

are no intrinsic muscles, and the bronchidesmus is complete as in other Storks.

In no other Stork that I have had the opportunity of examining does the syrinx depart from the type of structure characteristic of the *Ciconiæ* as in the two above-mentioned genera.

Prof. Garrod has already mentioned that *Abdimia* and *Xenorhynchus* also approach the Herons in the absence of the ambiens muscle; I have been able to confirm Garrod's statement that this muscle is absent in *Abdimia* by the dissection of two specimens.

2. On a small Collection of Dragonflies from Murree and Campbellpore (N.W. India), received from Major J. W. Yerbury, R.A. By W. F. KIRBY, Assistant in Zoological Department, British Museum.

[Received May 17, 1886.]

(Plate XXXIII.)

In a collection of insects recently received by the British Museum from Major Yerbury, which he had formed at Murree, Campbellpore, and other neighbouring localities in N.W. India, between the months of August and November 1885, were a considerable number of Dragonflies in good preservation. They were numbered from 1 to 15; but a few were not ticketed. In some cases more than one species bore the same number, while in others the sexes of a species bore different numbers. Allowing for this, the actual number of species exemplified in the collection proved to be 19, four of which appear to be new to science. Among these 19 species, the most interesting are, first, the European *Sympetrum fonscolombei*, De Selys, which has not been previously recorded from India, so far as I know; and, secondly, a new species of *Micromerus* resembling the common *M. lineatus*, Burm., but really forming a new section in the genus.

LIBELLULIDÆ.

LIBELLULINÆ.

1. *PANTALA FLAVESCENS*, Fabr.

(No number or locality.)

2. *PALPOPLEURA SEXMACULATA*, Fabr. (no. 11).

Hassan Abdal and Campbellpore, Oct. 14 and Nov. 14, 1885 (♂ ♀).

3. *LEPTHEMIS SABINA*, Dru. (no. 8).

Hassan Abdal and Campbellpore, Oct. 14 and 28, 1885.

Two males. One bears a memorandum, "lavender abdomen"; but there is now no gloss over the black ground-colour.

4. *SYMPETRUM FONSCOLOMBEI*, De Selys (no. 1).

Murree, over water, Sept. 5 (♂).

Undistinguishable from European examples. Major Yerbury remarks, "♂ (?) dull crimson; ♀ (?) yellowish"; but the only ♀ specimens of *Sympetrum* in the collection are unlabelled, and appear to belong to an undescribed species.

5. *SYMPETRUM SUBPRUINOSUM*, sp. n. (Plate XXXIII. fig. 7.)

Exp. al. 60–62 millim.; long. corp. 20–21 millim.

Face olive-green, shading into dull orange above; underparts varied with yellow; occiput with black and yellow markings, nearly as in *S. fonscolombi*; thorax dull olive-green above, and black (more or less pruinose) below; pleuræ with two wide bright yellow bands, beneath the front band is a round yellow spot, beneath the second one or two, and behind, on each side of the median line, two more subtriangular yellow spots, coalescing in one specimen. Abdomen black beneath and at the sides, and yellowish tawny above; the first six or seven segments are marked behind with a series of black lines, gradually coalescing with the more extended black markings on the hinder segments; below these the markings on the first three segments are paler yellow, and there is sometimes an additional yellow spot on each side on the under surface of the first segment; the median crest is also narrowly black, expanding into spots on the two penultimate segments; upper appendages black, rather pointed; lower appendage convex, hairy. Legs black; tibiæ sometimes lined with yellow. Wings with black reticulation, very slightly yellow at the base; membranule white; 7 antecubital and 6 post-cubital nervures on the fore wings; pterostigma reddish brown, between black nervures, 3 millim. in length.

Three females, without locality or date of capture.

The black neurulation, unusually dark legs, and the pattern of the thorax are quite sufficient to separate this species at a glance from *S. fonscolombi*, De Selys, and *striolata*, Charp.

6. *ORTHETRUM HYALINUM*, sp. n. (nos. 6, 7). (Plate XXXIII. figs. 5, 6.)

Exp. al. 55 millim.; long. corp. 33–35 millim.

Male. Head pale straw-yellow, shading into greenish above; occiput yellow, with three black spots on each side; thorax and abdomen pulverulent blue, with a yellow spot at base of abdomen; in less adult specimens the thorax is marked nearly as in the female (*vide infra*), but darker; legs striped with black, yellow, and reddish; wings clear hyaline beyond the basal membranes; membranule long and narrow, white edged with black; 11–12 antecubital and 8 post-cubital nervures; pterostigma narrowly yellow, bordered by black nervures; upper appendages moderate, smooth, curving downwards, and recurved and pointed at the tip; lower appendage curved upwards, about two thirds as long as the others; appendages of the second segment prominent, hairy, with the anterior lobe sloping backwards.

Female. Head yellow, the upper part greener; occiput obscurely spotted; thorax reddish brown, with two yellow lateral stripes edged externally with black, and two yellow pleural stripes edged in front by the black sutural lines; legs varied with black, yellow, and reddish; between the wings runs a row of yellow markings similar to those found in many female *Libellulinæ*; abdomen dull reddish tawny, with black lateral carinæ and a black dorsal stripe, commencing on the second segment and narrowed at all the sutures. Wings nearly as in the male; one specimen has thirteen antecubital nervures.

Campbellpore, Nov. 14 (♂ ♀); Murree (♀), no date; upper slope of Nian Jani, above Kalabagh, about 9000 ft., Sept. 16 (♀).

Allied to the European *O. cærulescens*, Fabr., and *O. ramburii*, De Selys.

7. *ORTHETRUM TRIANGULARE*, De Selys (nos. 3 and 4).

Murree, Aug. 10 and 16 (♂), Aug. 16 and 18 (♀).

The male much resembles the inky-black *O. carnaticum*, Fabr., which we have from Nepal. The females differ considerably in the intensity of colouring of the thorax and abdomen. As in some allied species, the particoloured eyes are remarkable in both sexes, the upper portion being reddish and the lower parts dark brown.

8. *ORTHETRUM NEGLECTUM*, Ramb. (no. 3).

Hassan Abdal and Campbellpore, Oct. 14 (♂ ♀) and Nov. 14 (♀).

The female is very similar to that of *O. triangulare*, but it is lighter in colour; the wings are clear hyaline (rarely the case in *P. triangulare*); and the pleuræ are uniform yellowish, with a small black ocellus on the mesopleura.

9. *TRITHEMIS AURORA*, Burm. (Plate XXXIII. fig. 3.)

A somewhat undercoloured male, without date or locality.

The species, which I take to be *T. aurora*, has only 10–11 antecubital and 6–8 postcubital nervures on the fore wings, placed rather widely apart. Like the next species it occurs both in India and Ceylon, but seems to be rarer. We have no specimens from the Philippines, the locality given by Burmeister.

10. *TRITHEMIS INTERMEDIA*, Ramb. (no. 13). (Plate XXXIII. fig. 4.)

Hassan Abdal, Oct. 14 (♂).

May be distinguished from *T. aurora* by the more numerous and crowded nervures—14–15 antecubital and 8–9 postcubital; the markings of the thorax beneath resemble those of *T. rubrinervis*, De Selys.

11. *TRITHEMIS FESTIVA*, Ramb. (no. 12).

Hassan Abdal, Oct. 14 (♂); Campbellpore, Nov. 14 (♂).

12. *CROCOTHEMIS RETICULATA*, sp. n. (no. 13). (Plate XXXIII. figs. 8, 9.)

Campbellpore, Nov. 21 (♂).

Exp. al. 5.8 millim.; long. corp. 36 millim.

Head red, lower mouth-parts yellowish; occiput reddish yellow, obscurely spotted; thorax and abdomen ochreous-yellow (perhaps reddish when living); thorax with a hexagonal figure bisected by the median line; and from the three angles on each side, formed by the boundary lines, run similar narrow black lines, which are crossed by the narrow black sutural lines; abdomen with obscure blackish submarginal lines on its hinder portion; appendages moderate, recurved, and rather acutely pointed; legs black and ochreous; wings hyaline, slightly yellow at the base; neuration inclining to reddish; pterostigma rather large, reddish, edged with black lines; 11-12 antecubitals, 10 subcubitals.

Allied to *C. soror*, Ramb. A somewhat similar reticulation is indistinctly visible in some females of *Orthetrum triangulare*.

13. *CROCOTHEMIS SOROR*, Ramb. (nos. 5, 13).

Murree, Aug. 18 (♂ ♀); Campbellpore, Nov. 14 (♂ ♀).

The Indian form of *C. erythræa*, Brullé.

CORDULINÆ.

14. *MACROMIA MOOREI*, De Selys (no. 10). (Plate XXXIII. fig. 2.)

Chittar, Oct. 9 (♂).

This species is remarkably similar to the N.-American *M. cingulata*, Ramb.

ÆSCHNIINÆ.

15. *ANAX IMMACULIFRONS*, Ramb. (no. 10).

Campbellpore, Nov. 21, 1885 (♂).

AGRIONIDÆ.

CALOPTERYGINÆ.

16. *NEUROBASIS CHINENSIS*, Linn. (no. 9).

Hassan Abdal. Taken over running water, Nov. 14, 1885 (♂ ♀).

17. *MICROMERUS OBSCURUS*, sp. n. (no. 14). (Plate XXXIII. fig. 1.)

Hassan Abdal, Nov. 14 (♂).

Exp. al. 36 millim.; long. corp. 19 millim.

Resembles *M. lineatus*, Burm., but will form a new section in the genus, as there is neither pterostigma nor dark apical spot on the fore wings.

Head black, behind much varied with dull yellow; upper part of the eyes marked within with two large pale spots on each side, the

hindermost yellower and more distinct; between the hindermost pair runs a yellow stripe, nearly divided into three; between the front pair runs a series of four spots, of which the middle pair are the smallest and placed most forward; in front of these are two more yellow spots, edged with black; the rest of the head is yellow, except the edges of the nasus; a Y-shaped mark running from between the two last-mentioned pair of yellow spots, and a short stripe running forward from their outer edges; prothorax black in front, with a triangle of three yellow spots in the middle, and yellow at the sides, beneath, and behind; mesothorax black above, with a V-spot and two yellow longitudinal lines; sides yellow, with two black sutural stripes, the upper one divided in front by a brighter yellow spot; abdomen dull reddish brown, the sutures darker, preceded by a yellow median spot, edged in front by two short dark lines; anal appendages rather large, approximating, those of the second segment somewhat less prominent than in *M. lineatus*; legs yellowish, darker above.

Wings hyaline, yellowish towards the base; five antecubital nervures, the first two interstitial on all the wings; hind wings with a yellow rhomboidal pterostigma, surmounting about $2\frac{1}{2}$ cells; the extreme base black.

It is not unlikely that in more brightly coloured or better preserved specimens the back of the abdomen may be marked with yellow, nearly as in *M. lineatus*.

AGRIONINÆ.

18. MEGALESTES MAJOR, De Selys (no. 2).

♂. Captured at Murree, over water, Aug. 7, 1885.

♀. At Kali Pani, Sept. 22, 1885.

19. ISCHNURA SENEGALENSIS, Ramb. (no. 15).

Hassan Abdal and Campbellpore, Oct. 14.

EXPLANATION OF PLATE XXXIII.

Fig. 1. *Micromerus obscurus*, sp. n., p. 328.

2. *Macromia moorei*, De Selys, p. 328.

3. *Trithemis aurora*, Burm., var., p. 327.

4. — *intermedia*, Ramb., p. 327.

5. *Orthetrum hyalinum*, sp. n., p. 326.

6. — —, ♀.

7. *Sympetrum subpruinatum*, sp. n., p. 326.

8. *Crocothemis reticulata*, sp. n., p. 328.

9. — —, side view.



Kirby, W. F. 1886. "On a small collection of dragonflies from Murree and Campbellpore (N. W. India), received from Major J. W. Yerbury, R. A." *Proceedings of the Zoological Society of London* 1886, 325–329.

View This Item Online: <https://www.biodiversitylibrary.org/item/96836>

Permalink: <https://www.biodiversitylibrary.org/partpdf/69481>

Holding Institution

Natural History Museum Library, London

Sponsored by

Natural History Museum Library, London

Copyright & Reuse

Copyright Status: Public domain. The BHL considers that this work is no longer under copyright protection.

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at <https://www.biodiversitylibrary.org>.