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POPULAR AND PRACTICAL ENTOMOLOGY.

Remarks on Collembola.

BY CHARLES MACNAMARA, ARNPRIOR, ONTARIO.

That ingenuous character, the Man in the Street, commonly holds the erroneous opinion that an entomologist is a person who knows all about insects. Consequently, on the rare occasions when he brings some Entomological Department a "bug" to be named, if his specimen happens to be anything a little less common than a cicada or a Luna moth, he sustains a distinct shock when he finds that even the professional entomologist cannot tell him offhand exactly what it is, and must refer it to a specialist for determination. Our friend's surprise is, of course, due to the fact that he does not realize the vast, overwhelming abundance and variety of insect life; and he is not aware that no investigator, however studious, can even in the course of a whole life-time become acquainted with more than a small proportion of the prodigious number of different creatures included in the class Hexapoda.

And, besides the sole weight of numbers forcing the student of insects to specialize if he wishes to make any real progress, other influences also work in the same direction. The moths and butterflies, for instance, attract such a host of collectors as much by their beauty as by their biological interest, that there are probably more students of Lepidoptera than of all the other orders put together. Beetles, too, make a fine showing in a cabinet, and Coleopterists are legion. Then again, we are forced to give earnest if unwilling attention to those pestilent and all too numerous insects that devour our crops, bite our bodies, inoculate us with disease, or otherwise interfere with our living. All this tends to focus entomological study on certain handsome or obnoxious orders and categories, while other less showy or more inoffensive insects are passed over.

One of these neglected orders is the Collembola, familarly known as Springtails. These insects are so minute that, preserved in alcohol in tiny vials or mounted on microscope slides, they make no display in a collector's cabinet. And they are practically without economic importance. Some slight injuries to garden and greenhouse have been alleged against them, but their very worst depredations bear about the same relation to the virulent activities of say the locusts or the mosquitoes, as a small boy with a peashooter does to a German army corps invading Belgium. Consequently, they have been little studied.

Unassuming and harmless as they are, however, they have always attracted some attention. Owing to their wide distribution and, at times, extraordinary abundance, they drew some notice even from the earliest naturalists. I do not know that they are mentioned in the classic though unreliable pages of the Elder Pliny, but Linnæus did not overlook them, and with his passion for classification, duly tabulated them in his great "Systema Naturæ" under the generic name of Podura.

NEW PSAMMOCHARIDÆ AND PHILANTHIDÆ.

BY NATHAN BANKS, CAMBRIDGE, MASS.

The following new species are mostly from the northern and northwestern parts of the United States or from Canada.

PSAMMOCHARIDÆ.

Psammochares lasiope, n. sp.

♀ Black, basal part of abdomen reddish above and below, extreme base of first segment black. Head, pro- and metanotum densely clothed with rather long hairs. Clypeus truncate, margined; antennæ slender, second plus third joints fully equal vertex width, vertex from in front hardly convex; the lateral ocelli nearer to each other than to the eyes; hind border of pronotum angulate; base, tip, and venter of abdomen with few fine hairs, no bristles near tip of abdomen; legs slender, with short spines, three in comb on basitarsus, not very long; inner spur of hind tibia about one-half of the basitarsus. Wings nearly uniformly blackish, but not very dark; second and third submarginals subequal in size, both broad above, separated by a vertical vein, and receiving the recurrent veins near the middle; basal vein before transverse; in hind wings the fork is interstitial with the end of the cell.

Length 11 mm.

From Saranac Lake, 26 Aug.; Wilmington, 20–26 Aug.; New Russia, Essex Co., 18 Aug., all in New York, (Bradley). Differs from *atlanticus*, *autumnalis*, *marginalis*, in having longer hair on metanotum and broad-topped third submarginal cell; the spines of the comb are about the length of those in *marginalis*, much shorter than in *autumnalis* and *atlanticus*.

Anoplius depressipes, n. sp.

♀. Deep black throughout; wings uniformly black. The face is rather broader below than above, the clypeus very broad, nearly truncate below, but rounded at outer sides, vertex straight across, hind ocelli about as close to eyes as to each other, antennæ slender, second plus third joint equal vertex width; pronotum behind angulate, metanotum sloping, not very long, with a deep median groove, with long hair. Abdomen slender, basal and apical segments hairy above, all below; legs slender, not very spiny, those on the tibiæ hardly one-half of the width of joint, inner spur of hind tibia about one-half of basitarsus, anterior tarsi flattened, the outer edge angulate, concave below, no spines above on basitarsus, 2 in the concavity on lower outer side. Wings moderately long, second submarginal cell longer than wide, receiving the first recurrent beyond middle, third submarginal fully as long as the second, narrowed above, receiving the second recurrent vein near middle, latter curved, basal vein a little before the transverse; in hind wing the fork interstitial with the end of the cell. The head and thorax are clothed with rather long hair.

Length 12 to 16 mm.

From Ithaca, N.Y., 12 July (Needham); Spring Creek, Decatur Co., Ga., 16 July, (Bradley) and Burton, Ga., 21 May, (Bradley).

The nature of the anterior tarsus, especially the basal joint, will distinguish it from our other species of this genus.

Anoplius similaris, n. sp.

♀. Black throughout; wings uniformly black. Closely to *A. illinoiensis*. The clypeus is broadly, evenly concave below, in *illinoiensis* it is truncate and consequently longer. The face is a little broader at vertex than in *illinoiensis;* antennæ and ocelli about the same as in that species; the metanotum is a little shorter, more deeply grooved, the posterior slope more flattened across, the hairs shorter and much fewer than in *A. illinoiensis*. The abdomen similar but the last segment has only a few fine hairs, not the stiff bristles of *A. illinoiensis*. Legs slender, hardly as spiny as in *illinoiensis*, the inner spur of hind tibia a little more than one-half of basitarsus; the front basitarsus has no noticeable spines above, but two or three on the outer under side. Venation similar to *A. illinoiensis*, but submarginal cells a little larger, and the second recurrent vein not curved.

Length 15 to 16 mm.

From Ithaca, N.Y., 14, 25 July, (Bradley).

Lophopompilus autilone, n. sp.

♂. Related by the male genitalia to *L. æthiops*, differs in that there is a median, hairy ridge the whole length of the genital plate (in *æthiops* only at base). The under side of the first joint of the antennæ is hardly hairy; the hairs on the metanotum are not nearly as long or as dense as in *æthiops*, and the whole body is less hairy. The clypeal margin is slightly concave; the third submarginal cell is triangular, receiving the second recurrent vein near the middle, the latter bent near the middle; hind margin of pronotum almost angular; apical ventral segments with scattered hairs only.

Length 14 mm.

From La Belle, 8–10 May, Ft. Meyers, 7 May, Florida, and Billy Island, Okefenokee Swamp, Ga., all taken by Prof. Bradley.

Pompiloides canadensis, n. sp.

♀. Similar to *P. cylindricus* and *P. insolens;* differs from both by the shape of the basal plate of male genitalia being triangularly emarginate, the sides of the emargination divergent (instead of parallel); the last ventral segment is not so deeply emarginate behind as in *P. cylindricus*. Black throughout, not as much silvery as in *P. cylindricus*, the silvery appearance noticeable on face, thorax and coxæ. Head with rather longer hair than *P. cylindricus*, venter with few, but distinct hairs. Third submarginal cell usually short petiolate, the second sub-quadrate. About the size of *P. insolens*.

From Truro, Nova Scotia, 12 Aug., (Matheson); and Val Morin, 29–30 July, Canada (Ouellet).

Sophropompilus quadrispinosus, n. sp.

♀. Deep blue; wings blackish, nearly uniform, legs and antennæ black; clothed with short hairs. Clypeus truncate, third antennal joint hardly equal first, faint line to anterior ocellus, hind ocelli nearer to each other than to the eyes, vertex from in front slightly convex, pronotum arcuate behind; metanotum short, hairy, faint groove on the base; abdomen with short hairs above, longer at tip and below; femora plainly hairy above, inner spur of hind tibiæ two-thirds of the basitarsus, front tarsus has four long spines in comb on the first joint, these are almost flattened; wings and venation as in *S. hyacinthinus*.

Length 10 to 12 mm.

From Long Beach, L. I., N.Y., Aug., (Shannon); Chesapeake Beach, Md., 18 to 21 Sept.; Gulfport, Fla., April, (Reynolds); Billy's Island, Okefenokee Swamp, Ga., 1 to 5 Sept., (Bradley), and Tybee Island, Ga., (Bradley); evidently a coastal species. Body and legs more hairy than *hyacinthinus*, and with longer comb, four on first joint.

Ageniella eximia, n. sp.

♂. Black, apical parts of legs more brown; wings slightly fumose, not darker on tips. Small and very slender; face rather broad, hardly narrowed below, lateral ocelli plainly nearer to each other than to the eyes; pronotum behind strongly arcuate, metathorax sericeous on its sides. Abdomen very slender, basal segment about one and a half times longer than broad at tip; inner spur of the hind tibia little more than one-half of the basitarsus. Wings slender, rather short, marginal cell not its length from wing-tip, third submarginal higher than long, slightly narrowed above, receiving the second recurrent a little before middle, basal vein a little before the transverse.

Length 3½ to 4½ mm.

From Falls Church, Va., Ithaca, N.Y., 15 July to 10 Aug., (Bradley), Albany, and McLean, N.Y., 3 July.

Related to *A. iridipennis* Cress., but very much smaller, darker spurs and front legs, and slightly different in venation. Several specimens have the apical part of hind femora reddish, but otherwise agree.

Agriogenia, n. gen.

Based on *Agenia brevis* Cress. It agrees in general with *Ageniella*, but differs in being clothed with a fine, appressed, greyish yellow pubescence; the legs, especially the femora, are shorter and stouter than in *Agenia*, and the shape of marginal cell and third submarginal was noted by Cresson. The female, however, has on the underside of the head back of the mouth a curved row of long white bristles which look as though arranged to hold food. Nothing similar occurs in *Ageniella;* the head is flatter in the frontal region than in *Ageniella*.

PHILANTHIDÆ.

Cerceris completa, n. sp.

Male from Claremont, California, (Baker). Black, with yellow marks; face below antennæ, base of mandibles, stripe on scape beneath, spots on pronotum, the postscutellum, and legs (except basal two-thirds of femora, yellowish. Basal segment of abdomen black, second yellow above, with a median transverse black spot, pointed at each side, the following segments yellow with large basal, transverse, black spot, that on the third and fourth segments narrowed at extreme base; the venter with pale bands on second, third and fourth segments broader on sides, fifth with spots on side. Clypeus truncate in middle below; hair lobes small; enclosure smooth and shining; first abdominal segment plainly longer than broad, and not one-half the width of the second; other segments broad; pygidial area once and two-thirds longer than broad at base, rather broader at base than elsewhere. Body rather finely and densely punctate; head, thorax, and first segment plainly hairy; stigma yellowish.

Length 11 mm.

Cerceris snowi, n. sp.

Males from Tucson, Arizona (Snow) and San Diego Co., Cal., (Van Duzee). Black; lateral face marks, scape beneath, two spots on pronotum, the postscutellum, tegulæ, apical bands on the second and following segments, cream yellow, those on face nearly white; band on second segment much broader than others which are narrow and may be broken each side; tibiæ and extreme tips of femora pale, a dark spot behind on mid and hind tibiæ, the basitarsi pale. Flagellum of antennæ rather rufous beneath, especially toward tip. Face below densely white-haired; clypeal margin at middle faintly tridentate; enclosure smooth; the pygidial area elongate, about as in *C. kennicotti.* Head, thorax, first and second segments very plainly hairy. One specimen has two small spots on first segment, two have faint lateral spots on the scutellum.

Length 8 mm.

By small size and coarse punctuation related to *C. erigoni* and *C. acanthophila*, but distinct by having clypeus all black.

Cerceris interjecta, n. sp.

Male from Lake Point, Utah, 18 July, (Titus).

Black marked with yellow; first abdominal segment red above and below. Face with middle clypeal spot not reaching lower margin, and lateral spots yellow, sides of clypeus and the mandibles black; basal part of flagellum slightly rufous beneath; two spots on pronotum, the postscutellum, and broad abdominal bands, yellow, that on the second segment occupying one-half of the segment, not emarginate; third, fourth and fifth broadly emarginate in front, but on sides reaching the front margin of the segment, sixth with a small basal, median dark spot; venter all black; legs black, the tibiæ yellow in front, tarsi dark brown; stigma yellowish; pygidium mostly rufous. Face very broad; clypeal margin slightly rounded, hair-lobes very small; last joint of antenna as long as preceding, slightly curved; enclosure large, smooth, polished; pygidial area once and one-half longer than broad, sides nearly parallel. Body moderately, coarsely punctate; abdomen broad, basal segment.

Length 10 mm.

Cerceris abbreviata, n. sp.

Males from Yakima River, Little Spokane, and Umatilla, Washington, June and July, (S. Henshaw).

Black, marked with yellow, face, base of mandibles, scape beneath, dot behind eyes, pronotum, tegulæ, postscutellum, two spots on basal segment, narrow bands, all about of the same width on following segments, yellow; three pairs of ventral spots, usually connected; legs yellow, front and mid femora with black spot near base, hind femora and tibiæ black near tips; stigma yellowish; flagellum rufous beneath, last joint of antenna rufous, slender, curved. Face is narrower than *C. occipitomaculata*, the lateral lobes of clypeus being proportionately higher. Clypeal margin truncate; enclosure plainly longitudinally striate, but on sides more oblique; basal segment of abdomen very broad; pygidial area elongate, the sides parallel; head and thorax short-haired.

Length 8 mm.

In appearance a *C. nigrescens* marked with bright yellow instead of white, but a slightly smaller, and shorter bodied species.

Philanthus yakima, n. sp.

Washington—Yakima, 2 to 4 July, 1882, (S. Henshaw).

♀. Close to *P. flavifrons*, but smaller. Face, mandibles, scape beneath, streak behind eyes, two dots on vertex, collar, tegulæ, tubercles, spot behind, larger spot below, spot at posterior corners of mesonotum, adjoining spot each side on base of scutellum, postscutellum, spot each side on metanotum, broadly interrupted bands on first and second segments, bands on others, broad on sides, very narrow in middle, that on third deeply indented each side behind, broad bands on second, third and fourth ventral segments, all yellow. Legs (including coxæ) yellow, basal part of femora, rather more than one-half on hind femora, and spot toward tip of hind tibia black. Underside of flagellum rufous; stigma yellow. Punctured as in *flavifrons*, striately on front, few on mesonotum, rather deeply and evenly scattered on abdomen, but hardly as large as in *flavifrons*. Differs from *flavifrons* in that the enclosure has the posterior as well as lateral margins raised and smooth, making a horse-shoe-shaped area. The last dorsal segment is broadly triangular, and the sides not concave toward tip as in *flavifrons*.

Length 10 mm.

FURTHER NOTES ON THE LATIMANUS GROUP OF THE BEE GENUS MEGACHILE.

BY F. W. L. SLADEN, APIARIST, DOMINION EXPERIMENTAL FARMS.

In the Agricultural Gazette of Canada, February, 1918, page 125, I proposed the name *diligens* for *Megachile latimanus*, Ckll. not of Say. Professor Cockerell has informed me that the name *diligens* was given by F. Smith in 1879 to a *Megachile* in the Hawaiian fauna, so that it becomes necessary to find a new name for *latimanus* Ckll., and I propose *dentitarsus*. The difference between this and the other Canadian species of the *latimanus* group were pointed out in my table given in the Canadian Entomologist, September, 1918, page 302. There is, however, another character to which Professor Cockerell has called my attention. When the abdomen is viewed from above and slightly tilted, black hairs are prominent laterally in *dentitarsus* (*latimanus* Ckll.), but no black hairs project at side in *perihirta*, Ckll. (*grindeliarum* Ckll.).

OCCURRENCE OF THE PEAR THRIPS IN ONTARIO.

BY WM. A. ROSS, DOMINION ENTOMOLOGICAL LABORATORY, VINELAND STA., ONT.

The notorious pear thrips *Tæniothrips inconsequens* Uzel, hitherto unrecorded in Ontario, was taken by the writer last spring (1918) on pear trees in a large orchard near Beamsville. Fortunately the thrips was present in very small numbers and apparently was not causing any appreciable injury.

Thanks are due to Mr. P. J. Parrott, of the Geneva Agricultural Experiment Station, and Capt. J. D. Hood, Washington, D.C., for confirming the identification of this insect.

For the information of the reader it should be stated here that an excellent, detailed account of the known distribution, life history, habits and control of the pear thrips is given by A. E. Cameron and R. C. Treherne, of the Dominion Entomological Branch, in Bulletin No. 15—"The Pear Thrips and Its Control in British Columbia."