# BUTTERFLIES FROM TRIPURA STATE, INDIA (LEPIDOPTERA: RHOPALOCERA)

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#### Introduction

Biologically the North-eastern India is a very interesting region. It provides diverse ecological zones, from high peaks of the Himalayas, scores of discontinuous hills, to vast river valleys and plains. It is a recognized meeting place of Indian peninsular and Malaysian and Chinese elements of fauna and flora. The butterfly fauna of this region is extremely rich and has received wide attention (Varshney & Chanda, 1971).

There is, however, no report so far on the butterflies and moths of Tripura (Varshney, 1977). Here we present a report on the butterflies of Tripura. The reports on neighbouring areas are also scanty and old: on Sylhet by Hope (1943), on "Bengal" by Moore (1865, 1867) and Robbe (1892), and on Arakan coast including Chittagong and Cheringa by Emmet (1948).

#### MATERIAL AND METHOD

The present report is based on specimens collected by various parties of the Zoological Survey of India during the period 1969 to 1974, particularly in the leadership of Dr. V. C. Agrawal [VCA] in Nov. 1969, Feb. 1971, and Dec. 1972; and by Shri M. S. Shishodia [MSS] in Oct.-Nov. 1974.

The paper reports 48 species/subspecies under 27 genera in 7 families. Only Forewing length [FW] from its joining point with body to the apex has been measured. Gross distribution of the species have been compiled to project the range of occurrence and also in some cases the status of abundance.

#### Навітат

Tripura lies between 23°2' and 24°N latitude and 90°34' and 91°22'E longitude and has an area of 6658 Sq. Km. It appears that the State

owes its name to the dominions of the Raja of Hill Tippera Estate. It is a hilly region with alluvial plains, intersected by hillocks and rivers. It is bound by the districts of Mymensingh and Noakhali (Bangladesh) in north and south, by the Hill of Tippera in east, and in west by the districts of Mymensingh, Dacca and Faridpur separated by the Meghna river (Bangladesh).

A series of low forest as clad hills run to the eastern side of the State, and the easternmost range adjoins the Lushai Hills of Mizoram. During rains the drainage passes on west and south-west through the Meghna river to the Bay of Bengal.

Rivers like Gumti and Dakatia originate from Hill Tippera in the east of flow westwards. Elevations arise from the plains of Sylhet (Bangladesh) in north and run towards south-west to the adjoining Chittagong Hill Tracts (Bangladesh). Almost 30% of the area of the State is a hilly tract and the rest is level alluvial plain, well cultivated and traversed by rivers like Gumti, Dakatia etc. flowing westwards.

The climate of this State is moist; very high humidity (average 86% R. H.). Temperature is moderate, (78° to 91°F.). The average rainfall is 75", which commences early in March—April and ends in October, with deluge in June—July.

#### LIST OF BUTTERFLY SPECIES

# Family Hesperiidae

1. Baoris farri farri (Moore). The Paint brush Swift. 1 & Ambassa (alt. 200-250 m.), Nov. 1974 (MSS). FW: 22 mm.

Distribution: India (U. P., Madhya Pradesh, S. India, Bengal, Sikkim, Assam) and Burma.

2. Coladenia agni agni (de Nicéville). The Brown Pied Flat. 1 &, Teliamura, Nov. 1974 (MSS).

FW: 17 mm.

Distribution: This subspecies is so far known from India (Assam, Sikkim) and Burma.

3. Matapa aria (Moore). The Common Redeye. 1 ?, Manu, (alt. 300 m.), Nov. 1974 (MSS). FW: 20 mm.

Distribution: India (Himalayas, Madhya Pradesh, S. India, Orissa, Bengal, Assam, Andamans); Burma and Sri Lanka.

4. M. druna (Moore). The Dark-brand Redeye. 13, Ganga Nagar (east), Dec. 1972 (VCA). FW: 21 mm.

Distribution: Recorded from Andaman Islands (Wood-Mason & de Nicéville, 1880) and also known from Indian mainland (Bengal, Assam, Sikkim) and Burma.

5. Notocrypta curvifascia curvifascia (Felder). The Restricted Demon

13, Ambassa forest (north), Nov. 1974 (MSS).

FW:17 mm.

Distribution: Known from India (Assam, S. India) and Burma.

6. Parnara naso bada (Moore). The Straight Swift  $2 \, \circ$ ,  $2 \, \circ$ :  $1 \, \circ$  Agartala, Oct. 1974;  $1 \, \circ$  Ambassa (alt. 200-250 m.)  $1 \, \circ$ ; Garjee, Nov. 1974 (MSS).

FW: ♀ 16 mm., ♂ 15-16 mm.

Distribution: The subspecies is known from India (Kashmir, Madhya Pradesh, S. India, Bengal, Assam, Sikkim); and Sri Lanka and Burma.

7. Pelopidas mathias mathias (Fabricius). The Small Branded Swift 4 ? 3 3:1 ? Garjee, 1 3 Abhoy Barpathari (at light), Dec. 1969 (VCA); 3 ?, 1 3, Agertala, Oct., 1974; 1 3 Garjee (east), Nov. 1974 (MSS).

FW: ? 18-19 mm; 3 17 mm.

Distribution: India (Kashmir, Rajasthan, Punjab, Uttar Pradesh, Madhya Pradesh, S. India, Orissa, Bengal, Assam, Sikkim); Sri Lanka and Burma.

8. Tagiades japetus ravi (Moore). The Common Snow Flat

1 ? 23: 1 ? Garjee Chara forest; 13 Ambassa (alt. 250 m.); 13 Manu; Nov. 1974 (MSS).

FW: ♀ 26 mm, ♂ 23 mm—24 mm.

Distribution: This subspecies is so far known from India (U. P., Orissa, Bengal, Sikkim, Assam) and Burma.

9. Telicota ancilla bambusa (Moore). The Pale Palm Dart.

1º Agartala, Oct. 1974 (MSS).

FW:18 mm.

Distribution: This subspecies is known from India (N. W. Himalayas, Bengal, Sikkim, Orissa, Madhya Pradesh, S. India) and Burma.

## Family Papilionidae

10. Atrophaneura aristolochiae aristolochiae (Fabr.).

The Common Rose.

2º 2ð: 1º Teliamura; 1º 1ð Garjee; 1ð Ambassa forest (south); Nov. 1974 (MSS).

FW: ♀ 43-46 mm., ♂ 50-51 mm.

Distribution: The whole of Indian region except Burma. Common.

11. Papilio clytia clytia Linn. The Common Mime

13 Garjee, Nov. 1974 (MSS).

FW: 40 mm.

Distribution: Southern India to the North-West Himalayas. Not rare.

1 ? 1 ? : 1 ? Teliamura; 1 ? Garjee; Nov. 1974 (MSS).

12. P. memnon agenor f. agenor Linn. The Great Mormon

FW: \$77 mm; ₹74 mm.

Distribution: Sikkim to Southern Burma and the Nicobar Is. Found sometimes on alt. 7000 ft. in the Himalayas.

13. P. polytes Linnaeus. The Common Mormon

89 88: 49 78 Teliamura, 19 Garjee Chara forest, 19 Ambasse, 18 Manu, Nov. 1974; 29 Agartala, Oct. 1974, (MSS).

14. (i) P. polytes f. romulus Cramer

53:43 Teliamura; 13 Manu (alt. 300 m.); Nov. 1974 (MSS). FW: 339-53 mm.

15. (ii) P. polytes f. stichius Huebner

69:29 Agartala, 19 Garjee Chara forest, Oct. 1974; 29 Teliamura, 19 Ambassa forest, Nov. 1974 (MSS).

FW: ♀ 46-56 mm.

Distribution: The Loo-Choo Is., West China, India to the Molluccas, Timor and neighbouring Is.

16. Troides helena cerberus (C. & R. Felder). The Common Birdwing.

1 & Agartala, Oct. 1974 (MSS). FW: 84 mm.

Distribution: Widely distributed from Hainan to Northern India to New Guinea.

## Family Pieridae

17. Catopsilia crocale crocale (Cramer). The Common Emigrant 13 Ganga Nagar, Dec. 1972 (VCA).

FW: 31 mm.

Distribution: India, Burma, Sri Lanka, Andman Is. to South China, Philippines, Borneo, Sumatra and Java. Common, but rare on Andaman Is.

18. C. florella (Fabricius). The African Emigrant

19 13: 13 Agartala, Oct. 1974; 19 Manu (alt. 300 m.) Nov. 1974 (MSS).

FW: ♀34 mm., ♂32 mm.

Distribution: Africa to Arabia, Iran, India, Sri Lanka, Burma to Indo-China, Hainan and South China. Common, but rare in Andaman Is.

19. (i) C. florella gnoma (Fabr.)

13 Manu, Nov. 1974 (MSS).

FW: 34 mm.

20. C. pyranthe pyranthe (Linn.). The Mottled Emigrant

1 \( 3 \darkstyle \): 1 \( \frac{1}{2} \darkstyle \) Agartala, Oct.-Nov. 1974; 1 \( \frac{1}{2} \) Ambassa (alt. 200-250 m.), Nov. 1974 (MSS).

FW: \$ 26 mm., ♂ 29-37 mm.

Distribution: Sri Lanka, India including Andaman Is., Burma, extending to Hainan, Taiwan, S. China and Far east.

21. Delias pasithoe (Linn.). The Red-base Jezebel

1 & Agartala, Nov. 1974 (MSS).

FW: 39 mm.

Distribution: Nepal to Assam and Burma (alt. 2000-7000 ft.); and also in SW China and Yunnan. Not rare.

22. D. descombesi descombesi (Boisd.). The Red-Spot Jezebel 49 113: 13 Abhoya, Dec. 1969 (VCA); 39 43 Teliamura, Nov. 1974 (MSS); 1913 Ganga Nagar, Dec. 1972 (VCA); 23 Ambassa, Jan. 1973 (VCA); 13 Agartala, 13 Ambassa (alt. 200-250 m.). 13 Manu (alt. 300 m.), Nov. 1974 (MSS).

FW: ♀ 38-42 mm., ♂ 40-43 mm.

Distribution: Nepal to Burma (alt. 2000-5000 ft.). Also in Thailand, Annam, Saigon and Cochin-China. Not rare.

23. D. eucharis (Drury). The Common Jezebel

1 9 23 Teliamura, Nov. 1974 (MSS).

FW: 942 mm., ♂40-41 mm.

Distribution: Sri Lanka and Peninsular India as far as the lower slopes of Himalayas.

24. Eurema hecabe contubernalis (Moore). The Common Grass Yellow.

2 ? 7 3 : 3 3 1 ? Teliamura, 4 3 1 ? Agartala, Nov. 1974 (MSS).

FW: 921-24 mm., 321-26 mm.

Distribution: Bengal to Sikkim, Burma and the Malay Peninsula. Very common.

25. Pieris canidia indica (Evans). The Indian Cabbage White 1 ? Chailengta, Dec. 1972 (VCA).

FW: 27 mm.

Distribution: N. Baluchastan and Chitral to the Dawna Range, Burma. Very Common.

## Family DANAIDAE

26. Danaus chrysippus chrysippus (Linn.). The Plain Tiger 16 ? 10 & : 1 ? Ambassa, Nov. 1973 (VCA); 7 ? 5 & Teliamura, 8 ? 5 & Agartala, Oct.-Nov. 1974 (MSS).

FW: ♀35-43 mm., ♂36-48 mm.

Distribution: Whole Indian region to Far-east countries, China, Asia Minor. Very Common.

27. D. genutia genutia (Cramer). The Common Tiger

19,33:23 Teliamura, 13 Ambassa, 19 Sukhanchara, Feb. 1971 (VCA).

FW: 940 mm., 341-47 mm.

Distribution: Whole of Indian region with Afghanistan in west, and S. China, Tong-King, Thailand etc. in east. Very Common.

28. D. limniace leopardus (Butler). The Blue Tiger.

13 Agartala, Nov. 1974 (MSS).

FW: 49 mm.

Distribution: Baluchistan to Kumaon, Orissa, Bengal, Sikkim, Assam, Andaman-Nicobar Is., Burma, Sri Lanka, extended to Far-eastern countries. Common, but not in Sikkim and Assam (Talbot, 1947).

29. Euploea core core (Cramer). The Common Indian Crow

21 &: 3 & Agartala, 1 & Garjee, 1 & Perathia, Nov. 1969 (VCA); 16 & Garjee, Nov. 1974 (MSS).

FW: 38-48 mm.

Distribution: Toroughout continental India and the Himalayas, upto alt. ca 5000 ft. Common.

30. E. mulciber mulciber (Cramer). The Striped Blue Crow.

1 & Ambassa (alt. 250 m.), Nov. 1974 (MSS).

FW:45 mm.

Distribution: Simla to Kumaon, Nepal, Naga hills, Chin hills, Burma, extending to China, Malaysia etc. Common.

## Family SATYRIDAE

31. Elymnias hypermnestra undularis (Drury). The Common Palmfly 2 ? 4 ? : 3 ? Agartala, 2 ? 1 ? Teliamura, Oct.—Nov. 1974 (MSS).

FW: 9 42 mm., 3 34-36 mm.

Distribution: Bengal, and in Himalayas from Dun to N. Burma. Common.

32. E. malelas malelas (Hewitson). The Spotted Palmfly

1 9 5 3: 3 3 1 9 Manu (alt. 300 m.), 1 3 Garjee Chara forest, 1 3 Teliamura, Nov. 1974 (MSS).

FW: ♀42 mm., ♂42-44 mm.

Distribution: Sikkim to Burma. Not rare. It is very common in the plantain gardens during wet season.

33. Melanitis leda ismene (Cramer). The Common Evening Brown 10 \, 9 \, : 1 \, Cherilan, 1 \, Hathalia, Nov.—Dec. 1969 (VCA); 1 \, Fatik Roy, Dec. 1972 (VCA); 6 \, Agartala, 1 \, 2 \, Teliamura, 1 \, 3 \, Garjee, 1 \, 2 \, Ambassa, Oct.—Nov. 1974 (MSS).

FW: ♀ 36-39 mm., ♂ 35-41 mm.

Distribution: Sri Lanka, India including Andaman-Nicobar Is., Burma, extended to Japan, Taiwan, Malaysia, Indonesia. Very common, but not so in desert parts of W. India, Nicobar Is. and Japan.

# 34. Orsotrioena medus medus (Fabr.). The Nigger

5 \text{ 10 d : 3 d 2 \text{ } Ganga Nagar, 1 d Kumar ghat, Dec. 1972 (VCA); 1 \text{ } 1 \text{ } Garjee, 1 \text{ } 1 \text{ } Teliamura, 2 \text{ } 1 \text{ } Ambassa forest (alt. 200-250 m.), 2 d Manu, Nov. 1974 (MSS).

FW: ♀ 26-29 mm., ♂ 24-27 mm.

Distribution: Nepal, Sikkim to Burma and Andaman Is. Also recorded from Tong-King, Hainan, extending southwards to New Guinea and Australia. Common.

## 35. Ypthima baldus baldus (Fabr.). The Common Five-ring

5 \( 2 \delta : 1 \cong \) Ganga Nagar (east), Dec. 1972 (VCA); 2 \( \cong 1 \delta \) Garjee, 2 \( \cong \) Teliamura, 1 \( do \) Ambassa forest (south) Nov. 1974 (MSS).

FW: ♀ 19-20 mm., ♂ 18-20 mm.

Distribution: From Chamba in NW Himalayas to Assam and Burma. Also recorded from South Bihar (Varshney et al., 1981). Very common.

## 36. Y. ceylonica huebneri Kirby. The Common Four-ring

13 Kumar ghat, Dec. 1972 (VCA).

FW: 17 mm.

Distribution: Sri Lanka, Peninsular India to Assam, Burma and Malaysia. Very common.

# 37. Y. inica Hewitson. The Lesser Three-ring.

1 & Ganga Nagar (east), Dec. 1972 (VCA).

FW: 20 mm.

Distribution: Punjab to Bengal. Not rare.

## Family Nymphalidae

# 38. Ariadne ariadne (Linn.). The Angled Castor

1 ♀ 1♂ : 1 ♀ Garjee, 1♂ Ambassa (alt. 200-250 m.), Nov. 1974 (MSS).

FW: 924 mm., 325 mm.

Distribution: Sri Lanka, S. India to Bengal, Mussoorie to Burma. Common.

39. A. merione (Cramer). The Common Castor.

2♀ 3♂: 3♂ 1♀ Agartala, Oct. 1974; 1♀ Teliamura, Nov. 1974 (MSS).

FW: ♀ 29-30 mm., ♂ 29 mm.

Distribution: Sri Lanka, S. India to Bombay, M. P., Orissa, Kashmir to Kumaon, Sikkim to North Burma. Common.

40. Polyura arja (Felder). The Pallid Nawab.

1 & Ambassa (alt. 200-250 m.), Nev. 1974 (MSS).

FW:33 mm.

Distribution: Sikkim, Assam, Burma and Tenasserim.

41. Limenitis procris procris (Cramer). The Commander

1 ? Garjee, Nov. 1974 (MSS).

FW: 36 mm.

Distribution: Peninsular India (heavy rainfall areas), Assam, Burma, Tenasserim, extending into the Malayan subregion.

42. Precis almana (Linn.). The Peacock Pansy

4º 10♂: 1♂ Charilan forest, Nov. 1969; 1♂ Garjee, Dec. 1969 (VCA); 1º Ganga Nager (east), Dec. 1972; 1♂ Ambassa, Jan. 1973 (VCA); 1º 2♂ Agartala, 2♂ Garjee, 1♂ Teliamura, 2º Ambassa, 2♂ Manu; Oct.—Nov. 1974 (MSS).

FW: ♀♂ 28-30 mm.

Distribution: Throughout the Indian region, and also found in Japan, China and the Malayan subregion.

43. P. atlites (Linnaeus). The Grey Pansy

5 \cong 10 d: 1 \cong Agartala, 1 d Perathia, 1 d Garjee, 1 \cong Abhoya Barpathan (at light), Nov.—Dec. 1969 (VCA); 2 d 1 \cong Agartala, 3 d Garjee Chara forest, 2 d 1 \cong Garjee, 1 \cong 1 d Teliamura, Oct.—Nov. 1974 (MSS).

FW: ♀ 29—31 mm., ♂ 29—32 mm.

Distribution: Terai at the foot of Himalayas from Kumaon to Sikkim, M. P., Karnataka, Bengal, Assam, Bangladesh, Burma, extending to the Malayan subregion.

44. P. hierta (Fabr.). The Yellow Pansy

3 9 : 2 9 Garjee, 1 9 Ambassa (alt. 200-250 m.), Nov. 1974 (MSS).

FW: 26-28 mm.

Distribution: Throughout the Indian region countries, extending to China.

45. P. iphita (Cramer). The Chocolate Pansy

2º 18 Teliamura, Nov. 1974 (MSS).

FW: ♀ 32 mm., ♂ 31-32 mm.

Distribution: Throughout the Indian region, extending to China and Sumatra.

46. P. lemonias (Linn.) The Lemon Pansy

23: 13 Agartala, Oct. 1974; 13 Garjee (east), Nov. 1974 (MSS).

FW: 28 mm.

Distribution: Throughout the Indian region countries.

47. Neptis hylas (Linn.). The Common Sailer.

1 ? 23:1 ? 13 Ganga Nagar, Dec. 1972 (VCA); 13 Ambassa (alt. 200-250 m.), Nov. 1974 (MSS).

FW: ♀ ♂ 28-30 mm.

Distribution: S. India, Kashmir to Kumaon, to Sikkim, Assam, Burma and Sri Lanka.

# Family RIODINIDAE

48. Zemeros flegyas indicus Fruh. The Punchinello

29:19 Garjee, 19 Manu, Nov. 1974 (MSS).

FW: 19 mm.

Distribution: Himalayas: Mussoorie to Sikkim, Bhutan, Assam, Burma and Tenasserim extending to the Malay peninsula and China.

#### GENERAL REMARKS

As expected, most of the species collected in Tripura, have Burma and / or Bengal (including Bangladesh) in their distributional range. Only the following catches are interesting: Papilio c. clytia, Troides helena cerberus, Delias eucharis and Ariadne merione, since they were

collected somewhat away from their recorded distribution. All the species/subspecies listed here are first records from Tripura.

A significant absence is Family Lycaenidae. We believe that it does occur in Tripura, but as its members are small and inconspicuous, they were missed by the collecting parties.

Generally a butterfly is not a night flier. But some of them have been found at night, when attracted by light, as reported earlier (Shull & Nadkarny, 1967; Varshney & Nandi, 1970). In the present material the following two species were taken at light: Pelopidas m. mathias and Precis atlites.

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<sup>\*</sup> Not seen in original.