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SOME NEW LOCUSTIDÆ FROM INDIANA.

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During the past four years the writer has been getting together a collection of *Locustidæ* from various parts of the State of Indiana, with a view of preparing a general descriptive paper of the species of that family found in the State. In working over the material thus gathered thirty-seven species are found to be represented, four of which are evidently new to science. Of the four, three belong to the genus *Orchelimum* and one to the genus *Conocephalus*. The former genus is represented in the collection by ten species and the latter by four. Below is given a description of each of the four species believed to be new, together with such notes concerning the distribution of each as I find in my field note-book.

CONOCEPHALUS, Thunberg.

Conocephalus palustris, nov. sp.

A small but comparatively heavy-bodied species, having the cone of the vertex devoid of black markings and without a basal tooth; ovipositor very short and broad; posterior femora armed beneath on both carinæ.

Cone of the vertex short and stout, the tip round, the deflexed front with a dull median carina. Pronotum short, broad, the posterior margin regularly rounded, the lateral carinæ well defined, the entire surface thickly and rather deeply punctate. Tegmina long and rather narrow, regularly rounded to the apex; of a more delicate texture than in either *C. ensiger*, Harris, or *C. robustus*, Scudder. Fore and middle femora with two short spines on the apical third of the lower outer carina. Hind legs short, the tibiæ but little more than half as long as the closed tegmina; the femora with plainly visible spines on both of the inferior carinæ, eight on the outer and six on the inner. Ovipositor a little shorter than the hind tibiæ, broadest at a point about two-thirds the distance from the base, thence tapering regularly to a sharp apex.

General colour a very bright grass green. Fastigium tipped with dull yellow, which extends half way down the sides. Labrum and apical segments of all the palpi a rose red tinged with violet. Tarsi somewhat infuscated. Antennæ and apical third of ovipositor reddish-brown.

Measurements.—Female—Length of body, 27 mm.; of fastigium in front of eye, 2.75 mm.; of pronotum, 7 mm.; of tegmina, 37 mm.; of hind femora, 20 mm.; of hind tibiæ, 19.5 mm.; of ovipositor, 19 mm.

This handsome species of *Conocephalus* belongs to the same group as *C. robustus* and *C. crepitans*, Scudder, but is smaller and of a more uniform and brighter green than either of those species, besides having shorter legs, ovipositor, etc. It is described from a single female taken October 24, from the fallen grasses on the margins of a large low-land pond in Vigo county. This pond is surrounded on all sides by heavy timber, and its margins have yielded a number of interesting Orthoptera found nowhere else in the county. Among them are *Leptysmia marginicollis*, Serv., *Paroxya atlantica*, Scudder, *Anaxiphus pulicarius*, Sauss., *Phylloscirtes pulchellus*, Uhler, and *Xiphidium nigro-pleurum*, Bruner. The first four mentioned are insects of a southern range, and perhaps *C. palustris* will in time be found to be more common southward.

ORCHELIMUM, Serville.

Orchelimum indianense, nov. sp.

A slender-bodied insect, with a dark median streak down the face, and having the posterior femora unarmed beneath. The cone of the vertex is short, rather narrow, with a rounded apex. The tegmina narrow, tapering, a little shorter than the wings, and of a delicate, almost gauze-like, texture. Posterior femora slender, shorter than the closed tegmina. Anal cerci of male of medium size, longer than the subgenital plate, tapering to a dull point; the basal tooth short, with a broad base and a very sharp point. The ovipositor of female of less than average width and length, the apical half with a gentle upward curve.

Colour of dried specimens: Tegmina and wings a transparent whitish, tinged with green on the front or lower, longitudinal nerves; the cross nervules of the latter darker. Sides of pronotum and abdomen, and all the femora, light green; the tibiæ and tarsi of a brownish hue. Face yellowish-white, with a dark fuscous stripe, the width of the labrum, starting with the mouth and passing upward to the vertex, where it narrows to the width of that organ; then, broadening on the occiput, it passes back to the front border of the pronotum, where it divides into

two narrow streaks, which enclose a whitish area and extend a little beyond the posterior transverse suture, where they taper to an end. Subgenital plate of male yellow. Basal third of ovipositor dark brown, the remainder light reddish-brown.

Measurements.—Length of body, ♂, 17 mm.; ♀, 17.5 mm.; of pronotum, ♂ and ♀, 4 mm.; of tegmina, ♂, 20 mm.; ♀, 18 mm.; of hind femora, ♂, 14 mm.; ♀, 14.5 mm.; of ovipositor, 7.5 mm.

This graceful and prettily marked species was found to be quite common among the rank grasses and sedges growing about the margins of a tamarack swamp near Kewanna, Fulton county. It was first taken on August 26th and again on September 24th, when it appeared more plentiful than before. It is the smallest and most slender of the ten species of the genus so far known to occur in the State, and its markings are very distinct from those of any of the others.

Orchelimum campestre, nov. sp.

A species of less than medium size, with the wing-covers narrow and of almost equal width throughout, the posterior femora unarmed beneath, and the ovipositor short and narrow.

Cone of the vertex prominent, narrow, rounded at the apex; the sides of the frontal deflexed portion rapidly converging to form a very acute wedge. Wing-covers long, narrow, not widened in the middle as in *O. vulgare*, *concinnum*, etc., tapering slightly on the apical third to a rounded end; their length equalling that of the wings in the ♂, a little shorter in the ♀. Posterior femora with the basal half quite stout, the length less than that of the tegmina. Cerci of male slender, cylindrical, somewhat pointed, the apical half curved slightly outwards, the basal tooth short and weak. Ovipositor short, narrow, moderately upcurved, and tapering to a delicate point.

Colour.—Tegmina and wings almost uniform transparent olivaceous brown. The usual dark reddish-brown band upon the occiput and disk of pronotum is margined on the latter with two very narrow and darker brown stripes, which extend back to the middle of the posterior lobe of the pronotum. Face, and usually the hind femora, a dirty olive brown; the latter, when dry, with a blackish longitudinal band on the exterior face. In the female the only green on the body is on the lower part of the sides of the pronotum and on the anterior femora. The only male at hand has the posterior femora green, but otherwise is coloured like the females. Ovipositor light reddish-brown.

Measurements.—Length of body, ♂, 17.5 mm.; ♀, 19 mm.; of pronotum, ♂, 4.5 mm.; ♀, 5 mm.; of tegmina, ♂, 20.5 mm.; ♀, 24.5 mm.; of antennæ, ♂, 46 mm.; of posterior femora, ♂, 17 mm.; ♀, 17.5 mm.; of ovipositor, 7 mm.

This dull coloured grasshopper has been found in small numbers in both Vigo and Fulton counties, in upland prairie meadows, where it frequents the tall grasses, usually in company with *Xiphidium strictum*, Scudder.

It is a smaller and more slender bodied insect than the common *O. vulgare*, Harris, and has a shorter and narrower pronotum and a much smaller ovipositor than that species.

Orchelimum Bruneri, nov. sp.

A species of about the same length, but less robust than *O. vulgare*, Harris, having the posterior femora armed beneath, and the ovipositor very broad, nearly straight and of more than average length.

Cone of the vertex narrow, moderately elevated, rounded at apex. Tegmina long and narrow, a little shorter than the wings. Posterior femora rather stout, the apex, when appressed, not quite reaching the tip of ovipositor; armed beneath on the apical half with three or four small spines. Cerci of male stout, acuminate, with the internal tooth prominent.

Ovipositor very similar to that of *O. gladiator*, Bruner, being very long and stout, nearly straight above, and with the under side of apical third sloping rapidly to the acute apex.

Colour of dried specimens.—With the exception of the ovipositor, which is a light reddish-brown, and the usual stripe on occiput and disk of pronotum, the whole body is a pale, transparent brownish-green, the green showing plainly only on the lower half of the side of pronotum and on the meso and metapleura. The reddish-brown dorsal stripe of occiput and pronotum is bordered laterally throughout its entire length with a very narrow one of much darker brown. When immersed in alcohol the reddish-brown stripe fades to a yellowish white, leaving the two lateral ones as prominent dark streaks, widest on the central portion of the frontal disk.

Measurements.—Length of body, ♂, 18 mm.; ♀, 20.5 mm.; of tegmina, ♂, 21 mm.; ♀, 25 mm.; of pronotum, ♂ and ♀, 4.75 mm.; of hind femora, ♂, 16.5 mm.; ♀, 18 mm.; of ovipositor, 10 mm. Described from 2 ♂s and 4 ♀s.

This species, the female of which is at once conspicuous by reason of the shape and size of its ovipositor, has been taken in small numbers only in Vigo Co., where it is found during August and September on the leaves and stems of a tall, broad-leaved knot-weed, *Polygonum amphibium*, L., which grows luxuriantly in the shallow waters about the margins of two or three large ponds in the Wabash River bottoms. Several other "green grasshoppers," notably among which are *Xiphidium attenuatum*, Scudder, and *Orchelimum nigripes*, Scudder, frequent this plant in immense numbers. Keeping company with them an occasional specimen of *O. Bruneri* is seen, but, being an active leaper, it often escapes amidst the dense foliage of the knot-weed before its capture can be effected. Its less robust body and longer armed posterior femora will readily distinguish this species from *O. gladiator*, the only other one which, to my knowledge, has an ovipositor shaped like that of *Bruneri*. The latter is named in honor of Prof. Lawrence Bruner, of Lincoln, Nebraska, one of the leading authorities on N. A. Orthoptera.

ON SOME BUTTERFLY LARVÆ NOT HITHERTO DESCRIBED.

BY HARRISON G. DYAR, BOSTON, MASS.

PHYCIODES CARLOTA, Reak.

Larva.—Head subcordate, apices slightly produced, mouth parts small; rough, tuberculate, hairy; colour black, a narrow white line above the mouth. Body robust, with short and thick conical, densely-bristly spines, arranged thus: on joint 2 one short stigmatal and one substigmatal, besides tubercles on the cervical shield; on joints 3-4, subdorsal, lateral and subventral; on 5-11, dorsal (single), suprastigmatal, substigmatal, 2 subventral; on 12, two dorsal (in line), subdorsal, superstigmatal, substigmatal and subventral (small); on joint 13, two subdorsal (in line). Cervical shield, anal plate, feet outwardly and spiracles black; body brownish-red, with a dorsal and subdorsal black shaded line, most distinct in the segmental incisures.

Pupa.—Straight on ventral side; thorax with no prominence; abdomen arched, with five rows of slight blunt points, which also occur on thorax at the angulations, but slighter. Colour grayish, dull brown mottlings on a white ground. Length, 14 mm; width, 4.5 mm. Found on the ground feeding on an undetermined plant which was just starting, at Denver, Colorado, April 30, 1891.