

In the discussion Dr. Howard asked if the list contained only actual records, or species supposed to be found there. Mr. Viereck replied that the latter was still true to a limited extent; that the occurrence in the State of the host still results in the listing of its parasites even if they have been bred elsewhere. Dr. Hopkins said that while State lists are of some value in a way it would be much better for contiguous States to cooperate in the working up of faunal lists.

The second paper, "Notes on Indian Neuropteroid Insects," by Mr. Banks, was read by title.

NOTES ON INDIAN NEUROPTEROID INSECTS.

PLATE VI.

BY NATHAN BANKS.

Mr. H. M. Lefroy, of Pusa, India, has sent me some Neuropteroid insects from India. Among them were several new species, the descriptions of which are given here; notes on a few other species are added. A more extensive account will be furnished when other material has been worked over. It may be remarked that many of these species are in general appearance similar to those of the United States.

FAMILY SIALIDÆ.

Chauliodes simplex Walker.

A true *Chauliodes* in the restricted sense; the pronotum is a little longer than broad; the vertex has a submedian pair of long, smooth scars, and two smooth spots each side; the costal cells are broader than long; antennæ serrate. The head is black, the mandibles and part of clypeus yellowish; the wings are pale brown, banded and spotted with white; the stigma is dark brown, the costal cross-veins and many other cross-veins are margined with white; in apical part are a few narrow white bands extending part way across wing; hind wings less brown, especially the basal half mostly hyaline.

From Lebong, India, June, 5,000 feet.

FAMILY ASCALAPHIDÆ.

Ogcogaster tessellatus Westwood.

Wings hyaline, extreme base black, the stigma deep black, the mark continuing a little behind the stigma, also a dark spot on the median vein toward end, about three cells from margin; some veins near anal angle of hind wings are faintly margined with brown, and in both pairs some cross-veins in basal part of wing, the origin of radial sector and some costals are narrowly margined with pale brown.

From Vahan, Simla, September.

FAMILY MYRMELEONIDÆ.

Palpares pardus partitus, n. var.

Near *P. pardus*, but the spots are much smaller and more broken up; the zigzag band near tip is much narrower, and in the hind wings the subapical band is broadly interrupted behind the middle. The face is brown, above the antennæ dull black; the vertex yellowish brown, a transverse row of erect curved black bristles at base of the clypeus connecting base of eyes, a whorl of black bristles on basal joint of antennæ, antennæ black except base; pronotum yellowish, with median black spot extending back on mesothorax; legs yellowish, the tarsi, spurs, and claws black, black bristles elsewhere, but the coxæ with long white hair, all the thorax clothed with dense white hair. The same size as *P. pardus*.

From Bassein Fort, Bombay, India, October.

Acanthaclisis indica, new species.

Face pale yellowish, heavily clothed with white hair; vertex black, with two transverse rows of shining spots; antennæ pale brown, darker at tip; pronotum yellowish with broad black median stripe reaching back over rest of the thorax; on the anterior lobes it includes a pale spot each side, and on the mesoscutellum is divided by a narrow median line; rest of thorax gray, with faint dark stripes near base of wings; all with white hair. Sides of thorax densely long white-haired. Abdomen black, slightly paler above, white or gray hairs near base, at the tip on venter is dense black hair. Legs densely white-haired, femur yellowish, with black bristles beneath; tibiæ and tarsi brown to black, the tibiæ with short black hair beneath and some black bristles above; spurs strongly bent. Wings gray hyaline, veins pale, interruptedly dotted or spotted with black, the stigma rather dark, and near apex of wing one or two short dark streaks, but not prominent. Wings long, narrow, acute; fore-wings with costal series mostly simple; ten cross-veins before origin of radial sector, the latter with nine branches; in hind-wings seven cross-veins before origin of radial sector. Expanse 90 mm.

From Chapra, Bengal, India (Mackenzie).

Acanthaclisis horridus Walker.

Although this is quite different in appearance from the common forms of *Acanthaclisis*, it differs in few structural characters. The branches of the radial sector are bent as usual, the anal vein of hind wings runs into the cubital fork, the legs are normal, and the antennæ about one diameter apart at base. The pronotum, however, is longer than usual, and the wings are broader than in any other species known to me. The hind wings have an oblique mark beyond the stigma and one at the anal angle; the fore wings have dark marks both sides of the stigma, one near end of cubitus and median,

one on the end of cubitus, and one on hind margin toward base, also two short transverse lines near origin of the radial sector; there are nine veins before radial sector in fore wings, five in hind wings; some costals before middle are forked, and beyond are some crossed.

From Pusa, Bengal, India, September 16, at light.

Creagris parallela, new species.

Head pale, a large pale spot above antennæ and band-like marks on the vertex brown; antennæ rather pale; palpi pale; pronotum as long as broad, sides subparallel, pale yellow, with two submedian parallel dark lines and less distinct lateral marks; thorax dark, with large pale spots, none distinctly defined on the middle area; upper pleura pale, lower pleura dark; abdomen dark, pale at base; apical margin of segments pale; legs pale yellow; black dots on middle and hind femora, spurs as long as two tarsal joints, first tarsal joint not longer than the next two together; last joint as long as all others together. Wings hyaline, with yellowish venation, stigma indistinct, cubital fork connected to end of anal vein by a black cross-vein, a dark dot on median near its end, a few faint spots on cross-veins in apex of wing; both wings slender, very acute, hind wing falcate at tip; seven cross-veins before radial sector in fore wing, one in hind wing; the radial sector arises beyond fork of cubitus, but the first branch of radial sector arises much before the end of the anal vein; the anal vein runs parallel to cubitus for a distance equal to the width of the wing; nine branches to the radial sector in each wing. Expanse 65 mm.

From Pusa, Bengal, India, February 24.

Macronemurus trivittatus, new species.

Head black between eyes and up on the vertex, with four pale reddish spots on vertex, two submedian behind, and one each side near the eyes, face pale yellowish; pronotum with three black stripes, a broad median one, broadest behind, a narrow lateral one, also broadest behind, and a dot each side in the anterior part of the pale portion; thorax black, a few small pale reddish spots on middle, the scutelli pale each side; legs pale, femora with dark middle mark, anterior tibiæ dark outside, apex of tarsi black, with black and also white bristles, spurs nearly as long as two joints of tarsus, basal tarsal joint as long as next three together, fifth longer than first. Wings with black venation, subcosta and cubitus interrupted with pale, cross-veins pale in the middle, a black spot at stigma, and one near the end of the median vein, a short stripe at end of the anal vein, marginal forks with dark dots, hind wings with veins near end of median more heavily marked. Wings long and narrow; radial sector arises beyond fork of cubitus, first branch much before end of anal; six branches to radial sector in both wings. Expanse 43 mm.

From Pusa, Bengal, India, March 16.

FAMILY HEMEROBIIDÆ.

Megalomus setulosus Walker.

Walker says his *Hemerobius setulosus* is near the European *H. hirta* (now *Megalomus*), so it cannot be a *Micromus* as considered by one author. This specimen agrees well with his description. The basal dark brown of fore-wing terminates obliquely at the inner gradate series; there are seven radial sectors, the first and last of which are soon forked; the costal area is very broad; in the hind wings are only a few brown spots near tip of the wing.

It has some resemblance to the *M. latus* of Arizona. It has recently been described by Longinos Navas as *M. nouhalieri*.

From Kasaul, India, April.

FAMILY CHRYSOPIDÆ.

TABLE OF SPECIES OF CHRYSOPA.

- | | |
|---|------------------|
| 1. A narrow, black stripe under each eye, and stripe on basal joint of antennæ..... | <i>orestes</i> |
| No such marks..... | 2 |
| 2. Practically all cross-veins black at each end..... | <i>alcestes</i> |
| Few cross-veins so marked..... | 3 |
| 3. Costal margin rather suddenly swollen just before the stigma | <i>madestes</i> |
| Costal margin only gradually widened..... | 4 |
| 4. Gradate veinlets black..... | <i>virgestes</i> |
| Gradate veinlets pale..... | <i>scelestes</i> |

Chrysopa orestes, new species.

Pale yellowish or green; tips of palpi black, a narrow black stripe under each eye to the mouth, and a dark stripe on outer side of basal joint of antennæ. Venation pale, but the gradate veinlets brown, and also the ends of some of the cross-veins. Antennæ longer than wings; pronotum broad, but little narrowed in front, with a transverse groove and ridge behind the middle. Fore wings rather short and broad, barely acute at tips, second cubital cell as long as third, latter very oblique at tip, being much longer below than above; divisory veinlet ends beyond the cross-vein; six branches of radial sector to the margin; four or five inner gradate veinlets, seven in outer series; the inner row plainly nearer to outer than to the radial sector. In hind wings the radial sector unites to median for more than a cell-length. Expanse 20 mm.

From Pusa, Bengal, India; on black orange mealy-wing, September 7.

Chrysopa alcestes, new species.

Pale yellowish or greenish, unmarked. Wings with most of the cross-veins dark or dark at ends. Fore-wings moderately broad,

barely acute at tips; second cubital cell rather shorter than the third, the divisory veinlet ending at, or beyond, the cross-vein, but cutting off only a very small cell. Radial sector with six branches to margin; five inner gradate veinlets, six in the outer series, all dark; the inner row as near to the outer as to the radial sector. Hind wings acute at tips; costals, gradates, and a few cross-veins partly dark; radial sector unites to median for less than cell length; four veinlets in inner gradate series, five or six in the outer. Pronotum about as long as broad, slightly narrowed in front. Expanse 20 mm.

From Pusa, Bengal, India, October.

Chrysopa virgestes, new species.

Pale yellowish or greenish; immaculate. Wings with pale venation, but the gradate veinlets are dark. Fore wings rather slender, acute at tips; second cubital cell about as long as the third, the latter much broader at apex than at base; divisory veinlet ends beyond the cross-vein. Four inner gradate veinlets, six outer ones; the inner row is rather nearer to the outer row than to the radial sector. Hind wings slender acute; radial sector unites to median for a cell-length; two or three inner gradate veinlets, four or five outer ones. Expanse 20 to 22 mm.

From Pusa, Bengal, India, October 12, 13, November 7, at light.

Chrysopa madestes, new species.

Pale yellow or greenish, unmarked. Wings with pale venation, stigma indistinct. Fore wings moderately broad, not acute at tips; hind wings hardly acute. The costal area is moderately broad, but it broadens quite suddenly a little before the stigma and remains of a nearly equal width for some distance; second cubital cell about as long as the third; the divisory veinlet ends beyond the cross-vein; five or six inner gradate veinlets, six or seven in outer series; the inner row is nearer to the radial sector than to the outer row; the two rows are thus quite far apart. In hind wings the radial sector unites with the median for nearly a cell-length; four inner gradate veinlets, five in the outer series. Expanse 21 mm.

From Pusa, Bengal, India, on sweet potatoes, February 12.

Chrysopa scelestes, new species.

Pale yellowish or greenish; cheeks reddish. Wings with pale venation, unmarked. Fore wings slender, barely acute at tips; second cubital cell hardly as long as the third; both very slender; divisory veinlet ends before the cross-vein, or at it; five or six inner gradate veinlets, six in outer row; the inner row is a little nearer to outer row than to the radial sector. Hind wings slender, acute at tips; five or six inner gradate veinlets, and six or seven in outer row; the radial sector unites to the median for nearly a cell-length. Expanse 22 mm.

From Pusa, Bengal, India; in March and April; eating caterpillar on cabbage.

FAMILY LEPTOCERIDÆ.

Cecetina insignis, new species.

Dark, heavily clothed with hair. Head with gray and black hair; palpi with long gray and some white hair; antennæ dark, narrowly annulate with white. Abdomen dull black; legs with some whitish and some iridescent appressed hair. Wings dark, with short golden or tawny hair, heavily marked with black spots on forkings of all veins on the tips of veins, on outer margin, a large long patch on basal part of costal margin, one beyond middle on costa, and the stigma black; on disk of wing is a zigzag streak over the basal part of the discal cell, then back on median vein, and then out on cubitus, making a very prominent marking; hind wings dusky with blackish fringe. Fore wings slender, with venation much as in *Æ. notata*, but the cross-veins behind discal cell are much dislocated, and fork 5 is longer than fork 1; in the hind wings the posterior fork is only one-third as long as anterior fork. Expanse 14 mm.

From Bassein Fort, Bombay, India, October.

Leptocella maculata, new species.

Yellowish white, with white hair, antennæ only very indistinctly annulate with brown; fore wings brownish hyaline, with a few brown spots on the forkings of the veins, the anastomosis partly brown, also the vein connecting discal cell to the radius, a hyaline whitish dot behind this cross-vein on the upper edge of the thyridial cell; the largest brown spot is on the forking of the median vein; hind wings wholly hyaline, with white fringe, the anterior veins only faintly indicated, but show a fork 1. In fore wings forks 1 and 3 are of equal length, while the second subapical cell is wider near base than at tip. Expanse 21 mm.

From Pusa, Bengal, July 30, on rice leaves.

Leptocerus indicus Walk. may belong to this genus but could not be this species, for the wings are evidently more heavily marked.

Setodes postica, new species.

Head with whitish gray hair; antennæ with black on apical part of each joint, broader on joints near middle of antennæ than elsewhere; palpi gray-haired; thorax with gray hairs; abdomen yellowish, legs pale yellowish, wings blackish on anterior part, the hind border darker than elsewhere; the posterior part of wing is pale gray and contains several black dots, one at the anal angle; beyond this the marginal fringe is very long; the anterior dark part is sometimes

slightly streaked with paler, but not distinctly so; hind wings gray, tips darker and with long fringe. Expanse 11 mm.

From Bassein Fort, Bombay, September, October; and Chapra, Bengal (Mackenzie), India.

Leptocerus marginatus, new species.

Head with long white hair; palpi long, with gray and brown hair; antennæ white, annulate with dark brown, narrowly so on basal part; thorax with white hair; abdomen white above, brown on sides; legs pale yellowish; wings with short yellowish and black hair, giving a brownish appearance, much darker along the posterior margin than elsewhere, veins dark brown, apical fringe dark brown, hind wings whitish, with yellowish veins and white fringe. In fore wings fork 1 is two and a half times as long as pedicel, discal cell very long, the cross-vein behind discal cell is some distance before end of cell, but interstitial with cross-vein closing thyridial cell. In hind wings fork 1 is about as long as its pedicel, but fork 3 is absent; fork 5 large as usual. Expanse 15 mm.

From Pusa, Bengal, India, September 9, at light.

FAMILY HYDROPSYCHIDÆ.

Polymorphanus indicus, new species.

Whitish yellow throughout; wings whitish, with two black dots, one on middle of vein closing the discal cell, the other on lower part of vein closing the median cell, stigmal area yellowish; abdomen blackish; tips of antennal joints marked with brown. Wings are moderately slender, the cross-veins in costal area indistinct, the discal cell but little shorter than the median cell, plainly longer than broad; fork 1 reaches fully one-half way to the discal cell. In hind wings the tip is longer than in *P. nigricornis*, the apical cells being longer than the discal cell. In the female the middle tibia and three joints of the tarsi are very broad and flat. Expanse 34 mm.

From Pusa, Bengal, August 4, at light.

Dipseudopsis modestus, new species.

Yellowish; vertex often blackish; antennæ dark brown, except basal joints, wings yellowish brown, apex a trifle infuscated, stigma not distinct, veins pale yellowish. Second and third joints of palpi very heavy; head smooth; spurs of anterior tibia one-half as long as metatarsus, inner spur of hind tibia one-fourth shorter than outer, simple, slender, hairy, and with a minute claw at tip, very much as figured by Betten, but more slender. The wings are quite slender, the fork 1 is present, but very short, fork 2 reaches back to the discal cell, fork 3 is almost as far (much farther than in *D. indica*), fork 4 is back as far as discal cell, and fork 5 is back before discal cell; in

hind wings the discal cell is only a little shorter than the median cell. Expanse 22 to 26 mm.

From Pusa, Bengal, September 21, at light.

Macronema indistincta, new species.

Yellowish; brown marks on the wings as in the figure, mostly pale brown and indistinct, but beyond the cell is a deep brown streak over most of third apical cell; the basal half of second apical cell is silvery, near base of wing the anterior margin of the brown is dark brown. The legs are very slender, the hind tibiæ with extremely long, fine white hair; the longer spur of hind tibia is nearly as long as the metatarsus. Expanse 24 mm.

From Pusa, Bengal, October.

EXPLANATION OF PLATE VI.

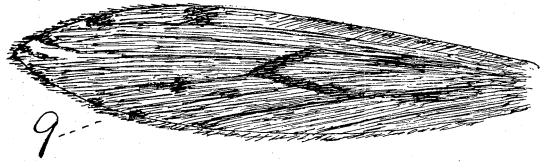
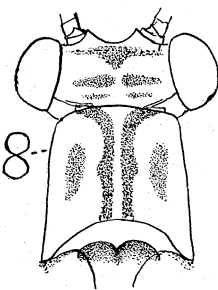
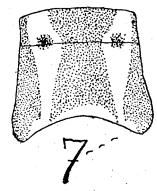
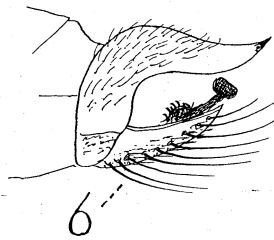
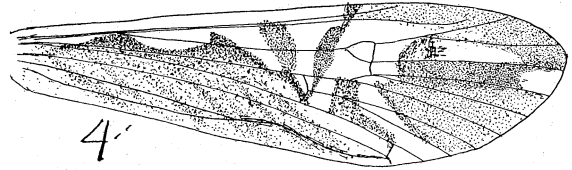
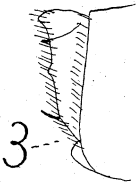
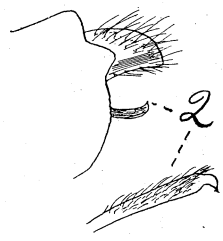
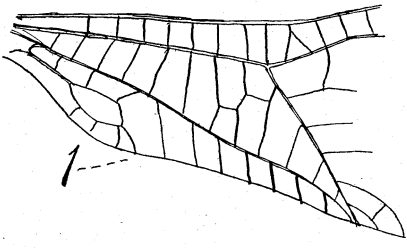
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|--|--|
| FIG. 1. Base of fore-wing of <i>Acanthaclisis horridus</i> . | FIG. 5. <i>Leptocerus marginatus</i> . |
| 2. <i>Dipseudopsis modesta</i> . | 6. <i>Leptocella maculata</i> . |
| 3. <i>Polymorphanisus indicus</i> . | 7. <i>Macronemurus trivittatus</i> . |
| 4. <i>Macronema indistincta</i> . | 8. <i>Creagris parallela</i> . |
| | 9. <i>Cetina insignis</i> . |

The third paper, "Notes on a Sawfly Injurious to Ash," by Mr. E. R. Sasser, was illustrated by photographs, drawings, and specimens.

CHANGE OF GENUS FOR CERTAIN SPECIES OF COCHLIDIIDÆ.

In Proc. U. S. Nat. Mus., xxix, 375-376, 1905, I placed several species of Cochlidiidæ in the genus *Sisyrosea* with doubt, as I had seen no male of any of them. After waiting six years, a male of one of the species has at last been seen. It is an undoubted male of *Sisyrosea* (?) *phara* Druce, and was sent me for determination by Mr. Paul Dognin. The male has the structural characters of the genus *Euclea*. It will therefore be necessary to remove to *Euclea* the species *phara* Druce, *parva* Dyar, *flexilinea* Dyar, *assimilis* Dyar, and *columbiana* Dognin.

HARRISON G. DYAR.



INDIAN NEUROPTEROID INSECTS.

Bibliography of the Neuropterida

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