

INSECTA : ODONATA

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(with 6 Figures)

INTRODUCTION

Odonate fauna of Eastern India including Bangladesh and Bhutan has been worked out by a number of workers, e.g. Fraser (1933, 1934, 1936), Bhasin (1953), Lahiri (1975, 1976, 1977a), Mitra (1975), Mitra and Sen (1975) and Lieftinck (1977a, b). But, till date, our knowledge regarding the odonate fauna of Arunachal Pradesh has remained rather poor. Lahiri (1977b, 1979) reported the occurrence of 19 odonate species in Arunachal Pradesh based on collections from several localities of Siang and Subansiri districts. The present collection comprising of a total of 11 species under 10 genera including one species new to science, provides the first account of the odonate fauna not only of the Namdhapa, but also that of the Tirap district. Six of the species (marked with* in the text) are new additions to the odonate fauna of Arunachal Pradesh. Necessary collection data for all the species together with notes about morphological variation and distributional pattern for some of them have been provided in the systematic account.

SYSTEMATIC ACCOUNT

Order : ODONATA

Family : CHLOROCYPHIDAE

*1. **Rhinocypha quadrimaculata** (Selys)

1853. *Rhinocypha quadrimaculata* Selys, *Syn. Cal.*, : 60.

Material examined : 1 ♂, INDIA : Arunachal Pradesh : Namdhapa sanctuary : Gibbons land, 2.v.1981, coll. S. Biswas.

Distribution : Northern and eastern India ; Burma ; Nepal.

Family : CALOPTERYGIDAE

*2. **Vestalis gracilis gracilis** (Rambur)

1842. *Calopteryx gracilis* Rambur, *Hist. nat. Ins. Nevrop.*, : 224.

1934. *Vestalis gracilis gracilis* (Rambur) : Fraser, *Fauna Brit. India, Odon.*, 2 : 126.

Material examined : 3 exs, INDIA : Arunachal Pradesh : Namdhapa

* The species is named after and in memory of my mother.

sanctuary, coll *S. Biswas*, 28.iv.1981 (2 ♂♂, Deban north ; 1 ♀, Nr. Labal).

Distribution : Burma ; India ; Malaysia ; Thailand ; Vietnam.

Family : LESTIDAE

*3. **Lestes dorothea** Fraser

1924. *Lestes dorothea* Fraser, *Rec. Indian Mus.*, 26 : 484 ; 1933, *Fauna Brit. India, Odon.*, 1 : 35.

Material examined : 5 ♂♂, 5 ♀♀, INDIA : Arunachal Pradesh : Namdhapa sanctuary : Gibbons land, 10 kms on M. U. road, 5-6.iv. 1981, coll *S. Biswas*.

Specimens studied have fewer postnodal cross veins (♂ : forewing : 11-13, hindwing : 11-12 ; ♀ : forewing : 11-14, hindwing : 11-13) than what was recorded by Fraser (1933) for the species.

Distribution : Eastern India and Nepal.

Family : PLATYCNEMIDIDAE

4. **Calicnemia eximia** (Selys)

1863. *Calicnemia eximia* Selys, *Bull. Acad. r. Belg. cl. Sci.* (2), 16 : 160.

Material examined : 1 ♀, INDIA : Arunachal Pradesh : Namdhapa sanctuary : Burmanala, 24.iv.1981, coll *S. Biswas*.

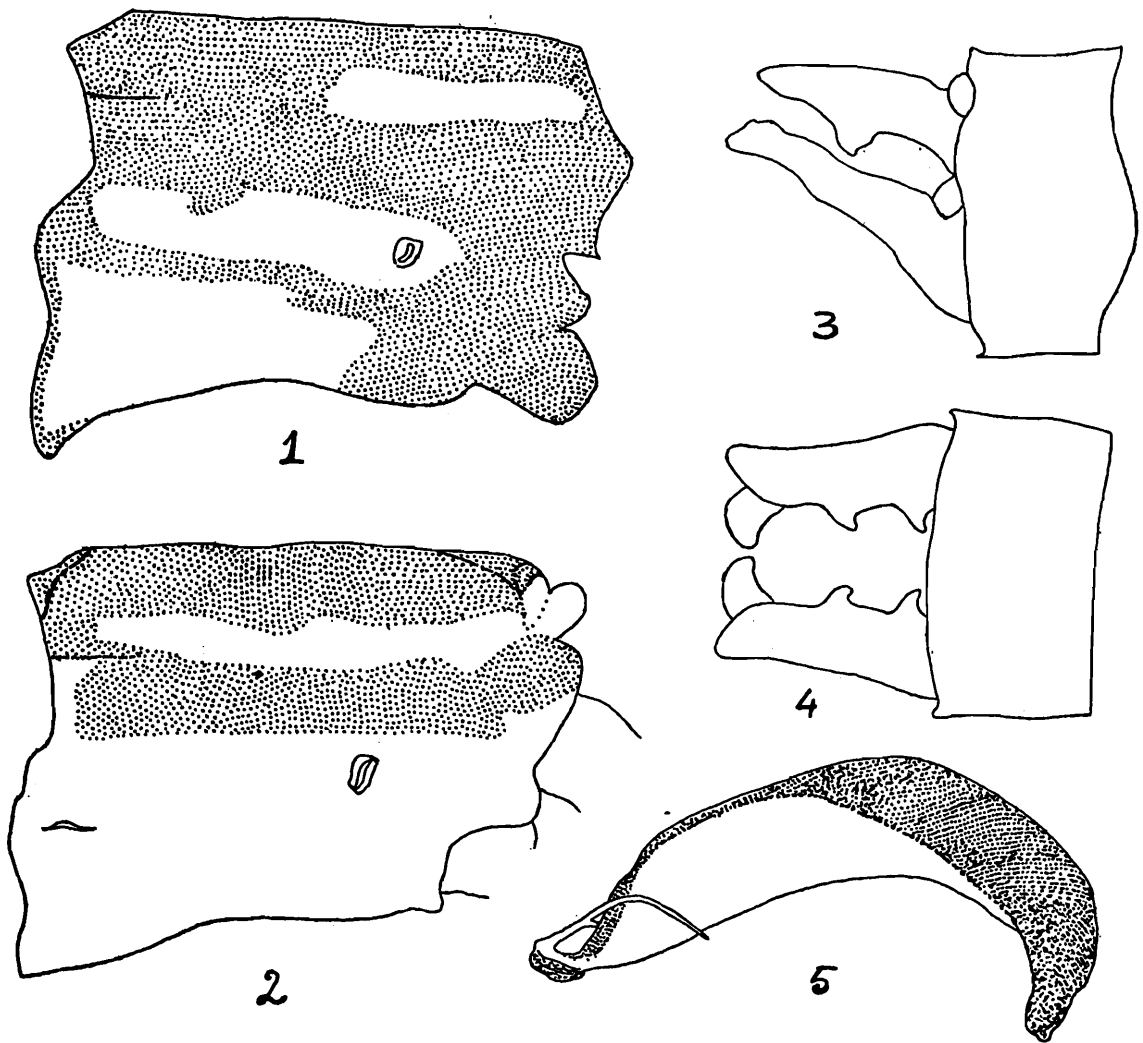
Distribution : Northern and eastern India ; Burma ; Nepal ; Vietnam.

5. **Coeliccia prakritii** sp. nov.*

Material examined : Holotype ♂, INDIA : Arunachal Pradesh : Namdhapa sanctuary : Gibbons land, 10th milepost from Miao, 2.v.1981, coll *S. Biswas* (Regd. No. 3876/H₁₃) ; Paratypes, 3 ♂♂, same data as Holotype (Regd. Nos. 3877/H₁₃, 3878/H₁₃ and 3879/H₁₃). All types deposited in the National Zoological Collection, Zoological Survey of India, Calcutta.

Description : Male : Blue marked with black, the blue ground colour faded or yellowish in immature specimens. Labium, bases of mandibles genae, an oval spot in apposition with posterior ocellus and stretching towards bases of antenna and a larger postocular spot on either side, blue ; rest of head black, but a narrow bluish line between

frons and vertex in more mature specimens ; eyes dark brown in preserved specimens. Prothorax black, the middle lobe entirely yellowish in immature specimens ; posterior lobe simple and rounded, broad medially, narrowed on either side. Thorax black, marked with blue as follows : a humeral stripe, slightly swollen at its rear end, extending over the anterior half of thorax ; the mes- and metepimeron ; beneath thorax also blue, but this falling well short of legs by a broad black belt ; the blue of mes- and metepimeron separated by a narrow



Figs. 1 to 5. *Coeliccia prakritii* sp. nov., male ; Figs. 1 and 2, thorax of Holotype and one of the Paratypes, showing nature of markings ; Figs. 3 and 4, anal appendages ; Fig. 3, right lateral view, Fig. 4, dorsal view ; Fig. 5, penile organ in lateral view ;

black line, but that of metepimeron and beneath thorax confluent in lower half ; in immature specimens, the blue is faded or replaced by pale yellowish, the humeral stripe is complete and lower half of thorax completely unmarked with black. Legs black ; coxae and trochanter bluish ; broad stripe on either side of femora and extensor surfaces of tibiae blue. Wings hyaline ; pterostigma nearly as long as broad, black

margined with yellow and enclosed in thick black nervures ; only two postquadrangular antenodal cells ; 18-20 postnodal cross veins in forewing, 16-21 in hindwing.

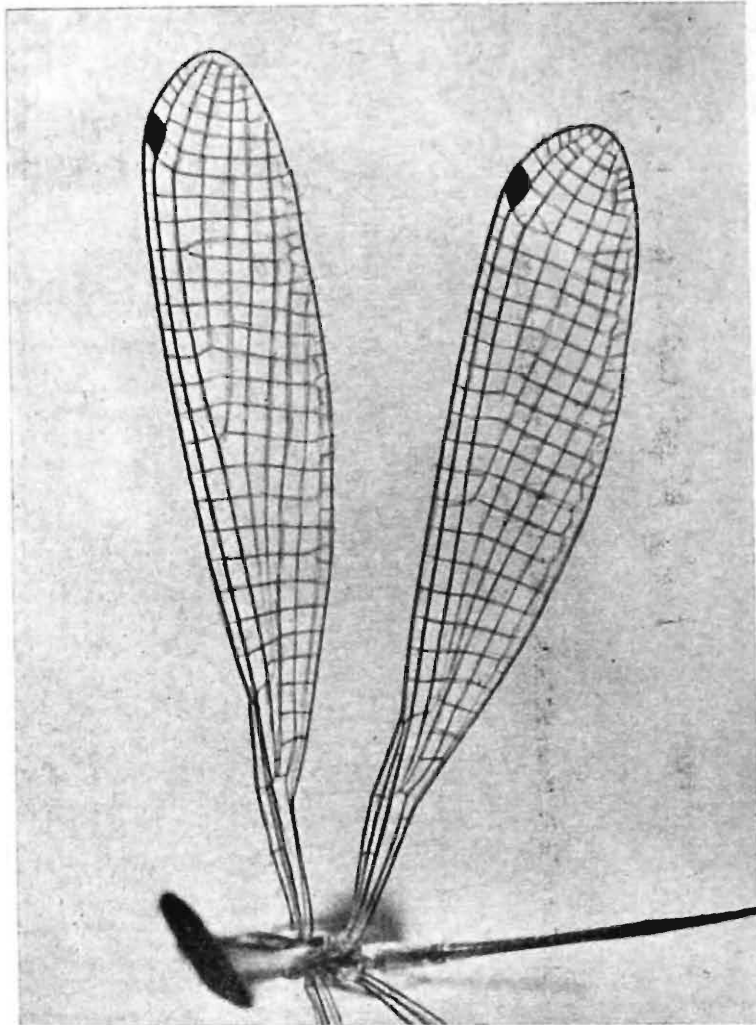


Fig. 6. Fore- and hind wings.

Abdomen : Black marked with yellowish as follows : beneath abdomen ; apical third of segment 9 and whole of segment 10 when viewed from above ; sides of segment 1 broadly and that of segment 2 at lower half ; dorsal black with narrow basal constriction on segment 3 and somewhat broader subapical constrictions on segments 3 to 6 due to invading yellow from venter. Anal appendages as shown in Figs. 3 and 4 ; superiors a little longer than segment 10, gently narrowed apically, the apices bluntly rounded and slightly divergent ; inner margin with a small sub-basal and a larger median tooth ; the former visible only when seen from dorsum, the later visible also laterally ; inferiors a little longer than superiors, unguate, broad at base, narrowing and sloping upwards apically. Penis as shown in Fig. 5, apical lobe produced into a pair of moderately long flagella.

Remarks : *Coeliccia prakritii* sp. nov. differs from all other species of the genus in respect of thoracic markings and the nature of male anal appendages.

Distribution : Eastern India : Arunachal Pradesh.

Family : COENAGRIONIDAE

*6. *Ceriagrion azureum* (Selys)

1891. *Pseudagrion azureum* Selys, *Ann. Mus. civ. Genova* (2), 10(30) : 513.

1933. *Ceriagrion azureum* (Selys) : Fraser, *Fauna Brit. India, Odon.*, 1 : 328.

Material examined : 2 ♂♂, 1 ♀, INDIA : Arunachal Pradesh : Namdhapa sanctuary : Gibbons land : 10th km milestone, 6.iv.1981, coll S. Biswas.

Distribution : Eastern India ; Burma ; Fukien ; Nepal.

*7. *Argiocnemis obscura* Laidlaw

1914. *Argiocnemis obscura* Laidlaw, *Rec. Indian Mus.*, 8 : 346.

Material examined : 5 exs, INDIA : Arunachal Pradesh : Namdhapa sanctuary, coll S. Biswas (2 ♂♂, Gibbon land, 2.v.1981 ; 2 ♂♂, 1 ♀, Vijiny, 6.iv.1981).

Distribution : Eastern India.

Family : LIBELLULIDAE

*8. *Hylaeothemis fruhstorferi* (Karsch)

1889. *Tetrathemis fruhstorferi* Karsch, *Ent. Nachr.*, 15 : 321.

1909. *Hylaeothemis fruhstorferi* (Karsch) : Ris, *Cat. Coll. Selys*, 9 : 64.

Material examined : 2 ♂♂, INDIA : Arunachal Pradesh : Namdhapa Sanctuary : Gibbons land, 2.v.1981, coll S. Biswas.

This species, known so far from Ceylon and Western India, has been recorded here for the first time from Eastern India. It is interesting to note that one of the males under study varies from the descriptions of the species provided by Fraser (1936) in having discoidal cell of either hindwing entire.

Distribution : Ceylon ; India.

9. *Orthetrum glaucum* (Brauer)

1865. *Libellula glauca* Brauer, *Verh. zool. -bot. Ges. Wien.*, 15 : 1020.

1890. *Orthetrum glaucum* (Brauer) : Kirby, *Syn. Cat. Neur. Odon.*, : 39.

Material examined : 1 ♂, INDIA : Arunachal Pradesh : Namdhapa sanctuary : Deban north, 28.iv.1981, coll S. Biswas.

Distribution : India to China and the Philippines.

10. *Orthetrum triangulare triangulare* (Selys)

1878. *Libellula triangularis* Selys, *Mitth. Mus. Dresden.*, : 314.

1909. *Orthetrum triangulare triangulare* (Selys) : Ris, *Cat. Coll. Selys*, 9 : 244.

Material examined : 1 ♂, INDIA : Arunachal Pradesh : Namdhapa sanctuary : Gibbon land : 2.v.1981, coll S. Biswas.

Distribution : Burma ; Ceylon ; India ; Nepal ; Vietnam.

11. *Trithemis festiva* (Rambur)

1842. *Libellula festiva* Rambur, *Hist. nat. Ins. Ne'vro'p.*, : 92.

1868. *Trithemis festiva* (Rambur) : Brauer, *Verh. zool. -bot. Ges. Wien.*, 18 : 736.

Material examined : 2 ♂ ♂, INDIA : Arunachal Pradesh : Namdhapa sanctuary : Gibbon land, 2.v.1981, coll. S. Biswas.

Distribution : Africa ; Turkey ; all over the oriental countries ; Philippines ; Taiwan.

SUMMARY

Coeliccia prakritii sp. nov. has been described and another 10 odonate species, e.g. *Rhinocypha quadrimaculata* (Selys), *Vestalis g. gracilis* (Rambur), *Lestes dorothea* Fraser, *Calicnemia eximia* (Selys), *Ceriagrion azureum* (Selys), *Argiocnemis obscura* Laidlaw, *Hylaeothemis fruhstorferi* (Karsch), *Orthetrum glaucum* (Brauer), *Orthetrum t. triangulare* (Selys) and *Trithemis festiva* (Rambur) have been recorded for the first time from the Namdhapa sanctuary and Tirap district of Arunachal Pradesh, India.

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