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POPULAR AND PRACTICAL ENTOMOLOGY.

DOG DAYS.

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Almanacs heliacal and cosmic notwithstanding, sunworshippers in Canada during the first fortnight of July, 1916, could hardly question the ascendancy of Sirius. The heat was so intense here, in Central Ontario, that tropical thunderstorms burst over the land every few days without ever lowering the mercury longer than a matter of hours. For certain forms of insect activity (we may safely say) it cannot be too hot, and at such times, if your observer is a real enthusiast, he will be more than busy. For my part I was enjoying the rest and leisure of summer holidays by hurrying at red-hot speed—a slow walk sufficed—to a succession of stations at four diverse radial points from the city of Peterborough, six miles east to the Wood of Desire, eight miles south to the neighborhood of Hiawatha, two miles west beyond Jackson's Park, and five miles north between Nassau and Lakefield. At the western station I was burrowing into the heart of a woodpile with results that have already been put on record. I wish here to say something of a trip I took towards Hiawatha.

On July 5th I boarded the early morning train to Keene, my object being to make a general reconnaissance of the country lying between Indian and Otonabee Rivers just north of Rice Lake; a solitary tramp one April, when wild geese were wedging north, had revealed some likely looking woods, and their promise had been confirmed by a motor ride to Hiawatha and a river trip to Jubilee Point. I started out determined not to show any more bias or discrimination than a man who is "sot" in his few peculiar ways can help, and that was why I carried field glasses and a pocket plant-press as well as insect net and collecting bottle.

On leaving Keene station, after a few uncertain questings like a hound at fault, I finally headed west, nose to the ground, and swung south at the second cross-road, in full cry for a compact-looking bush of hardwood and hemlock. Presently I came to where dense cedar aisles flanked the road on both sides. Experience had taught me to look in such places for some of the smaller *Botrychiums* (ferns), and I dived into the depths. As soon as I had had time to collect myself and look about, like some Indian pearl-gatherer, I found myself staring at a large clump of Macrae's Coral-root (*Corallorhiza striata*), still in bloom though 3 weeks later than usual; quite near it were some small plants of *Botrychium simplex*, while further on I found a few fairly large specimens of *Botrychium matricariæ* (*ramosum*). All this on the west side of the road; on the east this rare Coral-root was abundant, especially some feet down a steep bank on the outskirts of the wood I had been making for. It seems to have a decided preference for sheltered roadsides and the edges of woods, especially under evergreens; though one station at least that I know of is under hardwoods. The plant, usually known as Striped Coralroot, is a western species, and in Ontario is reputed quite as rare as, say, the Evening Grosbeak among birds; in the neighborhood of Peterborough, however, it is of fairly general occurrence,

and I have found about a score of colonies; it is in fact "locally rare," but we happen here to be a favoured district for the plant, as we are for the bird.

Once down the bank I found the adjoining wood so inviting that I stepped in and spent a couple of the morning hours wandering about in the shadows of its cloistered beech and maple. A footpath traversed the wood N. E. to a clearing partly filled with woodpiles, and close by the path I happened on several colonies of *Corallorhiza multiflora* just coming into bloom, and yet another "sicht for sair een" in the shape of *Habenaria hookeri*. For this plant I had only known a single station heretofore, a few miles north of Port Hope, and in recent years the colony had dwindled to 1 or 2 plants in a season. Here by Hiawatha I counted close on a score of plants; it is nowhere nearly so common an orchid as its next-of-kin *Habenaria orbiculata*.

From the shadows I emerged about 11 a.m. into the glare of the clearing and made a fairly thorough scrutiny of the woodpiles; there were no traces of longicorns about them, but buprestids (mostly *Dicerca divaricata*) in great numbers and astonishingly active in the fierce heat; almost as ready to take to flight on being approached as to play dead, an unusual condition for the species; two kinds of *Agrilus*, also, were to be seen about the piles and numbers of *Chrysobothris femorata*; however, these insects had all become common to me and I was free to pass on to further explorations. I could not but admire, however, the wonderful protective colouring which enabled these large, heavily built *Dicercas* to shuffle about over the grey bark of beech or maple almost unobserved and immune from attack; on a single small woodpile I counted upwards of 40 of these insects basking, crawling, or settling on the billets, and I brought 11 home to mark the occasion. My parting thought was how lucky I should have thought myself a few years before, as a young collector, to meet so fair a fortune face to face right on the threshold of the woods and a July holiday.

Next I made my way to a small grove of pines on a knoll beyond a soggy pasture; here were some bushes of sweetbriar and a patch of gowans from whose blossoms I gathered a few *Lepturas*, *pubera* and *proxima*, *Clytanthus ruricola* and *Typocerus lugubris*—an old friend now met again for the first time since leaving Port Hope.

I then crossed to the S. W. of the meadow, approaching the road along the edge of a wooded swamp. Right in the sun stood a large hemlock, its bark glowing red in the light, and immediately in front of it were some logs of hemlock lying; on one of the logs I spied an uncommon *Dicerca* with somewhat short-pronged elytra tips, noticeably stout across the back and remarkably rugose, the ridges dark grey, but the grooves and channels brilliant with a mixture of silver and rich green as of *verdegris*. Hardly had I captured the prize when a facsimile suddenly lit on the standing hemlock; but alas! as I approached over the rough, swampy ground, the insect flew and soaring in an upward plane was soon swallowed in space. Have you ever fed your spleen at the expense of some poor lumbering spaniel trying by a sudden dash to surprise a flock of sparrows feeding by the barn—for ever foiled, but never losing hope? I have, and smiled cynically at its comic look of dejection; but when cynic and hound are both in one skin, look you, the cream is off the joke. My capture has been identified as *Dicerca tenebrosa*, one of the most pleasing to look

at of all its genus and quite rare,—this being only the third specimen ever taken by me.

Just south of where I made these captures ran a good gravel road east and west; I struck west and after two miles entered a wayside smithy for directions; here they told me that the next cross-road would take me south to Hiawatha and north to the flag station of Drummond's. Both here at the blacksmith's and further on at a farm where I called for a drink of water, I was conscious of being eyed with suspicious looks, but since August, 1914, I had been taken for so many aliens that I gave the matter hardly a moment's thought.

To my delight I recognized at the next corner a piece of country near the Otonabee through which I had once motored, and I knew there was a fine stretch of woodland just S. W. of the cross-roads. It is always a great relief to swing out of the dusty highway with its cramped fence margins into the spaciousness of pasture and woodland.

The wood was too dense at this point for floral treasures, and proved after all a very narrow belt with the river in full view just beyond some stumplands. Just north-west the axe had been recently at work levelling part of a farmer's woodlot; there were stacks of cordwood visible, and a recent storm had taken heavy toll of timber on the newly exposed western edge. In the mid distance I spied a fallen spruce and a large limb of beech torn from its trunk. The day was at its height and no tiniest breath of wind invaded the throbbing heat. If ever there were insects abroad here in the day-time, it would be now.

My first venture was the fallen spruce, but nothing was to be seen about its rough, scaly bark, or among the branches and foliage. In falling, however, it had struck and heavily "blazed" a nearby balsam fir; this tree was languishing, for the foliage had gone brown. On examining the tree closely, I found just beside the grazed patch of bark (which was oozing resin freely) a fine specimen—a large female—of *Xylotrechus undulatus* ovipositing, and then, somewhat lower, a male of the same species; these beetles I had seldom taken before, and had indeed been uncertain as to which of our conifers it attacked. But I was able to make good use of my discovery, and secured later in the season over a score of the insects in the Algonquin Park. The other tree infested by it is the hemlock, and very rarely I have captured a specimen on spruce. Both these beetles were on the sunny side of the tree, and when I worked round to the shady side no more of their kind were to be seen; but I soon detected—courting the shadow as usual—a pair of *Acanthocinus obsoletus*: this was of some interest, for I had never before taken the species on any tree but white pine, where it is fairly frequent. Examination of several other balsams brought no fresh captures and I determined to move on towards the S. W., where fire had run between the belt of woodland and the river.

A path took me right past the broken limb of beech, part of which lay along the ground. Beech had never before brought me any captures of longicorns, and I was passing on with only a casual glance when I was stopped short by a discovery that proved the forerunner of many interesting captures during the dog-days of 1916. It was a small specimen of *Neoclytus erythrocephalus* that I spied running along one of the branches of the fallen limb. I suppose this insect is fairly common, a few specimens were once sent me from near the Rideau by an old friend who had noticed them racing over some fresh-cut

logs and branches of maple; about 4 years ago I captured 3 or 4 on some newly-lopped branches of hawthorn. But they are quite a difficult insect to capture; in my experience they are even more active than *Neoclytus muricatus*, a black species with white or grey pubescence, occurring on white pine. So far as I have been able to observe (by a comparison of these two species of *Neoclytus* with *Xylotrechus undulatus* and *colonus*), the former have a far better title to the name *Xylotrechus* than the latter, which are much more sedate and leisurely in their movements; both species of *Neoclytus* are expert and habitual "log-runners," as the word *Xylotrechus* implies; they have extremely long hind legs and travel at a great rate, zig-zag or spiral, even leaping or dropping from one branch to another, by long odds one of the nimblest of our longicorns; in hot sun, they are quite as active on the wing as in running and dodging. Indeed, they are seldom at rest, except momentarily when breeding, or while ovipositing in shadow on the under side of the limbs and branches. In about half an hour I had captured 3 specimens and lost 2 more; I found that they soon returned, after escape by dropping or flight, to the log or limb of their choice. Besides these, on the broken trunk and upper part of the torn limb I captured an *Agrilus* that was new to me, 5 or 6 specimens,—*Agrilus obsoletoguttatus*.

About a quarter of a mile farther on I came across an old hollowed beech, which the same storm had broken off near the root; the tree had been partly dead before its fall and appeared to be even more attractive than the sounder wood of the torn limb. I captured 5 *Neoclytus erythrocephalus*, including a breeding pair which I detected perfectly motionless on the under side of a small branch; several more *Agrilus obsoletoguttatus* and 2 *Agrilus bilineatus*. These were all captured from above or the sides, on the branches and limbs; before leaving I stooped to look at the under side of the trunk which was a couple of feet up from the ground and parallel with it. I immediately became aware of a grey longicorn—indeed a pair—and by lying down under the tree I was enabled to make captures at several points on the lower surface; 4 *Urographis fasciatus*, 1 *Hoplosia nubila* and 1 *Neoclytus colonus*; none of my readers, if interested in *Cerambycidae*, will deny that this was reward enough for a certain discomfort of body; but, I have, sometimes, since, in atrabilious humour, pictured myself a middle-aged plumber of palpably inattenuate bulk, engaged in driving rivets up into the under side of many-jointed boilers and squat kitchen stoves.

On my way back to the road, I captured on raspberry foliage a specimen of *Oberea* having the thorax entirely light creamy brown, the body, legs, wings, and scutellum being black. This was the last of my captures that day, but the observations led eventually to quite a series of finds and really opened a fresh field of investigation for my tramps abroad.

The heat lasted on, and I managed a few days later to make a trip to the east section of the Wood of Desire, where beech trees are numerous; I figured on the storm which had taken toll so heavily near Hiawatha, having swept the west or windward side of that wood, and sure enough, I found nearly a dozen beeches down. On four of them, longicorns were busy; and on two that had come down together with roots intertwined, I captured 8 specimens of *Xylotrechus colonus* and 34 of *Urographis fasciatus*. Only trees in full sunshine seemed to be attractive, and the weather was unusually hot. I have examined beech assiduously all through July since 1916, and though I have made an

occasional capture, I have never taken insects in any great abundance. My experience has been very similar in the case of basswood, white pine, poplar, balsam and spruce; an occasional haul, but usually little or nothing; and even less on the harder wood of elm, maple, ash, butternut, hickory and oak. Theories are dangerous, but I incline to think that some sense of smell—probably sap or vegetable juices fermenting in the hot sun—releases the reproductive impulse in these woodborers and brings them in ever-growing numbers from all parts of a wood to the few windfalls that their instinct "senses" as the proper nursery of their race.

It was in piecing out such problems as these in the late afternoon of July 5th, 1916, in ruminating over the day's take, and in planning my next campaign, that I beguiled my way along the last few miles of this 12-hour jaunt. On arriving home I found that the weather man had recorded 98 degrees Fahr. in the shade, and when I caught sight of myself in the bathroom mirror I realized why I had been the object of so many suspicious looks. My face was tanned to the colour of a well-boiled lobster and smeared with muddy streaks that had once been summer dust; my tie had disappeared and my collar wilted to the form and semblance of a dirty handkerchief; the philosopher's dignity was further impaired by the revelation of a large, 3-cornered rent in one trouser leg. I was really lucky to have made my way home through more than a mile of populous city streets unarrested, if not unrecognized.

NATIONAL COLLECTION OF INSECTS.

Dr. J. McDunnough has been appointed Assistant Entomologist, in the Entomological Branch, Department of Agriculture, Ottawa, to have charge of the National Collection of Insects. Canadian Entomologists will welcome the return of Dr. McDunnough to his native country, and his appointment to a position in which he will be able to devote his extensive knowledge of systematic entomology to the care and building up of the National Collection.

AN ENTOMOLOGIST'S HANDBOOK.

An entomologist's handbook or compendium is very much needed, especially by economic entomologists. It is planned to compile such a handbook, which will include principles and methods of studying the life histories of insects, of conducting field experiments and demonstrations, handy tables for field workers, etc. It is desired to have references, or better, to have separates of all published notes dealing directly or indirectly with the subject and to have details, and if possible drawings or photographs as well, of cages, apparatus, methods, etc., as yet unpublished. The handbook will be a compilation and full credit given to all contributions.

The co-operation of entomologists is solicited.

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THE CYRTID GENERA THYLLIS AND MEGALYBUS.

BY F. R. COLE, BUREAU OF ENTOMOLOGY, FOREST GROVE, ORE.

The genus *Thyllis* was established by Dr. Erichson in a monograph of the Cyrtidæ published in 1840. Four species were described in this paper, all from Capeland, South Africa. In the year 1865 Dr. Philippi described six species of Cyrtidæ from Chile, for which he erected the genus *Megalybus*. In 1868 Schiner gave notes on two Chilean species in his "Reise der Novara," recognizing in these two forms two of the species described by Philippi a few years before. In this paper Schiner placed *Megalybus* as a synonym of *Thyllis*. In a note he stated that there was no doubt in his mind that the genera were the same, at least no character was given that would justify separation. In the two species before him he noted that the eyes met above and below the antennæ and he continues, "whether this is the case with all *Megalybus* species I cannot say, were it so, those *Megalybus* species in which the eyes do not come together under the antennæ would be in another genus, that would then differ from *Philopota* in the wing venation, from *Thyllis* by the eyes not joining under the antennæ."

In 1876 Westwood described four species from Chile, stating "the names here employed for this genus and its four species were found attached to the specimens in Mss. when purchased, and have been retained, although, I believe, they have never been published." Evidently Westwood had not seen Philippi's above mentioned paper, for all four species were synonyms of those described by Philippi and had perhaps been named from his collection. Neither did Westwood compare the genus *Megalybus* with *Thyllis*, to which it is so nearly related. In his generic description he states that the eyes are contiguous above and below the antennæ.

It would appear then that Schiner was correct in his synonym, but unfortunately all of the Chilean species of this group do not have the eyes touching beneath the insertion of the antennæ. My attention was called to this point when examining specimens of what I take to be *Megalybus gracilis* Phil. in the U. S. National Museum. There are three specimens collected in Chile by Mr. E. C. Reed. All have the eyes distinctly separated below the antennæ. Mr. J. R. Malloch informs me that all of his Chilean species of the genus *Megalybus* have the eyes separated below the antennæ. Verrall, in his "British Diptera," considers *Megalybus* as a distinct genus. It may be that one sex has the eyes contiguous below the antennæ and the other has not; if so, it is something occurring nowhere else in the family. It is my opinion that the genera should be considered as distinct, although they are very closely allied, as can be seen from the figures. The species of *Thyllis* which I have figured has two median dorsal ridges on the mesothorax, which are not present in the Chilean species of *Megalybus*.

There are five genera in the Cyrtidæ belonging to the remarkable group Philopotinae, if we consider *Megalybus* as a genus, the others being *Thyllis*, *Philopota*, *Terphis* and *Helle*. They are distinguished from all other Diptera by the remarkable development of the prothoracic humeral lobes, which meet in front of the thorax in these forms. Most of the species have a grotesque, hump-backed appearance.

Some of the literature on the two genera under discussion is rather inaccessible and I give a translation of the descriptions below.

Thyllis Erichson.

The proboscis has nearly the length of the body; it nearly but not quite reaches to the tip of the abdomen. The shield, lying at the base of the proboscis, projects somewhat in the form of a "Halbrinne." The antennæ are very small, the first joint exceedingly short, the second pear-shaped, the tip prolonged into a bristle. The pilose eyes are very large, contiguous in the middle line of the head, only that on the front arched side of the head there is a small triangular space for the face, a very small triangle on the vertex and also below the middle, island-like, a small rounded place, on the under side of which, but free from it, are placed the antennæ. On the somewhat raised vertex are three inconspicuous ocelli. Behind the eyes the head is considerably prolonged cylindrically. The head is moderately small. The thorax is convex, somewhat bowed or hunch-backed, the dorsal pieces of the prothorax are proportionately large, with the inner corners contiguous, and with the broadened anterior margin encroaching on the hind margin of the head. The separate segments of the abdomen are quite apparent. The wings have a complete submarginal cell, five incomplete posterior cells, of which the first takes in the tip of the wing, and two complete, long, slender discal cells. The body is thinly clothed with fine, short, recumbent, almost silk-like pile.

Cyrtus, under which genus (*Acrocera*) Fabricius and Wiedemann placed the one species described by them, is easily separated from these flies by the situation of the antennæ. It is more closely related, particularly in the structure of the thorax and the greatly developed prothorax, to *Philopota*. In venation it is intermediate between the two. In common with *Terphis* it has the eyes contiguous under the insertion of the antennæ."

The following is a translation of Erichson's descriptions of his four species.

Thyllis crassa.

Black, red mottled, anterior margin of prothorax, curved lateral mesothoracic stripes and marginal fasciæ of abdomen yellow, costal region of wings fuscous. Length $2\frac{1}{2}$ - $3\frac{1}{2}$ lines.

Acrocera crassa Fab., Syst. Ent., 332, 2.

Cyrtus crassus Wied., Ausser. Zweifl. Ins., II, 15, 4.

Body black, finely cinereous pubescent. Prothorax rufous, anterior margin yellow, lobes on both sides with a median black spot. Mesothoracic dorsum on both sides with a lateral curved yellow stripe bordered rufous, above scutellum twin reddish spots, posterior calli before scutellum with median testaceous stripe; pleura with a reddish spot before insertion of wings. Scutellum with an apical rufous fascia. Abdomen swollen, each segment reddish apically, apical fascia attenuated on both sides, interrupted in the middle, yellow. Legs rufous, femora blackish, apex yellowish. Wings hyaline, costal vitta before apex marked fuscous. Squamæ hyaline.

Wiedemann described all the markings as yellow, Fabricius pointed out the presence of red at least on incisures of the abdomen.

Thyllis turgida.

Black, marked reddish, outer and posterior margin of prothorax, and lateral mark on mesothorax yellow, wings fuscous hyaline, toward the costa fuscous. Length 4 lines.

Body finely ashy pubescent. Thorax black and red marked, prothorax rufous, anterior and posterior margin yellow, lateral subarcuate obsolete vitta on dorsum of mesothorax and posterior calli before scutellum yellow. Scutellum all red. Abdomen swollen, first segment black, narrow apical margin yellow, the rest rufous, base of 2-4 fuscous, apex of 4-6 with yellow margin. Legs reddish brown, unspotted. Wings fuscous hyaline, costal vitta wholly brown. Squamæ hyaline.

Near the foregoing species but somewhat larger; the prothorax also has the hind margin yellow, the yellow band on the side of the mesodorsum is simply bowed, on the wings the light part is brownish, and the brown colour on the veins reaches to the tip; the femora are entirely red, and without yellow tips.

Thyllis obesa.

Black, anterior and posterior margin of prothorax, sides of mesothorax, scutellum and posterior part of abdominal segments yellowish, wings hyaline, fuscous toward costa. Length 4 lines.

Body finely ashy pubescent, black. Anterior and posterior margin of prothorax, dorsum of mesothorax on both sides with an arcuate marginal vitta and posterior calli before scutellum yellow. Scutellum black, yellow margined. Abdomen swollen, each segment above with terminal belt of yellow. Legs brown, femora from base to beyond middle black. Wings hyaline, costal strip fuscous, abbreviated before apex, rest of costa testaceous. Squamæ whitish hyaline.

In form similar to the two species above, somewhat more finely punctate and in colouring without a mixture of red, therein differing from *Th. crassa*, which also has the hind margin of the prothorax yellow and the lateral bands on dorsum of thorax are simply bowed. The yellow bands on abdomen are all of like size. The wings are coloured as in *Th. crassa*, the veins themselves are, however, not brown, as the bands lying back of them, but brownish yellow.

Thyllis compressa.

Black, thorax compressed, on both sides with a longitudinal brown vitta and a posterior brown spot, abdomen oblong, ferruginous, segments with basal bilobed black spots. Length 3 lines.

Head black, frons a small spot, brown. Thorax gibbous, compressed, above on both sides with a longitudinal stripe, from anterior margin thence gradually attenuated to base of scutellum, almost straight, reddish at termination, before scutellum two small spots, oblong, marked yellow, posterior calli before scutellum yellow vittate. Scutellum thick, bordered rufous, with a median apical yellow spot. Abdomen as the thorax much less highly arched (than usual), oblong, parallel sided, apex rounded, convex above, brown, segments with two dorsal black spots confluent at base, a small intermediate spot of yellow included, the lateral margin and venter all yellow. Legs yellow, femora brown, base fuscous. Wings all fusco-hyaline. Squamæ whitish hyaline.

In the laterally compressed form widely differing from the foregoing species, at first glance appears nearer a *Philopota*.

All four species are from Cape Land. The third is in the Drege collection, the others are from the material sent by Krebs.

Below is the description of a species of *Thyllis* loaned by Prof. A. L. Melander which may prove to be an undescribed species when more material is collected. It is near *T. compressa* Erich.

Thyllis, sp. near **compressa** Erich.

Head rather flat in front. Eyes short blackish pilose and meeting above and below the antennæ (see Figs. 2b and 2c). It will be noticed that there is a line between the eyes below the antennæ. Antennæ brownish, the small first joint scarcely visible. Ocellar tubercle very small and with three ocelli. The occiput is black and punctate. Frons reduced to a tiny triangular shining black space. Proboscis does not quite reach tip of abdomen, black at base, brown the rest of the distance, lobes at tip of galea rather short.

Thorax black, marked with yellow and red, the pile rather short, fine and ashy coloured. There is a very noticeable ridge each side of the median line of the dorsum (see fig. 2a). The prothorax is very remarkably developed as in others of the group and is mostly pale yellow. It is butterfly-shaped as seen from above, marked with reddish brown on the lateral margins, and on either side of a median black spot. There is a yellow crescent rimmed with brown above the base of the wing and a smaller spot just back of it. Two oval yellow spots just in front of scutellum. Postal calli pale mottled brownish, black in the depression just back of the wing. Scutellum black with yellow margin, the yellow expanded in the middle. Pleura black with a reddish brown spot on mesopleura. Halteres yellow.

Abdomen rather short and thick. First segment very short. Segments 2-5 increasing slightly in length, the incisures deep and clearly marked. Second segment broadest, the following gradually decreasing. Colour of abdomen mostly brownish red, all segments except sixth black basally. A median line of yellow spots on the posterior border of each segment, the yellow surrounded by a brownish red which nearly reaches the base of the segment. Lateral margin of abdomen narrowly whitish yellow as in the margin of the fifth segment. Venter yellowish. Squamæ whitish hyaline with a sparse fringe of short hairs. Very little of genitalia projecting in the female.

Coxæ and bases of femora blackish. Tibiæ, tarsi, tips and part of underside of femora yellow. Claws black, yellow at base. Venation typical of genus. Wing veins on anterior half of wing strong and blackish. Veins from posterior cells do not reach posterior margin of wing. Wing membrane strongly rippled, infuscated, darker in costal region. Length 5 mm, measured over dorsum of thorax 7mm.

One female specimen from Willowmore, Capetown, S. Africa, collected by Dr. Brauns. Specimen in collection of Prof. A. L. Melander.

Below is given a translation of Philippi's description of the genus *Megalybus* and its six species published at Vienna in 1865 in the K. K. Zool. bot. gesellschaft. Verhandl., V, 15, p. 641-644.

The head is very strongly bowed (geneigt), rounded, composed almost entirely of the eyes, behind which a very prominent ring-like occiput is to be seen, that is, however, smaller than the front part of the head. The eyes are dark brown and pilose. The small ocellar triangle shows the usual three ocelli. In the middle of the height of the head when one sees it in profile, projects a small, smooth knob between the eyes, and under this are situated the small

apparently two-jointed antennæ, whose first two joints combined are hardly twice as long as this knob; the second (actually the third) is rounded and ends in a fine bristle. The proboscis is long, pointing back under the body, split at the end into two thread-like lips, which are somewhat curled up. The palpi are (as in *M. pictus*) very small, awl-shaped, horizontal. The thorax is as large as the abdomen, extraordinarily gibbous, that is, the mesothorax is raised high so that the abdomen forms a right angle with the forepart of the thorax; prothorax, mesothorax and metathorax are clearly separated by sutures.—The abdomen is cylindrical, thick or slender, six-segmented, but the first segment is very short; all segments separated by deep incisures.—The wing venation is nearest *Cyrtus*, but it is characteristic, namely the cell which takes in the tip of the wing is not petiolate as in *Cyrtus*. The squamæ are convex, thick, glass-like. The legs are simple; the tibiæ somewhat thickened at the end, entirely unarmed, the claws large, there are two "Haftlappen."

"The adult insect is found on flowers; the larvæ live, it would seem in wood, at least my son Karl, in Dec. 1863, found a fly of this genus just crawling out of a tree.

"1. *Megalybus pictus* Ph. M. niger, helvolo-pictus, antennis capitesque nigris, rostro helvolo; thorace vittis interruptis helvolis notato; abdomine crasso, maculis ternis triangularibus helvolis in quovis segmento picto; alis ante apicem fascia abbreviata nigra ornatis; femoribus nigris, genubus, tibiis tarsisque flavis. Length 3 lines, expanse of wings $5\frac{1}{2}$ lines.

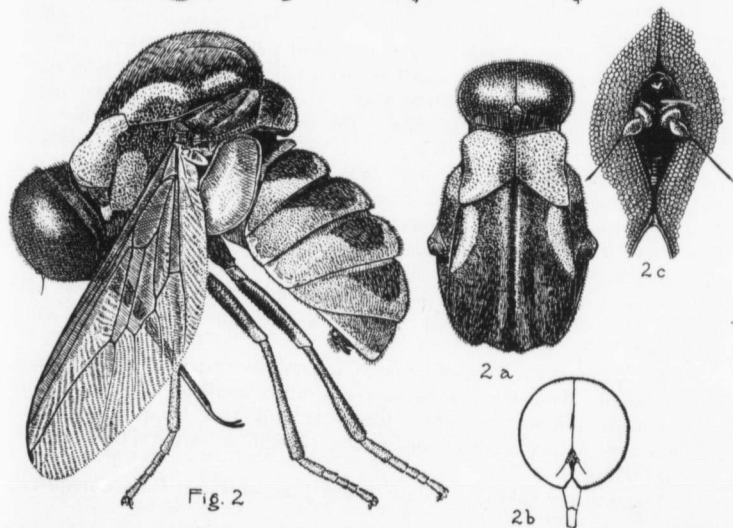
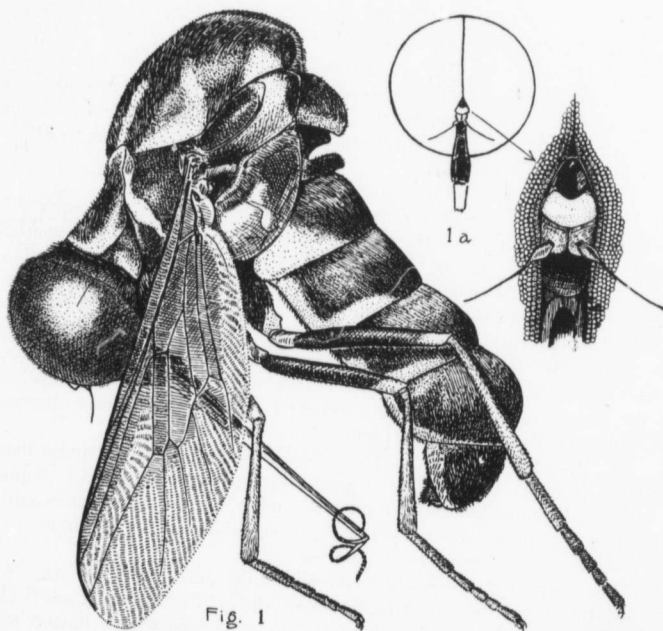
"Habitat in the province of Santiago.

"The prothorax is clearly differentiated, black, rimmed light yellow, has a short furrow in the middle, and its hind margin forms two corners. The mesothorax is of great height, has on the fore part four short, light yellow stripes, of which the side ones are strongly curved, and as many shorter stripes in the posterior part. The hind margin of the scutellum is yellow. On each side of the scutellum is a yellow dot between the edge of the mesothorax and the glass-like squamæ.

"2. *M. crassus* Ph. M. thorace maxime gibboso, rufo, strigis helvolis et castaneis picto; abdomine crasso, supra nigro-castaneo, et in medio marginis postici segmentorum macula parva triangulari flava notato, lateribus potius, ferrugineo, marginibus flavescentibus, alis hyalinis fusco-bimaculatis; pedibus e ferrugineo luteis. Length $3\frac{1}{3}$ lines, expanse of wings $8\frac{1}{2}$ lines. (See figure).

"Captured in province of Valdivia.

"The head is brownish, the proboscis reaches three-fourths the length of the body. The antennæ are light brown and the prominence above them white. The prothorax is light rust brown with whitish yellow margins; the mesothorax is of the same ground colour and marked with the same whitish yellow stripes as *M. pictus*, but in the middle is deep chestnut-brown, and is highly arched in a very remarkable manner. The scutellum is dark chestnut brown, with whitish yellow margins. Also the abdomen is dark chestnut brown, with small triangular whitish yellow spots on the middle of the posterior margin of the second, third, fourth and fifth segments, on the sides rust brown with pale yellow margins. The wings have a blackish cross-band shortly before the tip, which reaches to the anterior margin, but ceases some distance from the posterior



THE CYRTID GENERA THYLLIS AND MEGALYBUS.

margin, and a blackish cloud in the middle. The legs are entirely yellow, and the femora hardly noticeably darker.

"3. *M. obesus* Ph. *M. rufo-castaneus*; antennisque nigris; thorace vittis tribus nigris, maculisque sex helvolis picto; abdomine crasso, ad medium marginum posticorum segmentorum macula parva helvola notato, ad latera immaculato; alis fusco-bimaculatis; pedibus rufo-fuscis, femoribus piceis. Length $3\frac{1}{4}$ lines, expanse of wings almost 9 lines.

"Specimen prope Corral aestate 186 $\frac{3}{4}$ lectum est.

"The proboscis is yellowish, the frontal prominence over the antennæ yellowish white. Of the spots on the thorax two are before the scutellum, another on either side before the base of the wing, and one on each side before the end of the scutellum. The fifth abdominal segment has a narrow yellow posterior margin, which coalesces with the yellow spot in the middle of the same. The abdomen is dull, the base of all the segments is clothed with fine reclinate hair, which gives the effect, that they shimmer gray in certain lights. This is the thickest and largest species and separated from *M. crassus* through the lack of yellow colour on the sides of the margins of the abdominal segments. By closer observation the whole colouring is seen to be quite different.

"4. *M. gracilis* Ph. *M. corpore obscure brunneo*; thorace quam maxime gibboso, flavo-picto; abdominis tenuis, cylindrici, apici incrassati segmentis lateribus helvolorum marginatis; pedum luteorum femoribus supra fusciscentibus; alis infuscatis, immaculatis. Length $3\frac{1}{2}$ lines, Expanse of wings 7 lines.

"Inhabiting the province of Valdivia.

"The dark brown eyes are white pilose, the antennæ brown, the frontal protuberance above the same whitish yellow, the light yellow proboscis is hardly half as long as the body. The thorax is brown, clothed with yellowish hair in front and ornamented with pale yellow marks. The prothorax has a yellow margin, the mesothorax is marked with four short yellow stripes above, with two short yellow stripes above the scutellum and a yellow stripe on each side, which commences back of the base of the wing. The scutellum is unmarked above, brown, but the underside is yellowish. The abdomen is very thin, cylindrical, thickened posteriorly; the second segment is as long as wide, smaller posteriorly, the third segment at least $1\frac{1}{2}$ times as long as broad, the fourth similar, the fifth of the same length, but thickened posteriorly, the sixth segment is small, directed downward, not visible from above. The colour on the dorsum is dark brown, on the side each segment has a yellow spot, becoming broader posteriorly; the fourth and fifth have above in the middle of the posterior margin a small yellow spot, which on the fifth segment coalesces with the (also yellow) hind margin. The venter is yellowish. The wings are infuscated, brownish gray, unspotted.

"5. *M. tristis* Ph. *M. corpore nigro, sub-unicolore*; thorace minus gibboso, flavo-punctato; abdominis gracilis segmento primo lateribus, tertio in margine postico flavis; pedibus ferrugineis, femoribus atris, basi tibiatarum nigricante; alis infuscatis, nubecula centrali obscuriore. Length of body $3\frac{1}{2}$ lines, expanse of wings 6 lines.

"Taken in my Valdivian estate at San Juan, of which I have frequently spoken.

"The yellow proboscis is about half as long as the body or only a little

longer. The thorax is back and lacks the yellow stripes. Also the prothorax has no yellow margin, and only the raised edges, which separate the middle from the side parts of the same, have in their posterior region a yellow colouring. The Mesothorax is almost always very strongly arched but not so unusually as in *M. gracilis* or *M. crassus*. Over the base of the wing on either side is a small circular, yellow spot, and four of the same on the posterior margin before the scutellum, of which the outer are the larger. Also the downwardly directed tip of the scutellum is yellowish. The abdomen is of the same slender form as in the preceding species, but entirely black with the exception of the narrow posterior margin of the fifth segment, which is yellow; on the third and fourth segment only the lower half of the posterior margin is yellow, and on the second segment is likewise furnished with a yellow posterior margin. The legs are in general dark brown, the tibiae lighter, the femora deep black, at the lower end with a yellow ring; also the ends of the tibiae are yellowish. The wings are infuscated and have a dark cloud in the middle. At first glance one could take this species to be a colour variety of *M. gracilis*, but the height of the thorax is very different, etc.

"6. *M. subcylindricus* Ph. *M. niger*, margine prothoracis, vittis interruptis mesothoracis, margine posteriore lateribusque segmentorum abdominis cylindrici, crasseusculi flavis; alis infumatis; pedibus luteo-ferrugineis, femoribus nigris. Length of body $2\frac{3}{4}$ lines, expanse of wings $4\frac{1}{2}$ lines.

"One specimen taken with the previous species.

"The head is black, frontal protuberance and proboscis yellow. The prothorax has a yellow hind margin and now and then the anterior margin is yellowish brown. The mesothorax is highly arched for this genus, somewhat as in *M. tristis*, and has in front four abbreviated yellow stripes and four similar stripes posteriorly. The margin of the scutellum and the sides of the mesothorax are yellow. The abdomen is not nearly so slender as in *M. gracilis* and *tristis*, but much thinner than in *M. pictus* and *crassus*; the first segment is clearly visible, the second broader than the following, but the same length as these, the third, fourth and fifth are apparently as broad as long. The sides and posterior margins of these segments yellow and the margins have a yellow spot in the form of a triangle in the median section of the dorsum. The wings are infuscated, unspotted, yet a darker cloud can be made out in the middle. The legs are dark as in *M. tristis*.

Through the kindness of Mr. F. Knab I obtained the loan of three specimens of a species of *Megalybus* from Chile which I have mentioned in the first part of this paper. They are probably *M. gracilis* Phil. and I give a description below:

Head black, occiput ring-like and with a rim next to the prothorax (see fig. 1). The occiput is finely punctate and with fine white pile. Eyes with fine, short white pile, the facets very small. Ocellar tubercle triangular and raised only slightly. The head appears round from in front and more than a hemisphere viewed in profile. The small triangular frons projects somewhat and is black at the base, the lower half being ivory white. The antennae are small, yellowish brown, contiguous at the base, the first joint scarcely visible, the third ending in the usual bristle. The eyes are separated below the antennae by almost the width of the frons at the widest part (see fig. 1a). The proboscis reaches almost to the tip of the abdomen, brownish at the base, otherwise yellowish, and ends

in two long slender lobes which are curled up and give the appearance of being jointed beyond the middle. (See fig. 1).

Prothorax remarkably developed as in others of the group, dull black, finely punctate, and with yellow margins. The thorax is of like colour and texture, short shining white pilose posteriorly and laterally, the rest brownish pilose. Two widely separated, short yellow lines on the anterior mesonotum, and a yellow curved mark outside these on the lateral margin. Two oval yellow spots in front of the scutellum, and a yellow spot above the postalar callosities which runs down across them. Scutellum black with a yellow hind margin. Pleuræ black with a yellow mark in front of the wing.

Abdomen black, the lateral margins yellow, broadly on the second, the yellow reaching across on posterior margins of segments some distance. First segment very short. On the dorsal margin of the second, third and fourth are small median yellow triangles. The sixth segment is black with a yellow margin. Squamæ with narrow margin and almost transparent membrane. The pile on the abdomen is rather short, recumbent and shining in certain lights.

Legs yellow, femora blackish brown, pale beneath, the base and tips yellow. Tibiæ and tarsi yellowish brown. Wing venation typical, the membrane strongly rippled and infuscated light brown.

EXPLANATION OF PLATE II.

- Fig. 1. *Megalybus gracilis* Ph.
 1a. Outline drawing of head from front and greatly enlarged figure of frons and the region around it.
- Fig. 2. *Thyllis compressa?* Erich.
 2a. Head and thorax from above.
 2b. Outline of head from front.
 2c. Drawing showing eyes meeting above and below the insertion of the antennæ.

AN APPEAL FROM BELGIUM.

The following letter has been received from the Curator of the Entomological Section of the Royal Museum of Natural History of Belgium:

[Translation.

Brussels, 11-1-1919.

Dear Sir:

It is absolutely necessary that you write some notices in the American scientific journals in order to save the Selys Catalogue. I have lost twenty subscriptions in Europe and I must retrieve them in the United States. Financial aid from the de Selys family is impossible for a long time. Each new subscription will bring a little capital to the reconstitution of this work which can be brought to a termination with a little energy and with the aid of all. The great institutions, libraries, etc., ought to put some of their pennies into subscriptions. . . .

Here we have suffered much from the slow and inexorable hunger, from the nervous depression of our abominable slavery that no one can describe. Our museum and our collections are saved, but I have lost one of my two sons who was at the front, a fine boy of 24 years, a captain of engineers. I have lost a part of my small fortune and my health, but more I fear that the sufferings from hunger have compromised the future of my younger son and of my grandchildren.

The balance sheet is sad, and I have little courage to take it up. I would not, however, see the Catalogue, to which I have devoted myself for years, founder. This is why I call for your aid. Write to your entomological friends and sustain me,

Yours sorrowfully,

G. SEVERIN.

The Baron Edmond de Selys Longchamps (1813-1900) was known as the chief authority on the taxonomy and geographical distribution of the Odonata. He formed an extensive collection of these insects and of other "neuropteroids" from all parts of the world, and of the vertebrates and some other groups of Europe. These collections were presented, after his death, to the Brussels Museum by his two sons.

The publication of the *Catalogue Systematique et Descriptif des Collections Zoologiques du Baron Edm. de Selys Longchamps*, "designed to realize the supreme desire of their late possessor and at the same time to serve science," was begun in 1906 under the care of the two sons, M. Severin and a number of zoologists, who interlook, as specialists, the preparation of certain parts thereof.

It was planned to appear in 32 fascicules of a varying number of pages, of large quarto size, illustrated by text figures and some plates. The subscription price for the complete work was fixed at 25 centimes (20 centimes for the fascicules on Orthoptera, Lepidoptera and Vertebrata) per page of text, 2.75 francs per coloured plate and 2 francs per black and white plate, with an increase of 25 per cent. for subscriptions to separate parts only.

At the beginning of the war 21 fascicules had appeared, treating of the Orthoptera, Embiidæ, Perlodides, Megaloptera, Trichoptera, Ascalaphidæ, Libellulinæ, Cordulinæ, Aeschninæ, Birds, Mammals, Amphibia and Fishes, at a total price of 703.50 francs. The eight fascicules on the Libellulinæ by Dr. F. Ris, of Rheinau, Switzerland, constitute the most extensive monograph on that subfamily ever produced, and several other groups have been dealt with a similar fashion. Several fascicules are in such an advanced state of preparation or of printing that they can be issued in a short time.

There are many reasons—scientific, humanitarian, international, appreciative of the nation which has suffered so fearfully—why the Selysian catalogue should be carried to completion, and it is to be hoped that readers of this appeal will personally do all in their power to aid in this accomplishment by inducing institutions which they can influence to subscribe. All correspondence relating to subscriptions should be addressed to M. G. Severin, Musee Royal d'Histoire Naturelle, 31 Rue Vautier, Bruxelles, Belgium.

PHILIP P. CALVERT,
University of Pennsylvania.

THE DIPTEROUS GENUS IMITOMYIA TNS. (HIMANTOSTOMA LW.).
 BY J. M. ALDRICH, U. S. DEPARTMENT OF AGRICULTURE, BUREAU OF ENTOMOLOGY.

Loew described *Himantostoma sugens* as number 87 of his Fourth Century of N. A. Diptera, in Berliner Ent. Zeitschrift for 1863. He appended a note describing the genus as new also; it contained but the one species, based on a single male specimen, the locality being given as Illinois.

Until recent years this genus remained an enigma to dipterists. Coquillett in his Revision of N. A. Tachinidæ, 1897, 40, mentions it among those unknown to him. Adams, in Williston's Manual, 1908, 377, lists it among those which he cannot place in his table. Townsend, however, states in his Taxonomy of the Muscoidean Flies, 1908, 126, that he has seen the type; without further comment he places it in his tribe Clistomorphini, family Phasiidæ. Later (Proc. Ent. Soc. Wash., XIV, 49, 1912) he proposes *Imitomyia* to replace *Himantostoma*, which is preoccupied by Agassiz in Coelenterata in 1862; this time he refers the genus without comment to tribe Eutherini, subfamily Pseudodexiinae, family Exoristidæ.

In 1915 Harrison E. Smith published the new genus and species, *Saskatchewaniana canadensis* (Can. Ent., XLVII, 153), based on two males and four females taken at Farwell Creek, Saskatchewan. A few months later when visiting me he stated that Dr. Townsend believed this to be the long-lost *Himantostoma sugens*.

On June 18, 1918, I collected thirteen females of *sugens* at Minot, N.D., on flowers of ox-eye daisy growing in low ground (slough or hay land among small timber) near the Mouse River just above the city. One of these I later sent to Nathan Banks at the Museum of Comparative Zoology, who compared it with the type of *sugens* and pronounced it the same species. My material exactly fits Mr. Smith's excellent description of *Saskatchewaniana canadensis*, and was taken about 60 miles from the southeast corner of Saskatchewan.

Since the species has been rediscovered in the northern plains region, it would appear quite likely that the original specimen came from there also. Osten Sacken received much material from Robert Kennicott (see his Record of My Life Work, p. 35), who collected in Illinois as well as in the far north for him; so there was an opportunity for error before the specimens reached Osten Sacken.

In 1897 Thalhammer (Termesz. Füzetek, XX, 145) described a *Himantostoma hungarica* from Hungary. Bezzi in the Palæarctic Catalogue made this a synonym of *Ancistrophora mikii* Schiner.

The genus was described by Professor Bezzi in Boll. de Lab. Zool. Portici, XII, 86-93, 1917. Here he recognizes *hungarica* as a valid species of *Himantostoma*, and describes a species from North Africa as *H. mochii*. In receiving this paper from the author in 1918, I sent him a specimen of the type species *sugens*, and he has since informed me that neither of the old-world species is congeneric; *hungarica* he puts back as it was in his catalogue, and has proposed a new genus for *mochii*, which is still I believe unpublished.

A new description of the genus and species is unnecessary, since Mr. Smith has given a complete one which is readily accessible. I will add, however, that in the table in Coquillett's revision *Imitomyia* will come out at couplet 6, page 30, where it separates by possessing a long, slender proboscis and very striking flat facial carina; and in Adams's table it runs to couplet 10, p. 361, where it separates on the same characters.

SOME NEW OR SCARCE COLEOPTERA FROM WESTERN AND SOUTHERN FLORIDA.—III.

BY W. S. BLATCHLEY, INDIANAPOLIS, IND.

(Continued from p. 32.)

Molorchus semiustus Newm.—One specimen taken by beating in Skinner's Hammock, March 9. Usually classed as a variety of *bimaculatus* Say, but aside from the nearly uniform reddish-brown hue, it is stouter, with broader more depressed thorax, the sides of which are less rounded and disk without the smooth callosities present in *bimaculatus*. It has previously been known only from St. John's Bluff and Crescent City, Fla.

Neoclytus erythrocephalus Fabr.—One specimen taken at same place as the two preceding, Feb. 16. Schwarz (Ms.) notes its occurrence at Enterprize and Crescent City.

Leptostylus parvus Lec.—One taken at light in house at Lakeland, Feb. 22. Schwarz (Ms.) records it from Lake Worth and Key West.

Labidomera clivicollis Kirby.—I was surprised to find this large, well-known Chrysomelid not listed from Florida. Two specimens were beaten from bunches of dead leaves, where they were hibernating, in February at Skinner's Hammock.

Galerucella nymphææ Linn.—This is usually supposed to be a species of strictly northern distribution. Five specimens were obtained from the flowers of the yellow water-lily, *Nymphaea advena* Sol., near Moore Haven, Fla., on March 2. It is possible that the species may have been introduced near there from Northern Europe, where it is said to be common.

Disonycha leptolineata Blatch.—Farther examination of 30 or more specimens taken during the past two winters leads me to believe this distinct and not a variety of *D. abbreviata* as described.* It occurs on ferns in Skinner's Hammock in February and March, and has also been found at Lakeland and Lake Istokpoga.

Longitarsus fuscicornis, sp. nov.—Oblong-oval. Shorter and more convex than *L. testaceus* Lec. Pale brownish yellow, not alutaceous, head and hind femora slightly darker; elytra with a vague darker, W-shaped, scutellar blotch; antennæ fuscous, the four basal joints pale; under surface dusky brown. Antennæ rather stout, two-thirds as long as body, the second, third and fourth joints subequal in length, shorter than those which follow. Thorax slightly wider than long, sides feebly curved, rounded into base, disk very minutely and sparsely punctate. Elytra one-third wider at base than thorax, rather strongly convex, umbones evident but small, punctures of disk very fine, almost invisible. Wings present. Length 1.3–1.5 mm.

Described from four specimens swept from low vegetation about ponds near Dunedin, Oct. 26–Dec. 13. Differs from both *testaceus* and *cotula*, our other species of similar hue, by the fuscous antennæ and the lack of the greasy aspect which they have, due to their alutaceous surface. The form is comparatively more robust than in either, and the punctuation finer.

Longitarsis solidaginis Horn.—Two specimens taken by sweeping north of Dunedin, March 20 and 25. Known only from Sumter and Orange Counties, Florida.

*Can. Ent., 1917, 143.
March, 1919

Chaetocnema cribrifrons Lec.—Taken at Dunedin by sweeping in February. Horn gives its distribution as Colorado, Texas, Dakota, Georgia and California.* This is the first record for Florida.

Epitrix parvula Fab.—Horn says of this species: "Occurs throughout the entire U. S. extending also to the West India Islands." It has not been reported from Florida. A specimen was taken by sweeping on Hog Island, March 26.

Bruchus coryphæ Oliv.—One specimen beaten from a mass of Spanish moss near Dunedin, Dec. 23. No previous published record for the State. Schwarz (Ms.) notes its occurrence at St. Augustine and Haw Creek.

Bruchus cruentatus Horn.—Hibernates like the preceding in bunches of Spanish moss. Quite frequent near margins of lakes at Lakeland, Feb. 22, and also taken at Dunedin on several occasions, Nov. to March. Recorded only from Tampa. The hind legs of Florida specimens are more often red than black. The form with red spots absent, *nigrinus* Horn, also occurs near Dunedin, but only two specimens have been found.

Bruchus macrocerus Horn.—This species, known heretofore only from New Jersey, Tennessee and District of Columbia, occurs also near Dunedin, three specimens having been taken in March while sweeping huckleberry and other low shrubs.

Bruchus compressicornis Schæff.—Frequent at Dunedin; also taken at Ormond and Sanford. Occurs on flowers of the frost-weed, *Helianthemum corymbosum* Michx., in March and April. Described from Brownsville, Texas, and not elsewhere recorded.

Strongylium anthrax Sz.—Described from Enterprise, and noted by Schwarz (Ms.) as occurring at St. Augustine. One specimen taken at porch light at Dunedin, Aug. 6.

* * *

The family Cistelidae is especially well represented in western Florida. Five species from there have been described by the writer in previous papers, and at least half a dozen which cannot be placed by the literature extant are at hand. Examples of all species taken were recently sent to Col. Casey, who monographed the family some years ago.** He states that a number of them are unknown to him. Notes on several of the species and descriptions of three which are undoubtedly new are herewith given as follows:

Hymenorus difficilis Casey.—Two specimens, so pronounced by Casey, are from Ormond and Dunedin. They were taken in April by beating. His type was from New York.

Hymenorus dichrous, sp. nov.—Elongate-oval, large for the genus. Nearly uniform dark brown, shining; head and thorax often slightly darker; elytra with basal third more or less tinged with dull red; antennæ, palpi and legs pale reddish brown. Head small, coarsely and sparsely punctate between the eyes which are very large, coarsely faceted, separated by about their own width (female), almost contiguous (male); clypeus, and occiput behind the constriction, coarsely and densely punctate. Antennæ short, stout, the apex of eighth joint reaching base of thorax, the third and following joints subequal in length, the second only one-fourth the length of third. Thorax one-third wider than

*Trans. Amer. Ent. Soc., XVI, 1889, 261.

**Ann. N. Y. Acad. Sci. VI, 1891, 69-170.

long, sides straight from base to beyond middle, thence rounded into apex, hind angles rectangular; disk rather closely, not coarsely aciculate punctate, the punctures separated by nearly their own diameters. Elytra scarcely wider at base than thorax, sides parallel for two-thirds their length, then converging and rounding to the obtuse apex; striae very fine, their punctures small, round, close-set; intervals flat, each with two rows of minute punctures, each puncture bearing a rather long, strongly inclined, pale brown hair. Abdominal segments 1-3 finely and sparsely punctate, four and five almost smooth.

Length 6.7-7.2 mm.

Described from nine specimens taken at Sanford and Dunedin, Fla., March 29-Oct. 31, mostly by beating, some at porch light. In colour resembles *dorsalis* Sz., but larger, broader, less parallel, with shorter antennae and more sparsely punctate thorax, the red hue of elytra less distinct. In *dorsalis* the eyes are as widely separated in male as in female, the back portion of occiput is sparsely punctate, the middle of seventh joint of antennae reaches base of thorax, and the punctures of elytral intervals are much more distinct than in *dichrous*.

Hymenorus sabalensis, sp. nov.—Elongate-oblong, smaller and more slender than *dichrous*. Head, thorax, antennae and basal third of elytra dull red, legs paler; apical two-thirds of elytra dark brown. Head rather large; interocular area and clypeus coarsely and very sparsely punctate; eyes separated by one-half their width. Antennae rather stout, half the length of body, the third joint two-thirds the length of fourth. Thorax one-half wider than long; sides evenly and broadly curved from basal third to apex; disk vaguely and broadly impressed each side on basal third, its surface sparsely and rather finely punctate, the punctures separated by twice or more their own diameters. Elytra at base slightly wider than thorax; striae fine, their punctures small, close-set; intervals slightly convex, each with two rows of punctures which are almost as large as those of striae. Under surface dull red, the abdomen punctate as in *dichrous*, the prosternum more densely so. Length 6 mm.

One specimen taken by beating palmetto leaves on Hog Island, March 22. Distinct by its peculiar coloration and widely spaced punctures of thorax.

Hymenorus sobrinus Casey.—One specimen, so determined by Casey, taken at Lakeland, Feb. 22, by beating masses of Spanish moss. The species was described from Florida without definite locality.

Andrimus brunneus Casey.—Frequent at Dunedin and La Belle in February and March. Taken by sweeping, and, in late March, at porch-light. Described from Haulover, Florida.

Andrimus parvulus, sp. nov.—Elongate-oblong. Pale chestnut-brown, shining; legs and palpi paler. Head small, with a wide groove between the eyes; clypeus and occiput finely and densely punctate. Eyes large, coarsely granulate, separated by a distance one-third greater than their width. Antennae stout, joints 4-11 flattened, 2 and 3 together only one-third the length of fourth. Thorax subquadrate, slightly wider than long, base squarely truncate, front and hind angles rounded; disk minutely alutaceous, very finely and sparsely punctate, without trace of basal foveae. Elytra one-third wider at base than thorax, sides subparallel to apical fourth, then feebly converging to the separately rounded tips; striae fine, their punctures small, close-set; intervals flat, each

with a single row of minute, hair-bearing punctures. Under surface very finely and sparsely punctate. Length 5.5 mm.

Dunedin, March 29, 31; swept from huckleberry. Smaller and paler than our other species, the antennal joints relatively broader, the second and third shorter than in any of the others.

Toxotropis floridanus Leng.—This prettily marked little Anthribid occurs on ferns in dense hammocks, a half dozen or more having been taken near Dunedin, January–March. It was described from Enterprise, Fla., and is not known outside the State.

Rhinomacer pilosus Lec. — Although it is said that the species of *Rhinomacer* occur exclusively on coniferous trees, a dozen or more specimens of *R. pilosus* were swept from an Ericad, *Xolisma fruticosa* Michx., near Dunedin, in January. The plant was then full of the fruit or seed pods of the season before, and the weevil was doubtless living in or among these.

Tachygonus lecontei Gyll.—This species is not mentioned in any of the lists of Florida Coleoptera. It has been taken by the writer at Jacksonville, Ormond, Lakeland and Dunedin, a half dozen or more having been secured the past winter by beating oak about the borders of ponds or hammocks.

Listronotus floridensis Blatch.—This well-marked weevil was found in numbers near Moore Haven, March 2, on the flowers of an arrow-head (*Sagittaria*). Fresh specimens are more conspicuously and densely scaly than any of the allied species.

Otidocephalus dichrous Sz.—Occurs at light; three specimens taken in June at porch-light, having been sent me from Dunedin.

Anthonomus costulatus Suff.—This is a subaritime species frequenting the foliage of the Florida buttonwood, *Conocarpus erecta* L. It was taken in numbers on Hog Island in February and March.

Anthonomus sexguttatus Dietz.—Both this species and *Neomastix solidaginis* Dietz occur frequently about Dunedin on the flowers and foliage of a tall scurfy Ericad shrub, *Xolisma ferruginea* Walt., which grows in very dry sandy soil. The *Neomastix* was also taken at Lakeland and Ft. Myers.

Baris scintillans Casey.—This, the smallest and one of the most shining members of a large genus, was taken at Lakeland and Moore Haven in some numbers by sweeping low vegetation about the borders of lakes. It is probably wide spread throughout southern Florida.

Nicentrus grossulus Casey.*—This name should replace that of *Nicentrus canus* Lec., on page 392 of the "Rhynchophora of N. E. America," and *Limnobaris canus* Lec. should be inserted near the top of page 402 of that work. A specimen of *N. grossulus* was swept from the low sea-blite, *Batis maritima* L., on Hog Island, March 26. *L. canus* Lec. is known from Enterprise and St. Augustine.

Conotrachelus seniculus Lec.—This was found to be a common weevil at Ft. Myers, La Belle and Moore Haven, where numbers were taken by sweeping low vegetation, and also at light.

Conotrachelus belfragei Lec.—A single specimen of this handsome species was taken on Hog Island, March 14, by beating the seaside grape, (*Coc-*

*Ann. N. Y. Acad. Sci., VII, 1893, 599.

coloba wifera L.). One had previously been taken at Eustis. These are the only two records for Florida, the species having been described from Texas.

Chalcodermus inæquicollis Horn.—This species was found hibernating in the axils of a tall thistle growing on Hog Island. A dozen or more specimens were there taken while searching for *Paragraphus setosus*. It is known also from Capron and Buck Key, Fla., and from Georgia and Arkansas.

Tyloderma maculata Blatch.—A single example of this prettily marked weevil was taken March 3 by beating at Moore Haven, and another on Hog Island, March 26, while sweeping *Batis*. It was described from a unique taken at Little River, Fla.

Tyloderma lævicollis, sp. nov.—Elongate-oval; smaller, more slender, with sides more parallel than any other of the brown forms. Dark reddish brown; the head, thorax and legs strongly shining. Head and beak rather finely, not densely punctate, without frontal fovea, the punctures isolated, not confluent or reticulated as in *variegata*; beak stout, about as long as head, carinate above. Thora: longer than wide, strongly produced over the head, sides feebly rounded; disk very minutely and sparsely punctate, each puncture bearing a minute prostrate white hair; flanks behind the ocular lobe strongly concave and coarsely punctate. Elytra one-third wider than thorax, sides parallel from humeri to apical third, then converging to the obtuse apex; striæ shallow and sparsely punctate on basal half, much deeper and without punctures toward apex; intervals feebly convex; disk with scattered small patches of white hairs, which tend to form very narrow, broken cross-bars. Last ventral coarsely punctate, abdomen otherwise almost smooth; sterna coarsely and sparsely punctate. Length 3 mm.

Two specimens taken March 4 by beating at the point where the Palm Beach Canal leaves the east shore of Lake Okeechobee. The elongate slender form, almost smooth thorax and deep, subapical striæ of elytra readily separate this from any known species.

Cryptorhynchus apiculatus Gyll.—This species is not so scarce as is commonly supposed. A half dozen or more have been taken at Dunedin in February and March, and one at Okeechobee City, March 6. It occurs on dead branches in wet hammocks.

Cryptorhynchus schwarzi Blatch.—A single example of this elongate, dull coloured form was taken near Moore Haven, March 1. The type was from the north end of Lake Okeechobee and the only other known specimens are from Biscayne Bay, so, as far as known, it is confined to southern Florida.

Caulophilus latinasus Say.—Hibernates in bunches of Spanish moss, numerous specimens having been taken at Lakeland, Feb. 21.

Pentarthrinus atrolucens Casey.—One specimen taken by beating dead branches in Skinner's Hammock, Dec. 20. Recorded before only from Enterprise and Biscayne Bay, Fla.

Calandra linearis Hbst.—A West India species known as the tamarind weevil. A single specimen was beaten from oak in open sandy woods near Lakeland, Feb. 22. Not before definitely recorded from Florida.

NEW ENGLAND HEMIPTERA-HETEROPTERA.

NEW RECORDS.

BY H. M. PARSHLEY, SMITH COLLEGE, NORTHAMPTON, MASS.

Since the publication of my New England List* a number of additional species and significant records have come to light, together with a few errors which require correction. All available information on these points is brought together here in the belief that the value of such a list can be maintained only by keeping it up to date. New England records have particular interest for students of distribution in Canada, and some interesting comparisons should be brought out in connection with studies now in progress on the Hemipterous faunas of the eastern and western regions of the Dominion.

In the following notes bold-faced type is used to indicate forms new to the list; italics to mark those previously recorded. In all trinomials here and in the List the third name is varietal, not racial. For collectors' names see the List.

LYGÆIDÆ.

Geocoris bullatus var. *discopterus* Stal.

MASS.—Northampton, 5 June, '18, (*H.M.P.*).

Kolenetrus plenus (Distant).

N. H.—Crawfords, 28 Sept., '16, (*H. M. P.*).

Trapezonotus arenarius (Linné).

ME.—Casco Bay (*vide Barber*).

N. H.—Claremont (*G. P. E.*) (*vide Barber*).

Drymus unus (Say).

MASS.—Northampton, 14 Nov. '17, (Esther W. Hall).

TINGIDÆ.

Corythucha pallipes Parshley.

In Gibson, Trans. Am. Ent. Soc., 1918, vol. 44, p. 82.

CONN.—Stamford, 16 Aug. '12, (*W.E.B.*).

Corythucha cyrta Parshley.

In Gibson, Trans. Am. Ent. Soc., 1918, vol. 44, p. 86.

ME.—Ft. Kent, 17 Aug., '10, (*C.W.J.*); Liberty, 16 Sept., '13, (*J.A.C.*); Orono, 4, June, '07.

N.H.—Bretton Woods, 26 June, '13, (*C.W.J.*).

MASS.—Beach Bluff, 21 June '15, (*H.M.P.*); Chester, 27 May, '12, (*C.W.J.*).

Corythucha betulæ Drake.

In Gibson, Trans. Am. Ent. Soc., 1918, vol. 44, p. 86.

ME.—Cumberland, May, '16, (*A. Nicolay*) (*vide Drake in litt.*).

Corythucha borealis Parshley.

In Gibson, Trans. Am. Ent. Soc., 1918, vol. 44, p. 92.

ME.—Orono, 14 July, '11.

Leptostyla heidemanni Osborn and Drake.

MASS.—Sunderland, Mt. Toby, 15 Aug., '18, (*H.M.P.*).

*Occas. Papers of the Boston Society of Natural History VII, Fauna of New England. 14. List of the Hemiptera-Heteroptera, 1917.

MESOVELIIDÆ.

Mesovelia mulsanti White.MASS.—Sunderland, Mt. Toby, 23 Sept., '17 (*H.M.P.*).

NABIDÆ.

Nabis sordidus Reuter.MASS.—Northampton, 21 Oct., '18, (*H.M.P.*).

ANTHOCORIDÆ.

Xylocoris cursitans (Fallén).MASS.—Sunderland, Mt. Toby, 11 Oct., '17, (*H.M.P.*).

MIRIDÆ.

Paracalocoris scrupeus var. *bidens* McAtee.MASS.—Northampton, 22 June, '18, (*H.M.P.*).*Paracalocoris hawleyi* var. *fissus* McAtee.ME.—Princeton, 12 July, (*C.W.J.*).*Paracalocoris colon* var. *amiculus* McAtee.MASS.—Northampton, 8 July, '18, (*H.M.P.*).*Dichrooscytus elegans* Uhler.MASS.—Beach Bluff, 28 June, '15, (*H.M.P.*).*Horcias dislocatus* (Say).MASS.—Sunderland, Mt. Toby, 6 July, '18, (*H.M.P.*).*Horcias dislocatus* var. *coccineus* (Emmons).MASS.—Sunderland, Mt. Toby, 6 June, '18, (*H.M.P.*).*Platylygus luridus* (Reuter).

Knight, Bull. Brooklyn Ent. Soc., 1918, vol. 13, p. 16.

N. H.—Claremont, 10 July, (*G. P.E.*).*Lygus vitticollis* Reuter.MASS.—Northampton, 4 June, '18, (*H.M.P.*).*Neoborus pubescens* Knight.

Bull. Brooklyn Ent. Soc., 1917, vol. 12, p. 81.

N. H.—Hanover, 3 July (*C.W.J.*).*Dicyphus vestitus* Uhler.N. H.—Mt. Washington, 3,000 ft., 4 July, '13, (*C.W.J.*); Crawfords, 28, Sept. '16, (*H.M.P.*).*Macrolophus separatus* (Uhler).MASS.—Whately Glen, 5 Aug., '18, (*H.M.P.*).*Lopidea heidemanni* Knight.

Ent. News, 1917, vol. 28, p. 456.

VT.—Bennington, 24 June, (*C.W.J.*).MASS.—Natick, 20 June, '14, (*C.A.F.*).CONN.—S. Meriden, 1 June, (*H.L.J.*).*Lopidea reuteri* Knight.

Ent. News, 1917, vol. 28, p. 459.

MASS.—Chester, 8 Aug., '12, (*C.W.J.*); Fall River, 11 Aug.; Rutland, 31 Aug., '16, (*C.W.J.*); Sharon, 3 Aug., '09, (*C.W.J.*); Southbridge, 16 July; Williamsburg, 7 Aug., '11, (*C.W.J.*).CONN.—Portland, 10 July, (*A. E. Moss*), 10 Aug., (*B.H.W.*).

Lopidea staphyleæ var. **sanguinea** Knight.

Ent. News, 1917, vol. 28, p. 461.

MASS.—Brookline, 4 July, Mt. Tom, 14 July, '07, (C.W.J.).

CONN.—Mt. Carmel, 24 July, (W.E.B.).

Diapnidia provancheri (Burque).

N. H.—Alstead (A.P.M.) (fide Van Duzee).

Diaphnidia capitata Van Duzee.

MASS.—Beverly, 23 July, '17, (E.B.).

Orthotylus uniformis Van Duzee.

MASS.—Beach Bluff, 28 July, '17, (H.M.P.).

Orthotylus catulus Van Duzee.

CONN.—Mt. Carmel, 25 May, '06, (B.H.W.).

Cyrtorrhinus caricis (Fallén).

MASS.—Cohasset, 8 Sept., (C.W.J.); Nantucket, 6 Aug., '13, (J.A.C.).

Mecomma gilvipes (Stal.).Records given for *M. ambulans* (Fallén), List, p. 102, pertain to this species.**Macrotylus amœnus** Reuter.

MASS.—Sunderland, Mt. Toby, 8 July, '18, (H.M.P.). Very numerous in upland pasture.

Oncotylus punctipes Reuter.

ME.—Calais, 10 July, (C.W.J.); Eastport, 15 July, '09, (C.W.J.).

Reuteroscopus ornatus (Reuter).

MASS.—Northampton, 3 Oct., '17, (Esther W. Hall).

Microphylellis modestus Reuter.

VT.—Burlington, 22 June, '06, (C.W.J.).

Campylomma verbasci (Meyer-Dur).

MASS.—Northampton, 21 June, '18, (H.M.V.).

SALDIDÆ.

Pentacora hirta (Say).

CONN.—Branford, 11 Aug., '04, (H.L.V.).

CORRECTIONS.

Pages 8-9. In the Palearctic list add *Scolopostethus thomsoni*, *Cyrtorrhinus caricis*, *Oncotylus punctipes*. Delete *Mecomma ambulans*.

Page 29, line 6. For (G.P.E.) read (J.R.T.B.).

Page 50, line 17. For **Rhyparochromus** read **Kolenetrus** and insert reference: Barber, Concerning Lygæidæ, No. 2, Jour. N.Y. Ent. Soc., 1918, vol. 26, p. 49.Page 51, line 14. **Delochilocoris** should probably read **Aphanus** (Barber, op. cit., p. 61).Page 54, line 19. For **cratægi** Morrill read **cydoniæ** Fitch.Page 82, line 2 from bottom. For **punctatus** (Zetterstedt) read var. **oblineatus** (Say).

Page 86, line 8. For Knight read Reuter. Delete the next line.

Page 107, line 11. Insert Forest Hills.

Page 119, last line. Insert additional data: 22 Aug., (N. Banks).