

NEW SPECIES OF REARED ICHNEUMON-FLIES.

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Most of the species herein treated are the results of rearings of economic species of insects carried on by the Bureau of Entomology of the U. S. Department of Agriculture. Where the type of a genus herein treated has not yet been fixed I have designated the type.

Genus METEORUS Haliday.

Type.—*M. filator* Haliday.

METEORUS LOXOSTEGEI, new species.

Male.—Length 4 mm.; related to *Metorus pulchricornis* Wesmael and to *M. politus* Provancher. Differential points are the absence of the median longitudinal carina of the propodeum, striæ on first dorsal segment strongly converging toward the apex, boss between the fossæ on the first dorsal segment narrower than either fossa, spiracles of first segment not prominently projecting, striæ of this segment not coarse.

Type-locality.—Rocky Ford, Colorado.

Type.—Cat. No. 13338, U.S.N.M.

One specimen with the following additional data, "Bred from *Loxostege sticticalis*, April 14, 1910, H. O. Marsh collector, Chittenden No. 1565," received from the Bureau of Entomology, U. S. Department of Agriculture.

Genus SCHIZOPRYMNUS Foerster.

SCHIZOPRYMNUS PHILLIPSI, new species.

Female.—Length 2.5 mm. Closely resembles *S. texanus* (Cresson), from which it may be distinguished by the sculptured front and vertex. Abdomen reddish brown suffused with black.

Male.—Similar to the female, apex of abdomen hardly emarginate, abdomen mostly reddish.

Type-locality.—Richmond, Indiana.

Type.—Cat. No. 13339, U.S.N.M.

Webster No. 3363, bred from timothy, W. J. Phillips, collector, and No. 5103, same collector, Bureau of Entomology, U. S. Department of Agriculture.

Named for W. J. Phillips.

Genus CHELONUS (Jurine) Panzer.

CHELONUS SHOSHONEANORUM, new species.

Female.—Length 2.5 mm. Antennæ 16-jointed. Compared with the type of *C. lavernæ* Ashmead, its nearest or at least one of its closest relatives, it differs as follows: Reticulations of posterior half of dorsulum smaller than the foveæ at base of scutel, the latter without a row of foveæ or reticulations along the lateral margin, nearly smooth and polished; central area on dorsal aspect of propodeum nearly quadrate and with only one carina and this a median one extending from the anterior edge of the area to near the middle, posterior face of propodeum bounded above by a carina that is produced in four places into flattened tubercles much as in *Ascogaster carpocapsæ*, except that the median prolongations are nearer to each other than to the lateral prolongations; stigma fuscous, veins mostly infuscated, hind tibiæ almost entirely testaceous.

Type-locality.—Colorado Springs, Colorado.

Type.—Cat. No. 13340, U.S.N.M.

One specimen labeled Ex *Quercus*, April 2, 1910, E. Bethel, collector, and probably parasitic on *Argyresthia*, sp.

Genus APANTELES Foerster.

APANTELES (APANTELES) BETHELI, new species.

Female.—Length, 2.25 mm. Similar in many points to *A. canarsiæ* Ashmead, from the type of which it differs essentially as follows: Antennæ entirely black, palpi inclining to testaceous; tegulæ and wing base blackish, stigma and veins mostly more or less fuscous, mid legs mostly black or blackish, propodeum dullish, the septa forming the nearly complete areola supplemented on each side by an incomplete lateral longitudinal carina, which lies nearer the lateral edge of the propodeum than to the median carinæ; first dorsal plate twice or almost twice as long as wide in the middle, nearly as wide at apex as at base, gently arched, its apical two-thirds rugose throughout and dullish, its apical half divided longitudinally by an oval, shallow fossa that extends nearly to the apex, the greatest transverse width of this fossa is one-third or nearly one-third the width of the first dorsal plate at its apex, sides of the second plate forming a trapezoid that is twice as wide at base as long down the middle and nearly three times as wide at apex as long down the middle, second plate dullish rugulose and a little less than half as long as the next dorsal segment measured down the middle, third dorsal segment smooth, polished, and impunctate,

except for a few indistinct subapical punctures; abdomen almost entirely black, hypopygium buttress shaped, exerted portion of sheaths of the ovipositor linear, nearly parallel sided and as long as or nearly as long as the gaster above.

Male.—Answers the description of the opposite sex sufficiently well to be recognized thereby.

Type-locality.—Colorado Springs, Colorado.

Type.—Cat. No. 13341, U.S.N.M.

Presumably parasitic upon *Argyresthia*, sp. and labeled Ex *Quercus* April 2, 1910. E. Bethel, collector.

Three specimens, of which two are females. The female paratopotype has the lateral longitudinal carina apparently wanting, but replaced by an incomplete costula.

Named for the collector, E. Bethel.

Genus MICROGASTER Latreille.

MICROGASTER COMPTANÆ, new species.

Female.—2.5 mm. Clypeus not entirely separated from the face by a suture; propodeum coarsely rugose and with a distinct longitudinal median carina; second dorsal plate nearly parallel sided, almost four times as wide at apex as long down the middle, the latter distance one-half the similar distance on the first plate; these two plates uniformly and similarly irregularly reticulate and entirely black, the second plate uninterrupted longitudinally, but with an apical row of shallow foveæ; the succeeding plates or segments black, smooth, and polished; the third with a few punctures that are in most cases more than four or five puncture widths apart; the remaining segments apparently impunctate, ventral segments also black; coxæ black, rest of legs more or less stramineous to testaceous, the tarsi more or less fuscous.

Type-locality.—Rocky Ford, Colorado, "bred from *Ancylis comptana*, September 2, 1909, H. O. Marsh, collector, Chittenden No. 1537°," Bureau of Entomology, Washington, D. C.

Type.—Cat. No. 13342, U.S.N.M.

Genus HETEROSPILUS Haliday.

HETEROSPILUS MORDELLISTENÆ, new species.

Female.—2.5 mm. Related to (*Cænophanes*) *Heterospilus anthaxiæ* (Ashmead) from which it differs chiefly as follows: Head entirely black or blackish, head above distinctly transversely striate, in *anthaxiæ* there are striae, but these are so fine as to be easily overlooked with the aid of only a hand lens; pleuræ entirely dull, dorsulum with long conspicuous, whitish hairs along the notauli and where these meet; basal areas on propodeum dull, granular, collar and pleuræ

brownish in part; third dorsal segment completely fused with the second medially, its striæ extending nearer the posterior edge medially than laterally, striate portion of dorsal segments mostly brownish and dull, rest of dorsal segments polished and rather testaceous.

Male.—Similar to the female. Stigma in hind wings black.

Type-locality.—Wilmington, Ohio.

Type.—Cat. No. 13343, U.S.N.M.

The types bear the legends W. J. Phillips, collector, Webster, No. 6332, *Mordellistena ustulata* parasites 1910, and were received from the Bureau of Entomology, U. S. Department of Agriculture.

Genus HOROGENES Foerster.

LIMNERIUM (HOROGENES) DISCOOCELLELLÆ, new species.

Female.—Length, 4 mm. Agrees fairly well with the description of *Limnerium parva* Provancher, except as follows: The scape is brownish to yellow beneath, the pedicel is partly pale, the mandibles, fore coxæ, fore and mid trochanters and tegulæ are mostly yellow, mid coxæ mostly brown, hind tibiæ yellow except for a subbasal and an apical brown band, hind tarsi brown, more or less yellow at base, areolet sessile. The middle areolation in *L. discoocellellæ* consists of a basal area and an areopetiolarea.

Type-locality.—Washington, D. C., "bred Sept. 30, 1907, *Gelechia discoocellellæ*, Chittenden No. 154⁰¹, Chittenden collector, Bureau of Entomology, Washington, D. C."

Type.—Cat. No. 13344, U.S.N.M.

This species could also be referred to *Angitia* in Foerster's classification though there are no particulars given there as to the relative lengths of the hind tarsal joints in that genus.

Genus EXENTERUS Hartig.

Type.—*Exenterus oriolus* Hartig.

EXENTERUS LOPHYRI, new species.

Resembles *Picroscopus* as defined by Davis in wanting an areola.

Female.—Length 11 mm. Head mostly black ornamented with yellow as follows: Inner and outer orbital margin except above the eyes, the inner orbital margin produced below the antennal fossæ to near the middle line which latter is black as is the margin of the face adjoining the clypeus, the latter almost entirely yellow and nearly punctureless and polished, mandibles yellow except at base and apex where they are black, punctured, their punctures of unequal size and in some cases as many as four or five puncture widths apart palpi testaceous, the third and fifth joints of the *m. p.* subequal in length with each at least one and one-half times as long as the fourth joint,

pedicel entirely black; thorax black except for the following yellow ornaments: Anterior lateral edge of collar, anterior lateral edge of mesonotum and a transverse line on the mesopleura beneath the wings, yellow, posterior half of disk of scutel and disk of postscutel yellow, tegulæ translucent brownish with a yellow spot, mesopleura with conspicuous nearly adjoining punctures with hardly any impunctate area above posteriorly, propodeum with the median longitudinal carinæ represented but not quite attaining the middle of the sclerite, third lateral area more or less defined by carinæ, fore and mid trochanters more or less black above, hind trochanters entirely black, hind femora mostly castaneous or reddish tipped with yellow and streaked with black, wings strongly brownish, region about the apex of the marginal cell darker than the rest of the wing, stigma and costa brownish, remaining veins appearing black or blackish except the submedian vein which is translucent, areolet nearly quadrate; dorsal segments with an apical yellow band of nearly equal width, the first segment with its yellow band undulate anteriorly, hypopygium yellow.

Type-locality.—Crawford, Nebraska.

Type.—Cat. No. 13345, U.S.N.M.

In describing this species comparison has been made with a specimen of *E. oriolus* Hartig in the U. S. National Museum and determined by O. Schmiedeknecht. In points not touched upon above this species is very similar to *E. oriolus* Hartig as represented by the specimen in question. In closing it needs only to be said that this new species was described from specimens reared June 10, 1910, by L. Bruner and M. H. Swenk from *Lophyrus townsendi* taken in the type-locality.

In the three paratypes there is additional yellow ornamentation, namely, an additional line on the collar and mesopleura, a spot beneath the hind wings and a spot on each side of the propodeum.

Genus PHYGADEUON Gravenhorst.

Type.—*Phygadeuon fumator* Gravenhorst.

PHYGADEUON (ÆNOPLEX) ARGEÆ, new species.

Female.—Length, 5.5 mm.; flagel 25-jointed, with each joint a little shorter than the one preceding, although beyond the middle they are more nearly equal to each other excepting the apical joint, which is nearly as long as the two preceding together, first joint nearly four times as long as wide at apex, antennæ brownish throughout, head black, face dullish, indistinctly punctured, with whitish hairs, vertex, occiput and cheeks shining, punctured, clypeus transversely striated, impressed anteriorly, its middle third rather truncate or undulate truncate, mandibles mostly castaneous, their upper edge about half again as long as the width at base; palpi stramineous,

penultimate joint nearly two-thirds as long as the apical joint; thorax black, shining with more or less distinct punctures and inconspicuous whitish pubescence, furrow between scutellum and dorsulum traversed longitudinally by two rather distinct raised lines, notauli indistinct, almost wanting even anteriorly, propodeal spiracles perfectly round, third lateral area distinctly more than half as wide as long, not longitudinally divided by a carina, legs mostly brownish, the sutures and apical tarsal joints more or less testaceous; wings infuscated, transparent, stigma and most veins blackish, gaster mostly castaneous, base of petiole blackish, the latter with indistinct dorsal carinae, thyridia on second segment indistinct and nearly circular, exerted portion of sheaths of the ovipositor as long as or a little longer than the first segment.

Type-locality.—Marietta, Ohio.

Type.—Cat. No. 13346, U.S.N.M.

Reared from the cocoon of a species of (*Hylotoma*) *Arge* on elm, Hopk. U. S. 8635b. In describing this species numerous comparisons were made with the genotype of *Ænoplex*, namely, *Phygadeuon* (*Ænoplex*) *betulaecola* Ashmead.

Genus POLYTRIBAX Foerster.

PHYGADEUON (POLYTRIBAX) PALLESCENS, new species.

Male.—Length 10 mm. Shining, mostly pale fulvous, head and thorax beneath, palpi, and coxæ and trochanters of fore and mid legs more or less yellowish; antennæ 35-jointed, the joints of the flagel subequal, the first flagellar joint the longest and brown, the succeeding joints mostly or entirely black, scapes approximated so as to be faceted on the opposite sides, proportion of scape and pedicel normal; the basal area poorly separated from the areola by a more or less developed welt, the basal areas mostly open at base, just internal to the middle of the base of each first lateral area is a tubercle of about the same size as the tubercles on the anterior edge of the clypeus, tegulae yellowish, wings yellowish transparent, the veins and stigma brownish excepting the costa, which is mostly fulvous.

Type-locality.—Castle Rock, Pennsylvania, June 6, 1909, H. S. Harbeck, collector.

Type.—Cat. No. 13347, U.S.N.M.

A paratype from Montgomery County, Pennsylvania, May 30, 1897, C. W. Johnson collector, is but 7 mm. long and wants the welt between the basal area and the areola.

Since drawing up the above description I have received an additional male of this species reared from what appears to be a chrysalis

of *Hyphantria* and a female reared from the chrysalis of *Eudamus* (*Epargyreus*) *tityrus*, both from Enola, Pennsylvania, collected by H. Kirk and A. B. Champlain, March 27, 1909. The male emerged April 27, 1909, and the female May 5, 1909.

The female resembles the male. It is, however, noteworthy that in the female the sixth and twelfth joints of the flagel are either entirely or mostly yellow, the nipples on the anterior edge of the clypeus not so distinct, in fact quite rudimentary, and the areola is emarginate posteriorly. The sheaths of the ovipositor are approximately as long as the first dorsal segment of the abdomen.

Genus MESOCHORUS Gravenhorst.

MESOCHORUS PERNICIOSUS, new species.

Scutel typical in outline.

Female.—Length 5 mm.; face separated from the malar space as in the genotype, lower inner orbits not striate but punctured, the inner orbits with a yellow band extending nearly to the top of the eyes, malar space and most of mandibles yellow, clypeus yellowish, with a few punctures, rest of face translucent brownish as are the antennæ except beyond the middle where they are fuscous, tips of mandibles blackish, palpi ochreous, interocellar area and occiput blackish; pronotum without a median longitudinal carina, brownish, the posterior edge blackish and the tubercles yellowish, rest of thorax brownish variegated with black or blackish patches, tegulæ and base of wings yellowish, stigma mostly blackish, yellow at base, veins more or less brownish, transverse median vein almost interstitial, areolet petiolate, otherwise the venation is nearly as in the genotype, legs mostly brownish; median areas of propodeum separated from each other by distinct carinæ, basal area at least three times as long as wide at apex and nearly parallel sided, nearly half as long as the areola which is nearly as wide between the costulæ as from costulæ to base, costulæ joining the areola above the middle, petiolarea about twice as wide as the areola and nearly as wide as long, petiole nearly three times as long as at apex, gradually widened toward apex where it is nearly three times as wide as at base, smooth and polished, slightly depressed down the middle of the basal half of the region beyond an imaginary line drawn between the spiracles, first dorsal segment mostly blackish, second dorsal segment blackish except for the thyridia which are translucent brownish and apical margin which is more or less testaceous to yellowish, basal two-thirds of third dorsal segment translucent brownish, the rest of this segment and the remaining dorsal segments brownish stained with black, ventral fold more or less yellow, sheaths of the ovipositor not much longer than the hypopygium.

Type-locality.—Rocky Ford, Colorado.

Type.—Cat. No. 13348, U.S.N.M.

Additional data are: "Bred from *Loxostege sticticalis* April 29, 1910, H. O. Marsh, collector, Chittenden No. 1565." This is probably a hyperparasite of *Apanteles læviceps* Ashmead which was reared under the same conditions at the same time. The specimen was received from the Bureau of Entomology, U. S. Department of Agriculture.