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John Lawrence Le Conte,
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PHILIP P. CALVERT, Ph.D., Editor.
E. T. CRESSON, Jr., Associate Editor.

HENRY SKINNER, M.D., Sc.D., Editor Emeritus.

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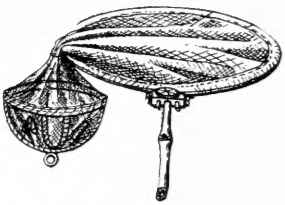

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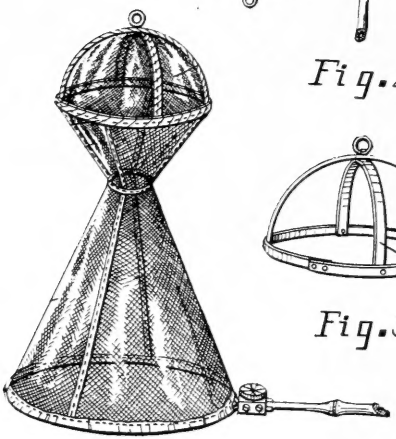

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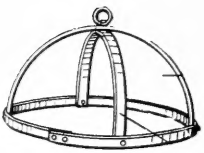

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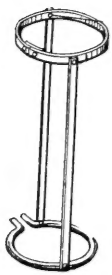

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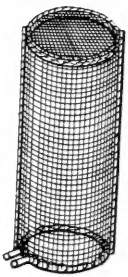

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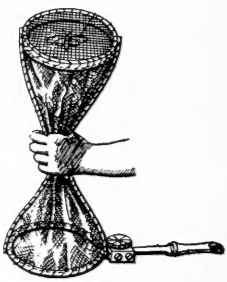

Fig.7

M.K.Mead

A RECENTLY PATENTED COLLECTING NET—WEISS.

ENTOMOLOGICAL NEWS

AND

PROCEEDINGS OF THE ENTOMOLOGICAL SECTION

ACADEMY OF NATURAL SCIENCES, PHILADELPHIA.

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CONTENTS:

A Recently-Patented Collecting Net.*

By HARRY B. WEISS, New Brunswick, New Jersey.

(Plate VII)

To collectors in general, but especially those of Lepidoptera, who are desirous of obtaining specimens in as perfect a condition as possible, the net recently patented by Mr. Marvin H. Mead, of Passaic, New Jersey, should not be without interest. The accompanying Plate VII shows so clearly the construction of the net that only a few words of description are necessary. The most important part is the specimen chamber or dome at

*U. S. Patent Office, Patent No. 1143721, to Marvin H. Mead, Passaic, N. J., June 22, 1915.

the end of the net proper. The frame-work of this (see figure 3) is constructed of light weight, flexible metal and covered with gauze, preferably of a transparent quality. The remainder of the net may be made of any suitable material such as is ordinarly used for butterfly nets.

The net is used in the usual manner, but the addition of the specimen chamber secures the following advantages. It permits the collector to catch a number of insects simultaneously or in succession without danger of mutilation or rubbing. In other words, the insects are free to fly to a certain extent while still in the net. By reason of this the rubbing and crushing actions of the folds in an ordinary net are avoided. With a net of this kind, the operator can also readily introduce a cyanide jar without danger of the insects escaping. On account of the spaciousness of the specimen chamber, the jar can be easily moved about inside and the insects gently tapped into it.

For arc light collecting, it is impossible to overstate the advantages of a net of this kind. It is not at all clumsy to handle, the additional weight of the specimen chamber, (diam. 1 ft., height, 6 in.) being negligible. Mr. Mead has used such a net for the past several years and has collected many specimens so perfect that he has been accused of breeding them.

Figure 1 is a view of the net in perspective; figure 2, a view in perspective on a smaller scale showing the net in position to retain a captured specimen; figure 3, a view showing the form of the structure for insuring the dilation of the specimen chamber, and figure 4 illustrates the operator with a cyanide jar introduced in the net.

A smaller cylindrical net for capturing microlepidoptera is shown in figure 6, this being five or six inches in diameter and eight to ten inches high. Figure 5 shows the light weight, flexible metal frame which is covered with fine gauze as shown in figure 6. Figure 7 shows the net grasped with the hand so as to form a special chamber into which the cyanide bottle can be thrust and the specimen removed in as good a condition as when it entered the net.

Descriptions of new Genera and Species of the Dipterous Family Ephydridae—III.

By E. T. Cresson, Jr., Academy of Natural Sciences of Philadelphia.

TYPOPSILOPA n. gen.

Allied to *Psilopa* from which it may be distinguished by the two well developed dorso-central bristles, arranged 1 + 1. The face is distinctly foveolate, with foveae well removed from the orbits; two distinct facial bristles each side, although the upper is much stronger. *Psilopa,* typically, based on its genotype, *Notiphila nitidula* Fall., has no dorso-central bristles and the facial foveae if noticeable are very near the orbits, and the face has only one side bristle, very low. The present genus is apparently allied to *Clasiopella* Hendel, differing in the presence of two dorso-centrals. Whether the presence or absence of these bristles is of generic importance may be questioned.

Genotype—Typopsilopa flavitarsis Cress.

Psilopa atra Lw. also belongs here.

Typopsilopa flavitarsis n. sp.

Black; knob of halteres white, all tarsi yellow or tawny, apices brownish.

Similar to *Psilopa atra* Lw. Frons with the proclinate orbitals slightly below the reclinate frontals. Face about twice as long as broad and nearly as broad as vertex, with the upper bristles about at middle, in profile. Antennal spine as long as third joint. Length 3.0 mm.

Type—♂, Bill Williams Fork, Arizona, August, (F. H. Snow), [University of Kansas Collection].

Paratypes—3 ♂, topotypical.

In comparison with *atra* this species differs principally in the longer face, higher placed facial bristles and the contrasting yellow tarsi. The frons seems less shining, so that the opake frontalia are less differentiated; the face also is less shining and more or less irregularly wrinkled.

Ilythea flaviceps n. sp.

Similar to *spilota* but larger.

Yellow; frons and thorax brown or darker; abdomen and all bristles

black. Wings with series of fuscous bars between veins; veins brown. Opake, yellow pruinose; thorax more or less shining; mesonotum and scutellum somewhat metallic-tinged; abdomen shining but obscured by gray dust. Face with patch of silver inside at base of upper bristles. Arista with 8 hairs. Wings with 4-6 bars in marginal cell, 4-6 in submarginal, 4 in first posterior beyond post. c.v. Length 2.5 mm.

Type—♀, Bill Williams Fork, Arizona, August, (F. H. Snow), [University of Kansas Collection].

This species in form simulates *spilota* Curt. It however is quite distinct in having the legs as well as the face yellow. All the pruinose coating is yellow or golden through which the metallic tints of the mesonotum and scutellum are apparent.

Discocerina parva var. **nigriventris** n. var.

A variety separated on account of the palpi being mostly black and the abdomen more shining. The tibiae, especially the hind ones, entirely shining black.

This variety is probably confined to the Pacific coast region.

Type.—♂, Berkeley Hills, Alameda County, California, April 11, 1909. (Cresson) [A. N. S. P. No. 6100].

Paratypes.—4♂, 4♀, topotypical.

Discocerina setigera n. sp.

Black; base of third antennal joint, palpi, knees, apices of tibiae and all tarsi except apices, tawny; halteres whitish; wings hyaline, veins yellow, costa dark.

Opake, cinereous; frons black or brown pruinose; orbits narrowly white; face and cheeks densely white; mesonotum brownish-tinged medianly; abdomen similar, becoming cinereous laterally; femora and tibiae cinereous.

Frons broad as long; orbits parallel. Face narrower, concaved above, moderately prominent at middle, strongly retreating below; three pairs of converging bristles and another series of smaller laterally curved bristles nearer orbits; parafacials bare. Cheeks hardly as broad as third antennal joint. Arista with 4-5 hairs.

Mesonotal setulae numerous, irregular; prescutellars present. Scutellum rounded apically. Abdomen ovate; segment 5 of ♂ triangular convex. Length 2.5 mm.

Type.—♂, Mesa Grande, Sonoma County, California, May, 1908 (P. C. Baumberger), [A. N. S. P. No. 6101].

Paratypes.—3♂, 5♀, topotypic.

A species belonging to a group possessing a second series of

facial bristles directed laterally, *i. e.*, in opposition to the regular converging series. The cheeks are rather narrow and the parafacials are not noticeably setulose above; the dorsum of thorax and abdomen cinereous or but faintly brownish.

Discocerina argyrostoma n. sp.

Black; apex of proboscis, bases of tarsi, tawny; halteres yellowish-white. Wings clear hyaline.

Shining; front opake brownish, orbits whitish below; face opake silvery or grayish white; antennae white or gray pruinose.

Frons longer than broad, with orbits parallel; one orbital bristle. Face as broad as frons, flat, slightly retreating below, with two bristles below middle; foveae weak or absent. Mesonotal setulae erect; prescutellar bristles near margin. Scutellum convex, triangular. Abdomen ovate, apex acute; segments subequal; hypopygium inconspicuous. Length 4.5 mm.

Type.—♂, Berkeley Hills, Alameda County, California, April 11, 1908, (E. T. Cresson, Jr.), [A. N. S. P. No. 6102].

Paratypes.—1 ♂, 3 ♀, topotypical.

This is not a typical *Discocerina*. The face is flat and broad, with no, or very weak, foveae. The shining black thorax and the flat, silvery white face will separate this species from all the others of the genus.

Mosillus tibialis n. sp.

Black; third antennal joint sometimes, tibiae except middle of hind ones, and tarsi except apices, tawny; halteres whitish; wings hyaline, lacteous, veins yellow.

Polished, with faint metallic reflections; parafacials (but not the cheeks), foveae, middle of face except prominence and lateral papillae, all outer surfaces of tibiae, silvery; third antennal joint and mesonotum somewhat faintly gray. Frontal triangle, mesonotum and scutellum subopake, minutely punctured.

In other respects similar to *M. subsultans* Fab.

Type.—♂, Wildwood, New Jersey, July 18, 1908, (E. T. Cresson, Jr.), [A. N. S. P. No. 6103].

Paratypes.—19 ♂, 5 ♀, topotypical.

This name is proposed for the American species. It is possible that Walker may have described it. Our species differs from the European *subsultans* in having the tibiae tawny, not black, and in general it is more distinctly sculptured espe-

cially on the frons, mesonotum and abdomen. The silver of the face is not noticeable on my specimens of *subsultans*.

This species has been known in the American collections as *Gymnopa nana* Walk. and *G. aenea* Fall. It is not the latter but may be the former. Walker's type cannot be located in the British Museum by Mr. E. E. Austen to whom I submitted specimens for comparison.

Lytogaster willistoni n. sp.

Black; third antennal joint except apex, knees, and tarsi except apices, tawny; halteres yellow with black knobs; wings clear hyaline with black veins.

Subopake; abdomen shining; face gray with silvery orbits; pleurae sparsely gray. Disc of frons, two median thoracic stripes, disc of scutellum granulose; abdomen minutely pitted becoming very dense on the depressed dorsum of second segment.

Abdomen very broad, convex and subglobose; lateral margins revolute; second and more or less of third segment depressed on dorsum with lateral lines of delimitation sharp; fourth segment very large, convex, two to three times as long as second and third together; fifth triangular, nearly as long as fourth, with two shallow depressions near apex. Length 2.3 mm.

Type.—♂, Berkeley Hills, Alameda County, California, April 20, 1908, (E. T. Cresson, Jr.), [A. N. S. P. No. 6104].

Paratypes.—4 ♂, 6 ♀, topotypical.

This species is found in most collections under the name *Ephydra* or *Pelina brevis* Walker. As I do not know Walker's species I cannot recognize the name. The species is distinguished by the large, shining, convex, subglobose abdomen, with the fourth segment much developed. The surface of the abdomen is minutely pitted as described.

Parydra tibialis n. sp.

Structurally similar to *P. bituberculata* Lw.

Black; halteres, knees, tibiae and tarsi tawny; wings clear hyaline, veins tawny, cross veins not clouded.

Shining, more or less sparingly obscured by gray or brown pollen, which on the face is dense and white, and on the abdomen and femora is variegated with minute bare dots at the bass of setulae. Mesonotum reddish coppery-tinged; abdomen greenish-tinged. Scutellum with two small bristle-bearing tubercles, well separated as in *bituberculata;* lateral bristles with or without minute tubercles. Length 4.5 mm.

Type.— ♂, Oak Creek Canyon, Arizona, 6000 ft. alt., August, (F. H. Snow), [University of Kansas Collection].

Paratypes.—5 ♂, 15 ♀, topotypical.

Belonging to the *bituberculata*-group, and distinguished from its congeners by the clear wings and tawny tibiae and tarsi. The entire surface in general obscured by the sparse but distinct coating of gray pollen.

Ephydra niveiceps n. sp.

Similar to *E. subopaca* Lw.

♂. Black; metallic green; halteres, knees, bases of tibiae, tarsi except apices, tawny.

Opake, gray or whitish; frons polished, with gray orbits; mesonotum subopake with metallic tinge, with broad more whitish median stripe; abdomen more obscured but metallic color evident. Face and cheeks glistening silvery or snowy white when seen from above.

Frons nearly horizontal; prefrontal bristles well developed, nearly equalling frontal orbitals. Face in profile, projecting greatly, nearly equalling horizontal diameter of eye; parafacialia broad, at least one-half length of third antennal joint in width; bristles normal; cilia of posterior orbits normal. Mesonotal acrostichals in well defined series anteriorly; posterior margin of mesopleuron with only 4-6 bristles. Abdominal segment 5 not longer than 4; genitalia not noticeably developed. Length 5.0 mm.

♀. Similar, but the gray face not so glistening.

Type.— ♂, Wawawai, Washington, [A. N. S. P. No. 6105].

Paratypes.—1 ♀, topotypical.

I have also seen a series of 3 males, 1 female, from 40 miles north of Lusk, Wyoming, July, 1895, [Kansas Univ. Coll.], and a female from Manitou Park, Colorado, [Kans. Univ. Coll.].

This may possibly be only a variety of *E. subopaca* Lw. or of *E. milbrae* Jones. The general gray color, not brown; the snowy white projecting face; the broad facial orbital areas and seriated acrostichal setulae are noticeable in the material before me, as differing from the above mentioned species.

Ephydra pectinulata n. sp.

Similar to *niveiceps*.

Opacity more brownish, especially on the frons and thorax; the grays not whitish except on the face; abdomen more olivaceous, not opake.

Frons less horizontal, face not so projecting being white but not glistening snow-white. Cilia of posterior orbits developing into two or three stout bristles at buccal extremity. Mesopleural fringe, of more numerous bristles, especially of ♀, is very dense and close.

Scutellum of ♀ longer and more acutely pointed with noticeably long pile. Bristles of fore femora very long. Length 4.7 mm.

Type.—♂, 40 miles North of Lusk, Wyoming, July, 1895, (U. of K. Lot 425), [Univ. of Kansas Coll.]

Paratypes.—2 ♂, 6 ♀, topotypical.

DIMECOENIA n. gen.

This genus is proposed for the reception of *Caenia spinosa* Loew, its type species. It differs from *Coenia,* as based on its genotype, *Ephydra palustris* Fallen, in the absence of pulvilli and having the claws long and nearly straight. In these respects it resembles *Ephydra,* but in the present genus there are only two frontal orbital bristles and no post-humeral or prescutellar bristles. The pre-frontal bristles are strongly developed. The genus seems intermediate between *Coenia* and *Ephydra* but is constant in the characters mentioned.

Here also belongs *Ephydra austrina* Coquillett, of which *Caenia virida* Hine is a synonym. I have examined the cotypic series of Coquillett's and Hine's species. It is strange that both authors overlooked the characteristic tufts of hair on the hind tarsi of the male of this species. This is described by Aldrich in his paper on "Two Western Species of Ephydra."*

A new Genus of Eulophidae from the United States (Hym.).

By A. A. Girault, Washington, D. C.

PSEUDOLYNX new genus.

Belongs to the Omphalini and is characterized by its robustness, the elongate stigmal vein and middle tibial spur.

1. Pseudolynx io new species. Genotype.

♀.—Length 3.00 mm. Robust. Head a little wider than long, large. Dark metallic green except the reddish brown femora, tibiae, tarsi and scape (except above along more than the distal half). The fol-

*Jour. N. Y. Ent. Soc. xx, 101, 1912.

lowing parts reddish yellow: Mouth, margin of the eyes very narrowly, a narrow line across the vertex from the eyes and behind the lateral ocelli, the large prepectus except a spot dorso-cephalad, the dorsal margin broadly of the cephalic of the two mesothoracic sclerites, a narrow line across the face about halfway between antennae and cephalic ocellus, lateral margin of scutum at about cephalic third (a triangle), mesal margin of each parapside from near cephalic end, broadening caudad (thus a longer triangle), lateral margin narrowly and caudolateral corner broadly of each axilla, lateral and apical margins of scutellum narrowly, postscutellum excepting a large area filling the entire meson.

Fore wings with a smoky area under the marginal vein, ending against the stigmal and not extending quite halfway across the wing; it extends more suffusedly proximad.

Marginal vein somewhat shorter than the submarginal, the stigmal long, over half the length of the marginal, the postmarginal somewhat shorter than it.

Hind tibial spurs double, stout, very unequal.

Head densely scaly, below the antennae with many thimble punctures of moderate size, the genal suture distinct. Antennae inserted a little above the ventral end of the eyes, 9-jointed with two ring-joints and three club-joints, the flagellum thick, the club large-oval, obtuse at apex, wider than but not quite as long as the funicle whose joint 1 is elongate, somewhat over twice longer than wide, 2 somewhat longer than wide, the pedicel a little shorter than it; club 3 a hemisphere. Ring-joints large. Mandibles rude, tridentate.

Thorax coarsely scaly, the axillae advanced, large, the propodeum rather short at the meson, with a delicate median carina and no others, longer laterad. Scutellum simple, large.

Abdomen conic-ovate, produced beneath, as long as the rest of the body, densely, finely scaly like most of the propodeum.

Described from one female in the United States National Museum from North Saugus, Massachusetts, May 24, 1907 (J. C. Crawford).

Type: Catalogue No. 19630, U. S. N. M., the female on a tag, the head, a pair of wings and the hind legs on a slide.

2. **Pseudolynx flavimaculatus** new species.

♀.—Length 4.50 mm. Differs from the preceding in being larger, the mouth more broadly yellow and a broad oblique line runs from each corner of it to the end of the eye, between the antenna and the genal suture; the propleuron is yellow except ventrad, the axillae are margined with yellow all around and the lateral margin of the parapside is rather broadly yellow (very obscurely and narrowly in the other spe-

cies); the scape is all yellow and the lower half of the pedicel. The infuscation of the fore wing is narrower, more along the venation (marginal and stigmal veins, mostly, against and beneath them). There are also on the abdomen above, near base, two obscure marginal spots of ochreous and along the sides a rather conspicuous broken stripe of the same color (ventro-lateral aspect), the spots of which it is composed being much longer than wide on segments 2 and 5; this stripe does not extend to the apex by some little distance. Otherwise about as in *io*. Both species have a glabrous plate, wider than long, just cephalad of the spiracle and there are thimble punctures on the scutellum in longitudinal lines laterad (two lines in *io*, one of three or four punctures in this species). Submarginal vein distinctly, abruptly broken in regularity in both species. In this species, the middle tibial spur is very long and slender (also in *io*).

Described from one female in the U. S. N. M., labeled "*Olynx flavimaculata* Ashm., Ramsey County, Minnesota."

Type: Catalogue No. 19631, U. S. N. M., the specimen on a tag; middle and hind tibiae and the antennae on a slide.

Insect Notes for the Season of 1915 (Lep., Col., Dip.).

By Harry L. Johnson, South Meriden, Conn.

Abundance of Feralia jocosa, etc. (Lep.).

I have taken *jocosa* sparingly for a number of years on the common hemlock (*Tsuga canadensis?*). A little grove of these trees is situated on the Oregon* Road on a cliff of rocky formation overlooking the Connecticut River and I have made it a point to visit this place each year for this species, usually securing two to three a day for several days. This year, however, I decided to visit what is known as Hemlock Grove, situated about halfway between Meriden and South Meriden in a park known as Terrace Garden. This grove is also on high rocky ground overlooking a stream, so that locality and surroundings being similar, I expected good results.

Three warm, sunny days in April were selected as best for collecting. On the first day, April 7th, some twenty-six speci-

* Oregon is a small cliff-enclosed valley bounding South Meriden on the northwest. This place has always gone by the name of Oregon or the Oregon road. Possibly the place took its name from this road, which goes through it. The place is very thinly settled and is designated on the map of Meriden as Cheshire Road, although it is always spoken of as Oregon.

mens of *jocosa* together with several *Phigalia titea* and three *Nyctobia limitata* were taken from the grove from three to four o'clock in the afternoon. Most of the *jocosa* were found low down on the bases of the trees but *P. titea* was usually higher up. The Joker moths were easily bottled as they are sluggish, but *Phigalia titea* and *Nyctobia limitata* required the use of a net, as they were inclined to fly up when one got to within several feet of them. The second day, April 8th, was still warmer and clear but the result was not as anticipated as only about ten specimens of The Joker were secured. On the third day, April 9th, which was decidedly cooler but still clear, I took over eighty specimens of *jocosa* from the grove, practically all of them freshly emerged specimens.

When pinning and spreading these specimens care has to be taken to remove with cotton all the oily substance which exudes from the wings, around the pin, etc., as otherwise the wings stick to the spreading board when dry, spoiling the specimen by tearing the wings.

This species is well named The Joker, as it forms one of the most natural mimics of the insect world, being almost a perfect copy of the lichen found on hemlock.

Euchloe genutia Fab. **(Lep.).**

A pair of *Euchloe genutia* fell to my lot for the first time this year. On April 24th while walking along the track of the "Cannon Ball" express in Oregon I spied a butterfly which did not seem familiar and as it was a slow flier I captured it and found it to be the male of *E. genutia*. On the next day I happened along the same route and took the female in practically the same place, but although I visited the region steadily after that, I could not add more to the number.

Vanessa milberti Godart. **(Lep.).**

Vanessa milberti was also present in my vicinity this year although I have never seen it here before. One specimen was taken on the blossoms of wild plum near Hanover Park on April 29th, and later in the season I took several fresh specimens near the same locality on the flowers of alfalfa. These last were undoubtedly of a second brood.

Pieris napi, aberrant form **virginiensis?** Edwards. **(Lep.).**

Another butterfly new to me, *P. napi virginiensis,* fell to my lot this year, making three new butterflies in one season. Six specimens of this species were secured on the Oregon road. They are somewhat smaller and weaker fliers than *P. rapae* and are readily told from them and as easily taken with the net.

Abundance of Melitaea phaeton Drury. **(Lep.).**

This butterfly has always been rare with me until this year. One or two specimens each season was all that I could possibly obtain even by the most strenuous hunting. These single specimens I always found on swampy land in Oregon. This year I was fortunate in discovering a new place for this species on the road to Meriden. While walking along this road I saw a single specimen around a wet place in the road and after taking it noticed two more further along, then three, then several more. Knowing their habits I began to investigate and found their gathering place in a marshy field of grass about three feet high on the side of the road. *Phaeton* was here in abundance flying lazily around and alighting on the blades of grass. I took thirty on July 11th inside of fifteen minutes; on the 12th I took twenty and thirty-five more on the 13th. All this helps to prove the theory that nothing is rare if you know where to find it.

Tenacity of Life in the Spice Bush Silk Moth. (Lep.).

On returning home from work one July noon, I noticed an unfamiliar object through motions made by an insect which was partly concealed in the leaves near the house. On a closer inspection I found it to be a *Callosamia promethea* which I had taken the previous day and had thrown away after supposedly killing it. The family cat seeing the specimen had deprived it of its head, all the legs and three of its wings, leaving only the body and one wing and the insect apparently dead at the time. That it was not dead was proven by its lively actions when I rediscovered it. It kept up continual motion, the lone wing flopping from side to side, causing the body to jump around somewhat resembling a sailboat in a choppy sea.

Deciding to see how long this action would keep up I left the specimen and on returning at six o'clock that night the mangled specimen was as active as before, whereupon I crushed it with my foot as I was satisfied that it was fated for several more hours of torture whether painless or otherwise.

Calosoma sycophanta Linn. **(Col.).**

While collecting at light in Hemlock Grove on May 14, I took a specimen of this beautiful European beetle which has been imported to fight the gypsy and brown-tail moths. This insect is reputed to be a good climber which seems to be upheld by the fact that the specimen was more than halfway up an electric light pole when captured. Mr. Britton, of the Connecticut Agricultural Experiment Station at New Haven, states in a letter concerning the specimen, "Apparently you are correct in regard to the specimen of *Calosoma sycophanta* Linn. I did not suppose that it had yet reached a point so far west as Meriden. A colony was liberated in Stonington in 1914. None were planted in the town of Thompson but the beetles were found there in moderate numbers in 1914 as the result of spreading from Massachusetts towns."

Curious Food Habits of Musca domestica (Dip.).

Having occasion to use a quantity of gummed labels in the course of some work on my collection I was surprised to find that any uncovered labels which I left on my table over night would be minus the mucilage in the morning. Sometimes the mucilage was removed in spots and blotches but almost always the paper was entirely cleaned as though with a vacuum cleaner. This condition and its cause baffled me for quite awhile and I was on the point of laying it to a cockroach which I knew to be in the room when, happening to go to the study after dark one evening, I was astonished to discover a group of house flies on the labels. After watching them a few minutes I was convinced that they were feeding on the sticky substance. The weather being quite warm the mucilage on the labels was somewhat soft, allowing the flies to remove it. Not having heard of this habit of the housefly before I record it here.

A new Phalangid from the Coronados Islands (Arach.).

By T. D. A. Cockerell, Boulder, Colorado.

Last August my wife and I visited the South Island of the Coronados group, off the coast of Lower California, Mexico. Among the interesting arthropods collected was a Phalangid of the family Trogulidæ, which proves to be an undescribed member of the genus *Ortholasma* Banks (Psyche, 1894, p. 11.) It may prove to be peculiar to the islands.

The table given by Banks (Pomona Coll. Jn. Entom., 1911, p. 417) may be enlarged and modified to admit the new species as follows:

Process of eye-tubercle relatively long and narrow, with six or more transverse ribs on each side; femora and tibiæ not banded, *rugosa* Banks.

Process of eye-tubercle relatively broad, spoon-shaped..... 11. Femora and tibiæ banded; apical projections of process of eye-tubercle beyond rim longer than broad.....*pictipes* Banks.

Femora and tibiæ not banded; apical projections of process of eye-tubercle beyond rim much broader than long, *coronadensis* n. sp.

Ortholasma coronadensis n. sp.

Length of body 3.5 mm., 4 mm. if process of eye-tubercle is included. Process dull white, constructed as in *pictipes*, with the same number of ribs, but even broader, the outline not far from circular (excluding the narrower base), and the projections beyond the rim very broad and short, with sloping sides; anterior spine-like processes of cephalothorax as in *pictipes*.

Legs sepia-brown, without bands. Body sepia-brown, the dorsal surface with numerous white tubercles, the principal ones in two longitudinal rows of six each; these tubercles are connected with transverse somewhat darkened ridges in the cephalothoracic region, and on abdomen are situated on a lattice-work pattern of dark ridges, forming a net-like structure with square meshes, the corners directed laterad, caudad and cephalad; the margin of the body posteriorly is furnished with a row of pallid blunt processes, connected by dusky transverse bars, like a fence; the body beneath, including the coxæ, is densely beset with pallid round tubercles; palpi bristly, last joint short; legs minutely hairy, trochanters strongly tuberculate.

Type in the author's collection.

Found in a cave-like hollow under a large rock, a considerable distance above sea-level.

A new Species of the Genus Neoblattella from Costa Rica (Orthoptera, Blattidae).

By Morgan Hebard, Philadelphia, Pa.

In studying material of the family Blattidae, accidentally introduced in the United States, an undescribed species of *Neoblattella* has been encountered. As we desired to describe the species, if possible, from material taken at a locality at which it is native, we have gone through the undetermined material which we have and have found the additional series recorded below.

Neoblattella fratercula new species.

This species is apparently rather closely allied to *N. brunneriana*. When compared with specimens before us which we believe to represent that species[1], the present insect is readily distinguished by its smaller size, tegmina and wings with cross-veinlets less strongly indicated[2], slightly iridescent wings and very distinctive male genitalia.[3]

TYPE: ♂ ; Isla de Cocos, Costa Rica, January, 1902. (P. Biolley.) [Acad. Nat. Sci. Phila., Type No. 5298.]

Size medium small for the group, smallest of the more nearly related species; form rather slender. Interocular space wide; ocellar spots weakly defined. Maxillary palpi very elongate; third and fourth joints subequal in length; fifth (distal) joint about two-thirds as long as fourth, obliquely truncate to near its base.

[1] From San Rafael in Vera Cruz, Mexico; Port Limon, Reventazon, Juan Viñas and Azahar near Cartago, Costa Rica.

[2] In *brunneriana* very numerous and conspicuously defined in darker brown distad, both on tegmina and wings.

[3] The only male of *brunneriana* before us is from Port Limon, Costa Rica. It has the sides of the subgenital plate nearly vertical and suddenly abruptly truncate, leaving mesad a quadrate aperture; the bottom margin of which (representing the mesal portion of the distal margin of this plate) is irregularly truncate, with a small mesal knoblike projection, slightly longer than wide, and styles briefly distant on each side, of almost the same size and form as this projection. From within the plate, near this margin, spring aciculate, chitinous, somewhat decurved projections, which reach a short distance beyond the margin of the plate, projecting from the narrow channels between the styles and the small median projection of the distal margin.

Pronotum with disk very weakly raised, the whole surface in nearly the same plane; cephalic margin moderately truncate, weakly convex; angles broadly rounded, the cephalic more so than the caudal; caudal margin truncate, very weakly convex.

Tegmina very delicate; with seven longitudinal discoidal sectors (this including the median vein, all its branches and the production of the ulnar vein); cross veinlets very weak; wings very delicate; six of the costal veins rather heavily clubbed distad, ulnar vein with four branches, intercalated triangle small, axillary vein with three branches which are directed away from the costal margin.

Abdomen with dorsal surface little modified; sixth segment more produced than the others, with distal margin broadly and weakly convex lateral and broadly and more decidedly concave mesad; seventh segment somewhat narrower, with distal margin sinuous; eighth segment still

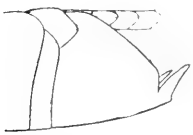


Fig. 1.—Lateral outline of subgenital plate of type. ♂. (Greatly enlarged).

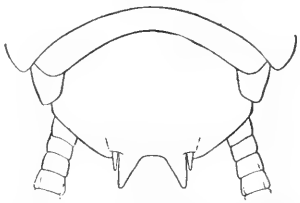


Fig 2.—Ventral outline of subgenital plate of type. ♂. (Greatly enlarged).

narrower and normally almost completely concealed, broadly cleft mesad; ninth segment very much narrower, very little produced; tenth segment (supra-anal plate) distinctly transverse, triangularly weakly produced with blunt apex. Subgenital plate with lateral margins weakly elevated and declivent distad forming small and narrow emarginations at their juncture with the mesal portion, within which emarginations are situated the styles which are minute almost microscopic pegs with apices acute; the remaining mesal portion of the plate is produced latero-distad in acute-angulate weakly divergent thin plates, the remaining very brief mesal portion of the margin between these transverse.

Limbs very delicate with delicate spines; ventro-cephalic margin of cephalic femora with long, slender, widely spaced spines in a little more than proximal half, which slightly decrease in size distad, remaining distal portion with very much smaller and more closely set spines.

Allotype: Same data as type. [Acad. Nat. Sci. Phila.]

Agrees with male except in following features. Dorsal abdominal segments not differing greatly in outline, supra-anal plate very small, strongly transverse, weakly triangularly produced, with lateral margins weakly convex and apex briefly and very shallowly notched. Subgeni-

tal plate very large and strongly produced, in general form scoop-shaped; distal margin strongly convex latero-proximad, then nearly straight for a decidedly greater distance to broadly convex apex.

Measurements (in millimeters).

♂♂	Length of body	Length of pronotum	Width of pronotum	Length of tegmen	Width of tegmen
TYPE	8.3	2.4	3.3	10.7	3.1
Paratypes (5)	8.-9.3	2.3-2.4	3.2-3.3	10.-10.3	2.8-3.
Lincoln, Nebr.	9.4	2.7	3.7	11.4	3.4
♀♀					
Allotype	8.5	2.6	3.4	10.2	3.
Paratypes (5)	9.5-10.8	2.7-2.8	3.4-3.6	9.8-10.3	3.
S. S. Tenadores (2)	10.10.2	2.9	3.7-3.8	11.1-11.3	3.4

The specimens taken away from their native habitat were almost certainly from the east coast of Central America, those from the S. S. Tenadores were taken on at either Bocas del Toro, Panama, or Limon, Costa Rica. The measurements would indicate that the species on the Isla de Cocos averages somewhat smaller than material from the mainland.

Coloration: General color warm buff[4], lateral margins of pronotum and all of the tegmina clear translucent warm buff; disk of pronotum antimony yellow, with a few slightly darker (buckthorn brown) markings and very few much darker (mummy brown) minute dots. Wings hyaline with a very slight iridescence, veins and distal cross-veinlets translucent very pale brown. Head warm buff with a very slightly darker diffused broad brown band ventrad between the eyes, a similar but much narrower band between the ocellar spots and on the face traces of two interrupted very narrow bands of the same shade. Abdomen buckthorn brown, ventrad with a large diffused dark brown marking proximad and with a dark brown dot laterad on each segment. Antennae and limbs warm buff.

Specimens Examined: 15; 7 males, 8 females.

Isla de Cocos, Costa Rica, January, 1902 (P. Biolley), 6 ♂, 6 ♀, TYPE, *allotype, paratypes,* [A. N. S. P. and Hebard Cln.]

Material adventive in United States.[5]

Lincoln, Nebraska, July 15 (introduced in bananas, probably from Central America), 1 ♂ [Hebard Cln.].

S. S. Tenadores, en route New York, N. Y., to Jamaica, October 19, 1913 (Hebard; dead in hold), 2 ♀ [Hebard Cln.]

[4] These colors are all taken from Ridgway's Color Nomenclature.

[5] In these specimens the eyes are slightly wider and the abdominal colors slightly paler than in the typical series.

Additions to Insects of New Jersey, No. 4.*

By HARRY B. WEISS, New Brunswick, N. J.

Mr. Raymond C. Osburn informs me that the genus *Tubifera* Meigen, 1800 (Dip.), has priority over *Helophilus* Meigen 1804, owing to the acceptance of the 1800 paper, so that all records under *Helophilus* in Smith's 1909 list should be placed under *Tubifera*.

Gracilaria azaleae Busck recorded in *Additions to Insects of New Jersey, No. 2* (Ent. News, vol. 26, p. 262), has been reduced to a synonym of *Gracilaria zachrysa* Meyrick.

To Mr. E. R. Sasscer and Mr. Rust I am indebted for the determination of certain scale insects and mealy bugs; to Mr. C. A. Frost for identifications made in the Coleoptera; to Mr. L. C. Bragg for the identification of *Rhopalosiphum ligustri* Kalt., and to Mr. J. A. G. Rehn for the determination of the two species recorded in the Orthoptera.

Inasmuch as it is convenient to have the references to the New Jersey fauna as complete as possible, attention is called to *Additions to the New Jersey Tipulidae (Diptera)*, by M. D. Leonard (Ent. News, vol. 24, p. 247), in which eleven species are recorded.

Order MECOPTERA.

Panorpa latipennis Hine. Hewitt, June 18 (Davis). (Bull. Brook. Soc. vol. 10, p. 109).

Panorpa subfurcata West. Ramsey, June 23, Hewitt, June 18 (Davis). (Bull. Brook. Soc. vol. 10, p. 110).

Merope tuber Newman. Chester (Dickerson). (Bull. Brook. Soc. vol. 10, p. 111).

Order THYSANURA.

Achoreutes armatum Nicolet. The Mushroom Spring Tail. Occurs in mushroom cellars in New Jersey.

Order NEUROPTERA.

Conwentzia hageni Bks. Rutherford, May 30, bred from evergreens. E. L. Dickerson.

Order HOMOPTERA.

Cicada auletes Germar. This should replace *C. marginata* Say of the 1909 list. (Jour. N. Y. Ent. Soc. vol. 23, p. 2) Davis.

* Nos. 1-3 were published in the NEWS as follows: xxvi, 101-107, March, 1915; 260-262, June, 1915; xxvii, 9-13, Jan., 1916.

Cicada pruinosa var. **latifasciata** Davis. Cape May County, Davis. This record should replace *C. pruinosa* Say in the 1909 list. (Jour. N. Y. Ent. Soc. vol. 23, p. 8) Davis.

Livia vernalis Fitch. Trenton, July 2. E. L. Dickerson.

Pachypsylla celtidis-mamma Riley. Makes leaf galls on *Celtis.* Riverton, June 25. E. L. Dickerson.

Pemphigus ulmifusus Walsh. Elizabeth. Gall on leaf of *Ulmus pubescens.* H. B. Weiss.

Aphis hederae Kalt. In greenhouses on English ivy. Not common. H. B. Weiss.

Aphis houghtonensis Troop. Riverton, on gooseberry. T. J. Headlee.

Aphis nerii Fonsc. In greenhouses on oleander. Not common. H. B. Weiss.

Aphis rufomaculata Wils. Green aphis of chrysanthemum, in greenhouses. H. B. Weiss.

Rhopalosiphum ligustri Kalt. Jersey City, July 15, on privet. H. B. Weiss and E. L. Dickerson.

Macrosiphum sanborni Gill. Black aphis of chrysanthemum, in greenhouses. H. B. Weiss.

Myzus rosarum Kalt. On roses in greenhouses. H. B. Weiss.

Aleyrodes mori Quaint. var. **maculata** Morr. Palmyra, August 6, on sweet gum. E. L. Dickerson.

Pseudococcus kraunhiae Kuwana. Rutherford, July, 1915, on *Taxus cuspidata.* Evidently introduced from Japan. H. B. Weiss.

Antonina crawi Ckll. On *Bambusa henonis* and *B. aurea.* Riverton, Aug. 6. Evidently introduced from Japan. H. B. Weiss.

Eucalymnatus tessellatus Sign. On palms in greenhouses. H. B. Weiss.

Coccus pseudohesperidum Ckll. Rutherford, South Orange, Summit, in greenhouses on *Cattleya* orchids and other greenhouse plants. H. B. Weiss.

Toumeyella pini King. Asbury Park, July 26, on pine. E. L. Dickerson and H. B. Weiss.

Aulacaspis zamiae Morg. On *Cycas revoluta* in greenhouses. H. B. Weiss.

Chrysomphalus rossi Mask. On orchids, rubber plants in greenhouses. H. B. Weiss.

Order HEMIPTERA (HETEROPTERA).

Stephanitis pyrioides Scott (*azaleae* Horv.). Rutherford, Arlington, Palmyra, Riverton, Nutley and other parts of the state. August to November. Feeds on foliage of azaleas. Originally imported from Japan. H. B. Weiss & E. L. Dickerson.

Sphaerobius quadristriata Barber. Lakehurst, July 4, Sept. 7 (Davis & Barber). (Jour. N. Y. Ent. Soc. vol. 19, p. 24).

Jalysus multispinosus Ashm. Lakehurst (Barber). (Jour. N. Y. Ent. Soc. vol. 19, p. 23).

Pseudocnemodus canadensis Prov. Lakehurst, July 11 (Davis). (Jour. N. Y. Ent. Soc. vol. 19, p. 26).

Order ORTHOPTERA.

Pycnoscelus surinamensis Linn. Rutherford, in greenhouses. H. B. Weiss.

Gryllotalpa gryllotalpa Linn. Rutherford, May, June, July, August. Lives in burrows underground and cuts off the roots of various plants. The European mole cricket, introduced from Europe. H. B. Weiss.

Order COLEOPTERA.

Molamba fasciata Say. Tenafly, June 5, in bark of maple tree. H. O. Pond.

Phaedon (Plagiodera Redt.) **versicolor** Laich. Arlington, Elizabeth, Aug. 13, Irvington, July 28. Dickerson & Weiss. Adults and larvae destructive to the foliage of poplars and willows. This is the common *P. armoricae* of Europe.

Eugnamptus collaris Fab. var. **fuscipes** Pierce. Egg Harbor, June 15. H. B. Weiss.

Eugnamptus collaris Fab. var. **nigripes** Melsh. Egg Harbor, June 15. H. B. Weiss.

Magdalis barbicornis Latr. Burlington, May. H. B. Weiss.

Ceutorhynchus affluentus Dietz. This should replace *C. rapae* Gyll. in the 1909 list as Mr. Dietz states that *C. rapae* so called is not the same as the Eureopean species of that name. C. A. Frost.

Xyleborus saxeseni. Tuckahoe, Oct. 5, in dead sugar maple. T. J. Headlee.

Order LEPIDOPTERA.

Apatela (Acronycta) afflicta Grt. Passaic, Rutherford, July 2, at light. M. H. Mead.

Hadena misera Grt. Rutherford, Aug. 3, at light. M. H. Mead.

Baileya doubledayi Guen. Passaic, May, June, at light. M. H. Mead.

Semiophora tenebrifera Wlk. Passaic, April 26. M. H. Mead.

Noctua fennica Tausher. Passaic, July 2, at light. M. H. Mead.

Euxoa redimicula Morr. Passaic, July 28, at light. M. H. Mead.

Mamestra assimilis Morr. Rutherford, July, at light. M. H. Mead.

Mamestra capsularis Guen. Passaic, May 27, at light. M. H. Mead.

Xylina baileyi Grt. Passaic, Oct. 12, at light. M. H. Mead.

Epiglaea pastillicans Morr. Lakehurst, Oct. 17. (Buchholz and Lemmer).

Orthosia lutosa Andrews. Passaic, June 30, at light. M. H. Mead.
Parastichtis discivaria Wlk. Passaic, July 31, at light. M. H. Mead.
Calymnia orina Guen. Passaic, July 13, at light. M. H. Mead.
Bomolocha deceptalis Wlk. Passaic, July 26. M. H. Mead.
Cissura spadix Cramer. Passaic, May 6, at light. M. H. Mead. Probably a visitor.
Melalopha strigosa Grt. Passaic, May 29, at light. M. H. Mead.
Schizura apicalis G. & R. Passaic, May 26, at light. M. H. Mead.
Coenocalpe magnoliata Gn. Lake Hopatcong, July 15. Lemmer.
Pinipestis zimmermanni Grt. Eatontown, Aug. 5. Larvae in terminal shoots of Austrian and other pines. H. B. Weiss.
Eois demissaria Hbn. Elizabeth, Aug. 15. Lemmer.
Orthofidonia exornata Wlk. Lyons Farms, April 29, May 2. Lemmer.
Pero marmoratus Grossb. Irvington, Aug. 10. Lemmer.
Plagodis fervidaria H. S. Passaic, April 28, May 3, at light. Mead.
Plagodis alcoolaria Gn. Passaic, May 19, at light. Mead.

Order HYMENOPTERA.

Tenthredella nortoni Smulyan. New Jersey. (Canad. Ent. vol. 47, p. 321).
Strongylogaster alboannulatus Rohwer. Brown's Mills Jc. Daecke. (Proc. U. S. Nat. Mus. vol. 43, p. 238).
Pteronus hudsonii Dyar. Rutherford, Aug. 19, Trenton, Aug. 20. Larvae on poplar. H. B. Weiss.
Acordulecera caryae Rohwer. Ft. Lee, larvae on new shoots of pignut hickory. Dyar. (Proc. U. S. Nat. Mus. vol. 43, p. 248).
Acordulecera nigritarsis Rohwer. Brown's Mills Jc., May 30, Rohwer. (Proc. U. S. Nat. Mus. vol. 43, p. 250).
Acordulecera parva Rohwer. Ft. Lee, Sept. 3, larvae on young leaves of black oak. Dyar. (Proc. U. S. Nat. Mus. vol. 43, p. 248).
Acordulecera quercus Rohwer. Ft. Lee. Larvae on young leaves of black oak. Dyar. (Proc. U. S. Nat. Mus. vol. 43, p. 251).
Diastrophus fragariae Bt. Athenia, August, E. L. Dickerson. The strawberry leaf petiole gall maker.
Spalangia muscidarum Richardson. Bred from pupae of *Musca domestica* at New Brunswick. C. H. Richardson.

Order DIPTERA.

Lasioptera corni Felt. Mountainville, Sept. 24. Dogwood leaf gall. On leaf of *Cornus paniculata*. H. B. Weiss.
Neolasioptera perfoliata Felt. Mountainville, Sept. Boneset stem gall. H. B. Weiss.

Dasyneura parthenocissi Steb. Different parts of state. Midrib gall of Virginia creeper. H. B. Weiss.

Hormomyia crataegifolia Felt. Kingston, Aug. 20. Cockscomb gall on *Crataegus* leaf. H. B. Weiss.

Hormomyia verruca Walsh. Mountainville, Sept. 24. Gall on willow leaf. H. B. Weiss.

Neocerata rhodophaga Coq. The rose midge. Found in greenhouses. Maggots in leaf and flower buds of rose. H. B. Weiss.

Phytophaga violicola Coq. The violet gall midge. Maggots curl leaves. Found in greenhouses. Not common. H. B. Weiss.

Prosimulium hirtipes Fries. College Farm, May 10. C. H. Richardson.

Hydrophorus intentus Ald. Atlantic City, May 6. Johnson. (Psyche, April, 1911, p. 51).

Eristalis arbustorum Linn. Palisade, Lakehurst, Ramsey (R. C. Osburn), Fairlawn, Sewell (E. L. Dickerson). (Jour. N. Y. Ent. Soc. vol. 23, p. 142).

Eristalis latifrons Loew. Snake Hill, July 16 (Grossbeck). (Jour. N. Y. Ent. Soc. vol. 23, p. 145).

Hypostena tortricis Coq. Cliffwood. Endoparasitic upon larvae of *Bellura obliqua.* H. H. Brehme.

Sarcophaga bullata Mans. College Farm, May 19, July 18. C. H. Richardson.

Sarcophaga dalmatina Schiner. College Farm, Aug. 21. C. H. Richardson.

Sarcophaga falculata Pand. College Farm, July 27. C. H. Richardson.

Sarcophaga scoparia Pand. College Farm, July 18. C. H. Richardson.

Sarcophaga utilis Ald. College Farm, May 25, Oct. 5. C. H. Richardson.

Ravinia communis Parker. College Farm, May 19 to Sept. 26. Also reared from cow and pig dung. C. H. Richardson.

Ravinia latisetosa Parker. College Farm, May 19 to Aug. 7. Also reared from cow and pig dung. C. H. Richardson.

Bottcheria latisterna Parker. College Farm, Sept. 28. C. H. Richardson.

Coquillettina plankii Walton. Pasadena, Aug. 8. Reared from grasshoppers. H. K. Plank. (Proc. Wash. Ent. Soc. vol. 17, p. 104).

Leptocera (Limosina) ferruginata Steub. New Brunswick, July to Sept. C. H. Richardson.

Lonchaea deutschi Zett. College Farm, July 22, Aug. 25. C. H. Richardson.

A new Cyanogomphus (Odonata).

By E. B. Williamson, Bluffton, Indiana.

(Plates VIII, IX)

Three specimens of *Cyanogomphus* have been recorded. Each is the type of a new species. The genus was established by de Selys in 1873 (Trois. Add. Syn. Gomph.) for the new species *waltheri,* known from a single male from Rio Janeiro, Brazil. Its relationships with *Epigomphus* and *Agriogomphus* were discussed and analyzed for several characters. Perhaps the most striking single character of *C. waltheri* is the remarkable shape of the tenth abdominal segment where the lower posterior border is cut out with the resulting peculiar relative positions of the bases of the superior and inferior appendages.

The second specimen was described by de Selys (Ann. Soc. Ent. Belg. xxxviii, 1894) as *C. ? demerarae.* This specimen was from Demerara, British Guiana, and unfortunately lacked the last four abdominal segments. (The text is confusing on the extent of the injury; at one place it is stated 7 segments 13 mm.; at another the 5th-10th segments lacking; in the text 6 segments are described.) The anal triangle is 2-celled, and brief mention is made of the accessory genitalia. It is much smaller than *C. waltheri* and de Selys remarks, "C'est une des plus petites Gomphines connues," adding that it will be necessary to know the abdominal appendages before deciding certainly that it belongs to the genus *Cyanogomphus.*

The third specimen is a female from Atoyac in Vera Cruz, Mexico, described by Calvert (B. C. A.) as *C? tumens.* The specific name refers to a peculiar swelling on the rear of the head above, behind the eyes "the swollen portions continuous with the occiput and extending outward and downward along each posterior eye margin to about the level of the upper surface of the frons; when the head is viewed from the side the point where the swelling ceases inferiorly is seen to coincide with a posteriorly directed obtuse angulation of the posterior eye margin." This character is not mentioned for de Selys' two species, though I believe it probably exists in both. In

tumens the most remarkable venational character, in the light of its probable relationship, is the relative position of the arculus and the proximal angle of the subtriangle—in the front wings the arculus is widely basal to the proximal angle, and in the hind wings they are about on the same level (compare with wing venation in the two species figured in this paper.) This is the only reason I see for holding the generic position of the species in doubt. It has the distal side of the triangle of the front wing straight as described for *C? demerarae*.

Cyanogomphus conchinus* n. sp. (Plates viii, ix, figs. 1, 6-11).

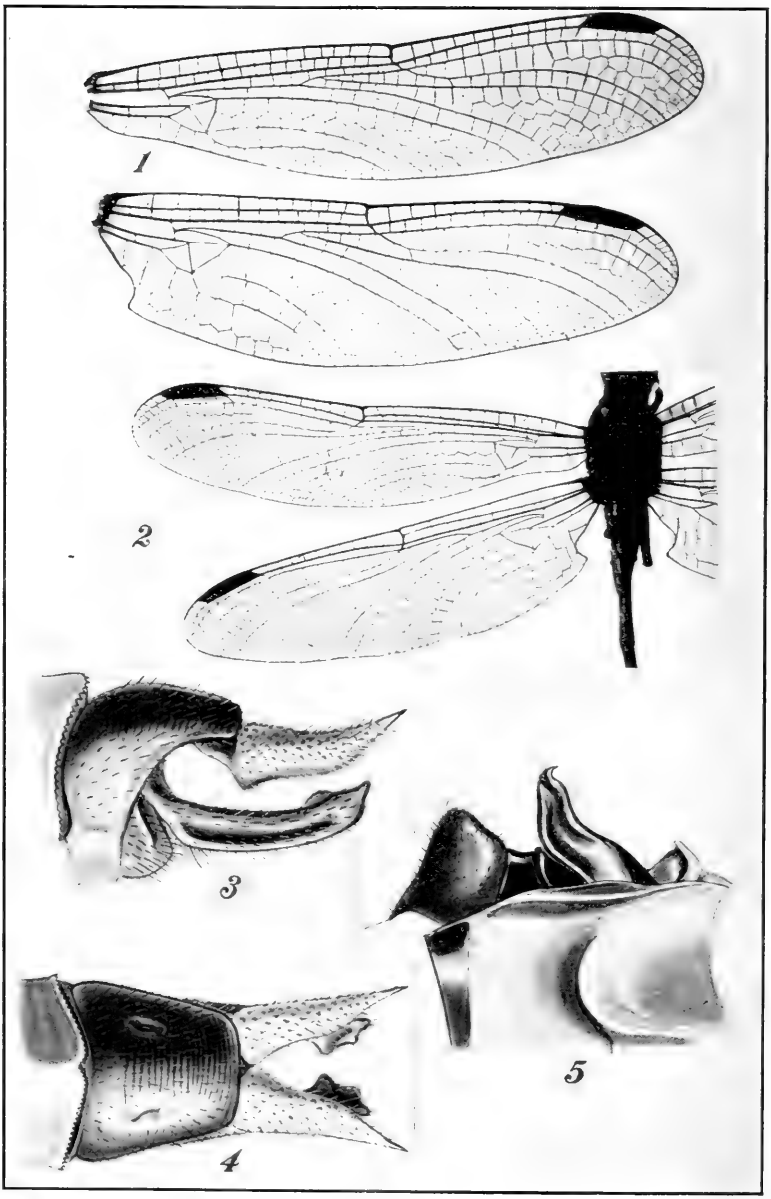
♂. Abdomen 32 mm.; hind wing 23.5 mm.

Face greenish brown, labrum slightly paler and clearer green, browner at base, extreme lower edge black or dark brown; rhinarium browner, the nasus again lighter and the frons in front darker; genae brown. Frons above, vertex and occiput obscure reddish brown; frons in front shaded greenish; antennae black; transverse keel posterior to lateral ocelli distinctly tri-lobed; occiput posteriorly straight, without a posterior keel or edge, but rounded off, with short scarcely discernible hair; occiput laterally on either side behind the eyes swollen as described by Calvert (B. C. A.) for *tumens* (see note above under that species). Rear of head reddish brown; labium dull yellow.

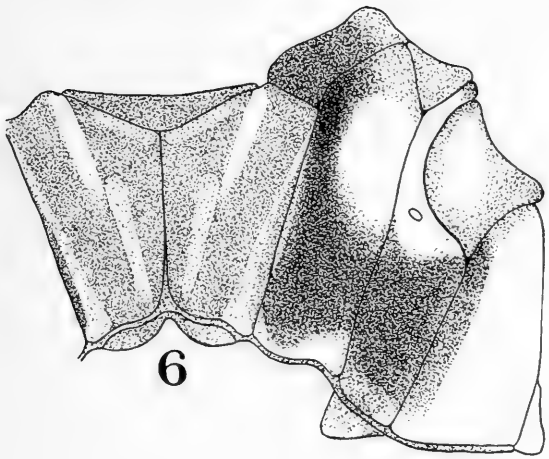
Prothorax brown, markings if any obscure.

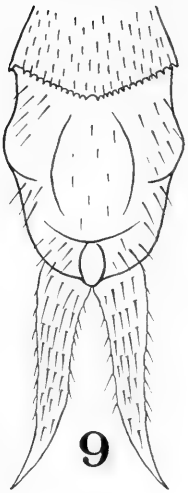
Thorax robust; above brown, on either side, starting at the antealar sinus, an obscure bluish stripe reaching about two-thirds the distance to the mesothoracic crest; its lower end just inside the upper end of a short yellow stripe which extends down on to the mesothoracic crest; a bluish or greenish obscure mesothoracic half-collar, divided at the middle and not joined, or if so very obscurely, with the yellow dorsal stripe at either extremity. An indistinct narrow pale bluish antehumeral stripe which passes below on to the humeral suture; a very narrow and more obscured posthumeral stripe of the same color. Mesepimeron black or nearly so, obscurely pale yellow over a very restricted area above, and more extensively and clearer posteriorly below. Mesinfraepisternum nearly black, paler below. Metepisternum similar to mesepimeron, but yellow below more extensive and clearer; metinfraepisternum largely yellow, brown bordered. Metepimeron broadly brown along the second lateral suture, except above where the brown shades out into yellow which occupies the balance of the sclerite. Beneath pale yellow.

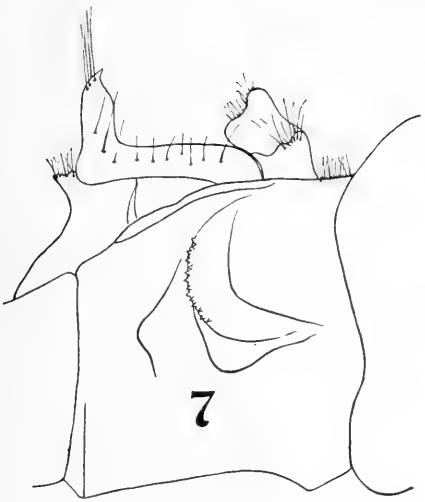
* Referring to the shell-like first hamules.

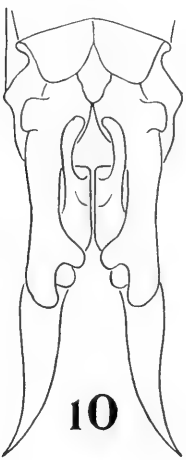


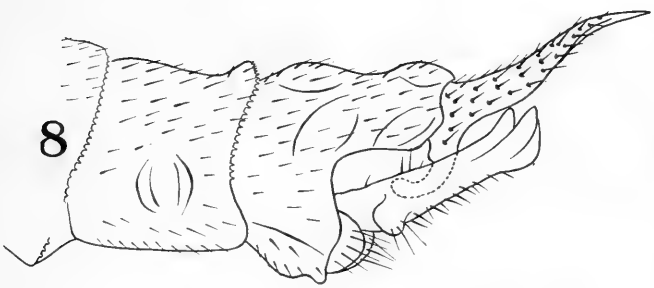
CYANOGOMPHUS CONCHINUS, 1; C. WALTHERI, 2-5.—WILLIAMSON.











CYANOGOMPHUS CONCHINUS—WILLIAMSON.

Abdomen slender; 1 yellow, light brown above to level of the auricles, except at the extreme base which is pale; 2 similar, dorsal pale brown narrower on anterior half of segment, extreme posterior border brown on the sides as well as above; 3 brown, fading out anteriorly into clear light yellow, especially on the sides which are nearly one-half the lighter color, while on the dorsum the brown, grown very pale, reaches the anterior border of the segment; 4-7 black, bright yellow at base of each segment, where it is very narrowly divided by black in the mid-dorsal line, this black line a narrowed continuation of the apical black which occupies two-thirds to three-fourths of each segment; the yellow and black encircle each segment; 8-10 dull obscure brown without definite markings, sides slightly paler, yellowish; 7 similarly paler basally; 8-10 dark at extreme apex. Superior appendages pale dull green, black beneath and basally; inferior black or dark brown.

Stigma brown; venation black. Femora brown, first pair greenish beneath, all alike armed with numerous short equal spines; tibiae and tarsi black (right hind tibia and tarsus pale brown). First hamule and horizontal shaft of second hamule very pale brown or flesh colored, second hamule at the subapical elbow shading darker, becoming black at the apex. The hamules are both remarkable, but the first probably more so. It consists of a short cylindrical, truncated base, the inner side of which is produced in a large, thin, shell- or leaf-like expanded plate with its concave face directed outward, and its apex bilobed.

Described from a single male in my collection, taken near Wismar, British Guiana, January 31, 1912. Between Wismar and Christianburg is a small stream flowing into the Demerara River and crossed by the footpath between the two towns. In the afternoon the backward flow of the river due to tides makes this stream almost unwadable near its mouth. We were attracted to this muddy, log-choked creek by the beautiful *Diastatops dimidiata* which we found nowhere else. The banks of the creek are generally covered with impenetrable brush and the exposed margins are slippery and treacherous, due to the rise and fall of water over them. At places logs are piled so indiscriminately in the creek that progress is slow and difficult; and at places the overhanging bushes completely shade the stream. While working through one of the log piles I flushed the only *Cyanogomphus* seen, which flew weakly to a bush on the bank, alighting on a leaf at an elevation of 10 or 12 feet. The specimen is apparently young, though I believe

fully colored, and has suffered an injury at emergence, by which the fifth segment is spread out flat and bent at a right angle. Apparently the body cavity is completely separated at this point. The injury will explain its weak flight.

C. conchinus, as a comparison of the figures will show, has the peculiar characters of the genitalia and appendages of *waltheri* still more exaggerated. It is separated at once by these characters from *waltheri.* From *demerarae* it is separated at once, so far as I can judge from the description, by the sectors of the arculus less widely separated, by the convex distal side of the triangle of the front wings, and by the 3-celled, not 2-celled, anal triangle. There are some differences in the color of the abdomen, and the striking hamules of *conchinus* could hardly have escaped de Selys' notice. From *tumens* it is separated at once by the venational character mentioned above under *tumens*—the position of the arculus relative to the proximal angle of the subtriangle. *C. demerarae,* hind wing 23, is a smaller species than *waltheri,* hind wing 27, and is separated from the latter by the anal triangle, 2-celled in *demerarae,* 3-celled in *waltheri.* Apparently both are separated from *tumens* by the closely approximated sectors of the arculus of *tumens.*

In the figure of the wings of *waltheri* the cross-vein shown in the supertriangle is undoubtedly not normally present. The brace vein at the stigma is less marked in *conchinus* than in *waltheri;* in *waltheri* the sectors of the arculus are widely separated at their origin, in *conchinus* they are still separated but are very close together; *conchinus* has the proximal angle of the subtriangle more basal, relative to the arculus, than *waltheri,* which in turn has it more basal than *tumens;* in the number of distal rows of cells posterior to Cu2 in the front wings, *tumens* and *conchinus* are alike with 2 rows, *waltheri* has 3 rows; but in the hind wings *waltheri* and *tumens* have 3 rows, while *conchinus* has but 2; in *waltheri* there are 2 rows of postrigonal cells in the hind wings, and 1 row in *tumens* and *conchinus.*

The grand genre Gomphus of de Selys has long been a prob-

lem to taxonomists. De Selys in 1873, largely on the size and form of the male abdominal appendages, divided the associated genera into 2 major groups, the latter of which was divided into 5 subgroups, one of these being in turn divided into 2 groups and one of these subdivided on geographical grounds. I believe that these groupings have little basis in fact, but that two groups of real taxonomic value can probably be distinguished on the basis of the number of cross-veins between M1-3 and M4. In the larger number of genera the number is reduced in the front wings and in the hind wings there is normally only one, which is strengthened and definitely placed. In the remaining genera the number of these cross-veins is relatively larger (the complexity of venation must be taken into account), and in the hind wing there are always *two or more,* instead of one definitely placed cross-vein. These genera known to me are *Macrogomphus, Microgomphus, Leptogomphus, Epigomphus, Cyanogomphus* and *Agriogomphus* —a group of striking and remarkable forms. *Microgomphus* and *Agriogomphus* have much in common, including the unsymmetrical forking of M1-2 and M3, and the single row of cells in the anal area of the front wings; in *Microgomphus* there are two rows of postrigonal cells, one row in *Agriogomphus.* The remaining genera have a basal antenodal of the second series present in all wings. In only one, *Cyanogomphus,* has the stigma a brace vein, and in this genus alone the distal thickened antenodal is the fifth, being more distal in the others. In *Epigomphus* and *Macrogomphus* there are two cubito-anal cross-veins in addition to the inner side of the subtriangle.

To summarize, the genus *Cyanogomphus, as a member of the legion Gomphus,* may be venationally defined briefly as follows: Cross-veins between M1-3 and M4 numerous; stigma with a brace vein; M4 and Cu1 divergent; basal subcostal cross-vein of second series present; one cubito-anal cross-vein in addition to the inner side of the subtriangle; anal area of front wing proximally one cell wide, distally two or three cells wide; three postanal cells in hind wing, distal to postanal

cells two or three rows wide, two rows of postrigonal cells in front wing, one or two in hind wing; distal thickened antenodal the fifth; anal angle well developed in the male, the triangle 2- or 3-celled (the venation of *C? demerarae* known to me only from de Selys' brief description).

The figures of *C. waltheri* have been prepared for me by M. Menger at Bruxelles through the good offices of Dr. F. Ris.

Explanation of Plates VIII and IX.

All the figures are of males.

1. Wings of *Cyanogomphus conchinus,* n. sp.
2. Wings of *Cyanogomphus waltheri.*
3 and 4. Abdominal segment 10 and appendages, in profile and dorsal views, of *C. waltheri.*
5. Abdominal segment 2, in profile, of *C. waltheri.*
6. Diagram of thoracic color pattern of *C. conchinus,* n. sp.
7. Abdominal segment 2, in profile, of *C. conchinus,* n. sp.
8. Abdominal segments 9 and 10 and appendages, in profile, of *C. conchinus,* n. sp.
9 and 10. Dorsal and ventral views of abdominal appendages of *C. conchinus,* n. sp. Notice in fig. 10 the curved basal projections of the superior appendages which overlap the broadened base of the inferior; apparently the only way in which the superiors can be released is by a wide spreading in the dorso-ventral direction of the superiors above and the inferior below.
11. Tarsal claw of *C. conchinus,* n. sp.

Prof. Herbert Osborn Research Professor, Ohio State University.

The Ohio State University has recently inaugurated a plan providing for Research Professorships which enables the holders to devote their time especially to research work, and Professor Herbert Osborn has been elected Research Professor in the Department of Zoology and Entomology. He will be relieved from routine, class and department duties, devoting his time to researches, especially in the line of Entomology, but will continue to have direction of research work of graduate students in his particular field.

Notice of Disposal of Manuscripts, etc.

Manuscripts and originals of figures which have been published in the News during recent years and galley proofs of the same to and including the number for December, 1915, will soon be disposed of. Any one desiring any of these manuscripts, drawings or proofs may have such on application to the Editor, 4515 Regent St., Philadelphia, before June 1, 1916, if postage for transmission be enclosed.

Some new Species of Athysanus and Related Genera (Homoptera).

By E. D. Ball, Logan, Utah.

In working with the leaf hoppers the writer has found that the species are as a rule either confined to a single plant or else to a group of closely related plants. The few exceptions to this rule include many of our most injurious species. These forms being able to change from one plant to another are not restricted in location or season. Fortunately for us the number of these polyphagous forms is very small compared with the total number of leaf hoppers. Some of our most injurious species are on the other hand very restricted in their food habits. The grape leaf hoppers and beet leaf hoppers are examples of the latter class. The beet leaf hopper is a striking example of a rare and almost unknown insect becoming a serious pest under the influence of civilization. This insect is a native of the alkali deserts of the Southwest and was unknown until 1895. Soon after this, sugar beet raising was introduced into the region and this insect quickly transferred its affections from the desert plants of the beet family to the beets themselves, causing losses running into the millions of dollars in favorable seasons.

The writer is attempting to work out the food plants of all the leaf hoppers of the Western region, and in doing so has discovered a number of new forms that must be named before they can be included in the list.

The types of these new species are in the writer's collection.

Athysanus calvatus n. sp.

♀. Resembling *symphoricarpae*, but with a broader and much more inflated vertex and front. Straw color. Length 5 mm.

Vertex distinctly broader than in *symphoricarpae*, the apex obtusely roundly inflated, about two-thirds the length of the pronotum; front very broad, much inflated, the margins only slightly narrowing until just before the apex, where they are abruptly constricted to the clypeus. As seen in profile the apex of the front is distinctly above the clypeus and bulges so that it meets the rounding vertex margin at almost a right angle. Elytra rather long, venation simple, as in *vaccinii*, often an extra nervure or two on clavus to the suture and occasionally an extra cell in the outer anteapical, apical cells long. Female segment

moderately long, the outer angles prominent, the posterior margin with a slight median production, margins usually dark-marked.

Color: vertex bright straw, or lemon yellow, a pair of angular black spots well back of the ocelli and a pair of smaller ones behind these near the base, occasionally a trace of transverse brown band on disc. Face bright straw, sutures dark and occasionally a trace of brownish arcs on front and a pair of spots near apex. Pronotum all clear straw or dirty straw with the anterior light margin set off by dark spots. Elytra pale subhyaline straw, the nervures inclined to be lighter.

Described from four females from Logan and Richfield, Utah, collected by the writer. The inflated shining front and vertex gives this insect a distinctly "bald-headed" appearance, which is its most distinctive character.

Athysanus shastus n. sp.

Size and form of *varus,* nearly resembling *striatulus* in pattern, but with fewer markings. Stout, rusty straw with darker margins. Length 4.5-5 mm.

Vertex broad slightly roundly right-angled, with the apex narrowly acutely produced, three-fourths the length of the pronotum. Front broad not inflated, narrowing regularly into the broad clypeus. Face in profile almost flat, acutely angled with the vertex. Pronotum long, the anterior margin curving deeply into head. Elytra very broad and extending well beyond the pygofers, broadly rounding behind with short apical cells. Venation strong, resembling *arctostaphyli,* but with a large number of irregular cross nervures on clavus and occasional supernumerary cells in the outer anteapicals, second cross-nervure often present. Female segment broad, moderately long, truncate, the apical angles slightly produced, pygofers very short strongly angularly inflated. Male plates together spoon-shaped, narrowed apically.

Color: vertex dirty straw, a transverse black band just back of ocelli, another just before this broken forward in the middle, both bands inclined to be emphasized at the end and against a narrow median line which bisects them; occasionally nothing is left but these enlargements. Front black with a triangle at apex and short arcs straw color. The rest of face straw color with sutures and an oval spot on clypeus dark. Pronotum rusty straw, darkening posteriorly to a dusky cloud on disc, anterior submargin with a few irregular black marks. Elytra smoky subhyaline, the nervures light, very narrowly lined with fuscous, emphasized in the smaller cells.

Described from two females and two males from Dunsmuir, California, collected by the writer. The broad form with short inflated pygofers renders this distinct species somewhat of a connecting link between the *obsoletus* and *striatulus* groups.

Athysanus escalantus n. sp.

♀. Resembling *simplarius,* but much shorter and stouter, straw colored. The vertex margin with a black line above and below. Length 4 mm.

Vertex twice wider than long, margins almost parallel, disc flat, anterior margin between the dark lines broadly rounding to the flat, retreating front. Front rather narrow, wedge-shaped, margin continuous with the clypeus margin. Pronotum scarcely longer than vertex, distinctly narrower than the head with eyes. Elytra broad and short, just equalling the pygofers, narrowing apically. Venation deltocephaloid, the central apical cell elongate, slightly constricted, apical cells short. Female segment short, apparently truncate.

Color: vertex straw yellow, a spot on each side against the eye and just back of the margin, a pair of elongate, partly coalescing spots inside these on each side, forming a slightly interrupted sub-marginal black band. Pronotum and scutellum soiled straw color. Elytra pale greenish subhyaline showing the rusty straw of the dorsum set off by two round black spots on the pygofers. Face straw yellow, slightly tawny, a narrow dark line under the vertex margin with a black spot just below and against each eye.

Described from a single female taken at Richfield, Utah, by the writer. In its broad head this species resembles *parallelus* and its allies, but in other characters it is distinctly allied to *osborni.*

Athysanus lassus n. sp.

Resembling *sexvittatus* in size and form. Brown and white with a pair of large, round, black spots on each of vertex, pronotum and scutellum. Length 4 mm.

Vertex obtusely angled, the apex rounding, shorter than *sexvittatus,* only a little longer on middle than against eyes, two-thirds the length of the pronotum, slightly acutely angulate with the front, the margin blunt. Front broader than in *sexvittatus,* margins slightly rounding but continuous with those of clypeus. Elytra equalling or slightly exceeding pygofers, nearly parallel-margined, flaring. Venation deltocephaloid, the central anteapical slightly constricted, sometimes divided, but not extending much beyond the adjacent cells. Female segment short, lateral angles rounding, posterior margin excavated with a broad, short, median tooth. Male plates broad at base obtusely triangular, the apices acutely produced.

Color: vertex creamy, a pair of round black dots just back of the apex, a pair of large round black spots on the margin between the dots and the ocelli, sometimes another pair of black dots behind the first and often traces of brown stripes towards the base. Pronotum

milky, a pair of large, round, black spots on the anterior margin behind the two on vertex, usually two pairs of brown stripes, the inner pair arising some distance behind the eyes and curving slightly to join the inner pair just over a pair of black spots on the scutellum partly hidden by the pronotum. Elytra milky, an indistinct brown stripe on each clavus and usually two on the corium omitting the veins.

Described from two females and two males from Quincey, California, collected by the writer. The three pairs of black spots will at once distinguish this species.

Platymetopius compactus n. sp.

♀. Resembling *abruptus* and *nasutus* but broader, with the short vertex of a *brevis*. Broad, short, dark above and below. Length 4.5 mm.

Vertex scarcely longer but somewhat narrower than in *brevis*, forming a slightly sharper angle, length slightly more than the basal width, about equalling the pronotum, angle with the face about as in *brevis*, the face in profile almost straight. Elytra broad and rather short, venation normal except that the fourth apical cell is extremely wide, due partly to the first reflexed veinlet being placed far forward and partly to the extremely narrow base of the third apical which appears to be cut off by a dark marking to form a small circular cell. Female segment very short and almost truncate, disc slightly convex with the posterior margin raised, giving a concave effect.

Color-pattern of *nasutus* nearly, vertex heavily irrorate with fuscous, omitting a transverse light band before the eyes narrower and more uniform than in *nasutus*, and an ivory spot at apex. Pronotum paler, irregularly irrorate with fuscous, omitting the anterior margin. Scutellum irrorate with fuscous, omitting a pair of spots on disc and the apical margin. Elytra milky, nervures and coarse vermiculations dark, the reflexed ones margined with black. A dark irrorate cloud on clavus and in the apical cells, omitting two pairs of round spots along the sutural margin, the first apical cell, a round spot at the base of the other apicals and one in each end of the anteapicals as well as the costal margin before the middle of the fourth apical. Whole face heavily irrorate with brownish fuscous, omitting a narrow margin against the vertex and a triangle below the apex. Below dark except the disc of female segment.

Described from a single female taken at Dunsmuir, California, by the writer. The short vertex and wide apical cells will separate this from any other species.

(to be continued)

ENTOMOLOGICAL NEWS.

PHILADELPHIA, PA., APRIL, 1916.

How many languages must an Entomologist know?

It would seem to one who lays no claims to successful prediction or seership that the present European conflict will retard progress toward internationalism, cosmopolitanism, the adoption of a universal language, the Parliament of Man. It will continue the effects alleged to have been caused when the Tower of Babel was checked in its upward growth and will intensify the use of its peculiar tongue by each of the many tribes inhabiting this terrestrial ball. We were never especially attracted by Esperanto and similar artificial dialects and evidently entomologists must make up their minds that they must, individually or by proxy, enlarge their acquaintance with European and Asiatic languages. We are moved to these reflections by the recent receipt of an installment of a large and ambitious monograph on the Odonata of Russia and neighboring countries, whose scope, in spite of the title, appears to be wide enough to include the description of a new species from Ohio in six lines of Latin and forty-four lines of Russian, followed by twenty-one lines of comparative notes, also in Russian. To be sure there are two figures of details, but——

We blame neither the Russians nor the Japanese for using their own vernaculars; we do the same. But the languages of science are a heavy burden to us whose memories balk at the acquisition of words utterly unlike those of western Europe in form and spelling.

A Dipterous Larva Parasitic in Earthworms.

At the meeting of the Biological Society of Washington, Dec. 4, 1915, Dr. L. O. Howard called attention to the cluster-fly (*Pollenia rudis*), an insect resembling the house-fly but collecting in houses in autumn and leaving a yellow stain when crushed. Its life history was unknown until recently a foreign entomologist has shown that the larvae are parasitic in earthworms in France. Dr. Howard is having large numbers of earthworms examined for such larvae, but so far without success. He hoped that anyone finding any grub parasitic in earthworms would communicate with him. (*Science*, March 3, 1916, p. 330).

Notes and News.

ENTOMOLOGICAL GLEANINGS FROM ALL QUARTERS OF THE GLOBE.

New Muscoid Genera (Dip.).

The characters of the following new genera are given in a paper which has been submitted for publication, but which will be considerably delayed:

Myocerops gen. nov.—Genotype, *Musca carinifrons* Fall.—Europe.
Sumichrastia gen, nov.—Genotype, *Hystrichodexia aurea* Gig.-Tos—Mexico.
Pilatea gen. nov.—Genotype, *Masicera celer* Coq.—Louisiana.
Masiceropsis gen. nov.—Genotype, *Masicera paucisceta* Coq.—So. California.
Cnephalogonia gen. nov.—Genotype, *Gonia distincta* H. E. Smith—Connecticut.
Dichoceropsis gen. nov.—Genotype, *Dichocera orientalis* Coq.—Massachusetts.
Megistogastropsis gen. nov.—Genotype, *Megistogaster wallacei* BB.—East Indies.
Pseudoservillia gen nov.—Genotype, *Echinomyia flavopilosa* Big.—Java.
Sericotachina gen. nov.—Genotype, *Paratachina vulpecula* Wulp—W. Java.
Eutheropsis gen. nov.—Genotype, *Euthera mannii* Mik—So. Europe.
Gerocyptera gen. nov.—Genotype, *Trichoprosopa marginalis* Walk.—Amboyna.

CHARLES H. T. TOWNSEND, Washington, D. C.

What the House Fly Did.

Last year our class in Zoology began a campaign against the fly. We started out with the idea that advertising would be our main means of getting the campaign started, and we were right, for very soon the campaign seemed to fairly take care of itself. Students from the class made speeches before all the Patrons' Clubs in the city during the month of February. One of our prominent daily papers promised to print everything we handed in on the subject. The class working together wrote weekly articles that were spicy and interesting. These attracted such attention that other papers demanded articles on the house fly. An insurance company requested that they be allowed to print pictorial posters on the subject, and that these be distributed about the city. The Electric Company asked to be allowed to give away fly swatters. One of the local theatres presented moving pictures of the fly, especially for the school children. Later the various clubs of the city asked to be represented in the movement. Finally a federation of clubs was formed to make this campaign an annual event. But right here is where disaster came to the enterprise, for the work of last year at least. Two factions arose, each demanding that certain officers be elected and certain policies be carried out. The feeling waxed so strong that when officers were finally elected, and policies were finally presented, everyone was far too angry to carry out anything. This smacks somewhat of other campaigns in our national affairs where very little is accomplished for the general good. This all goes to show that even though the teacher interests the parents most keenly, the parents are harder to work with than the children.—NETTIE COOK in *School Science and Mathematics*, xv, 146. February, 1915.

The Unusual Prevalence of Ground Beetles (Harpalus) During the Summer of 1913, at Ashland, Ohio. (Col.).

While in Ashland, Ohio, during the summer of 1913, the writer observed that there was a rather unusual number of the common ground beetles, mainly *Harpalus pennsylvanicus* and its near relatives, and a few specimens of what appeared to be *Diplochila major,* to be found under stones, bark, etc., in the surrounding country. Small stones would frequently hide a dozen or more, often representing one insect to every two square inches of ground covered by the stone. Unusual frequency in the city of Ashland was not noted until about a week after this observation; then one evening about the first of August, swarms of the insects appeared around the arc-lamps in the business part of the city, and during the following two evenings spread to the other sections. The house at which the writer was staying was about a quarter of a mile from a wooded patch of a few acres, and about seventy-five feet from an arc-lamp, the latter being the last one out in the direction of the woods. On the second evening of prevalence the insects struck this section of the city, and the arc-lamp near the house was the center of a swarm. The side of the house illuminated most strongly by the arc had hundreds of the beetles running over it, and for perhaps an hour the sound of them alighting on the walls, floor and tin roof of the front porch was suggestive of rain or scattered hail. Parties out for automobile rides were forced to return on account of the inconvenience produced by the number of beetles flying about. The writer attempted to walk up the road toward the wooded path (going away from the arc-lamp), but the insects were encountered in such numbers coming toward the arc, that after going only a few hundred feet and extracting several beetles from his hair and collar, he decided that discretion was the better part of valor, and returned to the house.

After the third evening of unusual prevalence, the number of these beetles seemed to diminish rather suddenly, and while quite common, they did not appear in excessive numbers during the rest of the writer's stay, to August 17th. It is reported that the insects were very plentiful also in the Pittsburgh district about the same time. The only unusual condition which seems to have prevailed in the places where these swarms were noted, was the heavy rains and following floods in March previous; the Ohio district had also had a very heavy rain and flood on the 13th of July, previous. That the flood conditions should admit of an abnormal number of these insects coming to maturity does not seem probable, or at least the connection is not very clear at this time. The writer was again in this town during about the same period of 1915, but there was nothing resembling what had occurred during 1913, nor was there any report of similar conditions during 1914. The summer season of 1915 was very rainy in this locality.

F. Alex. McDermott, Washington, D. C.

The Biota of Nantucket.

For a number of years past Mr. Eugene P. Bicknell has been publishing in the Bulletin of the Torrey Botanical Club a series of papers on the vascular plants of Nantucket, in which he has brought out a number of very interesting facts. Intensive study has not only yielded much of interest in connection with distribution, but has brought to light a number of new species, belonging to such genera as *Amelanchier, Ilex,* etc., conspicuous members of any Flora. It can hardly be doubted that a similar study of the animals, and particularly the insects, would yield like results. Sorting over some material which I collected on Nantucket several years ago, I found some species which it may be worth while to record.

Hymenoptera (bees): *Halictus capitosus* Smith, ♀, smaller than usual; *H. pilosus* Smith, ♀.

Neuroptera: *Chrysopa harrisi* Fitch, det. Banks.

Araneina (Spiders, all very kindly determined by Mr. N. Banks): *Epeira pratensis* Hentz, *E. trivittata* Keys., *Zilla atrica* Koch, *Plectana stellata* Hentz, *Theridium frondeum* Hentz, *Ceratinella emertoni* Cambridge, *Agelena naevia* Walck., *Clubiona* sp., juv., *Xysticus triguttatus* Keys., *Phidippus podagrosus* Hentz.—T. D. A. Cockerell, Boulder, Colorado.

The Cactus-feeding Volucellines (Dip.).

South Coronado Island (Lower California) is extensively overgrown with cactus, apparently *Opuntia littoralis.* When my wife and I visited the island on Aug. 21, we found what appeared to be a single variable species of Volucelline fly very abundant. Several were collected, and on examination prove to represent two genera and species, namely *Volucella avida* O. S. and *Copestylum marginatum* Say. At Boulder, Colorado, July 19, I collected a superficially similar insect (more like the *Copestylum* than *V. avida*) at flowers of *Helianthus annuus*; this is *Volucella fasciata* Mcq., a variety with dark reddish antennæ. On looking up the literature, I find that all these three insects feed in the larval state on cacti. They form a peculiar group, and in all respects appear to be closely related, except for the extraordinary antennæ of *Copestylum.* The latter genus surely evolved from *Volucella,* but who can say how the change came about, or what purpose it serves? There was, so far as we know, no change in habits. One is reminded of certain strange modifications of the antennæ of chrysomelid beetles, produced by Professor Tower under experimental conditions at Chicago, and wholly without functional significance, so far as we can learn. One of the females of *V. avida* from S. Coronado is quite small, no larger than *V. fasciata.*

The *Atriplex* bushes on S. Coronado carried many galls, doubtless belonging to *Asphondylia atriplicis* Twns., as no difference was apparent.—T. D. A. Cockerell, Boulder, Colorado.

Proportion of the Sexes in Uloborus geniculatus Walck., with a Few Notes (Arach., Aran.).

The collections tabulated below were made in a single dwelling house in Nelson (Cairns), Queensland, Australia. The sex in the young is recognizable after one or two molts, but the very young were ignored. The individuals were killed after being recorded.

	MALE			FEMALE		
Dates	Adult	Young	Total	Adult	Young	Total
April 26, 1913	17	22	39	49	19	68
May 1, "	16	19	35	58	28	86
May 20, "	4	3	7	10	9	19
May 23, "	8	25	33	15	58	73
June 2, "		3	3		8	8
Sept. 27, "	10	5	15	6	31	37
Oct. 14, "	13	3	16	55	42	97
Dec. 8, "	1		1	10	11	21
" 22, "	1		1	4	5	9
" 27, "	1	3	4	3	2	5
May 5, 1914	1	1	2	5	1	6
" 23, "	3	12	15	13	22	35
Totals	75	96	171	228	236	464

Out of 635 individuals 171 were males, or about 27 per cent., less than a third. In 303 adults, 75 or about 24 per cent. were males; 96 males occurred in 332 young, or 28 per cent. Males appear to be more numerous when young.

I haven't any notion how mating occurs with this species, but the sexes from an early age inhabit separate nests and the males being less numerous, cannot be wasted. The males differ in coloration, but on account of their scarcity, wastage in sexual selection would seem poor economy. Yet, one selected male might fertilize many females and more than offset any wastage.

The egg-sacs of this species are of a lilac color and star-shaped, one side flat, the other conically raised centrally into a blunt cone or nipple. There may be from five to eight points to these star-shaped sacs and some of the points are occasionally bifid at apex. When just hatched the young spiders are white, with lilac abdomens. The young escape from the sac through a single hole. The eggs are white, gradually turning to lilac when the embryo is perfect. All females do not make their egg-sacs alike, for in one nest three sacs were found bearing 6, 7 and 8 points, respectively.

The young can live considerable periods without food. Six of them isolated from birth lived 20, 23, 30 and 34 days. Six others lived in this manner, 27, 29 and 32 days. Two adult females taken when feeding and kept without food, lived slightly over a month. The egg stage is about eleven days (one case).—A. A. Girault, Washington, D. C.

Note on use of antennae in Collops vittatus. (Col.: Malachiidae).

Dr. George H. Horn described* the structure of the curiously modified second (or as he says really the third) segment of the antennae in males of the genus *Collops* in 1870, and assumed their function to be grasping the female antenna during copulation. Another use to which they certainly are put appears from an incident observed by the writer on Plummer's Island, Maryland, on July 7, 1912. A male and female of *Collops vittatus* (Say) were found on a leaf over the surface of which they advanced and retreated, constantly maintaining a head-to-head contact. Upon close inspection, it was seen that the female had her mandibles widely spread and that the tips of them rested in depressions in the anterior surfaces of the modified antennal joints of the male, the antennae of the latter being held straight out in front and approximately parallel. If one of the pair retreated, the other followed, preserving the relation of the parts as described. They were also observed to separate and to resume the same posture. This behavior probably is a mating ceremony, and may perhaps be properly regarded as a Collopid soul-kiss.—W. L. McAtee, Washington, D. C.

Additional Iowa Pentatomoidea (Hem., Heter.).

During the past two years the writer has indicated from time to time some Pentatomids that have not before been recorded within the borders of the State. As a partial result of collecting done during the past summer the following additions to the State fauna may be given at this time.

Cydnus obliquus Uhler. This fine Cydnid, which commonly occurs in the western States and which has recently (1910) been recorded from Nebraska by Zimmer, was found in some numbers in a sand area near the Iowa River, two miles north of Iowa City. All the specimens collected were found among the roots of a Rush Grass, *Sporobolus cryptandrus* (Torr.) Gray, which grows in considerable abundance in this small uncultivated area. In two instances, four individuals were found about the roots of a single plant, but usually not more than one or two were found under one plant. None of the bugs were observed on the open sand. On May 31 a pair of these bugs was found in copula. Thirty-six specimens are at hand, collected in May and November.

Euschistus tristigmus var. *pyrrhocerus* H. S. This variety seems much less common than the typical *tristigmus* Say. Five Iowa specimens, collected in August and November at Iowa City and Solon, are at hand. The specimens collected in August were taken on wild raspberry; those in November from under dried leaves. All five specimens have the antennae entirely pale, the humeri spinose and average somewhat smaller than *tristigmus*.

*Trans. Am. Ent. Soc. III, p. 80, June, 1870.

Prionosoma podopioides Uhler. Two specimens of this western species have been taken in Iowa. One was collected in June at Ft. Madison, near the extreme southeastern corner of the State. The immediate region bordered a wooded area and was somewhat sandy and overgrown with rank weeds. Later in the season, October, a second specimen was found under the leaves of a mullein plant in a cultivated sand area near Iowa City.—DAYTON STONER, State University of Iowa, Iowa City, Ia.

Entomological Literature.

COMPILED BY E. T. CRESSON, JR., AND J. A. G. REHN.

Under the above head it is intended to note papers received at the Academy of Natural Sciences, of Philadelphia, pertaining to the Entomology of the Americas (North and South), including Arachnida and Myriopoda. Articles irrelevant to American entomology will not be noted; but contributions to anatomy, physiology and embryology of insects, however, whether relating to American or exotic species, will be recorded. The numbers in **Heavy-Faced Type** refer to the journals, as numbered in the following list, in which the papers are published.

All continued papers, with few exceptions, are recorded only at their first installments.

The records of systematic papers are all grouped at the end of each Order of which they treat, and are separated from the rest by a dash.

Unless mentioned in the title, the number of new species or forms are given at end of title, within brackets.

For records of Economic Literature, see the Experiment Station Record, Office of Experiment Stations, Washington. Also Review of Applied Entomology, Series A, London.

For records of papers on Medical Entomology, see Review of Applied Entomology, Series B.

1—Proceedings, The Academy of Natural Sciences of Philadelphia. **2**—Transactions, American Entomological Society, Philadelphia. **3**—The American Naturalist. **4**—The Canadian Entomologist. **5**—Psyche. **8**—The Entomologists's Monthly Magazine, London. **9**—The Entomologist, London. **11**—Annals and Magazine of Natural History, London. **12**—Comptes Rendus, L'Academie des Sciences, Paris. **13**—Comptes Rendus, Societe de Biologie, Paris. **16**—Bulletin, Societe Nationale d'Acclimation de France, Paris. **18**—Ottawa Naturalist. **37**—Le Naturaliste Canadien, Quebec. **68**—Science, New York. **153**—Bulletin, The American Museum of Natural History, New York. **166**—Internationale Entomologische Zeitschrift, Guben. **179**—Journal of Economic Entomology. **195**—Bulletin, Museum of Comparative Zoology, Cambridge. **200**—Bulletin Scientifique de la France et de la Belgique, Paris. **216**—Entomologische Zeitschrift, Frankfurt a. Main. **267**—Memorias, Real Sociedad Espanola de Historia Natural, Madrid. **285**—Nature Study Review, Ithaca, N. Y. **313**—Bulletin of Entomological Research, London. **336**—Board of Agriculture, Trinidad. **344**—U. S. Department of Agriculture, Washington, D. C. **394**—Parasitology, Cambridge, England. **401**—Catalogue of the Lepidoptera Phalaenae

in the British Museum, London. **411**—Bulletin, The Brooklyn Entomological Society. **447**—Journal of Agricultural Research, Washington. **479**—Washington University Studies, St. Louis. **522**—Association Francaise pour l'Avancement des Sciences.

GENERAL SUBJECT. Bagnall, R. S.—A note on Mr. Walsh's observations on the survival, etc., of insects, **8,** 1915, 267. **Blaisdell, F. E.**—Minutes of meetings of Pacific Coast Entomological Society, 12 pp. **Herrick, C. W.**—The need of a broad, liberal training for an economic entomologist, **179,** ix, 15-23. **Loyer, M.**—L'Exposition internationale d'insectes vivants, de poissons...., **16,** 1915, 355-65. **Russell, F. W.**—Obituary notice, **5,** 1916, 25. **Webster, F. M.**—Obituary by S. A. Forbes, **179,** ix, 239-41. **Zukowsky, B.**—Insekten und blüten, **166,** ix, 119-20.

PHYSIOLOGY AND EMBRYOLOGY. Dehorne, A.—Sur les chromosomes de "Corethra plumicornis" (Dipteres Nemocere), **522,** 1914, 527-9. **Fernandez-Nonidez, J.**—Los cromosomas goniales y las mitosis de maduracion en Blaps lusitanica y B. Waltli, **267,** x, 149-87. **Lecaillon, A.**—Sur la ponte des oeufs non fecondes et sur la parthenogenese du Bombyxae du murier (Bombyx mori), **12,** clxii, 234-6. **Wenrich, D. H.**—The spermatogenesis of Phrynotettix magnus, with special reference to synapsis and the individuality of the chromosomes, **195,** lx, 57-133.

MEDICAL. Shircore, T. O.—A note on some helminthic diseases with special reference to the house fly as a natural carrier of the ova, **394,** viii, 239-43. **Townsend, C. H. T.**—Recent questioning of the transmission of Verruga by Phlebotomus, **313,** vi, 409-11.

ARACHNIDA, ETC. Cummings, B. F.—Note on the thorax in Anoplura and in the genus Nesiotinus of the Mallophaga, **11,** xvii, 171-4. **Dow, R. P.**—The weaver of the web, **411,** 1911, 6-10.

Nuttall, G. H. F.—Relating to the genus Ixodes and including a description of three n. sps. and two var., **394,** viii, 294-337.

NEUROPTERA, ETC. Howe, R. H., Jr.—A preliminary list of the Odonata of Concord, Mass., **5,** 1916, 12-15. **Patch, E. M.**—A Psyllid gall of Juncus (Livia maculipennis), **5,** 1916, 21-2. **Snyder, T. E.**—Termites, or "white ants," in the U. S.; their damage, and methods of prevention, **344,** Bul. 333.

ORTHOPTERA. Urich, F. W.—Locusts or grasshoppers, **336,** Bul. XIV, 120-28.

Rehn & Hebard—Studies in American Tettigoniidae, VII. A revision of the species of the genus Atlanticus (Decticinae) [1 new], **2,** xlii, 33-100.

HEMIPTERA. Baker & Turner—Morphology and biology of the green apple aphis, **447,** v, 955-93. **Leonard, M. D.**—The immature stages of Tropidosteptes cardinalis (Capsidae), **5,** xxiii, 1-3. **Paddock, F. B.**—Observations on the turnip louse (Aphis pseudobrassicae), **179,** ix, 67-71. **Parker, J. R.**—The western wheat aphis (Brachycolus tritici), **179,** ix, 182-7. **Patch, E. M.**—Concerning problems in aphid ecology, **179,** ix, 44-51. **Rosen, H. R.**—The development of the Phylloxera vastatrix leaf gall, **68,** xliii, 216-7. **Weiss, H. B.**—The Coccidae of New Jersey green-houses, **5,** 1916, 22-4. **Whitmarsh, R. D.**—Life-history notes on Apaleticus cynicus and maculiventris, **179,** ix, 51-3.

Abbott, J. F.—A biological reconnaissance of the Okefeenokee swamp in Georgia. The Corixidae [4 n. sps.], **479,** ii, 81-6.

LEPIDOPTERA. Ainslie, G. G.—Notes on Crambids, **179,** ix, 115-119. **Briggs, F. J.**—Means of expansion of wings of L., **9,** 1916, 38-39. **Brittain & Gooderham**—An insect enemy of the parsnip (Depressaria heracliana), **4,** 1916, 37-41. **Felt, E. P.**—Climate and variations in the habits of the codling moth, **179,** ix, 107-110. **Gerould, J. H.**—Mimicry in butterflies, **3,** l, 184-192. **Hoffmann, F.**—Das ei von Vanessa antiopa, **216,** xxix, 86. **Keith, E. D.**—The dance of the ghost moth (Hepialus argenteomaculatus), **411,** 1916, 21-2. **Meder, O.**—Gibt es geschlechtsunterschiede bei schmetterlingseiern, **166,** ix, 118-119.

French, G. H.—A n. sp. of Catocala, **4,** 1916, 72. **Hampson, G. H.**—Catalogue of the Amatidae and Arctiadae (Nolinae and Lithosianae) in coll. of Br. Mus., **401,** Suppl. Vol. I, 858 pp. **Wolley Dod, F. H.**—Noctuid notes from western Canada, with descriptions of two n. sps. and a variety, **4,** 1916, 58-70.

DIPTERA. Fitzsimons, F. W.—The house fly: a slayer of men, 89 pp. (Longmans, Green & Co.). **Guppy, P. L.**—Breeding and colonizing the Syrphid, **336,** Bul. xiii, 217-26. **Hodge, C. F.**—Control of flies as a nature study problem, **285,** 1916, 79-95. **Hyslop, J. A.**—The host of Zelia vertebrata (Dexiidae), **5,** 1916, 24-5. **Keilin, D.**—Recherches sur les larves de dipteres cyclorhaphes, **200,** xlix, 25-198. **Lagendre, J.**—Sur un nouveau mode de transport des larves de moustiques, **13,** lxxix, 26-7. **Schoene, W. J.**—The economic status of the seed-corn maggot (Pegomya fusciceps); Notes on the biology of P. brassicae, **179,** ix, 131-3; 136-9.

Alexander, C. P.—New or little-known crane-flies from the U. S. and Canada: Part 2 [many species], **1,** 1915, 458-514. New nearctic crane-flies (Tipulidae) [11 new], **4,** 1916, 42-53. A biological reconnaissance of the Okefeenokee swamp in Georgia. The Tipulidae

[1 n. sp.], **479,** ii, 97-8. **Cresson, E. T., Jr.**—Studies in American Ephydridae. 1. Revision of the species of the genus Paralimna, **2,** xlii, 101-124. **Lutz, A.**—Commissao de Linpas Telegraphicas Estrategicao de Matto Grosso ao Amazonas. Annexo No. 5. Hist. Nat. Zool. Tabanideos, 9 pp. **Malloch, J. R.**—A new gen. & sp. of Helomyzidae, **411,** 1916, 14-16. **Townsend, C. H. T.**—New and noteworthy Brazilian Muscoidea collected by H. H. Smith, **153,** xxxv, 15-22. **Van Duzee, M. C.**—A biological reconnaissance of the Okefeenokee swamp region in Georgia. The Dolichopodidae [5 n. sps.], **479,** ii, 87-96.

COLEOPTERA. Davis, A.—The genus Pleocoma, **411,** 1916, 11-12. **Dow, R. P.**—Note on Psenocerus supernotatus, **411,** 1916, 20. **Germain, F.**—Buprestidae known to occur in the Ottawa district, **18,** xxix, 129-30. Histerides capturés a Ottawa et dans les environs, **37,** xlii, 103-5. **Hayes, W. P.**—A study of the life-history of the maize bill-bug (Sphenophorus maidis), **179,** ix, 120-130. **Herrick, G. W.**—Observations on the life history of the cherry leaf beetle, **447,** v, 943-9. **Hyslop, J. A.**—Prothetely in the Elaterid genus Melanotus, **5,** 1916, 3-6. **Johnson & Ballinger**—Life history studies of the Colorado potato beetle, **447,** v, 917-25. **Lameere, A.**—Les caracteres sexuels secondaires des Prionides, **200,** xlix, 1-14. **Walsh, G. B.**—Observations on some of the causes determining the survival and extinction of insects with special reference to the C. (cont.), **8,** 1915, 257-61. **Sell, R. A.**—A migration of beetles, **285,** 1916, 55-6.

Casey, T. L.—A new sp. of Baryodma, **4,** 1916, 70-1. **Fall, H. C.**—Three new C. from Washington state, **411,** 1916, 13-14. **Hyslop, J. A.**—Elateridae and Throscidae of the Stanford University expedition of 1911 to Brazil, **5,** 1916, 16-21. **Leng, C. W.**—A list of the families of C. in America north of Mexico, **411,** 1916, 1-5.

HYMENOPTERA. de la Baume-Pluvinel, G.—Sur les formes larvaires de certains Hymenopteres parasites internes des larves de Dipteres, **522,** 1914, 510-14. **Howard, L. O.**—Further notes on Frospaltella berlesei, **179,** ix, 179-81. **McColloch & Hays**—A preliminary report on the life economy of Solenopsis molesta, **179,** ix, 23-38. **Wheeler, W. M.**—[Review of] British ants, their life-history and classification by Donisthorpe, **68,** xliii, 316-18.

Cockerell, T. D. A.—The bees of the Coronado Islands [3 new], **4,** 1916, 54-58. Two new bees from New Jersey, **411,** 1916, 11. **Gaige, F. M.**—The Formicidae of Charity Island, Lake Huron, **507,** No. 5, 29 pp. **Wheeler, W. M.**—Ants collected in British Guiana by the expedition of the American Museum of Natural History during 1911, **153,** xxxv, 1-14.

Doings of Societies.

American Entomological Society.

Meeting of December 13th, 1915, at the Academy of Natural Sciences, Philadelphia. Seven persons present. Dr. Philip P. Calvert, President, in the chair.

The annual reports of the Treasurer, Librarian, Curator and Corresponding Secretary were read and ordered filed.

The death of Charles Kerremans, a corresponding member, was announced.

A new Agreement with the Academy of Natural Sciences of Philadelphia was adopted and the President and Recording Secretary authorized to sign the same. It was voted that House of Representatives bill no. 528, to discontinue the use of the Fahrenheit scale thermometer in Government publications, be endorsed. Dr. Witmer Stone was proposed for membership in the Society. Mr. R. C. Williams, Jr., and Prof. Clarence E. McClung were elected members.

The following were elected officers for the ensuing year: *President,* Henry Skinner; *Vice President,* J. A. G. Rehn; *Treasurer,* E. T. Cresson; *Curator,* Henry Skinner; *Corresponding Sec'y,* Morgan Hebard; *Recording Sec'y,* R. C. Williams, Jr.; *Librarian,* E. T. Cresson, Jr. *Executive Committee,* Philip Laurent, D. M. Castle and H. W. Wenzel; *Finance Committee,* J. A. G. Rehn, D. M. Castle and Morgan Hebard; *Publication Committee,* J. A. G. Rehn, E. T. Cresson and P. P. Calvert.—Henry Skinner, *Recording Sec'y.*

Feldman Collecting Social.

Meeting of December 15, 1915, at the home of H. W. Wenzel, 5614 Stewart St., Philadelphia. Ten members present; Pres. H. A. Wenzel in the chair.

Coleoptera—Mr. H. W. Wenzel said it was surprising that a very large insect could remain in collections for years wrongly identified but such is the case with what we have known as *Cotinis mutabilis* Gory. Col. Casey, in his Memoirs, vi, has pointed out that this species never reaches as far north as the United States and our form is really two species which he describes as new: *arizonica* with narrow yellow margin and *texana* with half yellow elytra.

Adjourned to the annex.

Meeting of January 19, 1916, at the same place. Eleven members present; Pres. Wenzel in the chair.

The present officers were re-elected to serve for 1916.

Coleoptera—Mr. Daecke exhibited a specimen of *Soronia ulkei* LeC. from Rockville, Pennsylvania, v-14-'11. Mr. Wenzel has a specimen from the District of Columbia and H. A. Wenzel has collected it

at Tybee Island, Georgia. There are several records from New Jersey —Ins. N. J., p. 273, 1910. Mr. H. W. Wenzel said the only specimen he had seen of *Buprestis connexa* Horn was the type in the Horn Collection, but recently he had received a specimen labeled Corvallis, Oregon, collected by G. F. Moznetti; this was exhibited.

Hymenoptera and Coleoptera—Mr. Kaeber exhibited *Liopus fasciculatis* Harr. bred from sumac collected at Clifton, Delaware County, Pennsylvania, v-23-'15. The *Liopus* began emerging May 27 and continued to about June 2. The first parasite noticed was on June 2 and continued emerging for about one week. Of all the specimens reared about 15 per cent. were parasites; these were identified by Mr. Rohwer as *Capitonius ashmeadii* D. T.

Adjourned to the annex.

GEO. M. GREENE, *Sec'y*

Chicago Entomological Club.

Meeting of December 19, 1915, at home of Charles Krueger. Fifteen members present.

Coleopterists had as a subject the families Endomychidae and Erotylidae. Notable among local captures reported were *Rhymbus minor* Crotch, *Rhanis unicolor* Ziegl., *Phymaphora pulchella* Newm., *Mycetina perpulchra* Newm., *Stenotarsus testaceus* Ziegl., *Langura uhlerii* Horn, *Mycotretus sanguinipennis* Say and *Tritoma mimetica* Crotch. Mr. A. B. Wolcott also exhibited the type of *Symbiotes duryi* Blatchley, described in 1910 in *The Coleoptera of Indiana.* The same species was later re-described as new by Mr. L. B. Walton in *The Ohio Naturalist,* Vol. XII, p. 463 (Feb. 1912) under the same name, giving locality as Gambier, Ohio, and making no mention of the real type locality, Lafayette, Indiana.

Lepidopterists had the Notodontidae as a subject, local captures reported (other than *Datana* and *Melalopha*) being as follows:

Apatelodes torrefacta
" *angelica*
Hyperaeschra stragula
" *georgica* (rare)
Odontosia elegans
Notodonta simplaria (1 A. Kwiat)
Pheosia dimidiata
Lophodonta angulosa
Nadata gibbosa
Nerice bidentata
Symmerista albifrons
Heterocampa obliqua
" *biundata*
" *guttivitta*
" *bilineata*
Ianassa lignicolor
Schizura ipomoeae
" *telifer*
" *cinereofrons*
" *semirufescens*
" *unicornis*
" *badia*
" *leptinoides* (rare)
Hyparpax aurora
Cerura multiscripta (1 E. Beer)
" *occidentalis*
Harpyia borealis (rare)
" *cinerea*
" *scolopendrina* (rare)
Fentonia marthesia (1 A. Kwiat)
Gluphysia septentrionalis
Ellidia caniplaga

Meeting of January 16, 1916, at home of Mr. Frank Psota. Sixteen members present.

Coleopterists reported 44 species of Histeridae as having been taken locally. Mr. Wolcott showed the type of *Saprinus illinoisensis* and also a gigantic species of the same genus, the description of which, he stated, will soon appear.

Lepidopterists exhibited their specimens of Liparidae and allied species, local captures reported being as follows:

Habrosyne rectangula
Pseudothyatira cymatophoroides
" *expultrix*
Orgyia leucostigma
Parorgyia plagiata (Fox Lake, Illinois. A. Kwiat)
Tolype velleda
" *laricis* (Millers, Indiana. E. Liljeblad)
Malacosoma americana
" *disstria*
Heteropacha rileyana (C. Krueger)
Gastropacha americana
Eudeilinea herminiata
Oreta rosea
" *marginata*
" *irrorata* (2 A. Kwiat)
Drepana arcuata
" *genicula*

A. KWIAT, *Secretary.*

Newark Entomological Society.

Meetings held in Newark, New Jersey, Public Library, December 12, 1915, and January 9, 1916. Pres. Buchholz in chair; average attendance, 11 members. At the December meeting, the following officers for 1916 were elected: *Pres.*, Otto Buchholz; *Vice-Pres.*, Henry H. Brehme; *Sec.*, H. B. Weiss; *Fin. Sec.*, T. D. Mayfield; *Treas.*, G. J. Keller; *Librarian*, Louis Doerfel; *Curator*, Chas. Rummel; *Trustee*, Geo. Stortz. At the January meeting, Mr. Herman H. Brehme read a paper on Collecting at Morgan, New Jersey, during 1915.

Lepidoptera—At the December meeting, Mr. Rummel exhibited *Lycaena pseudargiolus* (*ladon* Cram.) taken May 14 and the forms *lucia* Kirby, *marginata* Edw., *violacea* Edw., taken from April 16 to July, and also *Nonagria oblonga* Grt., all from Montclair, New Jersey. At the January meeting, Mr. Lemmer recorded the following captures in New Jersey; *Glaca inulta* Irvington, Oct. 21; *Epiglaca pastillicans* Morr., Lakehurst, Oct. 17, (Buchholz and Lemmer); *E. tremula* Harv., Lakehurst, Oct. 17, (Buchholz and Lemmer); *E. apiata* Grt., Lakehurst, Oct. 18; *Coenocalpe magnoliata* Gn., Lake Hopatcong, July 15; *Eois demissaria* Hbn., Elizabeth, Aug. 15; *Orthofidonia exornata* Wlk., Lyons Farms, April 29, May 2; *Pero marmoratus* Grossb., Irvington, Aug. 10; *Homochlodes fritillaria* Gn., Irvington, July 27, Aug. 12. Mr. Weiss exhibited Japanese postal cards decorated with *Colias hyale* L., *Radena vulgaris* Butl., and *Junonia lemonias* L., the color and markings having been transferred perfectly to the cards.

Hemiptera—Mr. Weiss exhibited specimens of *Stephanitis*

pyrioides Scott (*azaleae* Horv.) which is firmly established in different parts of New Jersey and which feeds on the foliage of hardy azaleas, this species having been introduced from Japan; also *Leptoypha mutica* Say which was taken in large numbers while feeding on the fringe plant during the past summer at Hammonton, New Jersey. This species is recorded as rare in Smith's list.

HARRY B. WEISS, *Rec. Secretary.*

A New Entomological Club.

Editor of Entomological News:—I wish to call to your attention the formation of the "Boston Entomological Club." Meetings are held on the second and fourth Tuesdays of each month at 8 o'clock P. M. at the home of Prof. William Reiff, 366 Arborway, Jamaica Plain, Massachusetts. Although an entomological club we are especially interested in the collection of Lepidoptera. Entomologists visiting Boston will be welcomed at the Club meetings. At the annual meeting the following were elected officers for the coming year: Rudolph C. B. Bartsch, president; W. F. Eastman, vice president; E. F. Knight, secretary; H. J. Law, treasurer; Prof. William Reiff, superintendent of sales; Ernst Grebner and Nathaniel Stowers, members at large.—E. F. KNIGHT, *Secretary*, 9 Fairfield St., North Cambridge, Mass.

The New Ecological Society of America.

A meeting of ecologists was held at Hotel Hartman, Columbus, Ohio, December 28, 1915, under the chairmanship of Prof. J. W. Harshberger, for the purpose of considering the organization of an ecological society. About fifty persons were present, nearly all of whom were enthusiastically in favor of forming such a society. Over fifty others who could not be present had notified the Secretary of their interest in the movement. In view of these facts it was definitely voted to organize under the name The Ecological Society of America. The new society has an initial membership of more than one hundred botanists and zoologists interested in ecology. The constitution adopted declares that membership "shall consist of persons interested in ecology," that an annual meeting and field meetings shall be held and fixes the annual dues at $1.00. The officers chosen were *President*, Prof. V. E. Shelford, University of Illinois; *Vice-President*, Prof. W. M. Wheeler, Harvard University; *Secretary-Treasurer*, Dr. Forrest Shreve, Desert Laboratory, Tucson, Arizona.

The charter membership has been doubled since the Columbus meeting, and there is every prospect for an active and influential organization. The roster of names indicates that the collective interests of the society will be of the broadest character, embracing every phase of the relation of organisms to their environmental conditions. The Ecologi-

cal Society represents the union and co-operation of men who are interested in animal and plant material, in marine and terrestrial organisms, in the broader floristic and faunistic problems, and in the precise experimental study of organisms or the exact measurement of environmental conditions. Such an organization will be able to do much toward emphasizing fundamental problems of general ecology, and toward placing this science in a position correlative with that of general physiology.

The constitution admits of great freedom with regard to the holding of field meetings, and it would be difficult to overestimate the value that they may be made to possess. There will be an added stimulus to travel, there will be profit for every ecologist in seeing new regions under the guidance of men who know them well, and there will be profit for the science of ecology if the students of plants and animals can unite frequently for a consideration of the biota as an indivisible unit.

There will be a field meeting at Chicago in June, under the leadership of Dr. H. C. Cowles; one on the Pacific Coast in August, probably at San Diego. The Secretary will give early announcement of the details of these and of any others that may be initiated by different groups of members. The first regular annual meeting will be held in New York during the next Convocation week.

The Secretary is gathering information from the members as to their past ecological work and that in progress, their specialties, their willingness to undertake identification of material, their knowledge of various geographical areas and kindred topics, all to be published as a Handbook of the Society.

The membership of all interested in ecological work is desired.

[From circulars issued by the Secretary, Dr. FORREST SHREVE, Tucson, Arizona; temporary address, 2753 Maryland Ave., Baltimore, Md.]

OBITUARY.

Miss ADELE MARION FIELDE died in Seattle, Washington, February 24, 1916. Born in East Rodman, New York, March 30, 1839, and graduated from a New York State Normal School in 1860, she taught in her native State for some years and then went out as a Baptist missionary, first to Siam in 1866, and later to China, especially in Swatow. Having become deeply interested in the theory of evolution she returned to America in 1883 and, at the suggestion of Dr. David Starr Jordan, pursued studies in biology in Philadelphia, especially

at the Academy of Natural Sciences. Here she made the acquaintance of Dr. Edward J. Nolan, librarian of the Academy, who has paid a warm tribute to her memory in the columns of the Philadelphia *Public Ledger* for February 28, 1916. Dr. Nolan relates that it was Miss Fielde's desire for work in biology that led to the foundation of the Biological Department of the University of Pennsylvania, although she never became a student therein.

She returned to China in September, 1885, but in October, 1892, engaged in science teaching in New York and studied and lectured during the summers of 1900-07 at Wood's Hole These years witnessed her chief entomological work—on the senses, activities and behavior of ants. She set forth the view that "the antennae of the ant are a pair of compound noses, certain segments having each a special function," restating it in a paper *On certain vesicles found in the integument of ants* in the *Proceedings of the Academy of Natural Sciences of Philadelphia* for January, 1915, accompanied by a list of twenty-three papers which she had published, chiefly in the same *Proceedings* and in *The Biological Bulletin,* on this group of insects. Her interest in the olfactory sense developed by these researches is to be seen in two other short papers in the *Proceedings* for 1915, one concerning dogs, the other entitled *A new hypothesis concerning butterflies.*

These were not Miss Fielde's only contribution to entomology, however, for during her second period of residence in China she addressed to the Academy brief communications on the preparation of *Fishing lines from the Silk-Glands of Lepidopterous Larvae* by the Chinese (*Proceedings,* 1886, pp. 298-9), *On an Aquatic Larva* [*Hydropsyche?*] *and its Case* (1887, pp. 293-4), *An Aquatic Insect, or Insect-Larva having jointed dorsal appendages* (1888, pp. 129-130, plate viii) and *On an Insect-Larva Habitation* (*l. c.,* pp. 176-177), all recording observations made at Swatow.

P. P. C.

Correction. ENT. NEWS, vol. xxvi, p. 445, 13th line from bottom, for "1892" read "1852."

EXCHANGES.

This column is intended only for wants and exchanges, not for advertisements of goods for sale. Notices not exceeding three lines free to subscribers.

☞ These notices are continued as long as our limited space will allow; the new ones are added at the end of the column, and only when necessary those at the top (being longest in) are discontinued

Wanted—Bibliog. Amer. Econ. Entom., I–IV; Tech. Ser. Bul., 2–7; Entom. Circ., 1, 10, 17, 27, 40, 41, 44, 46, 89; Insect Life, Vols. 4–6; Nomenclator Zool. Cash or exchange.—Philip Dowell, Port Richmond, New York.

Wanted—*Papilio pilumnus, palamedes, aliaska, nitra, brevicauda, bairdi, ajax*, in exchange for Lepidoptera from my vicinity.—Adolph Mares, 2524 S. Homan Ave., Chicago, Ill.

For Exchange—Illinois and Indiana Coleoptera for North American species new to my collection.—C. Selinger, 1338 South 50th Avenue, Cicero, Ill.

Wanted—Living pupae of *Papilio asterias, P. zolicaon, S. cynthia, S. cecropia, promethea, io, polyphemus, regalis, imperialis, augulifera, rubra* and other Saturnidae in exchange or for cash.—A. F. Porter, Decorah, Iowa.

Wanted—A person in the vicinity of New York City who can spread butterflies skilfully.—W. Tonnclé, 200 W. 72d St., New York City.

Carabidae of genera *Omophron, Nomaretus*, and especially *Elaphrus* wanted for cash. Specimens other than those from N. E. States more desired.—Alan S. Nicolay, 416a Grand Ave., Brooklyn, New York.

Liberal exchange given for Lepidoptera needed for the collection of the American Entomological Society, 1900 Race St., Phila., Pa.

For Exchange—Insect Life, Vol. I, Nos. 4, 5, 6; Vol. II, Nos. 7, 8, 9, 10; Vol. III, Nos. 4, 5, 9, 10; Vol. 7, bound; U. S. Bur. Ent. Bull. (N. S.), Nos. 31, 44. Wanted 5th Ill. Report, and Riley's 9th Mo. Report.—E. G. Kelly, Wellington, Kansas.

Lepidoptera—I have for exchange Eastern U. S. Noctuidae and Geometridae mounted on pins, including *Catocala elonympha, similis, praeclara, gracilis, coccinata, epione, relicta* and varieties. Also cocoons of *P. cynthia* and *C. angulifera*.—John H. West, 2057 East York Street, Phila., Pa.

Wanted for cash—Lucanidae in perfect condition.—Joseph Brunner, Missoula, Montana.

For exchange—Entomological News, 1909, 1910, 1911, also Zeitschrift für wissenschaftliche Insecten Biologie, 1910, 1911, 1912.—Henry Wormsbacher, 1357 St. Charles Ave., Lakewood, Ohio.

Wanted—12 pair of *Argynnis idalia*, 3 pair *Arg. diana*, 2 pair *Arg. edwardsii* for exchange or cash.—A. F. Porter, Decorah, Iowa.

Wanted—Will pay cash for fertile females of the genus *Eubaphe* or give other Lepidoptera in exchange. Specimens from west and northwest especially desired. Write for details.—Alex. Kwiat, 2445 Eastwood Ave., Chicago, Ill.

Orthoptera—Especially from the mid-west examined for collectors. Correspondence invited.—M. P. Somes, Box 226, Mountain Grove, Mo.

TO MUSEUMS, SOCIETIES, ETC.

An experienced collector, now residing in the tropics, who has made a special study of tropical work, is in a position to accept, on moderate terms, a collecting commission from any Museum or Society wishing to make the very interesting and highly requisite addition of a full series of Neotropical Insects to their existing collection. Special data with every specimen, all guaranteed fresh taken and free from mould, acari, etc. Acurate ink or color drawings made from the living specimen if required. W. BUTHN, Cedros, Trinidad, British West Indies.

P. C. Stockhausen. Printer, 53-55 N. 7th Street, Philadelphia.