

VII NOTES ON INDIAN DRAGONFLIES

By MAJOR F. C. FRASER, I.M.S.

I. A DESCRIPTION OF THE DIMORPHIC FEMALES OF *RHODISCHNURA NURSEI*, MORTON.

Rhodischnura nursei, Morton.

Ischnura nursei, Morton, *Trans. Ent. Soc. Lond.*, 1907, pp. 306-307, pl. xxiv, figs. 4, 5, 6.

Dr. Laidlaw in *Rec. Ind. Mus.*, Vol. XVI (1919), has described a female of *Rhodischnura nursei*, Morton, which differs entirely from those which I have seen myself and which may therefore be dimorphic forms.

Dr. Laidlaw's female is of the normal type with enclosed humeral bands, whilst the new females are firstly one of the normal type with unenclosed bands, and secondly an andromorph and a heteromorph.

(i) Normal type with unenclosed humeral bands.

Head.—Labrum pale green with the base finely black; postclypeus bronzed black; frons pale green to just beyond the level of the origin of the antennae. Vertex black bronze, no postocular spots present.

Prothorax black with a narrow collar anteriorly and the sides low down, pale green.

Thorax pale green with a broad, dorsal, black bronze fascia. No humeral bands but the sides of the thorax at this level with a reddish brown tinge which fades imperceptibly into the pale green.

Legs pale greenish yellow with black stripes on the extensor surfaces of the femora.

Abdomen pale greenish yellow, deepening to a brighter yellow on the dorsum. Each segment with a very broad, dorsal, black bronzed stripe with the exception of the first where the band is a warm brown. On the 10th the band does not reach the apical end of the segment and there are pale green, apical rings to the 8th and 9th.

Length of abdomen 16 mm., of the hind-wing 13 mm.

Two specimens taken *in cop* at the Sewage Farm, Karachi, Sind, 18-9-19.

(ii) Andromorph form.

Almost exactly similar to the male, differing in the following particulars:—The black band crossing the vertex is narrower and therefore displays a postocular space coloured yellow. The black tends to encroach on this to partly enclose a spot externally, which is ochreous in colour.

The black on the dorsum of thorax external to the humeral bands is incomplete posteriorly where it changes to ochreous.

The black on the abdomen is more diffuse and is set in a background of reddish orange. Lastly, the stigma has not the reddish tinge.

One specimen taken by Dr. N. Annandale on Barkuda Island, Chilka Lake, Ganjam District, Madras Presidency, among herbage, 20-8-1919.

(iii) Heteromorph form.

Very similar to the foregoing from which it differs in the following particulars:—The postocular space is bright ochreous, the eyes are greenish, the humeral bands are unenclosed but as the sides of the thorax are ochreous, the yellow of the humeral bands is well displayed. The abdomen of the same ground colouring as in the male but the black marks differing considerably. The black marking on the first segment in the form of a V with its apex at the base of the segment, that on the 2nd segment, wedge-shaped with its broadest part at the base of the segment; the bands on the last four segments narrow, incomplete basally on the 7th and 8th and apically on the 9th and 10th, the sides of these four segments being reddish. A very fine, black, mid-dorsal line runs from the 2nd to the 6th segment and this is crossed on each segment, near the apex, by another fine, black line, the points of intersection defined as tiny, black spots, largest on the 6th segment.

This last form is of interest in that it closely resembles *Ischnura rufostigma*, Selys, and thus forms a connecting link between the genus and the true *Ischnuras*. Were it not for the great disparity in the size of this single specimen, it might easily be taken to belong to the above-mentioned species.

The specimen mentioned by Dr. Laidlaw as taken by Dr. N. Annandale on the Cooum River, Madras, is, I believe, a female of *Agriocnemis pygmaea*, dimorphism in this species being almost infinite. I have collected in the neighbourhood mentioned almost continuously for four years and have never once come across *R. nursei*, which I believe to be a purely Northern species. I have seen a painting of a male specimen taken at Pusa by Mr. T. Bainbrigge Fletcher, 26-3-19, and another specimen from Nagpur, so that the distribution, as at present known, stretches as a belt across Northern India, from Karachi to the Chilka Lake, *via* Nagpur, Deesa, Pusa, Agra, and Dehra Dun.

II. DESCRIPTION OF A NEW INDIAN ODONATE.

Enallagma insula, sp. nov.

I ♀ Barkuda Island, Chilka Lake, Ganjam District, Madras Presidency, 5-10-19. Coll. N. Annandale.

Head.—Labrum whitish green, the base finely black; frons and clypeus a whitish green, with a black streak across the anteclypeus; a broad, black streak across the vertex; the postocular

and included spaces pale blue. A small, black projection into this latter, almost enclosing a blue spot.

Prothorax black with a narrow, anterior collar and two fine, mesial points blue. The free border of the posterior lobe finely blue.

Thorax black on the dorsum, blue at the sides. A narrow, blue humeral line on both sides.

Legs whitish, the distal ends of the femora black.

Abdomen greenish blue, the last three segments sky blue. Marked on the dorsum with black as follows:—A subquadrate spot on the 1st segment connected to a black apical ring, broad streaks on all segments from 2 to 8 which are incomplete basally and connected apically with black annules. The streaks dilated near the apical end on segments 2 to 6. Two small, tongue-like spots at the base of the 9th segment which are situated subdorsally and extend for about half the length of the segment. The 10th segment immaculate. A spine on the ventral surface of the 8th segment.

Wings.—Petiolation ceases before the level of *Ac*; *arc* at the 2nd antenodal nervure; postnodals 10 in the forewing, 9 in the hind.

Length of hind-wing 17 mm., of abdomen 24 mm.
