



NEW RECORD OF A GENUS AND FOUR SPECIES OF FAMILY ARCTIIDAE (INSECTA : LEPIDOPTERA) FROM INDIA

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INTRODUCTION

Arctiidae is a major Noctuid family of order Lepidoptera with estimated number of 10,945 species from the Globe (Heppner 1991) including more than 500 from India (Kirti & Gill 2010). Members of this family tend to be small to medium size with aposematic colours. The meta thoracic tymbal organ, a pre-spiracular counter tympanal hood and a pair of pheromonal glands between the ovipositor lobes are the main apomorphic characters of family Arctiidae. Family Arctiidae is of great economic importance as some of its larvae like Red hairy caterpillar, Bihar hairy caterpillar, Woolly bear caterpillar, Sun hemp hairy caterpillar have a massive economic impact with wide host range and cosmopolitan distribution. Besides this, many of the other Arctiid species are also known to be serious pests of agricultural crops and forest trees. The larvae of some Arctiid species cause irritation to the sensitive skin and responsible for different type of allergies. Therefore, knowledge about the new records and distributional limits of such a group of insects with high economic impact is of utmost importance. In this regard, Kirti and Gill (2008) reported a Sulawesian Arctiid genus *Satara* Walker for the first time from India. Again in 2010, through different publications, Kirti and Gill reported three Arctiid species i.e., *Spilarctia castanea* (Hampson), *Lyclene rosalia* (Hampson) and *L. semifascia* (Walker) for the first time from India. The present communication deals with new

records of some more taxa of family Arctiidae from India.

MATERIALS AND METHODS

The present observations are based on the Arctiid collections made from more than 90 localities of this bio-diverse country. The Arctiid moths were exclusively collected with the help of fluorescent lights at night hours and were killed with the ethyl acetate vapors in the killing bottles. The collected specimens were processed using standard techniques in lepidopterology. The identification was done with the help of relevant literature. For authentication, the collected species were also compared with the identified collections lying in the entomology section of Indian Agricultural Research Institute, New Delhi and Natural History Museum, London. In this research paper, old distribution and taxonomic note has been given for the newly recorded genus whereas, old distribution, material examined and taxonomic notes have been provided for each of the newly reported species.

OBSERVATIONS

I. New record of genus from India

Pareuchaetes Grote

1865 Grote, *Proc. ent. Soc. Philad.*, 5: 245.

Type species : *Pareuchaetes cadaverosa* Grote

Old Distribution : Sri Lanka, Borneo, Guam, Thailand Palawan Nearctic and Neotropical region.

Taxonomic note: Genus *Pareuchaetes* was erected by Grote in 1865 on the type species *P. cadaverosa* Grote (= *insulata* Walker) from Caribbean. Hampson (1901), synonymised it under genus *Ammalo* Walker. Whereas, Rego Barros (1956) recognised *Pareuchaetes* Grote as a distinct genus. The genus can easily be identified from unmarked, dull and usually pale yellow wings. Other apomorphic characters of genus *Pareuchaetes* Grote are: fore wing with vein R_{2+5} stalked, hind tibia with two pair of tibial spurs and male genitalia with a pair of supra-uncal processes arising dorsally from the junction of uncus and tegumen (Rego Barros, 1956; Cock and Holloway, 1982). During the collection surveys the genus was reported from Tamil Nadu and Kerala states of India which is its first time report from this country.

II. New records of species from India

Pareuchaetes pseudoinsulata Rego Barros

1956, *Pareuchaetes pseudoinsulata* Rego Barros, Revta Brass. Ent. 6:79

Old distribution: Venezuela, Trinidad, Sri Lanka, Borneo, Palawan and Guam.

Material examined : Tamil Nadu : Gudalur (900 m), 23.iv.03 - 1 m, 28.ix.03 - 1 m; Coonoor (1880 m), 8.iv.03 - 1 m.

Kerala : Vadasserikkara (30 m), 7.ix.04 - 4 m; Agali (520 m), 6.x.03- 1m; Vithura (120 m), 5.ix.04 - 1 m, 4.ix.04 - 2 m; Vallakadava (780 m), 9.ix.04 - 3 m, 10.ix.04 - 1m, 11.ix.04- 10 m 3f; Chendruni (70 ms.), 3.ix.04 - 2 m 1 f, Prambiculum (580 mtrs), 17.ix.04 - 1m; Rani (40 m), 8.ix.04- 1 m.

Taxonomic note: The species under reference can be identified from the general ground colour pale yellow, thorax and tegula laden with buff scales, fore tibia and tarsus fuscous, hind legs buff, abdomen with dorsal series of black spots and under side of second abdominal segment with a patch of white colour. *Pareuchaetes pseudoinsulata* Rego Barros is reported to be a potential biological control agent of *Chromolaena odorata*, a serious weed in South Asia. The taxonomic and ecological details of the species were discussed by Cock and Holloway in 1982.

Olepa duboisi Orhant

Olepa duboisi Orhant, 1986, *Bull Sciences Nat*, 50:11.

Old distribution: Sri Lanka.

Material examined : Kerala : Agali (520 mtrs.), 6.x.03 - 1m.

Taxonomic note: The present species can be identified from pale brown fore wings and reddish white hind wings. Male genitalia bears digitiform cucullus, V- shape vinculum with a small outgrowth at proximal end and single spine carina penis. The wing span of *duboisi* Orhant is 32 mm. The species under reference was described and illustrated in detail by Orhant (1986).

Macotasa orientalis (Hampson)

1905, *Phaeosia orientalis* Hampson, Ann. Mag. Nat. Hist., 15(7):433

Old distribution: Myanmar, Malaysia and Borneo.

Material examined : Karnataka : Bhagamandala (900 m.), 25.xi.03 - 3 m, 26.xi.03 - 1 f; Kulagi (420 m.), 16.vii.04 - 1 f.

Taxonomic note: The members of *Macotasa orientalis* (Hampson) shows sexual dimorphism. In males, fore wings are ochreous with costal and marginal area bright. A medial quadrate patch is present on costa along with modified scales in cell of fore wing. Whereas, in females, forewings are of uniform orange colour with a medial series of five black spots.

Poliosia binotata (Hampson)

1893, *Prabhasa binotata* Hampson, Ill. Lep. Het., 9:81.

Old distribution : Sri Lanka.

Material examined : Karnataka : Kulagi (420 mtrs), 24.x.09 - 1 m.

Taxonomic note: *Poliosia binotata* (Hampson) can be separated from the other species of its genus with the help of grey brown fore wings with irroration of fuscous. Black points in end of cell and below end of cell in sub median interspace. Hind wing pale fuscous.



Macotasa orientalis (Hampson) (Male)



Olepa duboisi Orhant.



Pareuchaetes pseudoinsulata Rego Barros



Poliosia binotata (Hampson)

SUMMARY

The present observations are based on the collections made during the DST funded research projects on taxonomic revision of Indian Arctiidae. A total number of more than 300 species of Indian Arctiidae were studied, out of which one genus *Pareuchaetes* Grote and four species *Pareuchaetes pseudoinsulata* Rego Barros, *Olepa duboisi* Orhant, *Macotasa orientalis* (Hampson) and *Poliosia binotata* (Hampson) have been reported for the first time from India.

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