *Lemyra (T.) spinisinferma* is distinct from L. (T.) *sikkimensis* because of weak spines in the vesica patch which are very strong in the vesica of latter.

Etymology: The name of species pertains to its diagnostic attribute of weak (infermis) spines (spinae) of vesica.



Lemyra (Thyrgorina) spinisinferma Singh & Kirti, sp. nov.

Lemyra (Thyrgorina) latauncus Singh & Kirti, sp. nov.

Description: Adult sandy brown. Forewing with costa black up to 1/3 from base; a subbasal series of black spots; a broad medial band with a paler spot on it at vein Cu_1; discocellular with a black spot; postmedial series excurved beyond cell and then obliquely incurved to meet inner margin; submarginal series of black short streaks, interrupted at cubital vein. Hindwing with outer and inner area suffused with fuscous; a spot on discocellular; submarginal spot above vein M_2; three spots below vein Cu_2. Male genitalia slightly twisted at an angle; uncus very broad at base, almost equals to the length of tegumen; valvae with subapical process, facing towards tegumen; vesica with a patch of spines.

Wing span: Males, 32 mm.

Material examined

Holotype: Karnataka, Madikeri, 09.i.2005- male.

Remarks: Unusually broad, concaved and slightly twisted uncus is diagnostic for the species.

Etymology: The name of species pertains to its broad (lata) uncus.

Lemyra (Thyrgorina) latauncus Singh & Kirti, sp. nov.

Lemyra (Thyrgorina) pseudoneurica Singh, Kirti & Joshi, sp. nov

Description: Adult black. Head reddish brown; collar crimson; tegula and thorax bordered with reddish brown. Forewing with an elongated, reddish brown postmedial patch below costa; veins paler. Hindwing with inner area from base to postmedial and below cell reddish brown; a black streak on inner margin, the veins crossing the black area are paler. Male genitalia with uncus approximately half the length of tegumen; vinculum bent at 90degree to form a notched saccus; juxta pot shape; valvae simple with a subapical process; vesica with an elongate patch of densely packed spines, arranged in semi-circular fashion, another sclerotized patch with minute spines.

Wing span: Males, 34 mm.

Material examined:

Holotype: Nagaland, Wokha, 30.v.2010 - male (Coll. Rahul Joshi).

Remarks: *Lemyra (Thyrgorina) pseudoneurica* Singh, Kirti & Joshi, sp. nov. is distinct from *L. (T.) neurica* Hampson due to its male genital attributes.

Etymology: The species is named after its resemblance with *L. (T.) neurica*.

Lemyra (Thyrgorina) pseudoneurica Singh, Kirti & Joshi, sp. nov

Lemyra (Thyrgorina) saputarensis Singh & Kirti, sp. nov.

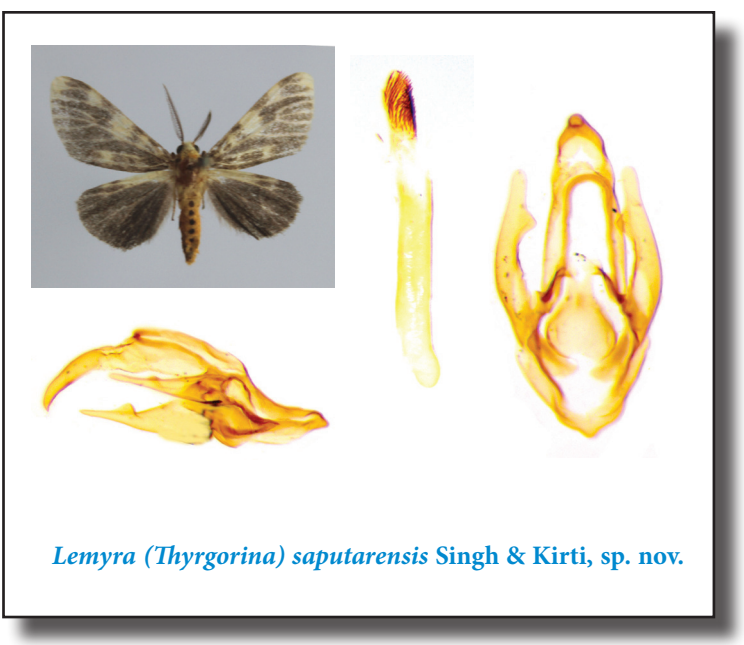
Description: Adult dull white. Collar with yellow scales; tegula with a central black spot. Forewing densely irrorated with fuscous scales; an antemedial small spot below costa; a medial spot extending from costa to cell; postmedial spots on costa and marginal area; veins dull white. Hindwing fuscous black, with basal area dull white extending up to the middle of costal region. Male genitalia with uncus almost 3/4 of the length of tegumen, attached to the latter with lateral sides; vinculum bent at 90degree to form dome shaped saccus; juxta pot shape with longneck; valvae long and narrow, subapical process farther from the apex; vesica with an elongated and large patch of spines.

Wing span: Males, 28 mm.

Material examined:

Holotype: Gujarat; Saputara, 29.ix.2005 - male.

Etymology: Name of the species pertains to its type locality.



Lemyra (Thyrgorina) saputarensis Singh & Kirti, sp. nov.

Lemyra (Thyrgorina) pseudoburmanica Singh & Kirti, sp. nov.

Description: Adult creamish white. Collar orange; tegula with black spot. Forewing with costa black from base to middle; antemedial, medial and postmedial series excurved in and beyond cell;submarginal series of small spots, interrupted at cubital and median veins. Hindwing with a discocellular spot; a submarginal spot above vein M_2 and other 3 spots towards tornus. Male genitalia with uncus smoothly curved, approximately 3/4 the length of tegumen; vinculum slightly bend to form v-shape saccus; juxta pot shape; valvae short and broad; aedeagus almost straight; vesica with an elongated patch of spines, arranged in semicircular fashion.

Wing span: Males, 30 mm.

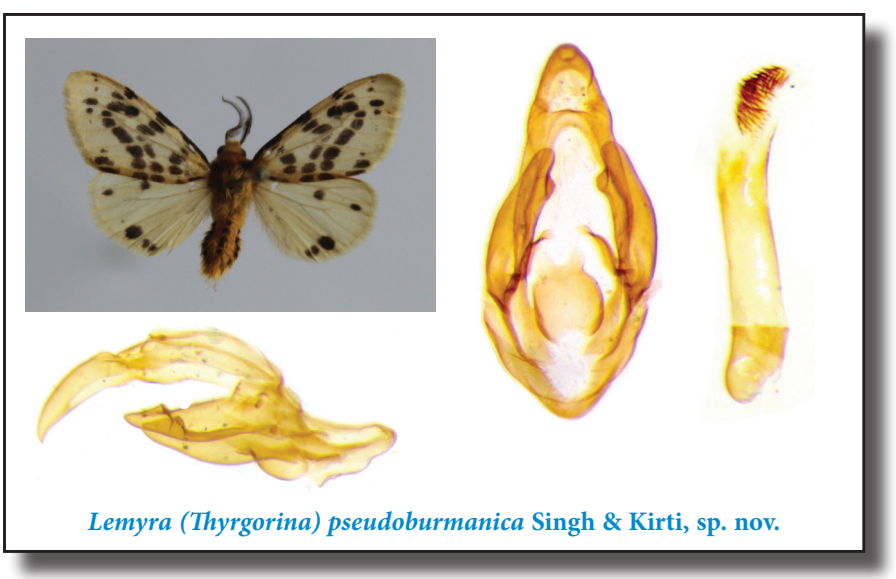
Material examined:

Holotype: Maharashtra, Matheran, 05.x.2005 - male.

Paratype: Maharashtra, Matheran, 05.x.2005 - 2 males.

Etymology: The name of the species pertains to its close resemblance with *Lemyra (T.) burmanica* (Rothschild).

Remarks: Kirti & Gill (2008) studied this species as *Thyrgorina indica* (Guer, 1843).



Lemyra (Thyrgorina) pseudoburmanica Singh & Kirti, sp. nov.

Lemyra (Thyrgorina) orhanti Singh & Kirti, sp. nov.

Description: Head and collar yellow, latter with black spots; tegula black. Forewing dull yellow, costa black up to antemedial curved band; basal black streaks below cell and on inner margin; a broad medial black band, slightly incurved; postmedial band of long streak, meet the former below cell. Hindwing orange yellow, with two spots at tornus. Male genitalia with uncus almost 3/4 the length of tegumen, broad at base with a dorsal groove at the meeting point with tegumen; vinculum bent at 90degree to form a rounded saccus; juxta pot shape with a broad v shaped groove at tip; valvae long and broad, with subapical process blunt and farther from tip; vesica with a large patch of spines arranged in semicircular fashion, spines are comparatively longer and sparse.

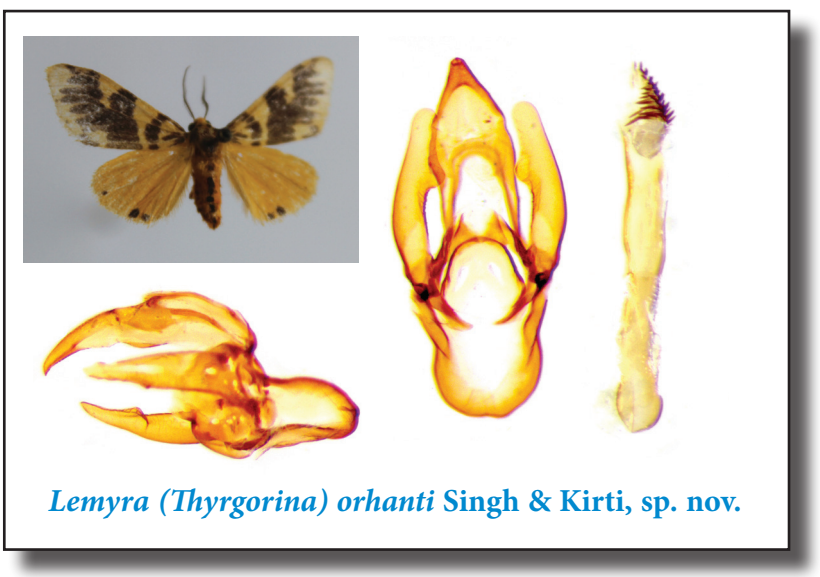
Wing span: Males, 30 mm.

Material examined:

Holotype: Kerala, Chendruni, 30.ix.2004 - male.

Remarks: A dorsal groove at the base of uncus and a large rounded saccus is diagnostic for the *Lemyra (T.) orhanti* sp. nov.

Etymology: Name of the species is based on the name of an eminent Arctiid worker, Dr. George Orhant of France.



Lemyra (Thyrgorina) orhanti Singh & Kirti, sp. nov.

Lemyra (Thyrgorina) cornutiata (Kirti and Gill, 2008), comb. nov.

Satara cornutiata Kirti and Gill, 2008; *Tinea,* **20** (3): 159-162.

Forewing black brown with antemedial and postmedial spots on costa. Hindwings yellow with a black spot at end of cell, outer area and inner margin black brown. Male genitalia with a bunch of compactly placed spines in vesica.

Distribution: Karnataka (Ganeshgudi).

Lemyra (Thyrgorina) cornutiata (Kirti and Gill, 2008), comb. nov.

Lemyra (Thyrgorina) coorgensis Singh & Kirti, sp. nov.

Description: Forewing brown with subbasal yellow band, not reaching inner margin; antemedial, postmedial and subapical triangular spots on costa; the postmedial spot is largest with some brown specks on it; marginal series of yellow specks, disappearing towards anal angle. Hindwings yellow with two black spot at end of cell; a long streak along with inner margin, extending up to anal angle; some marginal brown spots. Male genitalia with uncus broad and concaved at base; vinculum forming a robust, rounded saccus; valvae short, subapical process robust, farther from apex; juxta with v-shape groove at base and u-shape groove at apex; vesica with bunch of spines.

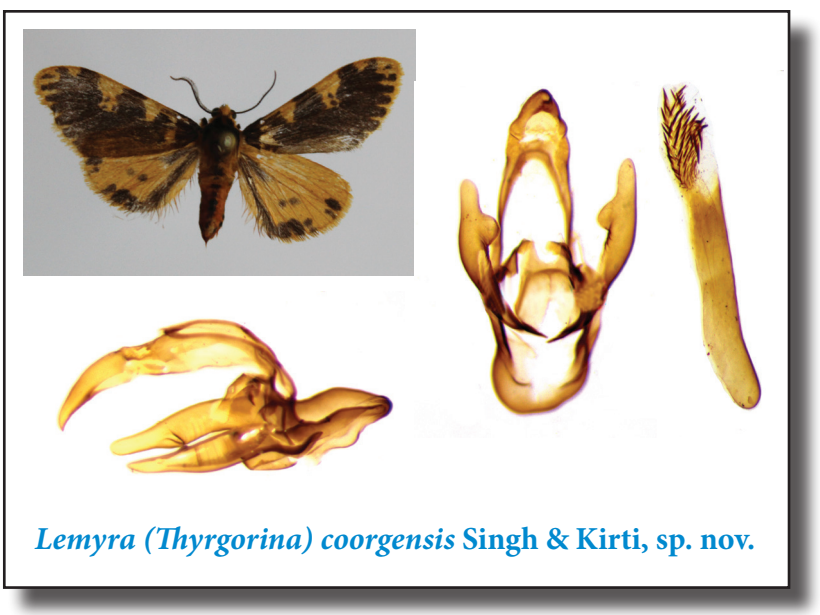
Wing span: Males, 32 mm.

Material Examined

Holotype: Karnataka, Coorg, Medikeri, 13.xi.2013-male.

Remarks: Morphologically, the species is closely similar to *Lemyra (T.) cornutiata* (Kirti & Gill, 2008) but is distinct due to following attributes: yellow markings of forewing are more prominent; juxta with apical groove deeper; bunch of spines in vesica is visibly smaller than *L. (T.) cornutiata.*

Etymology: The name of species pertains to Coorg district of Karnataka.



Lemyra (Thyrgorina) coorgensis Singh & Kirti, sp. nov.

Genus *Alphaea* Walker

Walker, 1855; *List. Specimens Lepid. Ins. Colln Br. Mus*., **3**: 683-684.

Type species: *Alphaea fulvohirta* Walker, 1855.

Diagnosis: Antennae of males serrate and pectinate on hind side; Adult dark with rounded light spots, abdomen yellow or red. According to the male genitalia structure, the genus is characterized by the sub apical process on valvae located closer to apical than to basal process.

Remarks: The genus *Alphaea* Walker, 1855 was established for the sole species, *A. fulvohirta* Walker, 1855. The taxonomic review of this genus was done by Dubatolov & Kishida (2005) in which the authors included 10 species under three subgenera from the World and a later addition, *A. dellabrunai* was done by Saldaitis & Ivinskis (2008). The genus is mainly reported from China, India, Nepal, Bhutan, North Pakistan, Tibet, Myanmar, Vietnam and Thailand.

Known species of genus *Alphaea* Walker from India: *Alphaea fulvohirta* Walker, 1855; *Alphaea (Flavalphaea) impleta* (Walker, 1864); *Alphaea (Flavalphaea) khasiana* (Rothschild, 1910); *Alphaea (Nayaca) florescens* (Moore, 1879); *Alphaea (Nayaca) imbuta* (Walker, 1855); *Alphaea (Nayaca) rothschildi* Dubatolov & Kishida, 2005.

Subgenus *Nayasa* Moore

Moore, 1879; in Hewitson & Moore, *Descr. New Indian Lep. Insects Colln. Late Mr W.S. Atkinson* **(1)**: 43.

Type species: *Arctia imbuta* Walker, 1855, (by original designation).

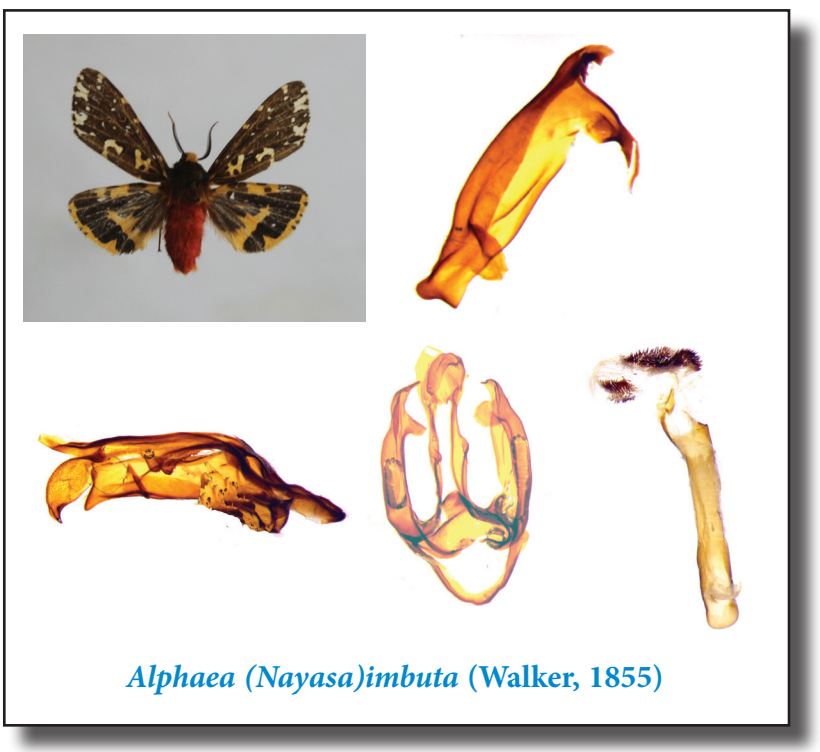
Diagnosis: Generally, the Adult are with dark forewings having white spots. Abdomen is always red. Male genitalia with broad triangle broadenings on the tegumen; proximal process on the ventral edge of valvae is always located in its distal half, and often is keel-like, the apical part of valvae is not narrow.

Alphaea (Nayasa)imbuta (Walker, 1855)

Arctia imbuta Walker, 1855; *List spec. Lep. Ins. Colln. Br. Mus.*, **3**: 614.

Adult black brown. Forewing with complex spots, especially on inner and outer area. Hindwing with yellow markings of various ranges. Male genitalia with uncus strongly concaved; valvae with a transverse, broad flap like process near apex of inner wall, tip bifurcated with very shallow groove; aedeagus with a small apical spine; vesica with two large fields of densely packed spines along with field of scobination.

Distribution: North West Himalayas, West Bengal (Darjeeling), Sikkim.



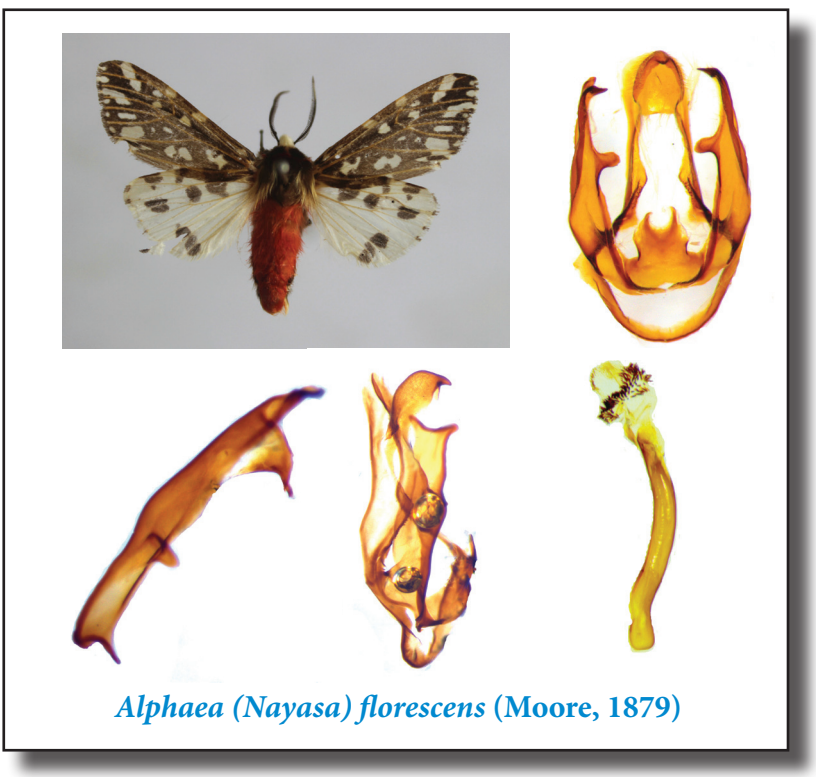
Alphaea (Nayasa)imbuta (Walker, 1855)

Alphaea (Nayasa) florescens (Moore, 1879)

Nayasa florescens Moore, 1879; in Hewitson & Moore, *Descr. New Indian Lep. Insects Colln. Late Mr W.S. Atkinson* **(1)**: 43.

Adult with head white. Tegula and thorax broadly banded with brown. Forewing black brown; veins orange yellow; scattered, irregular white spots. Hindwing white, some spots on costa and in cell; submarginal series of dark spots; discocellular dark. Male genitalia with uncus broad, concaved from inner side; valvae with a transverse process at inner wall, tip bifurcated with shallow groove; vesica with a large field of spines along with an apical field of small spines.

Distribution: Sikkim, Assam, West Bengal (Darjeeling).



Alphaea (Nayasa) florescens (Moore, 1879)

Genus *Spilarctia* Butler

Butler, 1875; *Cistula Ent*., **2**: 39.

Type species: *Phalaena lutea* Hufnagel, 1766.

Diagnosis: Male genitalia with uncus broad at base and narrowing towards tip; valvae with several processes, tegumen with a collar. Female genitalia with corpus bursae membranous, signum present or may be absent.

Remarks: The genus *Spilarctia* Butler is a species rich genus with wide distribution. Kôda (1988) defined the genus on the basis of male and female genitalia. Dubatolov (2010) catalogued this genus under 10 different species groups along with uncertain position for many species. Indian fauna of genus *Spilarctia* Butler is represented in five species groups: *Spilarctia bisecta* species group, *Spilarctia casignata* species group, *Spilarctia leopardina-melanostrigma* species group, *Spilarctia obliqua* species group, *Spilarctia punctata* species group and some species with uncertain position.

Known species of genus *Spilarctia* Butler from India: *Spilarctia bifascia* Hampson, 1891; *Spilarctia casigneta* (Kollar, [1844]); *Spilarctia castanea* Hampson, 1893; *Spilarctia comma* (Walker, 1856); *Spilarctia coorgensis* Kirti & Gill, 2010; *Spilarctia dalbergiae* Moore, 1888; *Spilarctia eldorado* (Rothschild , 1910); *Spilarctia gopara* (Moore, 1859); *Spilarctia leopardina* (Kollar, [1844]); *Spilarctia melanostigma* (Erschoff,1872); *Spilarctia mona* (Swinhoe, 1885); *Spilarctia montana* (Guérin-Méneville, 1843); *Spilarctia obliqua* (Walker, 1855); *Spilarctia punctata* (Moore, 1859); *Spilarctia rubilinea* (Moore, 1865); *Spilarctia sagittifera* Moore, 1888; *Spilarctia tamangi* (Thomas, 1994); *Spilarctia tigrina* (Moore, 1879); *Spilarctia todara* (Moore, 1872); *Spilarctia xanthogaster* (Thomas,1994).

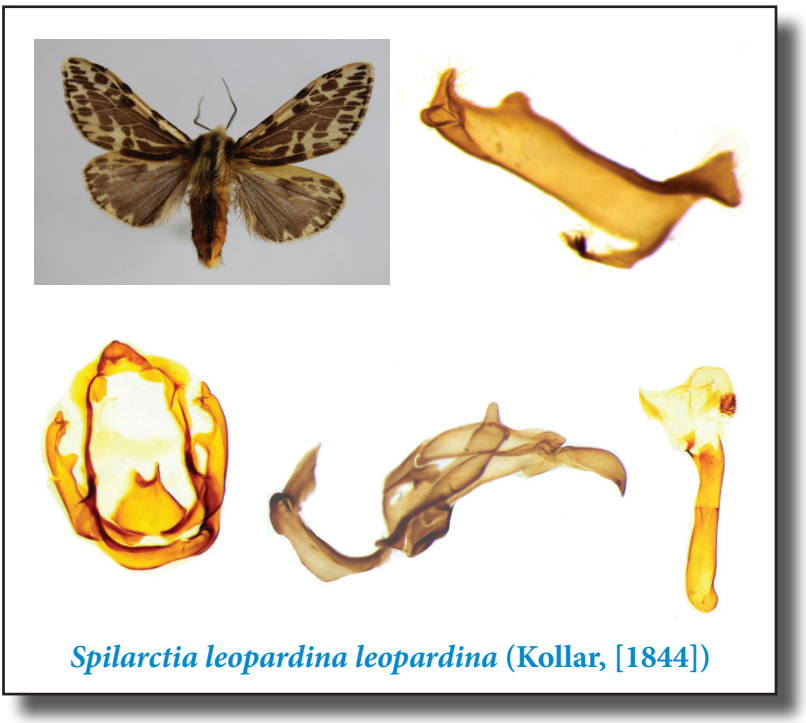
Spilarctia leopardina leopardina (Kollar, [1844])

Euprepia leopardina Kollar, [1844]; *Kaschmir*, **4** (2): 467.

This subspecies is diagnosed by: Forewing creamish with broad dark band from base of cell to postmedial area; another band on inner margin; some dark spots on costal area; submarginal series of dark spots; veins creamish, crossing the dark area. Hindwing fuscous, with costal area creamish; some creamy spots on apical and marginal area. Male genitalia with valvae having three small processes, two apical and one subapical, the latter is located near apex.

Distribution: Jammu & Kashmir (Patnitop).

Remarks: The subspecies of *S. leopardina* was reviewed by Dubatolov *et al.* (2005). Patnitop is a new distributional record for *S. l. leopardina*, the extreme west limit of this subspecies.



Spilarctia leopardina leopardina (Kollar, [1844])

Genus *Olepa* Watson

Watson, 1980, *The Generic Names of Moths of the World,* **2**: 133.

Type species: *Alope ocellifera* Walker, 1855.

Diagnosis: Forewings pale brown to dark/black brown/blackish, with series (six) of dark spots in interspaces. Hindwings yellow or reddish to blackish with black spots/blotches. Male genitalia have the valvae with a prominent costal process near its base, aedeagus with one or more spines at the tip.

Remarks: Genus *Olepa* Watson, 1980 got its name as a replacement of *Alope* Walker, 1855 with *Alope ocellifera* Walker, 1855 as its type species, which was subsequently designated by Kirby (1892). The genus is reviewed by Orhant (1986, 2000), Witt *et al.* (2005) and Singh & Singh (2013). At present the genus is known by nine species from the World: *O. ocellifera* (Walker, 1855), *O. duboisi* Orhant, 1986; *O. anomi* Orhant, 1986; *O. kakatii* Orhant, 2000; *O. (Ricinia) ricini* (Fabricius, 1775), *O. (Ricinia) schleini* (Witt *et al.*, 2005); *O. (Pseudoolepa) clavatus* (Swinhoe, 1885), *O. (Orhanta) koslandana* Orhant, 1986 and *O. (Cornutia) coromandelica* (Dubatolov, 2011). One further species, *Olepa (Pseudoolepa) nigerclavatus* Singh & Kirti sp. nov. is described here. The genus is distributed in India, Bangladesh, Sri Lanka, Northern Pakistan, Nepal, Thailand and Israel.

Known species of genus *Olepa* Watson from India: *Olepa duboisi* Orhant, 1986; *Olepa ocellifera* (Walker, 1855); *Olepa kakatii* Orhant, 2000; *Olepa (Cornutia) coromandelica* Dubatolov, 2011; *Olepa (Orhanta)koslandana* Orhant, 1986; *Olepa (Pseudoolepa) clavatus* (Swinhoe, 1885); *Olepa (Pseudoolepa) nigerclavatus* Singh & Kirti sp. nov.; *Olepa (Ricinia) ricini* (Fabricius, 1775).

Subgenus *Pseudoolepa* Singh & Singh

Singh & Singh, 2013; *Tinea,* **22** (4): 272-277.

Type species: *Alope clavatus* Swinhoe, 1885.

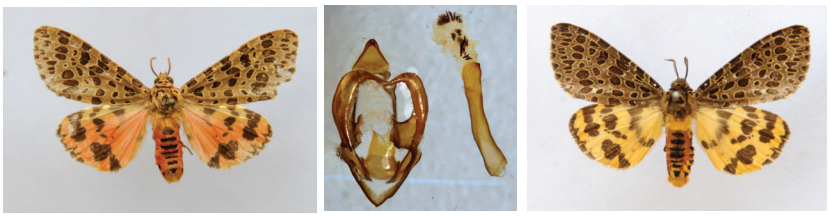
Diagnosis: Male genitalia with uncus broad, triangular; valvae with smooth curve, without any sub apical process; vesica with patches of comparatively large spines.

Olepa (Pseudoolepa) clavatus (Swinhoe, 1885)

Alope clavatus Swinhoe, 1885; *Proc. zool. Soc. Lond.*: **1885**: 295.

Forewings and their markings are clearer than *O. ricini* Fabricius and the spots of forewings are ocellated with yellow. Hindwings reddish to yellow. Genitalia as discussed under diagnosis of subgenus.

Distribution: South India.



Olepa (Pseudoolepa) clavatus (Swinhoe, 1885)

Olepa (Pseudoolepa) nigerclavatus Singh & Kirti, sp. nov.

Description: Adult blackish. Forewing with series of dark black spots. Hindwing with few yellow spots on basal and postmedial area. Male genitalia with uncus broad at base, narrow towards tip; tegumen narrow; valvae curved before apex, ending to a spine, basal costal area with a plough like process; aedeagus slightly curved at centre with four minute spines at apex; vesica with a basal field of long spines and four apical patches of long spines, out of which spines of one patch is arranged in rounded fashion.

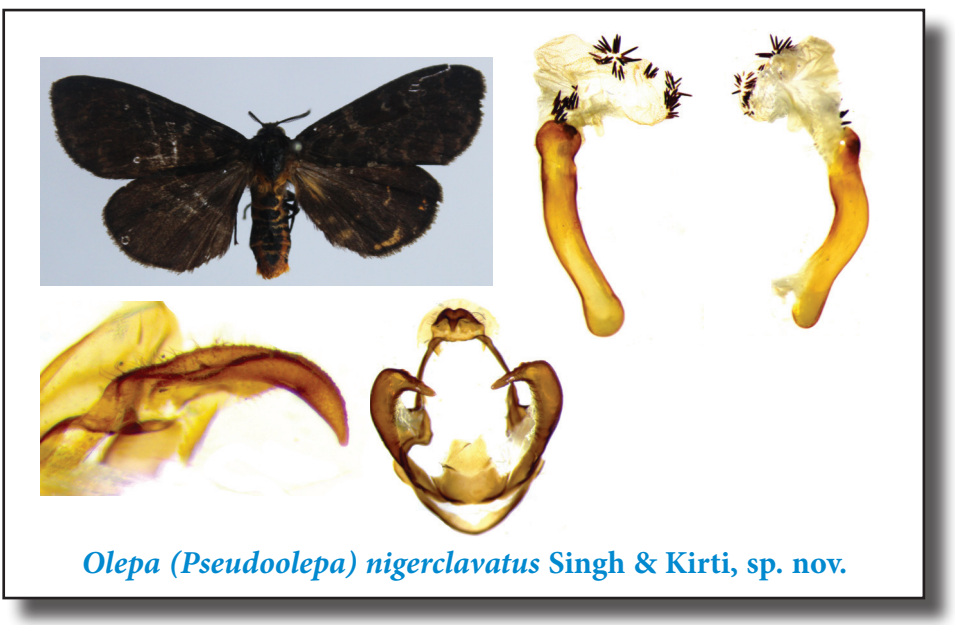
Wing span: Males, 52 mm.

Material examined

Holotype: Karnataka, Malshej Ghat, 01.x.2005- 01 male.

Remarks: Morphologically, *Olepa (P.) nigerclavatus* sp. nov. is closely similar to *Olepa* (*P.*) *clavatus* (Swinhoe, 1885), but is completely black with transverse series of dark black spots. Whereas in the latter species, the forewings are brownish or dark brown with transverse series of dark spots and hindwings are yellow or reddish with black spots or blotches. In male genitalia the uncus is comparatively narrower than *O.* (*Pseudoolepa*) *clavatus* and spines of vesica are firmly arranged.

Etymology: Species is named due to its similarity with *O. (P.) clavatus* vis-a-vis black colour.



Olepa (Pseudoolepa) nigerclavatus Singh & Kirti, sp. nov.

Genus *Creatonotos* Hübner

Hübner, [1819] 1816; *Verz. Bekannter Schmett*.: 170.

Type species: *Phalaena interrupta* Linnaeus, 1767.

Diagnosis: Definitive features of the genus are in the male abdomen: notably a massive development of a coremata of eighth sternite. In the male genitalia, valvae long, slender and tapering with an acute lateral process; juxta extends as a sclerotized band into the annular tube; vesica has three fields of numerous moderate and long spines.

Remarks: The genus *Creatonotos* Hübner, [1819] 1816 consists of a set of unrevised afro-tropical species (Goodger & Watson, 1995) and seven species from South Asia and neighboring territories (Dubatolov & Holloway, 2007).

Known species of genus *Creatonotos* Hübner from India: *Creatonotos gangis* (Linnaeus, 1763); *Creatonotos (Phissama) transiens* (Walker, 1855); *Creatonotos nigergangis* Singh & Kirti, sp. nov..

Creatonotos gangis (Linnaeus, 1763)

Phalaena gangis Linnaeus, 1763; *Centuria Insectorum* Rariorum, **27**: Amoenitates Acad. **6**: 410-411.

Creatonotos gangis (Linnaeus, 1763) is included in 'Arctiid Moths of India' vol. 1. But once again illustrated here for comparison with the next species.

Distribution: Throughout India.

Creatonotos gangis (Linnaeus, 1763)

Creatonotos nigergangis Singh & Kirti, sp. nov.

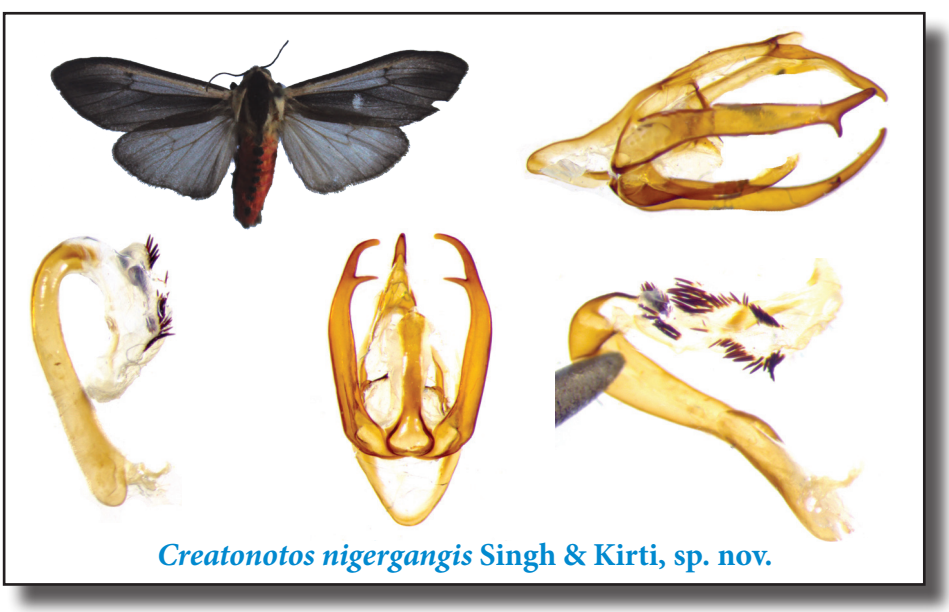
Description: Adult with head fuscous; collar and tegula dull white with fuscous suffusion, former with a central triangular spot; thorax black, with dull white border. Forewing blackish with subcostal area dull white, the streaks present in forewing of *Creatonotos gangis* (Linnaeus) are faintly visible in *C. nigergangis* sp. nov.. Hindwing paler. Male genitalia with uncus long, broad at base; tegumen long, narrow; valvae long and narrow with subapical spur; juxta curved at apex; vesica large with patches of spines, arranged in circular fashion.

Wing span: Males, 42 mm.

Material Examined

Holotype: Kerala, Rani, 06.ix.2004 - male.

Remarks: Morphologically, the species is closely similar to *C. gangis*. However, is distinct due to following attributes: forewing blackish with subcostal area creamish. In male genitalia, the subapical spur is comparatively far from apex and in vesica the patches of spines are comparatively large and arranged in circular fashion whereas, in *C. gangis* the forewings are dull white with long streak below cell and another beyond discocellular. In male genitalia the subapical spine is nearer to apex; vesica with smaller patches arranged in a linear fashion.



***Creatonotos nigergangis* Singh & Kirti, sp. nov.**

Subgenus *Phissama* Moore

Moore [1860]; *Cat. Lep. Ins. Mus. Nat. Hist.*, **23**: 362.

Type species: *Amphissa vacillans* Walker, 1865.

Diagnosis: Forewings without any streak. Male genitalia with vesica have short spines which are sometime fused to bands.

Creatonotos (Phissama) transiens (Walker, 1855)

Spilosoma transiens Walker, 1855; *List Specim. Lepid. Inst. Colln. Br. Mus.*, **3**: 675.

Adult dull white with slight tinge of red. Forewing with each angle of cell having a black spot along with a parallel smaller spot; another spot on subtornal area. Hindwing darker, more suffusion at anal region. Male genitalia with uncus long, slightly necked before middle; tegumen narrow; juxta with rounded base; valvae long with a small process beyond middle; vesica with 3 plates of conjoint spines.

Distribution: Throughout India. The included specimen is collected from Arunachal Pradesh (Deomali).

Remarks: The narrow and uniformly coloured forewings of the specimen included here is unique from so far published information on *C. (P.) transiens* but the external male genitalia is similar to the genitalia of C. *transiens* Walker.

Creatonotos (Phissama) transiens (Walker, 1855)

Genus *Tatargina* Butler

Butler, 1877; *Trans. Ent. Soc. London*, **1877**: 366.

Type species: *Deiopeia picta* Walker, [1865]1864.

Diagnosis: Antennae with single pectination. Male genitalia with uncus triangular; collar of the proximal part of the tegumen broad; valvae elongated with an apical process, two separate processes on its ventral edge; aedeagus with an enhanced sclerotization on apex and bearing a row of small spines; vesica without cornutus, some areas of small spiniculi present (Dubatolov, 2006).

Remarks: The genus *Tatargina* Butler, 1877 was erected for inclusion of *T. picta* (Walker, [1865] 1864) from Burma and *T. formosa* Butler, 1877 from South China. Recently, *Tatargina* was reviewed by Dubatolov, 2006 with description of a new subgenus *Hindargina* Dubatolov. The genus is known by four species: *T. picta* (Walker, 1865), *T. (Hindargina) pannosa* (Moore, 1879), *T. (Hindargina) sipahi* (Moore, 1872) and *T. (Hindargina) ceylonensis* (Hampson, 1901) distributed in India, Sri Lanka, Indo-China and South China.

Known species of genus *Tatargina* Butler from India: *Tatargina (Hindargina) pannosa* (Moore, 1879), *Tatargina (Hindargina) sipahi* (Moore, 1872).

Subgenus *Hindargina* Dubatolov

Dubatolov, 2006; *Atalanta*, **37 (1/2)**: 206-215.

Type species: *Aloa sipahi* Moore, 1872.

Diagnosis: Antennae denticulated on upper side and pectinated on underside. Male genitalia with valvae elongated, apical process bifurcated, ventral edge with two or three processes with their asymmetric position on the left and right valvae; left side of aedeagus with short or long row of spines.

Tatargina (Hindargina) sipahi (Moore, 1872)

Aloa sipahi Moore, 1872; *Proc. Zool. Soc. Lond.*, **1872**: 573.

Adult dark brown. Forewing with irregular band of oval spots from base and below cell, in some specimens band may be broken; some oval spots may be present on costa and marginal area. Hindwing pale red. Male genitalia with uncus broad, necked at base, and narrowing to a spined tip; vinculum long, forming a broad U shape saccus; juxta pot shaped; valvae with bifurcated apex, additional process present on ventral margin, number of ventral process may vary; aedeagus with apical series of small spines; vesica with an apical, elongated field of minute spines.

Distribution: South India (Madhya Pradesh, Maharashtra, Tamil Nadu).

Remarks: The forewing band, spots and longer coastal process of apical bifurcation of valvae is diagnostic.

Tatargina (Hindargina) sipahi (Moore, 1872)

Tatargina (Hindargina) pannosa (Moore, 1879)

Rajendra pannosa Moore, 1879; *Proc. Zool. Soc. Lond.* **1879**: 397.

Adult dark brown. Forewing with a continuous band (with irregular border) from base and below cell to below apex; some oval spots may be present on costa and marginal area. Hindwing pale red. Male genitalia with valvae having bifurcated apex, additional process present on ventral margin, number of ventral process may vary; vesica with two apical fields of spines.

Distribution: North West Himalayas.

Remarks: The forewing band and shorter coastal process of apical bifurcation of valvae is diagnostic.

Tatargina (Hindargina) pannosa (Moore, 1879)

Genus *Baroa* Moore

Moore, 1878; *Proc. Zool. Soc. Lond*, **1878**: 28.

Type species: *Cycnia punctivaga* Walker, 1855.

Diagnosis: Adult are grey or fawn with narrow forewings. Male genitalia with uncus bifid; valvae globular, membranous, sometimes with coremata; sacculus with a strongly sclerotized distal spur. Female genitalia with base of ductus bursae strongly sclerotized; corpus bursae with two longitudinal, band like signa, each consisting of a pair of sclerotized bands with even scobination directed away from the central, immaculate, less sclerotized zone (Holloway, 1988).

Remarks: The genus is distributed from India to the Philippines and Sulawesi. It lacks some of the arctiid characters like tymbal organ and a swollen base to vein Sc in the hindwing. The signum is also atypical.

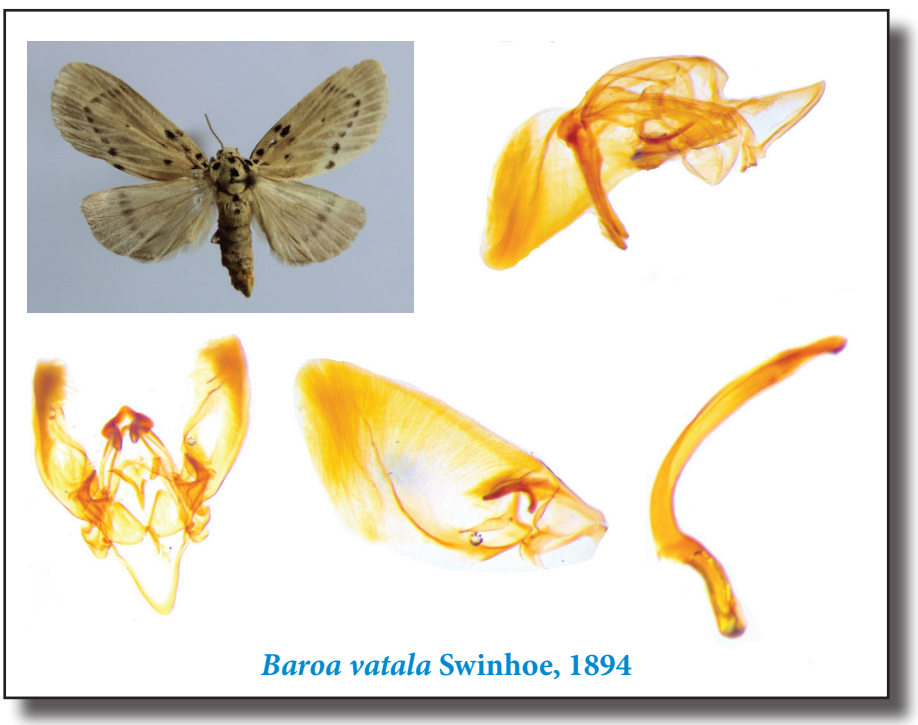
Known species of genus *Baroa* Moore from India: *Baroa punctivaga* (Walker, 1855); *Baroa vatala* Swinhoe, 1894.

Baroa vatala Swinhoe, 1894

Baroa vatala Swinhoe, 1894; *Ann. Mag. Nat. Hist.* **(6) 14**: 436.

Adult pale brown. Forewing with a basal black spot, two subbasal spots with point beyond them in cell; antemedial series slightly excurved in cell; discoidal point present; postmedial series strongly excurved beyond cell. Hindwing with traces of postmedial series. Abdomen with terminal segment yellow. Male genitalia with uncus in form of two rod like processes; tegumen narrow; vinculum forming a v-shape saccus; valvae membranous, densely covered with long spines; sacculus bearing a strong spur; aedeagus strongly curved at basal half, a minute spine present at tip.

Distribution: Sikkim, Meghalaya (Khasi Hills).



Baroa vatala Swinhoe, 1894

Genus *Juxtarctia* Kirti & Kaleka

Kirti & Kaleka, 2002; *J. Bomb. Nat. Hist. Soc.,* **99 (1)**: 80.

Type species: *Juxtarctia bispinuatus* Kirti & Kaleka, 2002.

Diagnosis: The genus was erected due to large and unique juxta, in comparison to smaller juxta in its closely related genera.

Remarks: At present the genus is known by two species, *Juxtarctia multiguttata* (Walker, 1855) distributed in India (North West Himalayas, Sikkim, Assam), Nepal, Bhutan, Myanmar, China, Tibet, Indochina (from Thailand to Vietnam and Cambodia) and *Juxtarctia lizae* Černý, 2014 distributed in Laos.

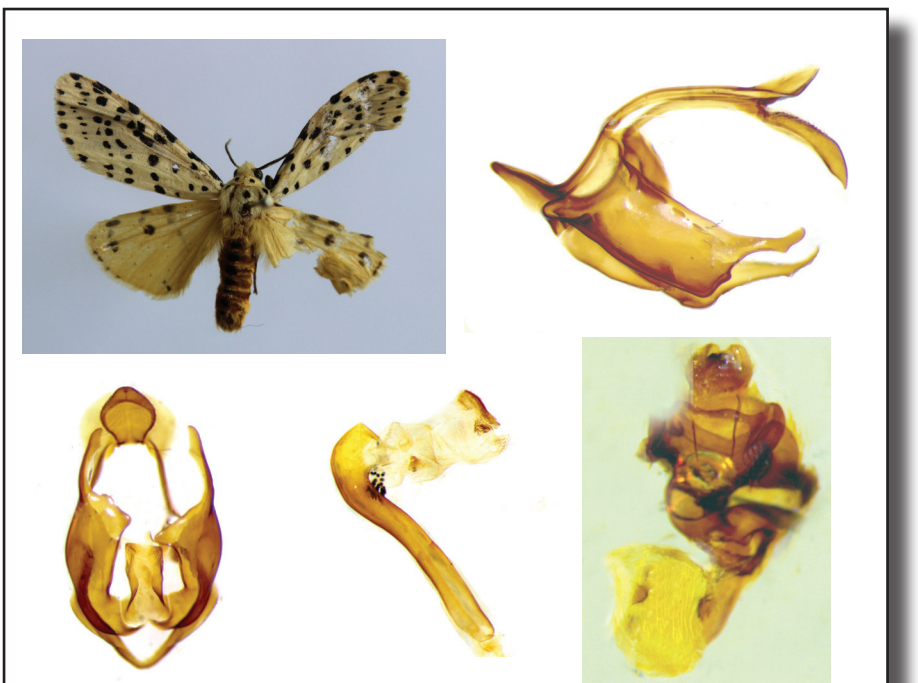
Known species of genus *Juxtarctia* Kirti & Kaleka from India: *Juxtarctia multiguttata* (Walker, 1855).

Juxtarctia multiguttata (Walker, 1855)

Hypercompa multiguttata Walker, 1855; *List Spec. Lep. Ins. Colln. Br. Mus.*, **3**: 657.

Adult dull white. Collar, tegula, thorax and forewing spotted with black. Hindwing yellowish; a discoidal black spot present with some spots on costa; traces of postmedial series. Male genitalia with uncus dome shaped; tegumen long and narrow; vinculum forming a v shape saccus; juxta long and rectangular; valvae almost rectangular up to 3/4th length, the costal area of apical 1/4th stretched to a narrow rod like structure with a subapical protrusion; aedeagus strongly curved at apex; vesica with basal field of long spines along with a field of scobination, an apical patch of minute spines with a field of scobination surrounding it. Female genitalia with ductus bursae strongly sclerotised, twisted; corpus bursae corrugated, four signa present.

Distribution: North West Himalayas, Assam, Meghalaya, Sikkim, West Bengal (Darjeeling).



Juxtarctia multiguttata (Walker, 1855)

Genus *Micraloa* Dubatolov

Dubatolov, 2004; *Atlanta*, **35 (3/4)**: 404.

Type species: *Bombyx lineola* Fabricius, 1793.

Diagnosis: Antennae bipectinate in males, biserrate in females. Male genitalia with uncus long, narrow; valvae with costal-basal part rhomboidal, separated from the main part of valvae by a membrane, the latter is of rounded quadrangular shape, with its distal part bearing small teeth; valvae costa extending into long process with an apical club. Aedeagus curved and extended towards apex; vesica with a field of small spines.

Remarks: Genus *Micraloa* Dubatolov, 2004 was erected for inclusion of two species: *Micraloa lineola* (Fabricius, 1793) from India, Nepal, Sri Lanka and Myanmar and *Micraloa emittens* (Walker, 1855) from India and Sri Lanka. Dubatolov (2004) kept eight species as synonym of *M. lineola.* However, genus *Micraloa* is in need of thorough revision by studying the types of all the members of *lineola* group.

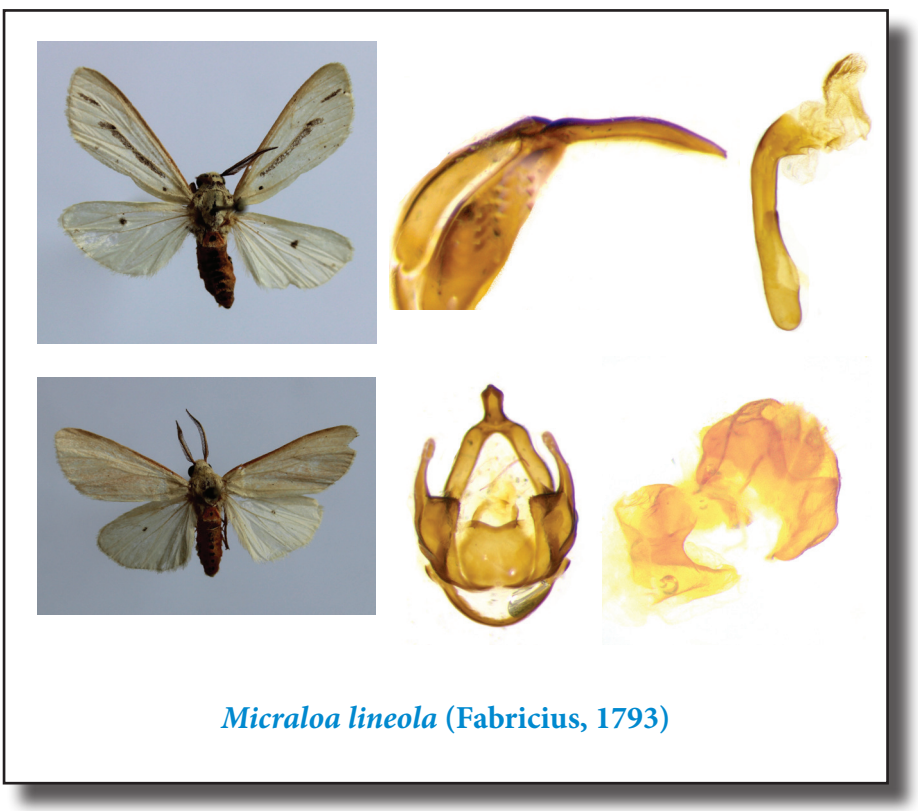
Known species of genus *Micraloa* Dubatolov from India: *Micraloa lineola* (Fabricius, 1793) and *Micraloa emittens* (Walker, 1855), *Micraloa punctistriga* (Walker, 1855).

Micraloa lineola (Fabricius, 1793)

Bombyx lineola Fabricius, 1793; *Ent. Syst.,* **3 (1)**: 465-466.

Adult dull white. Forewing with costa slightly reddish yellow; a black line below cell, crossed by veins Cu_1 and Cu_2; an antemedial spot on vein 1A; a submarginal streak above vein M_2; markings may be completely absent. Hindwing with a discal spot. Male genitalia with uncus long, minutely bifid at apex; vinculum forming a broad v shape saccus; juxta strongly sclerotized, almost rectangular; valvae broad at basal half, long and narrow towards distal half; aedeagus almost straight, curved at tip; vesica large with a lateral patch of minute spines. Female genitalia with ductus bursae sclerotised, twisted; corpus bursae short and broad, without any signum.

Distribution: North West Himalayas, Punjab, West Bengal, Jammu & Kashmir, Gujarat, Maharashtra, Karnataka, Kerala, Madhya Pradesh, Tamil Nadu, Meghalaya (Garo Hills), Assam, Manipur.



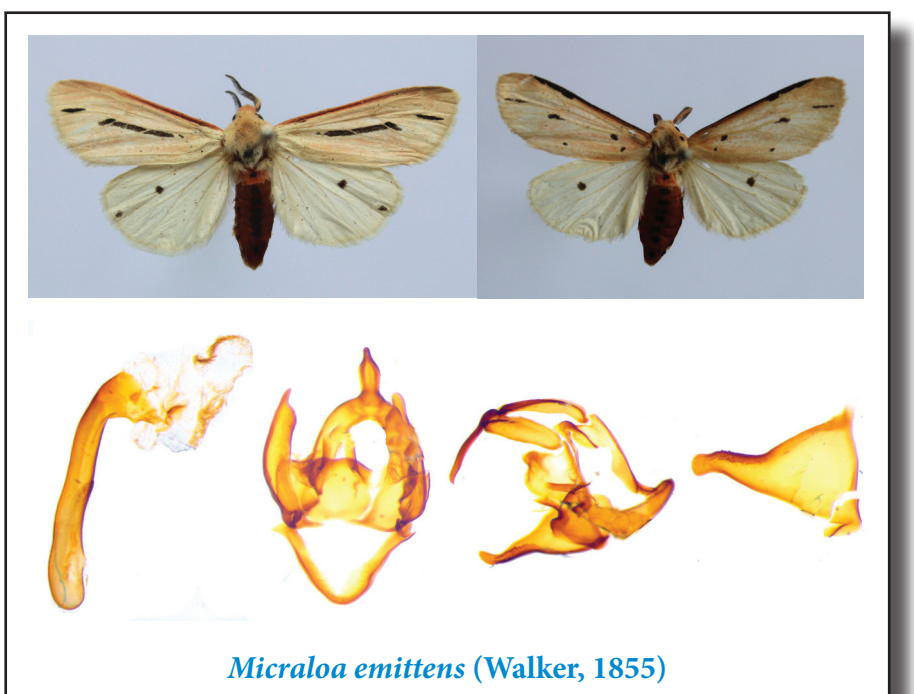
***Micraloa lineola* (Fabricius, 1793)**

Micraloa emittens (Walker, 1855)

Creatonotus emittens Walker, 1855; *List Spec. Lepid. Ins. Colln. Br. Mus.*, **3**: 638-639.

Adult testaceous, the colouration is more prominent in South Indian specimens. Forewing with costa crimson; a black line below cell, crossed with veins Cu_1& Cu_2; a submarginal streak above vein M_2; black markings of forewings may reduced to few points. Hindwing with a discal spot. Male genitalia with uncus long and narrow, ending to a minute spine (not bifurcated); vinculum curved at $90^0$to form v shape saccus; valvae broad at base and gradually narrowing towards apex, a subapical bulge with minute spines on its inner edge, apex thumb like; aedeagus slightly curved at apex with an apical patch of small spines; vesica with fields of scobination along with a small sclerotized patch.

Distribution: South India.



Micraloa emittens (Walker, 1855)

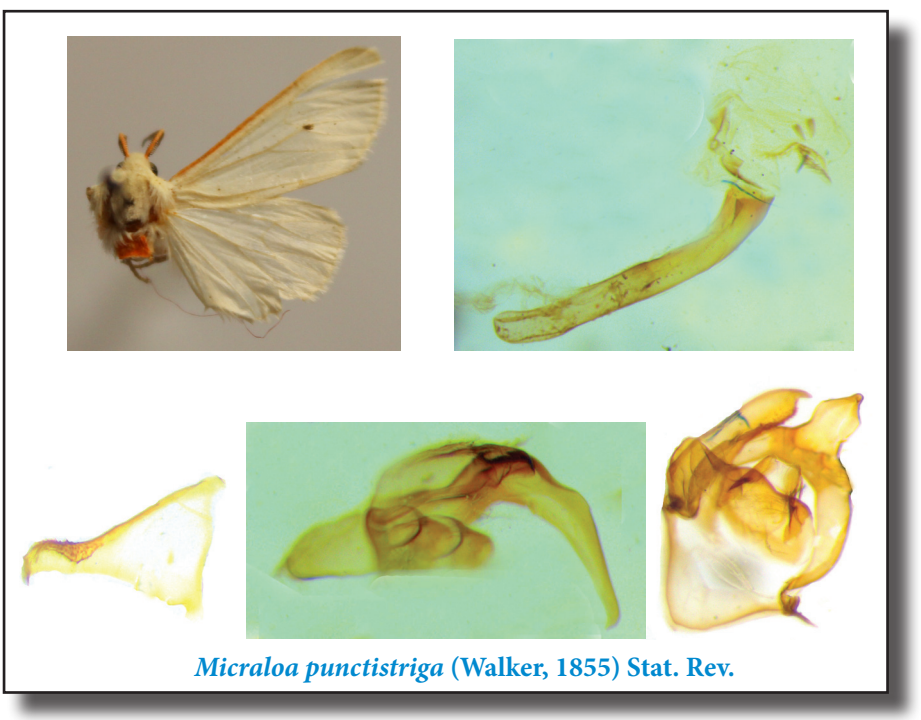
Micraloa punctistriga (Walker, 1855), Stat. Rev.

Spilosoma punctistriga Walker, 1855; *List Specimens lepid. Insects Colln. Br. Mus*., **3**: 676.

Adult pure white. Forewing with costa crimson up to before apex; a speck at lower angle of cell. Male genitalia with uncus long and broad, bumped at dorsal side, ending to a minute spine (not bifurcated); vinculum forming broad V shape saccus; valvae broad at base and gradually narrowing towards apex, a subapical bulge/fold with minute spines on its inner edge; aedeagus slightly curved at apex with an apical patch of small spines; vesica with a patch of spines and fields of scobination.

Distribution: North India.

Remarks: *M. punctistriga* Walker is distinct due to following attributes: the uncus is broader than any of its congener and bumped at dorsal side; the apical spined patch of vesica became subapical.



Micraloa punctistriga (Walker, 1855) Stat. Rev.

Genus *Nannoarctia* Kôda

Kôda, 1988; *Tyô to Ga,* **39** (1): 4.

Type species: *Pericallia takanoi* Sonan, 1934 *(=integra* Matsumura, 1931).

Diagnosis: Male genitalia with uncus triangulated and not narrowing to the base, sub unci short; valvae elongate without any additional process or spine.

Remarks: Genus *Nannoarctia* Kôda was erected for single species, *N. integra* (Walker, 1855) (an incorrect determination of *Pericallia takanoi* Sonan, 1934). The taxonomic review of this genus was done by Dubatolov, Haynes & Kishida (2007) and Dubatolov & Kishida (2010). The genus is distributed in India, Nepal, and China to South East Asia.

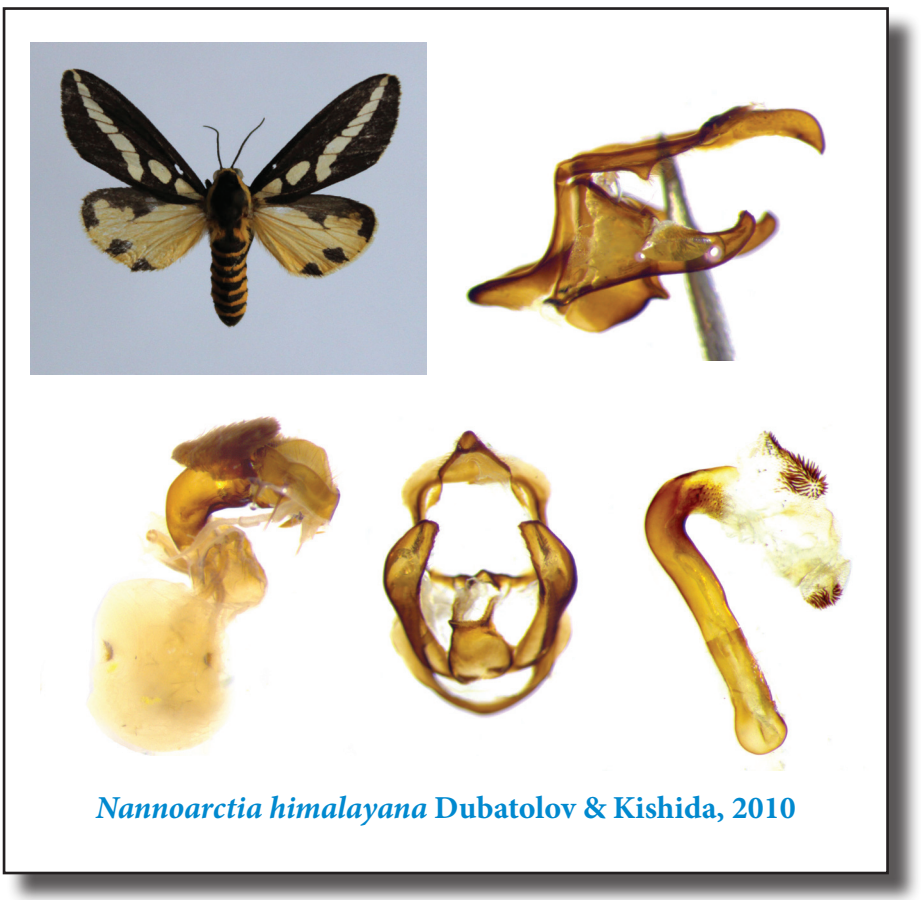
Known species of genus *Nannoarctia* Kôda from India: *Nannoarctia himalayana* Dubatolov & Kishida, 2010; *Nannoarctia obliquifascia* (Hampson, 1894); *Nannoarctia tripartita* (Walker, 1855); *Nannoarctia (Pseudorajendra) dentata* (Walker, 1855).

Nannoarctia himalayana Dubatolov & Kishida, 2010

Nannoarctia himalayana Dubatolov & Kishida, 2010; *Tinea*, **21 (3)**: 136-152.

Oblique light forewing band originating from the wing apex with larger hind spot extending up to the anal vein, whereas, in other species of *Nannoarctia* from Indo-China it originates from the subapical part of the costa; valvae robust, evenly curved. Kirti & Singh (2015) studied this species as *Nannoarctia obliquifascia* (Hampson). Female genitalia with ductus bursae sclerotized, twisted; corpus bursae globular, three signa present.

Distribution: Himachal Pradesh, Uttar Pradesh, Assam and probably in Kashmir & Nagaland.



Nannoarctia himalayana Dubatolov & Kishida, 2010

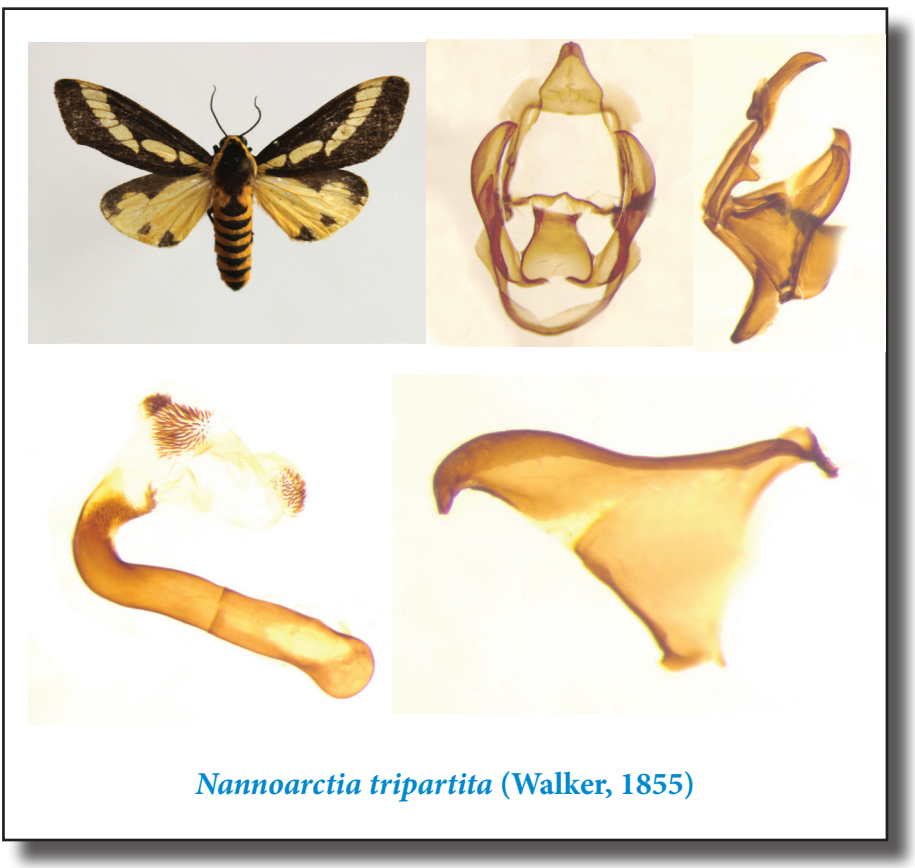
Nannoarctia tripartita (Walker, 1855)

Aloa tripartita Walker, 1855; *List Specimens lepid. Insects Colln. Br. Mus.*, **3**: 706.

Forewing band broadening towards costa and touches the latter much before the apex. Male genitalia with valvae slightly narrowing to the apex and lightly curved inwards; left side of aedeagus apex with a narrow band of small and broad rough spines, a plate on left side consists of thinly distributed spiniculi; vesica with a large, subbasal patch of spines along with an apical patch of small spines.

Distribution: Jharkhand (Hazaribagh Wild life Sanctuary, Salparni).

Remarks: *Nannoarctia tripartita* is reported for the first time from India. Hazaribagh WLS is its Western most limit of distribution.



Nannoarctia tripartita (Walker, 1855)

Genus *Utetheisa* Hübner

Hübner [1819] 1816; *Verz. Bekannter Schmett*., **1816**: 168.

Type species: *Phalaena ornatrix* Linnaeus, 1758.

Diagnosis: *Utetheisa s.str* have the antennae bipectinate in males; generally biserrate in females; forewing with rows of red patches and black dots. On the other hand, rest of the members of *Utetheisa* have forewings with greyish brown to dark brown pattern on a white ground colour (the white in most cases reduced to spots and patches), but pattern with pale brown or even black does exist in some species. In male genitalia, uncus long and slender; valvae bear the: costal process, apical process of cucullus, clasper (the curved structure at the rim of the valvula) in the centre of the valvae and corema (the membranous bag shaped tissue attached to the caudal side of the cucullus) (Vos, 2007).

Remarks: Genus *Utetheisa* was erected by Hübner [1819] 1816 and Kirby (1892) designated *Phalaena ornatrix* Linnaeus, 1893 as its type species. Its taxonomy is mainly reviewed by Holloway (1988) and Vos (2007). Many of the species, which were earlier placed under *Nyctemera* are now the members of subgenera of *Utetheisa* Hübner: *Pitasila* Moore, *Atasca* Swinhoe, and *Raanya* Vos. According to Vos (2007), *Utetheisa s.str.* is distributed worldwide with about 20 species and the remaining three subgenera, *Pitasila* Moore, 1877, with 25 species, *Atasca* Swinhoe, 1892, with 13 species and *Raanya* Vos with one species are restricted to the Indo-Australian area. All the three species included here belong to *Utetheisa* s.str. group of species.

Known species of genus *Utetheisa* Hübner from India: *Utetheisa antennata* (Swinhoe, 1893); *Utetheisa lotrix* (Cramer, 1779); *Utetheisa pulchella* (Linnaeus, 1758); *Utetheisa pulchelloides* Hampson, 1907; *Utetheisa (Pitasila) assamica* De Vos, 2007; *Utetheisa (Pitasila) leucospilota* (Moore, 1877); *Utetheisa (Pitasila) selecta* (Walker, 1854); *Utetheisa (Pitasila) varians* (Walker, 1854); *Utetheisa (Pitasila) variolosa* (Felder & Rogenhofer, [1869]1874).

Utetheisa pulchelloides Hampson, 1907

Utetheisa pulchelloides Hampson, 1907; *Ann. Mag. nat. Hist.,* **(7) 19**: 239.

This and the next two species are best defined on the basis of male genital attributes. In *U. pulchelloides* Hampson, male genitalia with uncus slightly bulbous before tip; tegumen short; saccus broad with concave center; juxta triangular; valvae with an elongated window on its first half, mid costal process present, the apex of dorsal edge angled, sclerotized with numerous small spines; aedeagus almost straight; vesica with two patches of spines on separate lobes.

Distribution: North India to Rajasthan, Sikkim and Assam, West Bengal, Tamil Nadu, Kerala, Orissa, Andaman & Nicobar Islands, Madhya Pradesh.

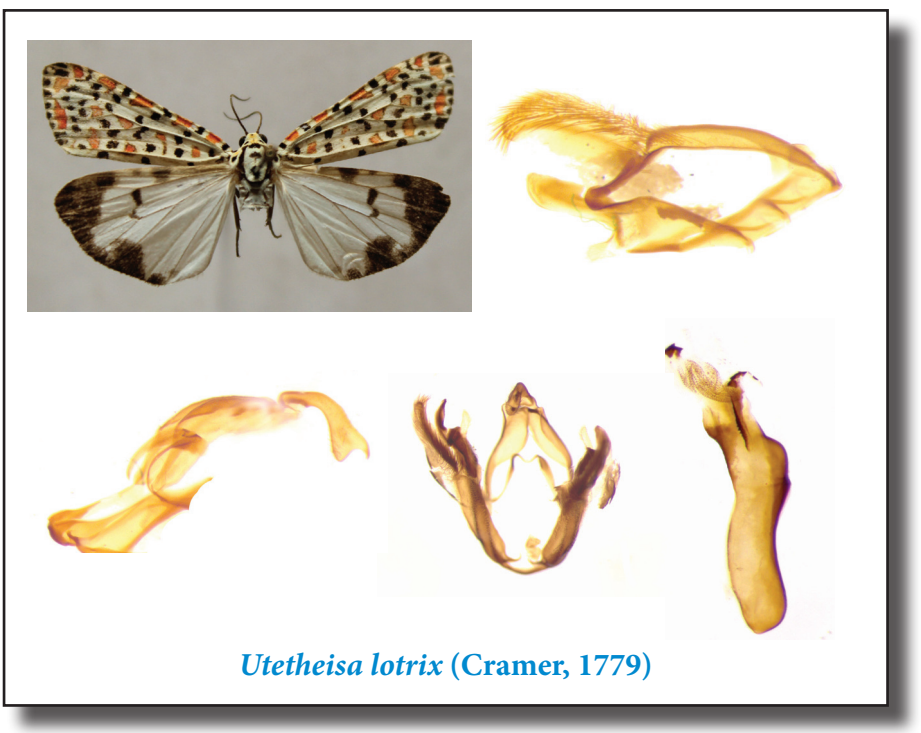
Utetheisa pulchelloides Hampson, 1907

Utetheisa lotrix (Cramer, 1779)

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

U. lotrix Cramer is distinct from *U. pulchelloides* due to following male genital attributes: the sub-apical lobe of uncus is large; valvae with mid costal process slightly elongated, the apex of dorsal edge is reduced into a digitate process, the distal saccular process with dense spines on ventral edge; aedeagus sub-apically bulbous; vesica with some short and broad spines.

Distribution: Throughout India.



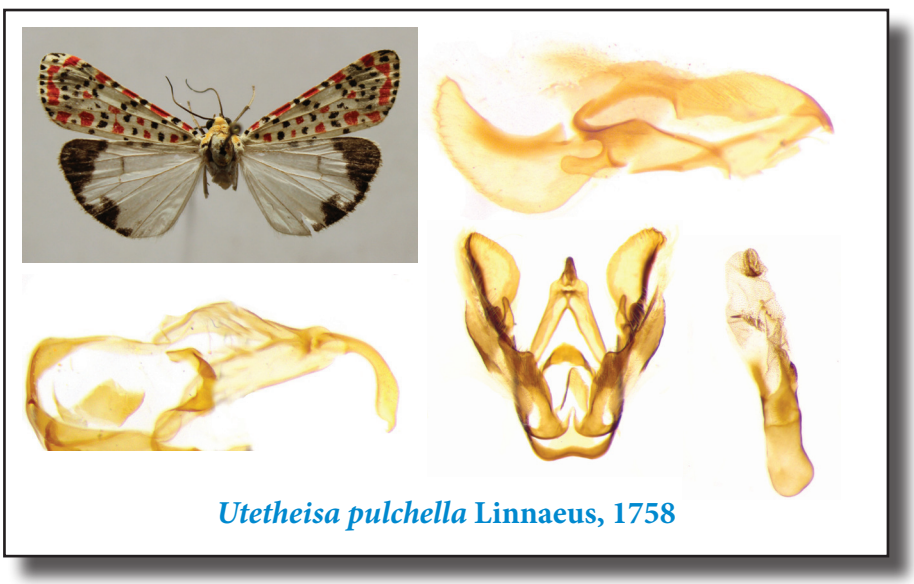
Utetheisa lotrix (Cramer, 1779)

Utetheisa pulchella Linnaeus, 1758

Utetheisa (Tinea) pulchella Linnaeus, 1758, *Syst. Nat.,* (Edn. 10)**1**: 534.

On the basis of male genitalia, *U. pulchella* Linnaeus is closely similar to *U. pulchelloides*. However, following are the distinctive characters: tegumen is comparatively narrow and long; the distal costal process of valvae rounded; aedeagus straight, with an apical spined disc; vesica scobinated with an apical and oval patch of spines, a series of spines along with some scattered spines in middle of vesica are also present.

Distribution: Throughout India.



Utetheisa pulchella Linnaeus, 1758

Genus *Nebrarctia* Watson

Watson, 1980; *The Generic Names of moths of the World*, **2**: 122.

Type species: *Arctia semiramis* Staudinger, 1891 (by monotypy).

Diagnosis: Forewing light coloured with series of large blotches; hindwing dark; male genitalia with uncus broad; valvae elongated with a central triangular protrusion.

Remarks: Genus *Nebrarctia* Watson, 1980 was established as a replacement name for *Spilarctia* Staudinger, 1891 (a junior homonym of *Spilarctia* Butler, 1875). Dubatolov (2010) included a total of eight species with distributional range of the genus from Uzbekistan,

Tadzhikistan to India (Jammu & Kashmir); Northern Pakistan, Afghanistan, Iran, Iraq and Turkey.

Known species of genus *Nebrarctia* Watson from India: *Nebrarctia wiltshirei* (de Toulgoet, 1962); *Nebrarctia transversa* (Moore, 1879).

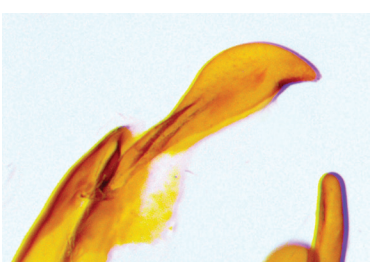
Nebrarctia transversa (Moore, 1879)

Cycnia transversa Moore, 1879; *Proc. Zool. Soc. Lond.*, 1879: 398.

Adult creamish with series of black blotches. Hindwing dark with a spot on discocellular and some more spots on margin. Male genitalia with uncus scoop shaped; tegumen long; saccus broad v shaped; valvae elongated with a central, triangular protrusion; aedeagus slightly S shaped with an apical sclerotization; vesica with field of scobination.

Distribution: Himachal Pradesh (Sarahan, Bhanjuradu, Kalpa), Uttarakhand (Mussoorie).

Remarks: The species is reported for the first time from India.



***Nebrarctia transversa* (Moore, 1879)**

Genus Euchromia Hübner

Hübner, [1819] 1816, *Verz. bekannter Schmett.*: 121.

Type species: *Sphinx sperchius* Cramer, 1777.

Diagnosis: Antennae moderately bipectinate in both sexes; wings have antemedial and postmedial blocks of pale colour, traversed by veins that are dark brown or blackish; a pale blue lunule at the end of the forewing cell between the major areas of pale colour. Abdomen ringed with blue and yellow, orange or red. Male genitalia have simple valvae; a broad, divided juxta; a short, broad uncus set on a rather shouldered tegumen; aedeagus vesica is unadorned though its membrane may be irregularly thickened on one side. Female genitalia with a massive ventral gland associated with the ovipositor lobes as well as the usual dorsal ones; segment eight is weak, narrow, with short apodemes; ductus bursae broadens out to the width of the abdomen at the ostium; corpus bursa has a distal spherical portion that is densely and darkly scobinate, and a basal tubular portion that contains three robust, spined bands of sclerotization; there is an appendix bursae just basal to these bands (Holloway, 1988).

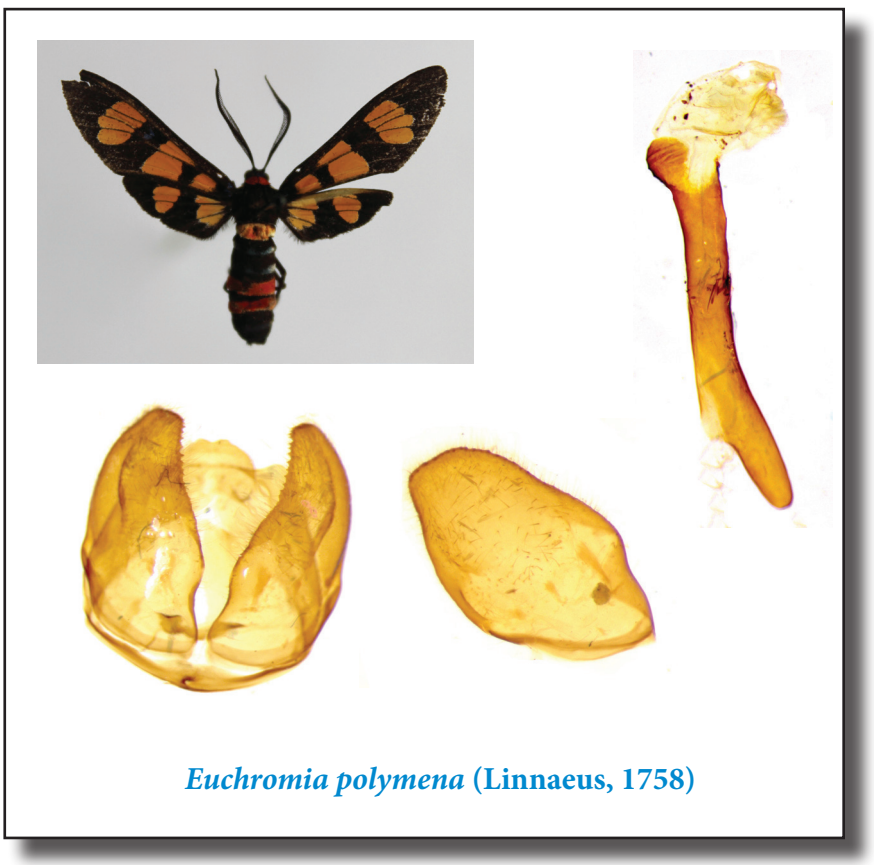
Known species of genus *Euchromia* Hübner from India: *Euchromia elegantissima* Wallengren, 1861; *Euchromia magna* (Swinhoe, 1891); *Euchromia polymena* (Linnaeus, 1858).

Euchromia polymena (Linnaeus, 1758)

Sphinx polymena Linnaeus, 1758; *Syst. Nat.*, **1**: 806.

Adult dark black. Head with blue spot, frons, shoulder and pectus white; collar crimson; first, fourth and fifth abdominal segment is crimson; second, third and sixth with metallic blue scales. Forewing with a subbasal, two medial, four postmedial orange spots. Hindwing with subbasal and postmedial orange bands crossed with veins and reaching costa and inner margin; a broad white streak along costa not reaching apex. Male genitalia with uncus short and broad, minutely notched at apex; tegumen long with broad shoulders, two small processes at both sides of uncus; saccus small, digitate; valvae simple, broad, apical half of ventral edge dentated; vesica globular with some scattered spines on it.

Distribution: Plains of India, Andaman, Nagaland.



Euchromia polymena (Linnaeus, 1758)

Subfamily LITHOSIINAE

Type genus: *Lithosia* Fabricius, 1759.

Genus *Barsine* Walker

Walker, 1854; *List Spec. Lep. Ins. Coll. Br. Mus.*, **2:** 546.

Type species: *Barsine defecta* Walker, 1854.

Diagnosis: Valvae have the distal costal and saccular processes along with a spur from the inner wall, position may vary from mid of costa to center or subapical portion of inner wall; aedeagus vesica ornamented with a field or fields of large/asymmetrical/ irregular spines.

Remarks: Genus *Barsine* Walker, 1854 was described for the inclusion of two species from Nepal: *Barsine defecta* Walker, 1854 and *Barsine effrecta* Walker, 1854. The former was subsequently designed as the type species of the genus by Kirby (1892). During 20th century genus *Barsine* Walker remained as a sunk genus of *Miltochrista* Hübner (Hampson 1894, 1900; Strand 1922; Arora and Chaudhary 1982). Holloway (2001) resurrected genus *Barsine* Walker from the synonym of the *Miltochrista* and defined its diagnostic limits.

Known species of genus *Barsine* Walker from India: *Barsine atypicobarsine* Singh, Kirti & Joshi, sp. nov.; *Barsine bombdilensis* Singh & Kirti, sp. nov.; *Barsine cacharensis* Singh, Kirti & Kaleka, sp. nov.; *Barsine cardinalis* (Hampson, 1900); *Basine cornutodefecta* Singh, Kirti & Kaleka, sp. nov.; *Barsine cruciata* (Walker, 1862); *Barsine cuneorotatus* Singh & Kirti, sp. nov.; *Barsine defecta* Walker, 1854; *Barsine delicia* Swinhoe, 1891; *Barsine dentifascia* (Hampson, 1894); *Barsine devikulensis* Singh & Kirti, sp. nov.; *Barsine euprepioides* (Walker, 1862); *Barsine exclusa* Butler, 1877; *Barsine fasciata* (Leech, 1899); *Barsine flammealis* Moore, 1878; *Barsine flavivenosa* (Moore, 1878); *Barsine fuscobarsine* Singh & Kirti, sp. nov.; *Barsine gratiosa* (Guérin-Méneville, 1843); *Barsine inflexa* Moore, 1878; *Barsine longstriga* (Fang, 1991); *Barsine mactans* Butler, 1877; *Barsine mesortha* (Hampson, 1897); *Barsine multistriata* (Hampson, 1894); *Barsine nainitalensis* Singh, Kirti & Kaleka; *Barsine nubifascia* (Walker, 1864); *Barsine orientalis bigamica* Černý, 2009; *Barsine pluma* Černý, 2009; *Barsine pretiosa* Moore, 1879; *Barsine pseudoorientalis* Singh & Kirti, sp. nov.; *Barsine punicea* Moore, 1878; *Barsine roseata* (Walker, 1864); *Barsine rufumdefecta* Singh & Kirti, sp. nov.; *Barsine thomasi* Kaleka, 2003; *Barsine valvalis* Kaleka, 2003; *Barsine yuennanensis* Daniel, 1952.

Barsine defecta Walker, 1854

Barsine defecta Walker, 1854; *List Spec. Lep. Ins. Coll. Br. Mus.*, **2:** 546.

Adult yellowish. Forewing with long streaks of crimson in interspaces; a basal black spot; antemedial spotted line highly excurved in cell to meet slightly oblique medial line; postmedial line excurved beyond cell followed by fuscous lines between the series of crimson streaks. Male genitalia with uncus long and curved with spined tip; valvae with no sub-apical process of costa, saccular process long and curved, valvula broadly bifurcated; vesica with three prominent patches of spines.

Distribution: Indian Himalayas.

Remarks: *Barsine defecta* belongs to a group of species with yellow or pinkish yellow ground colour, forewing having red/orange streaks, fascinated with thin grey lines. Grey striae may occur beyond postmedial line.

***Barsine defecta* Walker, 1854**

Barsine pretiosa Moore, 1879

Barsine pretiosa Moore, 1879; *Proc. Zool. Soc. Lond.,* **1879**: 394.

Barsine pretiosa Moore is very similar to *B.defecta* but can be distinguished from the latter due to slightly redder colour. In male genitalia, the ventral arm of valvula is longer.

Distribution: North East India.

Barsine pretiosa Moore, 1879

Barsine cornutodefecta Singh, Kirti & Kaleka, sp. nov.

Diagnosis: Morphologically, the new species is closely similar to *B. defecta*. However, this species is distinct due to presence of a small subapical costal spur of valvae and vesica with two prominent patches of spines; the 3rd patch is represented by few (3-4) spines. Whereas, in *B. defecta*, the subapical costal spine of valvae is absent and vesica bears three prominent fields of spines.

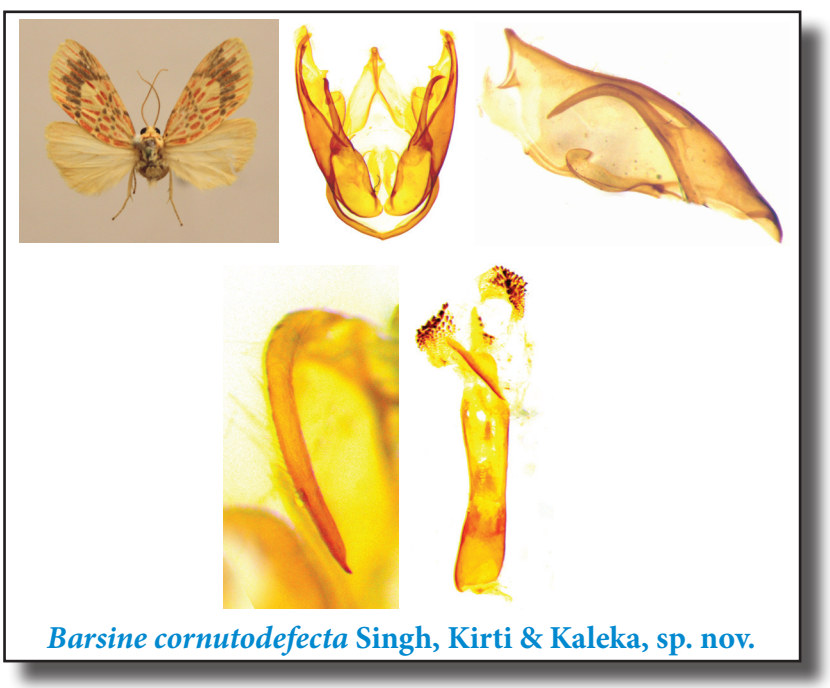
Wing Span: Males, 34 mm.

Material examined

Holotype: Assam, Jatinga, 28.ix.1994- male (Coll. Dr Amritpal Singh Kaleka).

Paratype: Assam, Jatinga, 28.ix.1994-1 male.

Etymology: Species is named due to lesser number (in comparison to *B. defecta*) of spined patches in vesica.



***Barsine cornutodefecta* Singh, Kirti & Kaleka, sp. nov.**

Barsine cacharensis Singh, Kirti & Kaleka, sp. nov.

Description: Adult orange yellow. Forewing with interspaces filled with elongated crimson spots, the spots of inner area are broader; antemedial fuscous band not reaching inner margin, outwardly angled in cell; medial band very faint; postmedial band excurved beyond cell and give rise to fuscous streaks which are longer towards costa. Hindwing with slight suffusion of crimson. Male genitalia with valvae bilaterally asymmetrical, right valvae with prominent sub-apical costal spine, valvula strongly bifurcated and left valvae with valvula short, not bifurcated; vesica with three fields of spines.

Wing Span: Males, 34 mm.

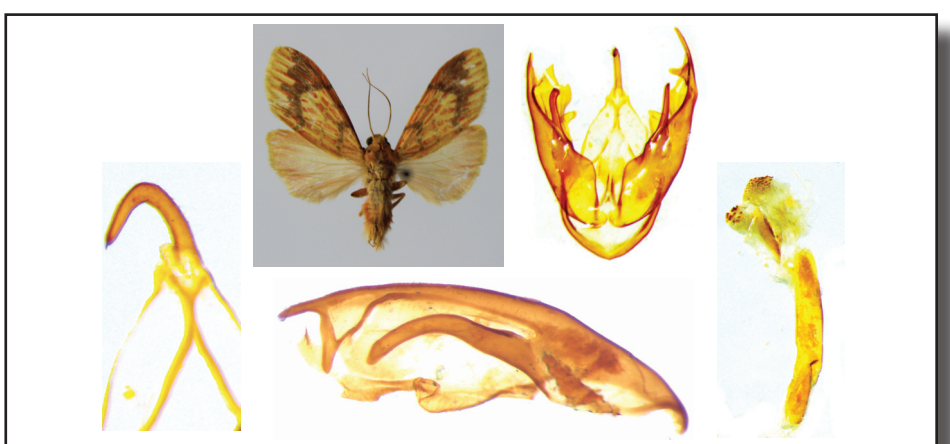
Material examined

Holotype: Assam, Cachar hills, Jatinga, 26.ix.1994 - male (Coll. Amritpal Singh Kaleka).

Paratypes: Assam, Cachar hills, Jatinga, 26.ix.1994 - 2 males.

Remarks: Morphologically, *B. cacharensis* sp. nov. belongs to the *defecta* complex of genus *Barsine* Walker. However, the species is diagnosed due to the following attributes: antemedial and postmedial bands are continuous whereas, in other species these bands/lines are made up of conjoint spots; medial band is very faint. In male genitalia, valvae are bilaterally asymmetrical, the valvula of left valvae is not bifurcated whereas, it is almost bifurcated in all the other *defecta* group of species.

Etymology: The name of the species pertains to its type locality.



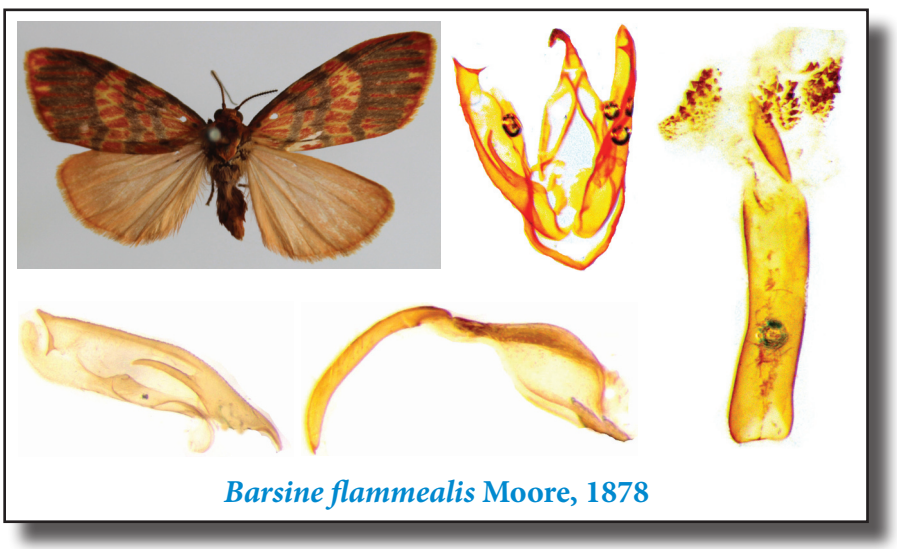
***Barsine cacharensis* Singh, Kirti & Kaleka, sp. nov.**

Barsine flammealis Moore, 1878

Barsine flammealis Moore, 1878; *Proc. Zool. Soc. Lond.,* **1878**: 28.

This is another species of *defecta* group. In *B. flammealis*, yellow colour of forewing is almost replaced with crimson and grey markings. In male genitalia, the saccular process is visibly short; vesica with most of the spines are triangular and comparatively less in number than the vesica of *B. defecta* and *B. pretiosa*.

Distribution: Sikkim, Himachal Pradesh (Dharamsala).



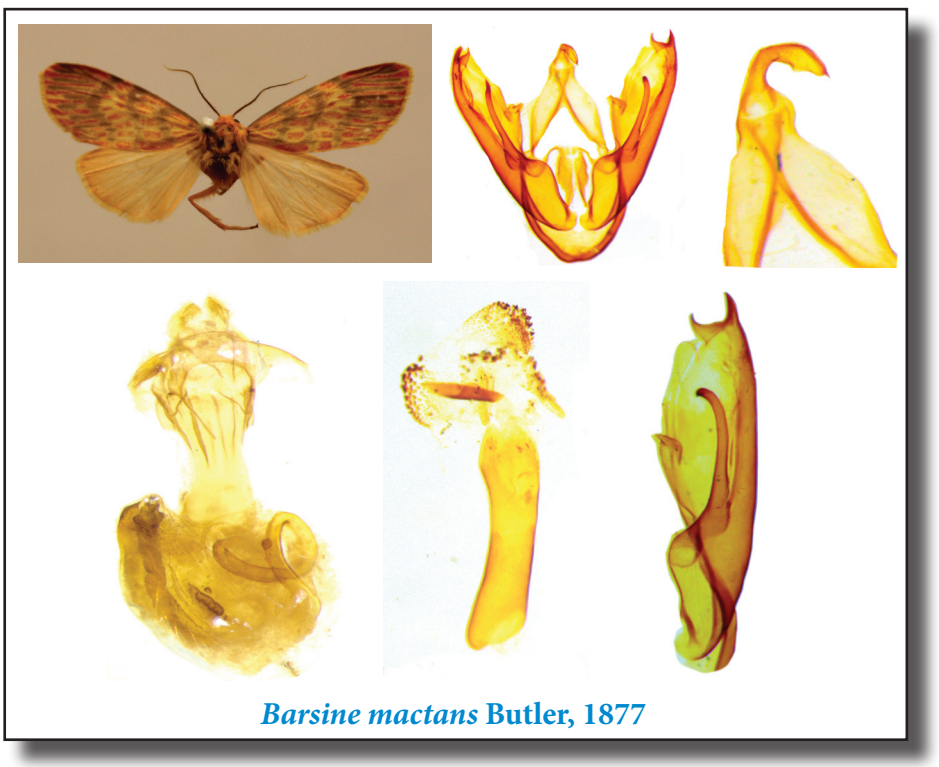
***Barsine flammealis* Moore, 1878**

Barsine mactans Butler, 1877

Barsine mactans Butler, 1877; *Trans. Ent. Soc. Lond.,* **1877**: 340.

Barsine mactans Butler is comparatively smaller and duller than *B. flammealis*. In male genitalia, valvae with the apex of costal edge reduced, saccular process prominent; vesica with two lateral patches of spines are comparatively large, the medial patch is with few spines. Female genitalia with ductus bursae slightly indented; corpus bursae pear shape, two elongated signa present.

Distribution: Sikkim, West Bengal (Darjeeeling).



Barsine mactans Butler, 1877

Barsine rufumdefecta Singh & Kirti, sp. nov.

Diagnosis: Morphologically, the species is similar to the other species of *Barsine defecta* group. However it is comparatively redder, looking more similar to the *B. flammealis* but the markings are very clear. The new species is mainly diagnosed from its male genital attributes: central costal process of valvae is spine like, valvula much shorter than cucullus and not bifurcated, saccular process almost straight and ending to a prominent spine; vesica with three patches of triangular spines, each patch with less number of spines whereas, in other species of *B. defecta* group, the central costal process of valvae is slightly cylindrical, valvula bifurcated, saccular process strongly curved beyond middle; vesica patches with more spines. Female genitalia with ductus bursae slightly broad and flat, corpus bursae decorated with dense spines.

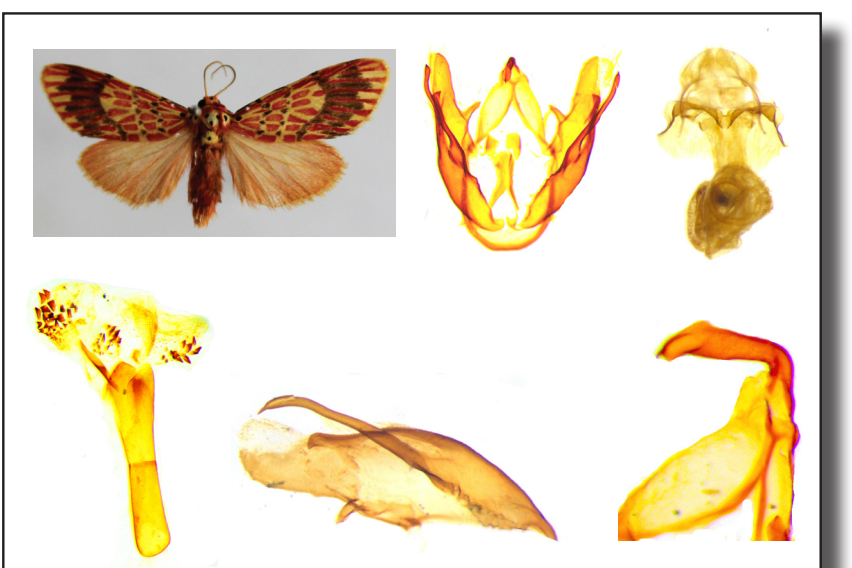
Wing Span: Males, 32 mm.

Material examined

Holotype: Kerala, Devikulam, 13.ix.2004 - male.

Paratypes: Kerala, Devikulam, 13.ix.2004, 2 males; Tamil Nadu, Kotagiri, 22.xi.2005, 2 males; Maharashtra, Mahabalehwar, 9.x.2005, 1 male, 1 female.

Etymology: The name of the species refers to its comparatively redder colour.



Barsine rufumdefecta Singh & Kirti, sp. nov.

Barsine devikulensis Singh & Kirti, sp. nov.

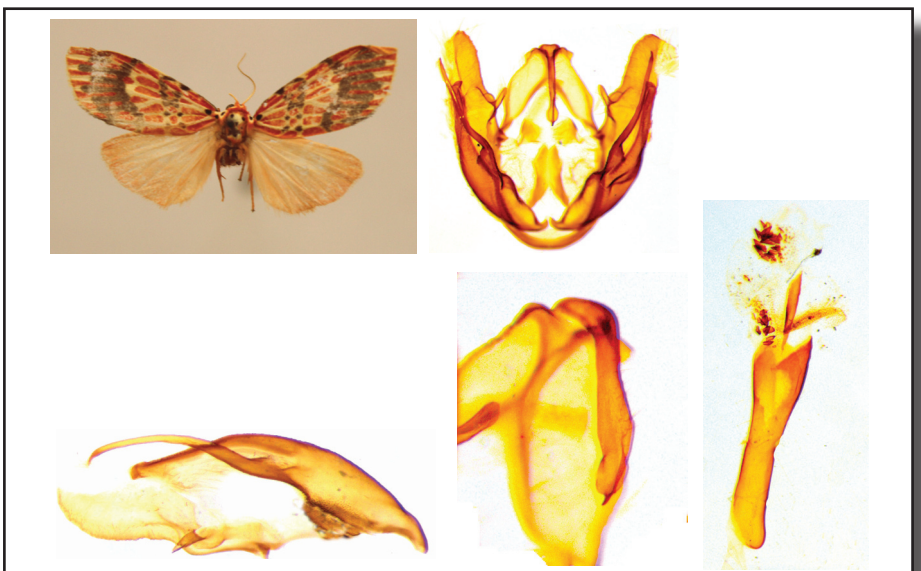
Diagnosis: Morphologically, *B. devikulensis* sp. nov. is closely similar to *Barsine rufumdefecta* Singh & Kirti, sp. nov. However is distinguished by the following attributes: forewing with antemedial and medial spotted lines conjoint at a point on median nervure whereas, the same lines are well separated in *Barsine rufumdefecta*. In male genitalia the shapes of juxta and transtilla are distinct; vesica with two patches of spines (three patches in *Barsine rufumdefecta*).

Wing Span: Males, 32 mm.

Material examined

Holotype: Kerala, Devikulam, 14.ix.2004 - 1 male.

Etymology: The name of the species pertains to its type locality.



Barsine devikulensis Singh & Kirti, sp. nov.

Barsine orientalis bigamica Černý, 2009

Barsine orientalis bigamica Černý, 2009; *Moths of Thailand, Arctiidae*, **6**: 64.

B.orientalis bigamica Černý is comparatively smaller than *B. defecta* Walker. Forewing with crimson and grey markings more clear and fine; antemedial and medial lines well separated. In male genitalia, saccular process with a small subapical spine; vesica with three patches of spines, one is rounded, 2nd patch is elongated and 3rd patch is very small. Female genitalia with ductus bursae broad, indented at middle; corpus bursae with elongated series of spines at one half, one large and one small signa present.

Distribution: Sikkim, Assam, West Bengal (Darjeeling).

Barsine orientalis bigamica Černý, 2009

Barsine pseudoorientalis Singh & Kirti, sp. nov.

Diagnosis: The species is closely similar to *B.orientalis* Daniel but the submarginal grey streaks are very reduced. Furthermore, the species is distinct due to valvae with spine like central coastal process; vesica with two spined fields, one at extreme left and another at center, along with a patch of scobination at extreme right.

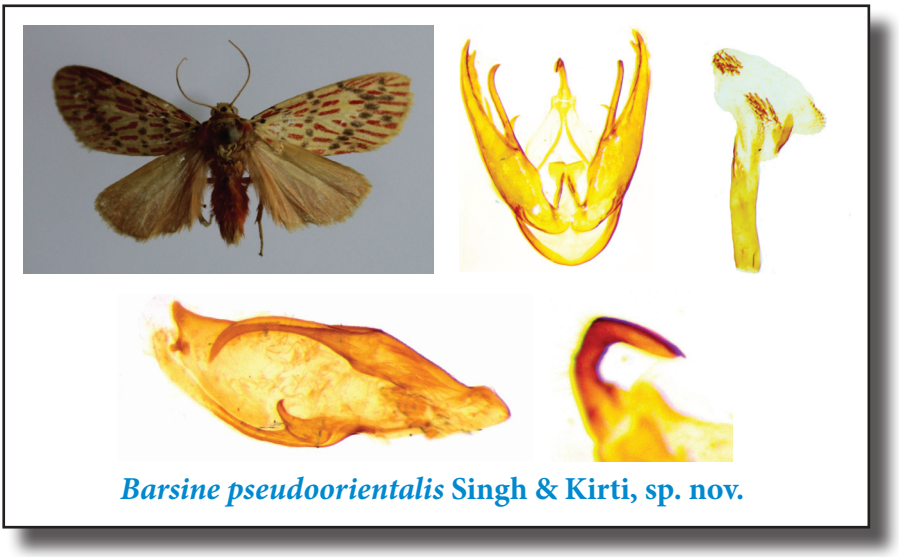
Wing Span: Males, 30 mm.

Material examined

Holotype: Arunachal Pradesh, Deomali, 6.ix.2005 - male.

Paratype: Arunachal Pradesh, Khonsa 3.ix.2005 - 01 male.

Etymology: The name of species is due to its close similarity with *B.orientalis* Daniel.



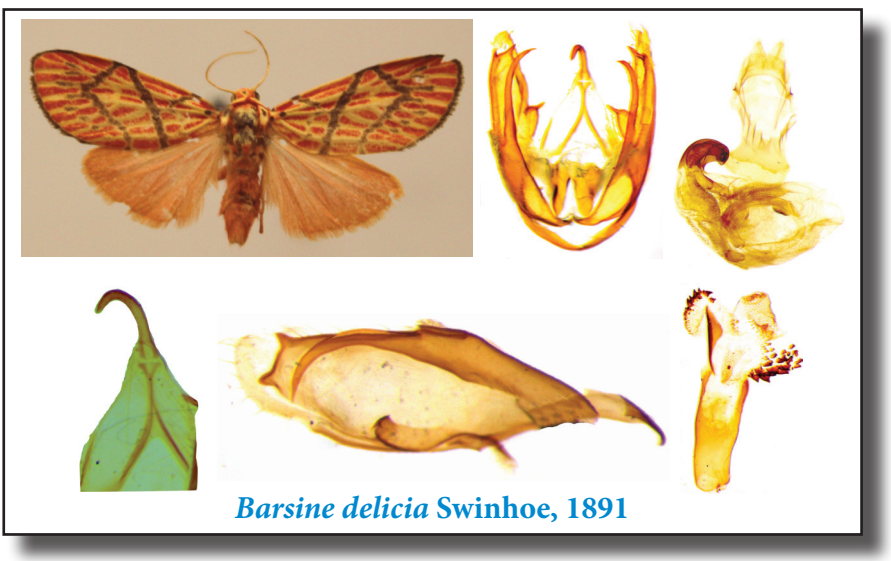
***Barsine pseudoorientalis* Singh & Kirti, sp. nov.**

Barsine delicia Swinhoe, 1891

Barsine delicia Swinhoe, 1891; *Trans. Ent. Soc. Lond.,* **1891** (4): 477.

Barsine delicia Swinhoe is easily distinguishable from its other congeners. Forewing with spots of medial and postmedial lines are conjoint to form continuous lines, postmedial line outwardly angled rather than curved; submarginal fuscous streaks weakly developed. Male genitalia typical of genus *Barsine*: valvae with central costal spine, bifurcated valvula and a prominent saccular process; vesica with two prominent patches of robust and triangular spines along with fields of small spines and scobination, spines of both the patches are robust than any of its sister species. Female genitalia with ductus bursae broad; corpus bursae densely scobinated, two signa present.

Distribution: Meghalaya (Khasi Hills), Sikkim, Arunachal Pradesh.



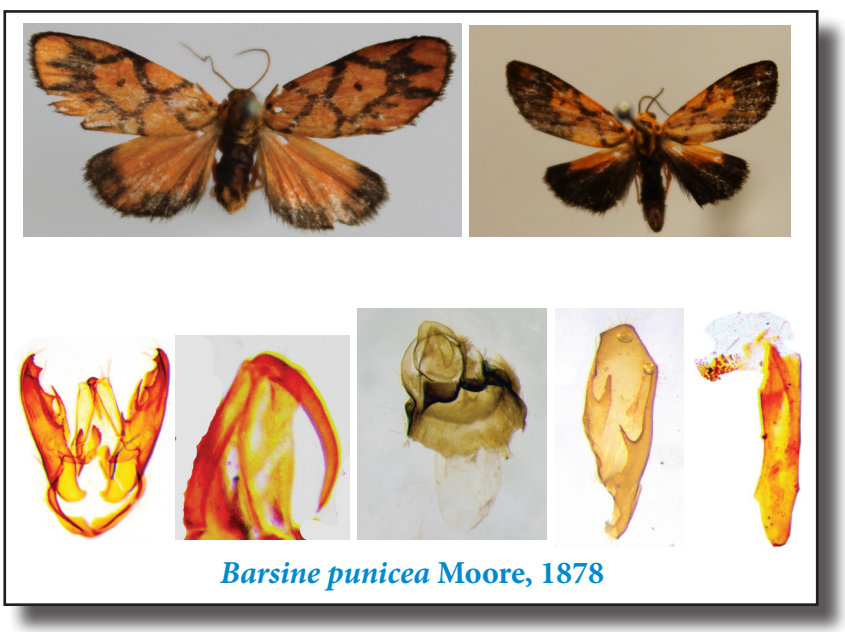
***Barsine delicia* Swinhoe, 1891**

Barsine punicea Moore, 1878

Barsine punicea Moore, 1878; *Proc. Zool. Soc. Lond.*, **1878**: 29.

Adult orange red. Head, collar, tegula spotted with black; thorax with a medial black line. Forewing with costa and inner margin black up to antemedial band; a subbasal black spot; a black striae below cell; antemedial band outwardly angled; postmedial band excurved beyond discal spot, in some specimens the area beyond postmedial is black leaving some crimson scales below apex and above anal angle. Hindwing black, with a costal orange band up to 2/3rd of costa. In male genitalia valvae with central costal spur prominent, apex edged; saccular process small spine like; vesica with a field of small spines. Female genitalia with ductus bursae very short; corpus bursae membranous, with fine scobination.

Distribution: Assam, Sikkim, Arunachal Pradesh, Mizoram (Thingsul).



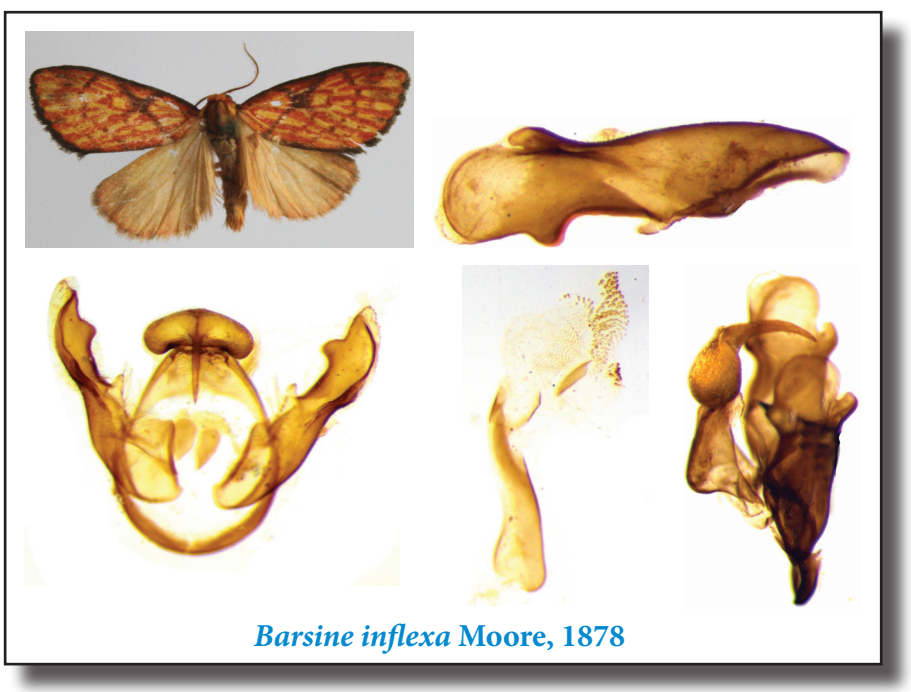
Barsine punicea Moore, 1878

Barsine inflexa Moore, 1878

Barsine inflexa Moore, 1878; *Proc. Zool. Soc.,* **1878**: 29.

Head and thorax yellow, latter with a central black streak from collar to abdomen surrounded by some orange scales. Forewing yellow, densely streaked with orange; costa, termen, and inner margin black; an antemedial black line highly excurved to meet a rectangular black spot in cell, the outer-upper edge of this spot give rise to a black line up to costa; postmedial series of almost conjoint black spots, excurved beyond cell; traces of submarginal black streaks, prominent towards apex. Male genitalia with uncus having a broad rectangular base (an unusual character in genus *Barsine*); tegumen broad; vinculum forming a broad u shape saccus; valvae elongated with a small central costal spur, a subapical costal protrusion, a small saccular process reaching beyond middle of ventral edge, apex of valvae rounded with a small extra flap on its outer wall; aedeagus minutely S shaped; vesica with a large apical field of spines.

Distribution: North East Himalayas.



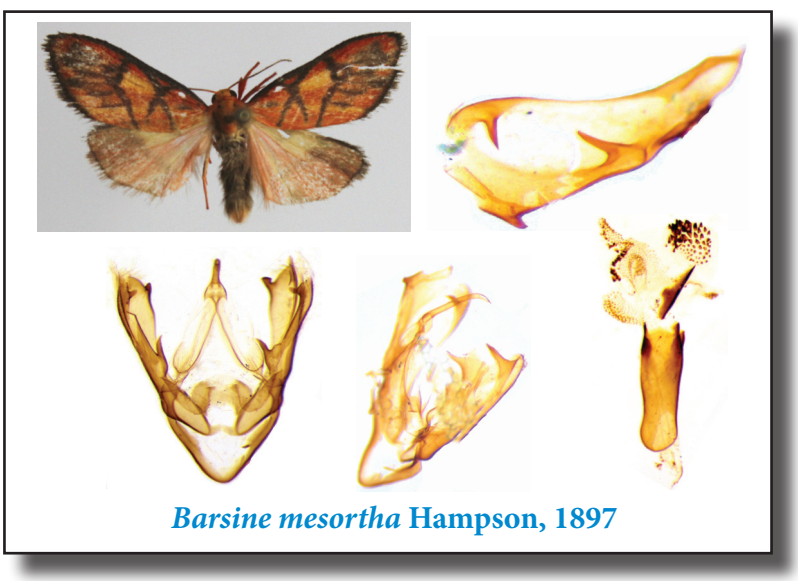
***Barsine inflexa* Moore, 1878**

Barsine mesortha (Hampson, 1897)

Miltochrista mesortha Hampson, 1897; *J. Bombay nat. Hist. Soc.,* **11**: 440.

Head and thorax yellow, suffused with orange; a black spot between bases of antennae; two black spots on mesothorax. Forewing yellowish, densely irrorated with orange scales, leaving outer area of cell and interno-median interspace yellow; costa, outer margin and cilia black; antemedial black line slightly excurved in cell to meet a strongly incurved medial black line; postmedial black line excurved beyond cell giving rise to black streaks between radial and cubital veins, streaks almost conjoint to form a large black patch leaving costal and inner area. Hindwing reddish, costal area and cell yellowish; outer area irrorated with fuscous scales, the irroration is more prominent toward costa; cilia of apical area black. Male genitalia with uncus long, curved; tegumen long; valvae elongated with a prominent mid costal spur, subapical costal spine prominent, apex of valvae slightly bulbous; valvula prominent spine like; vesica four lobed with fields of large and small spines.

Distribution: Meghalaya (Khasi Hills), Sikkim.



***Barsine mesortha* Hampson, 1897**

Barsine cuneorotatus Singh & Kirti, sp. nov.

Description: Head, collar, tegula orange, spotted with fuscous grey. Forewing crimson with streaks and bands fuscous grey, inner area paler; two basal streaks; one subbasal spot in the cell; an orange yellow patch beyond cell spot; a subbasal irregular band from an elongated costal spot; antemedial band excurved in cell; medial band doubly curved, meeting antemedial band in cell; postmedial band highly excurved, bordering outer edge of orange yellow patch and giving rise to elongated streaks; cilia fuscous grey. Hindwing paler. Male genitalia with uncus curved, ending to a sharp spine; valvae with a central costal process, subapical costal process spine like, valvula with tip acute; aedeagus with a patch of scobination at apex; vesica with a patch of small spines along with fields of scobination.

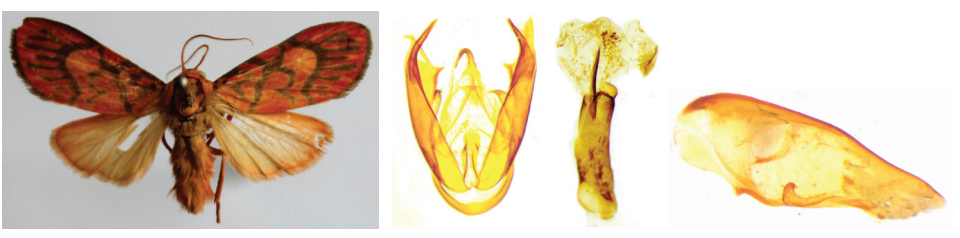
Wing Span: Males, 22 mm.

Material examined

Holotype: Assam, Jatinga, 14.ix.2005 - male.

Remarks: *Barsine cuneorotatus* Singh & Kirti sp. nov. belongs to *B.cuneonotata* group of species. Morphologically, the species is closely similar to *B. cuneonotata* Walker and *B. roseorotatus* Butler, and is better defined on the basis of male genital attributes. The new species is distinct from *B. cuneonotata* due to the presence of single patch of spines in vesica (in *B. cuneonotata*, vesica has two patches of spines along with 1-4 large, triangular cornuti). Furthermore, presence of a prominent patch of scobination on apex of aedeagus distinguishes *B. cuneorotatus* from *B. roseorotatus*.

Etymology: The name of the species is derived from names of *B. cuneonotata* and *B. roseorotatus*.



Barsine cuneorotatus Singh & Kirti, sp. nov.

Barsine atypicobarsine Singh, Kirti & Joshi, sp.nov.

Description: Adult yellow. Head, collar, tegula and thorax spotted with black. Forewing veins streaked with black, interrupted at middle from costa to lower angle of cell. Hindwing black, costa with a yellow band up to middle. Male genitalia with uncus long, narrow; tegumen long; vinculum forming a broad u-shape saccus; valvae with central costal process prominent, a subapical process on costa, saccular process curved, valvula having two thumb like process; vesica with three fields of prominent spines along with fine scobination.

Wing Span: Males, 30 mm.

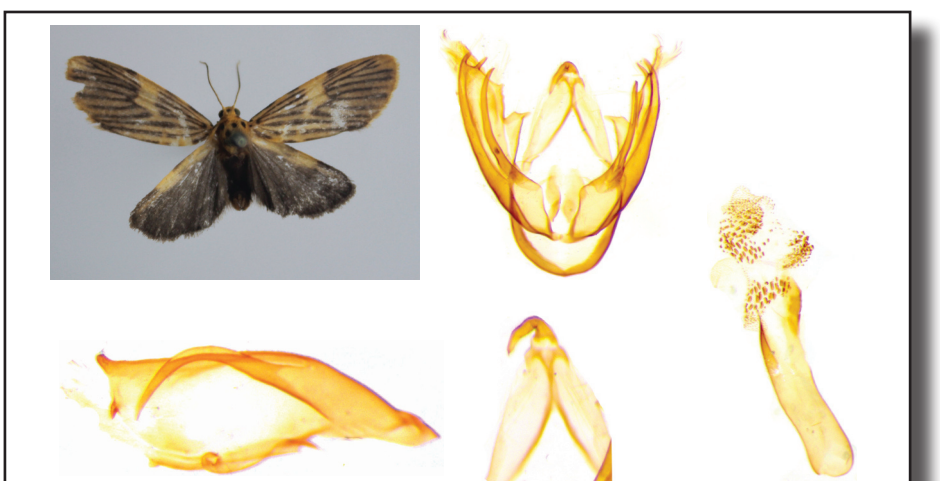
Material Examined

Holotype: Arunachal Pradesh, Dirang, 2.v.2013 - male (Coll. Rahul Joshi).

Paratype: Arunachal Pradesh, Dirang, 2.v.2013 - 1 male (Coll. Rahul Joshi).

Remarks: Morphologically, the species is atypical of genus *Barsine* but the male genitalia follow the diagnostic line of genus *Barsine*.

Etymology: Name of the species is due to its atypical maculation.



Barsine atypicobarsine Singh, Kirti & Joshi, sp.nov.

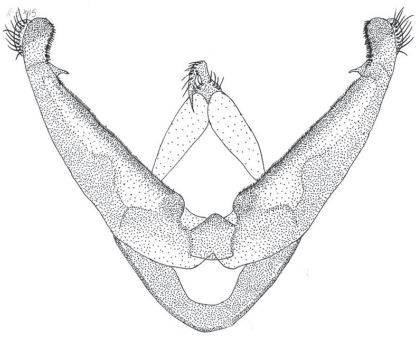
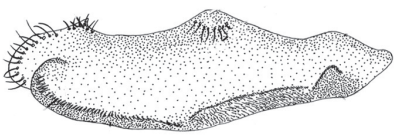
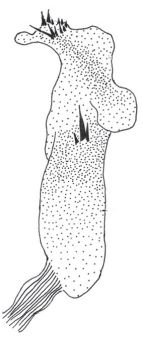
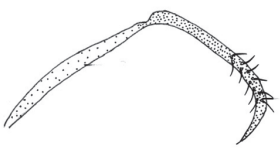
Barsine longstriga (Fang, 1991)

Miltochrista longstriga Fang, 1991; *Sinozoologia,* **8 (5):** 385, 390, 396.

Head with frons and vertex orange. Forewing with ground colour orange; a black streak from sub-basal and below cell to mid of termen, broadest at middle and narrow at both ends; few black streaks from postmedial to margin. Hindwing fuscous. Abdomen fuscous. Male genitalia with uncus long, curved at apical half, tip spine like; saccus broad v-shaped; valvae with costal process setosed, subapical spine on costa; aedeagus straight, with a broad apical process; vesica bag-like, with two fields of cornuti.

Distribution: Manipur (Ukhrul).

Remarks: The distributional record of the species are Manipur (Ukhrul) (new record from India); China: Shaanxi, Hubei, Hunan, Yunnan (Fang, 2000), Guangdong (Kishida, 2011).

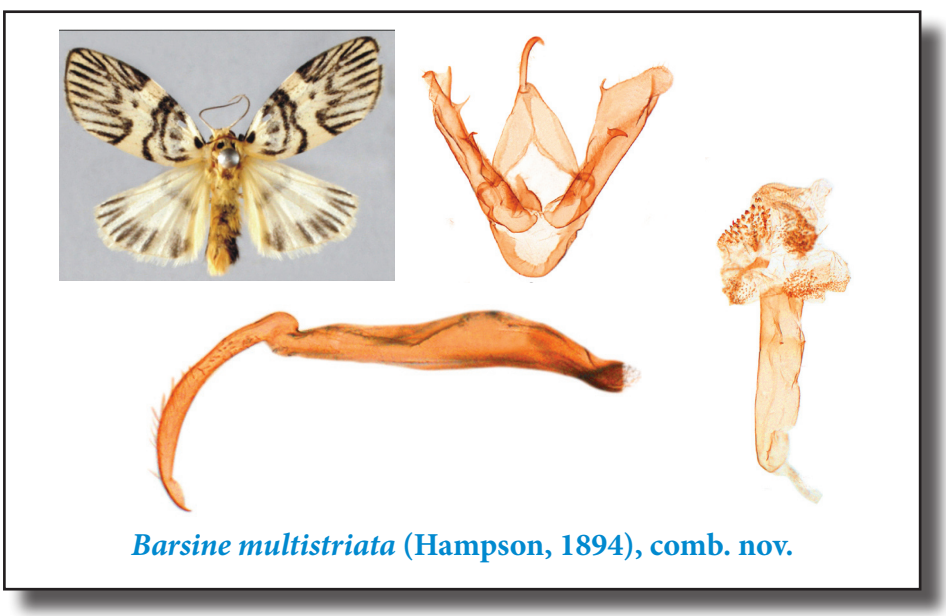
Barsine longstriga (Fang, 1991)

Barsine multistriata (Hampson, 1894), comb. nov.

Miltochrista multistriata Hampson, 1894; *Fauna Br. Ind. Moths,* **2**: 109.

Forewing yellowish white; basal half of costal edge black; a subbasal black spot; an antemedial series of three black spots with an inwardly curved line beyond them, not reaching inner margin, and followed by a sinuous medial line; a black discoidal spot; a postmedial dentate line emitting long teeth on veins R_5 and Cu_1, incurved below costa and above inner margin; the veins of terminal area streaked with black, terminal black line. Hindwing with obscure medial line; veins of terminal area streaked with black and with some diffused black between them. Male genitalia with costal margin of valvae excurved dorsally beyond middle with a short upwardly directed weakly sclerotized spine, valvula with apex acute; aedeagus long; vesica membranous, large, irregular, with multiple zones of minute and small cornuti.

Distribution: Arunachal Pradesh, Nagaland, Meghalaya.



***Barsine multistriata* (Hampson, 1894), comb. nov.**

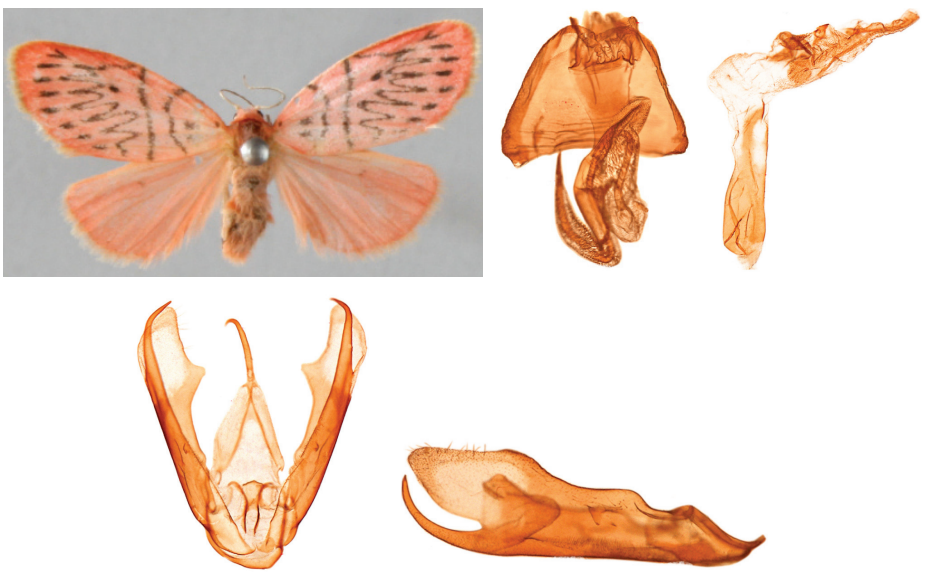
Barsine dentifascia (Hampson, 1894), comb. nov.

Miltochrista dentifascia Hampson, 1894; *Fauna Br. Ind. Moths*, **2**: 108.

Forewing with black point at base, three subbasal black spots below the cell; costal edge black to antemedial line, which is obtusely angled below costa and not reaching inner margin; a nearly straight medial line; a short oblique streak on discocellular; postmedial line arising from the same point on costa as the medial line, strongly bent outwards below costa, then oblique and highly and irregularly dentated to vein 1A; an obliquely curved subterminal series of black spots. Hindwing paler, a black crenulate spot in cell. Male genitalia with uncus long; valvae divided apically; vesica long, membranous, elongate, with multiple zones of small spinules. Female genitalia with corpus bursae short, membranous, fine scobination and extensive fields of long spines present; signum present; ductus bursae short.

Distribution: Meghalaya (Khasi hills), Arunachal Pradesh (Hunli).

Remarks: Vesica of *B. dentifascia* is without any spine or patch of spines (a typical character of *Miltochrista* Hübner, *Barsine* Walker, *Lyclene* Moore and their allied genera) but the valvae bears central costal spine.



Barsine dentifascia (Hampson, 1894), comb. nov.

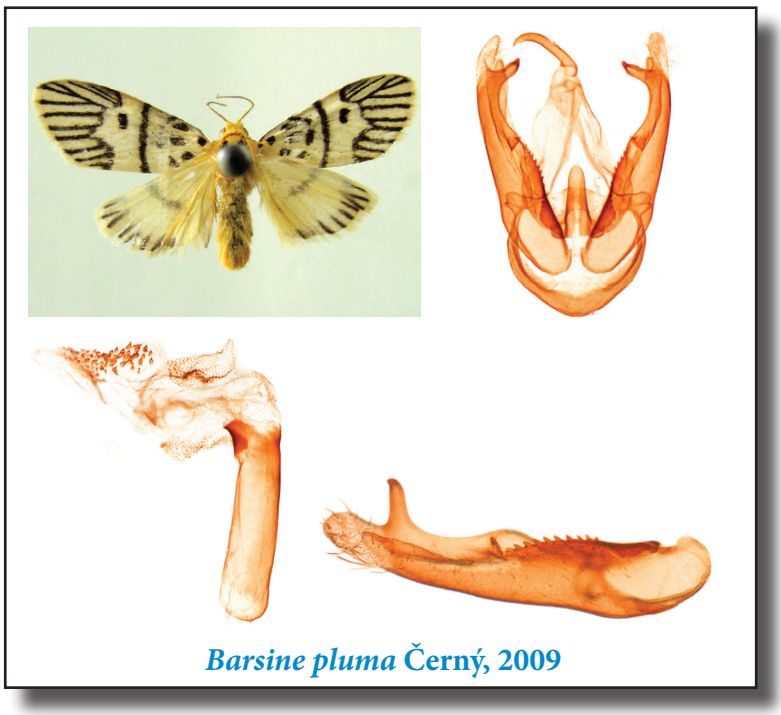
Barsine pluma Černý, 2009

Barsine pluma Černý, 2009; *Moths of Thailand*, **6**: 73.

Forewing pale yellow with costal edge black up to antemedial line; basal spot present; three antemedial spots followed by a curved antemedial line of three spots; a medial line, bent inwards near inner margin; a prominent discoidal spot; veins of terminal area streaked with black, their bases expanding and almost forming a line, angled at vein M_3 and M_1; streaks on vein R_3, R_4, R_5 forked. Hindwing pale yellow with black streaks on terminal area. Male genitalia with uncus long, valvae with a sub-apical, dorsal process; ventral edge spined at basal half, valvula blunt; aedeagus with a small sclerotization at apex; vesica with an apical field of small to medium sized spines, other fields of scobination present.

Distribution: Mizoram (Lengpui, Thingsul).

Remarks: In holotype median line is made up of three spots. However, in Indian specimens it is continuous but genitalia of both the population is same. *Barsine pluma* Černý is reported for the first time from India.



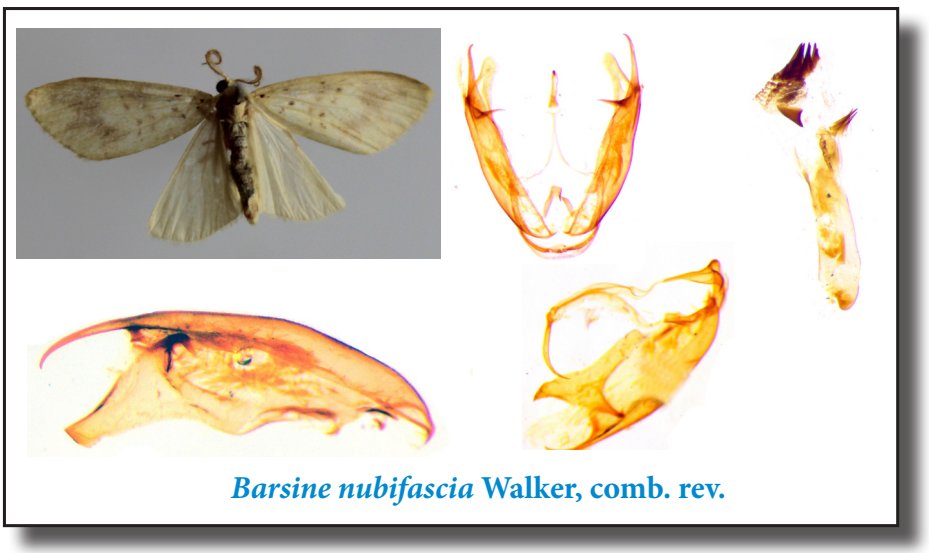
Barsine pluma Černý, 2009

Barsine nubifascia Walker, comb. rev.

Barsine nubifascia Walker, 1864, *List Het. Br. Mus.,* **31**: 251.

Adult pale yellow. Forewing with a subbasal black spot; traces of antemedial, medial and postmedial series of spots; a diffused band of fuscous scales beyond the postmedial series of spots. Hindwing paler. Male genitalia with uncus long and narrow, sharply pointed at apex; tegumen short; saccus broad, u shaped; valvae with a large spine like process from the subapical area of inner wall, cucullus ending to a broad apex, valvula spine like, a membranous flap between valvula and cucullus; vesica with a large patch of triangular spines along with another small patch, a dentated plate and a field of small triangular spines opposite to large spines.

Distribution: North West Himalayas, Sikkim.



***Barsine nubifascia* Walker, comb. rev.**

Barsine fuscobarsine Singh & Kirti, sp. nov.

Description: Adult pale reddish. Forewing with antemedial and medial diffused bands, meeting each other in cell; two diffused spots on each angle of cell; postmedial diffused band, excurved beyond cell; some spots beyond it. Hindwing black. Male genitalia with uncus slightly curved at centre, ending to a fine spine; tegumen short and broad; saccus u shaped; valvae apically divided into upwardly bent cucullus, valvula almost straight, a central process near ventral edge of valvae; aedeagus with a small dentated plate at apex; vesica with a field of small triangular spines. In female, forewing markings are duller. Female genitalia with ductus bursae short; corpus bursae necked, pot like, neck decorated with densely placed multi-radiated spines; single signum is present.

Wing span: Males, 24 mm; Females, 26 mm.

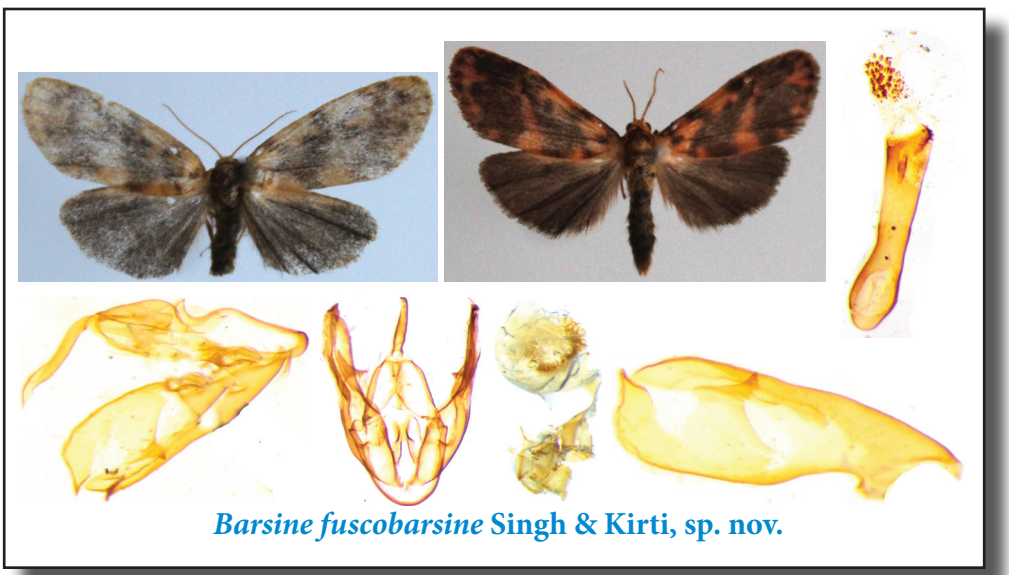
Material Examined

Holotype: Kerala, Muccali, 20.ix.2004 - male.

Paratype: Tamil Nadu, Gudalur, 15.xi.2005 - 1 female.

Remarks: The maculation of wings is diagnostic for the species.

Etymology: Name of the species pertains to fuscous colour of hindwing.



Barsine fuscobarsine Singh & Kirti, sp. nov.

Genus *Pseudobarsine* Singh & Kirti, gen. nov.

Type species: *Pseudobarsine bombdilensis* Singh & Kirti, sp. nov.

Diagnosis: Male genitalia with valvae having costal apex flap like; central costal process absent; saccular process small, robust, upwardly bent hook like; valvula not bifurcated, long, ending to a small spine; vesica with fields of small spines.

Remarks: The new genus belongs to *Asura/Miltochrista* group of species. In new genus, vesica follow the characterization of genus *Barsine however*, valvae is diagnostic.

Known species of genus *Pseudobarsine* Singh & Kirti, gen. nov. from India: *Pseudobarsine bombdilensis* Singh & Kirti, sp. nov.; *Pseudobarsine nainitalensis* Singh & Kirti, sp. nov.

Pseudobarsine bombdilensis Singh & Kirti, sp. nov.

Description: Adult yellowish. Mesothorax and tegula with black spots. Forewing with costa black towards base; subbasal area with few spots or blotches; antemedial and medial lines crenulated; discocellular with a black spot; postmedial line strongly dentated, excurved beyond cell; a subbasal series of black spots, excurved beyond cell; marginal series of black spots. Hindwing paler. Male genitalia with uncus needle like; tegumen long and narrow; saccus u shaped; valvae with a central ridge on inner wall, a small protrusion on middle of costa; cucullus oblong, sacculus slightly folded with fringe on inner edge, saccular process robust hook like and covered with densely arranged small setae, valvula ending to a small spine; aedeagus with an apical patch of minute spines; vesica with two fields of unequal spines.

Wing span: Males, 28 mm.

Material Examined

Holotype: Arunachal Pradesh, Bombdila, 22.viii.2005 - male.

Paratype: Arunachal Pradesh, Bombdila, 22.viii.2005 - 1 male.

Remarks: In *Barsine bombdilensis* sp. nov. the central costal process is shifted to centre of ventral margin; vesica is like typical *Barsine*.

Etymology: Name of the species pertains to its type locality.

***Barsine bombdilensis* Singh & Kirti, sp. nov.**

Pseudobarsine nainitalensis Singh, Kirti & Kaleka, sp. nov.

Diagnosis: Morphologically, the species is very similar to *Barsine bombdilensis* Singh & Kirti, sp. nov. The differences are: comparatively yellowish; forewing with antemedial series of streaks more distinct; antemedial and medial crenulated lines meet in cell. In male genitalia the vesica spines are visibly/very small.

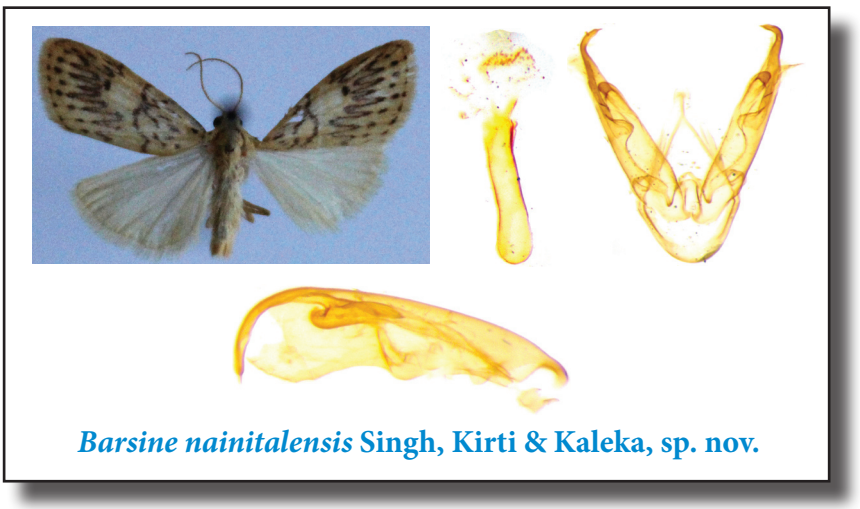
Wing span: Males, 22 mm.

Material Examined

Holotype: Uttarakhand, Nainital, 30.vi.1994 - male.

Paratype: Uttarakhand, Nainital, 30.vi.1994 - 1 male.

Etymology: Name of the species pertains to its type locality.



***Barsine nainitalensis* Singh, Kirti & Kaleka, sp. nov.**

Genus *Miltochrista* Hübner

Hübner, [1819]; *Verz. bekannter Schmett.* **1819**: 166

Synonym rev.: *Lyclene* Moore, 1859; *Cat. Lep. Ins. Mus. Nat. hist.* **2**: 300

Type species: *Noctua rubicunda* [Denis and Schiffermüller, 1775] (Junior subjective synonym of *Phalaena miniata Forster*, 1777).

Diagnosis: The genus is mainly diagnosed by its male genitalia where the valvae is divided into distal costal and saccular process; lacks the central costal process which is present in genus *Barsine* Walker; vesica has large, well separated cornuti, number may

vary from single cornutus to many prominent, well formed, long spines. Female genitalia with extensive fields of long spines.

Remarks: *Asura/Miltochrista* group of species were mainly reviewed by Nielsen *et al.* (1996) and Holloway (2001) and the latter author discussed the diagnostic characters of different genera of *Asura/Miltochrista* complex including *Miltochrista* Hübner and *Lyclene* Moore. According to which, the only character differentiating both the genera: *Miltochrista* Hübner and *Lyclene* Moore is spines of vesica. In *Lyclene,* vesica is with a small (often two) number of spines whereas, *Miltochrista* has large, well separated cornuti. In the latter genus, number of spines have not been specified by Holloway (2001). But, in the vesica of *M. miniata* Forster (type of *Miltochrista*) six large and some small spines are present. On review of *Lyclene* species, it is observed that at one extreme many of the *Lyclene* species bears single spine in vesica and at another extreme about ten prominent, well separated spines are present in *L. cuneifera* Walker and a number of intermediate species bearing different number of spines also exist. So the types of both the genera seem to be congeneric and hence *Lyclene* Moore**,** 1859 is synonymised here with *Miltochrista* Hübner [1819].

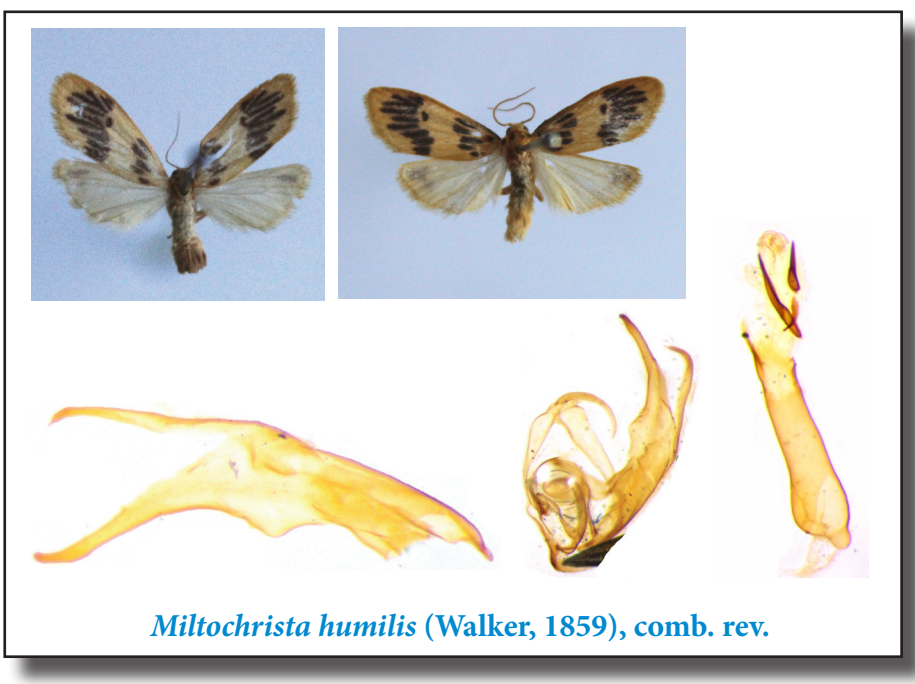
Known species of genus *Miltochrista* Hübner from India: *Miltochrista andamana* (Moore, 1877); *Miltochrista arcuata* Moore, 1882; *Miltochrista calamaria* (Moore, 1888); *Miltochrista coccinea* (Moore, 1886); *Miltochrista congerens* (Felder, 1874); *Miltochrista conjunctana* (Walker, 1866); *Miltochrista cuneonotata* (Walker, 1855); *Miltochrista danieli* Arora, 1983; *Miltochrista dasara* (Moore, 1859); *Miltochrista delicata* (Moore, 1878); *Miltochrista delineata* (Walker, 1854); *Miltochrista dentifascia* Hampson, 1894; *Miltochrista dharma* (Moore, 1879); *Miltochrista flavicollis* (Moore, 1878); *Miltochrista germana* Rothschild, 1913; *Miltochrista goaensis* (Kirti & Gill, 2009); *Miltochrista hollowai* (Kirti & Gill, 2009); *Miltochrista humilis* (Walker, 1854); *Miltochrista ila* (Moore, 1859); *Miltochrista indica* (Moore, 1879); *Miltochrista inflexa* (Moore, 1878); *Miltochrista linga* (Moore, 1859); *Miltochrista lutara* (Moore, 1859); *Miltochrista magna* Hampson, 1894; *Miltochrista metamelas* (Hampson, 1893); *Miltochrista nebulosa* (Moore, 1878); *Miltochrista nubilalis* (Hampson, 1894); *Miltochrista obsoleta* Moore, 1878; *Miltochrista phaeodonta* Hampson, 1911; *Miltochrista phaeoxanthia* Hampson, 1900; *Miltochrista postnigra* Hampson, 1894; *Miltochrista proleuca* (Hampson, 1900); *Miltochrista prominens* (Moore, 1878); *Miltochrista pudibunda* (Snellen, 1880); *Miltochrista radians* Moore, 1878; *Miltochrista reticulata* (C. Felder, 1878); *Miltochrista rosalia* (Hampson, 1914); *Miltochrista rubricosa* Moore, 1878; *Miltochrista semifascia* (Walker, 1854); *Miltochrista spilosomoides* Moore, 1878; *Miltochrista strigipennis* (Herrich-Schäffer, 1855); *Miltochrista strigivenata* Hampson, 1894 *Miltochrista toxodes* Hampson, 1907; *Miltochrista uncalis* (Kirti & Gill, 2009); *Miltochrista undulosa* (Walker, 1854); *Miltochrista zebrina* (Moore, 1878).

Miltochrista humilis (Walker, 1859), comb. rev.

Cyllne humilis Walker, 1859; *List spec. Lepid. Insects Colln Br. Mus.*, **2**: 544.

Adult yellowish. Forewing with costa black towards base; a basal black spot; antemedial band of five streaks; a black spot on discocellular; postmedial series of long streaks, its inner edge excurved beyond cell. Hindwing paler, with some fuscous suffusion on apex. Male genitalia with uncus long, slender, curved beyond middle; tegumen long and narrow; valvae with a small protrusion at middle of costa, sacculus folded with fine hairs on its inner wall, valvula shorter than cucullus; vesica with two unequal spines, a small sclerotized plate and fields of scobination.

Distribution: North East Himalayas (Sikkim, Nagaland), West Bengal (Tukdah), Punjab, Assam (Jatinga), Tamil Nadu (Nilgiri Hills).



***Miltochrista humilis* (Walker, 1859), comb. rev.**

Miltochrista falcihumilis Singh & Kirti, sp. nov.

Description: Adult yellowish. Mesothorax and tegula with black spots. Forewing with costa black towards base; a basal black spot; antemedial band of five streaks; postmedial series of long streaks, its inner edge excurved beyond cell. Hindwing paler. Male genitalia with uncus curved; saccus broad u shape; juxta elongated; valvae with costa bearing central protrusion, cucullus elongated and subapically angled with a subapical membranous flap on its ventral edge, sacculus folded with inner wall fringed; vesica with a prominent knife like cornutus along with four other spines and field of scobination.

Wing span: Males, 20 mm.

Material Examined

Holotype: Mizoram, Thingsul, 13.ix.2008 - male.

Paratype: Mizoram, Thingsul, 13.ix.2008 - 1 male.

Remarks: Morphologically, *Miltochrista falcihumilis* sp. nov. is closely similar to *M. humilis*. However, is distinct due to following attributes: the discocellular spot of forewing is absent and vesica with a prominent knife like cornutus along with four other spines whereas, in *M. humilis* only two spines are present. *M. humilis*, described in Hampson (1900) is actually *Miltochrista falcihumilis* sp. nov.

Etymology: Name of the species is derived from *M. humilis.*

***Miltochrista falcihumilis* Singh & Kirti, sp. nov.**

Miltochrista producta (Černý, 2009), comb. nov.

Lyclene producta Černý, 2009; in Černý & Pinratana, *Moths of Thailand*, **6**: 87.

Adult yellowish. Tegula with black spots. Forewing with costa black towards base; a subbasal black spot; antemedial series of black spots; medial black line indented in cell; a small black streak on discocellular, nearly touching the medial line; postmedial series of elongated streaks, the two towards costa are very small; a marginal series of black spots. Male genitalia with uncus long, curved at base; valvae long, cucullus weakly sclerotized with almost rectangular apex, valvula curved spine like and bearing a small subapical spur; vesica large, with four spines along with field of scobination.

Distribution: Jatinga (North East India).

Remarks: Under genus *Miltochrista*, there is a group of species with somewhat similar forewing facies: a central fascia dividing basal and distal arrays of longitudinal streaks. On the basis of male genitalia, Holloway (2001) divided this group of species to *biseriata* group and *circumdata* group. *M. producta* belongs to *circumdata* Walker group of species having valvae with saccular process only, and rest of valvae apex robust, almost rectangular, with a field of setae. *M. product* is reported for the first time from India.

***Miltochrista producta* (Černý, 2009), comb. nov.**

Miltochrista neoseriata Singh & Kirti, sp. nov.

Description: Adult yellowish. Mesothorax and tegula with black spots. Forewing with costa black towards base; a subbasal black streak; antemedial series of five broad streaks; medial line slightly angled in and below cell; a black spot beyond end of cell; postmedial series of long streaks, the two towards costa are very small; marginal series of black spots. Hindwing paler. Male genitalia with uncus curved, broadest at middle; tegumen long and narrow; valvae with cucullus produced to a spine like apex, sacculus broad with a small spine like saccular process, a small membranous flap between cucullus and saccular process; vesica with two cornutus along with field of scobination.

Wing span: Males, 22 mm.

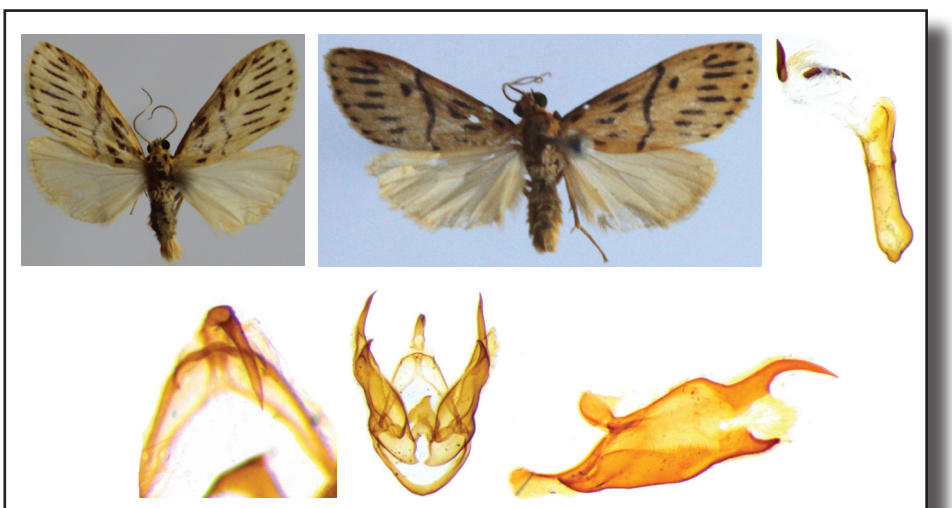
Material Examined

Holotype: Assam, Jatinga, 10.ix.2005 - male.

Paratype: Assam, Jatinga, 10.ix.2005 - 01 male.

Remarks: *Miltochrista neoseriata* sp. nov. belongs to *biseriata* Hampson group of species having valvae with costal and saccular process separated by a membranous valvae apex. A small saccular process is diagnostic for the species.

Etymology: Name of the species is due to its resemblance with the *biseriata* group of species.



***Miltochrista neoseriata* Singh & Kirti, sp. nov.**

Miltochrista paraseriata Singh, Kirti & Joshi, sp. nov.

Diagnosis: The species is distinct from *M. neoseriata* sp. nov. due to following attributes: forewing with antemedial series of streaks is more nearer to a waved medial band, discoidal spot is in form of small streak. In male genitalia, the cucullus is longer and deeply curved; vesica with one spine is large knife like and another is small whereas, in previous species antemedial series of streaks is farther from an angled medial band, discocellular spot is rounded, vesica with both the spines are almost similar in size.

Wing span: Males, 22 mm.

Material Examined

Holotype: Sikkim, Aritar, 29.iv.2009 - male (Coll. Rahul Joshi).

Paratype: Sikkim, Aritar, 29.iv.2009 - 01 male.

Etymology: Name of the species is due to its resemblance with the *biseriata* group of species.

Miltochrista paraseriata Singh, Kirti & Joshi, sp. nov.

Miltochrista pseudoseriata Singh & Kirti, sp. nov.

Diagnosis: Morphologically, *Miltochrista pseudoseriata* sp. nov. is closely similar to the previous two species. However, the forewings are narrow and in male genitalia, valvula is very long.

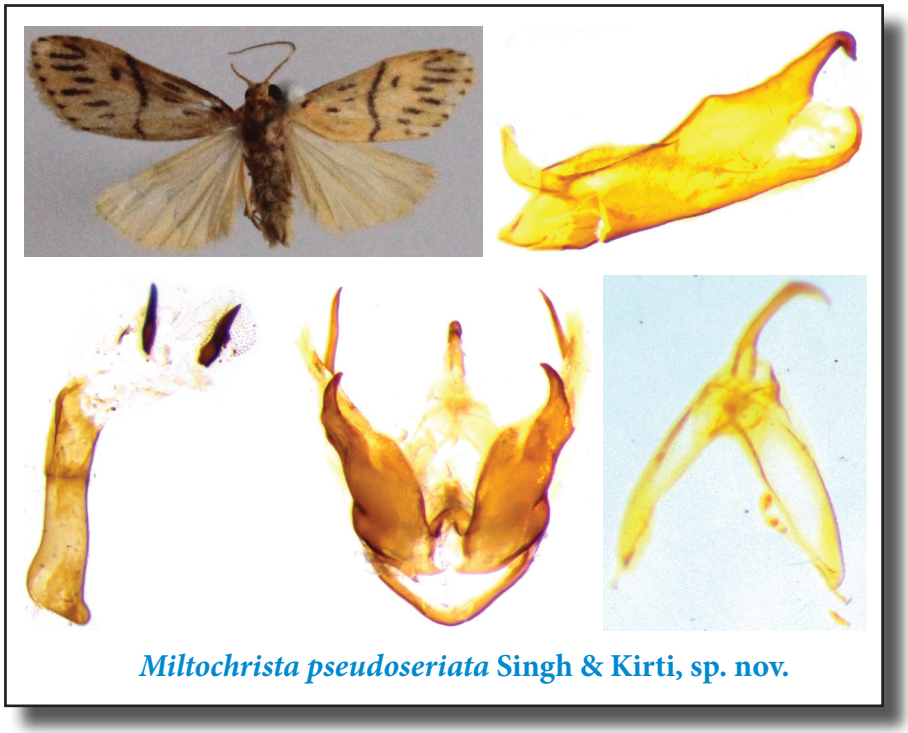
Wing span: Males, 20 mm.

Material Examined

Holotype: Assam, Jatinga, 09.ix.2008 - male.

Paratype: Assam, Jatinga, 09.ix.2008 - 01 male.

Etymology: Name of the species is due to its resemblance with the *biseriata* group of species.



Miltochrista pseudoseriata Singh & Kirti, sp. nov.

Miltochrista undunoides Singh & Kirti, sp. nov.

Description: Adult grey white. Mesothorax and tegula with black spots. Forewing with costa black towards base and yellowish towards apex; a subbasal black spot, followed by a series of three spots below cell; antemedial series of spots, followed by a curved line from costa to median nervure; medial line minutely irregular; a prominent spot at discocellular; a dentated postmedial line, strongly excurved beyond cell; a submarginal series of spots, excurved below costa; marginal series of black spots. Hindwing pale yellow, with few spots at apex. Male genitalia with uncus curved; saccus squarish; valvae with cucullus elongated flap like, valvula short and curved; vesica with five prominent spines along with a sclerotized small plate.

Wing span: Males, 18 mm.

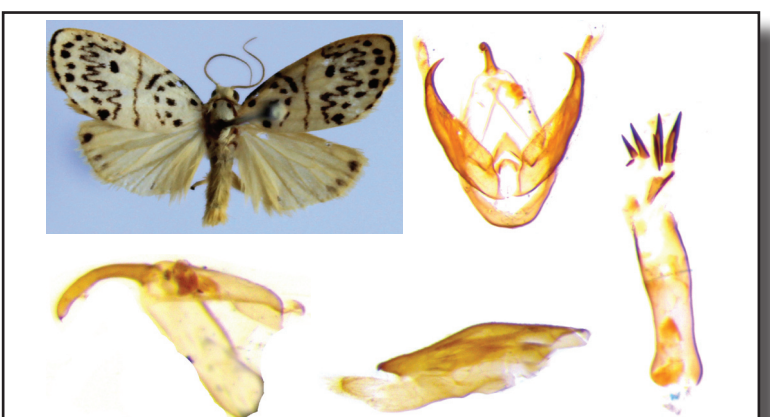
Material Examined

Holotype: Assam, Jatinga, 09.ix.2008 - male.

Paratype: Assam, Jatinga, 09.ix.2008 - 01 male.

Remarks: *Miltochrista undunoides* sp. nov. is closely similar to *Lyclene undulosa* (Walker, 1854) and *Miltochrista lyclenoides* Černý, 2016 and is better defined on the basis of spines in vesica: *M. undunoides* has five prominent spines along with a sclerotized small plate in vesica whereas *Miltochrista lyclenoides* Černý, 2016 has two groups of spines (a group of six sclerotized needles and another one group of about 60 smaller ones needles) and *Lyclene undulosa* has two cornuti only.

Etymology: Name of the species is derived from *Lyclene undulosa* Walker and *Miltochrista lyclenoides* Černý.



***Miltochrista undunoides* Singh & Kirti, sp. nov.**

Miltochrista pseudolutara Singh & Kirti, sp. nov.

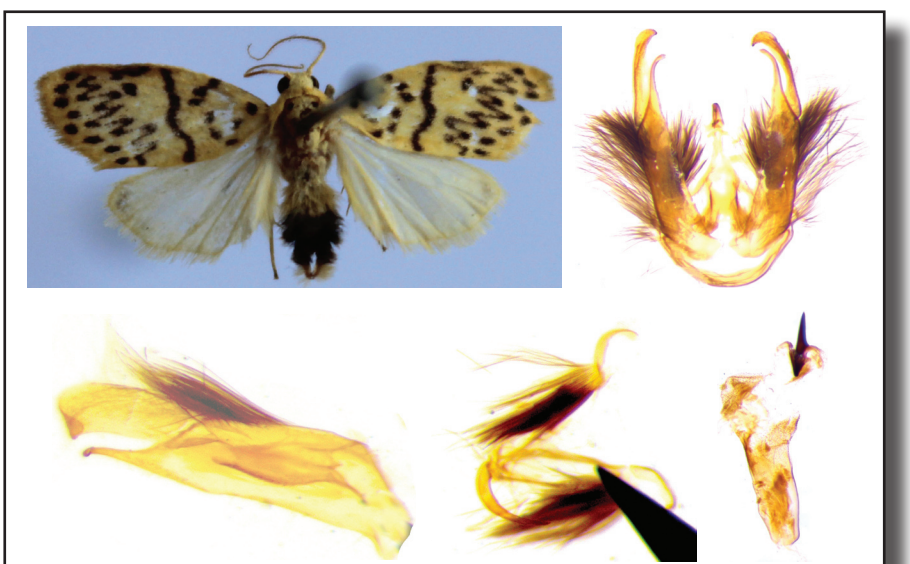
Description: Adult yellow. Mesothorax with two black spots. Forewing with costa black towards base; a subbasal black spot followed by three black spots; an antemedial curved series of black spots; medial line, indented below cell; discocellular spot present; postmedial series highly dentated, excurved beyond cell; subbasal series of black spots, curved below costa. Male genitalia with uncus very long and narrow; each arm of tegumen with large bunch of hairs from the junction of tegumen and vinculum; saccus broad; juxta with both the arms sclerotized at centre; valvae with a ridge and flap from base of costa, the latter with minute spines on its inner wall, cucullus broad leaf like, valvula shorter than the cucullus; aedeagus broader towards apex; vesica with dense field of scobination along with a large spine.

Wing span: Males, 18 mm.

Material Examined

Holotype: Mizoram, Thingsul, 13.ix.2008 - male.

Paratype: Mizoram, Thingsul, 13.ix.2008 - 01 male.



Miltochrista pseudolutara Singh & Kirti, sp. nov.

Remarks: *Miltochrista pseudolutara* sp. nov. is closely similar to *Lyclene lutara* Moore, 1859 and is better defined on the basis of external male genitalia: valvae with cucullus broad leaf like; aedeagus broader towards apex; vesica with a large spine whereas in *L. lutara*, apex of cucullus is strongly bulbous; aedeagus is narrow towards apex and vesica with two spines (genitalia of *L. lutara* is illustrated in Bucsek, 2012)

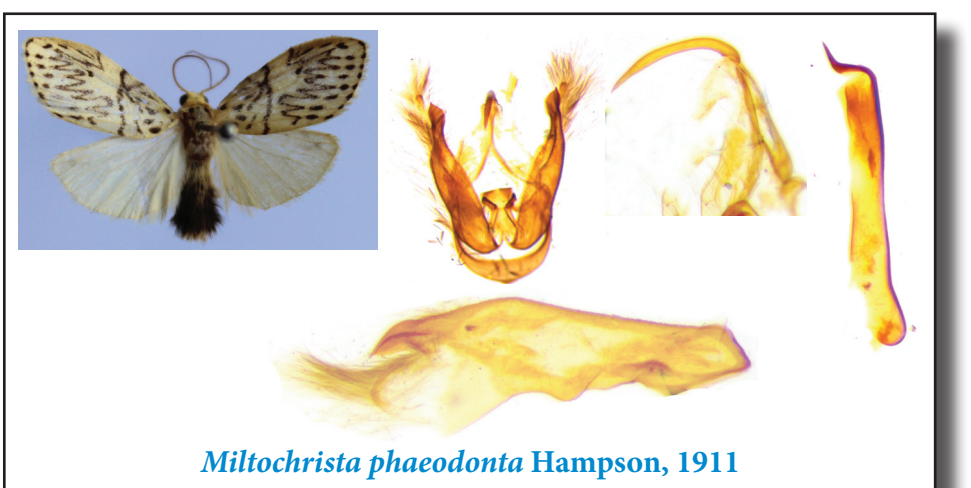
Etymology: Name of the species pertains to its morphological similarity with *Lyclene lutara* Moore.

Miltochrista phaeodonta Hampson, 1911

Miltochrista phaeodonta Hampson, 1911; *Ann. & Mag. Nat. Hist*., **43**(8): 406.

Adult pale yellow. Mesothorax with two black spots. Forewing with costa black towards base; a subbasal black spot; antemedial series of streaks from below costa to inner margin followed by a line from costa to below cell, excurved in cell; another small streak from interno-median interspace to above inner margin; medial line indented in and below cell; a spot on discocellular; postmedial dentated line, strongly excurved beyond cell; subbasal series of black spots, strongly excurved below costa; marginal series of black spots. Male genitalia with uncus long and narrow; saccus broad, with a small central knob; juxta with both the arms bent outward before apex, with their inner walls dentated; valvae elongated, costa wavy, cucullus broad flap like, valvula slightly bulbous before an acute apex; aedeagus with an angled apical spine.

Distribution: Sikkim, West Bengal (Darjeeling).



***Miltochrista phaeodonta* Hampson, 1911**

Miltochrista neocuneifera Singh & Kirti, sp. nov.

Description: Adult yellowish. Mesothorax and tip of tegula with black spots. Forewing with costa black towards base; a subbasal black spot; antemedial line interrupted in cell; medial line with a large patch on outer side; postmedial line strongly waved; submarginal series of few black spots. Hindwing with some black on apex. Male genitalia with uncus long and curved; tegumen long and broad; valvae elongated with a sclerotized, apically pointed distal costal process and a curved spine like distal saccular process, former with a small flap like structure on ventral edge; vesica with a single cornutus along with field of scobination.

Wing span: Males, 20 mm.

Material Examined

Holotype: Tamil Nadu, Gudalur, 16.xi.2005 - male.

Paratype: Tamil Nadu, Gudalur, 16.xi.2005 - 01 male.

Remarks: *Miltochrista neocuneifera* sp. nov. is closely similar to *Lyclene cuneifera* Walker, 1862. However, is distinct due to following attributes: forewing markings are not as fine as in *L. cuneifera*. In male genitalia shape of valvae is diagnostic and vesica is with single spine whereas, in *L. cuneifera* vesica bears about ten spines. Kirti & Gill (2010) described this species as *L. metamelas* (Hampson).

Etymology: Name of the species pertains to its morphological similarity with *Lyclene cuneifera* Walker.

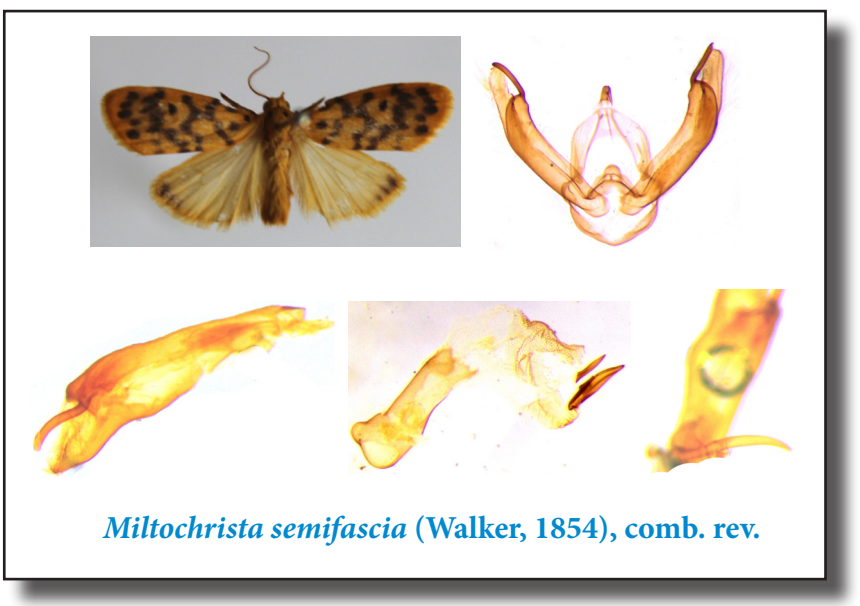
***Miltochrista neocuneifera* Singh & Kirti, sp. nov.**

Miltochrista semifascia (Walker, 1854), comb. rev.

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

Adult orange yellow. Mesothorax with two black spots. Forewing with a subbasal black spot; two antemedial large spots; an antemedial band excurved to meet a zigzag medial band made up of conjoint spots, starting from below costa; a discoidal black spot; postmedial waved band obliquely incurved below cell; incomplete submarginal band. Hindwing paler, some black on apex. Male genitalia with uncus small, curved; saccus broad v-shape; valvae elongated with a membranous and apically blunt distal costal process, a long spine like and slightly curved distal saccular process; aedeagus short; vesica with a leaf like, large spine along with a small spine and field of scobination.

Distribution: Throughout South India, Sikkim, Assam.



Miltochrista semifascia (Walker, 1854), comb. rev.

Miltochrista rubricosa (Moore, 1878), comb. rev.

Lyclene rubricosa Moore, 1878; *Proc. Zool. Soc.,* **1878**: 30.

Adult pale reddish. Head, thorax and tegula slightly yellowish; mesothorax, tegula with black spots. Forewing with costa black towards base; a basal black spot; diffused antemedial and medial black bands, conjoint to each other in and below cell; a dull black spot beyond cell; a broad postmedial band, covering most of the outer area, conjoint to medial band below cell, its outer edge with two out spurs; marginal black spots. Hindwing paler, with traces of medial black band. Male genitalia with uncus sickle shape; tegumen long and narrow; saccus folded; saccular process slightly wavy; vesica with two spines.

Distribution: Indian Himalayas, Meghalaya, Gujarat, Maharashtra, Karnataka.

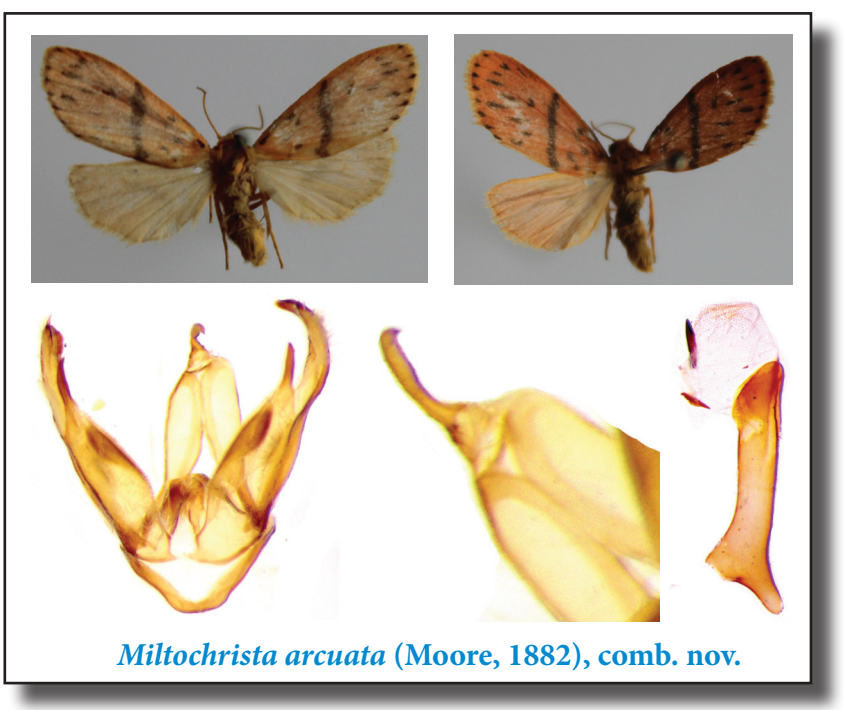
Miltochrista rubricosa (Moore, 1878), comb. rev.

Miltochrista arcuata (Moore, 1882), comb. nov.

Lyclene arcuata Moore, 1882; *Lepid. Ceylon,* **2**: 62.

Adult pinkish red. Tegula and mesothorax with black spot. Forewing with costa black towards base; a basal black spot; an antemedial zigzag series of spots; a medial broad line obliquely incurved; a black spot at middle of discocellular; a submarginal series of small streaks, excurved below costa and then incurved towards inner margin, streaks on vein M_3 and anal vein are displaced distally; a marginal series of black spots. Male genitalia with uncus long with a basal spur on dorsal side; tegumen long, slightly twisted at an angle; transtilla sclerotized. Valvae elongated and bilaterally asymmetrical; the right valvae with cucullus very long, slightly curved before a pointed apex, a subapical process present on the dorsal edge, a setosed flap present on middle of costa, sacculus folded beyond middle, saccular process spine like; left valvae with cucullus short. Vesica with a large spine, along with a small spine and field of scobination.

Distribution: Tamil Nadu (Nilgiris), Sikkim, Uttarakhand, Manipur.



***Miltochrista arcuata* (Moore, 1882), comb. nov.**

Miltochrista pseudoarcuata Singh & Kirti, sp. nov.

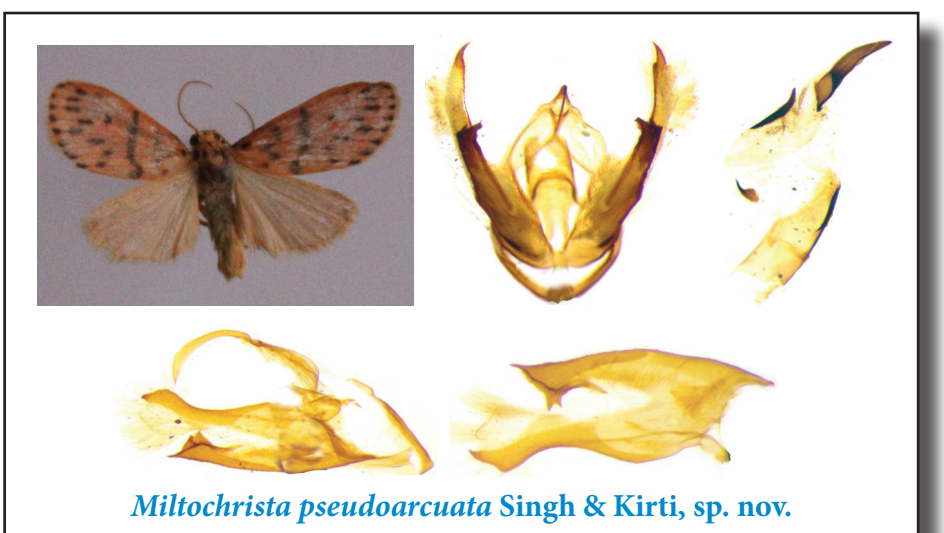
Description: Adult pale reddish. Mesothorax and tegula with black spots. Forewing with costa black towards base; a subbasal black spot; antemedial series of black spots, the spot below cell displaced towards base; a medial black band indented above anal vein; a black spot on discocellular; postmedial series of black spots, excurved below costa then incurved, again excurved in interno-median space; the spot on vein M_3 is displaced distally; marginal series of black spots. Hindwing paler. Male genitalia with uncus curved, broadest before spined apex; tegumen broad; vinculum broad v-shaped; valvae with costa convex at base and then concaved, cucullus angled before an acute apex, a flap like process on subapical area of its ventral edge, sacculus folded with fringed inner wall, valvula with three asymmetrical spines at apex, dorsal spine of right valvula is bifurcated whereas, it is acute on left valvula; vesica bilobed with field of scobination, one lobe with strong spines, another lobe with comparatively smaller spines along with a small sclerotized plate.

Wing span: Males, 20 mm.

Material Examined

Holotype: Karnataka, Ganeshgudi, 12.ix.2007 - male.

Paratype: Karnataka, Ganeshgudi, 12.ix.2007 - 01 male.



Miltochrista pseudoarcuata Singh & Kirti, sp. nov.

Remarks: *Miltochrista pseudoarcuata* sp. nov. is closely similar to *M. arcuata*. However, is distinct due to following attributes: forewing with a medial black band indented above anal vein. In male genitalia valvula with three asymmetrical spines at apex, vesica bilobed with field of scobination, one lobe with strong spines, another lobe with comparatively smaller spines along with a small sclerotized plate.

Etymology: Name of the species pertains to its morphological similarity with *M. arcuata*.

Miltochrista paraarcuata Singh & Kirti, sp. nov.

Description: Adult yellowish, with tinge of red. Tegula and mesothorax with black spots. Forewing with costa black towards base; a subbasal black spot; antemedial series of black spots, the spot below cell is displaced towards base; a medial black band slightly excurved in cell; a black spot beyond it; postmedial series of spots, excurved below costa then incurved to meet medial band and again excurved to anal angle, the spot on vein Cu_2 is displaced distally; marginal series of spots. Male genitalia with uncus long, slightly broad before spined tip; saccus deep; juxta with apical fields of spines; valvae with costa convex at base and then concaved, cucullus angled before a strong apical spine, a membranous flap on its ventral edge, sacculus folded and fringed, valvula strongly sclerotized with trifurcated apex; aedeagus short and broad; vesica trilobed, one lobe with an apical knife like strong spine, another lobe with smaller spines, large field of scobination present.

Wing span: Male, 22 mm.

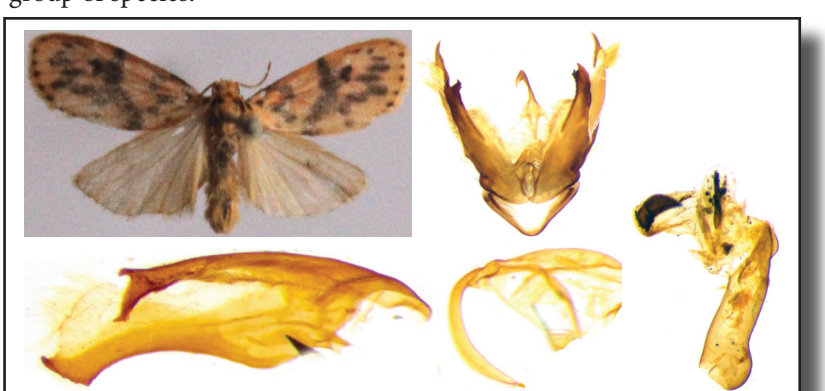
Material Examined

Holotype: Karnataka, Ganeshgudi, 13.ix.2007 - male.

Paratype: Karnataka, Ganeshgudi, 12.ix.2007 - 01 male.

Remarks: *Miltochrista paraarcuata* sp. nov. is closely similar to *M. pseudoarcuata*. However, is distinct due to following attributes: forewing with a medial black band curved. In male genitalia valvula trifurcated, vesica trilobed, one lobe with an apical knife like strong spine, another lobe with smaller spines.

Etymology: Name of the species pertains to its morphological similarity with *M. arcuata* group of species.



Miltochrista paraarcuata Singh & Kirti, sp. nov.

Miltochrista obsoleta (Moore, 1878), comb. nov.

Lyclene obsolete Moore, 1878; *Proc. Zool. Soc. Lond.*, 1878: 32.

Adult yellowish. Forewing short and broad; a subbasal black spot; antemedial oblique series of spots; medial series of zigzag and almost conjoint spots; discocellular with a black spot; postmedial series highly dentated and strongly excurved beyond cell; a subbasal series of black spots beyond it; the spot on vein M_3 is displaced distally. Hindwing paler. Male genitalia with uncus short; tegumen narrow, both the arms much separated from each other; saccus deep v shaped, minutely necked; valvae with a small protrusion on the middle of costa; cucullus narrowing to a pointed apex, valvula small but strong spine like; vesica with a strong cornutus along with; a multi-layered series of small spines a large field of dense scobinations as well as minute spines.

Distribution: South India, North East India, Meghalaya, Bihar, Assam.

Remarks: *L. obsolete* is also included in Arctiid moths of India vol. 1. However, the characterization of vesica is corrected here.

***Miltochrista obsoleta* (Moore, 1878), comb. nov.**

Miltochrista cornutochrista Singh & Kirti, sp. nov.

Description: Adult golden yellow. Forewing with a subbasal black spot; antemedial double series of faint black spots; discocellular spot prominent; postmedial and subbasal series of faint spots. Hindwing paler, with marginal and inner area darker, apex with few black scales. Male genitalia with uncus curved; saccus bowl shape; juxta triangular; valvae elongated, cucullus narrowing towards apex, valvula in form of doubly curved spine; aedeagus short; vesica with a large cornutus.

Wing span: Male, 18 mm.

Material Examined

Holotype: Meghalaya, Shella, 3.ix.2008 - male.

Remarks: *Miltochrista cornutochrista* sp. nov. is distinct due to its forewing markings and a very large cornutus.

Etymology: Name of the species pertains to its very large cornutus.

Miltochrista cornutochrista Singh & Kirti, sp. nov.

Genus *Barsochrista* Singh & Kirti, gen. nov.

Type species: *Lyclene kishidai* Kirti & Gill, 2009.

Diagnosis: Male genitalia with valvae almost triangular, having broad costal apex, central inner process small, valvula small spine like; vesica with two bunches of large spines with their basis almost conjoint.

Remarks: This is an addition of one more genus for the proper placement of *Miltochrista/ Asura* group of species. This genus is proposed for the species where valvae follow the characterization of genus *Barsine* and vesica is like species of genus *Miltochrista*.

Known species of genus *Barsochrista* Singh & Kirti, gen. nov. from India: *Barsochrista kishidai* (Kirti & Gill, 2009)

Barsochrista kishidai (Kirti & Gill, 2009), comb. nov.

Lyclene kishidai Kirti & Gill, 2009; *Acta Zoo. Crac.*, **52** B (1-2): 110.

Adult ochreous. Forewings with two subbasal and four antemedial spots followed by a black band and a highly dentate postmedial band, a submarginal series of spots; a rounded black spot on discocellular. Male genitalia with uncus sickle like; valvae with short saccular process, a small process present at the centre of inner wall; vesica with two patches of long spines. Female genitalia have the ductus bursae broad weakly sclerotized; corpus bursae with anterior portion membranous and full of scobination, a multilayered series of sclerotized spots crossing corpus bursae.

Distribution: Kerala.

***Barsochrista kishidai* (Kirti & Gill, 2009), comb. nov.**

Genus *Arctelene* Kirti & Gill

Kirti & Gill, 2008; *Oriental Insects*, **42**: 359-365.

Type species: *Arctelene uncodes* Kirti & Gill, 2008.

Diagnosis: The genus is distinct due to undivided flap like valvae which are narrow and curved in distal half with some spines on the tip of ventral edge.

Remarks: The genus *Arctelene* Kirti and Gill, 2008 was described for the inclusion of two species: *Arctelene uncodes* Kirti and Gill, 2008 as its type species and *Arctelene rufescens* Kirti and Gill, 2008. The genus is reported from South India and Jammu & Kashmir (Patnitop)

Known species of genus *Arctelene* Kirti and Gill from India: *Arctelene rufescens* Kirti & Gill, 2008; *Arctelene uncodes* Kirti & Gill, 2008; *Arctelene neouncodes* Singh & Kirti, sp. nov.; *Arctelene patnitopensis* Singh & Kirti, sp. nov.

Arctelene uncodes Kirti & Gill, 2008

Arctelene uncodes Kirti & Gill, 2008; *Oriental Insects*, **42**: 359-365.

Forewings pinkish red, antemedial band present, medial band conjoined with postmedial leaving costa & inner margin, a small postmedial streak on costa, marginal series of specks. Hindwings reddish ochreous. Male genitalia with uncus having broad flap like structure at the base, vesica with a prominent cornutus.

Distribution: Maharashtra, Karnataka.

***Arctelene uncodes* Kirti & Gill, 2008**

Arctelene neouncodes Singh & Kirti, sp. nov.

Description: Adult pale yellow. Mesothorax and tegula with black spots. Forewing with costa black towards base; a subbasal black spot; antemedial series of black streaks; medial black line slightly oblique, indented below vein Cu_1; discocellular with black spot; postmedial series of elongated streaks, strongly excurved beyond cell; marginal series of black spots. Hindwing paler. Male genitalia typical of genus *Arctelene*; aedeagus with broader apex; vesica without any cornutus.

Wing span: Male, 26 mm.

Material Examined

Holotype: Karnataka, Medikeri, 27.vii.2004 - male **.**

Paratype: Karnataka, Medikeri, 27.vii.2004 - 1male.

Remarks: On the basis of external morphology, *Arctelene neouncodes* Singh & Kirti, sp. nov. is completely distinct from *Arctelene uncodes* Kirti & Gill. However, the male genitalia of the former species is closely similar to the male genitalia of the latter. The diagnostic attribute for *A.neouncodes* is bulbous apex of aedeagus and absence of any spine in vesica.

Etymology: The species is named due to its genital resemblance with *A. uncodes.*

***Arctelene neouncodes* Singh & Kirti, sp. nov.**

Arctelene patnitopensis Singh & Kirti, sp. nov.

Description: Adult yellowish. Collar, mesothorax and tegula with black spots. Forewing with costa black towards base; a subbasal black spot; antemedial series of black spots, not reaching costa and inner margin; discocellular with a black spot; a postmedial series of almost conjoint streaks, excurved beyond cell and then obliquely incurved, the streak above vein M_3 reaching near margin; marginal series of black spots. Hindwing paler. Male genitalia with uncus broad flap like at base and then smoothly curved and narrowing to spined apex; tegumen long and minutely twisted at an angle; saccus minutely squarish; valvae typical of genus *Arctelene*; aedeagus with a bulbous apex; vesica with a strong cornutus along with a field of scobination.

Wing span: Male, 26 mm.

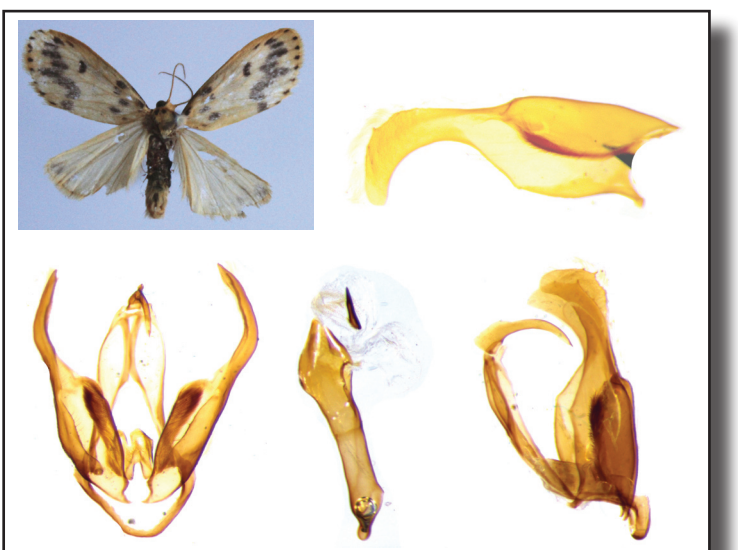
Material Examined

Holotype: Jammu & Kashmir, Patnitop, 22.vii.2005 - male**.**

Paratype: Jammu & Kashmir, Patnitop, 22.vii.2005 - 1 male.

Remarks: Morphologically, *Arctelene patnitopensis* sp. nov. is distinct from *A. uncodes* and *A. neouncodes*. In male genitalia shape of uncus is distinct.

Etymology: The species is named for its type locality.



***Arctelene patnitopensis* Singh & Kirti, sp. nov.**

Genus *Stigmatophora* Staudinger

Staudinger, 1881; *Stett. Ent. Ztg*., **42**: 399.

Type species: *Setina micans* Bremer & Grey, 1853.

Diagnosis: Males with ciliated antennae. Forewings yellow with dark and transverse series of spots or streaks or without drawing. Male genitalia with valvae, having saccular process smaller than costal apex; vesica with triangular small spines, and usually with a sclerotized plate.

Remarks: Genus *Stigmatophora* Staudinger, 1881 was described for its type species *Satina micans* Bremer & Grey, 1853. In the recent years, genus has been dealt by Fang (1991, 2000); Černý & Pinratana (2009), Dubatolov *et al.* (2012). The genus is mainly distributed in East Palearctic and Oriental region.

Known species of genus *Stigmatophora* Staudinger from India: *Stigmatophora palmata* (Moore, 1878); *Stigmatophora palliduspalmata* Singh, Kirti & Joshi, sp. nov.

Stigmatophora palliduspalmata Singh, Kirti & Joshi, sp. nov.

Description: Adult pale yellowish-brown. Forewing with basal spots on costa and in cell; a subbasal spot in cell; antemedial series of three spots; a medial spot below costa and two medial streaks below cell; postmedial series of long streaks along the veins, reaching up to subapical area and gradually shortening towards inner margin, interrupted at some points. Hindwing with few black points at apex. Male genitalia with uncus broad at middle, ending to a small spine, a dorsal furrow beyond middle; tegumen long; saccus deep; juxta with dense scobination on its edges; valvae with a central oblique ridge on inner wall; cucullus broad flap like; valvula spine like and slightly curved beyond middle; aedeagus long and slightly s-shaped; vesica with some large triangular spines, a lateral patch of small spines, an apical field of minute spines and an elongated sclerotized plate.

Wing span: Males, 26 mm.

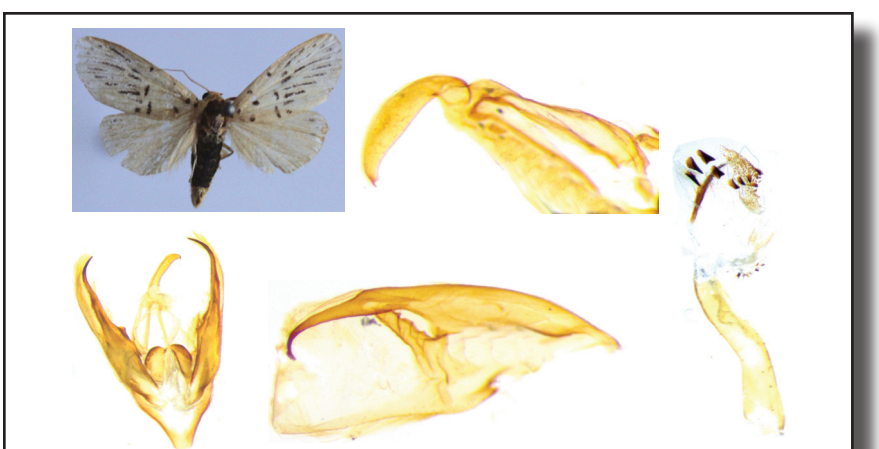
Material Examined

Holotype: Jammu & Kashmir, Patnitop, 20.ix.2009 - male (Coll. Rahul Joshi).

Paratype: Jammu & Kashmir, Patnitop, 20.ix.2009 - 1 male.

Remarks: *Stigmatophora palliduspalmata* sp. nov. belongs to the *S. palmata* Moore, 1878 group and is palest species of this group. Valvae with a central oblique ridge on inner wall is diagnostic.

Etymology: The name of the species is due to its paler ground colour and close resemblance with S. *palmata*.



***Stigmatophora palliduspalmata* Singh, Kirti & Joshi, sp. nov.**

Genus *Sidyma* Walker

Walker, 1856; *List Spec. Lep. Ins. Coll. Br. Mus.*, **7:** 1686.

Type species: *Sidyma albifinis* Walker, 1856 (by monotypy).

Diagnosis: Wings dark with white at apex. In male genitalia, valvae broad, apically divided into a narrow, curved and strong valvula, broad flap like cucullus; a subapical transverse ridge present on the inner side. Vesica small, with one or few small spines.

Remarks: Genus *Sidyma* Walker 1856 was erected for single included species: *Sidyma albifinis* Walker, 1856 from Hindostan [India]. Hampson (1900) synonymised *Sidyma* with genus *Agylla* Walker and was resurrected by Kishida (1993). The genus is distributed in Himalayas, China and Thailand.

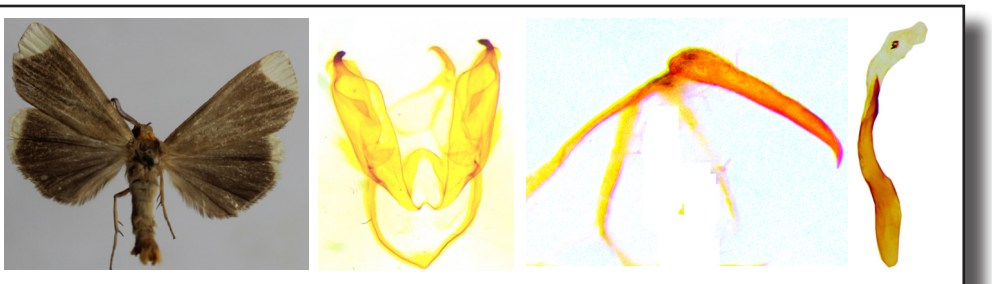
Known species of genus *Sidyma* Walker from India: *Sidyma albifinis* Walker, 1856; *Sidyma apicalis* Moore, 1878.

Sidyma albifinis Walker, 1856

Sidyma albifinis Walker, 1856; *List Spec. Lep. Ins. Coll. Br. Mus.*, **7:** 1686.

Adult fuscous grey. Collar bordered with orange. Forewing with a white patch at apex. Hindwing darker, with a white patch at apex. In male genitalia, vesica with eight spines out of which one spine is larger.

Distribution: North West Himalayas (Shimla, Mussoorie, Dalhousie), Assam, Arunachal Pradesh, Sikkim.



***Sidyma albifinis* Walker, 1856**

Sidyma apicalis Moore, 1878

Sidyma apicalis Moore, 1878; *Proc. Zool. Soc. Lond.*, **1878**: 9.

Adult black brown. Collar orange. Forewing with a large apical patch. Hindwing without any apical patch; however, cilia at apex may be white. Male genitalia is more robust than of *Sidyma albifinis*; valvula longer and spined at tip; vesica with a prominent apical spine. Female genitalia with ductus bursae flat, strongly scobinated toward ostium bursae, corpus bursae flask shaped, necked and slightly twisted toward ductus bursae.

Distribution: Sikkim, West Bengal, Arunachal Pradesh.

Sidyma apicalis Moore, 1878

Genus *Adites* Moore

Moore, [1882] 1882-83; *Lepid. Ceylon*, **2**: 61.

Type species: *Doliche hilaris* Walker, 1854 (by monotypy)

Diagnosis: The genus is mainly diagnosed from the well developed coremata at abdomen. Male genitalia with a short, often deep uncus; valvae with distal saccular process covered with a crest of spines; vesica is deep, generally scobinate (in the type species) or bearing one or more massive cornuti. Female genitalia with ductus and corpus bursae are usually shorter. The latter with general scobination or two centrally placed and opposed signa, each consisting of a disc of robust but short spines (Holloway, 2001).

Remarks: The genus *Adites* Moore, [1882], 1882-3 was erected for single included species, *Doliche hilaris* Walker from Ceylon [Sri Lanka]. During the last century, *Adites* remained as synonym of either *Asura* Walker (Hampson, 1900) or *Lyclene* Moore (Nielson *et al.* (1996). Holloway (2001) resurrected genus *Adites* to contain all the species of *Asura*/*Miltochrista* complex that are white or creamy white with brown forewing markings. The genus is well distributed from Himalayas to Philippines and Sulawesi.

Known species of genus *Adites* Moore from India: *Adites impilia* Černý, 2009; *Adites pseudohilaris* Singh & Kirti, sp. nov. ; *Adites paraimpilia* Singh & Kirti, sp. nov.

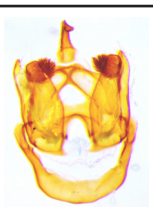
Adites impilia Černý, 2009

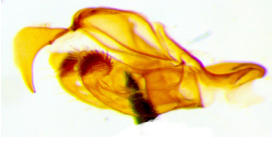
Adites impilia Černý, 2009; *Moths of Thailand, Arctiidae*, **6**: 96.

Adites impilia Černý is closely similar to *A.frigida* (Walker, 1854), but is bigger than all of its congeners. Presence of a grey moon spot in the cell of hindwing is diagnostic for the species. Male genitalia is typical of the genus, uncus sickle shaped, vesica with two series of prominent spines.

Distribution: Assam (Jatinga).

Remarks: *Adites impilia* Černý is reported for the first time from India.



Adites impilia Černý, 2009

Adites paraimpilia Singh, Kirti & Kaleka, sp. nov.

Description: Antennae brown. Head, collar, tegula and thorax white, with brown spots. Forewing covered with brown scales; lines and spots are white; in cell, scales are dark brown; antemedial line curved; postmedial line slightly curved; a costal white cell; marginal area irregularly white; discal spot present. Hindwing with marginal area brownish. Male genitalia with uncus sickle shape; valvae elongated, apically divided into costal flap and an obliquely rounded valvula head, densely covered with small spines; aedeagus short; vesica with a basal and an apical series of spines.

Wing Span: Males, 24 mm.

Material examined

Holotype: Sikkim, Mangan, 14.v.1995 - male (Coll. Amritpal Singh Kaleka).

Paratype: Sikkim, Mangan, 14.v.1995 - 1 male (Coll. Amritpal Singh Kaleka).

Adites paraimpilia Singh, Kirti & Kaleka, sp. nov.

Remarks: Morphologically, *Adites paraimpilia* sp. nov. is closely similar to *Adites impilia* Černý but is distinct due to the following attributes: costal cell of forewing is long, discal spot of hindwing is absent. In male genitalia, valvae longer, valvula head upwardly oblique and in the apical patch of vesica more spines are present whereas, in *A. impilia* valvae are shorter, valvula head is inwardly oblique and in the apical patch of vesica less spines are present.

Etymology: Name of the species is due to its close similarity with *Adites impilia*.

Adites pseudohilaris Singh & Kirti, sp. nov.

Description: Adult white. Head, tegula and thorax spotted with brown. Forewing with two basal black spots, two subbasal brown spots; antemedial band zigzag, meeting with oblique medial band having three spurs; a discal spot; postmedial band from the point of medial band at costa, sharply out-curved, dentated and incurved to meet medial band, again out-curved to meet inner margin; irregular submarginal band, meeting the margin with two long spurs; cilia spotted with brown. Hindwing slightly suffused with brown. Male genitalia with uncus long and curved; valvae apically divided into broad flap like cucullus and rounded valvula, covered with dense spines; vesica elongated with apical, semi-circular series of prominent spines. Female genitalia with ductus bursae very short; corpus bursae flask shape, densely scobinated.

Wing Span: Males, 26 mm; females, 28 mm.

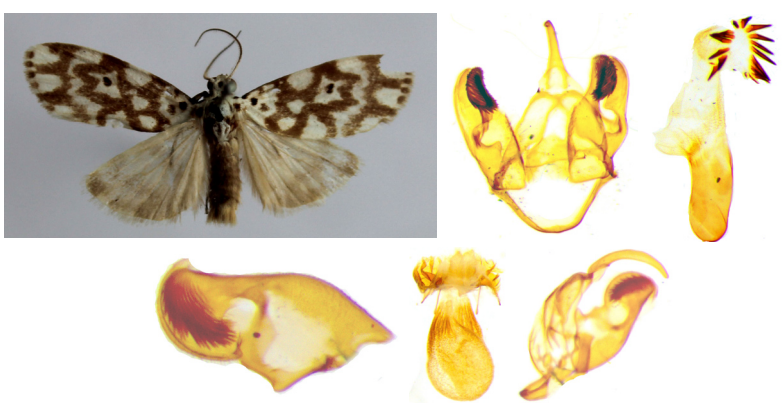
Material Examined

Holotype: Karnataka, Ganeshgudi, 13.xi.2003 - male.

Paratype: Karnataka, Ganeshgudi, 15.xi.2003 - 1 male; 19.vii.2004 - 3 males; 20.vii.2004 - 3 males, 1 female.

Remarks: Morphologically, the species is closely similar to *Adites hilaris* Walker, but is distinct due to the following attributes: the submarginal band of forewing is continuous whereas it is interrupted below and above the middle in *A. hilaris*. In male genitalia, vesica is with series of prominent spines whereas, in *A. hilaris* only scobination is present.

Etymology: Name of the species pertains to its close resemblance with *A. hilaris*.



***Adites pseudohilaris* Singh & Kirti, sp. nov.**

Genus *Pseudoadites* Singh & Kirti, gen. nov.

Type species: *Doliche frigida* Walker, 1854.

Diagnosis: Brownish forewings with white on costa and margin; a sinuous row of white dots at postmedial region. Male genitalia with valvae short, apex minutely divided into an apical costal spine and a narrow valvula; vesica with two distinct groups of 3-5 cornuti. Female genitalia with large corpus bursae, invested with dense field of small spicules.

Remarks: Originally, *frigida* Walker, 1854 was described under genus *Doliche* Walker. Later on, the species was shifted to genus *Nepita* Moore by Cotes and Swinhoe (1887), *Asura* Walker by Hampson (1900) and *Adites* Moore by Holloway (2001). However, the external male genitalia of *frigida* Walker is not congeneric with the types of *Doliche* Walker, *Nepita* Moore, *Asura* Walker, and *Adites* Moore. Therefore, a new genus is erected for the proper placement of *Doliche frigida* Walker. Shape of the valvae is diagnostic for the new genus.

Etymology: The genus is named due its morphological resemblance with *Adites* Moore.

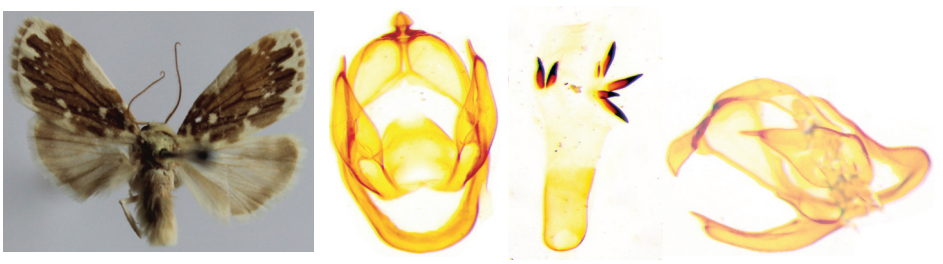
Known species of genus *Pseudoadites* Singh & Kirti, gen. nov. from India: Sole included species.

Pseudoadites frigida (Walker, 1854), comb. nov.

Doliche frigida Walker, 1854; *List Spec. Lep. Ins. Coll. Br. Mus.*, **2:** 530.

Diagnosis: As discussed under the diagnosis of the genus.

Distribution: Sikkim, Nagaland, Arunachal Pradesh, Meghalaya (East Garo Hills and East Khasi Hills), Assam.



***Pseudoadites frigida* (Walker, 1854), comb. nov.**

Genus *Agrisius* Walker

Walker, 1855; *List Specimens Lepid. Insects Colln Br. Mus.*, **3**: 723.

Type species: *Agrisius guttivitta* Walker, 1855.

Diagnosis: Adult white, grey or pale fuscous. Forewings have the spots on basal half and streaked veins on distal half. Male genitalia with uncus strongly sclerotized and variously modified (bifurcated in *Guttivitta* species group, double bulbous with both of its parts terminating into small spines or processes in *Fuliginosus* species group, or consisting of naked crest and a broad apical process covered with two rows of spines in *Japonicus* species group), valvae membranous with a bifurcated saccular process in *Guttivitta* species group and without any sclerotization in *Fuliginosus* and *Japonicus* species groups and aedeagus with a small or large prick in *Fuliginosus* species group and without any prick in *Guttivitta* and *Japonicus* species group.

Remarks: Genus *Agrisius* Walker was described as a monotypic for the inclusion of *Agrisius guttivitta* Walker, 1855 from North India. Later on, the genus was mainly dealt by Fang (1991), Orhant (1997, 2012, 2015), Dubatolov *et al.* (2012) and Dubatolov & Kishida (2013). Genus *Agrisius* Walker includes twelve species: *A. guttivitta* Walker, 1855 distributed in Indian Himalayas and Nepal; *A. similis* Fang, 1991 from Yunan (China) and North Vietnam; *A. aestivalis* Dubatolov, Kishida & Wang, 2012 from Guangdong (China); *A. vernalis* Dubatolov, Kishida & Wang, 2012 from Guangdong (China); *A. fuliginosus* Moore, 1872 widespread from North East India to Nepal, China, Korea and Japan; *A. albula* Orhant, 1997 from Myanmar; *A. bolovena* Orhant, 2012 from Boloven (Tad Fane, Laos); *A. japonicas* Leech, 1888 from Japan; *A. dubatolovi* Orhant, 2012 from Song Toh Mine (Kanchanaburi, Thailand), *A. excellens* Dubatolov & Kishida, 2013 from Sam Neua Phu Pan (Laos), *A. fangchenglaiae* Orhant, 2015 from China (Qinghai, Nang Qian county, Baizha Linchang) and *A. epidela* Orhant, 2015 from Tibet (Bo-Mi county, Deba) . Two further species, Agrisius albafuliginosus Singh & Kirti, sp. nov.; *Agrisius neofuliginosus* Singh & Kirti, sp. nov. are described here.

Known species of genus *Agrisius* Walker from India: *Agrisius guttivitta* Walker, 1855; *Agrisius fuliginosus* Moore, 1872; *Agrisius excellens* Dubatolov & Kishida, 2013; *Agrisius albafuliginosus* Singh & Kirti sp. nov.; *Agrisius neofuliginosus* Singh & Kirti, sp. nov.

Agrisius guttivitta Walker, 1855

Agrisius guttivitta Walker, 1855; *List Specimens Lepid. Insects Colln Br. Mus.,* **3**: 723.

Adult white. Forewings with basal half spotted, distal area streaked with black. Hindwings slightly suffused with fuscous; veins streaked with black. Male genitalia have the aedeagus with a strong spine in vesica. Female genitalia with ductus bursae narrow; corpus bursae membranous, elongated with a pair of conical patches.

Distribution: North India, Sikkim, Arunachal Pradesh, Assam (Jatinga).

Remarks: This species was included in, Arctiid moths of India, vol. 1. However for sake of comparison it is once again illustrated here.

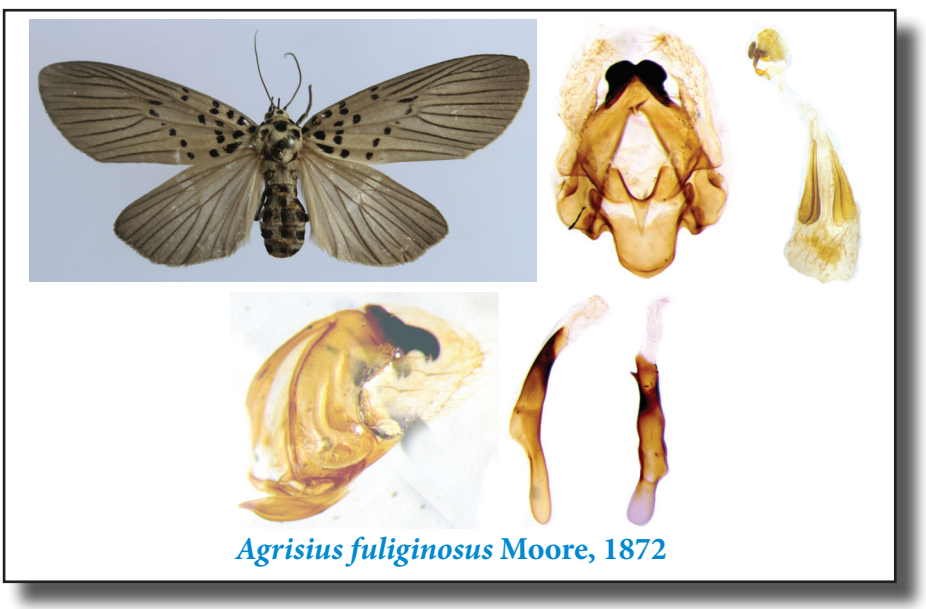
Agrisius guttivitta Walker, 1855

Agrisius fuliginosus Moore, 1872

Agrisius fuliginosus Moore, 1872; *Proc. Zool. Soc. Lond.,* **1872** (2): 571.

Adult pale fuscous. Head, collar, tegula, and thorax spotted with black. Forewing with a basal black spot; subbasal series of three spots; antemedial series almost straight; a medial spot in cell, two above it; postmedial series strongly excurved in cell and then inwardly oblique; veins of terminal area dark. Male genitalia with double bulbous uncus with strong and curved apex; tegumen broad; vinculum short, forming a deep saccus; valvae membranous; aedeagus slightly curved with a small apical spine; vesica small. Female genitalia with ductus bursae flat ribbon like; corpus bursae conical flask like, two pair of large elongated spined signa present.

Distribution: North East India.



Agrisius fuliginosus Moore, 1872

Agrisius excellens Dubatolov & Kishida, 2013

Agrisius excellens Dubatolov & Kishida, 2013; *Tinea*, **22 (3)**: 156-160.

Agrisius excellens was described from Laos (Sam neua phu pan) on the basis of male holotype and a female paratype. The species is distinct from its congeners due to large dark spots on the forewing and presence of three longitudinal strokes of the post-discal spot row at the costa (Dubatolov & Kishida, 2013).

Distribution: Arunachal Pradesh (Bombdila).

Remarks: Reporting of the species from Bombdila is its first report from India. Unfortunately, the single specimen we have is without abdomen. So we are reproducing the genital figure of Dubatolov & Kishida, 2013 for reference.

Agrisius excellens Dubatolov & Kishida, 2013

(with courtesy: figure of genitalia is reproduced from Dubatolov & Kishida, 2013)

Agrisius albafuliginosus Singh & Kirti, sp. nov.

Description: Adult dull white, suffused with fuscous. Head, collar, tegula, and thorax spotted with black. Forewing with a basal black spot; subbasal series of three spots; antemedial series slightly excurved in cell; a medial spot in cell and two above it; postmedial series strongly excurved in cell and then inwardly oblique; veins of terminal area dark. Male genitalia with uncus double, bulbous and rectangular with strong apical spines; tegumen broad; valvae membranous, costa strongly produced towards dorsal side, a small saccular process present; aedeagus smoothly curved with two apical spines; vesica with a prominent cornutus having bulbous base, minute spines present at subbasal part of cornutus. Female

genitalia with ductus bursae short and flat ribbon like; corpus bursae elongated, twisted toward ductus bursae, two pair of large elongated spined signum present.

Wing span: Males, 58 mm; Females, 60 mm.

Material examined

Holotype: Arunachal Pradesh, Ziro, 28.viii.2005 - male.

Paratypes: Arunachal Pradesh, Ziro 28.viii.2005 - 3 females; 29.viii.2005 - 02 males.

Remarks: Morphologically, *Agrisius albafuliginosus* sp. nov. is closely similar to *A. fuliginosus* but is distinct due to following attributes: the ground colour of the adult is dull white whereas, *A. fuliginosus* is pale fuscous. In male genitalia: broader uncus, produced costa of valvae, presence of a minute saccular process, double spine at the apex of aedeagus and a prominent cornutus distinguish *A.albafuliginosus* from *A.fuliginosus* where uncus is comparatively narrow, costa of valvae is not produced, saccular process is absent, aedeagus tip with a small spine and cornutus is absent. Another similar species in *Fuliginosus* species group is *Agrisius bolovena* Orhant, 2012, but it is different from the new species due to the shape of uncus, costa, absence of saccular process and presence of single apical spine at tip of aedeagus.

Etymology: The species is named because of its paler ground colour than *A.fuliginosus*.

***Agrisius albafuliginosus* Singh & Kirti, sp. nov.**

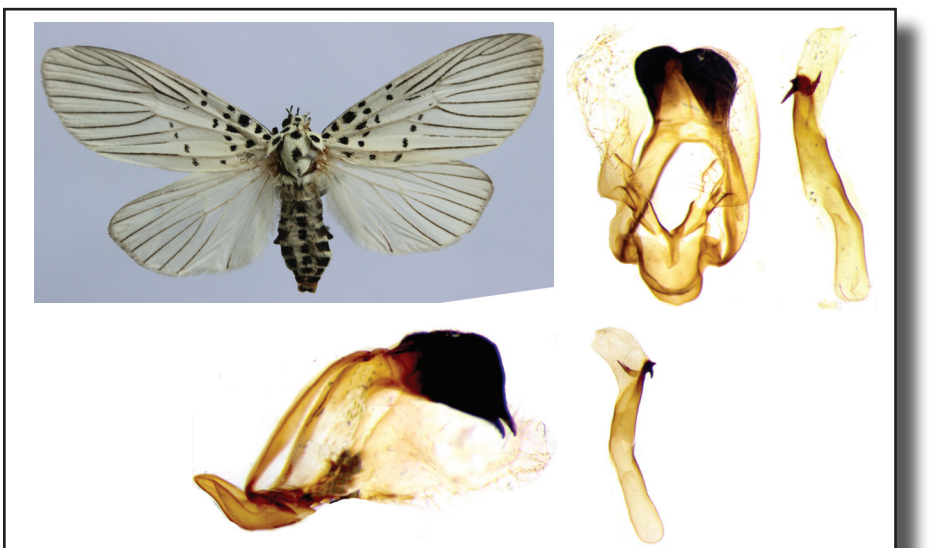
Agrisius neofuliginosus Singh & Kirti, sp. nov.

Description: Adult dull white, suffused with fuscous. Head, collar, tegula, and thorax spotted with black. Forewing with a basal black spot; subbasal series of three spots; antemedial series slightly excurved in cell, costal spot of antemedial series is visibly larger; a medial spot in cell and two above it; postmedial series strongly excurved in cell and then inwardly oblique; veins of terminal area dark. Male genitalia with uncus strongly sclerotized, bulbous, rectangular; tegumen long; vinculum forming a deep saccus; costa strongly produced towards dorsal side; saccular process reduced to a bar shape sclerotization; aedeagus with double apical spines, out of which one spine is much shorter than the other; vesica with a strong cornutus having lateral spines at distal half.

Wing span: Males, 58 mm.

Material examined

Holotype: Arunachal Pradesh, Ziro 28.viii.2005 - male .



***Agrisius neofuliginosus* Singh & Kirti, sp. nov.**

Remarks: Morphologically, *A. neofuliginosus* sp. nov. is closely similar to *A. albafuliginosus* Singh & Kirti, sp. nov. but is distinct due to following attributes: the costal spot of antemedial series is visibly larger. In male genitalia, uncus is comparatively robust; saccus very prominent; saccular process reduced to a bar shape sclerotization and cornutus is with lateral spines at distal half whereas, in *A. albafuliginosus*, uncus is comparatively smaller; saccus is weakly developed; saccular process is visible and lateral spines of cornutus are restricted at subbasal area only.

Etymology: The species is named due to its resemblance with *A. fuliginosus.*

Genus *Katha* Moore

Moore, 1878; *Proc. Zool. Soc. Lond.*, **1878**: 16.

Type species: *Bombyx helvola* Hübner, [1803] 1796.

Diagnosis: Forewings with nearly straight costal margin in males and slightly convex in females. Male genitalia with valvae having ovoid costal process and a hook like ventral process; vesica long with some lateral lobes, two or three stout cornuti present or may be absent, dentate sclerotized plate may be present or absent.

Remarks: Genus *Katha* Moore, 1878 was established for the placement of *nigrifrons* Moore, *terminalis* Moore, *cucullata* Moore, *intermixta* Walker, *brevipennis* Walker from India; *apicalis* Walker from Borneo and *Lithosia helvola* Hübner from Europe. Hampson (1900) designated *helvola* Hübner (cited as *Noctua depressa* Esper.) as its type species. Taxonomic review of this genus was done by Dubatolov and Zolotuhin (2011), Dubatolov *et al.* (2012) and Bucsek (2012). The genus is represented in India, South China, to South East Asia.

Known species of genus *Katha* Moore from India: *Katha conformis* (Walker, 1854); *Katha spinoapex* Singh & Kirti, sp. nov.

Katha spinoapex Singh & Kirti, sp. nov.

Description: Adult with head, antenna and collar black. Tegula and forewing whitish grey, latter with costa towards apex yellowish, marginal area suffused with fuscous. Hindwing comparatively yellowish, the colour is more prominent on margin and inner area. Male genitalia with uncus short and broad, ending to an apical spine; valvae with distal saccular process strongly curved with a subapical flap like process; aedeagus with a strong apical spine; vesica unequally bilobed with spined plate on each lobe.

Wing span: Male, 38 mm.

Material examined: Holotype: Sikkim, Mangan, 6.vi.2003 - male.

Remarks: *Katha spinoapex* sp. nov. is distinct from all its congeners due to a strong spine on the apex of aedeagus and vesica with two dentated plates only (strong spines in vesica are absent).

Etymology: The species is named due to a strong spine on the apex of aedeagus.

Katha spinoapex Singh & Kirti, sp. nov.

Genus *Macotasa* Moore

Moore, 1878; *Proc. Zool. Soc. Lond.,* **1878**: 24.

Type species: *Teulisna biplagella* Butler, 1877.

Diagnosis: Forewings with folded cell and a prominent ridge on dorsal surface, the basal half of this is covered by a rectangular area of course scales extending from the costa to just posterior to the ridge, costa centrally bowed with a black triangular or rectangular spot. Male genitalia have the uncus entire or bifid; valvae bifid or trifid. Female genitalia with pyriform corpus bursae, which bears scobinate signum.

Remarks: Genus *Macotasa* Moore, 1878 was established for its type species, *Teulisna biplagella* Butler, 1877 from Borneo. The taxonomic review of the genus was mainly done by Birket and Smith (1965), Holloway (1982, 2001), Černý & Pinratana (2009), Bucsek (2012), Dubatolov (2012) and Singh *et al.* (2013). Genus *Macotasa* Moore is known by a total of nine species distributed in Oriental region.

Known species of genus *Macotasa* Moore from India: *Macotasa nubecula* (Moore, 1879); *Macotasa orientalis* (Hampson, 1905); *Macotasa tortricoides* (Walker, 1862), *Macotasa tortricula* Singh & Kirti, sp.nov.

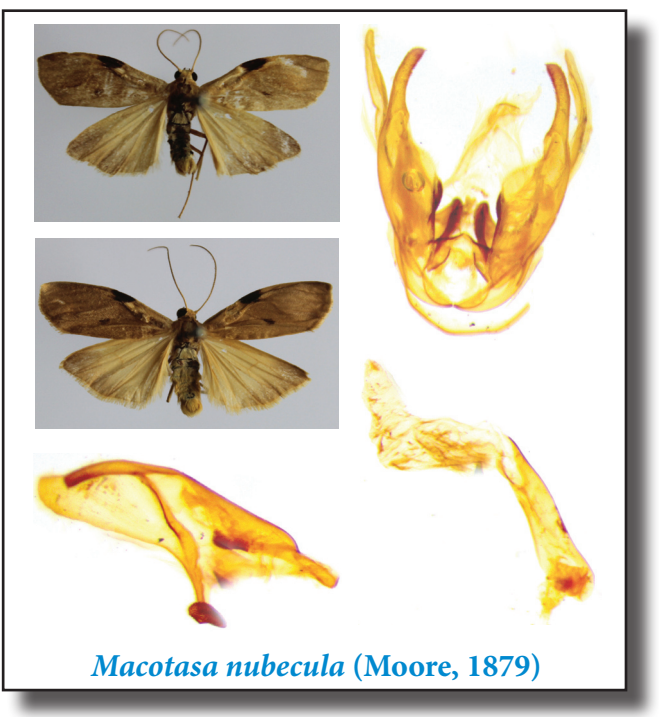
Macotasa nubecula (Moore, 1879)

Cossa nubecula Moore, 1879; *Proc. Zoo. Soc. London,* **1879**: 394.

Externally, the males are almost same as *Macotasa tortricoides* (Walker).Male genitalia have a projection arising obliquely as a continuation of ridge crossing the valvae. Furthermore, the ventral process of valvae is reduced to densely setosed angle on sacculus.

Distribution: Andaman, Himalayas, South India.

Remarks: *Macotasa nedoshivinae* Dubatolov, 2012 is actually *Macotasa nubecula* (Moore).



Macotasa nubecula (Moore, 1879)

Macotasa tortricula Singh & Kirti, sp. nov.

Description: Adult yellowish brown. Head, tegula and thorax pale fuscous. Forewing suffused with dark brown scales, fringe of cell shining fuscous; mid costal spot approximately rectangular; a medial black suffusion from cell to inner margin. Hindwing with marginal area fuscous. Male genitalia with uncus narrow and weak; tegumen long; vinculum forming a broad u shape saccus; juxta with two arms having a row of spines on each arm; valvae with costa smooth, cucullus acute, sacculus with a spined basal lobe, valvula rod shaped with a small apical spine; vesica long and narrow, unornamented.

Wing span: Males, 28 mm.

Material examined

Holotype: Karnataka, Kulagi, 26.x.2009 - male.

Paratype: Karnataka, Kulagi, 26.x.2009 - 2 males; Medikeri, 19.x.2009 - 04 specimens

Remarks: Morphologically, the species is closely similar to *Macotasa nubecula* (Moore, 1879), *Macotasa tortricoides* (Walker, 1862) and *Macotasa nubeculoides* Holloway, 1982 and can be better diagnosed on the basis of male genital attributes. Male genitalia of *Macotasa tortricula* sp. nov. is without any projection arising obliquely as a continuation of the ridge crossing the valvae, extending from the costa inwardly towards the apex of the juxta (The process is present in *M. nubecula* and *M. tortricoides*) and the extreme ventral process of the valvae is reduced to a densely setosed plate on sacculus (extreme ventral process of valvae is well developed in *M. nubeculoides* and *M. tortricoides*).

Etymology: Name of the species is derived from the names *Macotasa nubecula* and *Macotasa tortricoides.*

***Macotasa tortricula* Singh & Kirti, sp.nov.**

Genus *Eugoa* Walker

Walker, [1858] 1857, *List Spec. Lepid. Insects Colln. Br. Mus.*, **12**: 768.

Type species: *Eugoa aequalis* Walker, 1858 (by monotypy).

Diagnosis: Genus *Eugoa* Walker is with typical forewing venation with three bifurcated systems: (R_3, R_4), (R_5, M_1) (M_2, M_3). Forewings with one or two discal spots; transversal fasciae in black, grey and brown colour; the ground colour is brownish grey, sometimes white. Male genitalia very variable; usually the distal part of valvae entire; tegumen shouldered in some species.

Remarks: Genus *Eugoa* Walker was erected for sole included species, *Eugoa aequalis* Walker [1858] 1857 from Borneo. Strand (1922) catalogued 35 species of *Eugoa* from the Globe. In recent times the genus is mainly dealt by Holloway (2001), Černý & Pinratana (2009), Bucsek (2008, 2012) and Černý & Bucsek (2014). The genus is distributed from Japan and India to New Guinea and Australia.

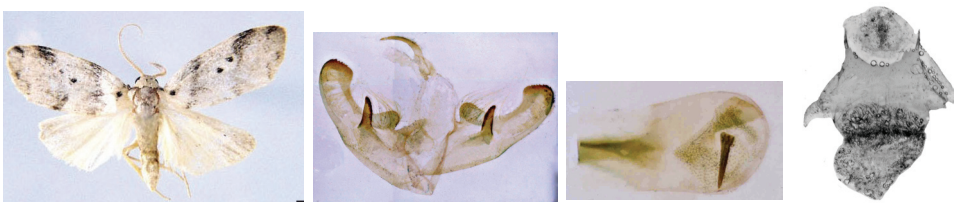
Known species of genus *Eugoa* Walker from India: *Eugoa basipuncta* (Hampson, 1891); *Eugoa bipunctata* (Walker, 1862); *Eugoa crassa* (Walker, 1862); *Eugoa erkunin* (Pagenstecher, 1885); *Eugoa euryphaea* Hampson, 1914; *Eugoa vagigutta* (Walker, 1862); *Eugoa bispinuata* Singh & Kirti, sp. nov.

Eugoa basipuncta Hampson, 1891

Padenia basipuncta Hampson, 1891; *Ill. Lep. Het. Br. Mus.*, **8**: 49.

Forewing with ground colour grey; two basal black spots; antemedial band; two obliquely placed black spots at end of cell; a diffuse postmedial band; a wavy submarginal band. Hindwing pale yellow, apical area fuscous. Male genitalia with broad valvae having spined apex, costa produced, a strong spine on inner wall; vesica with a strong cornutus.

Distribution: South India (Nilgiris).



Eugoa basipuncta Hampson, 1891

(with courtesy received from Dr. Karol Bucsek)

Eugoa bispinuata Singh & Kirti, sp. nov.

Description: Adult with antennae, head, collar, tegula and thorax yellowish. Forewing greyish white; costa black towards base; two subbasal spots, one on costa and another below cell; a medial spot giving rise to an irregular suffused band; two obliquely placed spots beyond cell; a postmedial band with waved inner margin, diffusing towards the outer margin; two spots beyond postmedial band; submarginal interrupted lines. Hindwing yellowish, with some black suffusion at apex. Male genitalia with uncus long and narrow, curved; tegumen with mid ventral process, having spines at apex; vinculum forming broad u shape saccus; juxta double bar shaped, with subapical patch of spines on each bar; valvae long and narrow, tapering towards curved apex; aedeagus broad at base with two lateral spines at different distance from apex; vesica long and narrow with a small apical patch.

Wing span: Males, 24 mm.

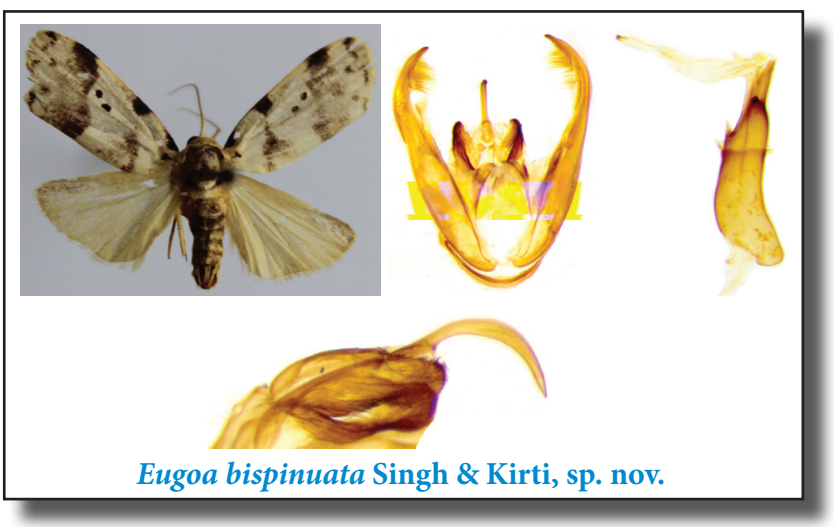
Material Examined

Holotype: Karnataka, Ganeshgudi, 14.x.2005 - male.

Paratype: Karnataka, Ganeshgudi, 14.x.2005 - 1 male.

Remarks: Aedeagus with two lateral spines at different distance from apex is diagnostic for the species.

Etymology: Name of the species pertains to the diagnostic character of the species.



Eugoa bispinuata Singh & Kirti, sp. nov.

Genus *Neoeugoa* Singh & Kirti, gen. nov.

Type species: *Tospitis humerana* Walker, 1863.

Diagnosis: Forewing with strong curvature to the basal part of costa. Male genitalia with tongue like projections from the tegumen; a large, pod-like juxta; valvae devided constricted at middle with spiny apex, giving appearance of a paw of any carnivore.

Remarks: Originally, *humerana* Walker, 1863 was described under genus *Tospitis* Walker, 1863 (type species: *Tospitis nulliferana* Walker, 1863; subsequently designated by Kirby, 1892). Later on, Hampson (1900), Seitz (1914), Fang (1982, 2000); Holloway (2001), Černý and Pinratana (2009), Bucsek, (2012) studied it under genus *Eugoa* Walker. However, the genital attributes of *humerana* Walker are non-congeneric with the types of *Tospitis* Walker (tegumen without any process, valvae membranous, juxta simple) and *Eugoa* Walker (tegumen without any process, valvae generally broad and without any constriction at middle, juxta simple). The attributes mentioned under diagnosis of genus are unique so, a new genus is proposed here for the proper placement of *humerana* Walker.

Etymology: Name of the genus is derived from genus *Eugoa* Walker.

Known species of genus *Neoeugoa* Singh & Kirti, gen. nov. from India: Sole included species.

Neoeugoa humerana (Walker, 1863), comb. nov.

Tospitis humerana Walker, 1863; *List Spec. Lepid. Ins. Colln. Br. Mus*., **28**: 433.

Adult with pale brown forewings; a basal band from costa to near inner margin; traces of a medial and an oblique postmedial fuscous bands, not reaching inner margin. Hindwing dark. Male genitalia with vesica having one prominent spine along with dentated plates.

Distribution: Mizoram (Thingsul).

Remarks: The species is reported for the first time from India.

Neoeugoa humerana (Walker, 1863), comb. nov.

Genus *Aemene* Walker

Walker, 1855; *List Spec. Lepid. Insects Colln. Br. Mus.*, **2**: 541.

Type species: *Aemene taprobanis* Walker, 1854 (by monotypy).

Diagnosis: Antennae can be bipectinate, serrate or ciliate; forewing with white or grey ground colour, crossed by numerous dark, punctuate fasciae, including particularly a double postmedial one that circumnavigate the more distal black discal spot. Male genitalia have a slender suprascaphial sclerotization that is as long as uncus and apically slightly rugose; the lateral parts of tegumen and vinculum twisted; valvae with a saccular process and often a spine or spines from costal margin, sometimes towards the valvae apex. Female genitalia have conspicuous, pocket like structures flanking the ostium; ductus short; bursae elongated (Holloway, 2001) .

Remarks: The genus is entirely Oriental, most diverse in Himalaya and China, and extending north into temperate latitudes.

Known species of genus *Aemene* Walker from India: *Aemene guttulosana* (Walker, 1863); *Aemene mesozonata* (Hampson, 1898); *Aemene nilgirica* Hampson, 1891; *Aemene sagittifera* Moore, 1888; *Aemene seriata* Hampson, 1900; *Aemene sordida* (Butler, 1877); *Aemene tau* (Heylaerts, 1891); *Aemene taprobanis* Walker, 1854; *Aemene tenebrosa* Moore, 1878; *Aemene spotoptera* Singh & Kirti, sp. nov.

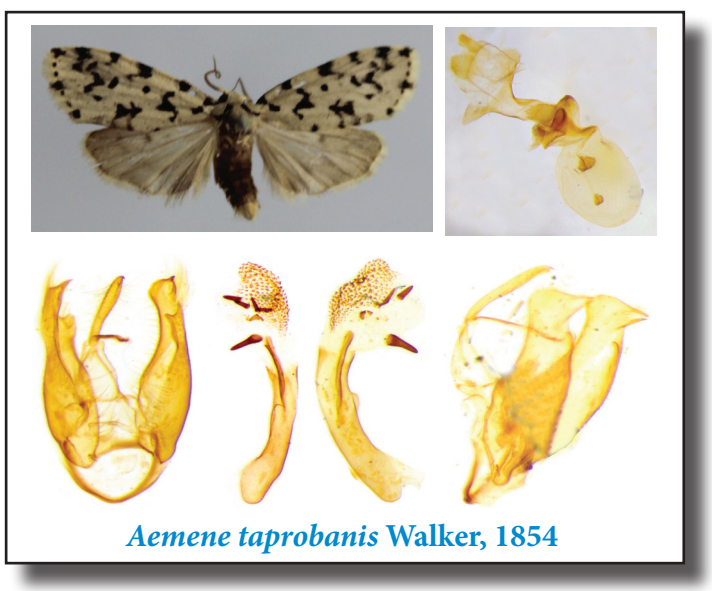
Aemene taprobanis Walker, 1854

Aemene taprobanis Walker, 1855; *List Spec. Lepid. Insects Colln. Br. Mus.,* **2**: 541.

Adult greyish white. Forewing with subbasal, antemedial, medial and postmedial wavy and interrupted bands; a spot in cell; broad streak beyond cell; postmedial band, followed by an incomplete band from costa to vein M_2; terminal series of spots with apical, medial and anal spots larger. Hindwing slightly suffused with fuscous. Male genitalia with uncus long, slightly broader before apex, a small apical spine present; tegumen short; vinculum forming a bowl shape saccus; valvae with two apical spines on ventral wall; another subapical process near spines; vesica with five spines (one large, two comparatively small, one of intermediate size and the last one very small) and a field of minute spines. Female genitalia with ductus bursae short and flat; corpus bursae forming a pot's mouth like structure at the junction of ductus bursae; two signa present.

Distribution: North West Himalayas, Sikkim, Nagaland, Maharashtra (Mumbai, Pune) Tamil Nadu (Nilgiris), Meghalaya (Cherrepunji), Karnataka (Belgaum), West Bengal (Darjeeling).

Remarks: In one specimen we found some variation in spines of vesica: one large and other four are almost of equal length.



Aemene taprobanis Walker, 1854

Aemene nilgirica Hampson, 1891

Aemene nilgirica Hampson, 1891; *Ill. Typ. Spec. Lep. Het. Coll. Br. Mus.*, **8**: 51.

The Adult are almost similar to previous species but lines/bands are reduced to spots. Male genitalia with uncus long and narrow; tegumen short; valvae with dorsal and ventral edge wavy, tip bifurcated; vesica with three spines along with field of scobination. Female genitalia with ductus bursae flat, twisted; corpus bursae slightly elongated, single signum present, another short ribbon like structure with four sclerotization.

Distribution: Tamil Nadu (Nilgiris).

Aemene nilgirica Hampson, 1891

Aemene spotoptera Singh & Kirti, sp. nov.

Description: Adult greyish white. Forewing with two prominent rounded spots in and beyond cell along with some other black specks at basal, costal and inner area. Female genitalia with ductus bursae short and broad; corpus bursae densely setosed with spines, two signa present; apophyses long.

Wing span: Female, 18 mm.

Material Examined

Holotype: Karnataka : Ganeshgudi, 12.ix.2007 - female.

Paratypes: Karnataka: Ganeshgudi, 12.ix.2007 - 01 female; 14.ix.2007 - 01 female; Gudalur, 12.i.2005 - 01 female.

Remarks: Two large spots on the forewing are diagnostic.

Etymology: Name of the species is derived from two large spots of forewing.

Aemene spotoptera Singh & Kirti, sp. nov.

Genus *Gampola* Moore

Moore, 1878; *Proc. Zoo. Soc. Lond.*,**1878**: 26.

Type species: *Gampola fasciata* Moore, 1878.

Diagnosis: Forewings, in males, short and broad, a costal fringe of scales present, inner margin distorted and fringed with long scales towards outer angle, cell elongated with discocellulars short. In females, forewings elongated, without any costal fringe. Male genitalia with valvae having two long costal process; juxta long; vesica without cornuti.

Remarks: Genus *Gampola* Moore, 1878 was erected as a monotypic genus to include a new species, *G. fasciata* Moore, 1878 from Sri Lanka. In recent years, the taxonomy of the genus has been dealt by Fang (2000), Kendrick (2003), Černý and Pinratana (2009) and Dubatolov *et al.*, (2012). Apart from its type species, the genus includes *Gampola sinica*

Dubatolov, Kishida & Wang (2012) from Guangdong (China) and *Gampola taleaensis* Joshi & Singh, 2016. *Gampola* Moore is distributed in India, Sri Lanka, Hong Kong, and Thailand.

Known species of genus *Gampola* Moore from India: *Gampola fasciata* Moore, 1878; *Gampola sinica* Dubatolov, Kishida & Wang, 2012; *Gampola taleaensis* Joshi & Singh, 2016.

Gampola taleaensis Joshi & Singh, 2016

Gampola taleaensis Joshi & Singh, 2016; *Tinea*, **23 (4)**: 220-223.

Gampola taleaensis Joshi & Singh is distinct from the other two species of *Gampola* Moore in terms of less prominent costal scales at forewing. Furthermore, the species is distinct due to its genital attributes: juxta long and apically knobbed (terminating acutely in *G. fasciata* and to a point in *G. sinica* Dubatolov, Kishida & Wang, 2012), saccus developed with both the arms well apart (reduced in *G. sinica* and in *G. fasciata* saccus is developed but arms are closely associated), saccular edge smooth-leaf like, evenly curved and tip of valvae blunt, not produced (tip of valvae slightly produced in *G. sinica* which is acute and spine-like in *G. fasciata*).

Distribution: Arunachal Pradesh.

***Gampola taleaensis* Joshi & Singh, 2016**

Genus *Cernyia* Bucsek

Bucsek, 2012; *Ereb. Arct. (Lith.: Arct.) of Malay Penin.-Malay*: 125.

Type species: *Eilema pseudocretacea* Holloway, 2001.

Diagnosis: Forewing narrow, unicoloured. Male genitalia with uncus robust, broad at base; valvae broad, with sharp cucullus (may be divergent at end). Female genitalia with narrow ductus bursae, corpus bursae pear shaped (Bucsek, 2012).

Remarks: *Cernyia* Bucsek (2012) was erected for inclusion of two species, *Cernyia pseudocretacea* (Holloway, 2001) and *Cernyia longpala* (Holloway, 2001) with former as its type species. Dubatolov & Bucsek (2013) described a new species,*Cernyia kosterini* from Cambodia and transferred *Eilema arizana* (Wileman, 1910) from Taiwan and *E. furcatus* Fang, 2000 from Hainan to *Cernyia* Bucsek, 2012. Joshi *et al.* (2015) reported *C. pseudocretacea* for the first time from India. At present, the genus is known by five species distributed in India, Borneo, Brunei, Peninsular Malaysia, Laos, China, Thailand, Cambodia and Vietnam.

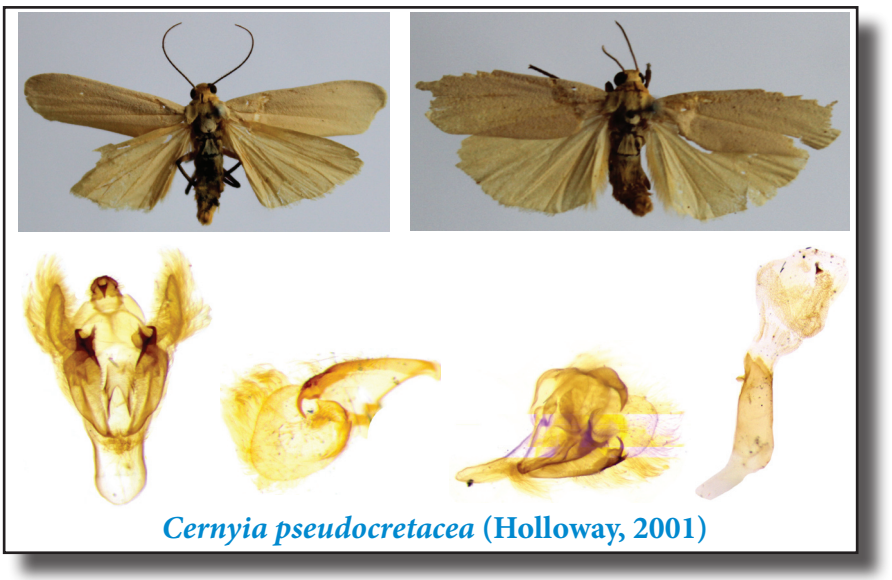
Known species of genus *Cernyia* Bucsek from India: *Cernyia pseudocretacea* (Holloway, 2001); *Cernyia longpala* (Holloway, 2001); *Cernyia neocretacea* Singh & Kirti, sp. nov.

Cernyia pseudocretacea (Holloway, 2001)

Eilema pseudocretacea Holloway, 2001; *Moths of Borneo*, **7**: 323.

Adult with dark grey frons. Forewing rectangular, powdery bone-coloured. Hindwings concolourous. Male genitalia with vesica as long as aedeagus, covered with distal field of spines, a small hook-like cornutus at apex.

Distribution: Nagaland.



Cernyia longpala (Holloway, 2001)

Eilema longpala Holloway, 2001, *Moths of Borneo*, **7**: 323.

Adult pale orange. Male genitalia with uncus bulbous; valvae with falcate apex; aedeagus with a strong apical spine; vesica lobed, with fields of short spines on the apex of two lobes.

Distribution: Arunachal Pradesh (Deomali).

Remarks: The species is reported for the first time from India.

Cernyia longpala (Holloway, 2001)

Cernyia neocretacea Singh & Kirti, sp. nov.

Description: Adult yellowish white. Forewing short and broad, rather rectangular. Hindwing and underside comparatively more yellow. Male genitalia with uncus strongly sclerotized and curved, having broader base and long apical spine; tegumen very broad, with digitate process on latero-apical portion, two dentated grooves near base of uncus; vinculum small, forming a necked and grooved saccus; juxta triangular with a central line; valvae with a central ridge produced towards juxta, ventral edge dentated, saccular process robust, and dentated; aedeagus with an apical spine; vesica without any well formed cornutus.

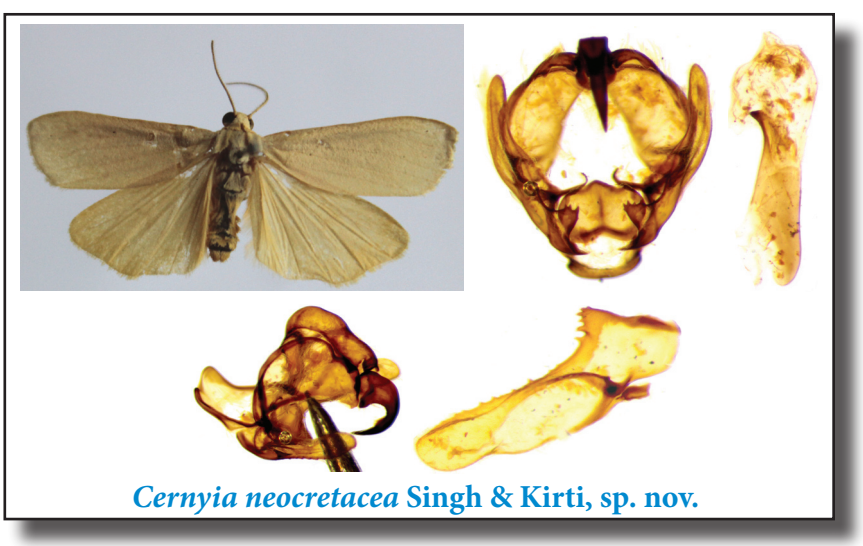
Wing span: Males, 30 mm.

Material Examined

Holotype: Arunachal Pradesh, Khonsa, 03.09.2005 - male

Remarks: Morphologically, *C. neocretacea* sp. nov. is closely similar to *Cernyia pseudocretacea* and "*Eilema*" *cretacea* Hampson, 1911 (possibly a member genus *Cernyia*). However, is distinct due to following attributes: male genitalia with tegumen very broad, having digitate process on latero-apical portion and two dentated groves near base of uncus; valvae with ventral edge dentated, saccular process robust and dentated. Furthermore, new species is distinct from "*Eilema*" *nigrifrons* Moore due to unornamented vesica.

Etymology: The name of species is derived from its closely similar species, *E. cretacea* Hampson.



Cernyia neocretacea Singh & Kirti, sp. nov.

Genus *Dubatoloviana* Bucsek

Bucsek, 2012; *Erebidae, Arctiinae (Lithosiinae: Arctiini) of Malay Peninsula-Malaysia*: 124.

Type species: *Eilema trimacula* Holloway, 2001.

Diagnosis: Forewing narrow; female with forewing dark leaving basal area, costa and outer margin pale. Male genitalia with uncus massive; cucullus partly divergent, with strong spines at the end, saccus narrow (Bucsek, 2012).

Remarks: Genus *Dubatoloviana* Bucsek, 2012 was erected for the inclusion of two species, *D. trimacula* (Holloway, 2001) and *D.pahanga* Bucsek, 2012 with former as type species from Borneo. At present the genus is known by two species distributed in Borneo, Peninsular Malaysia, Thailand and India. The genus is new record from India.

Known species of genus *Dubatoloviana* Bucsek from India: Sole included species.

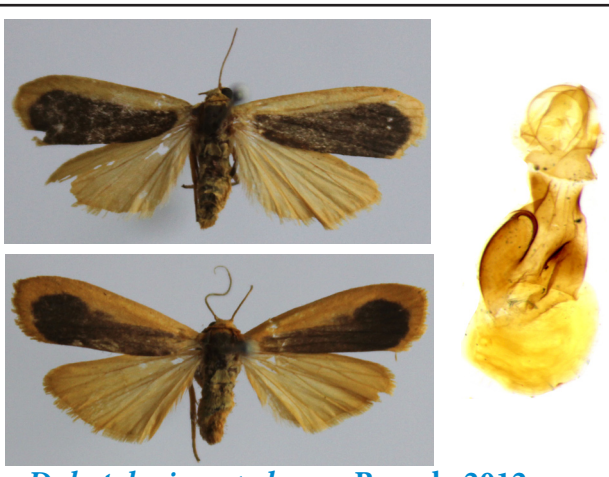
Dubatoloviana pahanga Bucsek, 2012

Bucsek, 2012; *Erebidae, Arctiinae (Lithosiinae: Arctiini) of Malay Peninsula-Malaysia:* 125.

Hindwing yellowish. Female genitalia with ductus bursae broad, sclerotized, slightly twisted at opening of ductus seminalis; corpus bursae obliquely rounded, with two signa placed opposite to each other, one is visible in photograph.

Distribution: Arunachal Pradesh (Deomali).

Remarks: The species is reported for the first time from India.



***Dubatoloviana pahanga* Bucsek, 2012**

Genus *Brunia* Moore

Moore, 1878; *Proc. Zool. Soc. Lond.*,**1878**: 15.

Type species: *Lithosia antica* Walker, 1854.

Diagnosis: Most of the *Brunia* species have sexual dimorphism in the forewing pattern**.** The genus is better defined on the external genital attributes: Male genitalia have the uncus short, with a dorsal ridge and slightly expanded at base; valvae with rounded apex, saccular process robust and short; apex of aedeagus is extensively spined. Female genitalia with elongate corpus bursae, the basal half sclerotized and the distal half is with two signa.

Remarks: The genus *Brunia* Moore, 1878 was described for the inclusion of three species: *Lithosia antica* Walker from Sri Lanka, *Lithosia natara* Moore from Java and *Lithosia sarawaca* Butler from Borneo. In the recent years, the genus is reviewed by Holloway (2001) with inclusion of eight species: *antica* (Walker), *sarawaca* (Butler), *cucullata* Moore, *dorsalis* Walker, *ekeikei* Bethune-Baker, *testacea* Rothschild, *apicalis* Walker and *nebulifera* Hampson and Dubatolov and Zolotuhin (2011) shifted *Lithosia fumidisca* Hampson to *Brunia* and Kirti & Singh (2015) transferred *Eilema gibonica* Černý, 2009 to genus *Brunia* Moore. The genus is distributed from Africa, Indian subregion, China and Ryukyu Islands to Chagos Islands and Australia.

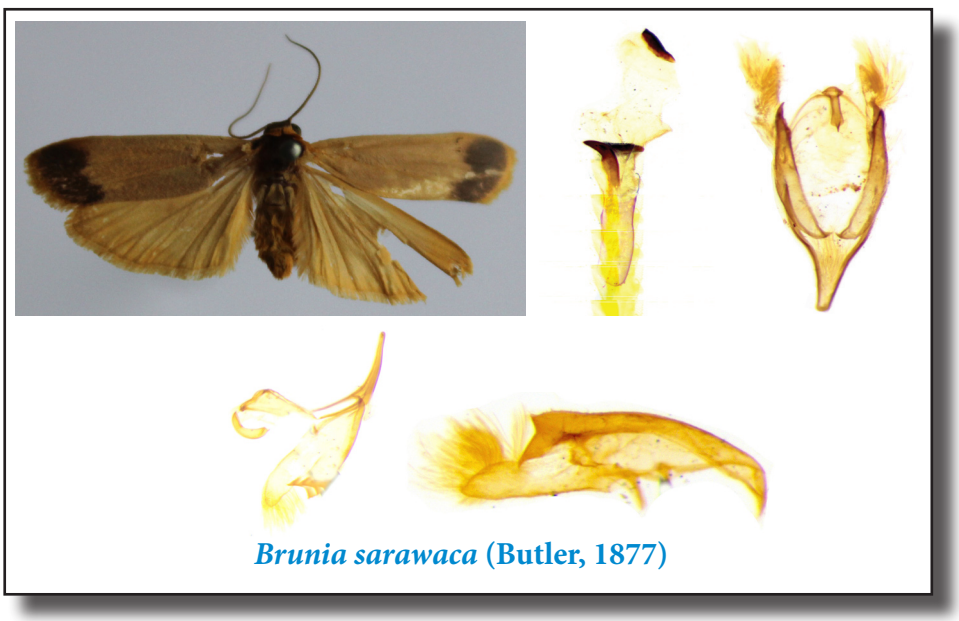
Known species of genus *Brunia* Moore from India: *Brunia antica* (Walker, 1854); *Brunia cucullata* (Moore, 1878); *Brunia sarawaca* (Butler, 1877); *Brunia gibonica* (Černý, 2009); *Brunia pseudoantica* Singh & Kirti, sp. nov.

Brunia sarawaca (Butler, 1877)

Lithosia sarawaca Butler,1877, *Trans. Ent. Soc. Lond.*, **1877**: 350.

Adult dull brownish. Head, tegula and thorax black. Forewing with a broad black marginal band. Male genitalia having strongly angled saccular process is diagnostic; aedeagus without coarse spinning at its apex.

Distribution: North East Himalayas.



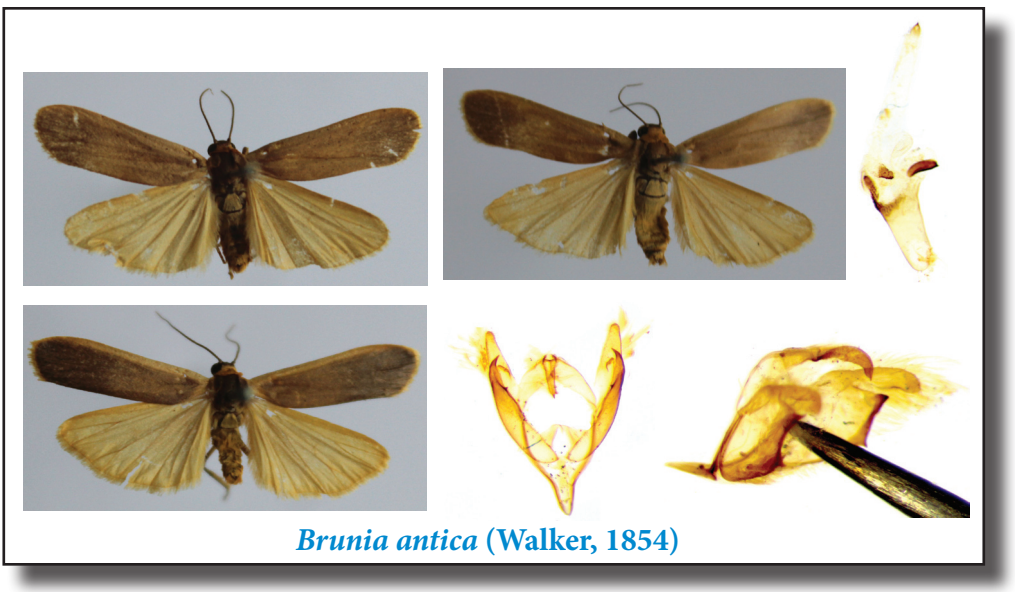
Brunia sarawaca (Butler, 1877)

Brunia antica (Walker, 1854)

Lithosia antica Walker, 1854; *List Spec. Lepid. Ins. Colln. Br. Mus.*, **2**: 505.

In males, forewings uniformly fawn, may be with paler costa and females with grey forewings having costa yellow. Hindwings yellow. Male genitalia have the aedeagus with incomplete rings of spines on tip, vesica having two large and a small spine with a dentated plate.

Distribution: Throughout India.



Brunia antica (Walker, 1854)

Brunia pseudoantica Singh & Kirti, sp. nov.

Description: Adult with head and thorax dark. Forewing brownish; costa paler; apical area darker. Hindwing yellow. Male genitalia is typical of genus *Barsine*. Aedeagus with incomplete rings of spines on tip, vesica with a large spine, and a small spine with a dentated plate.

Wing span: Male, 22 mm.

Material Examined:

Holotype: Kerala, Rani, 20.xi.2008 - male.

Paratype: Kerala, Rani, 20.xi.2008 - 01 male.

Remarks: In vesica of *Brunia pseudoantica* sp. nov. one large, one small and one dentated plate is present whereas, in *B. antica*, vesica is with two large, one small and a dentated plate.

Etymology: Name of the species is derived due to its close resemblance with *B. antica.*

***Brunia pseudoantica* Singh & Kirti, sp. nov.**

Genus *Dolgoma* Moore

Moore, 1878; *Proc. Zool. Soc. Lond.,* **1878**: 20.

Type species: *Lithosia reticulata* Moore, 1865.

Diagnosis: Genus *Dolgoma* Moore is distinct due to male genitalia with valvae having rounded apical costa and saccular process, saccular process deflected at tip and covered with small spines; vesica without any cornutus, however some fields of small spines are present.

Remarks: Genus *Dolgoma* Moore, 1878 and its allied genera: *Katha* Moore, 1878; *Tarika* Moore, 1878; *Zadadra* Moore, 1878; *Prabhasa* Moore, 1878; *Gandhara* Moore, 1878; *Capissa* Moore, 1878 were treated for many years as the members of genus *Lithosia* Fabricius, 1798 or *Eilema* Hübner, 1819. Dubatolov and Zolotuhin, 2011 compared the type species of all the above set of genera and resurrected them to be treated as good genera. Genus *Dolgoma* is known by a total of twelve species distributed from India to China, Thailand and Eastern Asia.

Known species of genus *Dolgoma* Moore from India: *Dolgoma angulifera* (Felder, 1868); *Dolgoma oblitterans* (Felder, 1868); *Dolgoma reticulata* (Moore, 1865); *Dolgoma xanthocraspis* (Hampson, 1900); *Dolgoma brevipennis* (Walker), comb. nov.

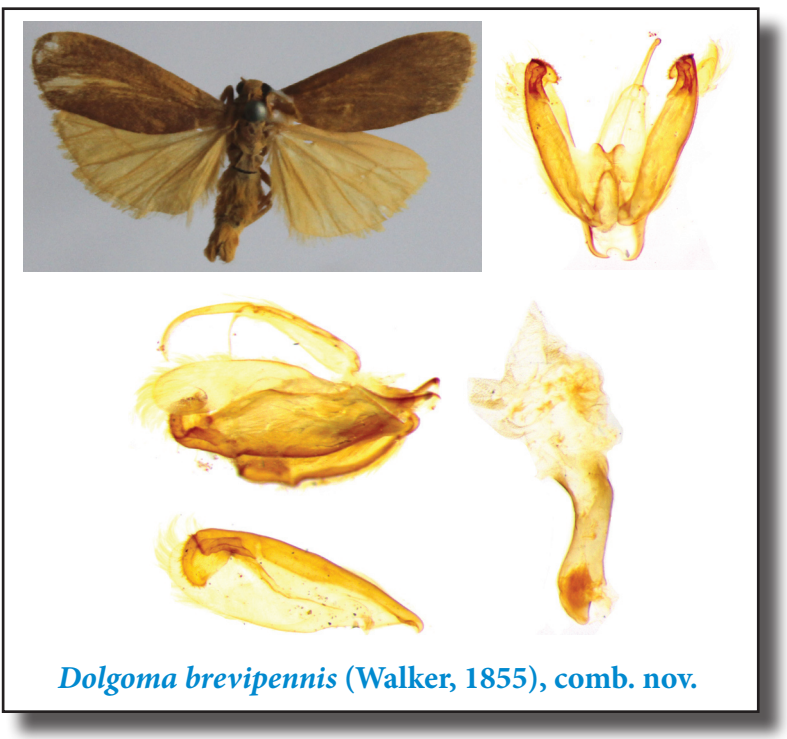
Dolgoma brevipennis (Walker, 1855), comb. nov.

Lithosia brevipennis Walker, 1854; *List. Spec. Lepid. Ins. Colln. Br. Mus.*, **2**: 509.

Forewing with ground colour yellowish-brown; costa pale brown; indistinct medial band of dark scales. Hindwing light yellow. Male genitalia with valvae having sacculus folded, cucullus flap like, valvula with ventral portion spiny leaf like and dorsal region small flap like; juxta weakly sclerotized, flask shaped with paired flap on both sides; aedeagus moderately long and broad, slightly curved; vesica membranous with irroration of small sclerotization.

Distribution: South India (Nilgiris, Coimbatore, Belgaum), Andaman.

Remarks: Shape of aedeagus varies from almost straight to slightly S shape or curved.



Dolgoma brevipennis (Walker, 1855), comb. nov.

Genus *Poliosia* Hampson

Hampson, 1900; *Cat. Lepid. Phal. Br. Mus.,* **2**: 106.

Type species: *Lithosia muricolor* Walker, 1862.

Diagnosis: Hampson (1900) divided genus *Poliosia* into two different groups, *muricolor* and *marginata* group and Holloway (2001) characterized both the groups of genus *Poliosia* Hampson. The *muricolor* group consists of small grey colour species in which the male genitalia have a rectangular uncus with a short apical spur. The juxta is bifid to quadrifid. The valvae have the dorsal part ovate with a strong curved or apically angled process from sacculus, vesica with the cornutus ranging from small to very large. The *marginata* group has deeper and more ovate forewings. Male genitalia with a tapering uncus and a prominent saccus. Juxta weak, saccular process of valvae is prominent but not extending as in *muricolor* group, vesica is large with two or three cornuti.

Remarks: Genus *Poliosia* Hampson, 1900 was erected for its type species, *Lithosia muricolar* Walker, 1862 along with inclusion of eight more species: *Poliosia marginata* Hampson, *Poliosia pulveria Hampson*, *Gampola punctivena* Hampson, *Prabhasa binotata* Hampson, *Dolgoma brunnea* Moore, *Lithosia cubitifera* Hampson, *Poliosia nigrifrons* Hampson and *Brunia fragilis* Lucas. The genus was mainly dealt by Holloway (2001), Černý & Pinratana (2009), and Bucsek (2012) with description of many new species. The distribution of the genus ranges from African to Oriental and Australian region.

Known species of genus *Poliosia* Hampson from India: *Poliosia brunnea* (Moore, 1878); *Poliosia concolora* Holloway, 2001; *Poliosia cubitifera* (Hampson, 1894); *Poliosia muricolor* (Walker, 1862); *Poliosia punctivena* (Hampson, 1898); *Poliosia pseudoconcolora* Singh & Kirti, sp. nov.

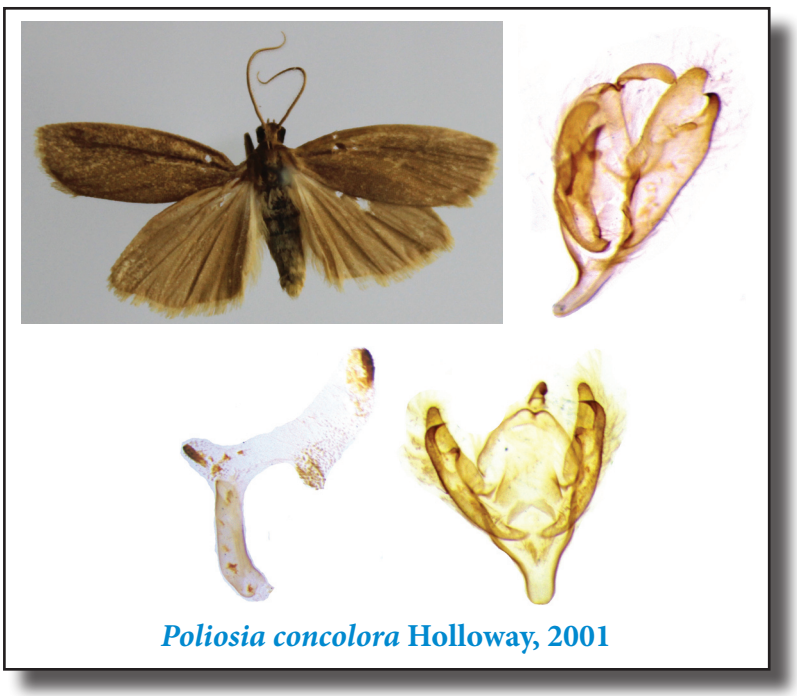
Poliosia concolora Holloway, 2001

Poliosia concolora Holloway, 2001; *The Moths of Borneo*, **7**: 297.

Androconial patch concolorous with the wings. Male genitalia with valvula smoothly curved at tip and shorter than cucullus, saccus deep U- shaped; vesica with two spiny blades on apex of unequal lobes along with a patch of scobinations.

Distribution: North East Himalayas.

Remarks: In our specimens aedeagus is slightly longer than figures of Holloway (2001). *P. concolora* was dealt by Kirti & Singh (2015), however, included here for comparison.



***Poliosia concolora* Holloway, 2001**

Poliosia pseudoconcolora Singh & Kirti, sp. nov.

Description: Adult brownish. Male genitalia with uncus, saccus and valvae typical of marginata group of genus *Poliosia*. Aedeagus with a small apical spine; vesica with two main/almost equal lobes having dentated plates at apex and two sub lobes on the base of main lobes with fields of minute spines on their apex.

Wing span: Males, 22 mm.

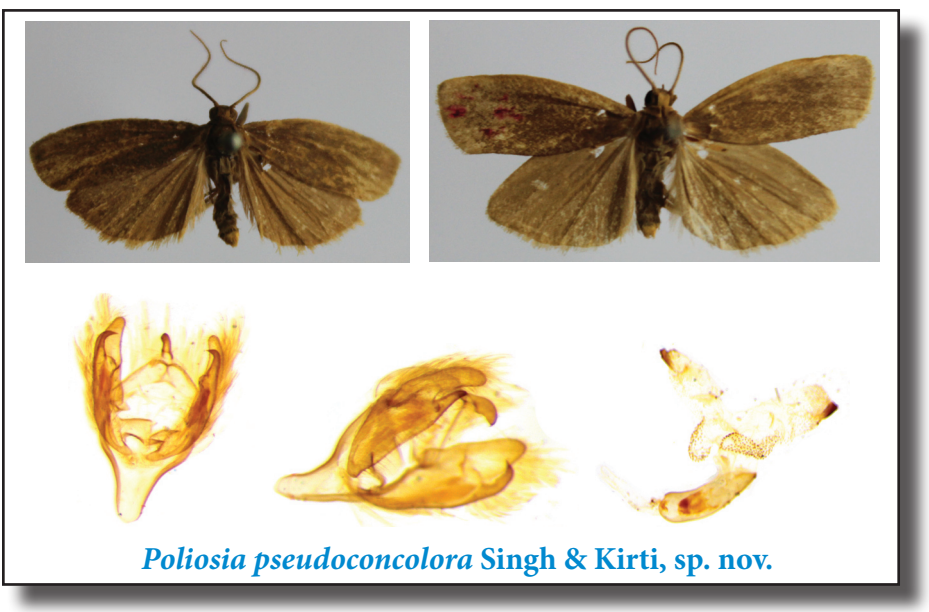
Material Examined

Holotype: Karnataka, Jog falls, 20.x.2006 - male.

Paratype: Karnataka, Kumily, 24.xi.2008 - 01 male.

Remarks: The new species is better diagnosed due to attributes of aedeagus/vesica. Apical plates on two equal lobes of vesica along with apical fields of spines on two subbasal lobes are diagnostic.. Whereas, in *P. concolora* one lobe is very small and two basal/small lobes are absent.

Etymology: The species is named due to its morphological resemblance with *P. concolora*.



***Poliosia pseudoconcolora* Singh & Kirti, sp. nov.**

Genus *Bucsekia* Dubatolov &Kishida

Dubatolov & Kishida, 2012; *Amurian zoological journal*, **4** (2): 177.

Type species: *Wittia yazakii* Dubatolov, Kishida & Wang, 2012.

Diagnosis: Wings uniformly yellow, hindwings paler than forewings. Male genitalia with uncus slender, slightly curved downwards; cucullus tapering to apex; sacculus angularly up-curved, with small spines on distal surface, there is a long additional processes at 2/3 on sacculus ventral surface that is directed baselly, with spines at apex; aedeagus short, stout, without any processes; vesica without cornuti and spinicular plates (Dubatolov & Kishida, 2012).

Remarks: Genus *Bucsekia* Dubatolov & Kishida, 2012 was erected for its type species, *Wittia yazakii* Dubatolov, Kishida &Wang with type locality Nanling (Guangdong, China). Later on, *Bucsekia mediumpilosa* Bucsek, 2012 was discovered from Peninsular Malaysia. At present the genus is known by two species distributed in China, Peninsular Malaysia and India. The genus is reported for the first time from India.

Known species of genus *Bucsekia* Dubatolov & Kishida from India: Sole included species.

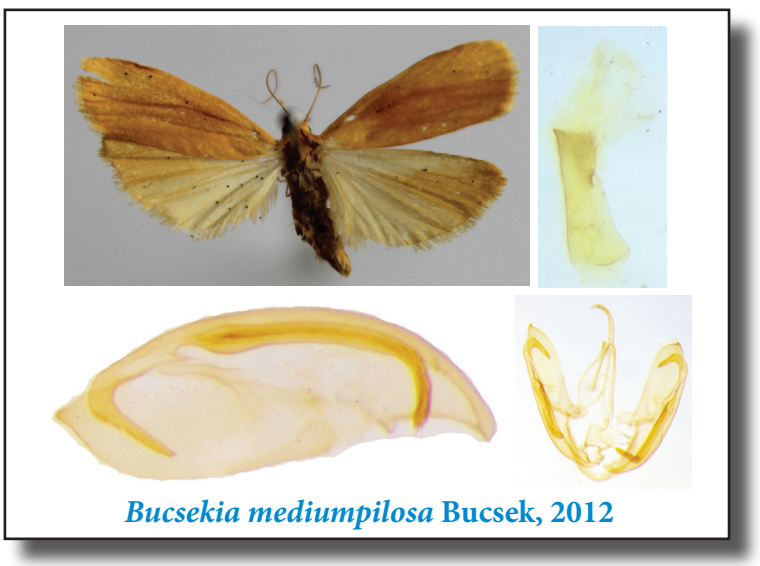
Bucsekia mediumpilosa Bucsek, 2012

Bucsekia mediumpilosa Bucsek, 2012; *Erebidae, Arctiinae (Lithosiinae: Arctiini) of Malay Peninsula-Malaysia*: 135.

Head, thorax and forewing orange yellow. Hindwing paler, with a triangular orange patch at marginal area. Male genitalia with uncus slightly curved; tegumen broad; saccus short; valvae with cucullus flap like, a small process at its apex; saccular process strongly curved at tip with upper edge saw like; another process from sacculus, basely directed and ending to a strong spine; aedeagus with a small apical spine; vesica with a field of scobination.

Distribution: Jammu and Kashmir.

Remarks: Species under reference is reported for the first time.



***Bucsekia mediumpilosa* Bucsek, 2012**

Genus *Tigricollis* Singh & Kirti, gen. nov.

Type species: *Lithosia puncticollis* Butler, 1877.

Diagnosis: Forewing dorsum with a subtornal blackish patch; male genitalia with valvae elongated, apically divided; aedeagus with spined zone at apex; vesica large with multi spined cornutus.

Remarks: New genus is erected for the proper placement of *Lithosia puncticollis* Butler, 1877 and *Tigricollis parapuncticollis* sp. nov., a closely similar species to *puncticollis* Butler.

The genus is distributed in North East India, Borneo, Java, Bali and Lombok.

Etymology: Name of the genus is derived from genus *Tigrioides* Butler and species *Tigricollis puncticollis* Butler comb. nov.

Known species of genus *Tigricollis* Singh & Kirti, gen. nov. from India: Sole included species.

Tigricollis parapuncticollis Singh & Kirti, sp. nov.

Description: Adult dull white. Collar and tegula with black streaks. Forewing with a bifurcated spot below lower angle of cell. Hindwing pale yellow, with suffusion on marginal area. Male genitalia with uncus broad, ending to a small spine; tegumen broad; vinculum forming a deep saccus. Valvae elongated, distal costal area flap like, acute; sacculus folded, saccular process slightly bulbous at tip with an inwardly directed small process. Aedeagus with an incomplete, subapical, multi-layered ring of small spines; vesica with a large patch of spines.

Wing span: Males, 36 mm.

Material examined

Holotype: Arunachal Pradesh, Khonsa, 03.ix.2005 - male.

Paratypes: Arunachal Pradesh, Khonsa, 03.ix.2005 -2 males.

Remarks: Morphologically, *T. parapuncticollis* sp. nov is closely similar to *Tigricollis puncticollis* Butler, 1877, but is distinct due to following male genital attributes: saccular process with bulbous apex; aedeagus with an incomplete multi-layered ring of spines and vesica with a large patch of spines whereas, in *T. puncticolis* the apex of saccular process is acute; aedeagus with an elongated patch of spines at apex and vesica with an apical patch of few spines.

***Tigricollis parapuncticollis* Singh & Kirti, sp. nov.**

Genus *Wittia* De Freina

De Freina, 1980; *Nachrichtenblatt der bayerischen Entomologen*, **29**: 80.

Type species: *Bombyx aureola* Hübner, [1803] 1796 (subsequently designated by Moore, 1878).

Diagnosis: Forewings moderate in width and with a curvation of costal margin, unicolourly yellow, pattern less. Male genitalia with uncus long and slender; valvae with wide costal process; saccular process apically sclerotized, long, up curved; inner surface of valvae with a bump process; juxta without apical processes; saccus short; aedeagus with small apical process; vesica bag shaped, short with indistinct short lobes and cornutus. (Revised from Dubatolov & Zolotuhin, 2011).

Remarks: Genus *Wittia* De Freina, 1980 was established as a replacement name for *Systropha* Hübner, [1819] 1916 with type species *Bombyx aureola* Hübner, [1803] 1796. The genus was mainly dealt by: Dubatolov & Zolotuhin (2011); Dubatolov *et al.* (2012); Bucsek (2012) and Bayarsaikhan *et al.* (2016). At present genus *Wittia* is known by its type species, along with *Wittia klapperichi* (Daniel) from China (Zhejiang, Fujian, Sichuan, Yunnan, Guangdong), *Wittia sororcula* (Hufnagel, 1766) from Korea, China, Russia (Far East), Moldova, Belarus, Ukraine, Vietnam and *Wittia constansa* Bucsek, 2012 from Malaysia. Three further species, *Wittia kailashi* Singh & Kirti, sp. nov., *Wittia freinai* Singh & Kirti, sp. nov., *Wittia neokailashi* Singh & Kirti, sp.nov. are described here from India The genus is reported for the first time from India.

Known species of genus *Wittia* De Freina from India: *Wittia kailashi* Singh & Kirti, sp. nov.; *Wittia freinai* Singh & Kirti, sp. nov.; *Wittia neokailashi* Singh & Kirti, sp. nov.

Wittia kailashi Singh & Kirti, sp. nov.

Description: Adult orange yellow. Forewing long and narrow. Hindwing paler. Male genitalia with uncus curved, ending to a small spine; tegumen long and narrow; saccus squarish. Valvae elongated, with a flap like acute apex; ventral edge folded; a small bump beyond the middle of inner wall, covered with small spines; valvula minutely bulbous, a prominent apical spine and a subapical lobe covered with small spines. Aedeagus with a dentated plate at apex; vesica with a prominent apical plate, surrounded with field of scobination.

Wing span: Males, 22 mm.

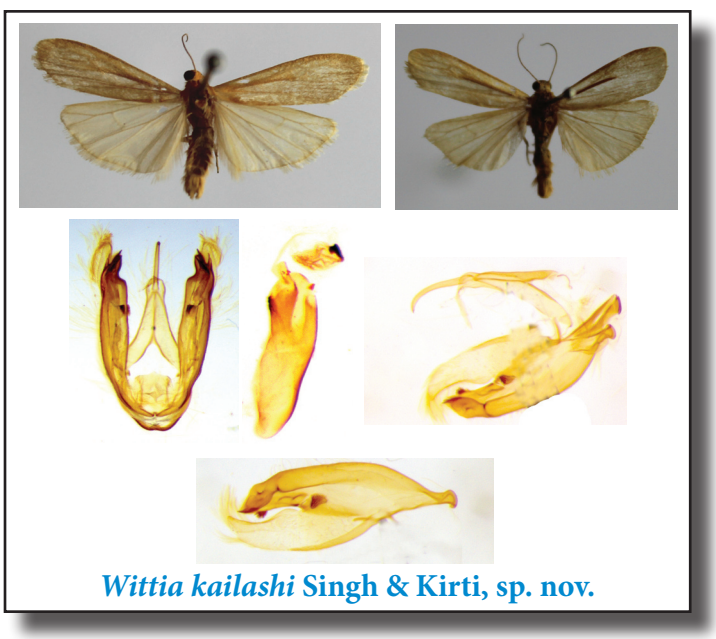
Material Examined

Holotype: Himachal Pradesh, Joginder Nagar, 26.vi.2009 - male.

Paratype: Himachal Pradesh, Joginder Nagar, 26.vi.2009 - 01 male.

Remarks: Valvae with a small, spined bump beyond middle of inner wall and a prominent apical plate in vesica is diagnostic for the species.

Etymology: The species is named on the honour of an eminent entomologist of India, Dr Kailash Chandra, Zoological Survey of India, Kolkata.



***Wittia kailashi* Singh & Kirti, sp. nov.**

Wittia freinai Singh, Kirti & Joshi, sp. nov.

Description: Adult orange yellow. Forewing long and narrow but comparatively broader than *W. kailashi,* sp. nov. Hindwing paler. In general, male genitalia is closely similar to *W. kailashi* having following distinct characters: valvae with the central and subapical lobe of valvula very few spines; aedeagus longer with week apical spine; vesica plate is also short.

Wing span: Males, 26 mm.

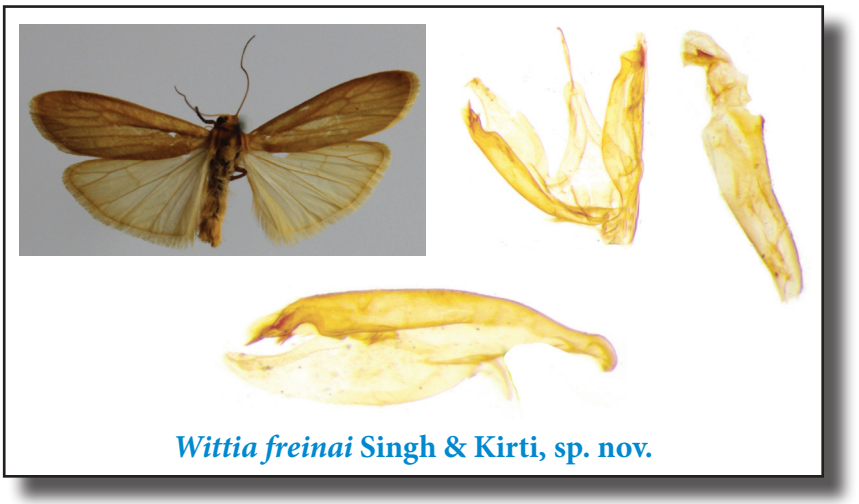
Material Examined

Holotype: Arunachal Pradesh, Tamen, 21.x.2008 - male (Coll. Rahul Joshi).

Paratype: Arunachal Pradesh, Tamen, 21.x.2008 - 1male.

Remarks: *Wittia freinai* sp. nov. is closely similar to *Wittia kailashi*, but is distinct due to characters mentioned under description.

Etymology: The species is named on the honour of Dr De Freina.



***Wittia freinai* Singh & Kirti, sp. nov.**

Wittia neokailashi Singh & Kirti, sp.nov.

Description: Adult dark orange yellow. Forewing long and narrow. Hindwing paler. Male genitalia with uncus ending to a small spine. Valvae elongated, divided into flap like, weakly sclerotized costal area, tapering to acute apex; ventral edge folded; a small bump beyond the middle of inner wall, covered with small spines; valvula minutely bulbous, with prominent apical spine and a subapical lobe covered with small spines. Aedeagus without any plate at apex; vesica with a weak, slightly rounded spine, surrounded with field of scobination.

Wing span: Males, 22 mm.

Material Examined

Holotype: Jharkhand, Betla, 09.x.2012 - male.

Paratypes: Jharkhand, Betla, 09.x.2012 - 3 males.

Remarks: Morphologically, *Wittia neokailashi* sp. nov. is closely similar to previous two species. However, the distinct attributes are: slightly darker ground colour, aedeagus without apical dentated plate and vesica with apical spine is very weak and somewhat rounded.

Etymology: Species is named due to its close resemblance with *Wittia kailashi*, sp. nov.

***Wittia neokailashi* Singh & Kirti, sp.nov.**

Genus *Teulisna* Walker

Walker, 1862; *J. Proc. Linn. Soc.* (Zool.), **6**:109.

Type species: *Teulisna plagiata* Walker, 1862.

Diagnosis: The distinctive feature of this genus are in the male genitalia: vinculum developed into a squarish frame, indented slightly at the distal margin that supports the membrane with setosed patches or scent pencils; the saccular process of valvae with dense setae or spines apically.

Remarks: Genus *Teulisna* Walker, 1862 was described for its type species, *Teulisna plagiata* Walker, 1862. The genus is mainly reviewed by Holloway (2001). Genus *Teulisna* Walker shows high diversity in oriental region.

Known species of genus *Teulisna* Walker from India: *Teulisna basigera* (Walker, 1864); *Teulisna inducta* (Walker, 1864); T*eulisna murina* (Heylaerts, 1891); *Teulisna nebulosa* (Walker, 1862); *Teulisna obliquistria* Hampson, 1894; *Teulisna plagiata* Walker,1862; *Teulisna protuberans* (Moore, 1878); *Teulisna tumida* (Walker, 1862); *Teulisna uniplaga* Hampson, 1894; *Teulisna tenebrosus* Singh & Kirti, sp. nov.

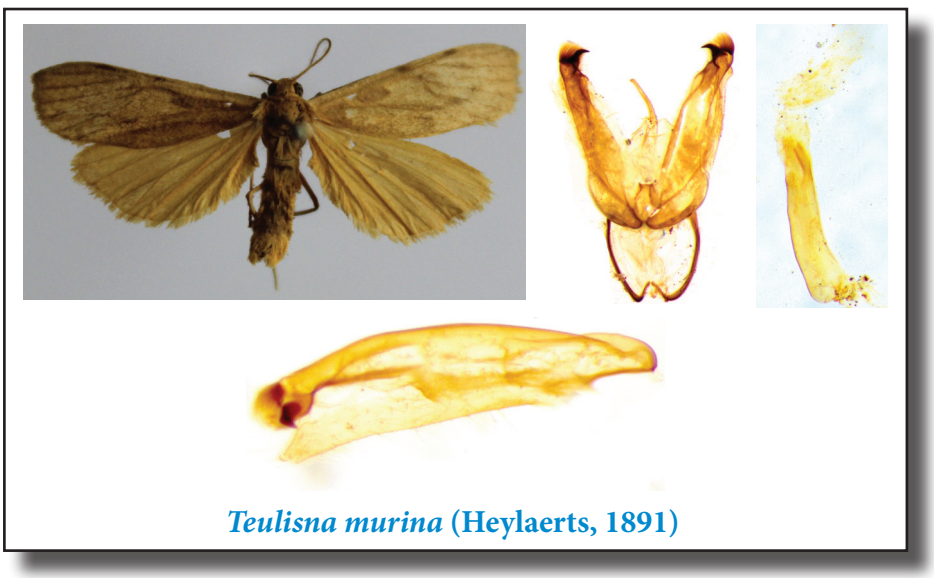
Teulisna murina (Heylaerts, 1891)

Lithosia murina Heylaerts, 1891; *Ann. Soc. Ent. Belg.*, **35**: 411.

Adult yellowish brown. Forewing irrorated with dark brown scales; costa black towards basal half; medial and postmedial costal spots; cell with raised androconial scales; a furrow below cell. Male genitalia with uncus long and narrow; tegumen short and broad; vinculum long, giving rise to squarish saccus with its distal margin indented; scent pencils between saccus and valvae, the latter with bulbous end bearing a strong curved spines with broad furrow on its outer margin; aedeagus long, vesica unornamented.

Distribution: Nagaland (Wokha).

Remarks: The species is reported for the first time from India. The geographical range of the species is: Nagaland (North East India) (new record); Java, Borneo, Peninsular Malaysia and Cambodia.



Teulisna murina (Heylaerts, 1891)

Teulisna tenebrosus Singh & Kirti, sp. nov.

Description: Adult dark brown. Head and collar orange yellow. Thorax and tegula fuscous. Forewing short and broad basal, medial and postmedial dark spots on costa. Male genitalia with uncus small having mid ventral swelling; the basal area bulbous and membranous; tegumen short; vinculum forming a deep, squarish saccus; valvae narrow, curved with a digitate valvula; saccular process weak, membranous; vesica with a field of scobination.

Wing span: Males, 22 mm.

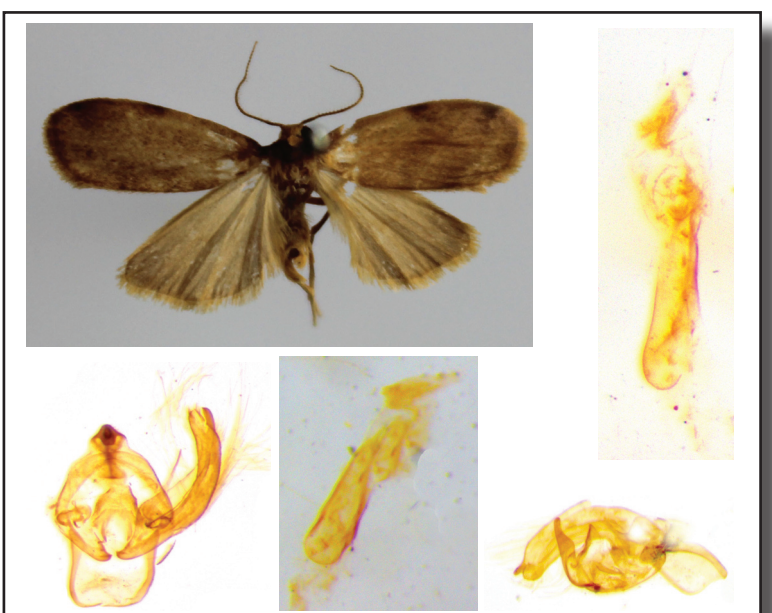
Material Examined

Holotype: Assam, Jatinga, 21.ix.2008 - male.

Paratype: Assam, Jatinga, 21.ix.2008 - 1 male.

Remarks: Morphologically, *Teulisna tenebrosus* sp. nov. is near to *Teulisna steineri* Holloway, 2001, *Teulisna impara* Bucsek, 2012 and *Teulisna locus* Bucsek, 2012 but is darker than all of them. In male genitalia, digitate valvula is diagnostic.

Etymology: Name of the species is derived from its comparatively dark ground colour.



***Teulisna tenebrosus* Singh & Kirti, sp. nov.**

Genus *Byrsia* Walker

Walker, [1865] 1864, *List Spec. Lepid. Insects Colln. Br. Mus.,* **31**: 193.

Type species: *Byrsia dotata* Walker, [1865] 1864 (by monotypy).

Diagnosis: *Byrsia* species have the red and black margin to the roughly triangular forewing. In male genitalia, the lobes to the ventral part of the vinculum are reduced, and the valvae have coremata baselly. The dorsal part of the valvae is membranous, invested with a mass of swollen, club like scales; aedeagus vesica bears a single massive cornutus (Holloway, 2001).

Remarks: The genus is reported for the first time from India.

Known species of genus *Byrsia* Walker from India: Sole included species.

Byrsia neoaurantiaca Singh & Kirti, sp. nov.

Description: Adult bright yellow. Head, collar, thorax and tip of tegula black. Forewing with a basal black patch; postmedial band outwardly oblique to meet anal angle; costa beyond it and cilia black. Hindwing with an apical black patch. Male genitalia with uncus long and curved; tegumen short and broad; saccus squarish; valvae broad flap like with dense setae on outer wall; a curved elongated process from before middle of costa; vesica with a robust spine.

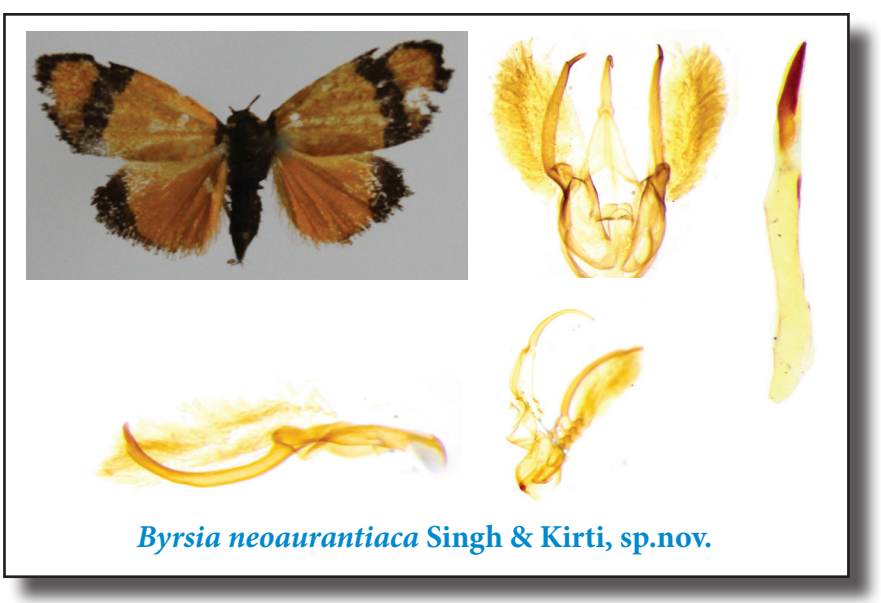
Wing span: Males, 18 mm.

Material Examined

Holotype: Jammu & Kashmir, Gulmarg, 28.viii.2014 - male.

Remarks: *Byrsia neoaurantiaca* sp.nov. is distinct from *B. aurantiaca* (Snellen, 1886) due to following attributes: apical area (area beyond postmedial band) of forewing is concolourous with rest of the wing whereas, it is dark reddish brown in *B. aurantiaca*. In male genitalia the membranous part of valvae is narrow and almost equals to the costal process whereas, it is broad and short in *aurantiaca*.

Etymology: Name of the species is due to its close resemblance with *B. aurantiaca*.



***Byrsia neoaurantiaca* Singh & Kirti, sp.nov.**

Genus Nishada Moore

Moore, 1878, *Proc. Zool. Soc. Lond.*,**1878**: 23.

Type species: *Nishada flabrifera* Moore.

Diagnosis: Wings unpatterned, yellow to brownish; hindwings short, shortness more developed in males. Males with a paired pouch-like structure on third abdominal tergite. Male genitalia: valvae with a long spine like process arising from costa. Female genitalia: corpus bursae spherical but may have a neck continuing from the long and narrow ductus bursae; two signa present (Holloway 2001; Kirti & Singh 2015).

Remarks: Genus *Nishada* Moore (1878) was proposed as a monotypic genus, under subfamily Lithosiinae, family Lithosiidae (now Lithosiini), including only *Nishada flabrifera* Moore (1878) from Calcutta (now as Kolkata), India. *Nishada* is mainly dealt by Hampson (1900, 1911), Swinhoe (1902), Rothschild (1912, 1913), Matsumura (1927), Debauche (1938), Roepke (1946), Holloway (2001), Bucsek (2012), Dubatolov & Bucsek (2013), Bucsek (2016) and Joshi *et al.* (2016). At present, *Nishada* comprises 20 species from the world, of which four are known from India. The genus is distributed from China to India, Thailand, Malaysia and up to Australia.

Known species of genus *Nishada* Moore from India: *Nishada chilomorpha* (Snellen, 1877); *Nishada flabrifera* Moore, 1878; *Nishada rotundipennis* (Walker, 1862); *Nishada pseudochilomorpha* Joshi & Singh, 2016.

Nishada pseudochilomorpha Joshi & Singh, 2016

Nishada pseudochilomorpha Joshi & Singh, 2016; *Zootaxa*, **4179(1)**: 128-132.

Nishada pseudochilomorpha Joshi & Singh together with *N. impervia*, *N. chilomorpha* and *N. rotundipennis* is distinct from its congeners in the presence of a black marginal zone on the underside of the forewing. Among these four, *N. impervia* is easily recognized by the black colour of the head, tegulae and patagia bases. On its turn, in *N. rotundipennis* presents a more pronounced black marginal zone of forewing and in male genitalia, the saccular process is long and evenly curved. Hence, *N. pseudochilomorpha* Joshi & Singh is most closely similar to *N. chilomorpha* and its subspecies *N. chilomorpha adunca* Holloway but is distinguished by the following attributes: pale vertex; forewings paler; vinculum absent; aedeagus narrow and indented at apex. In contrast, *N. chilomorpha* and *N.chilomorpha adunca* presents a brown vertex; forewings brownish; vinculum well developed, long; aedeagus broad and straight at apex.

Distribution: Assam (Jatinga).



Nishada pseudochilomorpha Joshi & Singh, 2016

Genus *Planovalvata* Dubatolov & Kishida

Dubatolov & Kishida, 2012; *Tinea*, **22 (1)**: 25-52

Type species: *Eugoa roseivena* Hampson, 1894

Diagnosis: Uncus long hook-like; valve with a reduced saccular part and a long flat cucullus bearing some dents apically; vesica with a single spine-like cornutus and an additional sclerotized band.

Remarks: The genus belongs to the series of *Miltochrista*-like genera without remarkable external characters. Male genital attributes are diagnostic. The genus is known by its type

species distributed in North East India (Hunli) (new record); Myanmar (Burma), Thailand, China (Jiangxi, Fujian, Hunan, Guangxi, Guangdong, Hainan, Yunnan).

Known species of genus *Planovalvata* Dubatolov & Kishida from India: Sole included species.

Planovalvata roseivena (Hampson, 1894)

Eugoa roseivena Hampson, 1894, *Fauna Br. India* (Moths) **2**: 99.

Adult pale yellow. Head, collar, tegula and forewing veins streaked with red. Male genitalia with uncus long, slightly bulbous at apical 1/3, ending to a small spine; tegumen and vinculum short; valvae long and broad with tip blunt, dorsal edge dentated, ventral edge giving out long hairs, valvula with a short and a prominent spine at tip; aedeagus slightly curved; vesica with prominent spines and sclerotized plate along with scobination.

Distribution: Arunachal Pradesh (Hunli).

Remarks: The species is new record for Indian Fauna of Arctiidae.

Planovalvata roseivena (Hampson, 1894)

Genus *Microlithosia* Daniel

Microlithosia Daniel, 1954; *Bonn. Zool. Beitr*., **5 (12)**: 135.

Type species: *Microlithosia shaowuica* Daniel, 1954 (by monotypy).

Diagnosis: Forewings dark yellow/orange. Hindwings paler than forewings. In male genitalia, apex of sacculus with strong spines or processes; ventral edge of sacculus with long additional process (basal branch of sacculus) directed distally or with a small triangular process; aedeagus short, stout with a long process originated from the middle part of aedeagus, this process is at least 1.5 times or twice longer than aedeagus; apically it is covered with small spines; vesica with or without spine-like cornuti. (Dubatolov & Kishida, 2012).

Remarks: Genus *Microlithosia* Daniel, 1954 was described for *M.shaowuica* Daniel from Fujian: Shaowu. The Genus was reviewed by Dubatolov & Kishida, 2012 with inclusion of four species, *M. shaowuica* Daniel, 1954 (the type species) from South-Eastern China, *M. nanlingica* Dubatolov, Kishida & Wang, 2012 from South China, *M. umbripuncta* (de Joannis, 1928) from Indochina, and *M. decreta* (Butler, 1877) from Borneo and Thailand. Bucsek (2012, 2014) then described two new species, *Microlithosia pseudodecreta* Bucsek, 2012 and *Microlithosia johara* Bucsek, 2014 from Malaysia. With description of a new species from Mizoram, the genus is reported for the first time from India.

Known species of genus *Microlithosia* Daniel from India: Sole included species.

Microlithosia champhaiensis Singh & Kirti, sp. nov.

Description: Adult orange brown. Hindwing paler. Legs with tibia and tarsi black. Male genitalia with uncus long and curved in distal half; saccus broad, u shaped; juxta dome shaped; valvae long and broad flap like, the apical portion of saccular process curved at 90 degree; aedeagus short, with a long process originating from it; the latter with series of dense spines on inner side of distal half; vesica with a field of scobination and a series of small spines.

Wing span: Males, 24 mm.

Material Examined:

Holotype: Mizoram, Champhai, 25.ix.2009 - male.

Paratype: Mizoram, Champhai, 25.ix.2009 - 01 male.

Remarks: Morphologically, all the *Microlithosia* species are almost similar in appearance and can be better diagnosed on the basis of male genital attributes. *Microlithosia champhaiensis* sp. nov. is distinct from its congeners due to smooth (without any bifurcation/ lateral/apical spines) and curved saccular process. In all the other species of *Microlithosia*, the saccular process is either bifurcated and /or bears the apical/lateral spines.

Etymology: Name of the species pertains to its type locality, Champhai (Mizoram).

Microlithosia champhaiensis Singh & Kirti, sp. nov.

Genus *Chamaita* Walker

Walker, 1862; *Journ. Proc. Linn. Soc,* (Zool.) **6**: 121.

Type species: *Chamaita trichopteroides* Walker, 1862.

Diagnosis: The genus has translucent appearance, with elongate hairy scape in male antennae. Male genitalia diverse in structure and generally, have the bilateral asymmetry.

Remarks: The genus *Chamaita* Walker, 1862 was described for *Chamaita trichopteroides* Walker, 1862. In appearance the genus is very much similar to *Schistophleps* Hampson, 1891. Genus *Chamaita* Walker was reviewed by Holloway (2001) and later on dealt by Černý & Pinratana (2009), Bucsek (2012) and Dubatolov & Bucsek (2013). The genus is distributed throughout Indo-Australian region.

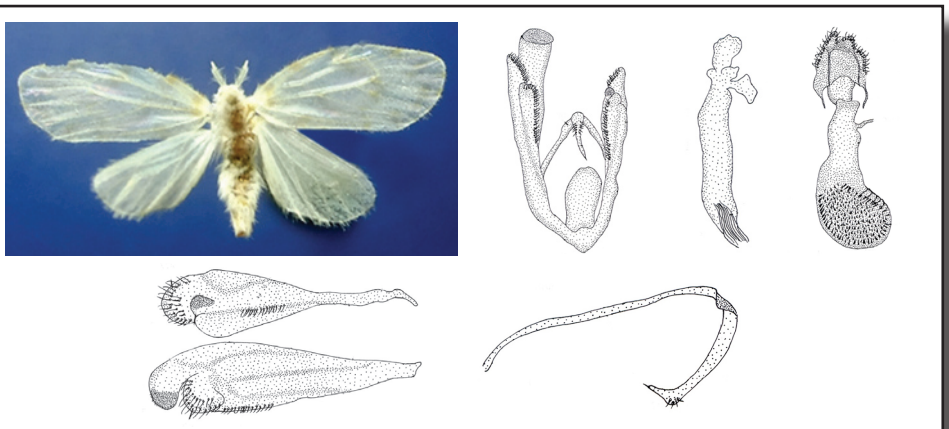
Known species of genus *Chamaita* Walker from India: *Chamaita neuropteroides* Hampson, 1894; *Chamaita nympha* (Moore, 1887).

Chamaita neuropteroides Hampson, 1894

Chamaita neuropteroides Hampson, 1894; *Fauna of Br. Ind. Moths,* **2:** 125.

Forewing semi-diaphanous white with indistinct antemedial and medial waved fulvous lines; submarginal and marginal series of specks. Male genitalia with uncus long; valvae with cucullus blunt at apex, setosed; valvula membranous flap like, setosed; aedeagus short and broad, membranous; vesica membranous. Female genitalia with corpus bursae pot shaped, setosed with minute spines.

Distribution: North East Himalaya.



Chamaita neuropteroides Hampson, 1894

Genus *Zadadra* Moore

Moore, 1878; *Proc. Zool. Soc. Lond.*, **1878**: 25.

Type species: *Zadadra distorta* Moore, 1872.

Diagnosis: Genus *Zadadra* Moore is closely allied to genus *Prabhasa* Moore. The main synapomorphic characters for both the genera are reduced juxta and transtilla forming an arch above aedeagus. But are distinct due to uncus long and narrow and sacculus and cucullus wide in *Zadadra* Moore and uncus slightly S-curved; sacculus almost fused by their ventral edges, their apices upturned; cucullus noticeably shorter than sacculus in *Prabhasa* Moore (Dubatolov & Zolotuhin, 2011).

Remarks: Moore (1878) erected the monotypic genus *Zadadra* to accommodate *Lithosia distorta* Moore, 1872 from Darjeeling (India). In recent years, the genus is reviewed by Dubatolov & Zolotuhin (2011) and Joshi *et al.*, (2015). *Zadadra* Moore is known by five species distributed in India, China, Thailand, Vietnam and Nepal. One further species is described here from India.

Known species of genus *Zadadra* Moore from India: *Zadadra distorta* (Moore, 1872); *Zadadra fuscistriga* (Hampson, 1894); *Zadadra neodistorta* Joshi, Kirti & Singh, 2015; *Zadadra cucullata* Joshi, Kirti & Singh, 2015; *Zadadra jatingensis* Singh & Kirti, sp. nov.

Zadadra jatingensis Singh & Kirti, sp. nov.

Description: Adult dull brown. Forewing with a deep groove below cell, and extending along the vein Cu_1; another groove extending from the cell to apex, the upper area of grooves is blabbed. Hindwing with an elongate brown patch on base of costa. Male genitalia with uncus bifurcated at apex; tegumen short; vinculum long, forming notched saccus; valvae broad and concaved, a curved flap like structure at the apex of costa, another flap on the mid of ventral edge, valvula strongly sclerotized with a small pipe like apex giving appearance of bifurcation; aedeagus short, vesica unornamented.

Wing span: Males, 28 mm.

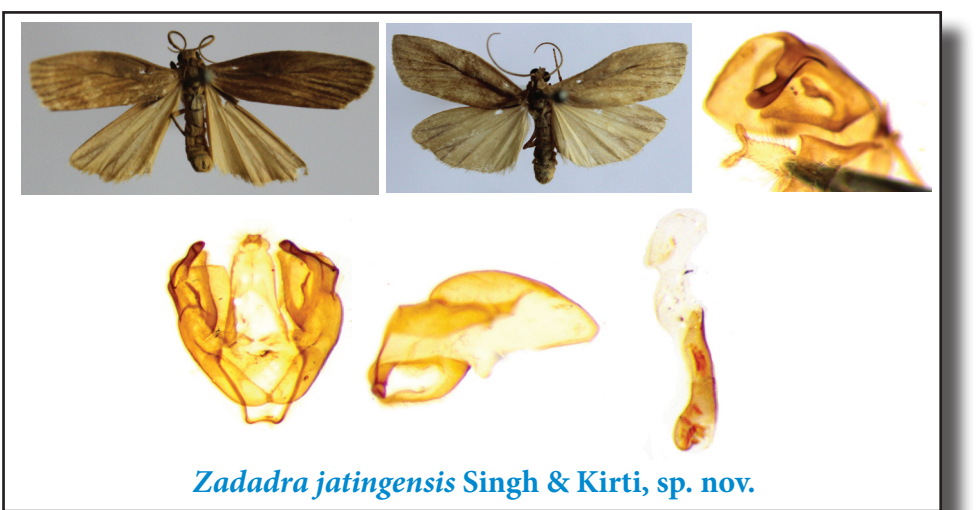
Material Examined

Holotype: Assam, Jatinga, 10.x.2009 - male.

Paratype: Assam, Jatinga, 9.x.2008 - 1 male.

Remarks: Bifurcated uncus and shape of valvae is diagnostic for the species. Species *jatingensis* sp. nov. seems to be atypic of genus so, its placement in *Zadadra* is tentative.

Etymology: Name of the species pertains to its type locality.



***Zadadra jatingensis* Singh & Kirti, sp. nov.**

Genus *Disasuridia* Fang

Fang, 1991; *Acta Entom. Sin.*, **34** (3): 356.

Type species: *Disasuridia rubida* Fang, 1991.

Diagnosis: The genus is distinct due to broad uncus which is concave terminaly and have a ridge on dorsal portion, valvae broad and long with a membranous and oblong lamella on the apical area; aedeagus short and stout with two strong and big horn shape cornuti in vesica.

Remarks: The genus *Disasuridia* Fang, 1991 was established for its type species *Disasuridia rubida* Fang, 1991 from Yunan (China) along with four new species, *flava* Fang, *conferta* Fang, *confusa* Fang and *birgula* Fang from China. In 2013, Kirti *et al.* added the sixth species *Disasuridia fangae* Kirti, Joshi and Singh, 2013 from Mizoram. This genus is distributed from mountainous area of Yunan (China) to the mountains of Mizoram (North East India).

Known species of genus *Disasuridia* Fang from India: Sole included species.

Disasuridia fangae Kirti, Joshi & Singh, 2013

Disasuridia fangae Kirti, Joshi & Singh, 2013; *Tinea,* **22** (4): 269-271.

This species was included in, Arctiid moths of India, vol. 1. But the specimen included here is a morpho-variant of *D. fangae*. The postmedial spot of forewing is absent and a discoidal black spot is present in hindwing.

Distribution: Mizoram (Thingsul).

Disasuridia fangae Kirti, Joshi & Singh, 2013

Subfamily SYNTOMINAE

Genus *Eressa* Walker

Walker, 1854; *List Spec. Lepid. Insects. Colln. Br. Mus.,* **1**: 149.

Type species: *Glaucopis confinis* Walker, 1854.

Diagnosis: Male genitalia with robust tegumen having internal processes; uncus broad, triangular, with slight lobes basally and laterally; valvae short, rounded; juxta like inverted 'V'; aedeagus slender, evenly curved; vesica unornamented. Female genitalia with eighth segment is a darkly sclerotised ring of even thickness, with the ostium in centre; corpus bursae with single, central, rhomboidal, scobinate signum (Holloway, 1988).

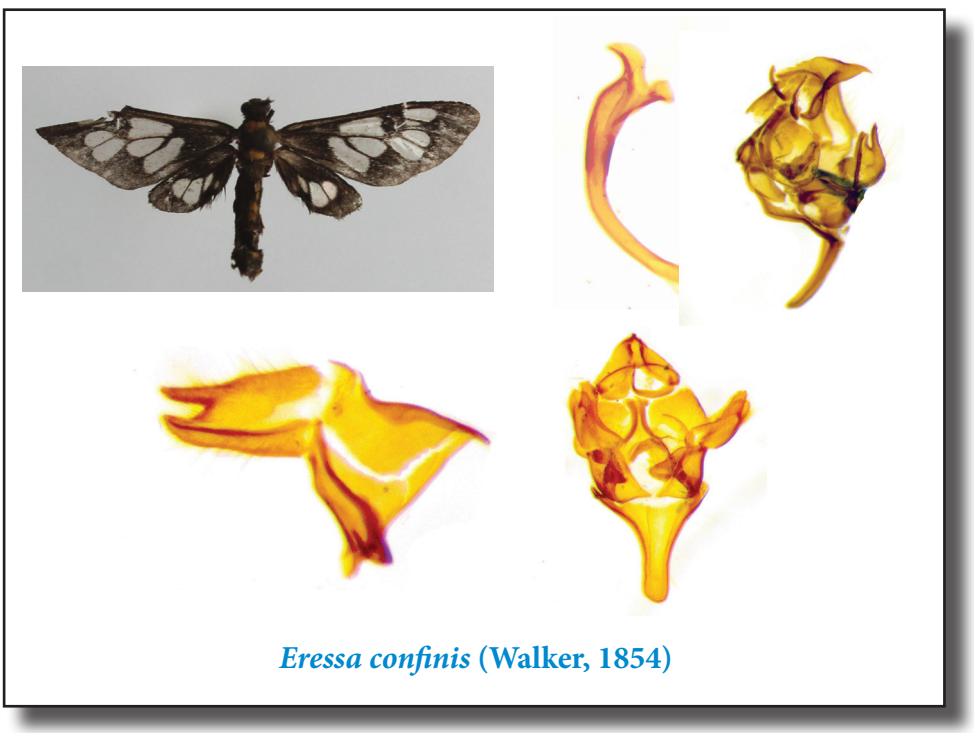
Known species of genus *Eressa* Walker from India: *Eressa affinis* Moore, 1877**;** *Eressa aperiens* (Walker, 1864); *Eressa confinis* (Walker, 1854); *Eressa discinota* (Moore, 1879); *Eressa ichneumoniformis* Rothschild, 1910; *Eressa lepcha* (Moore, 1879); *Eressa nigra* (Hampson, 1892); *Eressa vespoides* Rothschild, 1910.

Eressa confinis (Walker, 1854)

Glaucopis confinis Walker, 1854, *List Spec. Lepid. Insects. Colln. Br. Mus.*, **1**: 149.

Adult dull black; yellow spots on pro-thorax and meta-thorax. Forewing with a hyaline spot in cell, one in interno-median interspace, and one spot each in submarginal interspace. Hindwing is a single word wing with hyaline spots in interspaces. Abdomen with dorsal and ventral yellow spots. Male genitalia with uncus short having lateral flaps, joined to lateral flap of short tegumen; vinculum forming a deep saccus; valvae short, bifurcated at tip; aedeagus curved, vesica unornamented.

Distribution: North West Himalayas, Assam, Sikkim, West Bengal, Punjab, Uttar Pradesh, South India, Meghalaya, Arunachal Pradesh, Nagaland, Bihar.



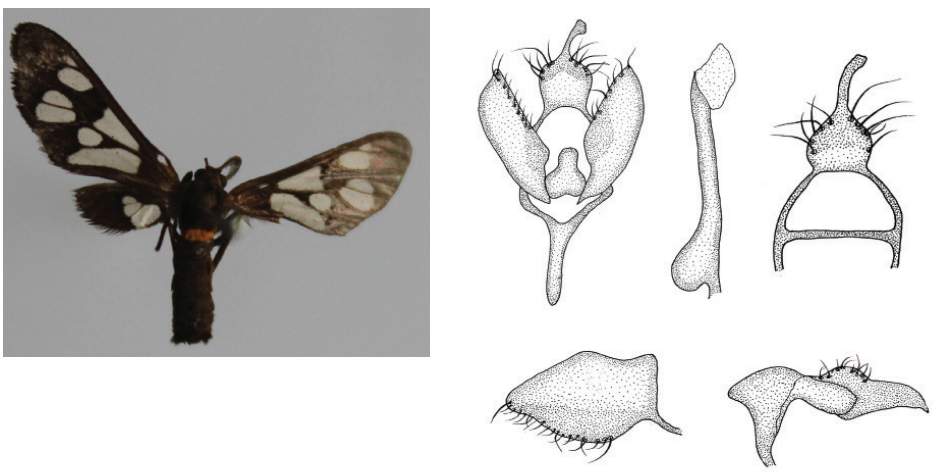
Eressa confinis (Walker, 1854)

Eressa aperiens (Walker, 1864)

Syntomis aperiens Walker, 1864; *Cat. Lep. Het.*, **31**: 68.

Adult black. Forewing with an elongated spot in cell, another similar spot in interno-median interspace, a small rounded spot between them; postmedial series of four spots. Hindwing with a large, subbasal spots below and beyond cell, crossed by veins. Abdomen with single orange band on first segment. Male genitalia with uncus very broad at base; tegumen broad; saccus very long; valvae simple, broad at base; vesica unornamented.

Distribution: Maharashtra, Tamil Nadu (Nilgiris), Meghalaya (Khasi Hills).



Eressa aperiens (Walker, 1864)

Genus *Amata* Fabricius

Fabricius, 1807; *Magazin Insektenk. (Illiger)* **6**: 289.

Type species: *Zygaena passalis* Fabricius, 1781.

Diagnosis: The genitalia are asymmetric in both sexes. In males the tegumen has prominent lateral lobes. The valvae have strong, curved, asymmetric processes from the base of the costa and are themselves asymmetric. The aedeagus vesica contains a row (or rows if it has more than one lobe) of small cornuti, some of which can become very long. In the female genitalia the ostium is set asymmetrically between the eighth and seventh tergites (Holloway, 1988).

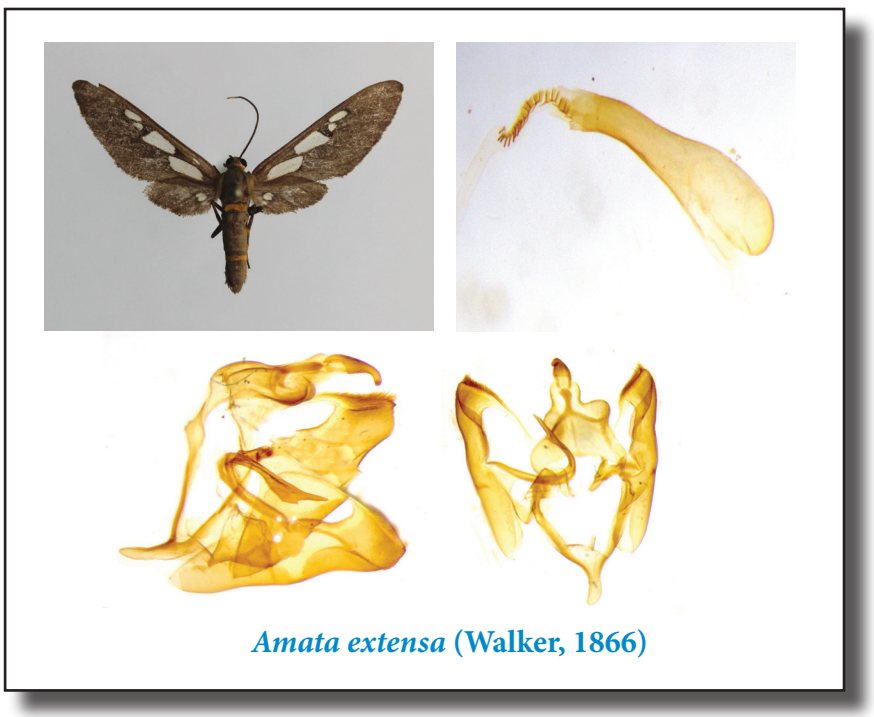
Known species of genus *Amata* Fabricius from India: *Amata actea* (Swinhoe, 1891); *Amata assamica* Rothschild, 1912; *Amata aurea* (Swinhoe, 1908); *Amata aureola* (Swinhoe, 1902); *Amata baiaea* (Swinhoe, 1891); *Amata bicincta* (Kollar, 1844); *Amata chlorocera* (Hampson, 1892); *Amata cingulata* (Weber, 1801); *Amata compta* (Walker, 1869); *Amata congenita* Hampson,1918; *Amata cyssea* (Cramer, 1782); *Amata divisa* (Walker, 1854); *Amata elongata* (Hampson, 1900); *Amata era* (Swinhoe, 1891); *Amata extensa* (Walker, 1866); *Amata flavifrons* (Hampson, 1892); *Amata flavolavata* Rothschild, 1910; *Amata formosae* (Butler, 1876); *Amata gelatina* (Hampson, 1890); *Amata georgina* (Butler, 1876); *Amata huebneri* (Boisduval, 1829); *Amata hydatina* (Butler, 1876); *Amata insueta* (Swinhoe, 1892); *Amata khasiana* (Butler, 1876); *Amata leucosoma* (Butler, 1876); *Amata lucina* (Butler, 1876); *Amata luteifascia* (Hampson, 1892); *Amata madurensis* (Hampson, 1901); *Amata minor* (Warren, 1888); *Amata multifasciata* (Hampson, 1892); *Amata multigutta* (Walker, 1854); *Amata newara* (Moore, 1879); *Amata ochreipuncta* (Hampson, 1892); *Amata passalis* (Fabricius, 1781); *Amata pectoralis* (Walker, 1854); *Amata phoenicozona* (Hampson,1897); *Amata pleurasticta* (Hampson, 1901); *Amata serrata* (Hampson, 1892); *Amata sperbius* (Fabricius, 1787); *Amata submarginalis* (Walker, 1869); *Amata syntomoides* (Butler, 1876); *Amata unifascia* (Hampson, 1892); *Amata verecunda* (Swinhoe, 1902); *Amata vitrea* (Walker, 1856); *Amata wimberleyi* (Swinhoe, 1889); *Amata xanthograpta* Hampson, 1914.

Amata extensa (Walker, 1866)

Syntomis extensa Walker, 1866; *Cat. Lep. Het.,* **35**: 1863.

Adult blackish brown. Collar yellowish. Forewing with an oblique series of hyaline spots; one elongated spot in interno-median interspace, one filling the cell, and two beyond the cell. Hindwing with a subbasal hyaline spot. Male genitalia with uncus slightly curved before tip; tegumen very broad and tilted at an angle; vinculum long, forming a deep saccus. Valvae long and broad, bilaterally asymmetrical; right valvae with apex giving rise to the long process from dorsal edge, a small mid costal process present; left valvae with apical process from dorsal edge longer, mid costal process robust, long and curved. Aedeagus almost straight; vesica with a long series of compactly packed spines.

Distribution: Maharashtra (Bombay, Matheran, Mahabaleshwar, Malshej Ghat), Tamil Nadu (Nilgiri Hills).



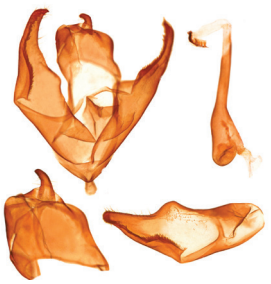
Amata extensa (Walker, 1866)

Amata cyssea (Cramer, 1782)

Sphinx cyssea Cramer, 1782; *Pap. Exot.*, **4**: 124.

Adult dull black. Frons and neck yellow. Forewing with a subbasal spot below cell, two obliquely placed medial spots and postmedial spots beyond upper angle of cell and beyond lower angle of cell. Hindwing with a subbasal spot, followed by a small spot. Abdomen with two bands. Male genitalia with uncus slightly c-shape; tegumen broad, tilted at an angle; vinculum long, forming a deep saccus. Valvae elongated, bilaterally asymmetrical; left valvae is narrower than right valvae. Aedeagus with bulbous base; vesica with an apical series of small spines.

Distribution: Throughout Continental India.



Amata cyssea (Cramer, 1782)

Amata lucina (Butler, 1876)

Syntomis lucina Butler, 1876; *Journ. Linn. Soc, Zool.*, **12**: 345.

Adult black. Frons yellow. Forewing with a subbasal rectangular band below cell; a medial spot in cell and another elongated spot below it; one subapical elongated spot; submarginal spot crossed by vein M_3. Hindwing with a basal, large spot on inner area and a slightly smaller submarginal spot. Male genitalia with uncus short, broadest at middle, attached to tegumen with two bars like structures; tegumen with two lateral and a central processes, lateral processes dentated; vinculum forming a short saccus; valvae triangular at apex, long process from the dorsal edge of apex, mid costal process of left valvae is longer than the right valvae; vesica with a long comb like series of spines.

Distribution: Sikkim, West Bengal (Kolkata).

Amata lucina (Butler, 1876)

Amata elongata (Hampson, 1900)

Syntomis elongata Hampson, 1900, *Jour. Bombay nat. Hist. Soc.*, **13**: 50.

Adult black. Frons yellow, neck orange. Forewing with antemedial spot below cell; two obliquely placed medial spots; a postmedial small spot beyond lower angle of cell. Hindwing with an elongated subbasal spot. Male genitalia with uncus short, tilted at an angle; vinculum long, forming a deep saccus; valvae long and broad, narrow rod like at apical 2/3rd length, right valvae with a mid ventral process, another digitate process beyond it; aedeagus bulbous at first half; vesica with a series of long spines.

Distribution: South India (Mumbai, Chennai, Belgaum, Travancore).

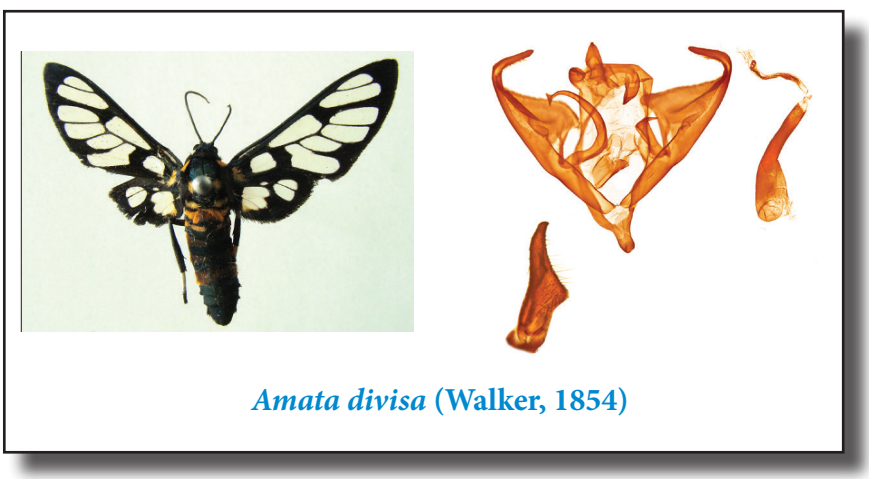
Amata elongata (Hampson,1900)

Amata divisa (Walker, 1854)

Syntomis divisa Walker, 1854, *List. Spec. Lepid. Ins. Colln. Br. Mus.*, **1**: 131.

Forewing with white basal patch and streak below vein 1A; a hyaline streak below base of costa; a wedge-shaped patch in cell; a patch below base of cell; an oblique patch below end of cell and vein Cu_2; elongate patches above veins M_3 and R_5; a patch above vein Cu_2 and two between veins Cu_1 and M_2. Hindwing with a patch below cell, becoming orange at inner margin and often confluent with the patch between veins Cu_1 and M_2. Male genitalia with uncus short, tongue like; tegumen with prominent lateral lobes; vinculum v-shape. Valvae asymmetrical, triangular; narrow at base, broad towards distal end; costal processes asymmetrical; left costal process semi-circular with diverging tip; right costal process moderately long and broad with apical hook; valvula short, knob like; cucullus long, rod-like, curved, narrow at tip. Aedeagus long, broad at base, narrowing towards apex; vesica long and narrow; a row of long three different types of cornuti.

Distribution: Meghalaya (Khasi Hills, Shillong), Sikkim, Guwahati, Nagaland.



Amata divisa (Walker, 1854)

Amata multigutta (Walker, 1854)

Syntomis multigutta Walker, 1854, *List. Spec. Lepid. Ins. Colln. Br. Mus.*, **1:** 134.

Forewing yellow hyaline; veins and margins narrowly black; a discoidal band and apical patch. Hindwing yellow hyaline; veins black; a discoidal spot; a terminal black band, from apex to vein Cu_2. Abdomen scarlet with short dorsal blue-black bands; lateral series of spots; extremity blue-black. Female genitalia with corpus bursae globular, membranous; pair of signum present; ductus bursae long, curved, membranous; ductus seminalis entering ductus bursae.

Distribution: North East India.

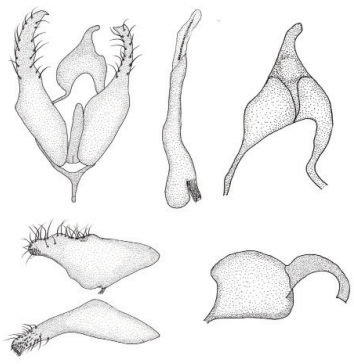
Amata multigutta (Walker, 1854)

Amata georgina (Butler, 1876)

Syntomis georgina Butler, 1876; *J. Linn. Soc. Lond. (Zool)*, **12**: 345.

Head with frons and extremities of vertex yellow. Thorax, collar and tegula furnished with dark brown scales. Forewing much elongated with ground colour dark brown; a large hyaline patch in cell; one subbasal and another antemedial patch under median nervure; two postmedial small hyaline patches; an orange yellow speck at apex. Hindwing with ground colour dark brown; an antemedial hyaline patch. Male genitalia with uncus strongly curved, tip blunt; tegumen twisted u-shaped. Valvae asymmetrical with costa linear, costal process reduced; sacculus folded; cucullus setosed with densely sclerotized long and short setae; valvula weakly sclerotized. Juxta elongated, rectangular; aedeagus broad at proximal end, narrowing towards distal end; vesica membranous with continuous series of sclerotized spines.

Distribution: Continental India.



Amata georgina (Butler, 1876)

Genus *Caeneressa* Obraztsov

Obraztsov, 1957, *Bull. Mus. Comp. Zool. Harvard.*, **116**: 391.

Type species: *Syntomis diaphana* Kollar, [1844] 1848.

Diagnosis: Male genitalia with valvae usually broad, long, simple, unornamented, slightly constricted centrally, often with the saccular bases fused to a small central, triangular sclerite (the juxta); aedeagus vesica is usually simple with scobination general throughout, or in an extensive field. Female genitalia with ostium usually intrudes into the posterior margin of the seventh sternite. There is a single signum set ventrally, centrally in the bursa, elongate longitudinally, with the lateral scobination stronger than that in the centre. (Holloway, 1988).

Known species of genus *Caeneressa* Obraztsov from India: *Caeneressa brithyris* (Druce, 1898); *Caeneressa diaphana* (Kollar, 1844); *Caeneressa melaena* (Walker, 1854); *Caeneressa swinhoei* (Leech, 1898).

Caeneressa melaena (Walker, 1854), comb. nov.

Synotomis melaena Walker, 1854, *List. Spec. Lepid. Ins. Colln. Br. Mus.,* **1**: 133.

Forewing with a narrow, yellowish, hyaline streak below costa; interspaces hyaline, leaving veins and margins purple-black; a broad discocellular band; terminal band broadest at apex. Hindwing hyaline, marginal area and veins purplish black, three membranous patches present. Abdomen with six bands, 1st and 6th segment orange; bands on ventral surface white, extremity metallic blue. Female genitalia with corpus bursae large, globular, membranous; single sclerotized signum, large flap-like, continuous with pipe like structure; ductus seminalis entering cervix bursae; ductus bursae short, sclerotized.

Distribution: Sikkim, Meghalaya (Khasi Hills, Shillong), West Bengal, North West Himalaya, Manipur, Nagaland, Assam.

***Caeneressa melaena* (Walker,1854), comb. nov.**

Caeneressa brithyris (Druce, 1898)

Syntomis brithyris Druce, 1898; *Ann. Mag. Nat. Hist.,* **1**(7) : 146.

Forewing brownish black with some orange patches; two large hyaline spots in and below cell; two postmedial spots below costa. Hindwing with a large hyaline patch, crossed by veins. Abdomen with six orange bands. Male genitalia with uncus long, apically hooked; tegumen broad; valvae symmetrical, broad, narrowing towards ape; aedeagus hammer-shaped; vesica membranous with an extensive field of short spines, a small sclerotized patch at one end.

Distribution: Meghalaya (Shella).

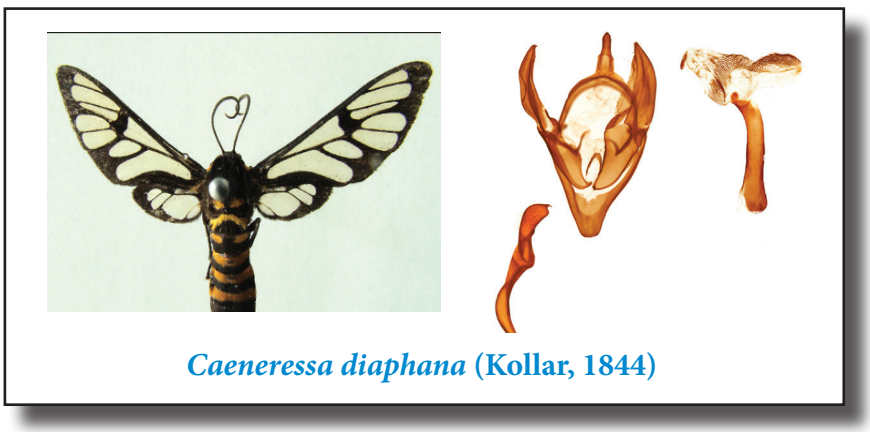
Caeneressa brithyris (Druce, 1898)

Caeneressa diaphana (Kollar, 1844)

Syntomis diaphana Kollar, 1844, *Hugel's Kaschmir*, **4**: 460.

Forewing with elongate hyaline patch below the cell; a wedge-shaped patch in cell; a spot above vein Cu_2; and five spots between veins Cu_1 and R_4, spot above M_2 shorter and wedge-shaped; markings edged with golden yellow. Hindwing with hyaline patch in and below cell, crossed by veins. Abdomen with seven orange bands. Male genitalia with uncus narrow at base, broad towards apex, apical spine present; tegumen bell-shaped; valvae leaf-like; vesica membranous with an extensive field of short spines, a small sclerotized patch at another end.

Distribution: Indian sub region.



Caeneressa diaphana (Kollar, 1844)

Genus *Syntomoides* Hampson

Hampson, [1893] 1892; *Fauna Br. India (Moths)*, **1**: 209

Type species: *Sphinx imaon* Cramer, 1779.

Diagnosis: Forewing with one transparent patch in the space posterior to CuA2. Male genitalia robust; tegumen broadened into two massive shoulders on which the uncus is equally broadly based; valvae short, simple, rather rounded; vinculum very broad, giving rise to a pair of apodemes rather than a central saccus. Female genitalia have a very narrow eighth segment; corpus bursae with single signum (Holloway, 1988).

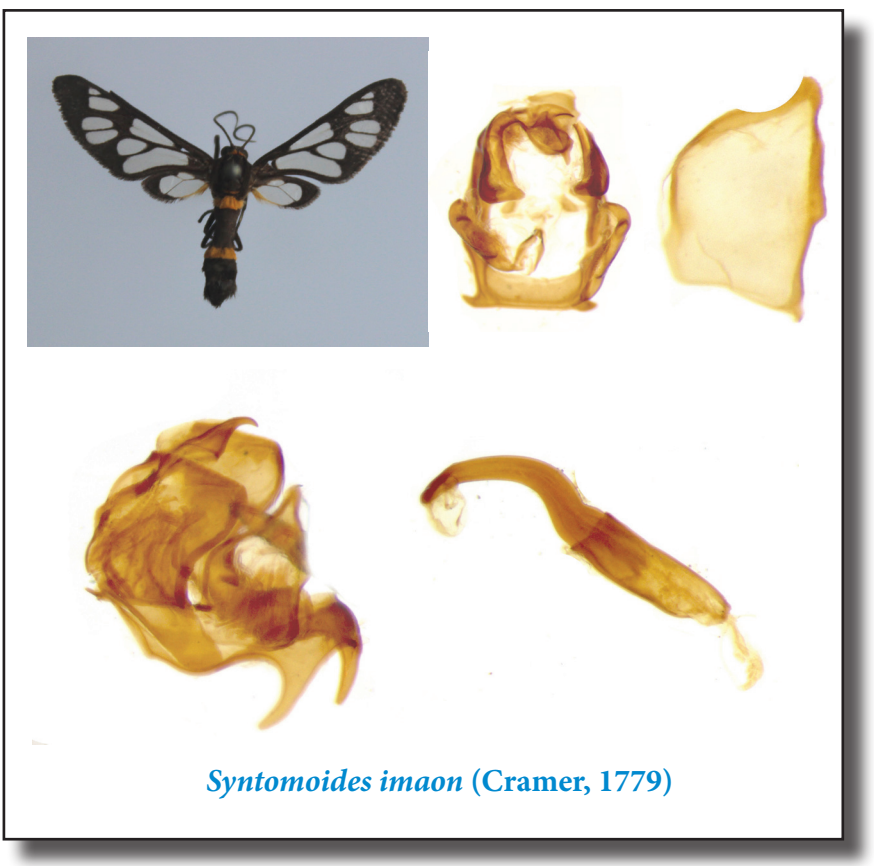
Known species of genus *Syntomoides* Hampson from India: Single included species.

Syntomoides imaon (Cramer, 1779)

Sphinx imaon Cramer, 1779; *Utl. Kapellen,* **3**: 94.

Adult black. Frons yellow, collar orange. Forewing with elongated spots in cell and in interno-median interspace; a slightly oblique spot between them; submarginal series of four spots. Hindwing with a large spot, covering almost whole of the central disc, crossed by veins; the inner basal margin yellow. Abdomen with two bands. Genitalia as discussed under genus.

Distribution: Throughout India.



Syntomoides imaon (Cramer, 1779)

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