

INSECTA : LEPIDOPTERA
PART III. PIERIDAE, DANAIDAE, SATYRIDAE
AND LYCAENIDAE

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INTRODUCTION

The present study is the continuation of the faunistic work on the different families of lepidopterous insects collected from the Namdapha Wild Life Sanctuary, Tirap district, Arunachal Pradesh, by Dr. S. Biswas and party during the year 1981. The paper deals with the four families of butterflies viz. Pieridae, Danaidae, Satyridae and Lycaenidae, including 11 species and subspecies in 8 genera, 4 species and subspecies in 2 genera, 7 species and subspecies in 4 genera and 10 species and subspecies in 10 genera respectively.

Evans (1912) for the first time reported a list of butterflies over the Abor expedition mainly from north Assam and the south Siang division of Arunachal Pradesh. This includes 10 species of Pieridae, 5 species of Danaidae, 8 species of Satyridae and 22 species of Lycaenidae, together with 7 species of Papilionidae, 20 species of Nymphalidae, one species of Erycinidae and 2 species of Hesperiiidae. Betts (1950) recorded 16 species and subspecies of Pieridae, 7 species and subspecies of Danaidae and 39 species and subspecies of Satyridae from the Bali-para, Frontier Tract and Subansiri division of Arunachal Pradesh in North-East India.

Varshney and Chanda (1971) reported 6 species of Pieridae, 2 species of Danaidae and 1 species of Lycaenidae from Arunachal Pradesh.

Presently, 11 species and subspecies of Pieridae are recorded for the first time from Namdapha Wild Life Sanctuary of which 6 species and subspecies are new records from the entire Arunachal Pradesh viz. *Delias belladonna lugens* Jordan, *D. thysbe pyramus* (Wallace), *Pieris napi montana* Verity, *P. canidia indica* Evans, *P. brassicae nepalensis* Doubleday and *Eurema hecabe contubernalis* (Moor).

The family Danaidae deals with 4 species and subspecies viz. *Danaus hamata septentrionis* (Butler), *D. sita sita* f. *tytia* (Gray), *Euploea mulciber*

mulciber (Cramer) and *E. diocletianus diocletianus* (Fabricius), all of which are recorded for the first time from Namdapha Wild Life Sanctuary.

Out of 7 species and subspecies of the family Satyridae recorded from Namdapha Wild Life Sanctuary, 3 species and subspecies are reported for the first time from the entire Arunachal Pradesh viz. *Ypthima baldus baldus* (Fabricius), *Y. methora methora* Hewitson and *Ragadia crisilda crito* de Niceville, while one species and subspecies, *Lethe verma stenopa* Fruhstorfer is recorded for the first time from India.

The family Lycaenidae comprises 10 species and subspecies of which all are recorded for the first time from Namdapha Wild Life Sanctuary, while 9 species and subspecies are new reports for the entire Arunachal Pradesh, viz. *Pithecopus fulgens* Doherty, *Anthene emolus emolus* (Godart), *Zizeeria maha maha* (Kollar), *Lampides boeticus* (Linnaeus), *Heliophorus epicles indicus* (Fruhstorfer), *Rapala scintilla* de Niceville, *Curetis dentata dentata* Moore, *Castalius elna noliteia* Fruhstorfer and *Chliaria othona* (Hewitson).

SYSTEMATIC ACCOUNT

Family : PIERIDAE

Subfamily : PIERINAE Swainson

Genus : **Delias** Hubner

1819. *Delias* Hubner, *Verz. bek. Schmett.*, p. 91.

Three species and subspecies are known from Arunachal Pradesh under this genus, viz. *Delias belladonna lugens* Jordan, *D. aglaia aglaia* (Linn.) and *D. thysbe pyramus* (Wallace), of which the last one is a new record from Namdapha, Tirap district, as well as from the entire Arunachal Pradesh. The subspecies *lugens* for the species *belladonna*, is also recorded for the first time from this area.

Delias belladonna lugens Jordan

1925. *Delias belladonna lugens* Jordan, *Nov. zool.*, 32 : 286.

1939. *Delias belladonna lugens*, Talbot, *Fauna Brit. India, Butterflies*, 1 : 341.

Material examined : 2 ♀ ♀, Namdapha, 21.iv., 1 ♂, Hornbill, 11.iv., 1 ♂, Zero Camp, 9.iv. and 2 ♂ ♂, Burma Nala, 24.iv.1981 (S. Biswas and party coll.).

Wing exp. : 82-90 mm.

Distribution : India : Sikkim, Assam and Arunachal Pradesh ; also Bhutan and Northern Burma.

Remarks. The subspecies commonly known as 'The Hill Jezebel', is not rare in status. Betts (1950) reported the species *belladonna* from north-east India without mentioning the subspecies. In the present work the subspecies *lugens* is recorded for the first time for the species *belladonna* from Arunachal Pradesh.

***Delias thysbe pyramus* (Wallace)**

1867. *Thyca pyramus* Wallace, *Trans. Ent. Soc. Lond.*, (3)4, pt. 3 : 301-415, pls. 6-9.

1939. *Delias thysbe pyramus*, Talbot, *Fauna Brit. India*, Butterflies, 1 : 345-347, fig. 130 a, b.

Material examined : One ♀, Namdapha, Hornbill, 16.iv.1981 (S. Biswas and party coll.).

Wing. exp.—80 mm.

Distribution : India : Simla (H. P.), Assam ; Eastern Ghats, Sikkim ; also Nepal ; Bhutan ; Western Yunnan and Western Thailand.

Remarks : The subspecies commonly known as 'The Redbreast Jezebel', is not rare in status except in the Eastern Ghats of India where it is very rare. It is recorded for the first time from Namdapha, Tirap district as well as from the entire Arunachal Pradesh.

Genus *Hebomoia* Hubner

1819. *Hebomoia* Hubner, *Verz. bek. Schmett.*, p. 95.

One species with subspecies is known to occur in Arunachal Pradesh under this genus which is represented here.

***Hebomoia glaucippe glaucippe* (Linn.)**

1758. *Papilio glaucippe* Linnaeus, *Syst. Nat.*, ed. 10, p. 469.

1939. *Hebomoia glaucippe glaucippe*, Talbot, *Fauna Brit. India*, Butterflies, 1 : 476-477.

Material examined : One ♂, Namdapha, Gibbon land, 6.iv.1981 (S. Biswas and Party coll.). *Wing exp.* 80 mm.

Distribution : India : Sikkim, Assam, Arunachal Pradesh also Nepal and Burma.

Remarks : The subspecies popularly known as 'The Great Orange Tip', is common in status. It is recorded for the first time from Namdapha Wild Life Sanctuary, Tirap district. Evans (1912) reported the species from Siang division, while Betts (1950) recorded the species from Subansiri division.

Genus *Ixias*

1819. *Ixias* Hubner, *Verz. bek. Schmett.*, p. 95.

One species with two subspecies are known to occur from this area under this genus of which one is represented here. The other subspecies is *pirenassa* Wallace recorded from Assam.

Ixias pyrene latifasciata Butler

1871. *Ixias latifasciata* Butler, *Lep. Exot.*, 8 : 252, pl. 19, fig. 3.

1939. *Ixias pyrene latifasciata* Talbot, *Fauna Brit. India, Butterflies*, 1 : 447.

Material examined : One ♂, Namdapha, Zero Camp, 9.iv., 8 ♂♂, Hornbill. 13-16.iv.1981 (S. Biswas and Party coll.). Wing exp. 55-58 mm.

Distribution : India : Assam, Arunachal Pradesh ; Northern Burma to the Dawna Range, S. Burma.

Remarks : The subspecies popularly known as 'The Yellow Orange Tip', is common in status. It is recorded for the first time from Namdapha, Tirap district.

Genus *Appias*

1819. *Appias* Hubner, *Verz. bek. Schmett.*, p. 91.

Three species with subspecies are known under this genus from this area, of which one is represented here. The other two species and subspecies are *A. l. lalage* (Moore) and *A. i. indra* (Moore).

Appias lyncida eleonora (Boisduval)

1836. *Pieris eleonora* Boisduval, *Spec. Gen. Lep.*, 1 : 481.

1939. *Appias lyncida eleonora* Talbot, *Fauna Brit. India, Butterflies*, 1 : 398-400, fig. 146.

Material examined : Three ♂♂, Namdapha, Hornbill, 13.iv.1981 (S. Biswas and Party coll.). Wing exp. 60-65 mm.

Distribution : India : Sikkim, Assam, Arunachal Pradesh ; Burma ; Hainan ; Tong King ; Thailand and Annam.

Remarks : The subspecies popularly known as 'The Chocolate Albatross', is common in status (Talbot, 1939). Varshney and Chanda (1971) described the subspecies as not rare in status. It is recorded for the first time from Namdapha, Tirap district, Arunachal Pradesh.

Genus **Prioneris** Wallace

1867. *Prioneris* Wallace, *Trans. ent. Soc. Lond.*, (3)4(3) : 383.

Only one species with subspecies is known to occur under this genus from Arunachal Pradesh as well as from India, which is represented here.

Prioneris thestylis thestylis (Doubleday)

1842. *Pieris thestylis* Doubleday, *Gray's Zool. Miscell.*, p. 76.

1939. *Prioneris thestylis thestylis*, Talbot, *Fauna Brit. India*, Butterflies, 1 : 373-375.

Material examined : One ♂, Namdapha, Deban, 8.iv. and 1 ♀, Hornbill, 13.iv.1981 (S. Biswas and Party coll.). Wing exp. 70-80 mm.

Distribution : India : Mussoorie (U. P.) to Assam, Arunachal Pradesh ; Burma ; Hainan and South China.

Remarks : The subspecies commonly known as 'The Spotted Sawtooth', is not rare in status. The subspecies particularly the females mimic the Hill Jezebel, *Delias belladonna* (Fabr.) of the same family. It is recorded from Namdapha for the first time.

Genus **Cepora** Billberg

1820. *Cepora* Billberg, *Enumer. Insec. Mus. Billberg*, p. 76.

Out of two species and subspecies known from this area under this genus, one is represented here. The other species is *Cepora nerissa* (Fab.) recorded by Betts (1950) from north east India.

Cepora nadina nadina (Lucas)

1852. *Pieris nadina* Lucas, *Rev. Mag. Zool.*, (2)4 : 333.

1939. *Cepora nadina nadina*, Talbot, *Fauna Brit. India*, Butterflies, 1 : 369-371, fig. 137♂.

Material examined : Four ♂♂, Namdapha, Hornbill, 13, 14, 16.iv., 5 ♂♂, Deban, 8, 27.iv. and Deban North, 28.iv.1981 (S. Biswas and Party coll.). Wing. exp. 58-64 mm.

Distribution : India : Sikkim, Assam, Arunachal Pradesh and Burma.

Remarks : The subspecies commonly known as 'The Lesser Gull', is not rare in status. It is recorded for the first time from Namdapha Wild Life Sanctuary.

Genus **Pieris** Schrank

1801. *Pieris* Schrank, *Fauna boica*, 2 : 152, 161.

Three species and subspecies are known to occur, under this genus, from this area, all of which are represented here.

Pieris napi montana Verity

1908. *Pieris melete* var. *montana* Verity, *Rhop. Palaearc.*, p. 141, pl. 31, figs. 20, 21 ♂ ♀.

1939. *Pieris napi montana*, Talbot, *Fauna Brit. India, Butterflies*, 1 : 420-421, fig. 149 ♀.

Material examined : One ♂, Namdapha, Firm base, 19.iv.1981 (S. Biswas & Party coll.). Wing exp. 54 mm.

Distribution : India : Sikkim, Assam and Burma upto Southern Shan States.

Remarks : The subspecies commonly known as 'The Green Veined White', is not rare in status. It is recorded for the first time from Namdapha, Tirap district and also from the entire Arunachal Pradesh.

Pieris canidia indica Evans

1926. *Pieris canidia indica* Evans, *J. Bombay nat. Hist. Soc.*, 31 : 712.

Material examined : One ♂, Namdapha, Deban, 2.iv. and 1 ♂, Hornbill, 16.iv.1981 (S. Biswas & Party coll.). Wing exp. 60 mm.

Distribution : India : Kumaon (U. P.) to Assam ; Dawna range, Burma ; North Baluchistan and Chitral, Pakistan.

Remarks : The subspecies popularly known as 'The Indian Cabbage White', is very common in status. It is recorded for the first time from Namdapha, Tirap district as well as from the entire Arunachal Pradesh. Evans (1912) recorded the species *canidia* from Kobo, South Siang division of Arunachal Pradesh.

Pieris brassicae nepalensis Doubleday

1846. *Pieris brassicae* var. *nepalensis* Doubleday, *Lep. Ins. Nepal*, p. 9, pl. 6, figs. 1-3 (imago).

1939. *Pieris brassicae nepalensis*, Talbot, *Fauna Brit. India, Butterflies*, 1 : 427-428.

Material examined : One ♂, Namdapha, Gibbon land, 6.iv.1981 (S. Biswas & Party coll.). Wing exp. 72 mm.

Distribution : India : Northern India upto Assam, plains of the Himalays ; Tibet ; Yunnan ; Baluchistan and Chitral, Pakistan.

Remarks : The subspecies popularly known as 'The Large Cabbage White', is very common in status. It is recorded for the first time from Namdapha, Tirap district as well as from the entire Arunachal Pradesh.

Subfamily : COLIADINAE Aurivillius

Genus **Eurema** Hubner

1819. *Eurema* Hubner, *Verz. bek. Schmett.*, p. 96.

One species and subspecies in know to occur under this genus from Arunachal Pradesh which is represented here.

Eurema hecabe contubernalis (Moore)

1886. *Terias contubernalis* Moore, *J. Linn. Soc. Lond.*, (Zool.), 21 : 46.

1939. *Eurema hecabe contubernalis*, Talbot, *Fauna Brit. India*, Butterflies, 1 : 527-530, fig. 177a-e ♂ ♀.

Material examined : One ♂, Namdapha, Hornbill, 11.iv.1981 (S. Biswas & Party coll.). Wing exp. 42 mm.

Distribution : India : West Bengal, Assam, Sikkim ; also Burma and Malay Peninsula.

Remarks : Popularly known as 'The Common Grass Yellow', the subspecies is very common in status. It is recorded for the first time from Namdapha, Tirap district as well as from the entire Arunachal Pradesh. Evans (1912) reported the species *hecabe* from Siang division.

Family : DANAIDAE

Subfamily : DANAINAE Bates

Genus **Danaus** Kluk

1802. *Danaus* Kluk, *Zwierzat Hist. nat. poez. gospod.*, 4 : 84 (part).

Out of five species and subspecies known from Arunachal Pradesh, under this genus, two are dealt with hereunder. The other three are *D. aglea melanoides* (Moore), *D. melaneus* (Cram.) and *D. genutia* (Cram.).

Danaus hamata septentrionis (Butler)

1874. *Danaus septentrionis* Butler, *Ent. Mon. Mag.*, 11 : 163.
 1932. *Danaus melissa septentrionis*, Evans, *Identif. Indian Butterfl.*, p. 88.
 1947. *Danaus hamata septentrionis*, Talbot, *Fauna Brit. India, Butterflies*, 2 : 34-35, fig. 11.

Material examined : One ♂, Namdapha, 21.iv., 1 ♀, Deban, 7.iv. and 1 ♀, Charia Camp, 23.iv.1981 (S. Biswas & Party coll.). Wing exp. 100 mm.

Distribution : India : The Himalayas, Kulu (H. P.) to Assam and Arunachal Pradesh ; Bhutan ; Burma ; Afghanistan ; Yunnan ; China ; Taiwan ; Hainan ; Tong King ; Thailand ; Malaya and Sumatra.

Remarks : The subspecies popularly known as 'The Dark Blue Tiger', is common in status. This species is well known as *melissa* Stoll (1781), but according to Talbot (1947) as this name is preoccupied for *Papilio melissa* Fabricius (1775) the next oldest name *hamata* McLeay for *melissa* is used.

Danaus sita sita (Kollar) f. *tytia* (Gray)

1844. *Danaus sita* Kollar, In Hugel's *Kaschmir und das Reich der Siek*, 4(2) : 424, pl. 6.
 1846. *Danaus tytia* Gray, *Lep. Ins. Nepal*, p. 9, pl. 9, fig. 2 (♂).
 1947. *Danaus sita sita* f. *tytia*, Talbot, *Fauna Brit. India, Butterflies*, 2 : 45-47.

Material examined : One ♂, 1 ♀, Namdapha, Burma Nala, 24.iv., 1 ♂, Zero camp, 9.iv. and 1 ♀, Deban, 7.iv.1981 (S. Biswas & party coll.). Wing exp. 94-100 mm.

Distribution : India : Kashmir to Sikkim, Assam and Arunachal Pradesh ; Bhutan ; Afghanistan ; Upper Burma ; Mishmi Hills ; Yunnan, South-East Tibet, Hainan, China ; Tong King and Thailand.

Remarks : The form commonly known as 'The Chestnut Tiger', is not rare in status. It is fairly common in the hills between 1050 mts. and 2800 mts. and mimics *Chilasa agestor* (Gray) and *Hestina nama* (Doubleday). It is recorded for the first time from Namdapha as well as from the Tirap district of Arunachal Pradesh.

Genus **Euploea** Fabricius

1807. *Euploea* Fabricius, *Mag. f. Insektenk.*, 6 : 280.

Two species with subspecies under this genus are known from Arunachal Pradesh which are dealt with hereunder.

Euploea mulciber mulciber (Cramer)

1777. *Papilio mulciber* Cramer, *Pap. Exot.*, 2 : 45, pl. 127, figs. C, D.

1947. *Euploea mulciber mulciber*, Talbot, *Fauna Brit. India*, Butterflies, 2 : 83-85.

Material examined : One ♂, Namdapha, 21.iv., 1 ♂, Hornbill, 16.iv. and 1 ♂, Gibbon land, 1.v.1981 (S. Biswas & Party coll.). Wing exp. 98-100 mm.

Distribution : India : Simla (H. P.), Mussouri, Kumaon (U. P.) to Assam and Arunachal Pradesh also Nicobar Island and migratory to Andaman Islands ; Nepal ; Burma ; China ; Tong King and Malaya.

Remarks : The subspecies popularly known as 'The Striped Blue Crow', is common in status. It is sexually dimorphic in character. In females, the hind wing is with narrow white streaks in the cell and in area beyond it ; submarginal white spots are also slightly elongated. It mimics the Satyrid, *Elymnias malelas* (Hew.) in both sexes.

Euploea diocletianus diocletianus (Fabricius)

1793. *Papilio diocletianus* Fabricius, *Ent. Syst.*, 3(1) : 40.

1947. *Euploea diocletianus diocletianus*, Talbot, *Fauna Brit. India*, Butterflies, 2 : 104-105.

Material examined : One ♂, Namdapha, Deban, 29.iv.1981 (S. Biswas & Party coll.). Wing exp. 84 mm.

Distribution : India : Assam, Arunachal Pradesh ; Burma to Indo-China, Malaya and Sumatra.

Remarks : The subspecies popularly known as 'The Magpie Crow', is common in status. Betts (1950) and Wynter Blyth (1957) described the species as very common in parts of North-East India between 350 mts. to 1400 mts. during the rainy season and in Autumn. It mimics *Papilio paradoxa* f. *danisepa* (Butl.) and the Nymphalid *Euripus halitherses* f. *isa* (Moore).

Family SATYRIDAE

Genus **Mycalesis** Hubner

1818. *Mycalesis* Hubner, *Zuttr. Samn. Exot. Schmett.*, 1 : 110-113.

Out of six species and subspecies known under this genus, from this area one species with subspecies is represented here.

Mycalesis mestra vetus Fruhstorfer

1911. *Mycalesis mestra vetus* Fruhstorfer, In Seitz's *Macrolep. World*, 9 : 348.

Material examined : One ♂, Namdapha, Deban, 6.iv.1981 (S. Biswas & Party coll.). Wing exp. 58 mm.

Distribution : India : Assam, Arunachal Pradesh, Sikkim, also from Bhutan.

Remarks : The subspecies commonly known as 'The White-Edged Bush Brown', is rare in status. It is recorded for the first time from Namdapha, Tirap district, Arunachal Pradesh.

Genus Ypthima Hubner

1818. *Ypthima* Hubner, *Zutr. Samml. exot. Schmett.*, 1 : 17.

Five species with subspecies are known under this genus from North-eastern region of India of which two are new records from Arunachal Pradesh which are represented here. The other two are *Y. sakra austeni* (Moore) and *Y. nareda newara* Moore. Evans (1912) recorded another species *affectata* from Rotung, South Siang division, Arunachal Pradesh.

Ypthima baldus baldus (Fabricius)

1775. *Papilio baldus* Fabricius, *Syst. Ent.*, (3)1 : 829.

1947. *Ypthima baldus baldus* Talbot, *Fauna Brit. India, Butterflies*, 2 : 337-338.

Material examined : Two ♂♂, Namdapha, Zero Camp, 9.iv., 2 ♂♂, Burma Nala, 24.iv.1981 (S. Biswas & Party coll.). Wing exp. 40-44 mm.

Distribution : India : Chamba (H. P.) to Assam and Burma.

Remarks : The subspecies popularly known as 'The Common Five Ring', is very common in status. It is recorded for the first time from Namdapha as well as from the entire Arunachal Pradesh. Evans (1912) recorded the species from 'Abor Expedition' without specific locality.

Ypthima methora methora Hewitson

1865. *Ypthima* (sic) *methora* Hewitson, *Trans. ent. Soc. Lond.*, (3)2 : 291, pl. 18, fig. 20, 21.

1947. *Ypthima methora methora*, Talbot, *Fauna Brit. India, Butterflies*, 2 : 341.

Material examined : One ♂, Namdapha, Zero Camp, 9.iv., 1 ♀,

Burma Nala, 24.iv. and 1 ♀, Chiria Camp, 25.iv. 1981 (S. Biswas & Party coll.). Wing exp. 50-55 mm.

Distribution : India : Sikkim and Assam.

Remarks : The subspecies commonly known as 'The Variegated Five Ring', is rare in status. It is recorded for the first time from Namdapha as well as from the entire Arunachal Pradesh.

Genus *Ragadia* Westwood

1851. *Ragadia* Westwood, *Gen. Diurn. Lep.*, 2 : 376.

One species with subspecies under this genus is known to occur in North-Eastern India which is represented here.

Ragadia crisilda crito de Niceville

1890. *Ragadia crito* de Niceville, *J. Bombay Nat. Hist. Soc.*, 5 : 199, pl. D, figs. 1 ♂, 2 ♀.

1947. *Ragadia crisilda crito*, Talbot, *Fauna Brit. India, Butterflies*, 2 : 356.

Material examined : One ♂, Namdapha, Hornbill. 15.iv., 1 ♂, Gibbons Land, 2.v.1981 (S. Biswas & Party coll.). Wing exp. 50 mm.

Distribution : India : Assam and Manipur also Bhutan.

Remarks : The subspecies commonly known as 'The Striped Ringlet', is rare in status. It is recorded for the first time from Namdapha as well as from the entire Arunachal Pradesh.

Genus *Lethe* Hubner

1819. *Lethe* Hubner, *Verz. bek. Schmett.*, p. 56.

Out of eighteen species and subspecies known under this genus from North Eastern India, three species and subspecies are represented here.

Lethe vindhya (C. Felder)

1859. *Debis vindhya* C. Felder, *Wien. Ent. Mon.*, 3 : 402.

1947. *Lethe vindhya*, Talbot, *Fauna Brit. India, Butterflies*, 2 : 222-223.

Material examined : One ♀, Namdapha, Burma Nala, 24.iv.1981 (S. Biswas & Party coll.). Wing exp. 68 mm.

Distribution : India : Sikkim, Assam, Arunachal Pradesh also Bhutan ; Burma ; Malaya and Tong King.

Remarks : The species commonly known as 'The Black Forester', is not rare in status. It is recorded for the first time from Namdapha, Tirap district. Betts (1950) recorded the species from Subansiri division as rare in status.

***Lethe verma stenopa* Fruhstorfer**

1908. *Lethe verma stenopa* Fruhstorfer, *Ent. Zeit.*, 22 : 127.

Material examined : One ♀, Namdapha, Hornbill, 15.iv.1981 (S. Biswas & Party coll.). Wing exp. 60 mm.

Distribution : Burma ; Thailand ; Tong-King and Hainan.

Remarks : The subspecies popularly known as 'The Straight-Banded Treebrown', is common in status. It is recorded for the first time from Namdapha, Arunachal Pradesh as well as from the entire Indian region.

***Lethe verma sintica* Fruhstorfer**

1911. *Lethe verma sintica* Fruhstorfer, In Seitz's *Macrolep. World*, Butterfly, 9 : 324.

Material examined : One ♂, Namdapha, Burma Nala, 24.iv.1981 (S. Biswas & Party coll.). Wing exp. 62 mm.

Distribution : India : Sikkim to Assam ; Nepal and North Burma.

Remarks : The subspecies popularly known as 'The Straight-Banded Treebrown', is common in status. Betts (1950) recorded the subspecies from north-eastern India, Balipara and Subansiri area. The present record of the subspecies from Namdapha is a new record from this area as well as from Tirap district also.

Family : LYCAENIDAE

Subfamily : LYCAENINAE

Genus ***Pithecop***s Horsfield

1829. *Pithecop*s Horsfield, *Cat. Lep. Mus. E. I. C.*, p. 66.

Out of two species and subspecies known under this genus, one species is represented here which is a new record from Namdapha as well as from the entire Arunachal Pradesh.

***Pithecop*s fulgens** Doherty

1889. *Pithecop*s fulgens Doherty, *J. Asiat. Soc. Beng.*, p. 127, pl. 10, fig. 6.

Material examined : One ♂, 1 ♀, Namdapha, Hornbill ; 14.iv.,

1 ♀, Zero Camp, 9.iv.1981 (S. Biswas & Party coll.). Wing exp. 24-26 mm.

Distribution : India : Assam.

Remarks : The species commonly known as 'The Blue Quaker', is rare in status. So far, its distribution was known from Assam only. In the present study the species is recorded for the first time from Namdapha as well as from the entire Arunachal Pradesh.

Genus *Anthene* Doubleday

1847. *Anthene* Doubleday, *List. Spec. Lep. Ins., Brit. Mus.*, 2 : 27.

Out of two species and subspecies known from this area under this genus, one species with subspecies is represented here.

Anthene emolus emolus (Godart)

1823. *Polyommotus emolus* Godart, *Encycl. Meth.*, 9 : 656.

1962. *Anthene emolus emolus*, Cantlie, In *Lycaenidae Portion Evans' Identification Indian Butterflies*, p. 66.

Material examined : One ♂, Namdapha, Hornbill, 11.iv.1981 (S. Biswas & party coll.). Wing exp. 30 mm.

Distribution : India : Sikkim, Assam, West Bengal, Bihar, Orissa, South India ; also Nepal and Burma.

Remarks : The species popularly known as 'The Ciliate Blue', is common in status. It is recorded for the first time from Namdapha, Tirap district, as well as from the entire Arunachal Pradesh.

Genus *Zizeeria* Chapman

1910. *Zizeeria* Chapman, *Trans. ent. Soc. Lond.*, p. 480-482.

One species with subspecies under this genus is represented here.

Zizeeria maha maha (Kollar)

1848. *Lycaena maha* Kollar, In *Hugel's Kaschmir*, 4 : 422.

1962. *Zizeeria maha maha*, Cantlie, In *Lycaenidae Portion Evans' Identification Indian Butterflies*, p. 64.

Material examined : One ♀, Namdapha, Hornbill, 11.iv.1981 (S. Biswas & Party coll.). Wing exp. 30 mm.

Distribution : India : Sikkim, Assam also Burma ; Nepal and Baluchistan, Kurran, Pakistan,

Remarks : The species popularly known as 'The Grass Blues', is very common in status. It is recorded for the first time from Namdapha, Tirap district, as well as from the entire Arunachal Pradesh.

Genus **Lampides** Hubner

1816. *Lampides* Hubner, *Verz. bek. Schmett.*, p. 70.

One species under this genus is represented here.

Lampides boeticus (Linnaeus)

1767. *Papilio boeticus* Linnaeus, *Syst. Nat.*, ed. 12, p. 789.

1962. *Lampides boeticus*, Cantlie, *Lycaenidae Evans' Identification Indian Butterflies*, p. 69.

Material examined : Two ♀ ♀, Namdapha, Hornbill, 11.iv.1981 (S. Biswas & Party coll.). Wing exp. 30 mm.

Distribution : India : Throughout Indian region, including Andamans and Nicobar Islands ; Nepal and Pakistan.

Remarks : The species popularly known as 'The Pea Blue', is common in status except Andamans and Nicobar where it is rare. It is recorded for the first time from Namdapha, Tirap district, as well as from the entire Arunachal Pradesh.

Genus **Castalius** Hubner

1816. *Castalius* Hubner, *Verz. bek. Schmett.*, p. 70.

One species with subspecies under this genus from Arunachal Pradesh is represented here. Evans (1912) reported the species *rosimon* from Sadiya, Assam and also from 'Abor expd.' (without specific locality).

Castalius elna noliteia Fruhstorfer

1918. *Castalius noliteia* Fruhstorfer, *Tijdscher. Ent.*, 61 : 37.

1962. *Castalius elna noliteia*, Cantlie, In *Lycaenidae Portion Evans' Identification Indian Butterflies*, p. 32.

Material examined : One ♀, Namdapha, Hornbill, 16.iv.1981 and 1 ♀, Deban North, 28.iv.1981 (S. Biswas & Party coll.). Wing exp. 32 mm.

Distribution : India : Orissa, Sikkim to Assam, Andaman and Burma,

Remarks : The subspecies commonly known as 'The Elbowed Pierrot', is not rare in status. It is recorded for the first time from Namdapha, Tirap district, as well as from the entire Arunachal Pradesh. Evans (1912) recorded the species *elna* from Sadiya, Assam and Kobo, Siang division of Arunachal Pradesh.

Genus *Celastrina* Tutt.

1906. *Celastrina*, Tutt, *Ent. Rec.*, 18 : 131.

One species with subspecies under this genus is represented here.

Celastrina limbata placida (de Niceville)

1883. *Cyaniris placida* de Niceville, *J. Asiat. Soc. Beng.*, 52 : 68, pl. 1, fig. 8♂.

1962. *Celastrina limbata placida*, Cantlie, In *Lycaenidae Evans' Identification Indian Butterflies*, p. 47.

Material examined : One ♂, Namdapha, Deban, 8.iv., 1 ♂, Hornbill, 13.iv.1981 (S. Biswas & Party coll.). Wing exp. 30-34 mm.

Distribution : India : Dehra Dun (U. P.), Sikkim, Sibsagar, Khasi Hills, Assam ; also Nepal ; Burma and Penang, Malay Peninsula.

Remarks : Commonly known as 'The Plain Hedge Blue', the subspecies is not rare in status. It is recorded for the first time from Namdapha, Tirap district, Arunachal Pradesh. Evans (1912) recorded the species and subspecies from Kobo, Siang division of Arunachal Pradesh.

Genus *Heliophorus* Geyer

1832. *Heliophorus* Geyer, In Hubner, *Zutr. z. Samml. exot. Schmett.*, 4 : 40.

One species with subspecies under this genus is represented here.

Heliophorus epicles indicus (Fruhst.)

1908. *Ilerda epicles indicus* Fruhstofer, *I. Ent. Zeitschr.*, 22 : 46.

1962. *Heliophorus epicles indicus*, Cantlie, *Lycaenidae Evans' Identification Indian Butterflies*, p. 85.

Material examined : Two ♂♂, Namdapha, Hornbill, 11, 13.iv.1981 (S. Biswas and Party coll.). Wing exp. 28-34 mm.

Distribution : India : Kumaon (U. P.) to Dawnas, Burma also Middle Andaman and Nepal.

Remarks : The subspecies popularly known as 'The Purple Sapphire', is common in status. It is recorded for the first time from Namdapha as well as from the entire Arunachal Pradesh. Evans (1912) recorded the species *epicles* from Kobo and Rotung, Siang division, Arunachal Pradesh.

Subfamily : THECLINAE

Genus **Rapala** Moore

1881. *Rapala* Moore, *Lep. Ceylon* 1(3) : 105.

One species under this genus is represented in the present study.

Rapala scintilla de Niceville

1890. *Rapala scintilla* Niceville, *Butt. India*, 3 : 461.

1962. *Rapala scintilla*, Cantlie, *Lycaenidae* In *Evans' Identification Indian Butterflies*, p. 149.

Material examined : One ♀, Namdapha, Hornbill, 14.iv. 1981 (S. Biswas & Party coll.). Wing exp. 32 mm.

Distribution : India : Sikkim to Assam ; Nepal and Burma.

Remarks : The species commonly known as 'The Scarce Slate Blue', is rare in status. It is recorded for the first time from Namdapha, Tirap district, as well as from the entire Arunachal Pradesh.

Genus **Curetis** Hubner

1816. *Curetis*, Hubner, *Verz. bek. Schmett.*, p. 102.

One species with subspecies under this genus is represented in the present study.

Curetis dentata dentata Moore

1879. *Curetis dentata* Moore, *Proc. zool. Soc. Lond.*, p. 137.

1962. *Curetis dentata dentata*, Cantlie, *Lycaenidae* *Evans' Identification Indian Butterflies*, p. 104.

Material examined : One ♂, Namdapha, Deban North, 28.iv.1981 (S. Biswas & Party coll.). Wing exp. 46 mm.

Distribution : India ; Pachmarhi (M. P.), Kulu (H. P.) to Kumaon (U. P.), Sikkim, Assam, South India ; Nepal and Burma.

Remarks : The subspecies popularly known as 'The Toothed Sunbeam', is common in status. It is recorded for the first time from

Namdapha, Tirap district, as well as from the entire Arunachal Pradesh.

Genus *Chliaria* Moore

1884. *Chliari* Moore, *J. Asiat. Soc. Beng.*, 5(1), pt. 2 : 32.

One species under this genus is represented in the present study.

Chliaria othona (Hewitson)

1865. *Hypolycaena othona* Hewitson, *Ill. Diurn. Lep.*, p. 50, pl. 22, figs. 17, 18.

1962. *Chliaria othona*, Cantlie, *Lycaenidae Evans' Identification. Indian Butterflies*, p. 140.

Material examined : One ♂, Namdapha, Hornbill. 11.iv.1981 (S. Biswas & Party coll.). Wing exp. 24 mm.

Distribution : India : Kumaon (U. P.), Sikkim, Calcutta (W. B.), Assam, Bombay, South India and Andamans ; also Bhutan, Bangladesh and Burma.

Remarks : The species commonly known as 'The Orchard Tit', is not rare in status, except in Andamans where it is very rare. It is recorded for the first time from Namdapha, Tirap district, as well as from the entire Arunachal Pradesh.

SUMMARY

The paper deals with the systematic account of four families of butterflies Pieridae, Danaidae, Satyridae and Lycaenidae collected from the Namdapha Wild Life Sanctuary, Tirap district, Arunachal Pradesh. Out of 11 species and subspecies of Pieridae, 4 species and subspecies of Danaidae, 7 species and subspecies of Satyridae and 10 species and subspecies of Lycaenidae all of which are recorded for the first time from Namdapha Wild Life Sanctuary, 6 species and subspecies of Pieridae, 3 species and subspecies of Satyridae and 9 species and subspecies of Lycaenidae are new records for the entire Arunachal Pradesh. While one species and subspecies of Satyridae has been reported for the first time from India.

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