

BUTTERFLIES OF MAHARASHTRA AND  
KARNATAKA, INDIA

*By*

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INTRODUCTION

The butterflies from the states of Maharashtra and Karnataka have already been rather well surveyed during the intermittent period from the 19th till before the mid-20th century. Earlier accounts were furnished from Maharashtra including Bombay and the adjoining areas of Western Ghats and from Karnataka including Mysore and Bangalore in the plains and northern Kanara and Coorg also in the Western Ghats by several workers, as cross-referred to by Varshney (1977). As many as 191 species were listed by Peile (1937) from both the states, that represent a little over 60% of the entire Indian peninsular fauna. With the present surveys in some of the areas covering about 60 localities, the tally of the species rises to 212, of which 60 occur exotically each at Maharashtra and Karnataka, while the rest overlap at both the states. Thus, the distribution of the bulk of species under study is confirmed on the basis of past records from these states. The fauna is principally tropical oriental in origin, of which no member is ever known as endemic in any of the states concerned. It may, however, be mentioned in a broader sense that amidst the present collections, at least six representatives, viz., *Ixias pyrene sesia* (Fabr.), *Idea malabarica malabarica* (M.), *Ypthima inica* Hew., *Ergolis ariadne indica* M., *E. merione merione* (Cr.) and *Zizeeria maha ossa* (Swin.), are restricted within the Indian peninsular belts. Several others are known to extend to the eastern Palaearctic region, as cited in places under the Systematic Account. Only one species, i. e., *Cynthia cardui* (L.), is nearly universal in distribution.

## MATERIAL AND METHODS

The taxonomical study is based on the material comprising over 340 specimens explored during dry- and wet-seasons of 1971-83 by different scientists including the first two authors from Zoological Survey of India. Amongst a total of 59 species and subspecies, 5 from Maharashtra (\*) of Western Peninsula, 11 from Karnataka (†) of southern Peninsula and other 5 from both these states in common (\*†) constitute new locality records. Of these, *Appias lalage lalage* (Db.), *Symbrenthia hippocclus* de N., *Arletta vardhana* (M.) and *Hypolycaena erylus himavantus* Fr. remained hitherto unknown from the whole of peninsular India. Besides, certain specimens of the species (§) have been found to have reduced wing measurement as compared to the size mentioned by Talbot (1939, 1947) and Wynter-Blyth (1957); a few specimens of *Eurema brigitta rubella* (Wall.) and all of *Sarangesa purendra pandra* Ev., however, have more or less larger fore wing length. The status of majority of the species in question was earlier considered to range from locally to very common. Also, certain butterflies like *Melanitis leda ismene* (Cr.) are known to be of nocturnal over and above their diurnal habits, though presently only a couple of individuals of *Lampides boeticus* (L.) could be trapped by light. Taxonomically, the system is adopted on the familiar basis rather than on the archaic one revived by certain schools of thought including Hancock (1983) and Ackery & Vane-Wright (1984).

## SYSTEMATIC ACCOUNT

## Family I. PAPILIONIDAE

1. *Graphium agamemnon agamemnon* (L.)

1758. *Papilio agamemnon* Linnaeus, *Syst. Nat.*, ed 10 : 462.

1939. *Graphium agamemnon agamemnon* : Talbot, *Fauna Brit. India*, Butts., 1 : 230, fig. 64.

*Material examined* : KARNATAKA, Bangalore, Malle-swaram, Forest Research Laboratory campus, 1 ex. 10.i.1982, S. K. Ghosh & party leg.

*Fore wing length* : 44 mm.

*Distribution* : India (Uttar Pradesh, Kumaon ; western and southern Peninsula). Upto Burma.

## 2. *Atrophaneura hector* (L.)

1758. *Papilio hector* Linnaeus, *Syst. Nat.*, ed. 10 : 459.

1983. *Atrophaneura hector* : Hancock, *Smithersia*, 2 : 47.

*Material examined* : KARNATAKA, Karwar, Kodibag, 2exs. 2.i.1972, K. S. Pradhan & party leg. ; Dharwar, Etingood village, c 500m, 1ex., 16.i.1982, S.K. Ghosh & party leg.

*Fore wing length* : 50 mm.

*Distribution* : India ( western and southern Peninsula ; Andaman Is.). Sri Lanka.

## 3. *Atrophaneura aristolochiae aristolochiae* (Fabr.)

1775. *Papilio aristolochiae* Fabricius, *Ent. Syst.*, p. 443.

1983. *Atrophaneura aristolochiae aristolochiae* : Hancock, *Smithersia*, 2 : 47.

*Material examined* : MAHARASHTRA, Kolhapur, 2exs., Kagol, 1ex., Pantala, 1ex. 20-23.xii.1971, Satara, Kumroshri village, 1ex., 18.i.'72, K. S. Pradhan & party leg. ; Solapur canal, nr. Bus stand, 1ex., 7.iv.'83, A. R. Lahiri & party leg. KARNATAKA, Belgaum, 1ex., Maruti Hills, 1ex., 26-27.xii.'71, Karwar, Kochbag, 1ex., Municipal Public Garden, 1ex., Kadradi, 1ex., Kagor, 1ex., 2-3, 8.i. '72, K. S. Pradhan & party leg. ; Dharwar, Botanical Garden, 900 m. 3exs., southern Kiri, 1ex., 15, 18.i.'82, S. K. Ghosh & Party leg.

*Fore wing length* : 35-50 mm.

*Distribution* : India (throughout the mainland).

## (§)4. *Papilio polytes romulus*, ♀ f. *romulus* (Cr.)

1775. *Papilio romulus* Cramer, *Pap. Exot.*, 1 : 67, pl. 43, fig. A.

1939. *Papilio polytes romulus*, ♀ f. *romulus* : Talbot, *Fauna Brit. India*, Butts., 1 : 178, fig. 46.

*Material examined* : MAHARASHTRA, Ratnagiri, 1ex., 7.vii.1981, *P. Parui & party leg.* KARNATAKA, Bangalore palace campus, 1ex., 12.i.'82, *S. K. Ghosh & party leg.*

*Fore wing length* : 42 mm.

*Distribution* : India (throughout the mainland). Burma, Sri Lanka, Vietnam and Malayan Peninsula.

(\*†)5. **Papilio demoleus demoleus L.**

1758. *Papilio demolens* Linnaeus, *Syst. Nat.*, ed. 10 : 464.

1939. *Papilio demoleus demoleus* : Talbot, *Fauna Brit. India*, Butts., 1 : 189, fig. 50.

*Material examined* : MAHARASHTRA, Raigadh, Poladpur, 1ex., 3.vii.1981, *P. Parui & party leg.* KARNATAKA, Maruti Hills, 3exs., Jamboti, 1ex. 26, 30.xii.'71, *K. S. Pradhan & party leg.* ; Bangalore, F. R. I. campus, 1ex., 10.i.'82, *S. K. Ghosh & party leg.*

*Fore wing length* : 38-42 mm.

*Distribution* : India (almost throughout the mainland). Up to North Burma. Sri Lanka and also extending to Iran and Arabia.

Family II. PIERIDAE

6. **Delias eucharis (Dr.)**

1773. *Papilio eucharis* Drury, *Ill. Exot. Ent.*, 2 : 16, pl. 10, figs. 5, 6.

1939. *Delias eucharis* : Talbot, *Fauna Brit. India*, Butts., 1 : 352, fig. 133a, b ; pl. 3.

*Material examined* : MAHARASHTRA, Kagol, 2exs., Jog, Shimoga, 1 ex., 8-9.i.1972, *K. S. Pradhan & party leg.* ; Pune, Empress Garden, 1 ex., 26.vi.'81, *P. Parui & party leg.* KARNATAKA, Thalathmore, Mercara, c. 1080m, 1 ex., 2. iii.'77, *P. T. Cherian & party leg.* ; Bangalore, F. R. L. campus, 1 ex., 10.i., in and around F. R. H., 1 ex., 13.i.'82, *S. K. Ghosh & party leg.*

*Fore wing length* : 33-40 mm.

*Distribution* : India (lower slopes of Himalaya ; peninsular belts). Sri Lanka.

7. ***Cepora nerissa phryne* (Fabr.)**

1775. *Papilio phryne* Fabricius, *Syst. Ent.*, p. 473.

1939. *Cepora nerissa phryne* : Talbot, *Fauna Brit. India*, Butts., 1 : 362, pl. 2, fig. 7.

*Material examined* : MAHARASHTRA, Satara, Wai, 1ex., 17.i.1981, P. Parui & party leg. KARNATAKA, Bangalore, F. R. L. campus, 3exs., St. Peter's Seminary campus, 1ex., 10-11.i.'82, S. K. Ghosh & party leg.

*Fore wing length* : 20-26 mm.

*Distribution* : India ( western Himalaya ; throughout the Peninsula). Pakistan, Nepal and Sri Lanka.

(\* )8. ***Appias lalage* (Db.)**

1842. *Pieris lalage* Doubleday, in Gray, *Zool. Misc.*, p. 76.

1939. *Appias lalage lalage* : Talbot, *Fauna Brit. India*, Butts., 1 : 387, fig. 143a.

*Material examined* : MAHARASHTRA, Pratapgadh, 1ex., Mahabaleswar, Wilson Pt., 4 exs., 18-19.i.1972, K. S. Pradhan & party leg.

*Fore wing length* : 25 mm.

*Distribution* : India (Uttar Pradesh ; Maharashtra). Upto Burma.

(§)9. ***Ixias marianne* (Cr.)**

1779. *Papilio marianne* Cramer, *Pap. Exot.*, 3 : 41, pl. 217, fig. C, D.

1939. *Ixias marianne* : Talbot, *Fauna Brit. India*, Butts., 1 : 440, fig. 155 ; pl. II, fig. 13.

*Material examined* : KARNATAKA, Bangalore, Malle-swaram, Arthur's pt., 1ex., 16.i.1972, K. S. Pradhan & party leg.

*Fore wing length* : 20 mm.

*Distribution* : India (Western Himalaya ; throughout the Peninsula). Sri Lanka.

#### 10. *Ixias pyrene sesia* (Fabr.)

1777. *Papilio sesia* Fabricius, *Gen. Ins.*, p. 257.

1939. *Ixias pyrene sesia* : Talbot, *Fauna Brit. India*, Butts., 1 : 445.

*Material examined* : MAHARASHTRA, Ambanali, 1 ex., 17.iv.1983, A. R. Lahiri & party leg. KARNATAKA, Bangalore, St. Peters Seminary campus, 1 ex., 11.i.'82, S. K. Ghosh & party leg.

*Fore wing length* : 26 mm.

*Distribution* : India (western, eastern and southern Peninsula).

#### 11. *Catopsilia crocale crocale* (Cr.)

1775. *Papilio crocale* Cramer, *Pap. Exot.*, 1 : 87, pl. IV. figs. C, D.

1980. *Catopsilia crocale crocale* : Varshney, *J. Bombay nat. Hist. Soc.*, 76 (1) : 39.

*Material examined* : MAHARASHTRA, Pune, Aund, 2 exs., 28.vi.1981, P. Parui & party leg. KARNATAKA, Bangalore, St. Peter's Seminary campus, 1 ex., 11.i.'82, S. K. Ghosh & party leg.

*Fore wing length* : 35 mm.

*Distribution* : India (throughout the mainland ; Andaman Is.). Burma, Sri Lanka, South China, Sundaland and Philippines.

#### 12. *Catopsilia pyranthe pyranthe* (L.)

1758. *Papilio pyranthe* Linnaeus, *Syst. Nat.*, ed. 10 : 469.

1939. *Catopsilia pyranthe pyranthe* : Talbot, *Fauna Brit. India*, Butts., 1 : 497, fig. 168 b ; pl. II, fig. 15.

*Material examined* : MAHARASHTRA, Kolhapur, Shivaji Univ. campus, 2 exs., 21.xii.1971, Jog Falls, 1 ex., Kagol, 1 ex., 7-8.i.'72, K. S. Pradhan & party leg. Jog Falls, Shimoga, c. 50m, 1 ex., 2.vi.'81, B. C. Saha & party leg. ; Pune, Aund, 1 ex., 28.vi., Ratnagiri, 2 exs., 7.vii.'81, P. Parui & party leg. KARNATAKA, Belgaum, Maruti Hills,

2 exs., 27.xii.'71, Karwar, 2 exs., Kodibagh, 1 ex., 1-2.i.'72, K. S. Pradhan & party leg. ; Bangalore, F. R. L. campus, 2 exs., 18.i., Belgaum, outskirts of the city, 5 kms. south of F. R. H., 1 ex., 23.i.'82, S. K. Ghosh & party leg.

*Fore wing length* : 25-30 mm.

*Distribution* : India (throughout the mainland ; Andaman Is.). Burma, Sri Lanka, extending to Hainan, Taiwan, South China and also Sundaland, Sulawesi and Philippines.

(†)13. **Catopsilia florella gnoma** (Fabr.)

1776. *Papilio gnoma* Fabricius, *Ent. Syst.*, Append., p. 828

1939. *Catopsilia florella gnoma* : Talbot, *Fauna Brit. India*, Butts., 1 : 500, fig. 168a.

*Material examined* : MAHARASHTRA, Kolhapur, Kagol. 1 ex., 23.xii. ; KARNATAKA, Belgaum, Maruti Hills, 4 exs., 27-28.xii. 1971, Karwar, Kodibagh, 3exs., 2.i.'72, K. S. Pradhan & party leg. ; Univ. campus, 1ex., Dharwar, Botanical Gardens. 1ex., Etingood village, 1ex., 15-16.i. '82, S. K. Ghosh & party leg.

*Fore wing length* : 25-32 mm.

*Distribution* : India (almost throughout the mainland ; Andaman Is.). Burma and Sri Lanka.

(\*†)14. **Eurema brigitta rubella** (Wall.)

1867. *Terias rubella* Wallace, *Trans. ent. Soc. Lond.*, (3) 4 (3) : 323.

1939. *Eurema brigitta rubella* : Talbot, *Fauna Brit. India*, Butts., 1 : 515, fig. 171.

*Material examined* : MAHARASHTRA, Kolhapur, Kagol, 1ex., Shivaji Univ. campus, 1ex., 20-21.xii.1971, Jog, 2exs., 8.i., Satara, Purli, 2exs., Kshetra, Mahuli, 1ex., 12-13.i., Lingmala, 2exs., 17.i., Mahabaleswar, Wilson Pt., 2exs., 17,19.i. '72 ; KARNATAKA, Belgaum Maruri Hills. 8exs. 26.xii., Jamboti, 2exs., 30.xii.71, Karwar, Kadradi, 1ex., 3.i.'72. K. S. Pradhan & party leg. ; Karnataka Univ. campus, 1ex., Dharwar, Botanical Gardens, 1ex., 15.i., Belgaum, 1km. north of F. R. H., 1ex., 24.i.'82. S. K. Ghosh & party leg.

*Fore wing length* : 14-22 mm.

*Distribution* : India (almost throughout the mainland ; Nicobar Is.). Burma and Sri Lanka, extending to South China.

### 15. *Eurema leata laeta* (Bd.)

1836. *Terias laeta* Boisduval, *Spec. Gen. Lep.*, 1 : 674.

1939. *Eurema laeta laeta* : Talbot, *Fauna Brit. India*, Butts., 1 : 517, fig. 172 a-b.

*Material examined* : MAHARASHTRA, Kolhapur, Shivaji Univ. campus, 3exs., Pantala, 1ex., Sangam, 2exs., 21-22, 24.xii.1971, Purli, 2exs., Chinchani, 2exs., 12,14.i.'72, K. S. Pradhan & party leg. ; Satara, 2exs., 30.vi.'81, P. Parui & party leg. KARNATAKA, Belgaum, Maruti Hills, 1 ex., Jamboti, 1ex., 26,30.xii.'71, K. S. Pradhan & party leg. ; Kangari village, 5exs., 21.i.'82, S. K. Ghosh & party leg.

*Fore wing length* : 18 mm.

*Distribution* : India (Western Himalaya ; throughout the Peninsula). Sri Lanka.

### 16. *Eurema hecabe contubernalis* (M.)

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

1939. *Eurema hecabe contubernalis* : Talbot, *Fauna Brit. India*, Butts., 1 : 527, fig. 177 a-e.

*Material examined* : MAHARASHTRA, Satara, Circuit House, 2exs., Purli, 1ex., Medha, 3exs., Mahabaleswar, Elphinston's pt., Pratapgardh Garden, 1ex., 11-12, 14, 16, 18.i.1972, K. S. Pradhan & party leg. Raigadh, Poladpur, 2exs., 3.vii.'81, P. parui & party leg. KARNATAKA, Belgaum, Maruti Hills, 2exs., 27.xii.'71, Karwar, 5 exs., Kodibagh, 5exs., 1-2.i.'72, K. S. Pradhan & party leg. ; Bangalore, St. Peter's Seminary campus, 3exs., 11.i., in and around F. R. H., 1ex., 13.i., outskirts of Belgaum city, 2exs., 23.i.'82, S. K. Ghosh & party leg.

*Fore wing length* : 17-24 mm.



*Distribution* : India (Western Garhwal ; Sikkim ; West Bengal ; Maharashtra ; Karnataka). Burma and Malay Peninsula.

Family III. DANAIDAE

(\*)17. **Idea malabarica malabarica** (M.)

1877. *Hestia malabarica* Moore, *Ann. Mag. Nat. Hist.*, (4) 20 : 46.

1947. *Idea malabarica malabarica* : *Fauna Brit. India*, Butts., 2 : 10, figs. 3-5.

*Material examined* : MAHARASHTRA, Raigadh, Poladpur, 1ex., 3. vii. 1981, P. Parui & party leg.

*Fore wing length* : 62 mm.

*Distribution* : India (western and southern Peninsula).

(§)18. **Danaus chrysippus chrysippus** (L.)

1758. *Papilio chrysippus* Linnaeus, *Syst. Nat.*, ed. 10 : 471.

1947. *Danaus chrysippus chrysippus* : Talbot, *Fauna Brit. India*, Butts., 2 : 20.

*Material examined* : MAHARASHTRA, Kolhapur, Kagol, 4exs., 23.xii.1971, Jog, 1ex., Shimoga, 1ex., 1ex., 8-9.i., Mahabaleswar, Wilson Pt., 2exs., 19.i.'72, K. S. Pradhan & party leg. ; Pune, dry river-bed, 2exs., 23.vi., Ratnagiri, Babnati village, 2exs., 8.vii.81, P. Parui & party leg. KARNATAKA Belgaum, Maruti Hills, 1ex., 27.xii., Jamboti, 4exs., 30.xii.'71, Karwar, Kodibag, 2exs., 2.i.'72, K. S. Pradhan & party leg.

*Fore wing length* : 28-36 mm.

*Distribution* : India (throughout the mainland). Extending to the Malayan subregion, China and Japan in the east and Asia Minor in the west.

19. **Danaus genutia genutia** (Cr.)

1779. *Papilio genutia* Cramer, *Pap. Exot.*, 3 : 23, pl. 206, figs. C, D.

1886. *Danans genutia genutia* : Doherty, *J. Asiat. Soc. Beng.*, 55 (2) : 114.

*Material examined* : MAHARASHTRA, Satara, Kayana River bank, Kumroshri village, 3exs., 18.i. ; KARNATAKA, Karwar, Maltapur, 1ex., 4.i.1972, *K. S. Pradhan & party leg.* ; Bangalore, St. Peter's Seminary campus, 1ex., 11.i.'82, *S. K. Ghosh & party leg.*

*Fore wing length* : 36-43 mm.

*Distribution* : INDIA (throughout the mainland ; Ardaman & Nicobar Is.). Also Afghanistan, Pakistan, Burma, Sri Lanka, Thailand, China, Vietnam and Riu-Kiu Is.

(§) 20. **Danaus limniace leopardus** (Butl.)

1866. *Danaus limniace* var. *leopardus* Butler, *Proc. zool. Soc. Lond.*, p. 52.

1947. *Danaus limniace leopardus* : Talbot, *Fauna Brit. India*, Butts., 2 : 31, fig. 10.

*Material examined* : MAHARASHTRA, Kagol, 1 ex., 23.xii.1971, Jog Falls, 1 ex., Shimoga, 1 ex., 7,9.i. ; KARNATAKA, Karwar, Maltapur, 1 ex., 4.i.'72, *K. S. Pradhan & party leg.*

*Fore wing length* : 32-44 mm.

*Distribution* : India (western and eastern Himalaya ; western, eastern and southern Peninsula ; Nicobar Is.). Pakistan, Burma, Sri Lanka, also Chinese and Malayan subregions.

21. **Euploea core core** (Cr.)

1780. *Papilio core* Cramer, *Pap. Exot.*, 3 : 133, pl. 267, figs. E, F.

1947. *Euploea core core* : Talbot, *Fauna Brit. India*, Butts., 2 : 67, fig. 25.

*Material examined* : MAHARASHTRA, Jog, Falls, 1 ex., Shimoga, 3 exs., 7,9.i.1972, *K. S. Pradhan & party leg.* Raigadh, Poladpur, 2exs., 3.vii.81, *P. Parui & party leg.* KARNATAKA, Mangala Devi Nagar, Mascar, c 1300 m, 1 ex., 3.iii.'77, *P. T. Cherian & party leg.* ; Dharwar, Gandhinagar Farm, 1 ex., 22.i.'82, *S. K. Ghosh & party leg.*

*Fore wing length* : 40-45 mm.

*Distribution* : India (throughout the mainland).

Family IV. SATYRIDAE

(†) 22. *Mycalesis perseus blasius* (Fabr.)

1798. *Papilio blasius* Fabricius, *Ent. Syst. Suppl.*, p. 426.

1947. *Mycalesis perseus blasius* : Talbot, *Fauna Brit. India*, Butts., 2 : 132.

*Material examined* : MAHARASHTRA, Shimoga, 1 ex., 9.i.1972 ; KARNATAKA, Belgaum, Maruti Hills, 1 ex., 26.xii.'71, K. S. Pradhan & party leg.

*Fore wing length* : 20 mm.

*Distribution* : India (Himachal Pradesh ; Maharashtra ; Karnataka). Upto Burma.

(\*†) 23. *Lethe rohira neelgheriensis* (Guer.)

1843. *Satyrus neelgheriensis* Guerin, in Delessert, *Souv. Voy. Ind.*, 2 : 74, pl. 21, figs. 1, 1a.

1947. *Lethe rohira neelgheriensis* : Talbot, *Fauna Brit. India*, Butts., 2 : 201.

*Material examined* : MAHARASHTRA, Mahabaleswar, Elphinston Pt., 1 ex., 16.i.1972 ; KARNATAKA, Belgaum, Maruti Hills, 1 ex., 27.xii.'71, K. S. Pradhan & party leg.

*Fore wing length* : 28 mm.

*Distribution* : India (Madhya Pradesh ; Up to Nilgiris of southern Peninsula). Sri Lanka.

(\*†§)24. *Ypthima inica* Hew.

1865. *Ypthima inica* Hewitson, *Trans. ent. Soc. Lond.*, (3) 2 : 284, pl. 17, fig. 5.

*Material examined* : MAHARASHTRA, Jog Falls, 1 ex., Shimoga, 2 exs., 7,9.i.1972 ; KARNATAKA, Belgaum, Jambotti, 1 ex., Khasbag, 1 ex., 29-30.xii.'71, K. S. Pradhan & party leg.

*Fore wing length* : 10-14 mm.

*Distribution* : India (almost throughout the Peninsula).

(§) 25. *Ypthima ceylonica hübneri* Kir.

1871. *Ypthima hübneri* Kirby, *Syn. Cat. Diurn. Lep.*, p. 95.

1947. *Ypthima ceylonica hübneri* : Talbot, *Fauna Brit. India*, Butts., 2 : 329.

*Material examined* : MAHARASHTRA, Kolhapur, Kagol, 4 exs., 20,23.xii.1971, Satara, Chinchani, 1 ex., 14.i., Mahabaleswar, Lingmala, 1 ex., 18.i.'72 ; KARNATAKA, Belgaum, Maruti Hills, 3 exs., 26.xii.'71, K. S. Pradhan & party leg.

*Fore wing length* : 13 mm.

*Distribution* : India (Assam ; throughout the Peninsula). Burma and Malaya.

(\*) 26. *Orsotrioena medus mandata* (M.)

1857. *Mycalesis mandata* Moore, *Cat. Lep. Ins. E.I.C.*, 1 : 234.

1947. *Orsotrioena medus mandata* : Talbot, *Fauna Brit. India*, Butts., 2 : 350.

*Material examined* : MAHARASHTRA, Shimoga, 1 ex., 9.i.1972, K. S. Pradhan & party leg.

*Fore wing length* : 21 mm.

*Distribution* : India (western and southern Peninsula). Sri Lanka.

27. *Melanitis leda ismene* (Cr.)

1775. *Papilio ismene* Cramer, *Pap. Exot.*, 1 : 40, pl. 26, figs. A, B.

1947. *Melanitis leda ismene* : Talbot, *Fauna Brit. India*, Butts., 2 : 366. figs. 96-97.

*Material examined* : KARNATAKA, Bangalore, F. R. L. campus, 2 exs., 10.i., St. Peter's Seminary campus, 2 exs., 12. i.1982, S. K. Ghosh & party leg.

*Fore wing length* : 32-40 mm.

*Distribution* : India (throughout the mainland ; Andaman and Nicobar Is.). Burma and Sri Lanka, extending to the Malayan subregion, Taiwan and Japan.

Family V ACRAEIDAE

28. *Acraea violae* (Fabr.)

1775. *Papilio violae* Fabricius, *Ent. Syst.*, p. 460.

1973. *Acraea violae* : Varshney, *Curr. Sci.*, 42 (3) : 107.

*Material examined* : MAHARASHTRA, Ratnagiri, 1 ex., 8.vii.1981, P. Parui & party leg.

*Fore wing length* : 27 mm.

*Distribution* : India (gangetic plains and the Peninsula). Sri Lanka.

Family VI. NYMPHALIDAE

(§) 29. *Ergolis ariadne indica* M.

1884. *Ergolis indica* Moore, *J. Asiat. Soc. Beng.*, p. 20.

1932. *Ergolis ariadne indica* : Evans, *Ident. Ind. Butts.*, ed. 2 : 191.

*Material examined* : KARNATAKA, Bangalore, St. Peter's Seminary campus, 1ex., 11.i.1982, S. K. Ghosh & party leg.

*Fore wing length* : 22 mm.

*Distribution* : India (western, eastern and southern Peninsula).

(†§)30. *Ergolis merione merione* (Cr.)

1777. *Papilio merione* Cramer, *Pap. Exot.*, 2 : 76, pl. 144, figs. G, H.

1932. *Ergolis merione merione* : Evans, *Ident. Ind. Butts.*, ed. 2 : 191.

*Material examined* : MAHARASHTRA, purli, nr. Satara, 1ex., 12.i.1972, K. S. Pradhan & party leg. ; Barivali National Park, 1 ex., 21.vi.1981, P. Parui & party leg. KARNATAKA, Belgaum, Maruti Hills, 4 exs., Khasbag, 1 ex., Tilakwadi Park, 1 ex., 27-29.xii.'71, K. S. Pradhan & party leg.; Devara Forest, 1 ex., 5.iii.'77, P. T. Cherian & party leg.

*Fore wing length* : 20-25 mm.

*Distribution* : India (western and southern Peninsula).

31. **Byblia ilithyia** (Dr.)

1773. *Papilio ilithyia* Drury, *Ill. Exot. Ent.*, 2 : 29, pl. 17, figs. 1, 2.

1932. *Byblia ilithyia* : Evans, *Ident. Ind. Butts.*, ed. 2 : 190.

*Material examined* : KARNATAKA, Dharwar, Mrityunjoynagar & vicinity, 1 ex., 17.i.1982, S. K. Ghosh & party leg.

*Fore wing length* : 25 mm.

*Distribution* : India (northern and southern Peninsula). Sri Lanka.

32. **Phalanta phalantha phalantha** (Dr.)

1770. *Papilio phalantha* Drury, *Ill. Exot. Ent.*, 1 : 41, pl. 21, figs. 1, 2.

1967. *Phalanta phalantha phalantha* : Donahue, *J. Bombay nat. Hist. Soc.*, 64 : 38.

*Material examined* : MAHARASHTRA, Purli, nr. Satara, 1ex., 12.i., Lingmala, 1ex., 17.i.1972, K. S. Pradhan & party leg. KARNATAKA, Bangalore Palace campus, 1ex., 12.i., outskirts of the Belgaum city, 5 Kms. south of F. R. H., 3exs., 23.i.'82, S. K. Ghosh & party leg,

*Fore wing length* : 26 mm.

*Distribution* : India (throughout the mainland). Pakistan, Burma and Sri Lanka.

33. **Precis iphita pluviatilis** Fr.

1900. *Precis pluviatilis* Fruhstorfer, *Berl. Ent. Zschr.*, 45 : 22.

1932. *Precis iphita pluviatilis* : Evans, *Ident. Ind. Butts.*, ed. 2 : 177.

*Material examined* : MAHARASHTRA, Lingmala, 1ex., 17.i.1972, K. S. Pradhan & party leg.

*Fore wing length* : 27 mm.

*Distribution* : India (western, northern and southern Peninsula). Sri Lanka and Maldives.

 (§)34. **Precis almana almana** (L.)

1758. *Papilio almana* Linnaeus, *Syst. Nat.*, ed. 10 : 472.

1932. *Precis almana almana* : Evans, *Ident. Ind. Butts.*, ed. 2 : 176.

*Material examined* : MAHARASHTRA, Kolhapur, Kagol, 2exs., 23.xii.1971, Lingmala, 1ex., 17.i.'72, K. S. Pradhan & party leg. ; Raigadh, Poladpur, 1ex., 3.vii.'81, P. Parui & party leg. KARNATAKA, Belgaum, Maruti Hills, 1ex., 26.xii., Jamboti, 1ex., 30.xii.'71, K. S. Pradhan & party leg.

*Fore wing length* : 27 mm.

*Distribution* : India (throughout the mainland ; Andaman Is.). Burma and Sri Lanka.

(†)35. ***Precis lemonias persicaria* Fr.**

1927. *Precis lemonias f. persicaria* Fruhstorfer, in Seitz, *Macrolep. World*, 9 : 520.

1932. *Precis lemonius persicaria* : Evans, *Ident. Ind. Butts.*, ed. 2 : 176.

*Material examined* : MAHARASHTRA, Kolhapur, Kagol, 1ex., 23.xii.1971, Lingmala, Pratap Singh Park, 3exs., 17.i., Satara, Kumroshri village, 2exs., 18.i.'72, K. S. Pradhan & party leg. ; Raigadh, Poladpur, 2exs., 3.vii., Ratnagiri, Babnati village, 2exs., 8.vii.'81, P. Parui & party leg. ; around Kagol border, 1ex., 4.iv.'83, A.R. Lahiri & party leg. KARNATAKA, Belgaum, 1ex., Khasbag, 1ex., Jamboti, 1ex., 28-30.xii.'71, Kaiga, nr. Malhapur Down stream, 1ex., 4.i., Maleswaram, Elphinston's Pt., 1ex., 16.i.'72, K. S. Pradhan & party leg. ; Bangalore, St. Peters seminary campus, 2exs., 11.i., cropfield nr. Shivaji Park, 1ex., 20.i., outskirts of Belgaum city, 5 Kms. south of F. R. H., 1ex., 23.i.'82, S. K. Ghosh & party leg.

*Fore wing length* : 20-25 mm.

*Distribution* : India (Kashmir ; Maharashtra ; Karnataka). Sri Lanka, Thailand and South Annam.

36. ***Precis hierta hierta* (Fabr.)**

1798. *Papilio hierta* Fabricius, *Ent. Syst. Suppl.*, p. 424.

1932. *Precis hierta hierta* : Evans, *Ident. Ind. Butts.*, ed. 2 : 176.

*Material examined* : MAHARASHTRA, Kagol, 1ex., 8.i.1972, K. S. Pradhan & party leg. KARNATAKA, Bangalore, F. R. L. campus, 2exs., 10.i., Palace campus, 2exs., 12.i., Dharwar, Mrityunjoy nagar & vicinity, 2exs.,

17.i., Belgaum crop field nr. Shivaji Fort, 2exs., 20.i., Malleswaram, 8 Kms. north-east of Bangalore F. R. H., 2exs., 27.i.'82, *S. K. Ghosh & party leg.*

*Fore wing length* : 26 mm.

*Distribution* : India (throughout the mainland). Pakistan and Sri Lanka.

### 37. *Precis orithyia swinhoi* Butl.

1885. *Precis swinhoi* Butler, *Ann. Mag. nat. Hist.*, p. 309.

1932. *Precis orithyia swinhoi* : Evans, *Ident. Ind. Butts.*, ed. 2 : 176.

*Material examined* : MAHARASHTRA, Kolhapur, Kagol, 1ex., Shivaji Univ. campus, 1ex., 20-21.xii.1971, Satara, Chinchani, 3exs., 14.i.'72, KARNATAKA, Belgaum, Maruti Hills, 5exs., 26.xii.'71, *K. S. Pradhan & party leg.* ; Dhawar, Botanical Gardens, 1ex., 15.i., Belgaum, Kangari village, 1ex., 21.i., Gandhinagar Farm, 1ex., 22.i, Malleswaram, 8 Kms. north of Bangalore F. R. H., 1ex., 27.i.'82, *S. K. Ghosh & party leg.*

*Fore wing length* : 20-25 mm.

*Distribution* : India (western Himalaya ; western and southern Peninsula). Ranging northwards to Pakistan.

### (§) 38. *Precis atlites* (L.)

1763. *Papilio atlites* Linnaeus, *Centur. Ins.*, p. 24.

1932. *Precis atlites* : Evans, *Ident. Ind. Butts.*, ed. 2 : 176.

*Material examined* : MAHARASHTRA, Kagol, 1 ex., 8. i.1972, *K. S. Pradhan & party leg.* ; Raigadh, Poladpur, 1ex., 3.vii.'81, *P. Parui & party leg.*, KARNATAKA, Belgaum, 1 ex., 28.xii.'71, Karwar, 2 exs., 1.i.'72, *K. S. Pradhan & party leg.*, 1 km. north of F. R. H., 1 ex., 24.i.'82, *S. K. Ghosh & party leg.*

*Fore wing length* ; 22-30 mm.

*Distribution* : India (throughout the mainland ; Andaman and Car Nicobar Is.). Burma and Sri Lanka.



39. *Neptis hylas varmona* M.1872. *Neptis varmona* Moore, *Proc. zool. Soc. Lond.*, p. 561.1932. *Neptis hylas varmona* : Evans, *Ident. Ind. Butts.*, ed. 2 : 166.

*Material examined* : MAHARASHTRA, Purli, 2 exs., 12.i.1972 ; KARNATAKA, Belgaum, Maruti Hills, 3 exs., 27.xii., Jamboti, 3 exs., 30.xii.'71, K. S. Paadhan & party leg. ; Gandhinagar Farm, 1 ex., 22.i.'82, S. K. Ghosh & party leg.

*Fore wing length* : 23 mm.

*Distribution* : India (western and eastern Himalaya ; western and southern Peninsula). Sri Lanka.

(\*) 40. *Pantoporia perius* (L.)1758. *Papilio perius* Linnaeus, *Syst Nat.*, ed. 10 : 471.1932. *Pantoporia perius* : Evans, *Ident. Ind. Butts.*, ed. 2 : 164.

*Material examined* : MAHARASHTRA, Pratapgadh Park, 3 exs., 18.i.1972, K. S. Pradhan & party leg.

*Fore wing length* : 29 mm.

*Distribution* : India (Himachal Pradesh to the peninsular belts). Burma.

41. *Hypolimnas bolina* (L.)1758. *Papilio bolina* Linnaeus, *Syst. Nat.*, ed. 10 : 479.1932. *Hypolimnas bolina* : Evans, *Ident. Ind. Butts.*, ed. 2 : 174.

*Material examined* : MAHARASHTRA, Ratnagiri coast, 2 exs., 7.vii.1981, P. Parui & party leg.

*Fore wing length* : 35-40 mm.

*Distribution* : India (throughout the mainland ; Andaman and Car Nicobar Is.). Pakistan, Burma and Sri Lanka.

 (§) 42. *Hypolimnas misippus* (L.)1764. *Papilio misippus* Linnaeus, *Mus. Ulr.*, p. 264.1932. *Hypolimnas misippus* : Evans, *Ident. Ind. Butts.* ed. 2 : 173.

*Material examined* : KARNATAKA, Belgaum, Tilakwadi Park, 1 ex., 29.xii.1971, Karwar Municipal Garden, 2 exs., 3.i.'72, K. S. Pradhan & party leg.

*Fore wing length* : 30-42 mm.

*Distribution* : India (throughout the mainland ; Andaman and Car Nicobar Is.). Pakistan, Burma and Sri Lanka.

#### 43. *Euthalia nais* (Forst.)

1771. *Papilio nais* Forster, *Nov. Spec. Ins. Cent.*, 1 : 73.

1932. *Euthalia nais* : Evans, *Ident. Ind. Butts.*, ed. 2 : 157.

*Material examined* : KARNATAKA, Belgaum, Khasbag, 2 exs., 29.xii.1971, K. S. Pradhan & party leg. ; Bangalore, St. Peter's seminary campus, 1ex., 11.i.'82, S. K. Ghosh & party leg.

*Fore wing length* : 29—32 mm.

*Distribution* : India (western and eastern Himalaya ; throughout the Peninsula). Sri Lanka.

#### 44. *Cynthia cardui* (L.)

1758. *Papilio cardui* Linnaeus, *Syst. Nat.*, ed. 10 : 475.

1977. *Cynthia cardui* : Varshney, *Newsl. Zool. Surv. India*, 3 (1) : 13.

*Material examined* : MAHARASHTRA, Mahabaleswar, Elphinston Pt., 1ex., Lingmala, 2exs., 16-17.i.1972, K. S. Pradhan & Party leg. KARNATAKA, Belgaum, Gandhinagar Farm, 1ex., 22.i.'82, S. K. Ghosh & party leg.

*Fore wing length* : 27—30 mm.

*Distribution* : Universal except South America.

#### (†) 45. *Symbrenthia hippoclus* de N.

1886. *Symbrenthia hippoclus* de Nicéville, *Butt. India*, 2 : 240.

*Material examined* : KARNATAKA, Bangalore, Malle-swaram, 1ex. 27.i.1982, S. K. Ghosh & party leg.

*Fore wing length* ; 24 mm.

*Distribution* : India (Himachal Pradesh to Sikkim and Assam ; Karnataka). Burma, extending to Malayan subregion.

## Family VII. LYCAENIDAE

46. *Tarucus nara* (Koll.)

1848. *Lycaena nara* Kollar, in Hügel, *Kasch. Reich. Seik. Ins.*, 4 : 241.

1962. *Tarucus nara* : Cantlie, *Lycaen. Port. Evans' "Ident. Ind. Butts. 1932"*, p. 33.

*Material examined* : MAHARASHTRA, Satara, Wai, 1 ex., 1.vii.1981, P. Parui & party leg.

*Fore wing length* : 15 mm.

*Distribution* : India (western and eastern Himalaya ; throughout the Peninsula).

(†) 47. *Arletta vardhana* (M.)

1874. *Polyommatus vardhana* Moore, *Proc. zool. Soc. Lond.*, p. 572, pl. 66, fig. 5.

1962. *Arletta vardhana* : Cantlie, *Lycaen. Prot. Evans' "Ident. Ind. Butts. 1932"*, p. 41.

*Material examined* : KARNATAKA, Maruti Hills, Belgaum, 1 ex., 27.xii.1971, K. S. Pradhan & party leg.

*Fore wing length* : 13 mm.

*Distribution* : India (Kashmir to Kumaon ; Karnataka). Nepal.

48. *Freyeria trochilus putli* (Koll.)

1848. *Lycaena putli* Kollar, in Hügel, *Caseh. Reich. Seik. Ins.*, 4 : 422.

1962. *Freyeria trochilus putli* : Cantlie, *Lycaen. Port. Evans' "Ident. Ind. Butts. 1932"*, p. 62.

*Material examined* ; KARNATAKA, Maruti Hills, Belgaum, 3 exs., 26.xii.1971, K. S. Pradhan & party leg.

*Fore wing length* : 5 mm.

*Distribution* : India (western and eastern Himalaya ; throughout the Peninsula). Burma.

(\*†) 49. *Zizeeria otis indica* (Murr.)

1874. *Lycaena iudica* Murray, *Trans. ent. Soc. Lond.*, p. 525, pl. 10, figs. 2, 3.

1962. *Zizeeria otis indica* : Cantlie, *Lycaen. Port. Evans' "Ident. Ind. Butts. 1932"*, p. 63.

*Material examined* : MAHARASHTRA, Wilson Pt., 2 exs., 19.i.1972 ; KARNATAKA, Belgaum, Jamboti, 2 exs., 30.xii.'71, K. S. Pradhan & party leg.

*Fore wing length* : 7 mm.

*Distribution* : India (western and eastern Himalaya ; almost throughout the Peninsula). Pakistan and Nepal.

(†§) 50. *Zizeeria maha ossa* (Swin.)

1885. *Zizera ossa* Swinhoe, *Proc. zool. Soc. Lond.*, p. 132, pl. 9, figs. 11, 12.

1962. *Zizeeria maha ossa* : Cantlie, *Lycaen. Port. Evans' "Ident. Ind. Butts. 1932"*, p. 64.

*Material examined* : KARNATAKA, Belgaum, Maruti Hills, 3exs., 26.xii.1971, K. S. Pradhan & party leg.

*Fore wing length* : 10 mm.

*Distribution* : India (northern to southern Peninsula).

51. *Zizula hylax* (Fabr.)

1775. *Pithecopis hylax* Fabricius, *Ent. Syst.*, p. 526.

1962. *Zizula hylax* : Cantlie, *Lycaen. Port. Evans' "Ident. Ind. Butts. 1932"*, p. 65.

*Material examined* : MAHARASHTRA, Wilson Pt., 1ex,, 19.i.1972, K. S. Pradhan & party leg.

*Fore wing length* : 8 mm.

*Distribution* : India (throughout the mainland ; Andaman and Nicobar Is.). Pakistan. Burma and Sri Lanka.

52. *Euchrysops cnejus* (Fabr.)

1798. *Hesperia cnejus* Fabricius, *Ent. Syst., Suppl.*, p. 430.

1962. *Euchrysops cnejus* : Cantlie, *Lycaen. Port. Evans' "Ident. Ident. Butts. 1932"*, p. 65.

*Material examined* : MAHARASHTRA, Mahabaleswar, Kolhapur, Sangam, 1ex., 24.xii.1971, K. S. Pradhan & party leg.

*Fore wing length* : 11 mm.

*Distribution* : India (throughout the mainland ; Andaman, Car and South Nicobar Is.). Pakistan, Nepal, Burma and Sri Lanka.

(†) 53. **Lampides boeticus** (L.)

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

1962. *Lampides boeticus* : Cantlie, *Lycaen. Port. Evans' "Ident. Ind. Butts. 1932"*, p. 69.

*Material examined*: MAHARASHTRA, Jog, 2exs., 7.1.1972, "at light" ; KARNATAKA, Belgaum, Maruti Hills, 1ex., 26.xii., Karwar, Kodibag, 1ex., Municipal Gardens, 2exs., 2-3.i.'72, K. S. Pradhan & party leg.

*Fore wing length* : 15 mm.

*Distribution* : India (throughout the mainland ; Andaman and Nicobar Is.). Pakistan, Nepal and Sri Lanka.

(†) 54. **Hypolycaena erylus himavantus** Fr.

1900. *Hypolycaena himavantus* Fruhstorfer, *Berl. Ent. Zeit.*, 56 : 237.

1962. *Hypolycaena erylus himavantus* : Cantlie, *Lycaen. Port. Evans' "Ident. Ind. Butts. 1932"*, p. 142.

*Material examined* : KARNATAKA, Dharwar, Etingood village, 1ex., 16.i.1982, S. K. Ghosh & party leg.

*Fore wing length* : 18 mm.

*Distribution* : India (Sikkim ; Karnataka). Nepal. Upto Burma.

Family VIII. HESPERIIDAE

55. **Sarangesa purendra pandra** Ev.

1949. *Sarangesa purendra pandra* Evans, *Cat. Hesp. Eur. Asi. Austral. Brit. Mus. (Nat. Hist.)*, p. 119.

*Material examined* : MAHARASHTRA, Mahabaleswar, Wilson Pt., 3exs., 19.i.1972, K. S. Pradhan & party leg.

*Fore wing length* : 15 mm.

*Distribution* : India (western, northern and southern Peninsula). Sri Lanka.

56. *Spialia galba* (Fabr.)

1793. *Hesperia galba* Fabricius, *Ent. Syst.*, p. 352.

1949. *Spialia galba* : Evans, *Cat. Hesp. Eur. Asi. Austral. Brit. Mus. (Nat. Hist.)*, p. 175.

*Material examined* : MAHARASHTRA, Eduvani, 2exs., 6.i.1972, K. S. Pradhan & party leg.

*Fore wing length* : 10 mm.

*Distribution* : India (western and eastern Himalaya ; throughout the Paninsula). Pakistan, Burma and Sri Lanka.

(\*) 57. *Potanthus pseudomaesa pseudomaesa* (M.)

1881. *Padraona pseudomaesa* Moore, *Lep. Ceylon*, 1 : 170.

1949. *Potanthus pseudomaesa pseudomaesa* : Evans, *Cat. Hesp. Eur. Asi. Austral. Brit. Mus. (Nat. Hist.)*, p. 377.

*Material examined* : MAHARASHTRA, Satara, Chinchani 1ex., 14.i.1972, K. S. Pradhan & party leg.

*Fore wing length* : 12 mm.

*Distribution* : India (western, northern and southern Peninsula). Sri Lanka.

(†) 58. *Telicota augias augias* (L.)

1767. *Papilio augias* Linnaeus, *Syst. Nat.*, 1 (2) : 794.

1949. *Telicota augias augias* : Evans, *Cat. Hesp. Eur. Asi. Austral. Brit. Mus. (Nat. Hist.)*, p. 394.

*Material examined* : MAHARASHTRA, Kolhapur, Kagol. 2exs., 23.xii.1971, K. S. Pradhan & party leg. KARNATAKA, outskirts of Belgaum city, 5 Kms. south of F.R.H., 2exs., 23.xii.'82, S. K. Ghosh & party leg.

*Fore wing length* : 15 mm.

*Distribution* : India (Nagaland ; Maharashtra ; Karnataka). South Burma, Malaya and South Vietnam.

(†)59. ***Pelopidas mathias mathias*** (Fabr.)

1798. *Hesperia mathias* Fabricius, *Ent. Syst. Suppl.*, p. 433.

1949. *Pelopidas mathias mathias* : Evans, *Cat. Hesp. Eur. Asi. Austral. Brit. Mus. (Nat. Hist.)*, p. 441.

*Material examined* : MAHARASHTRA, Kolhapur, Shivaji Univ., 1ex., 21.xii.1971, KARNATAKA, Belgaum, Maruti Hills, 2exs., 27-28.xii.'71, K. S. Pradhan & party leg.

*Fore wing length* : 14 mm.

*Distribution* : India (almost throughout the mainland ; Nicobar Is.). Pakistan, Burma, Sri Lanka, Sundaland, Lesser Sunda Is. extending. Upto Tenimber.

#### SUMMARY

An account along with distribution of 59 species and subspecies in 39 genera under 8 families of butterflies (Lepidoptera : Rhopalocera) from the Indian peninsular states of Maharashtra and Karnataka is presented. 21 species, of which 4 were hitherto unknown from the whole of the Indian Peninsula, constitute new locality records for one state or the other or both concerned.

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