

XXXI DESCRIPTIONS OF FOUR NEW
INDIAN ODONATA

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All four of the new species belong to the subfamily Agrioninae, two belonging to the tribe Argiini and two to the tribe Agrionini. Species of the former tribe are easily distinguished from the latter by the relatively shorter petiolation of the wings.

Genus *Argiocnemis*.

Argiocnemis gravelyi, sp. nov.

i ♀, Saugor, Central Provinces, India, 19—30-3-19. (*F. H. Gravely*), 1326/H2.
Female.

Head.—Eyes olive green above, greenish yellow beneath; labium and clypeus flesh coloured, the former with a small, triangular, black mark at its base and the latter with three black spots about its middle; remainder of head black, with no markings.

Prothorax black, with a sky-blue collar anteriorly and two similar coloured spots on each side, the anterior of which is much the largest.

Thorax black on the dorsum; a broad, humeral, black line, enclosing between it and the black of the dorsum, a greenish fascia, which is itself traversed by an irregular, black line, incomplete anteriorly. Below the humeral line, the sides pale sky-blue with a minute dot and black streak posteriorly. Tergum spotted with blue.

Legs creamy white, streaked with black on the extensor surfaces.

Wings very shortly petiolated; *ac* falls on to *ab* nearer the first antenodal nervure than the 2nd and *ab* meets the border of the wing opposite the 1st antenodal. Postnodals 7 and 6 respectively in the two wings. Stigma olive brown.

Abdomen sky-blue, paler anteriorly and deepening markedly in the last three segments. A broad, black fascia runs the whole length of the dorsum as far as segment 8, where it is continued on to the dorsum of segment 9 as a tongue-like process which does not attain to the apical border; tenth segment entirely blue, as also are the anal appendages.

Length of abdomen 22 mm. Length of hind-wing 15 mm.

Argiocnemis dyeri, sp. nov.

i ♂, old bed of Nerbudda, North of Babai, Hooshangabad Dist., Central Provinces, India, 15-3-19 (*F. H. Gravely*). (A

single male of this insect was also taken by myself at Poona, 1-4-19, in Mr. Thistleton Dyer's compound, near the Moolah River. I have named it after Mr. Thistleton Dyer, who is a son of the eminent Kew botanist.) 1325/H2.

Head black; labium and clypeus sky-blue; two pyriform, blue, postocular spots; eyes deep sea-blue above, greenish beneath. (In Mr. Gravely's specimen the postocular spot is enclosed on one side only, but in my own specimen the spots are present on both sides.)

Prothorax blue marked with black in a somewhat elaborate pattern. The black, which is bordered all round with blue, narrowly at the sides and posteriorly, encloses a small, blue geminate spot at its middle, and a larger, subdorsal spot each side.

Thorax sky-blue, with narrow, dorsal and humeral, black lines.

Legs pale blue, streaked with black on the extensor surfaces.

Wings as in the first mentioned species; the petiolation of the wings is extremely short; *ac* falls on to *ab* opposite the 1st antenodal nervure. Postnodals 8 and 7 respectively in the two wings. Stigma pale sepia or cinereous. Apex of wing closely reticulated.

Abdomen blue marked with black, as follows:—a black spot on the basal half of segment I and a transversely linear, triangular spot on its apical border, followed distally by a blue annule. A broad, black, dorsal fascia on the 2nd segment, extending from the apical to the basal border, connecting up at the former with a black annule. Segments 3 to 7 with a black, dorsal streak expanding apically and pointed basally, where it fails to attain the basal border of segment. Apically these streaks are connected with black annules; eighth and ninth segments all blue but with an apical row of fine, black spines; tenth segment blue, with a small, hour-glass shaped, black spot on the dorsum.

Anal appendages very minute and simple, the inferior scarcely visible. Length of abdomen 23 mm. Length of hind-wing 16-17 mm.

It is possible that these two insects are the sexes of a common species of *Argiocnemis*, but after a careful comparison of the two I do not think that this is so.

Genus *Himalagrion*, gen. nov.

The genus has some of the features of *Argiocnemis* but differs chiefly in its large size, in the large number of postnodals and in the position of the arc, which is opposite the 2nd antenodal nervure.

Node placed at the junction of the middle and basal thirds of the wing, quadrilateral irregular, its distal angle sharply acute, no intercalated sectors, stigma short, rhomboidal, *ac* midway between the two antenodals, *ab* present, commencing just proximal to *ac*, arc opposite the second antenodal, *Cu2* normal, postnodals numerous, reticulation moderately close.

The venation is identical with *Zoniagrion*, Kennedy, but there the resemblance begins and ends, there being no bifid, dorsal elevation on the 10th abdominal segment of the male, nor spine on the ventral surface of segment 8 in the female.

***Himalagrion exclamationis*, sp. nov.**

4 ♂♂, 4 ♀♀, Sitong, ca. 4,000 ft., near Mangphu, Darjiling Dist., 6-7-18 (S. Kemp). 1314H2.

Male.

Head black, marked with wedge-wood blue as follows:—large, subtriangular, postero-internal ocular spots; a blue fascia across the vertex and clypeus in front of the anterior ocellus; the whole of the labium except for a black, basal border which extends on to the anteclypeus. Eyes dark brown above, pale olivaceous beneath, the two colours being sharply contrasted at the equator of the eyes.

Prothorax black marked with wedge-wood blue of which there is a fine, blue collar anteriorly and an irregular patch laterally.

Thorax matt black marked with the same coloured blue as sharply defined streaks and spots as follows:—a blue, humeral stripe, broadest anteriorly and constricted at the junction of its middle and posterior thirds, the sides broadly blue and traversed low down by an irregular, black stripe which begins at the base of the posterior trochanter. Tergum and bases of wings spotted with blue.

Legs pale blue, the femora streaked with black on the extensor surfaces and the tibiae similarly on the flexor surfaces.

Abdomen: 1st segment blue marked with an irregular, black streak, which runs obliquely backwards from the dorsum to the ventrum, a black annule incomplete on the dorsum, apically; 2nd segment blue with an irregular, oblong, black marking on the side, which fuses with a black, apical annule. A triangular, black mark on the posterior part of the dorsum, somewhat like a blunt arrow-head, looking forward; 3rd segment blue with a broad, black annule just in front of the apex and a narrow one at the apical border, lower part of sides and ventrum black; 4th segment similar but the apical annules have fused, enclosing a mere speck of blue laterally; 5th segment similar but the blue spot is absent and the annules have extended forward, especially on the dorsum, where there is a triangular projection into the blue, basally the apical, black annule of the 4th segment has extended slightly on to the dorsum of the 5th; 6th segment entirely black save for a fine blue, basal annule, incomplete on the dorsum; 7th segment black, its dorsum marked for the posterior three fourths with blue, this marking narrowing from behind forward and with a lateral indentation at the apical end; 8th and 9th segments entirely blue, but in some specimens the 8th has a finely stippled, black, lateral line; 10th segment black marked laterally with a small, blue spot

and presenting a narrow, shallow notch on the dorsum, posteriorly, which is blue.

Anal appendages. Superior shorter than the 10th segment and also than the inferior, slightly bifurcate in profile; inferior nearly as long as the 10th segment, broad at the base and narrowing rapidly to form a robust hook which is curved strongly down and inwards.

Female.

Very similar to the male, but the blue markings on the abdomen much less extensive. Head, prothorax and thorax scarcely differing from that of the male.

Abdomen. The oblique, black marking on the 1st segment covers the basal half of the dorsum; the triangular, black marking on the dorsum of the 2nd segment extends forwards as far as the base and encloses between itself and the lateral marking a blue, hook-shaped marking; the 3rd to 6th segments are black and each has a sharply-defined streak and dot on the sides, resembling a note of exclamation; the 7th may or may not have a faint indication of a similar marking; 8th segment black, with an apical, blue annule, confluent laterally with a largish, blue spot; 9th blue, marked basally with a black spot shaped like a coronet, and in some with a fine, dorsal, triangular, apical, black spot; 10th segment entirely blue.

Anal appendages very small, black.

Wings as for genus; postnodals 14, stigma black, covering one cell; length of hind-wing 22 mm. Length of abdomen 32 mm.

The position of the arc and the shape of the anal appendages suggest *Ceriagrion* but there is no ridge on the frons and the colour scheme is totally unlike anything seen in that genus, in fact I know of no parallel to the clear-cut, cameo-like effect of the markings in this beautiful insect, at least not in the subfamily Agrioninae.

Genus *Agriocnemis*.

Agriocnemis d'abreui, sp. nov.

i ♀, Lamta, Balaghat Dist., Central Provinces, India, 1,300 ft., 23-3-18. (*E. A. D'Abreu*.)

Head black, marked with sky-blue, post-ocular spots and a blue streak across the vertex in front of the anterior ocellus; labium blue, the base narrowly black; anteclypeus blue, traversed by a fine, black line with a pointed projection at its middle, directed forward; eyes deep olive green above, paler beneath.

Prothorax black, with two small, blue, subdorsal spots in front.

Thorax sky-blue, the dorsum and a broad, black, humeral fascia black; the tergum spotted with blue.

Legs pale blue, streaked with black on the extensor surfaces.

Abdomen blue, marked with black as follows:—the dorsum broadly black throughout its whole length, the black on each segment from 2 to 7 expanding at the apical end and then contracting again to join an apical black ring; black, lateral streaks

on the same segments, broadest apically and becoming obsolete basally. On the 2nd segment this streak joins up with the black on the dorsum basally, and on the 7th similar but apically. Blue annules follow the 1st, 7th, 8th and 9th segments. No spine on the ventral surface of segment 8.

Wings : postnodals 6 ; arc distal to the 2nd antenodal ; *ac* falls on to *ab* about midway between the two antenodals ; stigma light brown, covers half a cell.

Length of abdomen 15 mm. Length of hind-wing 10 mm.

The specimen bears a slight resemblance to *A. splendidissima*, Laidlaw, but the insect is a more robust species. The lateral abdominal spots are not connected up with the dorsal black, except on the 7th segment, and lastly the head markings are quite different.

