Anhinga melanogaster. Indian Darter.
    Seen on Foy reservoir.

Xenorhynchus asiaticus. Black-necked Stork.
    Saw 2 large flocks travelling north, flying high, on 18-5-45 and on 1-6-45.

Leptoptilos (?). Adjutant Stork.
    Only once seen on Foy reservoir.

Egretta (?). Egret.
    Only saw these at a distance and generally from moving trains and am not sure of identification, but am fairly certain the one which was very common in paddy-fields was E. garzetta, the Little Egret.

Ardeola grayi. Paddy Bird.
    Common.

Ixobrychus cinnamomeus. Chestnut Bittern.
    Seen once on Foy reservoir.

Podiceps ruficollis. Little Grebe.
    Fairly common on the larger expanses of water.

BUTTERFLIES OF SOUTH BIHAR

BY

MAJOR P. W. MORRISON-GODFREY, A.M.I.C.E.

(With a map)

Bihar is a Province that may be conveniently divided into two distinct collecting subdivisions, North Bihar and South Bihar. The Ganges River passing through Bihar, may be accepted as the border between them.

This list covers South Bihar, and includes the districts of Patna, Ranchi, Hazaribagh, and Manbhum.

In South Bihar, the localities are very much restricted, in fact, the place where the largest number of species will be taken is in the jungles surrounding Rajdaha Reservoir, in the district of Manbhum.

Rajdaha Reservoir is an artificial lake formed by the construction of a dam, 950 feet long, across the mouth of a valley in the Parashnath Hills; the lake is 750 feet above sea level, and is 20 miles from Dhanbad on the Grand Trunk Road. Rajdaha Reservoir is commonly referred to as 'Topchanchi' in the District. Topchanchi is the name of a village on the Grand Trunk Road, and the reservoir is about a mile from this place.

It will be interesting to note that although the altitudes in South Bihar range from approximately 200 feet to about 2000 feet, the species listed here are all available at an altitude of approximately 750 feet above sea level.

I have also visited the remote areas up the Domodar, Gowri, and Ijri Rivers, but the species to be found along the valleys are usually of the commoner kinds, although I have come across Charaxes polyxena imna But. on several occasions in these valleys.
Other localities that may be given a further trial are those in the vicinity of the Johna and Hundru Falls, both of which are within 50 miles of Ranchi. Unfortunately I was not able to make frequent visits to these falls, but they should prove to be good collecting grounds. Of all the places I was able to visit in South Bihar, I found Rajdaha Reservoir area to be the best, and I therefore decided to concentrate on this locality.

Many different kinds of butterflies can be taken between Parasz-nath peak (4480 feet) and Rajdaha Reservoir. This list has been prepared from the bulk of the species caught in this locality.

It is of interest to mention that Nacaduba duna deN. Pantoporia selenophora kanara Evans, and Halpe moorei moorei Watson, to my knowledge have never been recorded in this part of India at all.

The area around Rajdaha Reservoir is surrounded by jungle. It is humid, has open spaces combined with shrub jungle, watercourses and streams. Practically every species of butterfly to be taken in South Bihar is likely to be found in this locality.

The best season for collecting in South Bihar, at the localities I have mentioned, is undoubtedly from the commencement of the rains (mid-June) to November, the best month being September. I do not necessarily mean that all the species will be taken in the month of September when I say this is the best month, because Cyrestis does not appear until the end of October, and Neptis in November, but the majority of the species can be taken in September. February to April are not good months for collecting in South Bihar.

For identification purposes, I have used Evans's letters and figures as from his book 'Identification of Indian Butterflies'.

I am indebted to my friend M. A. Wynter-Blyth, M.A. (Cantab), for the assistance he has given me in checking specimens with the list I have prepared.

**Papilionidae**

1. (A2.9) *Tros hector* L.

2. (A2.10b) *Tros aristolochicl aristolochiica* F.
   *Aristolochicl may be taken in most places in the province throughout the year. Particularly common during the rainy season.

   Common in the vicinity of the Domodar River.

4 (A2.10c) *Tros aristolochicl sawi* Nov.¹
   Fairly common.

5. (A3.5b) *Chilasa clytia clytia* L.
   Not a common butterfly. I have only seen and caught it at Rajdaha Reservoir in August.

6. *v. dissimilis* L.
   Not common, appears in August.

7. (A4.13) *Papilio polymnestor polymnestor* Cr.
   Not common, caught Rajdaha Reservoir 28-4-1947.

   The♀ form with white bands UPF is distinctly rare.

¹ As this is a local race peculiar to Car Nicobar, M. A. Wynter-Blyth considers its occurrence here most improbable.—Eds.
9. ♀ v. cyrus F.
10. ♀ v. stichius Hub.

Polytes is common and may be taken in jungle districts of the province.

Cyrus is not common. Stichius is distinctly rare. I have only seen and caught one, and that was in the month of September.

11. (A4.27) Papilio demoleus demoleus L.
Very common over the whole province and can be taken throughout the year.

12. (A5.4) Pachys y nomius nomius Esp.
Common during the months of June and July. Fond of settling on damp patches of ground after a shower of rain, particularly on the waterbound macadam road round Rajdaha Reservoir. On 3-8-47 at Rajdaha Reservoir I only came across two and caught them both together, one was an aberration, and almost identical to the aberration caught in the Nilgiris by M. A. Wynter-Blyth. (See vol. xlii, No. 4, August 1941, pp. 538 and 601.)

Description of mine.

Upperside of forewing, 4th band missing, small faint spot above subcostal vein in place of missing band. Band 2 in cell narrow and faint. Upperside hindwing two bands narrow. Rest markings similar to aberration described by Wynter-Blyth. Expanse 66 mm.7

13. (A6.38) Zelides doson elecis Fr.
Not common, may be taken in jungle flying along narrow waterbound macadam roads particularly after a shower of rain. I have come across this butterfly in the month of September.

14. (A6.89) Zelides agemnemon agemnemon L.
A distinctly rare species.

Pieridae.

15. (B 1.8) Lephasia nina nina F.
Very common in thick jungle, but are rather inclined to be smaller than usual. Available throughout most of the year.

16. (B2.2.4) Huphina nerissa evagete Cr.
Common over the whole province.

17. (B10.63) Appias albina darada Fd.
Very common most of the year.

18. ♀ v. semillava Fr.

19. (B11.1) Catopsilia crocale Cr.

20. (B11.2) Catopsilia pomona F.

21. ♀ v. catilla Cr.

22. (B11.4) Catopsilia pyranthe minna Herbst.

23. (B11.5) Catopsilia florella gnoma F.
All are common except v. catilla and florella. The commoner ones appear in abundance during the rains.

24. (B15.1) Terias libythea F.
Abundant all over the province.

25. (B15.2.4) Terias laeta laeta Bdv.
Very common particularly around Rajdaha Reservoir.

26. (A15.4.4) Terias blanda silhelana Wall.

27. (B15.5.5) Terias hecate simulata M.

28. (B15.5.5) Terias hecate hecate L.

29. (B20.3) Parenonia valeria hippia F.
This insect only appeared in late September, and was common; obviously a new brood because all specimens were very fresh. The male is rare.
30. (C2.9) Danais limniace mutina Früh.
   Common before and after the rains.
31. (C2.12) Danais plexippus L.
   Common before and after the rains.
32. (C2.15) Danais chrysippus L.
   Common throughout the Province.

**Satyridae**

33. (D2. 9) Mycalesis persus typhlus Früh.
34. (D2.10) Mycalesis minna polydecta Cr.
35. (D2.12) Mycalesis visala visala M.
   These species are all common in jungle, I have also seen persus many miles from jungle.
   visala is not common.
36. (D3.21) Lethe europa ragalva Früh.
   Rajdaha Reservoir, 29-8-47.
37. (D3.22) Lethe rohria wilgiriensis Guer.
   Not common, difficult to find, habitat jungle.
38. (D14.10) Ypthima ceyonica Hew.
   Rajdaha Reservoir, 9-11-47. Fairly common.
39. (D14.11) Ypthima hubneri hubneri Kirby.
   Muri, 31-10-47. Fairly common.
40. (D16.8) Osorhioena medus medus F.
   Not common.
41. (D22.1) Melantis leda ismene Cr.
   Very common in thick jungle.

**Nymphalidae**

42. (F1.28) Charaxes polyxera imma But.
   Only to be seen in thick jungle, flies very fast and extremely difficult to catch. I caught two in the jungles at Rajdaha Reservoir, one on 31-8-47 and one on 21-9-47. They will be seen on the Ranch! Muri Ghat at lower elevations, in June to September. This butterfly is distinctly rare.
43. (F1.25) Charaxes polyxera hierax Fd.
   I had difficulty in classifying the correct race of this butterfly, on account of the area being on the border line between Peninsular India and the N.-E. India area. I was also not able to send the specimen to my friend M. A. Wynter-Blyth for checking. I have since discussed this insect with Brigadier Evans in London, and he informs me that it is hierax.
   This butterfly is not rare at Rajdaha Reservoir, and I have seen it on several occasions in jungle districts. It is to be found mostly on damp sand. Bear droppings are certain bait. I caught six within an hour on 27-6-47 at Rajdaha Reservoir, another three on 3-8-47. Also seen on 22-8, 24-8, 14-9, 21-9, 12-10, 19-10, 9-11-1947. A very fast flier and unlikely to be taken in flight.
44. (F2. 27) Eriboea athanas athanas Db.
   Not common, found on river beds and damp sand. Rajdaha Reservoir, 28-9-47. Observed between June—September.
45. (F18. 14) Euthalia garuda anagama Früh.
   Very rare, first observed at Rajdaha Reservoir, on 9-11-47.
46. (F18. 28) Euthalia natis Forst.
   A very common butterfly in Bihar, found on the plains and in thick jungle. Flies low, easy to catch.
47. (F24. 7) Limenitis procris procris Cr.
   Fairly common, to be found along river beds and likes settling on damp sand. Appears after the rains.
48. (F25. 4a) Pantoporia selenophora kanara Evans.  
Not common, appears in October.

49. (F25. 14) Pantoporia perius L.  
Rajdaha Reservoir on 26-10-47. Rare.

50. (F26. 1β) Neptis columella ophiana M.  
Caught on 5-10-47, 12-10-47, 26-10-47. Rare.

51. (F26. 2β) Neptis jubah jubah M.  
Rare, appears after the rains.

52. (F26. 6a) Neptis hylas varmona M.  
Common.

53. (F26. 7β) Neptis soma soma M.  
Rajdaha Reservoir, 2-11-47. A common butterfly, may be taken in hilly jungle districts on the lower altitudes.

54. (F26. 32β) Neptis hordonia hordonia Stoll.  
Rajdaha Reservoir, 19-10-47, 2-11-47. Not common.

55. (F27. 2a) Cyrestis cecles cecles F.  
Not common; appears in October.

56. (F27. 4a) Cyrestis thyodamas indica Evans.  
Not common.

57. (F30. 1) Hypolimnas misippus L.  
♂ common everywhere. 
♀ not common.

58. (F30. 2) Hypolimnas bolina L.  
Both male and female common, particularly the female. Rajdaha Reservoir locality is best for this butterfly.

59. (F34. 2β) Kallima inachus inachus Bdv.  
I have only seen it at Rajdaha Reservoir during the months of September, October and November, and it is then common. For information to the collector; it will be taken at a place in the jungle, north side of jungle track between Rajdaha Reservoir and Bhikhnadih village, about a quarter of a mile from the reservoir. Fond of settling on trunks of trees.

60. (F35. 1a) Precis hierta hierta F.  

61. (F35. 2a) Precis orithya swinhoei But.  

62. (F35. 3a) Precis lemonias vaisya Fruh.  

63. (F35. 4) Precis almana almana L.  

64. (F35. 5) Precis atlites L.  

65. (F35. 6γ) Precis iphita iphita Cr.  
All are common except ‘iphita’. The best month being June. Rajdaha Reservoir is a particularly good place for all the species.

66. (F36. 1) Vanessa cardui, L.  
Rare.

67. (F42. 1) Atella phalanta Drury.  
Very common, may be taken in most places.

68. (F49. 18) Ergolis ariadne inidica M.  
Common in September at Rajdaha Reservoir, is not common elsewhere in the Province.

69. (F52) Telchinia violae Feb.  
Very common, particularly on the plains after the monsoon. It was late in appearing at Rajdaha Reservoir. Brood generally over by mid-October, a few may be seen after October.
BUTTERFLIES OF SOUTH BIHAR

ERYCINIDAE

70. (G4.53) Abisara echerius suffusa M. The only Erycinidae in Bihar, and is fairly common. To be found only in thick jungle. It is common at Johna Falls. July to September best months.

71. (H11.1) Castalus rosimon rosimon F. Common at Rajdaha Reservoir.

72. (H11.2B) Castalus caleta decidia Hew. Rare, only appeared in October.

73. (H12.4) Tarucus callinara But. A most difficult genus to identify, some of those caught were marked like nigra above and callinara below.

74. (H12.5) Tarucus theophrastus indica Nov. Not common, may be taken at Ranchi.

75. (H12.6) Tarucus extricatus But. Appeared common on 3-8-47 at Rajdaha Reservoir.

76. (H12.8) Tarucus nigra BB. Common at Rajdaha Reservoir in August.

77. (H12.9) Tarucus callinara Koll. See remark against callinara. Those resembling callinara, nara, extricatus and nigra are very common butterflies at Rajdaha Reservoir during the months of July, August and September.

78. (H13) Syntarucus plinius F. Difficult to find. May be taken in August.

79. (H21.2) Lycaenopsis puspa gisca Fruh. A rare butterfly in this Province, one specimen caught at Angara P.W.D. Inspection Bungalow, Ranchi-Muri Road, on 18-8-47. One caught on the following dates, 21-9-47 and 28-9-47, at Rajdaha Reservoir.

80. (H23.a) Chilades laius laius Cr. Not common, available at Rajdaha Reservoir in August.

81. (H24.1a) Zizeeria trochilus putli Koll. Very common along the banks of the Domodar River away from trees; appears in abundance after the commencement of the rains. It is then to be seen for about a month, but afterwards only occasionally.

82. (H24.3) Zizeeria maha maha Koll.

83. (H24.4) Zizeeria lysimn Hub.

84. (H24.5) Zizeeria gaika Trimen. All common, along the banks of the Domodar River, south of Dhanbad.

85. (H24.6a) Zizeeria oitis decreta But Very common after the commencement of the rains; prefers to fly above new grass.

86. (H25.1) Euchrysops eneius F. 12th October, 1947.

87. (H25.3) Euchrysops pandava pandava Hors.

88. (H26.1a) Lycaenesthes emolus emolus God. Not common; caught in August.

89. (H26.2a) Lycaenesthes lycaenina lycaenina Fruh. Available in hilly districts of South Bihar, flies in September.