

A KEY TO THE DRAGONFLIES OF INDIA.

By JAMES G. NEEDHAM.

This is a belated conclusion of some work that I undertook to do for the Indian Museum many years ago. In 1909 I reported upon a small collection of miscellaneous Neuropteroid insects sent me by the then Superintendent, Dr. N. Annandale. This work was published in the Records of the Indian Museum, Volume 3, pages 187-210 with 2 plates. Immediately thereafter Dr. Annandale sent me another larger collection, and I at once began work on the Odonata in it. Unanticipated University duties fell to my share; and for a good many years I found no opportunity to resume these studies. Meanwhile other students of the Indian fauna began working on the Neuropteroids. I therefore returned to the Museum all its material in my possession except the small collection of Odonata, determinations of which were in a large part completed.

Fortunately the study of Indian Odonata was in the meantime taken up first by Mr. F. F. Laidlaw and then by Lt.-Col. F. C. Fraser, and carried on with most gratifying thoroughness. Fraser's studies in the field have made known to the world an Odonata fauna of extraordinary richness, and have added enormously to our knowledge of distribution, habits and ecological relations of dragonflies in general.

The small collection that was in my hands far too long, and that has now been returned to the Museum, contains no new species, and yields few new distribution records.

Fraser's many descriptive papers in the series entitled *Indian Dragonflies* have provided means for local study of the Indian fauna in this order such as few other lands possess. They extend through many volumes, and some lately described species are not accounted for in the earlier keys. They are supplemented by descriptive papers in other serials. It has therefore seemed to me that a single article, bringing new and completer keys to all the families, genera and species together in one place and giving the source of descriptions and figures of each would be of value to all students of Indian Odonata.

This paper contains no descriptions of new forms but it includes:—

1. New keys to all the Indian groups of Odonata Anisoptera, or Dragonflies proper.

2. Verification tables, to supplement the keys in the more difficult groups, wherein such are likely to be needed. The keys in the main make use of single contrasted characters in the discrimination of the groups. The verification tables give many characters and should enable the user at once to determine whether the keys have led him aright. A key is not a criterion, but only a guide. The criteria will be found in the *ensemble* of characters given for the group in the verification table.

3. A list of the known Indian species with limited bibliography and list of figures; and with two things that always and everywhere constitute "first aid" toward the determination of species: *size* and *distribution*. One measurement alone is given; the length of the hind wing. The distribution data are largely taken from Fraser. Indeed,

this part of the present paper is hardly more than an index to Fraser's monumental work. The bibliography herein, does not go back of that work, but includes later papers.

It is to be hoped that the users of this paper will not be satisfied to make determinations with its aid alone, but will carefully compare their specimens with the full descriptions to which this is but the threshold.

In absence of specimens of many species, these keys are based largely on published descriptions in which it has sometimes been hard to find reliable diagnostic characters. Sometimes minor characters of unknown variability (such as the number of nodal crossveins) have been used to distinguish species because no better were available. Females will

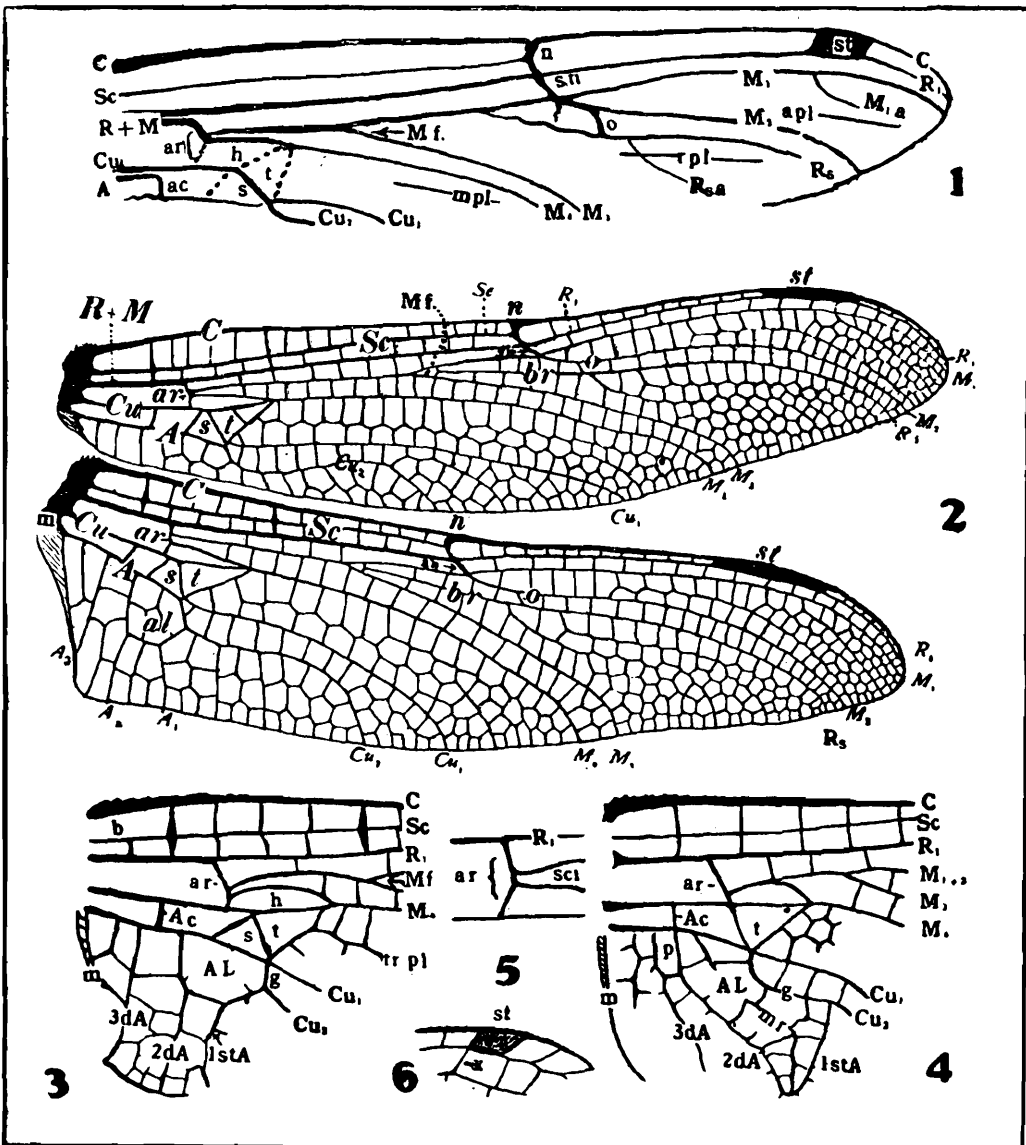


FIG. 1. Diagram of the principal veins and their connections.

FIG. 2. The wings of Cordulegaster.

FIG. 3. Diagram of Gomphine wing base.

FIG. 4. Diagram of a Libelluline wing base.

FIG. 5. Diagram of an arcus and its sectors (M_{1-3} and M_4).

FIG. 6. Stigma with its brace vein x .

A., Anal vein; *Ac.*, Anal crossing; *Al* or *al.*, Anal loop; *an.*, antenodal cross veins; *ap. pl.*, apical planate; *ar.*, arculus; *b.*, basal subcostal cross vein; *br.*, bridge; *Bs.*, mid-basal space; space before the arculus; *C.*, Costa; *Cu.* Cubitus; *g.*, gaff (the fused portion of veins Cu_2 and A_1); *h.*, hyper-triangular space; *M.*, Media; *m.*, membranula; *Mf.*, middle fork; *mpl.*, median planate; *mr.*, midrib (bisector of the anal loop); *n.*, nodus; *o.*, oblique vein; *p.*, patella; *R.*, radius; *rpl.*, radial planate; *Rs.*, Radial sector; *s.*, subtriangle; *Sc.*, subcosta; *sect.*, sectors of the arculus; *sn.*, subnodus; *st.*, stigma; *t.*, triangle; *tr. pl.*, trigonal planate; *x.*, brace vein to the stigma.

in some cases have to be determined by association with their males, only the latter being considered in some of the keys. Colors change with age, and it is generally the mature coloration that is mentioned. Variation will have to be allowed for, and the keys used with discretion. They will at least be found to greatly expedite the determinations of specimens. My chief object in offering them is to aid local students in the study of their own native fauna.

The user of this paper will need to acquaint himself fully with the characters shown in the accompanying figures ; for these are constantly used in the keys.

The species are listed below in the order of Fraser's *Indian Dragonflies* (with a few necessary interpolations). All the genera given standing by Fraser are here included, whether strictly distinguishable or not, and the nomenclature is that used by him except where otherwise stated, and except also, a few triominals : I use only binomials.

Abbreviations.

J. Bom., Journal Bombay Natural History Society.

R. I. M., Records of the Indian Museum.

Fr., Fraser. *F. W.*, fore wing.

Ldl. Laidlaw. *H. W.*, hind wing.

Abd., abdomen : Arabic numerals 1 to 10 designate its segments.

Fig., figure ; *h.*, head ; *b.*, body ; *g.*, genitalia ; *w.*, wing.

In the verification tables : *x.*, present ; *o.*, wanting, *var.*, variable.

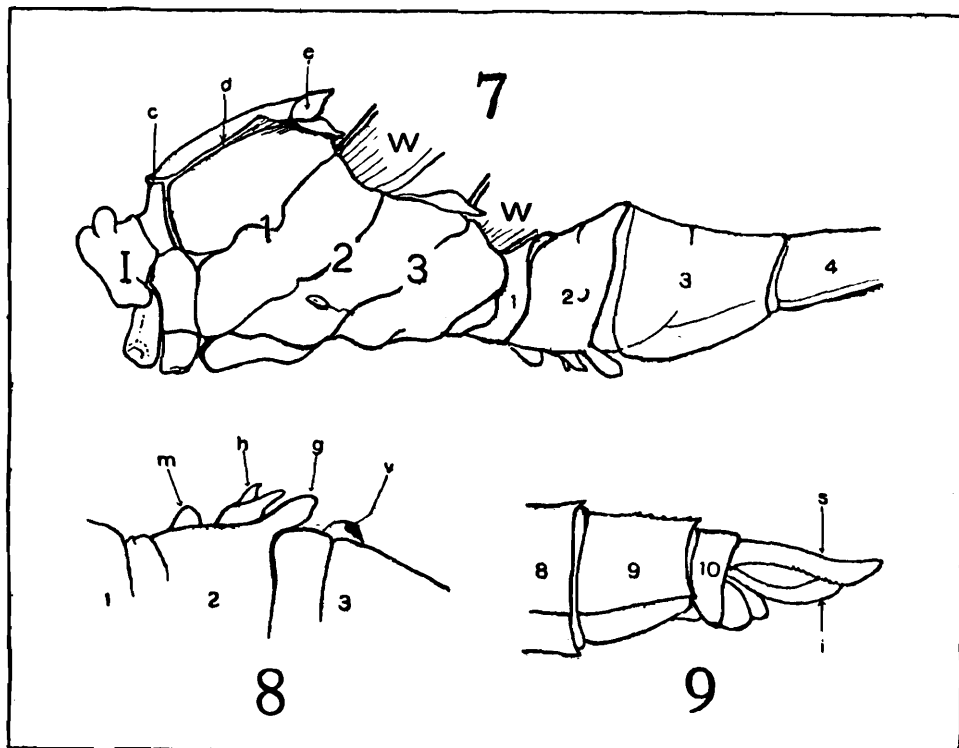


FIG. 7. Diagram of side of thorax and base of abdomen.

I, Prothorax ; *c*, collar ; *d*, middorsal carina ; *e*, crest. 1, 1st lateral or humeral suture of the synthorax (thus curved only in Libellulinae), 2, second or midlateral suture, 3, third lateral suture. 1, 2, and 3, the first three segments of the abdomen, with an auricle on the side of 2 : *w*, *w*, wing roots.

FIG. 8. Diagram of the male genitalia of the basal abdominal segments as seen inverted and viewed from the side.

1, 2 and 3 the three basal segments ; *m*, anterior lamina ; *h*, genital hamule (paired) ; *g*, genital lobe (paired) ; *v*, vesicle.

FIG. 9. Diagram of end of the male abdomen as viewed from the side.

8, 9 and 10 the last three segments ; *s*, superior appendage (paired) ; *i*, inferior appendage.

Order ODONATA.

Suborder ANISOPTERA. Dragonflies.

Key to the Families and Subfamilies.

- 1. Hind wing much broader at base than fore wing, and with a well developed triangle and subtriangle 2
 Hind wing but little broader than the fore wing, and with a single open quadrangle in the place of triangle and supertriangle Epiophlebiidae.
- 2. Triangle about equally distant from the arculus in fore and hind wing, and (except in *Chlorogomphus*) similarly shaped Aeschnidae 3
 Triangle nearer the arculus in the hind than in the fore wing and differently shaped Libellulidae 5
- 3. Vein M₂ with an upward bend behind the stigma Aeschninae.
 Vein M₂ regularly and simply curved 4
- 4. Anal vein of the fore wing apparently strongly forked at the subtriangle; stigma generally with a brace vein Gomphinae.
 Anal vein of fore wing running more or less directly to the hind angle of the triangle, sometimes appearing weakly forked at the subtriangle; stigma generally with no brace vein Cordulegasterinae.
- 5. Triangle of the hind wing but little nearer the arculus than in the fore wing; anal loop hardly longer than wide and with no midrib. Macromiinae.
 Triangle of the hind wing much nearer the arculus than in the fore wing; anal loop elongated, becoming foot-shaped and with a distinct midrib 6
- 6. Male, hind wing angulated and with an anal triangle; humeral suture of thorax nearly straight; anal loop foot-shaped with little or no development of toe Corduliinae.
 Male, hind wing with anal angle rounded; humeral suture very strongly and doubly bent in the middle; anal loop generally with well developed toe Libellulinae.

VERIFICATION TABLE FOR SUBFAMILIES.

Subfamilies.	Planates.	Brace vein to stigma.	Thickened antenodals.	Anal loop:
Gomphinae	wanting	present*	present	small or wanting.
Aeschninae	variable	present*	present	large, as wide as long.
Cordulegasterinae	wanting	wanting	present	moderate.
Epiophlebiinae	wanting	wanting	present	wanting.
Macromiinae	weak	wanting	wanting	large, as wide as long.
Corduliinae	weak	wanting	wanting	long, with midrib.*
Libellulinae	present	wanting	wanting	long, with midrib.*

Family LIBELLULIDAE.

Subfamily LIBELLULINAE.

A key to the Genera.

- 1. Anal loop little developed, lacking a distinct midrib 2
 Anal loop becoming footshaped, elongated, many celled, and with a distinct midrib 4
- 2. Arculus beyond the second antenodal cross vein *Hylaeothemis*.
 Arculus before the second antenodal cross vein 3
- 3. Hind wing triangle far beyond the arculus *Tetrathemis*.
 Hind wing triangle touching the arculus *Nannophya*.
- 4. Hind wing triangle far beyond the arculus. Anal loop not foot-shaped, lacking toe. 5
 Hind wing triangle very close to the arculus 6

* Usually so.

- | | |
|---|-----------------------|
| 5. Fore wing triangle crossed. Hind wing with no supra-triangle cross veins | <i>Agrionoptera.</i> |
| Fore wing triangle without cross veins. Hind wing with supratriangle cross veins | <i>Amphithemis.</i> |
| 6. Anal loop with base of midrib about half way between veins A_1 and A_2 | <i>Diplacodes.</i> |
| Anal loop with base of midrib much nearer to vein A_2 | 7 |
| 7. Ends of stigma parallel | 8 |
| Ends of stigma divergent forward. Base of hind wing very broad | 34 |
| 8. Vein M_2 strongly undulate | 9 |
| Vein M_2 more or less smoothly curved | 14 |
| 9. Extra bridge cross veins (more than one) present | 10 |
| With no extra bridge cross veins | 11 |
| 10. Radial planate subtending two or more cell rows | <i>Libellula.</i> |
| Radial planate subtending one cell row | <i>Cratilla.</i> |
| 11. Base of A_2 beyond Ac. | <i>Potamarcha.</i> |
| Base of A_2 not beyond Ac. | 12 |
| 12. Arculus between antenodals 2 and 3. Claws toothed | <i>Orthetrum.</i> |
| Arculus between antenodals 1 and 2 | 13 |
| 13. One cell row in heel of anal loop; tarsal claws simple | <i>Onychothemis.</i> |
| Two cell rows in heel of anal loop; claws toothed | <i>Bradynopyga.</i> |
| 14. Fore wing, costa undulate before the nodus | <i>Palpopleura.</i> |
| Fore wing, costa normal | 15 |
| 15. Mid rib of anal loop nearly straight. Cross veins before or under the stigma strongly aslant | 16 |
| Mid rib or anal loop bent at an angle of 30 degrees or more | 23 |
| 16. Hind wing generally with 2 or more cubito-anal cross veins. Venation often dense | <i>Neurothemis.</i> |
| Hind wing with one cubito-anal cross vein | 17 |
| 17. Wings broadly marked with brown (well beyond the triangle). Venation copious | <i>Rhyothemis.</i> |
| Wings with only basal brown markings or with none | 18 |
| 18. Fore wing, last antenodal complete | 19 |
| Fore wing last antenodal discontinuous | 22 |
| 19. Fore wing, subtriangle or three cells | 20 |
| Fore wing, subtriangle of one cell | 21 |
| 20. Seven antenodals in the fore wing and six in the hind | <i>Urothemis.</i> |
| Six antenodals in the fore wing and five in the hind | <i>Macrodiplox.</i> |
| 21. Triangle and subtriangle of fore wing of approximately equal breadth | <i>Aethriamanta.</i> |
| Triangle of fore wing much narrower than subtriangle | <i>Selysiothemis.</i> |
| 22. Hind wing, base of vein A_2 beyond the anal crossing | <i>Brachythemis.</i> |
| Hind wing, base of vein A_2 opposite the anal crossing | <i>Crocothemis.</i> |
| 23. Hind wing, vein A_2 not meeting A_1 at apex of loop | <i>Zycomma.</i> |
| Hind wing, vein A_2 meeting A_1 at apex of loop | 24 |
| 24. Hind wing, base of A_2 beyond ac. | 25 |
| Hind wing, base of A_2 not beyond ac. | 27 |
| 25. Fore wing, last antenodal continuous. | 26 |
| Fore wing, last antenodal discontinuous | <i>Lathrecista.</i> |
| 26. Fore wing triangle with a cross vein | <i>Agrionoptera.</i> |
| For wing triangle with no cross vein | <i>Brachydiplox.</i> |
| 27. Fore wing, last antenodal continuous. | 28 |
| Fore wing, last antenodal discontinuous | 29 |
| 28. Hind wing, vein Cu_1 rising from the hind angle of the triangle | <i>Lyriothemis.</i> |
| Hind wing, vein Cu_1 rising from the outer side of the triangle | <i>Acisoma.</i> |
| 29. Hind wing, vein Cu_1 rising from the hind angle of the triangle | 31 |
| Hind wing, vein Cu_1 rising from the outer side of the triangle | 30 |
| 30. Hind wing, base of mid rib of anal loop half as far from A_1 as from A_2 ; two cell rows beyond the triangle | <i>Indothemis.</i> |
| Hind wing, base of mid rib of loop one third as far from A_1 as from A_2 ; three cell rows (in part) beyond the triangle. | <i>Rhodothemis.</i> |
| 31. Fore wing triangle not crossed. Subtriangle of 1-2 cells. | <i>Zygonyx.</i> |
| Fore wing triangle crossed. Subtriangle of 3 cells | 32 |

32. Fore wing triangle twice as long as wide	33
Fore wing triangle three times as long as wide	<i>Onychothemis.</i>
33. Rear of prothorax elevated in a thin plate, bilobed and fringed with long hairs	<i>Sympetrum.</i>
Rear of prothorax simple	<i>Trithemis.</i>
34. Hind wing, anal loop with heel and toe rounded	<i>Hydrobasilus.</i>
Hind wing, anal loop with heel and toe angulated	35
35. Vein M ₂ smoothly curved	<i>Tramea.</i>
Vein M ₂ strongly undulate	36
36. Fore wing, triangle at right angles to axis of wing	37
Fore wing, triangle pointing obliquely inward	38
37. Radial planate subtending 2 rows of cells. Base of hind wing marked	<i>Pantala.</i>
Radial planate subtending 3 rows of cells. Base of hind wing unmarked	<i>Pseudotrimea.</i>
38. Hind wing, triangle without cross veins	<i>Tholymis.</i>
Hind wing, triangle crossed	<i>Camacinia.</i>

INDIAN LIBELLULINAE.

Wing characters of the Genera.

	T ¹	subT ²	Last an. c.v. ³	Br. c.v. ⁴	Rpl ⁵	T ¹	Cu ₁ ⁶	cu-an ⁷ c.v.	ac-A ₂ ⁸	Length mm.
<i>Acisoma</i>	0	1	Cont	0	1	0	Up	1	Opp	17-22
<i>Aethriamanta</i>	0	1	cont	0	1	0	down	1	opp	23-25
<i>Amphithemis</i>	0	2	cont	V	1	0	V	3		18-27
<i>Agrionoptera</i>	1	3	cont	V	1-2	0	down	1-2	out	30-73.9
<i>Brachydiplax</i>	0	3	cont	0	1	0	down	1	out	28-32
<i>Brachythemis</i>	1	3	dis	0	1	0	down	1	V	27-29
<i>Bradinyopyga</i>	1	3	dis	0	2	0	down	1	opp	31-37
<i>Camacinia</i>	2-5	5	dis	2	1-2	3	down	3	opp	46-51
<i>Cratilla</i>	1	3	cont	1	2	1	down	1	opp	34-39
<i>Crocothemis</i>	1	3	dis	0	1	0	V	1	V	27-35
<i>Diplacodes</i>	V	1-3	dis	0	1	0	up	1	V	19-22
<i>Hydrobasileus</i>	0	6	dis	0	2	0	down	1	opp	40-48
<i>Hylaeothemis</i>	0	1	cont	2	1	1	up	3	V	24-25
<i>Indothemis</i>	1	3	dis	0	1	0	up	1	opp	27-29
<i>Lathrecista</i>	1	3	dis	0	1-2	0	down	1	out	31-35
<i>Libellula</i>	1-3	3-7	V	1-4	2-4	1	down	2-4	out	27-35
<i>Lyriothemis</i>	V	2-3	cont	0	1	V	down	1-2	out	24-37
<i>Macrodiplax</i>	0	3	dis	0	..	0	down	1	opp	30-35
<i>Nanophya</i>	0	1	cont	0	1	0	up	1	out	13-15
<i>Neurothemis</i>	1-9	3-9	V	V	1-2	1-3	down	1-2	V	19-31
<i>Onychothemis</i>	1	3	dis	0	..	0	down	1	opp	37-46
<i>Orthetrum</i>	1	3	cont	0	1-2	V	V	1	opp	26-44
<i>Palpopleura</i>	1	3	dis	1	1	1	down	1	V	16-20
<i>Pantala</i>	1	3-5	dis	0	2	0	down	2	opp	39-40
<i>Potamarcha</i>	1	3	V	0	2	V	V	1	out	31-34
<i>Pseudotrimea</i>	1	6	dis	0	3	0	down	1	opp	44-46
<i>Rhodothemis</i>	1	3	dis	0	1	0	up	1	opp	33-36
<i>Rhyothemis</i>	3	9	V	0	2	0	down	1	opp	31-40
<i>Selysiothemis</i>	0	1	cont	0	1	0	down	1	opp	25-26
<i>Sympetrum</i>	1	3	dis	0	1-2	0	down	1	out	25-35
<i>Tetrahemis</i>	0	1	cont	0	1	0	V	2-4	out	17-24
<i>Tholymis</i>	1	3-4	dis	0	2	0	down	1	opp	31-37
<i>Tramea</i>	1-2	3-7	dis	0	2	0	down	1	opp	48-50
<i>Trithemis</i>	1	3	dis	0	1-2	1	down	1	opp	23-34
<i>Urothemis</i>	0	3	cont	0	1	0	down	1	opp	35-40
<i>Zygonyx</i>	1	1-2	dis	0	..	0	down	1	opp	40-50
<i>Zyxomma</i>	1	3	dis	0	..	0	V	1	opp	37-40

¹ Number of cross veins in the triangle.² Number of cells in the subtriangle.³ Last antenodal cross vein in the fore wing continued to the Radius or discontinuous.⁴ Number of cross veins subtended by the bridge (more than the one always present).⁵ Number of cell rows subtended by the radial planate.⁶ Vein Cu₁ rises from hind angle of triangle (down) or outer side (up).⁷ Number of cubito anal cross-veins including anal crossing.⁸ Vein A₂ originates opposite anal crossing or farther out on wing.

Hylaeothemis.

1. Fore wing, postnodals 9
Fore wing, postnodals 14

gardeneri.
fruhstorferi.

H. gardeneri Fraser, R. I. M. 29 : 66, 1927.

H. W. 27

Kempison, Himalayas.

H. fruhstorferi Kirby. Fr. J. Bom. 25 : 621, 1918, fig. w.
and g.

H. W. 29

Western Ghats ; Nilgiris.

Tetrathemis.

1. Wing tips hyaline or nearly so ; base of wings deep
yellow
Wing tips with a well defined brown spot ; base of wings
hyaline

platyptera.

yerburyi.

T. platyptera Selys. Fr. J. Bom. 25 : 619, 1918, figs. w.
and g.

H. W. 22

Western Ghats ; Bengal ;
Malacca ; Burma.

T. yerburi Kirby. Fr. J. Bom. 25 ; 620, 1918.

H. W. 22

Ceylon.

Nannophya.

N. pygmae Rambur. Fr. J. Bom. 27 ; 496, 1921, fig. w.
H. W. 13

N. W. India ; Assam ;
Upper Burma : Indo-
China.

Agrionoptera.

1. Hind wing 27 ; fore wing antenodals 15-16
Hind wing 25 ; fore wing antenodals 12-14

insignis.
dorothea.

A. insignis Rambur. Fr. J. Bom. 25 : 623, 1918, fig. w.
and g.

H. W. 27

Assam ; Bengal ; Burma ;
Malaysia.

A. dorothea Fraser, R. I. M. 29 : 65, 1927.

H. W. 25

Bengal.

Diplacodes.

1. Fore wing triangle free from cross veins : subtriangle of
one or two cells
Fore wing triangle with one cross vein ; subtriangle
of three cells

nebulosa.

trivialis.

D. nebulosa Fabricius. Fr. J. Bom. 26 : 501, 1919, fig. w.
H. W. 20

All wet areas of India
and Burma ; Ceylon ;
China ; E. Indies.

D. trivialis Rambur. Fr. J. Bom. 26 : 503, 1919, fig. w.
and g.

H. W. 22

India generally ; Ceylon ;
E. Indies : China, etc.

Amphithemis.

1. Fore wing with two rows of cells beyond the triangle
Fore wing with one row of cells beyond the triangle
2. Abdomen yellow (young) or black. Expanse 54
Abdomen red. Expanse 44
3. Abdomen longer than hindwing : superior anal appen-
dages twice as long as inferiors
Abdomen same length as hindwing ; anal appendages
subequal

2

mariae.

3

curvistyla.

vacillans.

nigricolor.

A. vacillans Selys. Fr. J. Bom. 25 : 624, 1918, figs w.
and g.

H. W. 26

Bhamo and Karen Hills,
Burma.

4. *curvistyla* Selys. Fr. J. Bom. 25 : 626, 1918, fig. g.
H. W. 20 Burma.
- A. mariae* Laidlaw. Fr. J. Bom. 25 : 627, 1918.
H. W. 20 S. India, Cochin State ;
Coorg ; Malabar.
- A. nigricolor* Fraser, J. Bom. 28 : 700, 1922.
H. W. 23 Duars, Bengal.

Lyriothemis.

1. Anal loop with little development of foot ; of two cell rows only. Antenodal cross veins 13 2
Anal loop with well developed foot ; two cells of distal row divided. Antenodal cross veins 13-19 3
2. Antehumeral yellow stripes of thorax convergent upward
Antehumeral yellow stripes of thorax not convergent upward
acigastra.
mortoni.
cleis.
tricolor.
3. Fore wing with 2 or 3 cubito anal cross veins
Fore wing with one cubito anal cross vein
- L. acigastra* Selys. Fr. J. Bom. 26 ; 142, 1918, fig. w. and g.
H. W. 25 Burma and Bengal.
- L. mortoni* Ris. Fr. J. Bom. 27 : 493, 1921, fig. w.
H. W. (?) Lower Burma.
- L. cleis* Brauer, Fr. J. Bom. 26 : 143, 1918, fig. g.
H. W. 23 Burma and Bengal.
- L. tricolor* Ris. Fr. J. Bom. 27 : 492, 1921, fig. w.
H. W. 38 Burma.

Potamarcha.

- P. obscura* Rambur. Fr. J. Bom. 26 : 145, 1918, fig. w.
H. W. 33 India generally, except
dry areas : Burma :
Ceylon : Straits.

Lathrecista.

- L. asiatica* Fabricius. Fr. J. Bom. 26 : 147, fig. w. (as *L. cleis*) and g.
H. W. 35 Wet areas only of India
and Burma : Bombay and
Poona ; Malabar.

Libellula.

1. Abdomen hairy : wings with a black spot at nodus
Abdomen naked : wings with no black spot at nodus
quadrifasciata.
fulva.
- L. quadrifasciata* L. Fr. J. Bom. 26 : 150, 1918, fig. w.
H. W. 35 Kashmir 7000-8000 feet-
Holarctic.
- L. fulva* Müller. Fr. J. Bom. 26 : 151, 1918.
H. W. 35 Mesopotamia : Kashmir,
Palaeartic.

Cratilla.

1. Blackish species : wing tips hyaline .
Metallic green species : wing tips black
lineata.
metallica.
- C. lineata* Brauer. Fr. J. Bom. 26 : 155, 1918.
H. W. 38 Malabar, Burma, E. Indies,
Phillipines, China, etc.
- C. metallica* Brauer. Fr. J. Bom. 26 : 153, 1918, fig. w.
H. W. 36 Burma : Tenasserim : Siam.

Orthetrum.

The following key is modified from Fraser, J. Bom. 26 : 156-7, 1918.

1. Arculus generally before the second antenodal 2
Arculus generally beyond the second antenodal 7

2. Abdomen of adult male not pruinose (frosted). Vein Cu_1 rising from the hind angle of the triangle 3
 Abdomen of adult male thinly pruinose, long, narrow, cylindrical. Vein Cu_1 rising from the outer side of the triangle *trinacria*.
 Abdomen of adult male densely pruinose 4
3. Base of hind wings hyaline *cancellatum*.
 Base of hind wings golden yellow *japonicum*.
4. Vein Rpl generally subtending two cell rows 5
 Vein Rpl subtending a single row of cell 6
5. Abdomen broad and depressed. Antenodal cross veins 12-16 *brunneum*.
 Abdomen narrow and tapering. Antenodal cross veins 10-12 *taeniolatum*.
6. Abdomen broad and depressed. Anterior lamina of male prominent, set at an angle of 45 to 60 degrees *anceps*.
 Abdomen narrow and parallel sided. Anterior lamina of male depressed set at an angle of 30 degrees *ransonetti*.
7. Abdomen of adult male densely pruinose 8
 Abdomen of adult male not densely pruinose 10
8. Hind wing, vein Cu_1 rising from the outer side of the triangle (often only the basal abdominal segments pruinose) *chryso stigma*.
 Hind wing, vein Cu_1 rising from the hind angle of the triangle 9
9. Triangle of hind wing with a cross veins *triangulare*.
 Triangle of hind wing with no cross veins *glaucum*.
10. Abdomen strongly compressed at base, slender in the middle and dilated on end segments. Vein Cu_1 in the hind wing rising from the outer side of the triangle. Sides of thorax conspicuously striped *sabinum*.
 Abdomen not so. Vein Cu_1 from the hind angle of the triangle 11
11. Frons of adult male yellow or red 12
 Frons of adult male black or violet. Abdomen crimson, thinly pruinose *pruinoseum*.
12. Frons bright red. Base of hind wing with a large brown spot. Anterior lamina of male with no tuft of bristles *testaceum*.
 Frons dull red or orange. Base of hind wing with a small basal brown spot. Anterior lamina of male with a tuft of long bristles *chrysis*.
- O. cancellatum* L. Fr. J. Bom. 26 : 157, 1918.
 H. W. 33 Kashmir : Palaearctic.
- O. japonicum* Uhler. Fr. J. Bom. 26 : 157, 1918, fig. g.
 H. W. 34 Bengal : Khasia Hills :
 Kashmir : Kurseong :
 Tibet.
- O. trinacria* Selys. Fr. J. Bom. 26 : 158, 1918.
 H. W. 33 Mesopotamia.
- O. brunneum* Fonsc. Fr. J. Bom. 26 : 159, 1918, fig. w.
 and g.
 H. W. 33 Quetta ; Kashmir.
- O. taeniolatum* Schneid. Fr. J. Bom. 26 : 160, 1918, fig. g.
 H. W. 27 India generally ; Ceylon ;
 Burma ; Kashmir below
 5000 ft.
- O. anceps* Schneid. Fr. J. Bom. 26 : 161, 1918, fig. g.
 H. W. 28 Quetta.
- O. ransonetti* Brauer. Fr. J. Bom. 26 : 162, 1918, fig. g.
 H. W. 35 Mesopotamia ; Muscat ;
 Persian Gulf.
- O. chryso stigma* Burmeister. Fr. J. Bom. 26 : 163, 1918,
 fig. g.
 H. W. 29 India generally ; Nilgiris :
 Ceylon : Burma.

- O. triangulare* Selys. Fr. J. Bom. 26 : 164, 1918, fig. g.
H. W. 36
- Burma : Sikkim : Khasi Hills : Murree : Kashmir, 5000 ft. ; Nilgiris ; Ceylon ; China.
- O. glaucum* Brauer. Fr. J. Bom. 26 : 166, 1918, fig. g.
H. W. 35
- Ceylon : South India : Nilgiris, 5000 to 6000 feet.
- O. sabinum* Drury. Fr. J. Bom. 26 : 167, 1918, fig. g.
H. W. 34
- India generally ; Ceylon ; Malaysia ; Holarctic.
- O. testaceum* Burmeister. Fr. J. Bom. 26 : 168, 1918.
H. W. 35
- Lower Burma.
- O. chrysis* Selys. Fr. J. Bom. 26 : 169, 1918.
H. W. 33
- Ceylon : south China : Lower Burma.
- O. pruinatum* Burmeister. Fr. J. Bom. 26 : 170, 1918, fig. g.
H. W. 35
- India generally : Burma : Ceylon.

Onychothemis.

- O. ceylanica* Ris. Fr. J. Bom. 26 : 743, 1919, fig. w. ;
R. I. M. 26 : 442, 1924.
H. W. 41
- W. Ghats ; Ceylon ; Nilgiris ; Kalar, 2500 feet.

Bradinopyga.

- B. geminata* Rambur. Fr. J. Bom. 26 : 514, 1919, fig. w. ;
R. I. M. 26 : 437, 1924.
H. W. 34
- India generally : Burma ; Ceylon.

Palpopleura.

- P. sexmaculata* Fabricius. Fr. J. Bom. 26 : 489, 1919, fig. w. ;
R. I. M. 26 : 433, 1924.
H. W. 19
- Shillong ; Pusa ; Ceylon ; Malabar ; Burma.

Neurothemis.

1. Space between veins R and M with numerous cross veins between the subnodus and the inner end of bridge
This space free from cross veins *fulvia.* 2
 2. Male, wing markings black, base to nodus 3
Male, wing markings brown, base to stigma 4
Male, wing markings yellow 5
 3. With a whitish cross band beyond the black
With no whitish cross band beyond the black *tullia.*
feralis.
 4. Brown area of hind wing cut off squarely at apex *terminata.*
Brown area of wings rounded at apex and shorter behind *fluctuans.*
 5. Yellow area of hind wing extending a little beyond the triangle *intermedia.*
Yellow area of hind wing extending almost to the stigma *degener.*
- N. fulvia* Drury. Fr. J. Bom. 26 : 509, 1918, fig. w. and g. ;
R. I. M. 26 : 438, 1924.
H. W. 33
- India except drier zones ; Burma : Ceylon : Siam.
- N. tullia* Drury. Fr. J. Bom. 26 : 510, 1919 ; R. I. M. 26 : 437, 1924.
H. W. 24
- India : Burma : Ceylon : Siam.
- N. feralis* Burmeister. Fr. J. Bom. 26 : 511, 1919.
H. W. 24
- Lower Burma : Malacca ; Java ; Siam.
- N. intermedia* Rambur. Fr. J. Bom. 26 : 511, 1919, fig. g. ;
R. I. M. 26 : 437, 1924.
H. W. 25
- India ; Burma ; Ceylon ; below 2000 ft.

- N. degener* Selys. Fr. J. Bom. 26 : 512, 1919.
H. W. 25 Burma : Bhamo ; Assam ; Bengal.
- N. fluctuans* Fabricius. Fr. J. Bom. 26 : 513, 1919.
H. W. 24 Lower Burma ; Ceylon ; Malaysia.
- N. terminata* Ris. Fr. J. Bom. 26 : 513, 1919.
H. W. 30 Ceylon : Nicobars ; Philippines, etc.

Rhyothemis.

1. Wings marked with black and yellow 2
Wings marked with black only 3
2. Entire wing membrane suffused with yellow ; black spots at triangle, node, Rpl and apex in forewing . *variegata*.
Wing membrane in part hyaline ; black spots at node and apex only in forewing *phyllis*.
3. Fore wing, vein Rpl subtends two rows of cells *plutonia*.
Fore wing vein Rpl subtends a single row *triangularis*.
- R. variegata* Joh. Fr. J. Bom. 26 : 930, 1920, fig. w. ;
R. I. M. 26 : 443, 1924.
H. W. 37 Moist India ; Burma ; Tibet ; E. Indies.
- R. phyllis* Sulz. Fr. J. Bom. 26 : 931, 1920, R. I. M. 26 :
443, 1924.
H. W. ♂ 40, ♀ 35 Burma ; Indo-China.
- R. plutonia* Selys. Fr. J. Bom. 27 : 48, 1920.
H. W. 31 Burma ; Bengal ; Indo-China.
- R. triangularis* Kirby. Fr. J. Bom. 27 : 48, 1920 ; R. I. M.
26 : 443, 1924.
H. W. 29 S. India : Coorg ; Ceylon ; Java.

Urothemis.

- U. signata* Burmeister. Fr. J. Bom. 27 : 263, 1920, fig. w. and g. ; R. I. M. 26 : 445, 1924.
H. W. 37 Assam ; Madras ; Bangalore : Pusa ; Bombay ; Ceylon.

Macrodiplax.

- M. cora* Brauer. Fr. J. Bom. 27 : 266, 1920, fig. w. and g.
H. W. 32 S. India and Ceylon.

Aethriamanta.

- A. brevipennis* Rambur. Fr. J. Bom. 27 : 261, 1920, fig. w. ; R. I. M. 26 : 445, 1924.
H. W. 26 Bengal ; Burma ; Ceylon ; Chilka Lake ; Ganjam ; Malabar : Coorg.

Selyiothemis.

- S. nigra* Selys. Fr. J. Bom. 27 : 268, 1920, fig. w. and g.
H. W. 25 Lower Mesopotamia ; Bushire ; Karachi.

Brachythemis.

1. Wings of male, basal half blackish brown *fuscopalliat*.
Wings of male, basal half yellowish *contaminata*.
- B. contaminata* Fabricius. Fr. J. Bom. 26 : 739, 1919, fig. w. ; R. I. M. 26 : 438, 1924.
H. W. 22 All India ; Ceylon ; Malaya.

*B. fuscopalliat*a Selys. Fr. J. Bom. 26 : 738, 1919.
H. W. 29

Lower Mesopotamia ; Fao ;
Basra ; Kerna.

Crocothemis.

1. Adult male thorax reddish brown, abdomen carmine
Adult male thorax golden yellow, abdomen ochraceous

servilia.
erythraea.

C. servilia Drury. Fr. J. Bom. 26 : 516, 1919, fig. w. ;
R. I. M. 26 : 437, 1924.
H. W. 28

-All India ; Burma ; Ceylon
and eastward.

C. erythraea Brulle. Fr. J. Bom. 26 : 517, 1919.
H. W. 28

Quetta ; Mesopotamia.

Brachydiplax.

1. Antenodal cross veins of F. W. 7
Antenodal cross veins of F. W. 8-9

2
farinosa.*

2. Thorax green-metallic spotted with yellow
Thorax pulverulent blue with dark spots

sobrina.
chalybea.

B. sobrina Rambur. Fr. J. Bom. 26 : 491, 1919, fig. w.
and g.
H. W. 26

Bombay ; Calcutta ; Mala-
bar ; Ceylon ; Lower Burma.

B. farinosa Selys. Fr. J. Bom. 26 : 492, 1919, fig. g.
H. W. 23

Bhamo, Burma.

B. chalybea Brauer. Ris. Cat. Coll. Selys. p. 363, 1910.

Assam ; Burma ; Siam.

Acisoma.

A. panorpoides Rambur. Fr. J. Bom. 26 : 493, 1919,
fig. w. ; R. I. M. 26 : 434, 1924.
H. W. 17

India generally ; Ceylon ;
Burma ; Straits.

Indothemis.

1. Hind wing with a large basal brown spot
Hind wing with no large basal brown spot

2
caesia.

2. Wing tips hyaline
Wing tips brown

sita.
limbata.

I. caesia Rambur. Fr. J. Bom. 26 : 735, 1919 ; R. I. M.
26 : 436, 1924.
H. W. 32

India plains : Bombay ;
Madras ; Jubbulpore ;
Nilgiris.

I. sita Champion, Ann. Mag. Nat. Hist. (9) 11 : 28, 1923,
fig. w.
H. W.

Ceylon : Coorg.

I. limbata Selys. Fr. J. Bom. 26 : 736, 1919, fig. w. ;
R. I. M. 26 : 436, 1924.
H. W. 27

Lower Burma, Siam.

Rhodothemis.

R. rufa Rambur. Fr. J. Bom. 26 : 505, 1919, fig. w. ;
R. I. M. 26 : 438, 1924.
H. W. 35

S. India to Bombay ;
Ceylon.

* Ris places the *B. gestroi* of de Selys as a synonym of this species : Fraser places it in *Brachythemis* (J. Bom. 27 : 494, 1921) but it is evident that this is a *lapsus calami* as the figure given of the wings is labelled as "*Brachydiplax gestroi*". Fraser's description makes no mention of the brown fleck in the base of the hind wing and his measurements are larger (H. W. 31). He has since explained that the specimens which he took for *B. gestroi* turn out to be *B. chalybea* Br.

Zygonyx.*Key based on males only.*

- | | | |
|---|---|--------------------------------------|
| 1. Segment 7 with conspicuous yellow dorsal spot ; three cell rows beyond the triangle of the fore wing | 2 | |
| Segment 7 with no conspicuous yellow dorsal spot | 3 | |
| 2. Anteclypeus yellow ; middorsal carina of thorax black | | <i>malabarica.</i> |
| Anteclypeus brown ; middorsal carina of thorax yellow | | <i>iris.</i> |
| 3. Base of wings brilliant amber colored | | <i>davina.</i> |
| Base of wings hyaline | 4 | |
| 4. Lateral pale markings on segments 1 and 2 ; hind wing 41-46 | 5 | |
| Lateral pale markings on segments 2-3 ; hind wing 50-55. | | <i>ceylanica.</i> |
| 5. Anteclypeus yellow | | <i>mildredae.</i> |
| Anteclypeus black or dark brown | 6 | |
| 6. No markings on abdomen after segment 2 | | <i>isa.</i> |
| Segments 1 to 2 conspicuously marked with yellow | | <i>isis.</i> |
| <i>Z. malabarica</i> Fraser, J. Bom. 31 : 764, 1926, fig. nymph. | | |
| H. W. 46-47 | | Southern India. |
| <i>Z. iris</i> Selys. Fr. J. Bom. 26 : 741, 1919, fig. w. ; | | |
| R. I. M. 26 : 441, 1924 ; Fr. J. Bom. 31 : 763, 1926. | | |
| H. W. 47 | | Assam ; Bengal. |
| <i>Z. davina</i> Fraser, J. Bom. 31 : 768, 1926. | | |
| H. W. 50 | | Pashok, Darjeeling District. |
| <i>Z. ceylanica</i> Kirby. Fr. J. Bom. 31 : 766, 1926. | | |
| H. W. 50-55 | | Ceylon. |
| <i>Z. mildredae</i> Fraser, J. Bom. 31 : 766, 1926. | | |
| H. W. 41-46 | | Maymyo, N. Shan States, Burma. |
| <i>Z. isis</i> Fraser, R. I. M. 26 : 440, 1924. | | |
| H. W. 46 | | Coorg ; E. Ghats ; Punjab Hills. |
| <i>Z. isa</i> Fraser, J. Bom. 31 : 767, 1926. | | |
| H. W. 44 | | Maymyo, N. Shan States, Upper Burma. |

Sympetrum.

The following key is in part from Fraser, J. Bom. 26 : 495, 1918.

- | | | |
|--|---|---|
| 1. Antenodal cross veins 7-8 | 2 | |
| Antenodal cross veins 9-10 | 5 | |
| 2. Legs black | | <i>commixtum.</i> |
| Legs partly or wholly yellow | 3 | |
| 3. Legs black striped with yellow | | <i>striolatum.</i> |
| Legs mainly yellow | 4 | |
| 4. Legs and thorax all sandy yellow | | <i>decoloratum.</i> |
| Legs yellow except for outer face of third tibiae ; thorax not sandy | | <i>fonscolombi.</i> |
| 5. Thorax reddish yellow, with black line on the humeral suture | | <i>orientale.</i> |
| Thorax black with yellow lateral stripes | | <i>hypomelas.</i> |
| <i>S. commixtum</i> Selys. Fr. J. Bom. 26 : 498, 1919, fig. g. | | |
| H. W. 29 | | Deesa, N. India. |
| <i>S. striolatum</i> Charpentier. Fr. J. Bom. 26 : 495, 1919. | | |
| H. W. 27 | | N. W. India ; Quetta ; Palaeartic. |
| <i>S. decoloratum</i> Selys. Fr. J. Bom. 26 : 497, 1919, fig. g. | | |
| H. W. 26 | | N. W. India ; Quetta. |
| <i>S. fonscolombi</i> Selys. Fr. J. Bom. 26 : 497, 1919, fig. g. ; | | |
| R. I. M. 26 : 438, 1924. | | |
| H. W. 29 | | Quetta ; Kashmir, 5,000 to 10,000 feet ; Nilgiris and Palni Hills ; Palaeartic. |

S. orientale Selys. Fr. J. Bom. 26 : 499, 1919, fig. g.
H. W. 37

Bengal ; Assam ; Khasia
Hills ; Darjeeling.

S. hypomelas Selys. Fr. J. Bom. 26 : 498, 1919, fig. g
H. W. 31

Bengal ; Assam ; Khasia
Hills ; Burma ; Tibet ;
Sikkim ; China.

Trithemia.

1. Red species (adult males) with red veins 2
Black or brown species 4
2. Frons with two sharp points above ; hind wing triangle
crossed and often with two cubito anal cross veins . *kirbyi*.
Frons with no sharp points above ; hind wing triangle
not crossed, and with only one cubito anal cross vein 3
3. Fore wing, antenodal cross veins 12 to 16 .
Fore wing, antenodal cross veins 10 to 12
aurora.
annulata.
4. Body black above, with violaceous pruinescence . *festiva*.
Body golden brown ; abdomen black and yellow *pallidinervis*.

T. kirbyi Selys. Fr. J. Bom. 26 : 923, 1920 ; R. I. M. 26 :
439, 1924.
H. W. 27

Deccan ; India, generally
local ; Ceylon.

T. aurora Burmeister. Fr. J. Bom. 26 : 920, 1920, fig. w. ;
R. I. M. 26 : 439, 1924.
H. W. 26

India plains ; Ceylon.

T. annulata Beauvais. Fr. J. Bom. 26 : 923, 1920.
H. W. 31

Mesopotamia ; Africa.

T. festiva Rambur. Fr. J. Bom. 26 : 925, 1920 ; R. I. M.
26 : 439, 1924.
H. W. 29

India generally ; Ceylon ;
Burma ; E. Indies.

T. pallidinervis Kirby. Fr. J. Bom. 26 : 926, 1920 ;
R. I. M. 26 : 440, 1924.
H. W. 33

Poona ; Bombay ; Deesa ;
Tibet ; Ceylon ; Madras.

Hydrobasileus.

H. croceus Brauer. Fr. J. Bom. 27 : 56, 1920, fig. w. ;
R. I. M. 26 : 444, 1924 ; Mem. Dept. Agric. India 8 :
71, 1924, fig. n.
H. W. 43

Moist India ; Malabar ;
Ceylon ; Burma ; Indo-
China.

Tramea.

1. Brown basal spot of hind wing surrounded by yellow . *burmeisteri*.
Brown basal spot of hind wing not surrounded by
yellow . *limbata*.

T. burmeisteri Kirby. Fr. J. Bom. 27 : 52, 1920, fig. w and
g. ; R. I. M. 26 : 445, 1924.
H. W. 43

India ; Ceylon ; Tibet.

T. limbata Desj. Fr. J. Bom. 27 : 53, 1920 ; R. I. M. 26 :
445, 1924.
H. W. 43

With preceding species.

Pantala.

P. flavescens Fabricius. Fr. J. Bom. 27 : 50, 1920, fig. w. ;
R. I. M. 26 : 443, 1924.
H. W. 41

Cosmopolitan.

Tholymis.

T. tillarga Fabricius. Fr. J. Bom. 27 : 253, 1920, fig. w. ;
R. I. M. 26 : 442, 1924.
H. W. 33

India ; Ceylon ; Burma ;
Indo-China.

Camacinia.

1. Radial planate subtending three rows of cells
 Radial planate subtending a single row of cells

gigantea.
harterti.

C. gigantea Brauer. Fr. J. Bom. 27 : 258, 1920, fig. w.
 H. W. 50

Burma ; Assam.

C. harterti Karsch. Fr. J. Bom. 27 : 259, 1920.
 H. W. 46

Bengal ; Sikkim.

Pseudotranea.

P. prateri Fraser, J. Bom. 27 : 149, 1920.
 H. W. 46

Darjeeling district.

Zygomma.

Z. petiolatum Rambur. Fr. J. Bom. 27 : 256, 1920, fig. w. ;
 R. I. M. 26 : 442, 1924.
 H. W. 33

India, plains ; E. Indies.

Subfamily CORDULIINAE.

A key to the Genera.

1. Hind wing triangle a little beyond the arculus ; two or more cubito-anal cross veins ; fore wing subtriangle of one cell
 Hind wing triangle touching the arculus ; only one cubito-anal cross vein ; fore wing subtriangle of three cells

Idionyx.

Hemicordulia.

Idionyx.

I have seen so few species of this genus that I prefer not to risk offering a key that must be based so largely on published descriptions. Instead I present herewith a table of the principal distinctive characters.

A TABLE OF SPECIES.

Indian species.	1		3	4		6	7	8	9
	Hind wing male	female		Abd. mks. dors.	lat.					Blk. on labrum.	Spine on 10.	On app.	Inf. to sup. app.
<i>burliyarensis</i>	..	35	..	..	1-4	0	..	..	..
<i>corona</i>	..	38	..	2	..	x	..	..	equal.
<i>galeata</i>	35	37	0	..	..	0	0	0	shorter.
<i>imbricata</i>	33	33	0	1-3	1-3, 7-9	x	0	0	shorter.
<i>intricata</i>	30	35	short	2	1-2	0	x	x	longer.
<i>nadganiensis</i>	..	35	half	..	1-2	x	..	..	..
<i>nilgirensis</i>	32	32	0	..	..	x	0	x	shorter.
<i>optata</i>	33	36	short	2-4	2, 3, 8	0	x	x	longer.
<i>saffronata</i>	34	35	..	..	1-2, 7-9	x	0	0	shorter.
<i>selysii</i>	30	30	long	..	..	x	x	0	shorter.
<i>stevensi</i>	33	..	short	..	1-2	x	..	..	equal.
<i>unguiculata</i>	31	28	0*	1-3	1-3	x	0	0	equal.
<i>volanda</i>	30	30	short	1-3	1-3, 7	x	x	0	equal.

The column headings of this table are abbreviations in order as follows :

1 and 2, length in millimetres.

3. Antehumeral pale stripe on synthorax.

4. and 5, dorsal and lateral longitudinal pale markings on abdominal segments as numbered.

6. Black border of front edge of labrum.

7. Middorsal spine on abdominal segment 10 of male.

8. Inferior spine on superior appendage of male.

9. Length of inferior appendage in relation to the superior in the male.

* Present but very short in the female.

- I. optata* Selys. Fr. J. Bom. 27 : 688, 1921, fig. w. ; R. I. M. 28 : 200, 1926, fig. g.
H. W. 33-36 . Shillong, Cherrapunji, Khasia Hills.
- I. intricata* Fraser, R. I. M. 28 : 202, 1926.
H. W. 30-35 . Cherrapunji, Khasia Hills, Assam.
- I. nadganiensis* Fraser, R. I. M. 26 : 460, 1924.
H. W. 35 . Nilgiri Wynaad, Pundulur ; Malabar and Kanara Ghats, Coorg.
- I. stevensi* Fraser, R. I. M. 26 : 462, 1924, fig. g. ; R. I. M. 28, 1926, fig. g.
H. W. 33 . Darjeeling district ; Assam.
- I. corona* Fraser, J. Bom. 27 : 690, 1921 ; R. I. M. 26 : 462, 1924 ; *ibid.* 26 : 519, 1924, fig. h.
H. W. 38 . Mysore ; Kunnut.
- I. burliyarensis* Fraser, J. Bom. 27 : 687, 1921 ; R. I. M. 26 : 461, 1924, fig. g. ; R. I. M. 26 : 519, 1924, fig. h. ; R. I. M. 28, 1926, fig. g.
H. W. 35 . Nilgiri ; Coorg ; Kanara ; Malabar.
- I. galeata* Fraser, R. I. M. 26 : 517, 1924, fig. g. and h. ; R. I. M. 28, 1926, fig. g.
H. W. 35-37 . Coorg ; South Kanara.
- I. unguiculata* Fraser, R. I. M. 28 : 204, 1926, fig. g.
H. W. 28-31 . Upper Burma.
- I. imbricata* Fraser, R. I. M. 28 : 205, 1926, fig. g.
H. W. 33 . Shillong, Assam.
- I. saffronata* Fraser, R. I. M. 26 : 458, 1924 ; R. I. M. 28, 1926, fig. g.
H. W. 34-35 . Travancore ; Annaimallais ; Coorg ; Malabar.
- I. selysi* Fraser, R. I. M. 28 : 201, 1926, fig. g.
H. W. 30 . N. Shan States, Upper Burma ; Karen Hills, North Burma.
- I. nilgirensis* Fraser, J. Bom. 27 : 687, 1921, fig. w. ; R. I. M. 26 : 460, 1924, fig. g.
H. W. 32 . Burliyar River, Nilgiris.

Hemicordulia.

- H. asiatica* Selys. Fr. J. Bom. 27 : 676, 1921, fig. w.
H. W. 33 . Nilgiri, Mudis and Palni Hills, S. India ; Shillong, Assam.

Subfamily MACROMIINAE.

A key to the Genera.

- | | |
|--|----------------------|
| 1. Veins M_3 and M_4 undulate beyond the nodus | 2 |
| Veins M_3 and M_4 smoothly curved | <i>Macromidia.</i> |
| 2. Fore wing triangle and subtriangle with cross veins | <i>Epophthalmia.</i> |
| Fore wing triangle and subtriangle without cross veins | <i>Macromia.</i> |

Macromidia.

- | | |
|---|-------------------|
| 1. Abbreviated antehumeral stripe present | <i>shanensis.</i> |
| No antehumeral stripe present | <i>donaldi.</i> |
- M. shanensis* Fraser, R. I. M. 29 : 67, 1927.
H. W. 32 . Maymyo, Burma.
- M. donaldi* Fraser, R. I. M. 26 : 515, 1924, fig. w. ; *ibid.* 29 : 67, 1927.
H. W. 30 . Malabar Wynaad ; Sampaji Ghat, Coorg.

Epophthalmia.

Costa all yellow	2
Costa yellow to the nodus	<i>vittigera.</i>
Costa black	<i>cycanocephala.</i>
Face with a pair of yellow spots on the frons	<i>frontalis.</i>
Face with no yellow spots on the frons	<i>vittata.</i>
<i>vittigera</i> Rambur. Fr. J. Bom. 27 : 680, 1921 ; Mem. Dept. Agric. India 8 : 72, 1923. Lieftinck Treubia 13 : 65, 1931. fig. and whole fig. in pl. H. W. ♂ 48-51, ♀ 51-54	Assam ; Lower Burma.
<i>cycanocephala</i> Hagen. Fr. J. Bom. 27 : 678, 1921. Lieftinck Treubia 13 : 58, 1931, fig. g. H. W. 51	Ceylon.
<i>frontalis</i> Selys. Fr. J. Bom. 27 : 681, 1921. Lieftinck Treubia 13 : 51, 1931, fig. g. H. W. 48	Malaysia ; Assam ; Malabar.
<i>vittata</i> Burmeister. Fr. J. Bom. 27 : 679, 1921 ; Lieftinck Treubia, 13 : 54, 1931, fig. g. H. W. 48-52	Poona.

Macromia.*Artificial key to species based on males only.*

1. Segment 10 with no spine	<i>atuberculata.</i>
Segment 10 with a spine	2
2. Labrum yellow	3
Labrum not yellow	7
3. Labrum with a longitudinal dark stripe	<i>pallida.</i>
Labrum concolorous	4
4. Humeral pale stripe present	5
Humeral pale stripe wanting	6
5. Genital lobe blunt	<i>flavicineta.</i>
Genital lobe pointed	<i>cingulata.</i>
6. Hind wing 42mm.	<i>trituberculata.</i>
Hind wing 56mm.	<i>moorei.</i>
Antehumeral pale stripe wanting	8
Antehumeral pale stripe present	9
Hind wing 38mm.	<i>cupricincta.</i>
Hind wing 46mm.	<i>indica.</i>
Face with a yellow cross stripe	10
Face with no yellow cross stripe	13
Labrum brown with two pale spots	11
Labrum black with a pale basal spot	<i>zeylonica.</i>
Labrum all black ; genital lobe pointed	12
Genital lobe broad and truncate, directed backward	<i>binocellata.</i>
Genital lobe pointed and erect	<i>aculeata.</i>
Genital lobe oval, pointed	<i>miniata.</i>
Genital lobe elongate, triangular	<i>ida.</i>
Costa yellow	<i>bellicosa.</i>
Costa black	14
Genital lobe short, round ; hind wing 49mm.	<i>ellisoni.</i>
Genital lobe long, pointed ; hind wing 43mm.	<i>irata.</i>
<i>atuberculata</i> Fraser, Mem. Dept. Agric. India : 67. H. W. 37	Bengal.
<i>pallida</i> Fraser, R. I. M. 26 : 456, 1924. H. W. 43-45	Bengal.
<i>flavicineta</i> Selys. Fr. J. Bom. 27 : 684, 1921 ; R. I. M. 26 : 452, 1924. H. W. 41-44	Mahableshwar, Poona ; Madras ; Deccan.

<i>M. cingulata</i> Rambur. Fr. J. Bom. 27 : 682, 1921 ; R. I. M. 26 : 452, 1924. H. W. 32-39	. . .	Mahableswar, Poona, Deccan, Coorg.
<i>M. trituberculata</i> Fraser, J. Bom. 27 : 685, 1921. H. W. 42-45		Assam.
<i>M. moorei</i> Selys. Fr. J. Bom. 27 : 683, 1921, fig. w. H. W. 56	. . .	Khasia Hills ; Assam ; Deccan.
<i>M. cupricincta</i> Fraser, Mem. Dept. Agric. India 8 : 74, 1923. H. W. 38		Burma.
<i>M. indica</i> Fraser, R. I. M. 26 : 418, 1924, fig. g. H. W. 46		Nilgiris ; Coorg.
<i>M. zeylonica</i> Fraser, R. I. M. 29 : 69, 1927. H. W. 33	. . .	Kandy, Ceylon.
<i>M. binocellata</i> Fraser, R. I. M. 26 : 451, 1924, fig. g. H. W. 46	. . .	Palni Hills.
<i>M. aculeata</i> Fraser, R. I. M. 29 : 68, 1927. H. W. 36	. . .	Upper Burma.
<i>M. miniata</i> Fraser, R. I. M. 26 : 450, 1924, fig. g. H. W. 37	. . .	Coorg.
<i>M. ida</i> Fraser, R. I. M. 26 : 449, 1924, fig. g. H. W. 38	. . .	-Malabar Wynaad ; Nil- giris ; Coorg.
<i>M. bellicosa</i> Fraser, R. I. M. 26 : 453, 1924, fig. g. H. W. 40-43		Coorg.
<i>M. ellisoni</i> Fraser, R. I. M. 26 : 457, 1924. H. W. 49	. . .	S. Kanara ; Nilgiris.
<i>M. irata</i> Fraser, R. I. M. 26 : 454, 1924, fig. g. H. W. 43	. . .	Malabar Wynaad ; Coorg.

Family AESCHNIDAE.

Subfamily AESCHNINAE.

A key to the Genera.

- | | |
|--|-----------------------|
| 1. Radial sector simple | <i>Jagoria.</i> |
| Radial sector forked | 2 |
| 2. Hind wing distinctly petiolate | <i>Petaliaeschna.</i> |
| Hind wing not petiolate | 3 |
| 3. Sectors of the arculus rising from the upper half of the arculus | 4 |
| Sectors of the arculus rising from the middle or the lower half of the arculus | 6 |
| 4. Radial sector forked under the distal third of the stigma or beyond | 5 |
| Radial sector forked before the stigma | <i>Anaciaeschna.</i> |
| 5. Middle abdominal segments with supplementary lateral carinae | <i>Anax.</i> |
| Middle abdominal segments without supplementary lateral carinae | <i>Hemianax.</i> |
| 6. Median basal space with cross veins ; arculus rising beyond the fourth to sixth antenodal cross vein | 7 |
| Median basal space without cross veins ; arculus rising beyond the first to the third antenodal cross vein | 12 |
| 7. Radial planate sagged, then upcurved, subtending several rows of cells | 9 |
| Radial planate straight, subtending but one cell row | 8 |
| 8. Radial planate subtending five to six cell rows ; genital plate of the female rounded | <i>Amphiaeschna.</i> |
| Radial planate subtending three to four cell rows ; genital plate of the female forked | <i>Heliaeschna.</i> |

9. Fork of radial sector strongly unilateral; one fifth of the length of the bridge lying beyond the subnodus
Fork of radial sector about symmetrical; one eighth of the bridge beyond the subnodus. *Gynacanthaeschna.*
10
10. Fore wing triangle of five to six cells; genital plate of the female forked
Fore wing triangle of three to four cells; genital plate of the female rounded. *Periaeschna.*
11
11. Frons strongly projecting
Frons normal. *Cephaloeschna.*
Caliaeschna.
12. Radial planate sagged, then upcurved, subtending several cell rows.
Radial planate straight, subtending one cell row. 13
Austroaeschna.
13. One fifth of bridge beyond the subnodus
One eighth of bridge beyond the subnodus. *Aeschna.*
Gynacantha.

VERIFICATION TABLE.

Indian Genera.	1 Arc. an. cr.	2 Cv. in Mbs.	3 Nodal cvs. F.W./H.W.	4 Br. parts.	5 Rpl. line.	6 sub- tends rows.	7 Tips of M3 & M4.	8 Fork of Rs. to st.	9 Fem. 10 sternite.
<i>Aeshna</i>	3	0	25:19/15:20	4:1	bent	3-7	deflected	variable	rounded.
<i>Anaciaeschna</i>	1	0	14:7/10:9	4:1	bent	4	conjoined	under	rounded.
<i>Anax</i>	1-2	0	21:8/13:9	5:1	bent	4-7	conjoined	under	rounded.
<i>Amphiaeschna</i>	3-4	4-6	26:20/16:18	7:1	bent	3-4	deflected	before	rounded.
<i>Austroaeschna</i>	2	0	15:10/12:12	2:1	strt.	1	parallel	before	rounded.
<i>Caliaeschna</i>	4	4-5	16:16/13:16	8:1	strt.	1	parallel	before	rounded.
<i>Cephaloeschna</i>	5	4-5	22:15/18:19	8:1	strt.	1	parallel	before	rounded.
<i>Gynacantha</i>	3	0	26:20/22:21	8:1	bent	5-6	deflected	before	forked.
<i>Gynacanthaeschna</i>	5	4	16:10/14:10	5:1	strt.	1	deflected	before	forked.
<i>Heliaeschna</i>	4	4-6	29:18/21:20	8:1	bent	4-6	deflected	before	forked.
<i>Hemianax</i>	1-2	0	16:8/12:10	4:1	bent	5	conjoined	under	rounded.
<i>Jagoria</i>	1-2	0	19:8/11:11	5:1	strt.	1	divergent	0	rounded.
<i>Periaeschna</i>	6	5	27:23/20:20	8:1	strt.	1	parallel	before	forked.
<i>Petaliaeschna</i>	4-6	6	24:25/18:20	8:1	strt.	1	parallel	before	forked.

The headings of this table are abbreviations (additional to those explained on the figures) as follows:—

1. The arculus is situated beyond the antenodal crossvein numbered.
4. Proportion of the part of the bridge before the subnodus to that beyond it.
8. Position of the fork of Rs in relation to the stigma.
9. Abdominal segment 10 in the female, beneath.
Cv = Cross veins.

Jagoria.

J. martini Laidlaw, R. I. M. 22 : 76, 1921 ; Fr. J. Bom.
28 : 611, 1922.
H. W. 40

Darjeeling.

Periaeschna.

1. Fork of radial sector includes three cell rows; antehumeral pale stripes present.
Fork of radial sector includes two cell rows; no antehumeral pale stripes present

magdalena.

nocturnalis.

P. magdalena Martin. Fr. J. Bom. 28 : 613, 1922, fig. w.
H. W. 44

Assam.

P. nocturnalis Fraser, R. I. M. 29 : 71, 1927.
H. W.

Assam and Sikkim.

Austroaeschna.

- A. intersedens* Martin. Fr. J. Bom. 28 : 614, 1922, fig. w.
H. W. 37 Assam.

Petaliaeschna.

- P. fletcheri* Fraser, R. I. M. 29 : 73, 1927.
H. W. 40 Assam and Sikim.

Anaciaeschna.

1. Antenodals fore wing 19, of hind wing 12-14*
Antenodals fore wing 16, of hind wing 9-10
martini.
jaspidea.
- A. martini* Selys. J. Bom. 28 ; 482, 1922. (= *A. donaldi*
Fras.)
H. W. ♀ 47 Kodaikanal, Palni Hills ;
Ootacamund, Lovedale,
Nilgiris ; Yercaud,
Shevaroy Hills.
- A. jaspidea* Burmeister. Fr. J. Bom. 28 : 483, 1922,
fig. w. and g.
H. W. 42-46 Malabar ; Nilgiris ;
Bengal ; Coorg.

Anax.

1. Thorax with lateral stripes of black 2
Thorax with no lateral stripes of black 3
2. Top of frons with a black T *nigrofasciatus*.
Top of frons with no black T *immaculifrons*.
3. Labrum with a black border 4
Labrum with no black border 6
4. Hind wing 48mm ; top of frons with a T *bacchus*.
Hind wing 53-55mm ; top of frons with no T 5
5. Top of frons with an anterior black line *julius*.
Top of frons with no anterior black line *goliathus*.
6. Top of frons pale *guttatus*.
Top of frons with an anterior black border *parthenope*.
- A. nigrofasciatus* Oguma, Insecta Matsumurana 1 : 78, 1926.
H. W. 52. Two males and one female from Naini Tal,
May, 1893, are in the collection sent to me by Dr.
Annandale.
- A. immaculifrons* Rambur. Fr. J. Bom. 28 : 114, 1921, fig. g.
H. W. 57 Ceylon ; E. and W. Ghats ;
very rare. Punjab Hills.
- A. bacchus* Hagen. Fr. J. Bom. 28 : 117, 1921.
H. W. 48 N. E. Himalayas ; Assam ;
Burma.
- A. julius* Brauer. Fr. J. Bom. 28 : 118, 1921, fig. g.
H. W. 55 Himalayas ; Bengal, Assam.
- A. goliathus* Fraser, J. Bom. 28 : 900, 1922.
H. W. 53 Burma.
- A. guttatus* Burmeister. Fr. J. Bom. 28 : 115, 1921, fig. g.
H. W. 49-52 General.
- A. parthenope* Selys. Fr. J. Bom. 28 : 119, 1921, fig. g.
H. W. 50 W. India.

Hemianax.

- H. ephippiger* Burmeister. Fr. J. Bom. 28 : 121, 1921,
fig. g.
H. W. 45 Dry India to the West.

Amphiaeschna.

- A. beesoni* Fraser, J. Bom. 28 : 901, 1922, fig. g.
H. W. 43 Lower Burma.

* From figures given by Fraser,

Heliaeschna.

- H. uninervulata* Martin. Ldl. Proc. U. S. N. M. 62 : 17,
1923.
H. W. 41

Burma.

Gynacanthaeschna.

1. Labrum olivaceous *sikkima.*
Labrum greenish yellow with a black border *viridifrons.*
- G. sikkima* Karsch. Fr. J. Bom. 28 : 618, 1922, fig. w.
H. W. 40 Darjeeling district ; Sikkim.
- G. viridifrons* Fraser, J. Bom. 28 : 899, 1922.
H. W. 40 Burma.

Cephalaeschna.

1. Frons shaped like the prow of a boat ; hind wing 47 *acutifrons.*
Frons rounded, prominent ; hind wing 41 2
2. Labrum yellow ; frons with a black border above . 3
Labrum olivaceous ; antehumeral pale stripe widened
above ; first lateral pale stripe interrupted above *orbifrons.*
3. Membranule white ; wings hyaline ; anal triangle of
five cells. *masoni.*
Membranule yellowish ; wings hyaline ; anal triangle of
three cells *lugubris.*
- C. acutifrons* Martin. Fr. J. Bom. 28 : 615, 1922.
H. W. ♀ 47 Assam or Bengal.
- C. orbifrons* Selys. Fr. J. Bom. 28 : 616, 1922.
H. W. 40 Bengal, Darjeeling.
- C. masoni* Martin. Fr. J. Bom. 28 : 615, 1922.
H. W. 41 Assam.
- C. lugubris* Martin. Fr. J. Bom. 28 : 616, 1922.
H. W. 41 . Sikkim.

Aeschna.*

1. Labrum with a black border . 2
Labrum with no black border 3
2. Side stripes of thorax bordered with black . *juncea.*
Side stripes of thorax not bordered with black *mixta.*
3. Top of frons with a T. spot 4
Top of frons with no T. spot 5
4. Labrum brown *erythromelas.*
Labrum yellow *petalura.*
5. Pale side stripes bordered with black . *quadrilateralis.*
Pale side stripes not bordered with black *ornithocephala.*
- A. juncea* Linl. Fr. J. Bom. 28 : 487, 1922, fig. g.
H. W. 45 Kashmir.
- A. mixta* Latreille. Fr. J. Bom. 28 : 485, 1922, fig. g.
H. W. 38 Kashmir.
- A. erythromelas.* Fr. J. Bom. 28 : 490, 1922, fig. g.
H. W. 53-57 . Sikkim ; Assam.
- A. petalura* Martin. Fr. J. Bom. 28 : 491, 1922, fig. g.
H. W. 53 Sikkim.
- A. quadrilateralis* Fraser, R. I. M. 29 : 70, 1927.
H. W. 53 Bengal.
- A. ornithocephala* MacLachlan. Fr. J. Bom. 28 : 488, 1922,
fig. g.
H. W. 47 Darjeeling and Assam.

* Key based on descriptions only.

Gynacantha.

1. Wing tips brown to the middle of the stigma. (female only known)	<i>apicalis.</i>
Wing tips hyaline	2
2. Top of frons with a black T. spot	7
Top of frons with no T. spot	3
3. Abdomen subcylindrical throughout	<i>millardi.</i>
Abdomen markedly swollen at base, constricted beyond (but slightly so in <i>bayadera</i>)	4
4. Top of frons with a black stripe across the crest	5
Top of frons concolorous	6
5. Abdomen slightly constricted on 3; marked with several pale spots on 3-7; superior male appendages parallel viewed from above	<i>bayadera.</i>
Abdomen markedly constricted on 3; marked with only one pale spot on middle segments; superior appendages viewed from above with a double curvature	<i>furcata.</i>
6. Hind wing 34; antenodals of fore wing 17, of hind wing 12	<i>albistyla.</i>
Hind wing 39-41; antenodals of fore wing 20, of hind 14-17	<i>o'doneli.</i>
7. Hind wing 35	<i>saltatrix.</i>
Hind wing 44 or more	8
8. Male inferior appendages more than half as long as superiors	<i>khasica.</i>
Male inferior appendages half or less than half as long as superiors	9
9. Wings with a basal reddish mark reaching to the first antenodal.	<i>basiguttata.</i>
Wing bases hyaline	<i>bainbriggei,</i> <i>hanumana,</i> <i>hyalina,</i> <i>subinterrupta</i> and <i>biharica.*</i>
<i>G. apicalis</i> Fraser, Mem. Dept. Agric. India, 8: 83, 1923. H. W. ♀ 40	Lyalpur.
<i>G. millardi</i> Fraser, J. Bom. 28: 903, 1922. H. W. 43	Coorg; Malabar; Poona, Nilgiris, Chota Nagpur.
<i>G. bayadera</i> Selys. Fr. J. Bom. 28: 906, 1922, fig. g. H. W. 41	Bhamo, Burma; Sikkim.
<i>G. furcata</i> Rambur. Fr. J. Bom. 28: 907, 1922, fig. g. H. W. 45	Ceylon.
<i>G. albistyla</i> Fraser, R. I. M. 30: 75, 1927. H. W. 34	Pusa, Bihar.
<i>G. o'doneli</i> Fraser, J. Bom. 28: 909, 1922, fig. g. H. W. 39	Duars, Bengal.
<i>G. saltatrix</i> Martin. Fr. J. Bom. 28: 907, 1922. H. W. 35	Assam. ?
<i>G. khasica</i> MacLachlan. Fr. J. Bom. 28: 904, 1922, fig. g. H. W. 45	Khasia Hills, Abor Country, and Lower Burma.
<i>G. basiguttata</i> Selys. Fr. J. Bom. 28: 908, 1922. H. W. 45	Burma.
<i>G. bainbriggei</i> Fraser, J. Bom. 28: 905, 1922. H. W. 47	Gauhati, Assam.
<i>G. hanumana</i> Fraser, J. Bom. 28: 906, 1922. H. W. 44	Moungpu, Darjeeling dist.
<i>G. hyalina</i> Selys. Fr. J. Bom. 28: 910, 1922. H. W. 42, ♀ 51	Bhamo; Nilgiris; Malabar.

* I have been unable to draw reliable distinctive characters from the descriptions only. Figures of the male appendages are given for *saltatrix*, *basiguttata*, *subinterrupta*, and *hyalina* in Martin's *Cat. Coll. Selys*, 1909, in addition to those found in Fraser, and referred to below.

- G. subinterrupta* Rambur. Fr. J. Bom. 28 : 909, 1922.
H. W. 45 Ceylon.
- G. biharica* Fraser, R. I. M. 30 : 74, 1927.
H. W. 42 Pusa, Bihar.

Subfamily GOMPHINAE*

A key to the Genera.

- | | |
|--|---|
| 1. Triangles crossed | 2 |
| Triangles without cross veins (rarely hind wing triangle only crossed) | 5 |
| 2. Radial sector forked | <i>Sieboldius.</i> |
| Radial sector not forked | 3 |
| 3. Lateral leaf like expansions on segments 7 or 8 | 4 |
| No lateral leaf like expansions on segments 7 or 8 | <i>Gomphidia.</i> |
| 4. Lateral leaf like expansions on segments 7 and 8 | <i>Lindenia.</i> |
| Lateral leaf like expansions on segment 8 only | <i>Ictinus.</i> |
| 5. Anal crossing before the origin of A_3 ; three or more cross veins between M_{1-3} and M_4 beyond the end of the triangle | 6 ^a |
| Anal crossing usually beyond the origin of A_3 ; one or two cross veins between M_{1-3} and M_4 beyond the end of the triangle | 9 |
| 6. Fore wing with two cubito anal cross veins beside that which makes the subtriangle | <i>Macrogomphus.</i> |
| Fore wing with only one cubito anal cross vein beside that which makes the subtriangle | 7 |
| 7. Fore wing with two rows of post anal cells | <i>Leptogomphus.</i> |
| Fore wing with one row of post anal cells | 8 |
| 8. Hind wing, three rows of post anal cells; postnodal cross veins fore wing 14, hind wing 13 | <i>Heliogomphus.</i> |
| Hind wing, two rows of post anal cells; postnodal cross veins fore wing, 9, hind wing 8 | <i>Microgomphus.</i> |
| 9. A_2 rising before the subtriangle or almost so (except <i>Onychogomphus diminutivus</i>) | 10 |
| A_2 rising under the subtriangle | 14 |
| 10. Anal loop wanting | <i>Mesogomphus.</i> |
| Anal loop present | 11 |
| 11. Arculus rising beyond the second antenodal cross vein | <i>Megalogomphus.</i> |
| Arculus rising before the second antenodal cross vein | 12 |
| 12. Two to four cross veins beyond the end of the fore wing triangle between M_{1-3} and M_4 ; base of A_2 in hind wing at ac. | <i>Acrogomphus.</i> |
| A single cross vein beyond the end of fore wing triangle between M_{1-3} and M_4 ; base of A_2 in hind wing well beyond ac | 13 |
| 13. ♂ inferior appendages one third shorter than superiors | <i>Ophiogomphus.</i> |
| ♂ inferior appendages equal or nearly so | <i>Onychogomphus</i> and <i>Lamell-gomphus.</i> |
| 14. Arculus beyond the second antenodal cross vein | 15 |
| Arculus before the second antenodal cross vein | 17 |
| 15. Anal loop wanting; hind wing triangle usually crossed | <i>Davidius.</i> |
| Anal loop present | 16 |
| 16. Anal loop of one cell; hind wing triangle not crossed | <i>Indogomphus.</i> |
| Anal loop of two cells; hind wing triangle crossed | <i>Perissogomphus.</i> |
| 17. Base of hind wing rounded in both sexes | <i>Anormogomphus.</i> |
| Base of hind wing angulated in the male | 18 |
| 18. Hind wing triangle crossed | <i>Davidioides.</i> |
| Hind wing triangle not crossed | 19 |

* Prepared by Mrs. Elsie Broughton Klots, to whom grateful acknowledgment is made of help in the preparation of the entire manuscript.

The characters of *Mesogomphus* and *Stylogomphus*, Lot included in the key, will be found in the verification table.

Indogomphus Fraser, has since been merged with *Merogomphus* Martin.

19. Hind femora long with a few long strong spines	20
Hind femora shorter with no long strong spines	22
20. Cross veins under stigma 4; one row post anal cells in fore wing; fore wing widest beyond the nodus; fore wing triangle with upper side twice as long as inner side	<i>Cyclogomphus.</i>
Cross veins under stigma 3; two rows postanal cells fore wing; fore wing widest at nodus; upper side of triangle not twice as long as inner	21
21. Basal subcostal cross veins present	<i>Temnogomphus.</i>
Basal subcostal cross veins wanting	<i>Anisogomphus.</i>
22. Cross veins under stigma 2; fore wing widest beyond nodus; M ₄ and Cu ₁ parallel to beyond the nodus	<i>Burmogomphus.</i>
Cross veins under stigma three or more; fore wing widest at nodus; M ₄ and Cu ₁ divergent	23
23. Anal triangle of male elongate, reaching the hind angle	<i>Platygomphus.</i>
Anal triangle of male shorter, not reaching hind angle	<i>Gomphus.</i>

VERIFICATION TABLE.

Indian Genera.	1	2	3	4	5	6	7	8	9	
	Bsc. cv.	Arc: an. cv.	Cu-a cos.	Cv. in H. W. T.	Cells in AL	A2: h.	Cv. u. st.	Cv. to Mf.	Post F.W.	anals H.
<i>Acrogomphus</i>	0	1-2	..	0	1-2	before	..	2-4	1-2	3-4
<i>Anisogomphus</i>	var	1	..	0	0-2	under	3	1-3	2	4
<i>Anormogomphus</i>	0	10	var	0	0	under	2	1	1	3
<i>Burmogomphus</i>	0	1-2	0	0	0	under	2	1	1	3-4
<i>Cyclogomphus</i>	x	1-2	0	0	0	under	4	1	1	3-4
<i>Davidius</i>	0	2	0	var	0	under	3	1-2	1	3-5
<i>Davidioides</i>	0	1	0	x	0	under	..	1	1-2	4
<i>Comphidia</i>	0	1	0	x	3-4	before	4	5	2-3	5
<i>Gomphus</i>	var	1	0	0	..	under	..	1-2	1-2	4-5
<i>Heliogomphus</i>	0	1-2	0	0	0	under	5	5	1	3-4
<i>Ictinus</i>	0	1	x	x	3-4	before	6	6-8	2-3	4-6
<i>Indogomphus</i>	var	2	0	0	1	under	2	2	1-2	2-4
<i>Lamellogomphus</i>	0	1	0	0	3	before	5	1	2	4-5
<i>Leptogomphus</i>	var	2	0	0	0-1	under	3-4	3-5	1-2	3-4
<i>Macrogomphus</i>	x	2	x	0	1	under	6	3-5	2	4-5
<i>Megalogomphus</i>	0	1	..	0	2	before	7	1	1-2	5-6
<i>Microgomphus</i>	0	1	0	0	0	under	3	4	1	2-3
<i>Mesogomphus</i>	0	1	0	0	0	before	3	1	2	3-5
<i>Onychogomphus</i>	0	1-2	0	0	2-3	var	4	1	1-2	3-5
<i>Ophiogomphus</i>	0	1-2	0	0	2-5	before	4	1	2	3-5
<i>Perissogomphus</i>	..	2	x	var	2-3	before	4-5	3	2	4-5
<i>Platygomphus</i>	0	1	0	0	1	under	3	1	1	3-4
<i>Sieboldius</i>	x	1-2	x	x	3-4	before	6-7	4-5	2-3	4-5
<i>Stylogomphus</i>	0	1	0	0	..	under	..	1	1	0
<i>Temnogomphus</i>	x	1	0	0	1	under	..	1-2	2	4

The column headings of this table (when not explained in the figures) are as follows:—

2. The arculus is placed beyond the antenodal crossvein numbered.

3. Extra cu-a crossveins in the hind wing; i.e., more than the two (Ac and the one that forms the inner side of the subtriangle) always present.

6. The base of vein A2 in relation to the subtriangle.

7. Number of crossveins under the stigma.

8. Number of crossveins between the triangle and the middle fork (Mf).

9. Number of postanal cell rows parallel with wing axis.

Ictinus (after Fraser).

- | | |
|--|---|
| 1. Face mainly black ; femora largely black | 2 |
| Face mainly yellow ; femora largely yellow | 5 |
| 2. Anteclypeus with a median pale spot ; segment 8 with a pale ring | 3 |
| Anteclypeus with no median pale spot ; segment 8 with no pale ring | <i>pertinax</i> .* |
| 3. Lateral thorax black stripes conjoined in the middle | <i>mordax</i> .* |
| Lateral thorax black stripes separate | 4 |
| 4. Black of the front of the frons fused with the black basal band | <i>praecox</i> .* |
| Black of the front of the frons not fused with the black basal band | <i>rapax</i> . |
| 5. Labrum bordered with black ; lateral expansions of segment 8 unmarked ; back of head black and yellow | <i>angulosus</i> . |
| Labrum not black bordered ; expansions of segment 8 marked with yellow ; back of head black | <i>atrox</i> . |
| <i>I. mordax</i> Selys. Fr. J. Bom. 29 : 663, 1923.
H. W. 42 | Assam ; Malabar. |
| <i>I. praecox</i> Selys. Fr. J. Bom. 29 : 663, 1923.
H. W. 39 | Pondicherry, Himalayas. |
| <i>I. rapax</i> Rambur. Fr. J. Bom. 29 : 661, 1923, fig. w. and g.
H. W. 40-44 | India generally ; Burma ;
Ceylon ; Andaman Is. |
| <i>I. angulosus</i> Selys. Fr. J. Bom. 29 : 665, 1923.
H. W. 43 | Lower Burma. |
| <i>I. atrox</i> Selys. Fr. J. Bom. 29 : 664, 1923.
H. W. 41-44 | Bihar. |

Gomphidia.

- | | |
|---|--|
| 1. Labrum yellow, concolorous | <i>T-nigrum</i> . |
| Labrum largely black and yellow | 2 |
| 2. Median lateral black thoracic stripe unmarked with yellow | <i>williamsoni</i> . |
| Median lateral black thoracic stripe spotted with black | 3 |
| 3. Postclypeus black with lateral yellow spots | <i>abbotti</i> . |
| Postclypeus yellow | 4 |
| 4. Segment 10 black | <i>fletcheri</i> . |
| Segment 10 yellow on the dorsum | <i>kodaguensis</i> . |
| <i>G. T-nigrum</i> Selys. Fr. J. Bom. 29 : 668, 1923, fig. b. and g.
H. W. 38 | Poona ; Northern India ? |
| <i>G. williamsoni</i> Fraser, J. Bom. 29 : 670, 1923, fig. w. b and g.
H. W. 43-45 | Duars, Bengal. |
| <i>G. abbotti</i> Williamson. Fr. J. Bom. 29 : 672, 1923, fig. b. H. W. | Burma. |
| <i>G. fletcheri</i> Fraser, J. Bom. 29 : 669, 1923, fig. w. b. and g.
H. W. 42 | Coorg. |
| <i>G. kodaguensis</i> Fraser, J. Bom. 29 : 671, 1923.
H. W. 42 | Annaimallais ; Malabar ;
Dubarry, Couvery river ;
Coorg. |

Lindenia.

- | | |
|---|--|
| <i>L. tetraphylla</i> Vander Lind. Fr. J. Bom. 29 : 659, 1923.
H. W. 39-40 | Persian Gulf and Mesopotamia ; South Europe.
North Africa, Asia Minor,
Persia. |
|---|--|

* Probably only a variety or local race of *I. rapax*.

Sieboldius.

S. nigricolor Fraser, J. Bom. 31 : 888, 1927, fig. w.
H. W. 54

Southern Shan States,
Burma.

Heliogomphus.

- | | |
|---|--------------------|
| 1. Postclypeus all black | 2 |
| Postclypeus spotted with yellow | <i>ceylonicus.</i> |
| 2. Transverse pale stripe on the crest of frons interrupted | <i>walli.</i> |
| Transverse pale stripe on crest of frons entire | 3 |
| 3. Humeral stripe present as a spot above | <i>neitneri.</i> |
| Humeral stripe wanting | 4 |
| 4. Basal third of segment 7 yellow | <i>promelas.</i> |
| Basal third of segment 7 black | <i>selysi.</i> |

H. ceylonicus Selys. Fr. J. Bom. 30 : 849, 1925.
H. W. 39

Ceylon.

H. walli Fraser, J. Bom. 30 : 849, 1925.
H. W. 36

Nalande, Ceylon.

H. neitneri (Selys.) Fr. J. Bom. 30 : 847, 1925.
H. W. 30

Ceylon.

H. promelas (Selys.) Fr. J. Bom. 30 : 848, 1925, fig. w.
H. W. 32-38

Nilgiris, Coorg, Kanara.

H. selysi Fraser, J. Bom. 30 : 850, 1925.
H. W. 28-30

Leito, Burma.

Macrogomphus.

- | | |
|--|--------------------|
| 1. Fine humeral pale stripe present ; labium yellow | <i>montanus.</i> |
| Humeral pale stripe reduced to a superior spot | 2 |
| 2. Labium all black | 3 |
| Labium with lateral lobes yellow | 4 |
| 3. Fore wing with 19 ante- and 13 postnodals | <i>robustus.</i> |
| Fore wing with 14-15 ante- and 10-12 postnodals | <i>seductus.</i> |
| 4. Humeral spot present ; prothorax with yellow markings | <i>annulatus.</i> |
| Humeral spot wanting ; prothorax all black | <i>wynaadicus.</i> |

M. montanus Selys. Fr. J. Bom. 31 : 738, 1926, fig. b.
H. W. 38-40

Sylhet.

M. robustus Selys. Fr. J. Bom. 31 : 737, 1926, fig. g.
H. W. 42

Tibet.

M. seductus Fraser, Fr. J. Bom. 31 : 737, 1926, fig. w., b.
and g.
H. W. 40-44

Sibsagar, Assam ; Hasi-
mara, Duars, Bengal.

M. annulatus Selys. Fr. J. Bom. 31 : 734, 1926, fig. b: and g.
H. W. 35-38

Deccan bordering on
Western Ghats ; Poona ;
Satara.

M. wynaadicus Fraser, J. Bom. 31 : 736, 1926.
H. W. 45

Malabar and Nilgiri
Wynaad ; Coorg ; West-
ern Ghats.

Leptogomphus.

- | | |
|--|----------------------|
| 1. Second lateral suture with a complete black line | 2 |
| Second lateral suture with black stripe abbreviated
below ; first suture with a complete stripe | <i>gestroi.</i> |
| 2. Humeral stripe absent | <i>bidentatus.</i> |
| Humeral stripe present | 3 |
| 3. First lateral suture with no black stripe ; humeral pale
stripe entire | <i>inclitus.</i> |
| First lateral suture with a short stripe abbreviated below ;
humeral pale stripe interrupted | <i>maculivertex.</i> |

<i>L. gestroi</i> Selys. Fr. J. Bom. 31 : 884, 1927, fig. w and g. H. W. 32-35	Burma.
<i>L. bidentatus</i> Fraser, J. Bom. 34 : 752, 1930.	Shillong, Assam.
<i>L. inclitus</i> Selys. Fr. J. Bom. 31 : 883, 1927. H. W. 32-35	Burma.
<i>L. maculivertex</i> Selys. Fr. J. Bom. 31 : 886, 1927. H. W. 31	Meleteo, Burma.

Microgomphus.

1. Abdominal segments 4 and 5 with basal and median dorsal pale spots	2
Abdominal segments 4 and 5 with basal pale spots only	3
2. Face broadly marked with yellow	<i>torquatus.</i>
Face mainly black	<i>verticalis.</i>
3. Segment 6 with a broad basal band of yellow	4
Segment 6 with a small lateral spot of yellow	<i>burmicus.</i>
4. Antehumeral pale stripe connected with collar	<i>lilliputians.</i>
Antehumeral pale stripe not connected with collar	<i>souteri.</i>
<i>M. torquatus</i> Selys. Fr. J. Bom. 30 : 852, 1925, fig. w., b. and g. H. W. 21-23	Western parts of Deccan, Poona, Satara.
<i>M. verticalis</i> Selys. Fr. J. Bom. 30 : 857, 1925. H. W. 25	"India"
<i>M. burmicus</i> Fraser, J. Bom. 30 : 854, 1925, fig. b. and g. H. W. 28	Maymyo, Northern Shan States, Burma.
<i>M. lilliputians</i> Fraser, J. Bom. 30 : 855, 1925, fig. b. H. W. 18	Tenasserim, Lower Burma.
<i>M. souteri</i> Fraser, J. Bom. 30 : 853, 1925, fig. b. and g. H. W. 24-25	Malabar ; Coorg South Kanara.

Mesogomphus.

1. Costa black	<i>lindgreni.</i>
Costa yellow	2
2. Sides of thorax yellow with a broad median black band	<i>risi.</i>
Sides of thorax yellow with a fine black line on each of the two sutures	3
3. Occiput yellow ; face yellow	<i>lineatus.</i>
Occiput black ; face with two transverse black lines	<i>grammicus.</i>
<i>M. lindgreni</i> Fraser, J. Bom. 29 : 995, 1923, fig. b. H. W. 29	Turzum, Darjeeling District.
<i>M. risi</i> Fraser, J. Bom. 29 : 996, 1923, fig. b. H. W. 26	Burma ; Kalaw, Southern Shan States.
<i>M. lineatus</i> Selys. Fr. J. Bom. 29 : 991, 1923, fig. b. and g. H. W. 27	Throughout India.
<i>M. grammicus</i> Rambur. Fr. J. Bom. 29 : 994, 1923. H. W. 30	Agra ; Pusa.

Megalogomphus.*

1. Thorax pale with black markings ; no yellow mesothoracic collar	<i>flavicolor.</i>
Thorax black with pale markings ; with a yellow mesothoracic collar	2
2. Segments 8 and 9 all black	<i>bicornutus.</i>
Segments 8 and 9 with some pale markings	3

* This name proposed by Campion (Ann. Mag. Nat. Hist. (9) 12 : 668, 1923) is used instead of *Heterogomphus*, preoccupied in Coleoptera.

- | | |
|---|-------------------------------|
| 3. Abdomen with yellow and reddish brown markings | <i>superbus</i> . |
| Abdomen with yellow markings only | 4 |
| 4. Abdominal segments 3 to 6 with broad yellow markings | <i>smithii</i> . |
| Abdominal segments 3 to 6 with very narrow yellow markings | 5 |
| 5. Small species with hindwing only 41mm. long | <i>ceylonicus</i> . |
| Large species with hindwing 48mm. long | <i>hannyingtoni</i> . |
| <i>M. flavicolor</i> Fraser, J. Bom. 29 : 678, 1923, fig. b. | |
| H. W. 51 | Bihar. |
| <i>M. bicornutus</i> Fraser, J. Bom. 29 : 679, 1923. | |
| H. W. 40 | Shillong. |
| <i>M. hannyingtoni</i> Fraser, J. Bom. 29 : 674, 1923. | |
| H. W. 42 | Coorg and Malabar,
Wynaad. |
| <i>M. ceylonicus</i> Laidlaw. Fr. J. Bom. 29 : 676, 1923, fig. b. | |
| H. W. 41 | Ceylon. |
| <i>M. smithii</i> Selys. Fr. J. Bom. 29 ; 677, fig. b. | |
| H. W. 45 | Sylhet. |
| <i>M. superbis</i> Fraser, R. I. M. 33 : 460, 1931. | |
| H. W. 45 | Bolovumpatti, S. India. |

Stylogomphus.

- | | |
|---|--------------------------------------|
| <i>S. inglisi</i> Fraser, J. Bom. 30 : 397, 1925, fig. b. | |
| H. W. 21 | Tista River, Darjeeling
District. |

Ophiogomphus.

- | | |
|--|----------|
| <i>O. reductus</i> Calvert. Fr. J. Bom. 30 : 399, 1925, fig. w. and b. | |
| H. W. 33-37 | Kashmir. |

Acrogomphus.

- | | |
|--|---|
| <i>A. fraseri</i> Laidlaw. Fr. J. Bom. 31 : 740, 1926, fig. w and g. | |
| H. W. 38-40 | Mudis Hills ; Travancore ;
Coorg, 3000 feet. |

Onychogomphus.

- | | |
|--|----------------------|
| 1. Antehumeral pale stripe connected with collar | 2 |
| Antehumeral pale stripe not connected with collar | 12 |
| 2. Labrum yellow | <i>pulcherrima</i> . |
| Labrum black | <i>maclachlani</i> . |
| Labrum yellow with black markings | 3 |
| 3. Segment 10 all black (sometimes a very narrow basal ring of yellow) | 4 |
| Segment 10 partly yellow | 11 |
| 4. Superior appendages all pale | 5 |
| Superior appendages black tipped | 9 |
| 5. Pale mesothoracic collar entire | <i>earnshawi</i> . |
| Pale mesothoracic collar interrupted on the mid line | 6 |
| 6. Black bands present on both lateral sutures of thorax | 7 |
| Black bands present on second suture only | <i>aureus</i> . |
| 7. Segments 5 and 6 with basal and median dorsal spots | <i>bistrigatus</i> . |
| Segments 5 and 6 with basal dorsal spots only | 8 |
| 8. Two lateral black bands of thorax fused | <i>annularis</i> . |
| Two lateral black bands of thorax separate | <i>diminutivus</i> . |
| 9. Humeral pale stripe wanting ; first and second femora only with pale markings | <i>walli</i> . |
| Humeral pale stripe present | 10 |
| 10. Humeral pale stripe entire ; segment 6 with only a basal pale spot ; pale markings on all three femora | <i>saundersi</i> . |
| Humeral pale stripe interrupted ; segment 6 with both basal and median dorsal spots ; pale markings on third femora only | <i>duaricus</i> . |

11. Segment 10 pale basally ; 4 to 6 with a basal pale spot
 Segment 10 pale apically ; 4 to 6 with basal ring and median dorsal line
M-flavum.
12. Labrum yellow
 Labrum not yellow
dingavani.
13. Labrum black
 Labrum not black
frontalis.
14. Segments 4 and 5 with basal and median dorsal pale spots
 Segments 4 and 5 with basal pale spots only
 13
Onychogomphus sp.
 14
15. Segment 9 with a lateral pale spot
 Segment 9 all black
 15
 16
striatus.
circularis.
16. Segments 8 and 9 all black
 Segments 8 and 9 with dorsal pale markings
modestus.
echinoccipitalis.
- O. maclachlani* Selys. Fr. J. Bom. 30 : 114, 1924, fig. b.
 H. W. 38
 Upper Burma.
- O. earnshawi* Williamson. Fr. J. Bom. 30 ; 113, 1924.
 H. W. 33
 Toungoo, Burma.
- O. aureus* Laidlaw. Fr. J. Bom. 30 : 111, 1924, fig. g. ;
 p. 404, fig. b.
 H. W. 30-31
 Duars, Bengal ; Garo Hills, Tura, Assam.
- O. bistrigatus* Selys. Fr. J. Bom. 29 : 999, 1924, fig. b.
 H. W. 31-34
 Assam ; Kumaon, North east Himalayas.
- O. annularis* Selys. Fr. J. Bom. 30 : 110, 1924, fig. b.
 H. W. 32
 Upper Burma.
- O. diminutivus* Fraser, J. Bom. 30 : 109, 1924, fig. b. and g.
 H. W. 23
 Darjeeling District.
- O. walli* Fraser, J. Bom. 30 : 109, 1924.
 H. W. 23
 Maymo, Upper Burma.
- O. saundersi* Selys. Fr. J. Bom. 30 : 106, 1924, fig. w., b. and g.
 H. W. 31
 N. E. India ; Upper Burma.
- O. duaricus*, Fraser, J. Bom. 29 : 1001, 1924, fig. b.
 H. W. 31-33
 Hasimara, Duars, Bengal.
- O. M-flavum* Selys. Fr. J. Bom. 29 : 1003, 1924, fig. b.
 H. W. 30-36
 Assam ; Darjeeling District.
- O. dingavani* Fraser, J. Bom. 29 : 1005, 1924, fig. b. and g.
 H. W. 28
 Kalaw, South. Shan States.
- O. frontalis* Selys. Fr. J. Bom. 30 : 114, 1924, fig. b.
 H. W. 25
 Moolai, Burma.
- O. sp.* (ex Garo) Laidlaw. Fr. J. Bom. 30 : 116, 1924.
 H. W. 35
 Garo Hills, Assam.
- O. striatus* Fraser, J. Bom. 29 : 1001, 1924.
 H. W. 28
 Kallar, Nilgiris.
- O. circularis* Selys. Fr. J. Bom. 30 : 115, 1924, fig. b.
 H. W. 32-38
 Upper Burma.
- O. modestus* Selys. Fr. J. Bom. 30 : 107, 1924.
 H. W. 24-25
 Bengal.
- O. echinoccipitalis* Fraser, J. Bom. 30 : 117, 1924.
 H. W. 35
 Shillong-Gauhati Road, Assam.
- Lamellogomphus.**
1. Segments 9 and 10 with pale markings
 Segments 9 and 10 unmarked, all black
drummondi.
 2
2. Legs all black
 Legs with some yellow
nilgiriensis.
 3
3. Segment 8 all black ; third femora only marked with yellow
 Segment 8 with pale markings
inglis.
 4

4. Legs black, first femora with pale stripe; humeral pale stripe wanting *acinaces*.
 Legs black, second and third femora with pale stripe; humeral pale stripe present *biforceps*.
 Legs mottled with yellow and black; humeral stripe wanting *malabarensis*.
- L. drummondi* Fraser, J. Bom. 29 : 985, 1923, fig. b. H. W. 40 Southern Shan States.
- L. nilgiriensis* Fraser, J. Bom. 29 : 986, 1923, fig. b. H. W. 30-33 Annaimallai Hills; Coorg; South Kanara; Travancore.
- L. inglisi* Fraser, J. Bom. 29 : 984, 1923, fig. b and g. H. W. 36 Mangpu, Darjeeling District.
- L. acinaces* Ldl, Fr. J. Bom. 29 : 988, 1923, fig. b and w. H. W. 30 Malabar; Coorg; North and South Kanara.
- L. biforceps* Selys. Fr. J. Bom. 29 : 983, 1923, fig. b. H. W. 32 Darjeeling.
- L. malabarensis* Fraser, J. Bom. 29 : 990, 1923, fig. b. H. W. 35 Palghat, Malabar.

Indogomphus.

1. Face and labrum black 2
 Face and labrum spotted with yellow *cerastes*.
2. Segments 8 and 9 all black; antehumeral pale stripe connected with collar; hind wing 26-29mm. *martini*.
 Segments 8 and 9 with middorsal carina yellow; antehumeral pale stripe not connected with collar; hind wing 35-37 *longistigma*.
- I. cerastes* Selys. Fr. J. Bom. 30 : 404, 1925, fig. b. H. W. 32-37 Nepal and North India.
- I. martini* Fraser, J. Bom. 30 : 403, 1925, fig. b. H. W. 26-29 Duars, Bengal.
- I. longistigma* Fraser, J. Bom. 30 : 402, 1925, fig. w and b. H. W. 35-37 Nilgiri Wynaad, Coorg; Western Ghats.

Davidius.

1. Middorsum of thorax broadly pale 7
 Dorsum of thorax black with only antehumeral stripes pale 2
2. Labrum and face mainly yellow 3
 Labrum and face mainly black 4
3. Labrum with a basal black band; occiput black; no black band on first lateral suture of the thorax *zalorensis*.
 Labrum all yellow; occiput yellow; black band on lower part of first lateral suture of thorax *malleryi*.
4. Anteclypeus and frons yellow *delineatus*.
 Anteclypeus and frons black 5
5. Humeral pale stripe represented by a superior spot 6
 Humeral pale stripe wanting *assamensis*.
6. Hind wing ♀ 32mm. *davidi*.
 Hind wing ♀ 22mm. *kumaonensis*.
7. Face pale *aberrans*.
 Face black *senchalensis*.
- D. zalorensis* Selys. Fr. J. Bom. 31 : 165, 1926, fig. b. H. W. 27 "Colony of Zalore" (?) Himalayas.
- D. malleryi* Fraser, J. Bom. 31 : 167, 1926, fig. b. and g. H. W. 21-24 Assam.

- D. delineatus* Fraser, J. Bom. 31 : 166, 1926, fig. w., b. and g.
H. W. 25-27 Gangtok, Darjeeling District.
- D. davidi* Selys. Fr J. Bom. 31 : 166, 1926, fig. b.
H. W. 32 Tibet.
- D. kumaonensis* Fraser, J. Bom. 31 : 170, 1926, fig. b.
H. W. 22 Kumaon.
- D. assamensis* Laidlaw. Fr. J. Bom. 31 : 167, 1926, fig. b and g.
H. W. Assam ; Gopaldhara ; Sikkim.
- D. aberrans* Selys. Fr. J. Bom. 31 : 169, 1926, fig. b and g.
H. W. 25-27 North India ; Kumaon, Assam, 7000 feet.
- D. senchulensis* Fraser, J. Bom. 31 : 170, 1926.
H. W. 27 Senchal, Darjeeling District.

Perissogomphus.

- P. stevensi* Laidlaw. Fr. J. Bom. 31 : 742, 1926, fig. w.
H. W. 33-34 Gopaldhara, Assam ; Pashoke, and Mounpu, Darjeeling District.

Anormogomphus.

1. Segments 7-10 unmarked ; thorax unmarked *kiritschenkoi*.
Segments 7-10 with brown markings ; thorax marked with brown *heteropterus*.
- A. kiritschenkio* Bartenef. Fr. J. Bom. 31, 746, 1926, fig. w.
H. W. 24-27 Persia along the Gulf ; Mekran coast and Sind.
- A. heteropterus* Selys. Fr. J. Bom. 31 : 745, 1926, fig. w.
H. W. 22-25 Lahore ; Bihar ; Bagh-wonie, Bengal.

Platygomphus.

1. Face dull yellow, unmarked ; vertex black *fae*.
Face bright yellow marked with black ; vertex black with a large round yellow spot behind the ocelli *dolobratus*.
- P. fae* Selys. Fr. J. Bom. 31 : 417, 1926, fig. b.
H. W. 30-31 Bhamo, Burma.
- P. dolobratus* Selys. Fr. J. Bom. 31 : 416, 1926, fig. w., b. and g.
H. W. 30-33 Bihar and Bengal.

Temnogomphus.

- T. bivittatus* Selys. Fr. J. Bom. 31 : 425, 1926, fig. g.
H. W. 33 North Bengal ; Sikkim ; Darjeeling ; Assam ; Kumaon.

Anisogomphus.

1. Segments 4 to 6 with pale middorsal line and basal pale spots *caudalis*.
Segments 4 to 6 with pale middorsal line only 2
2. Antehumeral pale line connected with mesothoracic collar at its middle ; superior humeral spot connected with antehumeral line *occipitalis*.
Antehumeral pale line connected to end of mesothoracic collar ; humeral spot not connected with antehumeral line *orites*.

- A. caudalis* Fraser, J. Bom. 31 : 423, 1926, fig. g and b.
H. W. 30 Assam.
- A. occipitalis* Selys. Fr. J. Bom. 31 : 421, 1926, fig. w., b.
and g.
H. W. 30-32 Northern Bengal; Assam.
- A. orites* Laidlaw. Fr. J. Bom. 31 : 422, 1926; fig. b.
H. W. 30-32 Northern Bengal; Assam;
Sikkim.

Davidioides.

- D. martini* Fraser, J. Bom. 31 : 419, 1926, fig. g and b.
H. W. 33 Western Ghats.

Gomphus.

1. Humeral pale stripe wanting *nilgiricus.*
Humeral pale stripe or superior spot present 2
2. First and second lateral thoracic stripes separate;
collar broadly interrupted *personatus.*
First and second lateral thoracic stripes fused, leaving
spots between; collar finely or not at all interrupted *o'doneli.*
- G. nilgiricus* Laidlaw. Fr. J. Bom. 30 : 660, 1925, fig. b.
H. W. 35-40 Coorg; Mudis Hills; Met-
tapalayam and Gudalur
Ghats, Nilgiris.
- G. personatus* Selys. Fr. J. Bom. 30 : 658, 1925, fig. w.
and b.
H. W. 37-39 Khasia Hills, Assam;
Maymyo, Upper Burma;
Toungoo and Karen
districts, Burma.
- G. o'doneli* Fraser, J. Bom. 30 : 662, 1925, fig. b.
H. W. 30-32 Duars, Bengal.

Burmagomphus.

1. Lower part of the antehumeral pale stripe connected to
the upper end of the abbreviated humeral to form a
sinuate pale stripe. 2
Antehumeral and humeral pale stripes not connected 5
2. Postclypeus black with lateral pale spots next the eyes 3
Postclypeus all black. *hasimanicus.*
3. Occiput yellow *siamensis.*
Occiput black 4
4. Labium yellow; antenodals of the fore wing 10, of the
hind wing 8 *williamsoni.*
Labium black bordered; antenodals of the fore wing
12-14, of the hind wing 9 *pyramidalis.*
5. Humeral and antehumeral pale stripes joined above to
form a large V *V-flavum.*
Humeral and antehumeral pale stripes not joined above 6
6. Humeral pale stripe complete *sivalikensis.*
Humeral pale stripe interrupted to form a spot above
and a streak below 7
7. Black stripe on first lateral suture of thorax complete *laidlawi.*
Black stripe on first lateral suture incomplete above *cauvericus.*
- B. pyramidalis* Laidlaw. Fr. J. Bom. 31 : 409, 1926,
fig. w., b. and g.
H. W. 23-27 Southwest of Deccan to
Malabar, Coorg, Nilgiris,
Kanara, and Poona.
- B. hasimanicus* Fraser, J. Bom. 31 : 411, 1926, fig. g.
H. W. 27 Hasimara, Duars, Bengal.
- B. siamensis* Fraser, J. Bom. 31 : 411, 1926, fig. b.
H. W. 24 Bangkok, Siam.

- B. williamsoni* Williamson. Fr. J. Bom. 31 : 410, 1926,
fig.
H. W. 23 Burma.
- B. V-flavum* Fraser, J. Bom. 31 : 414, 1926, fig. b.
H. W. 30 Maymyo, N. Shan States,
Burma.
- B. sivalikensis* Laidlaw. Fr. J. Bom. 31 : 414, 1926, fig. b.
and g.
H. W. 25 Dehra Dun and Hasimara,
Duars, Bengal.
- B. laidlawi* Fraser, J. Bom. 31 : 412, 1926, fig. b. and g.
H. W. 27-29 Western Ghats ; Coorg and
S. Kanara.
- B. cauvericus* Fraser, J. Bom. 31 : 413, 1926, fig. b and g.
H. W. 28 Coorg.

Subfamily CORDULEGASTERINAE.

A key to the Genera.

1. Median basal space with cross veins *Orogomphus*.
Median basal space without cross veins 2
2. Head very wide ; stigma short ; frons lower than the
occiput *Cordulegaster*.
Head globose ; stigma lone ; frons as high as the occiput *Anotogaster*.
Head with frons enormous, almost as wide as eyes ; stigma
long *Allogaster*.

Orogomphus.

This key is abstracted from one by Fraser, Mem. Ind. Mus. 9 : 142-143, 1929.

1. Eyes well separated, especially in the female 2
Eyes almost meeting in both sexes 3
2. Hind wing of female evenly tinted with golden brown ;
anal loop of about 22 cells *xanthoptera*.
Hind wing of female with only costal and basal areas
tinted ; anal loop of 16-17 cells *campioni*.
3. Thorax with four pale stripes each side 4
Thorax with six pale stripes each side 5
4. Face pale dull brown without yellow markings *atkinsoni*.
Face black, brightly marked with citron yellow *selysi*.
5. Labrum all yellow ; median basal space with a single cross
vein *preciosus*.
Labrum black, with two yellow spots ; median basal
space with two cross veins *speciosus*.
- O. xanthoptera* Fraser, J. Bom. 26 : 874, 1919, fig. w. ;
J. Bom. 29 : 46, 1923 ; Mem. Ind. Mus. 9 : 148, 1929.
H. W. ♀ 56 Manar, Travancore ; Palni
Hills, Madura district ;
Tinevelly.
- O. campioni* Fraser, R. I. M. 26 : 462, 1924 ; Mem. Ind.
Mus. 9 : 149, 1929, fig. g. and w.
H. W. 45 Coorg ; W. Ghats, Malabar ;
Nilgiris.
- O. atkinsoni* Selys. Fr. J. Bom. 29 : 44, 1923, fig. w. and g. ;
Mem. Ind. Mus. 9 : 160, 1929, fig. w. and g.
H. W. 41, ♀ 45 Bengal ; Assam ; Sikkim.
- O. selysi* Fraser, Mem. Ind. Mus. 9 : 158, 1929, fig. g.
H. W. 40 Mounghpu, Sikkim.
- O. preciosus* Fraser, Mem. Dept. Agr. India 8 : 75, 1924
Mem. Ind. Mus. 9 : 154, 1929, fig. g.
H. W. 41 Mounghpu, Sikkim.
- O. speciosus* Selys. Fr. J. Bom. 29 : 46, 1923, fig. g. ;
Mem. Ind. Mus. 9 : 153, 1929.
H. W. 40, ♀ 46 Bengal ; Burma.

Cordulegaster.

C. brevisitigma Selys. Fr. J. Bom. 29 : 40, 1923, fig. w.,
g., h. and b. ; Mem. Ind., Mus. 9 : 117, 1929, fig. g.*
H. W. 42

Mashobra Hill and Simla,
Simla Hill States ; Dar-
jeeling District.

Anotogaster.

This key from Fraser, Mem. Ind. Mus. 9 : 85-86, 1929.

1. Very large species, hind wing 50-55
Smaller species, hind wing 42-46
 2. Venation entirely black
Costa bright yellow
 3. Frons bordered with black below, and for the basal half
above
Frons unmarked with black in front and only narrowly
above at base
- A. gigantea* Fraser, Mem. Ind. Mus. 9 : 94, 1929, fig. g.
H. W. 49
- A. nipalensis* Selys. Fr. J. Bom. 29 : 39, 1923, fig. g. and
b. ; Mem. Ind. Mus. 9 : 89, 1929.
H. W. ♂44, ♀48-50
- A. basalis* Selys. Fr. J. Bom. 29 : 39, 1923 ; Mem. Ind. Mus.
9 : 86, 1929, fig. g.
H. W. ♂44, ♀48-51.
- A. palampurensis* Fraser, Mem. Ind. Mus. 9 : 88, 1929.
H. W. 43
Regarded as a variety of the preceding species.

gigantica.

2

nipalensis.

3

basalis.

palampurensis.

Kalaw, S. Shan States.

Nepal, Darjeeling District,
Gopaldhara, Assam.

Palampur, Sikkim.

Allogaster.

This key from Fraser, Mem. Ind. Mus. 9 : 78, 1929.

1. Four yellow spots on dorsum of abdominal segment 2 .
A single saddle-shaped spot and a pair of apical lunules
on the dorsum of segment 2
 2. Hind wing 40 ; abdominal segments 9 and 10 marked
with yellow
Hind wing 35 ; segments 9 and 10 wholly black
- A. latifrons* Selys. Fr. J. Bom. 29 : 37, 1923, fig. ♀ w. and b. ;
R. I. M. 29 : 77, 1927 ; Mem. Ind. Mus. 9 : 78, 1929,
fig. w and g.
H. W. 40
- A. parvistigma* (Selys). Fr. J. Bom. 29 : 42, 1923 ; Mem.
Ind. Mus. 9 : 81, 1929.
H. W. 40
- A. hermionae* Fraser, R. I. M. 29 : 76, 1927 ; Mem. Ind.
Mus. 9 : 79, 1929, fig. g.
H. W. 35

latifrons.

2

parvistigma.

hermionae.

Nathui La ; Bengal.

Baghi, Simla Hill States.

Darjeeling.

Family EPIOPHLEBIDAE.

This remarkable group (usually ranked as a suborder of Odonata, but not so regarded by me) is represented in India by a single genus and species, that is known only in the larval stage.

Epiophlebia.

E. laidlawi Tillyard, R. I. M. 22 : 95, 1921, pl. 13.
Length of larva 20mm.

Darjeeling at 7000 ft.
elevation.

* In this paper Fraser describes (on p. 120) a new subspecies *C. brevisitigma folia* which is larger in size (H. W. 42mm) and has the yellow spots on the abdomen twice as large as in the typical form. It comes from Naini Tal, Kumaon, W. Himalayas. He also removes *C. bidentatus* from his list of Indian species.