

TEN NEW NORTH AMERICAN ICHNEUMON-FLIES

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This paper consists of the descriptions of ten new species of Ichneumonidae, several of which are representatives of genera not previously recognized in the North American fauna.

Genus NEOTYPUS (Foerster) Holmgren

No North American representative of this genus has heretofore been described. The following new species is typical of the genus.

NEOTYPUS AMERICANUS, new species

Male.—Length, 7.5 mm.

Very similar to *melanocephalus* (Gmelin). As in the male of that species the claws are not pectinate. From the single male of *melanocephalus* available to me it differs practically only as follows: eyes shorter than width of vertex, the malar space and ocell-ocular line therefore longer, the former nearly half as long again as the basal width of mandible and the latter about twice as long as the diameter of a lateral ocellus; scutellum practically impunctate, polished, the carinae higher and more strongly converging posteriorly; median areas of propodeum narrower, the areola fully two-thirds as long medially as wide, the petiolar area about twice as long as broad, closely transversely striate; second tergite nearly twice as wide at apex as at base, gastrocoeli subquadrate, broader than the distance between them.

White markings of front and face narrower, clypeus only faintly pale at sides; abdominal markings also smaller; hind legs entirely black.

Type-locality.—Hocking county, Ohio.

Type.—Cat. No. 27679, U.S.N.M.

One male received from Prof. C. H. Kennedy of Ohio State University.

NEOTYPUS LAPIDATOR (Fabricius)

A female from Oregon (C. F. Baker collection) apparently differs in no way from this European species.

Genus ANISOBAS Wesmael

No American representative of this genus has heretofore been described. The first of the following two new species is typical of the genus, being very closely allied to the genotype, *Anisobas cingulatorius* (Gravenhorst). The second species is somewhat anomalous.

ANISOBAS NEARCTICUS, new species

Female.—Length, 7.5 mm.

Differs from *cingulatorius* principally as follows: vertex arched above level of top of eyes; eyes as long as width of vertex (not longer as in *cingulatorius*), parallel within; malar space distinctly shorter than basal width of mandible; clypeal furrow represented by a broad, shallow impression; clypeus convex, the apex slightly concavely truncate; flagellum with 25 joints (31 in *cingulatorius*); propodeum apically and laterally more strongly rugose; areola constricted medially and there divided by two strong parallel rugae; apical carina very high at apex of middle lateral area (area dentipara); dorsal carinae of first tergite strong and extending well on to postpetiole, the latter with a median impression; second tergite barely half as broad at base as at apex; third tergite more than twice as wide at base as long.

Frontal white markings extending broadly on to face; scutellar white spot smaller; hind tibia red, broadly fuscous at apex; otherwise colored as *cingulatorius*.

Type-locality.—Mount Desert, Me. (Southwest Harbor.)

Type.—Cat. No. 27680, U.S.N.M.

One specimen collected by C. W. Johnson.

ANISOBAS BICOLOR, new species

Differs from both *cingulatorius* (Gravenhorst) and *nearcticus* Cushman in its entirely black thorax and entirely red abdomen. Apparently not very closely related to any of the other European species.

Female.—Length, 9 mm.; antennae, 6 mm.

Head nearly as broad at temples as at eyes, in front view with cheeks strongly rounded; distinctly punctate, densely so on face, frons, vertex, and cheeks, sparsely so on temples and clypeus, the last apically polished and impunctate, broadly concavely sinuate truncate; mandibles distinctly bidentate, ventral tooth somewhat the shorter; malar space hardly as long as basal width of mandible; eyes slightly shorter than breadth of vertex, parallel within; antennae stout, flagellum tapering toward apex; with 31 joints. Thorax coarsely punctate, rather densely so on mesoscutum, scutellum, and pleurum, more or less striately so on pleurum, sparsely so on metapleurum; notauli and sternauli faintly indicated basally; scutellum broad, weakly concave above, precipitous apically, with carinae

strong to beyond middle; propodeum rugose, basal lateral areas densely punctate, carinae very high, submucronate at apices of middle lateral areas, areola barely half as long medially as broad, its anterior margin straight, posterior margin concavely curved. Abdomen coarsely punctate, that portion beyond the first tergite fusiform and somewhat more than half as broad as long, first tergite rugose laterally, post petiole punctate laterally, shining and more or less coriaceous medially, with dorsal carinae extending beyond spiracles; gastrocoeli deep, rugose.

Head and thorax black, abdomen entirely ferruginous; small lines on upper posterior orbits; antennae and palpi black; wings fusco-hyaline with dark venation; legs ferruginous, coxae and trochanters black, hind tibia at apex and tarsus fuscous, front tibia with a white stripe anteriorly from base to apex.

Male.—Differs from female in addition to the more slender abdomen principally as follows: eyes slightly longer than breadth of vertex; antennae (incomplete); scutellum flattened above, the carinae reaching to apex; areola hardly half as long medially as broad; post-petiole medially opaque coriaceous. In addition to the posterior orbital markings there is a small white spot on the inner orbits at top of face; legs, except ferruginous hind femur and apices of front and middle femora and the white stripe on front tibia, black.

Type-locality.—Lolo Trail, Bitter Root Mountains, Idaho.

Allotype-locality.—Cedar Mountain, Moscow, Idaho.

Type.—Cat. No. 27681, U.S.N.M.

Three females, the type taken by C. V. Piper in July, 1902; one taken at Olympia, Wash., June 2, 1897; and one from Santa Cruz Mountains, Calif.; and one male (the allotype) taken June 24, 1920, by M. C. Lane.

Both paratype females have small white markings on the humeral angles of the pronotum, and the California specimen has small spots also on the frontal orbits. The latter also has the postpetiole as in the male.

Genus *APAELETICUS* Wesmael

This genus has not heretofore been recognized in the North American fauna, though Bradley¹ has somewhat doubtfully referred to it *Platylabus thoracicus* Cresson, *erythropygus* Provancher, and *quadricarinatus* Provancher which he excluded from *Platylabus* because of their circular propodeal spiracles. This character is too variable in the genus to exclude the three species from *Platylabus*, to which they are hereby restored. Moreover, they lack the very peculiar female abdominal conformation so characteristic of *Apaeleticus*.

The following new species appears to be a true *Apaeleticus*.

¹ Can. Ent., vol. 35, 1903, p. 275.

APAELETICUS AMERICANUS, new species

Female.—Length, 9 mm.; antennae, 8 mm.

Head from above transversely oval, the temples strongly narrowed, from in front subtriangular, the cheeks straight and strongly convergent; vertex and temples shining, punctate; frons transversely punctato-rugose; face medially elevated and sparsely punctate, laterally obliquely rugoso-punctate; clypeus convex, apically rounded and medially subtruncate, sparsely punctate; labrum narrowly exerted; malar space much longer than basal width of mandible; mandibles subfalcate, narrow at apex, the lower tooth very small and far from apex; eyes large, bulging, entire within; antennae slender, apically attenuate; macillary palpi long, slender, second joint triangular. Pronotum punctate above, polished and without sculpture below, with a few rugae along posterior margin; propleurum flat and densely punctate below and carinately margined on each side; mesoscutum evenly punctate, the punctures distinctly separated, notauli distinct but very short; scutellum elevated, sparsely punctate, margined to beyond middle, the carinae very strong to above bases of wings; mesopleurum and metapleurum rugoso-punctate, speculum polished, sternauli strong; propodeum coarsely reticulate-rugose, this sculpture largely obscuring the carinae, apophyses strong, spiracles small, oval; areolet irregularly pentagonal; nervellus recivous, broken below middle; nervulus interstitial. Abdomen narrow fusiform, truncate at apex of fifth tergite, the apical tergites being hidden within the fifth; petiole rather slender, without dorsal carinae, postpetiole moderately broad, polished except in apical corners, where it is punctate; other visible tergites, except fifth, densely punctate, gastrocoeli broad, shallow, opaque, lunulae distinct on second and third.

Ferruginous; antennal annulus, collar medially, scutellum and minute spots on subalar tubercles yellow; pedicel, flagellum beyond second joint, mandibles, palpi, margins of propleura, tegulae, sutures in scutellar and alar regions, mesosternum posteriorly, metasternum, and apices of hind femur and tibia blackish; wings hyaline.

Type-locality.—Cabin John, Md.

Type.—Cat. No. 27682, U.S.N.M.

Two females, the type, taken September 7, 1916, by R. M. Fouts; the paratype taken on the summit of Mount Katahdin, Me., at an elevation of 5,215 feet, in August, 1902, has the sculpture somewhat stronger throughout, the postpetiole medially rugulose, and the clypeus and scrobes of pronotum piceous.

Genus POLYCYRTUS Spinola

Although it is not uncommon in the vicinity of Washington and has been represented in the National Collection for many years, the fact

that the following new species has not been described appears to have been overlooked. This is the more strange considering that it is apparently the only species referable to the genus to be found in the Atlantic States at least so far north.

POLYCYRTUS NEGLECTUS, new species

Female.—Length, 11.5 mm.; antennae, 9 mm.

Head polished with a few coarse punctures on face and in ocellar space; temples sharply convexly sloping; ocell-occipital line nearly twice as long as diameter of an ocellus; frontal horn stout, nearly as thick at base as long; malar space finely shagreened; three-fourths as long as basal width of mandible; head not constricted below eyes, extended angle² of cheeks in front view slightly less than a right angle; eyes very slightly convergent below. Thorax polished; pronotum with scrobes obliquely striate; mesoscutum anteriorly, pleurum below, and sternum sparsely and coarsely punctate, pleurum with a small obliquely rugose area behind upper end of prepectal carina; metapleurum more densely punctate, vertically rugose posteriorly; propodeum polished, sparsely punctate medially and laterally, longitudinally rugose near apex; apophyses about as long as thickness of petiole; areolet rather large, about two-thirds as wide as long, recurrent near apex; nervulus antefurcal. Abdomen shingling, more or less distinctly and very finely shagreened; first tergite polished, postpetiole gibbous above with a deep dimplelike fovea on each side above spiracle; ovipositor sheath as long as first two tergites.

Black and flavous or whitish, thorax laterally and ventrally tinged with testaceous; head pale except the occiput and a broad band extending from occiput over vertex to base of antennae, broadened on upper temples, apices of clypeus and mandibles, articulations of latter, and a short narrow line between antennae; antennae black with a white annulus embracing flagellar joints 6-9 and part of 5, 10, and 11; palpi white basally, testaceous apically. Thorax dorsally black with the following pale markings: Anterior margin and humeral welts of pronotum, two elongate marks on disk of mesoscutum, tegulae, scutellar carinae, and apices of scutellum and postscutellum with lines along the sutures to bases of wings; laterally and ventrally pale testaceous to stramineous, black above and below subalar tubercle, and with small brownish spots in mesopleural fovea and near apex of mesopleurum; propodeum with three longitudinal black stripes, the lateral ones beginning with and encircling the spiracles and extending along pleural carinae nearly to apex, the median one extending from a narrow basal black band to apex and abruptly broadened along the basal carina; legs pale testaceous to stramineous,

² The angle formed by lines having the same direction as the cheeks in relation to each other.

the hind tarsi distinctly paler; wings hyaline, veins dark, stigma pale. First tergite with a median black stripe, broadened on postpetiole, not reaching apex; second tergite black with the apex broadly and a lunate mark on each side nearly surrounding the spiracle pale, the apical band partly interrupted on each side by an abrupt offshoot from the black; third tergite black basally, pale apically, with a pale spiracular spot; fourth to seventh black basally, pale apically, more broadly so at sides; eighth black medially pale laterally.

Male.—Like female, but with sculpture stronger, antennal annulus embracing flagellar joints 9–16; first abdominal segment black ventrally, and coxae paler above with a narrow blackish line.

Type-locality.—Cabin John, Md.

Type.—Cat. No. 27683, U.S.N.M.

Described from 11 females and 16 males; the type taken by G. N. Collins; 3 other females and 2 males from the type-locality (R. M. Fouts); 1 male, Chain Bridge, Va. (W. Middleton); 1 female, Rosslyn, Va. (H. H. Smith); 1 male (allotype), Falls Church, Va. (Frederick Knab); 1 female, Glencarlyn, Va. (S. A. Rohwer); 1 male, Dixie Landing, Va.; 1 female, Virginia; 1 male, Washington, D. C. (R. M. Fouts); 1 male, District of Columbia; 1 female, Coosa River, Chilton county, Ala. (H. H. Smith); 1 female, Coleta, Ala. (H. H. Smith); 1 female and 4 males, Pysiton, Clay county, Ala. (H. H. Smith); 1 male, Longdale, Chambers county, Ala. (H. H. Smith); 3 males, Paradise Key, Fla. (C. A. Mosier); 1 female, Blount county, Tenn.; and 1 female, Dallas, Tex. (F. C. Bishopp).

This series shows considerable variation. The type is about average in size, the variation being about two millimeters in each direction. The sculpture of the apical slope of the propodeum varies from nearly smooth to mostly rugose, with sometimes a rather distinctly defined narrow median longitudinal area. Some of the females have the petiole black beneath as in the allotype, while many of the males lack the spiracular white spot on the third tergite.

Genus BRACHYCRYPTUS Thomson

The species described below is not entirely typical of the genus, differing from Thomson's description as follows: mesoscutum rather strongly declivous anteriorly; nervellus reclivous, broken at or above the middle; hind tibia distinctly longer than femur; pulvilli small. It is also considerably larger than either of Thomson's three species, though smaller than *simplex* (Tschek), which was subsequently referred to the genus by Schmiedeknecht; and has the abdomen red only narrowly at the apices of the first two tergites. If it does not belong to this genus it can not be referred to any described genus and I prefer to place it here rather than add to an already too long list of almost meaningless generic groups.

BRACHYCRYPTUS NIGER, new species

Female.—Length 7.5 mm.; antennae 5 mm.

Temples very strongly narrowed, slightly convex, sparsely and finely punctate, polished; eyes very large, bulging, convergent below; face about two-thirds as broad as top of frons, opaque, finely and densely punctate; clypeus more coarsely sculptured than the face, transversely rugoso-punctate, very narrowly margined and arcuate at apex; malar space slightly more than half as long as basal width of mandible; upper tooth of mandible slightly longer than lower; frons opaque laterally, shining medially, with distinct polished scrobes; ocelli small, the diameter of a lateral ocellus shorter than ocell-ocular line and little more than half as long as postocellar line; antennae filiform, flagellum of uniform thickness throughout, first two joints elongate and equal in length. Thorax: pronotum punctate above, obliquely striate in middle, polished in lower angle; mesoscutum shining, sparsely punctate, declivous anteriorly, notauli sharp, narrow, minutely foveolate, reaching nearly to middle; scutellum convex, shining and sparsely punctate basally, longitudinally striato-punctate apically, carinae distinct to middle; mesopleurum and sternum and metapleurum opaque punctate, the mesopleurum shining and more sparsely punctate above and polished in upper posterior corner, sternauli short and broad; propodeum opaque punctate, basal lateral areas shining and sparsely punctate, basal carina only slightly curved, apical carina narrowly separated from it medially, with short carinate apophyses, petiolar area very broad and flat; areolet almost regularly pentagonal; discocubitus unbroken; nervellus broken at the middle, reclivous; legs long, slender, hind tibia slightly longer than femur, basitarsus very nearly as long as other joints combined, pulvillus very small. Abdomen subclavate; first tergite longer than second, very slender, flattened above, polished, postpetiole about twice as wide as petiole, slightly decurved, with a distinct longitudinal impression between the spiracles; abdomen otherwise very finely granularly opaque, second tergite nearly as broad as long and more than twice as broad at apex as at base, gastrocoeli very small, spiracles far beyond middle and close to margin; sheath shorter than first tergite.

Black; first and second tergites narrowly reddish apically; apex of abdomen with a white spot beginning on sixth tergite; wings hyaline, venation black; front legs beyond trochanters and middle and hind femora except at apex testaceous, legs otherwise black to piceous.

Male.—Differs from female as follows: temples less strongly narrowed and more strongly convex; face only slightly narrower than frons; malar space nearly as long as basal width of mandible; antennae slightly tapering apically; thorax dorsally more strongly and densely punctate; nervellus broken distinctly above middle; hind tibia much

longer than femur, basitarsus barely as long as next three joints; abdomen narrower, second tergite much longer than broad at apex; abdomen apically immaculate; apical joints of all trochanters testaceous.

Type-locality.—Ohio.

Type.—Cat. No. 27684, U.S.N.M.

One of each sex received from Prof. C. H. Kennedy of Ohio State University.

Genus SYZEUCTUS Foerster

Foerster, Ashmead, and Schmiedeknecht all employ as one of the key characters ascribed to this genus the lack of a carina separating metapleurum and propodeum. As a matter of fact, the genotype, *maculatorius* (Fabricius), frequently has a more or less developed carina, while the two species described below have it well developed. The only real difference between the present genus and its nearest relative, *Diceratops* Foerster, lies in the frontal horns of the latter.

SYZEUCTUS SIGMOIDALIS, new species

Especially remarkable for the peculiar nervellus.

Female.—Length, 9 mm.; antennae, 7.5 mm.; ovipositor, 6.5 mm.

Head transversely oval, temples convexly sloping; postvertex (that portion of the head lying between the ocelli and the occipital carina) medially impressed, polished with a few scattered punctures; temples with more numerous punctures, running into fine shagreening on cheeks; vertex and frons more densely punctate, the latter medially slightly concave; aface similarly punctate, strongly convex, with a rather deep impression on each side just below level of antennae; clypeus separated from face by a broad deep groove; polished with few punctures; malar space nearly as long as basal width of mandible. Thorax and propodeum with coarse and dense but distinct punctures, finer and closer on prescutum, coarsest on propodeum; apical and pleural carinae complete; nervellus a sigmoid curve, more strongly curved below where it turns backward and is apparently continuous with the obsolete discoidella; hind tibia about one and one-half times as long as femur, basitarsus as long as three following joints. Abdomen minutely and faintly shagreened and sparsely and finely punctate, broadly polished; first tergite two-thirds as broad at apex as long, sides straight, spiracles at basal third; tergites 2-4 as long as broad at base, others successively rapidly shorter.

Black with abdomen partly red; upper anterior and posterior orbits, broad on frons and narrowly confluent on apex, clypeus at apex, and spot on base of mandible yellow; antennae black basally and above, brown beneath nearly to base of flagellum; palpi brownish testaceous. Thorax immaculate; tegulae piceous; wings hyaline,

veins dark stigma and costa pale; legs testaceous, coxae and trochanters black, tibiae yellow at base, hind tibia at apex and tarsus fuscous, basitarsus pale in middle. First tergite black at base, rufous at apex; tergites 2 and 3 and basal middle of 4 rufous, 2 and 3 with narrow black lines extending backward from spiracles; apex of abdomen black.

Male.—In structure and color much like female but differing markedly in color as follows: entire face, malar space, lower cheeks, orbits except a very narrow interruption on cheek, mandibles, scape and pedicel beneath, propleura, triangular spots at origins of notauli, spots on pronotum immediately below these, scutellum laterally, postscutellum, tegula, spot below, another spot lower on mesopleurum, and an irregular elongate spot before middle coxa yellow; front and middle coxae except at base behind, their trochanters, a large spot on upper outside of hind coxae toward apex and a smaller one on the upper inner side, apical joint of hind trochanter, front and middle legs otherwise except testaceous streak on upper side of femora and blackish apical joint of middle tarsus, basal half or more of hind tibia and its tarsus largely yellow to stramineous; hind femur piceous; first tergite black except a narrow piceous apical margin in which are two small transverse yellow spots; second and fourth tergites red medially black laterally, third entirely red except black spiracular streaks, tergites beyond fourth entirely black.

Type-locality.—Godbout, Quebec.

Type.—Cat. No. 27685, U.S.N.M.

Described from nine females and six males all taken at the type-locality by E. M. Walker on July 25, 1918.

The only variations of moment are in the extent of the yellow markings in the male; the yellow spots on postscutellum, first tergite and the inner one on the hind coxae sometimes wanting and the first tergite entirely black. In other specimens these markings as well as the others are larger than in the allotype.

SYZEUCTUS EPISCHNIAE, new species

Female.—Length, 8 mm.; antennae (broken); ovipositor, 7.5 mm.

Temples straight, sloping to the rather broad occiput; polished and practically impunctate; cheeks convex, sparsely punctate, finely shagreened below; frons impressed and polished below, slightly swollen and punctate above and at sides; face strongly convex and punctate, with a small, deep impression on each side above; clypeus weakly separated, strongly convex, sparsely punctate; malar space nearly as long as basal width of mandible. Thorax and propodeum coarsely, evenly, and rather densely punctate, the punctures finer and closer on prescutum; apical and pleural carinae of propodeum strong; nervellus normal, discoidella at lower third, the latter weak

but complete; hind tibia hardly a third longer than femur; basitarsus as long as three following joints. Abdomen faintly shagreened and sparsely and finely punctate; first tergite polished, three-fifths as wide at apex as long, second three-fourths, third nearly, fourth fully as wide at base as long, others much shorter, the apical three retracted within fifth.

Black with abdomen largely red; head and thorax with yellow markings as follows: Orbits, broad in front and narrow behind eyes; malar space; face except a median black point above and a curved black line on each side from base of antenna to clypeal fovea; mandibles; triangular spots at origins of notauli; base of tegula; subalar tubercle; and scutellum laterally and apically; antennae black, brownish beneath; wings suffused brownish hyaline, veins dark, stigma and costa pale; legs testaceous to stramineous, hind coxae and basal joint of trochanter except at apex, middle coxa at base and behind, basal joint of trochanter behind, and front coxa at base black; abdomen, except extreme base of first tergite and the retracted apical joints, which are piceous, ferruginous.

Male.—In structure and sculpture like female, except that the abdomen is somewhat more slender with apical tergite not retracted; face entirely, cheeks, antennae beneath, propleura, a small spot near upper margin of pronotum, a long oblique streak on mesopleurum extending from middle coxa to anterior margin; a median spot on mesoscutum, postscutellum, a large spot apically on metapleurum, and a narrow subapical band on first tergite also yellow; front and middle legs, except extreme base of coxae, entirely yellow; hind coxa above below and at apex, basal joint of trochanter apically and apical joint entirely, base and apex of femur, tibia except its fuscous apex, and tarsus largely yellow; hind femur piceous with a paler streak above; first tergite, except as noted above, and apex of abdomen black.

Host.—*Epischnia granitella* Ragonot.

Type-locality.—Crows Landing, Calif.

Type.—Cat. No. 27686, U.S.N.M.

One female and two males reared from the host during December, 1911, and January, 1912, by F. A. Hyde, under Chittenden No. 2109⁰³.

The paratype male is less extensively yellow than the allotype, lacking the discal mesoscutal spot and those on postscutellum and metapleurum, while the mesopleural spot is represented by an irregular streak in front of the middle coxa and a very small spot near anterior margin, and the submarginal band on first tergite is interrupted medially.

Genus CAMPOPLEX Gravenhorst

The new species described below runs in Schmiedeknecht's key³ to couplet 30 where it agrees with all of the characters assigned to *Eulimneria* Schmiedeknecht except that the head is not broad behind the eyes. Beyond this point it runs to *Idechthis* Foerster. Both *Eulimneria* and *Idechthis* I consider as synonyms of *Campoplex* Gravenhorst.

CAMPOPLEX DIGITATUS new species

Female.—Length 6.5 mm.; antennae, 5 mm.; ovipositor, 0.8 mm.

Head transverse with temples convexly sloping, in front view slightly transversely oval; face slightly narrower than frons; eyes shallowly emarginate opposite antennae; face and clypeus opaque, finely, densely punctuate; malar space hardly half width of mandible; ocell-ocular line, ocellar diameter, and postocellar line in the proportion of 1:1.5:2; flagellum rather stout, tapering at apex. Thorax stout ovoid, granularly opaque, speculum not at all polished; propodeum dull, rugulose roughened, areola and petiolar areas confluent, broad, concave, costulae distinct; stigma about a fourth as wide as long, areolet petiolate, recurrent near apex, external angle of second discoidal cell acute, nervulus postfureal, postnervulus broken at about the middle, nervellus curved but not broken, reclivous; longer hind calcarium a little more than two-thirds as long as basitarsus; basitarsus as long as rest of tarsus, apical joint hardly longer than fourth, claws pectinate. Abdomen very minutely granularly opaque, more or less punctate toward base; first tergite stout, the postpetiole broad and strongly convex, petiole laterally foveate at base of postpetiole; second tergite one and two-thirds times as long as broad at base, spiracles beyond middle, gastracoeli shallow but distinct, removed from base; ovipositor sheath much shorter than first tergite, ovipositor upcurved.

Black with basal three tergites more or less reddish toward apex; mandibles, palpi, tegulae and wing bases white; antennae black, scape red beneath; wings hyaline, venation dark, stigma paler; front legs stramineous except the pale testaceous femur; hind coxa, basal joint of trochanter and femur testaceous, apical joint of trochanter stramineous, tibia with apical third and a narrow subbasal annulus black, the rest white, tarsi black with basitarsus broadly and other joints very narrowly white at base; middle leg like front leg except that the tibia and tarsus have the pattern of those of the hind leg repeated in pale testaceous and white.

Male.—Like female but ocelli larger, the ocell-ocular line, ocellar diameter, and postocellar line ratio being 1:2:2; the abdomen narrower and entirely black; and the legs with more white.

Type-locality.—Newington, N. H.

Type.—Cat. No. 27687, U.S.N.M.

³ Opusc. Ichtn., pp. 1521-1529.

Ten females and one male reared from tortricids at the Gipsy Moth Parasite Laboratory, Melrose Highlands, Mass.; the type under No. 6988G, host unknown; the allotype and four paratypes under No. 12157C, from Westerly, R. I., host *Gelechia trialbamaculella* Chambers or (*Olethereutes*) *Peronea permutana* Duponche; five paratypes under No. 12101B, from Maynard, Mass., host *Acrobasis caryaevorella* Ragonot.

The paratypes show some variation especially in the amount of white on the hind legs and of red on the abdomen, the latter being sometimes entirely black.

The cocoon of the type is mounted with the specimen. It is cylindrical-ovate, 6.5 mm. long by 2.5 mm. thick, white with irregular blotches of dark brown at each end and a row of blotches on each side of middle.

Genus CREMASTUS Gravenhorst

CREMASTUS (CREMASTUS) SINUATUS, new species

Very distinct from all other species known to be in the peculiar form of the ovipositor, which is sinuate at the apex nearly as in *Pristomerus*.

In my key to the North American species of *Cremastus*⁴ it runs nowhere satisfactorily. Specimens with the thorax strongly marked with black run perhaps best to *decoratus* Gravenhorst but have the thorax more yellow and the abdomen more red. Those in which the black is largely replaced by reddish run better to couplet 7 where they agree with neither alternate.

Female.—Length, 12 mm.; antennae, 6.5 mm.; ovipositor, 5 mm.

Head from above very strongly transverse, temples convex near eyes, thence nearly flat and nearly perpendicular to body axis; head from in front distinctly broader than long; face as broad as length of eye and slightly broader than frons, medially slightly convex and densely punctate, laterally shagreened and sparsely punctate; clypeus two-thirds as long as interfoveal line, strongly convex, apically rounded, sparsely and coarsely punctate; malar space three-fourths basal width of mandible; diameter of lateral ocellus slightly longer than ocell-ocular line, three-fourths postocellar line. Thorax moderately long, with coarse, well separated punctures, the pronotal furrow and the speculum polished, scutellum sparsely punctate, rather flattened, with lateral carinae strong at base but terminating abruptly just beyond; propodeum extending slightly beyond middle of coxae, in profile strongly arched, opaque shagreened, coarsely and sparsely punctured and medially, especially in petiolar area, transversely rugose, areola only a little longer than broad, two-thirds as long as petiolar area, from which it is distinctly separated; stigma

⁴ Proc. U. S. Nat. Mus., vol. 53, 1917, pp. 511-516.

nearly half as broad as long with radius slightly beyond middle; subdiscoideus above upper third of postnervulus. Abdomen long and slender, distinctly compressed from apex of second tergite; first tergite longer than median length of propodeum and than second tergite, ventral margins approximate, lateral carinae obsolete, postpetiole hardly twice as wide as petiole, second tergite about five times as long as broad at base, longitudinally striate; ovipositor straight, slender, sinuate at apex.

Head and thorax yellow with black markings as follows: stemmaticum, frons, occiput, pronotal grooves, middle of each lobe of mesoscutum, prescutellar fovea, area around scutellum and wing bases, postscutellum, propodeum medially, upper part of mesopleurum and metapleurum below, mesosternum except a small yellow spot on each side of middle behind, a small spot just above position of sternaulus on mesopleurum, metasternum, and prepectus medially; legs testaceous, front and middle ones more stramineous, coxae and trochanters yellow; the coxae more or less black basally; wings hyaline, venation dark; abdomen red, petiole, second tergite except at apex and third basally blackish; sheath black.

Male.—Eyes and ocelli larger than in female, the eye length distinctly longer than width of face; diameter of ocellus fully as long as postocellar line and twice as long as ocell-ocular line, malar space little more than half as long as basal width of mandible; black markings of mesoscutum replaced by reddish and those of sternum by brown and reduced in extent; pronotum and upper part of mesopleurum nearly immaculate. The abdomen has been eaten away at apex and ventrally by dermestids.

Type-locality.—Coachella Valley, Calif.

Allotype-locality.—Presidio, Tex.

Type.—Cat. No. 27688, U.S.N.M.

Five females and one male all reared by Alan P. Dodd, of the Prickly Pear Board of Australia from lepidopterous larvae boring in *Opuntia*.

All but one of the specimens were reared as parasites of *Cactobrosis strigalis* Barnes and McDunnough, Paratype *b* having parasitized *Zophodia glaucatella* Hulst. Paratype *a* is from the allotype-locality, Paratype *b* from Uvalde, Texas, and the other two, which are returned to Mr. Dodd, are from the type-locality.

Paratype *a* and the two returned to Mr. Dodd are essentially like the type while Paratype *b* is even less extensively and less distinctly marked than the allotype.