

# STATUS OF SUBFAMILY PORITIINAE (LYCAENIDAE) IN INDIAN HIMALAYAS WITH TAXONOMIC NOTES ON TYPE-SPECIES, *PORITIA HEWITSONI* MOORE

CHARN KUMAR, AVTAR KAUR SIDHU\* AND H.S. ROSE\*\*

A. S. College, Khanna, Punjab (India)

## Introduction

According to Eliot (1992), the subfamily Poritiinae is represented by the nominate tribe Poritiini ranging from North-East India to Sulawesi in the Oriental region and the other larger tribes viz., Pentilini and Liptenini in the African region. Out of four genera viz., *Poritia* Moore, *Simiskina* Distant, *Cyanirioides* de Nicéville and *Deramas* Distant referable to this tribe (Bridges, 1988), the former two genera are represented by three species i.e., *phamageta* Fawcett (Manipur to Dawnas), *hewitsoni hewitsoni* Moore (Kumaon to Assam) and *ercinoides trishna* Fruhstorfer (Assam) and one species i.e., *phalena harterti* Doherty (Assam to South Burma) respectively in the Indian subcontinent (Evans, 1932; Wynter-Blyth, 1957; Cantlie, 1963; d' Abrera, 1986; Smith, 1989; Seki *et al.*, 1991; Haribal, 1992; Kunte, 2000; Singh, 2003). Besides, the species, under reference, other species belonging to the genus *Poritia* have been reported as either rare or endangered by workers such as Evans (loc. cit.), Wynter-Blyth (loc. cit.), Cantlie (loc. cit.), Eliot (loc. cit.) and Varshney (1997).

## Observations

Subfamily Poritiinae Doherty

Common name : The Gems

Doherty, 1886, J. asiat. Soc. Bengal : 110.

Type-genus : *Poritia* Moore

Moore, [1866], Proc. zool. Soc. Lond. (3) : 775.

## Diagnosis

Adults with wings below having markings much modified than the normal Lycaenine pattern; tailless; eyes smooth; antennal club cylindrical, with nudum extending deep down the shaft; male fore-tarsus fused to a single stubby-tipped segment, mid and hind tibiae without terminal spurs; forewing with vein Sc and R<sub>1</sub> anastomosed, hindwing with traces of precostal vein present; female genitalia with ductus seminalis entering ductus bursae dorsally just adjacent to ostium bursae, apophyses anteriores wanting.

Genus *Poritia* Moore

Common name : The Gems.

Moore, [1866], Proc. zool. Soc. Lond. (3) : 775; de

Nicéville, 1890, Butts India Burmah Ceylon 3 : 37; Corbet, 1940, Trans. R. ent. Soc. Pt II 90 : 338; Cantlie, 1963, Lyc. Butts Revised : 18.

Type-species : *Poritia hewitsoni* Moore

Moore, [1866], Proc. zool. Soc. Lond. (3) : 775.

*Generic Diagnosis* Frontoclypeal area squarish, furnished chiefly with short white scales; eyes smooth; labial palpi porrect, second segment cylindrical, clothed with appressed scales, fairly longer, third segment acuminate; antenna with club not well defined, slender, ending abruptly into pointed apex, nudum goes deep into flagellum; each leg with femur longer than tibia, mid and hind tibiae without terminal tibial spurs; hindwing neither tailed nor lobed; forewing with vein Sc and vein R<sub>1</sub> completely anastomosed, stalk of veins R<sub>3</sub> + R<sub>5</sub> separated shortly before end cell; abdomen with sparse tufts of bristles; female genitalia with genital plate well developed, ductus seminalis tubular, opens dorsally into ductus bursae near base, corpus bursae cucumbiform, signum present, the latter spine-shaped, apophyses anteriores absent, apophyses posteriores moderate, papilla analis partly sclerotized.

*Poritia hewitsoni* Moore

Common name : The Common Gem

Moore, [1866], Proc. zool. Soc. Lond. (3) : 775 (*Poritia*); Bingham, 1907, Fauna Brit. Ind., Butts II : 460 (*Poritia*).

*Poritia hewitsoni hewitsoni* Moore

Moore, [1866], Proc. zool. Soc. Lond. (3) : 775 (*Poritia*).

Female Genitalia : Lodix well sclerotized, large, rectangular, pilose; genital plate well developed, lamella antevaginalis broad, oval, transversely arched plate shaped, pilose, lamella postvaginalis broader in middle, with a semicircular proximal emargination encircling ostium bursae, laterally with narrow elongated halves; ductus seminalis tubular, opens on dorsal side of ductus bursae just adjacent to ostium bursae; ductus bursae wide, slender and membranous; corpus bursae cucumbiform, longer than ductus bursae, membranous, signum broad, spine-shaped, present at junction of corpus bursae with ductus bursae; apophyses anteriores absent; apophyses posteriores moderately, thick, slender, bicurvate rods; papilla analis oblong, with

\*High Altitude Regional Centre, Zoological Survey of India, Saproon, Solan (Himachal Pradesh)

\*\*SUS College of Research and Technology, Mohali (Punjab)

Fig. I



Female (upperside)

Female (underside)

*Poritia hewitsoni hewitsoni* Moore

narrow ridge-like sclerotization in proximal portion, otherwise membranous, pilose.  
Forewing length; Female: 17 mm.

#### Material examined

Himachal Pradesh: 1, 5.X.1995, Renuka Ji

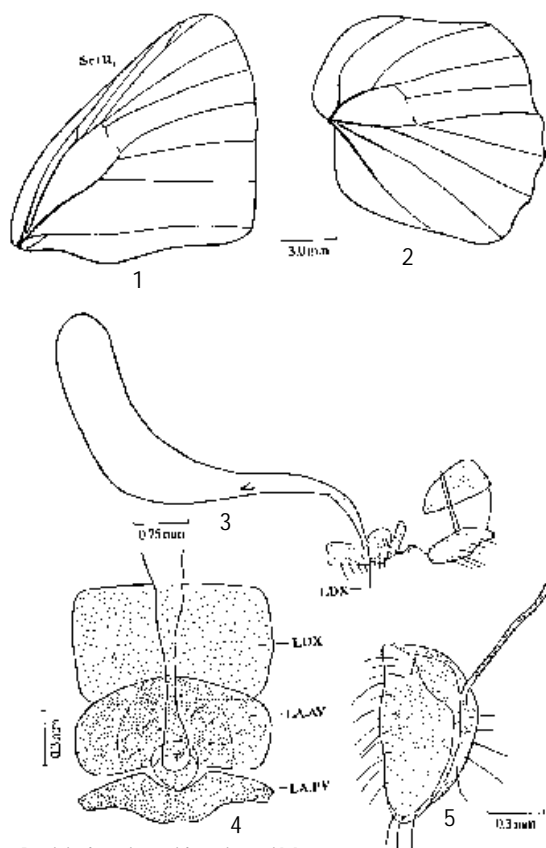
Range: 750 m amsl.

*Old distribution* : Low elevations in the Himalaya from Kumaon to Sikkim, Assam, Bhutan.

*Larval food plant*: Not known.

*Remarks*: During the course of present twenty eight faunistic survey tours of varied durations undertaken during different seasons/months of the year in various localities from 1991 to 2008, out of four species referable to two genera of subfamily Portitiinae as stated above from India, only one female individual of species *P. hewitsoni* could be collected and that too from a new distributional locality (Renuka Ji : Himachal Pradesh) in the Western Himalaya. Its identification has been done from various literature sources (de Nicéville, 1890; Bingham, 1907; Evans, 1932; Wynter-Blyth, 1957; Cantlie, 1963; Smart, 1985; d' Abrera, 1986; Seki *et al.*, 1991; Haribal, 1992; Eliot, 1992; Kunte, 2000; Beccaloni *et al.*, 2003; Singh, 2003; Katsuyama *et al.*, 2005; Ek-Amnuay, 2007) besides comparison with the National Reference Collections housed at I.A.R.I., New Delhi. Eliot (loc. cit.), who dealt with eleven species of the genus

Fig. II



*Poritia hewitsoni hewitsoni* Moore

Fig. Nos.

1. Venation of forewing
2. Venation of hindwing
3. Female genitalia (lateral view)
4. Genital plate
5. Papilla analis

*Poritia* including the species, under reference, from the Malay Peninsula did not examine the genitalia of either sex of these species. Accordingly, an illustrated account of the female genitalia is given for the first time. Besides type-species, the diagnosis of the genus too has been updated by the inclusion of salient taxonomic genitalic characters. The species under reference, has been enlisted in part II of schedule II of the Wildlife (Protection) Act, 1972. In view of the fact that the species is getting more rarer, it is thus opined that a close monitoring of *P. hewitsoni hewitsoni* Moore be initiated and necessary steps be taken for its appropriate conservation.

#### SUMMARY

The subfamily Portitiinae Doherty is represented by four species referable to two genera from India viz., *Phama geta* Fawcett, *Hewitsoni hewitsoni* Moore, *Ercinoides trishna* Fruhstorfer (of genus *Poritia* Moore) and *Phalena harterti* Doherty (of genus *Simiskina* Distant). In present studies despite repeated surveys in Indian Himalayas only one female of *Poritia hewitsoni* could be collected, which infers that this family is under threat in this region. The female genitalia of the type-species *Poritia hewitsoni* has been studied for the first time and accordingly the subfamily and generic diagnosis have been updated by incorporating these characters.

*Key words*: Lycaenidae, Portitiinae, *Poritia hewitsoni*, type-species and female genitalia.

**भारत के हिमालय भूभाग में पोरिटिकाहनी (लाईसीनिडी) उपवंश की स्थिति और इसका प्रारूपिक जाति पोरिटिया हेबिटसनाई मूर पर टिप्पणियाँ**  
चरण कुमार, अवतार कौर सिद्धू व एच.एस. रोज

**सारांश**

पोरिटिआहनी डोहर्टी उपवंश की भारत में चार जातियाँ मिलती हैं जिन्हें दो प्रजातियों के अन्तर्गत लिया जा सकता है। अर्थात् *फामा गेटा* फासेट, *हेबिटसनाई* मूर, *इर्सिनायडिस तृष्णाफूस्टार्फेर* ( *पोरिटिया* मूर प्रजाति की ) तथा *फालेना हार्टरटि* डोहर्टी ( *सिमिस्किना* डिस्टेंट प्रजाति की )। भारत के हिमालयी भूभाग में बार-बार सर्वेक्षण करने के बावजूद *पोरिटिया हेबिटसनाई* की एक मादा ही संग्रह की जा सकी जिससे परिणाम यही निकलता है कि इस क्षेत्र में यह वंश विलुप्ति के खतरे में आया हुआ है। प्रारूपिक नमूने *पोरिटिया हेबिटसनाई* के स्त्री जननांग का अध्ययन पहली बार प्रस्तुत अध्ययन में किया गया है और इन लक्षणों को सम्मिलित करके इस उपवंश और इसके जनन अभिज्ञान को अद्यतन बना दिया गया है।

**References**

- Beccaloni, G. W., M. J. Scoble, G. S. Robinson and B. Pitkin (2003). *The Global Lepidoptera Names Index (LepIndex)*. Word Wide Web electronic Publication.
- Bingham, C.T. (1907). *The Fauna of British India, including Ceylon and Burma. Butterflies II*. London : viii + 480 pp., 104 tf, pls 11-20.
- Bridges, C. A. (1988). Catalogue of Lycaenidae & Riodinidae (Lepidoptera : Rhopalocera). U.S.A. : vii+ (I.ii + I.377) + (II.ii + II.115) + (III.ii + III.140) + (IV.ii + IV.101) + (V.ii + V.37) + (VI.ii + VI.12) + Appen. I & II.
- Cantlie, K. (1963). The Lycaenidae portion (except the *Arhopala* group) of Brigadier Evans' *The Identification of Indian Butterflies 1932* (India, Pakistan, Ceylon, Burma) Bombay nat. Hist. Soc., Bombay : vi + 156pp. + pls.\
- d' Abrera, B. (1986). *Butterflies of the Oriental region Part-III. Lycaenidae and Riodinidae*. Hill House, Australia : xv+536-672.
- de Nicéville, C.L.A. (1890). *The Butterflies of India, Burmah and Ceylon*. A descriptive handbook of all the known species of Rhopalocerous Lepidoptera inhabiting that region, with notices of allied species occurring in the neighbouring countries along the border. Volume III (Lycaenidae). Calcutta Central Press : xii + 503 pp, frontispiece, pls 25-29.
- Doherty, W. (1886). A list of butterflies taken in Kumaon. *J. asiat. Soc. Bengal*, 55 : 103-140.
- Ek-Amnuay, P. (2007). *Butterflies of Thailand. Fascinating Insects Vol. 2* (1st edition). Amarin Printing and Publishing Public Co. Ltd., Bangkok. : 849 pp.
- Eliot, J. N. (1992). *The Butterflies of the Malay Peninsula* by A. Steven Corbet and H.M. Pendlebury (4th ed. revised). Malay Nat. Soc.: viii + 595 pp. 69 pls.
- Evans, W. H. (1932). *The identification of Indian butterflies*. (second ed. revised), Madras, Bombay nat. Hist. Soc. : x + 454 pp, 32 pls, 9f.
- Haribal, M. (1992). *The Butterflies of Sikkim Himalaya and their natural history*. Sikkim nat. conser. Found. : 1-217, 60 pls.
- Katsuyama, R., H. Sugihara, J. Kantoh and D. Ogawa (2005). Butterflies collected by the survey in Umphang Province of Tak, West Thailand, February 2003, (Insecta: Lepidoptera: Rhopalocera). *Evolutionary Sciences*, 11 : 61-83.
- Kunte, K. (2000). *Butterflies of Peninsular India (India-A Lifescape)*. Universities Press (Hyderabad) and Indian Academy of Sciences (Bangalore). : xviii + 254 pp, 32 pls.
- Moore, F. (1866). On the lepidopterous insects of Bengal. *Proc. zool. Soc. Lond.* (3):755-822, 3 pls.
- Seki, Y., Y. Takanami and K. Otsuka (1991). *Butterflies of Borneo*. Vol. 2. Hirai Co. Ltd., Japan.(1) : x + 113 pp, 70 pls.
- Singh, A.P. (2003). New records on the distribution and ecology of Common Gem Butterfly, *Poritia hewitsoni hewitsoni* Moore from the lower Western Himalayas, a lesser known taxa. *J. Lep. Soc.* 57 (4): 295-298.
- Smart, P. (1985). *The Illustrated Encyclopedia of the Butterfly World*. Leisure Books, London : 274 pp.
- Smith, C. (1989). *Illustrated checklist of Nepal's butterflies*. Craftsmen Press, Bangkok : 1-127 pp.
- Varshney, R. K. (1997). Index Rhopalocera Indica Pt III. Genera of Butterflies from India and neighbouring countries [Lepidoptera : (C) Lycaenidae]. *Oriental Insects*, 31 : 83-138.
- Wynter-Blyth, M.A. (1957). *Butterflies of the Indian Region*. Bombay nat. Hist. Soc., Bombay. xx + 523 pp, 72 pls.