



SMITHSONIAN INSTITUTION  
U. S. NATIONAL MUSEUM

Vol. 83

Washington : 1936

No. 2990

A REVISION OF THE CHALCID FLIES OF THE GENUS  
PERILAMPUS LATREILLE OCCURRING IN AMERICA  
NORTH OF MEXICO

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THE STUDIES underlying this paper are based upon specimens in the collections of the United States National Museum, Washington; the Academy of Natural Sciences of Philadelphia; the American Museum of Natural History, New York; the Boston Society of Natural History; the Museum of Comparative Zoology, Cambridge, Mass.; the field laboratory of the U. S. Bureau of Entomology and Plant Quarantine at Melrose Highlands, Mass.; and of Prof. C. T. Brues, of Harvard University. I am indebted to these institutions and to Professor Brues for the loan of specimens and to A. B. Gahan and C. F. W. Muesebeck, of the U. S. Bureau of Entomology and Plant Quarantine, for many helpful suggestions and for criticism of the manuscript. My thanks are also due Nathan Banks, of the Museum of Comparative Zoology, and D. L. Parker and P. B. Dowden, of the Bureau of Entomology and Plant Quarantine, for help given me from time to time.

Most of the types of the species of the genus *Perilampus* are in the collection of the United States National Museum and have been studied. The types of *hyalinus* Say and *platygaster* Say are evidently lost, and in the identification of these species I have followed such workers as A. B. Gahan, of the U. S. Bureau of Entomology and Plant Quarantine, and J. C. Crawford, formerly of the Bureau of Entomol-

identifications are correct. Those specimens called *P. platygaster*, I might say, judging from the description, may well be some other species. The identification of *P. hyalinus*, on the other hand, is likely correct, although the possibility of the specimens so identified being *carolinensis*, a closely related but rarer species, which I have described herein as new, must not be overlooked, for both species were considered as *hyalinus* in the past. The types of Provancher's three species—*stygius*, *aciculatus*, and *laevis*—are in Canada; the first two are in the Museum of Public Instruction in Quebec, and the last in the Harrington Collection in Ottawa.<sup>1</sup> I have not seen these, and I am unable to place *laevis*, at least. *P. aciculatus* is probably *hyalinus* Say, and I have synonymized it, questioningly, with this species. I am also unable to place *cyaneus* Brullé, the type of which I presume to be in the Muséum d'Histoire Naturelle in Paris, or *alexinus* Walker, *entellus* Walker, and *lepreos* Walker, the types of which are presumably in the British Museum. For a further mention of *laevis*, *cyaneus*, *alexinus*, *entellus*, and *lepreos*, see "Unidentified Species" (p. 410).

Twenty-two valid species and varieties are recognized in this paper, of which ten are described as new to science.

As may be seen from the key or table to species, the genus *Perilampus* divides itself naturally into two sections and each section in turn into smaller groups of species.<sup>2</sup> Section I, composed of what I term the "carinate species", from the presence of a well-defined carina on the frons, includes (1) the *hyalinus* group and (2) the *platygaster* group<sup>3</sup>; and section II, the "noncarinate species", includes (1) the single species comprising the *canadensis* group, (2) the *chrysopae* group, (3) the *anomocerus* group, and (4) the *fulvicornis* group. The species *canadensis*, which stands at the head of the noncarinate list in the key, could properly be included in the *chrysopae* group, but I prefer to keep it separate, for the present at least, because of its resemblance in certain respects, especially in the character of its first tergite, to the *hyalinus* group of species in section I. The following outline will show the species in accordance with the above grouping:

#### SECTION I (CARINATE SPECIES)

- |                           |   |  |
|---------------------------|---|--|
| 1. Hyalinus group-----    | { | <i>carolinensis</i> , new species.<br><i>regalis</i> , new species.<br><i>hyalinus</i> Say.  |
| 2. Platygaster group----- | { | <i>platygaster</i> Say.<br><i>crawfordi</i> , new species.<br><i>subcarinatus</i> Crawford.<br><i>carinifrons</i> Crawford.<br><i>ocellatus</i> , new species. |

<sup>1</sup> Gahan, A. B., and Rohwer, S. A., Can. Ent., vol. 50, p. 106, 1918.

<sup>2</sup> Only the principal characters are used in the key in differentiating the groups, and in some cases again the characters used are not all true group characters.

<sup>3</sup> The group name is derived from the oldest described species in each.

## SECTION II (NONCARINATE SPECIES)

- |                           |   |   |
|---------------------------|---|---|
| 1. Canadensis group-----  | { | <i>canadensis</i> Crawford.                     |
|                           |   | <i>canadensis nitidus</i> , new variety.        |
| 2. Chrysopae group-----   | { | <i>chrysopae</i> Crawford.                      |
|                           |   | <i>rohweri</i> , new species.                   |
|                           |   | <i>capitatus</i> , new species.                 |
| 3. Anomocerus group-----  | { | <i>anomocerus</i> Crawford.                     |
|                           |   | <i>granulosus</i> Crawford.                     |
|                           |   | <i>gahani</i> , new species.                    |
|                           |   | <i>fulvicornis</i> Ashmead.                     |
| 4. Fulvicornis group----- | { | <i>fulvicornis prothoracicus</i> , new variety. |
|                           |   | <i>stygius</i> Provancher.                      |
|                           |   | <i>similis</i> Crawford.                        |
|                           |   | <i>muesebecki</i> , new species.                |
|                           |   | <i>robertsoni</i> Crawford.                     |

## Superfamily CHALCIDOIDEA

## Family PERILAMPIDAE

## Genus PERILAMPUS Latreille

*Perilampus* LATREILLE, Genera crustaceorum et insectorum, etc., vol. 4, p. 30, 1809. (Genotype, *Diptolepis violacea* Fabricius, designated by Latreille, Considérations générales sur l'ordre naturel des animaux, etc., p. 436, 1810.)

*Cynipsillum* LAMARCK, Histoire naturelles des animaux sans vertèbres, vol. 4, p. 156, 1817 (p. 366 in ed. 2, 1835). (Genotype, *Chalcis violacea* Panzer, designated by Gahan and Fagan, U. S. Nat. Mus. Bull. 124, p. 41, 1923.)

Head as broad as thorax; frontovertex deeply emarginate; clypeus clearly defined, separated from rest of face by a suture; mandibles strong, the right tridentate, the left bidentate; antennae inserted about in the middle of the head, well above level of lower margins of eyes, with 13 distinct segments, with only one ring joint, scape not quite reaching anterior ocellus, flagellum fusiform to subclavate; thorax coarsely umbilicately punctured; pronotum short; dorsal line of prepectus generally as long as or longer than prothorax, suture separating it from latter sometimes indistinct; mesonotum with parapsidal furrows converging; axillae triangular, not widely separated; scutellum sometimes produced at apex but never produced into a spear-shaped process or spine; costal cell about two to three times as long as the marginal vein; marginal vein longer than the postmarginal, rarely only as long; stigmal vein shorter than postmarginal, very rarely about as long; abdomen very shortly petiolated; first tergite (petiole) transversely linear to nearly as long as broad, with anterior margin frequently elevated into a flangelike projection, smooth to coarsely sculptured; abdomen entirely or in greater part smooth and polished, second and third segments (first and second of the gaster) entirely or almost entirely covering remaining segments.

The species of *Perilampus* appear to be largely hyperparasitic. They are characterized by an active first-stage larva, termed "plani-

dium", a type of larva originally discovered by Dr. W. M. Wheeler in connection with his studies of the eucharid species *Orasema viridis* Ashmead<sup>4</sup> and discovered in *Perilampus* by Harry S. Smith in his studies of the life history and habits of *Perilampus hyalinus* Say.<sup>5</sup>

## KEY TO THE SPECIES OF PERILAMPUS

1. Frons with a carina extending from behind anterior ocellus downward on each side of scrobal cavity to level of insertion of antennae, or nearly to that point; axilla with an elongate, generally fingerlike extension running posteriorly along lateral margin of scutellum (if somewhat triangular, then base of extension falling more or less distinctly below middle of axilla); surface of axillae above base of fingerlike extension more or less depressed or excavated..... 2
- Frons without such carina or at most with an indistinct one that extends laterad from ocellus for a short distance only; posterior extension of axilla not fingerlike but more or less triangular, its base extending to about middle or above middle of axilla; surface of axillae not depressed..... 9
2. Metallic-green, blue, or violaceous species; at least some of striae on cheeks continued uninterruptedly onto face; malar groove absent, although rarely faintly indicated; prepectus separated from pronotum by a very distinct suture; axillae usually in part smooth and shining (*hyalinus* group)..... 3
- Black species, occasionally in part greenish or bronzy; striae on cheeks very rarely continuous onto face; malar groove usually distinct; suture separating prepectus from pronotum indistinct; axillae opaque or subopaque, sometimes more or less shining at upper part (*platygaster* group)..... 5
3. Frons laterad of frontal carina with longitudinal rugae, without large punctures; ocellocular area with transverse rugae; viewed from in front, the frontal carina gradually approaching eye margin, its lower half nearly straight or at least not sharply curved; posterior orbit completely striated or with only a very narrow area smooth, the striae dense and numerous. Postocellar line at least about three times length of median line of vertex; scutellum as a rule about as long as mesoscutum and prothorax combined..... *hyalinus* Say
- Frons laterad of carina with large, shallow, irregular punctures, often more or less wrinkled also but without longitudinal rugae; ocellocular area with coarse punctures; viewed from in front, lower half of frontal carina sharply curved toward eye margin; broad area along posterior orbit smooth and striae on cheeks neither dense nor numerous..... 4
4. Postocellar line about twice length of median line of vertex, distinctly less than twice length of ocellocular line; emargination of frontovertex falling considerably in front of a line tangent to posterior margins of lateral ocelli; scutellum about as long as mesoscutum and prothorax together; head cupreous, face and scrobal cavity black, thorax violaceous to blue, antennal flagellum pale ferruginous..... *regalis*, new species

<sup>4</sup> Bull. Amer. Mus. Nat. Hist., vol. 23, art. 1, 1907.

<sup>5</sup> U. S. Dept. Agr., Bur. Ent. Tech. Ser. no. 19, pt. 4, 1912.



- Postocellar line three or more times as long as median line of vertex, about twice length of ocellocular line; emargination of frontoververtex almost touching a line tangent to posterior margins of lateral ocelli; scutellum produced at apex and as a rule distinctly longer than mesoscutum and prothorax together; head and thorax green, antennal flagellum grayish black.....**carolinensis**, new species
5. Frontal scrobe above narrowly arcuate; distance between lateral ocellus and nearest point on frontal carina about equaling or exceeding shortest distance from that point on carina to anterior ocellus; if shorter (*platygaster* Say), then clypeus as a rule as long or about as long as wide..... 6
- Frontal scrobe more broadly arcuate; distance between lateral ocellus and nearest point on frontal carina (or edge of emargination) shorter than shortest distance between that point on carina and anterior ocellus; if about equal (*carinifrons* Crawford), then face at side of clypeus smooth except for hair punctures..... 7
6. Shortest distance between lateral ocellus and frontal carina about equal to or shorter than shortest distance from that point in carina to anterior ocellus; if longer, then emargination of frontoververtex touching a line tangent to anterior margins of lateral ocelli and postocellar line considerably longer than median line of vertex; area along inner margin of parapsides distinctly and completely or practically completely shagreened; walls between umbilicate punctures on mesoscutum thin, mere septa; clypeus as a rule about as long as wide.....**platygaster** Say
- Shortest distance between lateral ocellus and frontal carina exceeding shortest distance from that point in carina to anterior ocellus; emargination of frontoververtex falling distinctly in front of a line tangent to anterior margins of lateral ocelli and postocellar line not greatly longer than median line of vertex; area along inner margin of parapsides only in small part shagreened and that rather faintly so; walls between umbilicate punctures on mesoscutum widened or thickened, at least medially; clypeus very distinctly wider than long.....**crawfordi**, new species
7. Area along inner margin of parapsides completely or practically completely sculptured, shagreened, or shagreened and aciculate; lateral ocelli distinctly depressed, vertex medially more or less distinctly elevated, this elevation continued diagonally in front of lateral ocelli; hyperclypeal area about as long as clypeus. Face at side of clypeus rugulose, rugulose granular, or granular; eyes with a vitreous surface.....**ocellatus**, new species
- Area along inner margin of parapsides smooth or practically smooth and polished; lateral ocelli not depressed and vertex medially relatively not elevated, although rarely faintly so; hyperclypeal area distinctly shorter than clypeus..... 8
8. Face laterad of clypeus rugulose, rugose, or rugose-granular; frons laterad of frontal carina and ocellocular area very often distinctly sculptured; eyes with a dull surface; anterior margin of first tergite more or less distinctly emarginate....**subcarinatus** Crawford
- Face laterad of clypeus, frons laterad of frontal carina, and ocellocular area smooth except for hair punctures; surface of

- eyes vitreous; anterior margin of first tergite apparently truncate.....**carinifrons** Crawford
9. First tergite, exclusive of invaginated anterior portion, very short, transversely linear or at least several times as broad as long, usually smooth or weakly sculptured and generally with anterior margin more or less elevated into a flangelike projection that masks more or less posterior aspect of neck of propodeum<sup>6</sup>; species with thorax usually in part metallic.....10
- First tergite more distinctly petioliform, rarely more than three times as broad as long, as a rule more or less rugosely sculptured and without a marginal flange anteriorly; species with thorax usually black (*fulvicornis* group).....15
10. First tergite smooth and without an elevated anterior margin; frons meeting vertex in a sharp keel; area along inner margin of parapsides usually coarsely roughened with punctures or aciculations; insect as a rule in large part metallic. Scrobal cavity deep and wide, occupying practically whole of front and cutting a line tangent to anterior margins of lateral ocelli, its margins acutely angulated.
- canadensis** Crawford and **canadensis nitidus**, new variety
- First tergite with anterior margin more or less distinctly elevated and often sculptured; frons meeting vertex in more or less of a curve; if meeting in a sharp keel, then insect black; area along inner margin of parapsides smooth or only finely sculptured or roughened.....11
11. Cheeks convexly rounded; head in front view, with very rare exceptions, distinctly transverse, not subtriangular; eyes reaching or about reaching level of base of clypeus; umbilicate punctures on mesoscutum and scutellum angulated and walls or interspaces thin, mere septa; only rarely are punctures round or roundish and interspaces thickened or widened; anterior margin of first tergite generally not completely masking posterior aspect of neck of propodeum, as a rule truncate or only slightly convex; head or thorax or both head and thorax sometimes black (*chrysopae* group).....12
- Cheeks not convexly rounded but straight or nearly straight; head in front view usually elongate or somewhat transverse and as a rule subtriangular; eyes not reaching level of base of clypeus (not always so definite in males); umbilicate punctures on mesoscutum and scutellum round or roundish and interspaces more or less widened, at least medially; anterior margin of first tergite strongly elevated and completely masking posterior aspect of neck of propodeum, strongly or acutely convex; neither head nor thorax completely black (*anomocerus* group).....14
12. Upper part of frons between eye and scrobal cavity usually vertically wrinkled or rugose, in males this sometimes extended to level of base of antennae; malar furrow half or less than half as long as width of check at apex; pronotum laterally as a rule very distinctly shorter than dorsal margin of prepectus; head very rarely completely black, usually more or less green, blue, bronzy, cupreous, or brown.....**chrysopae** Crawford

<sup>6</sup> Sometimes, as in *anomocerus* Crawford, extending and resting on neck of propodeum and appearing to form a petiolelike tergite.

- Upper part of frons smooth; malar furrow more than half as long as width of cheek at apex (rarely no more than half); pronotum laterally as long as dorsal margin of prepectus or not much shorter; head black, occasionally with some blue-green or bronzy reflections.....13
13. Frons meeting vertex in a curve; emargination of frontovertex acute or at least not markedly obtuse; anterior and posterior margins of prepectus carinate and gradually converging ventrally to form a single carina; scutellum not broadened apically, at most only slightly broader; thorax not completely black, notum at least greenish, bluish, bronzy, or cupreous (bright coloring sometimes very limited).....*rohweri*, new species
- Frons meeting vertex in a sharp keel; emargination of frontovertex markedly obtuse; carina along anterior margin of prepectus curved sharply caudad to meet posterior marginal carina at an approximate right angle at a point about half the distance between tegula and front coxa; scutellum more or less distinctly broadened apically; thorax black (punctate portion of notum sometimes bronzy black).....*capitatus*, new species
14. Third joint (ring joint) of antennae, except rarely, as long as wide; pronotum laterally as a rule no longer and generally not so long as dorsal margin of prepectus<sup>7</sup>; scutellum not granular laterad.....*anomocerus* Crawford
- Third joint of antennae wider than long; pronotum laterally longer than dorsal margin of prepectus; scutellum densely granular laterad.....*granulosus* Crawford
15. General color black with greenish and cupreous reflections; face and areas along inner margins of parapsides distinctly greenish; vertex and dorsum of thorax usually more or less cupreous; cheeks along malar furrow, frons, and face, exclusive of hyperclypeal area and clypeus, completely or in greater part finely and irregularly lineolate or aciculate. Cheeks convexly rounded; head in front view transverse.....*gahani*, new species
- General color black or blackish (head very rarely greenish and notum of thorax sometimes bronzy); front and face, except very rarely, entirely smooth except for hair punctures; cheeks along malar furrow usually smooth.....16
16. Angle formed by dorsal and anterior faces of pronotum laterally not sharp, the coarse punctation of sides of pronotum continued onto lateral margins of anterior face; punctate portion of pronotoprepectal area dorsally shorter than smooth portion; basal shallow furrow on underside of apex of scutellum not distinctly angled at middle; neck of propodeum weakly sculptured, only rarely coarsely sculptured.....17
- Angle formed by dorsal and anterior faces of pronotum sharp laterally as well as above, the coarse punctation of sides of pronotum not continued onto its anterior face; punctate portion of pronotoprepectal area dorsally as long or longer than smooth portion; basal shallow furrow on underside of apex of scutellum forming an acute angle medially or sometimes an obtuse angle; neck of propodeum coarsely sculptured, only rarely finely or weakly sculptured.....18

<sup>7</sup> The suture separating the prepectus from the pronotum may be indistinct.

17. Cheeks straight or nearly straight (sometimes convexly rounded in males); head somewhat, although only very slightly, transverse (at least in females), sometimes subtriangular; wings with a gray-brown or infuscated spot or cloud below marginal vein; scape in male broadened almost throughout whole length; small individuals, as a rule no more than about 2 mm long-----**stygius** Provancher  
 Cheeks convexly rounded (sometimes only slightly so); head in front view with very rare exceptions distinctly transverse, not subtriangular; wings hyaline, although rarely with a faint indication of a cloud below marginal vein; male unknown; larger individuals, usually more than 2 mm in length.-----**fulvicornis prothoracicus**, new variety
18. Cheeks convexly rounded (rarely almost straight); head in front view distinctly transverse, rarely nearly as long as broad and rarely subtriangular. Notum of thorax black (punctate portion sometimes bronzy); walls or interspaces between umbilicate punctures on mesoscutum and scutellum thin, mere septa, the punctures angulated-----**fulvicornis** Ashmead  
 Cheeks straight or nearly straight; head in front view ranging from somewhat elongate to distinctly transverse, usually subtriangular-----19
19. Head in front view more or less distinctly transverse; punctate portion of notum of thorax, except rarely, bronzy or bronzy black; area along inner margin of parapsides as a rule with a greenish or bronzy tinge; interspaces between umbilicate punctures on mesoscutum or scutellum or on both, medially, usually slightly widened, punctures with more conspicuously thickened walls round or roundish-----**similis** Crawford  
 Head somewhat elongate or only slightly transverse; notum of thorax black; area along inner margin of parapsides only very rarely greenish; walls or interspaces between umbilicate punctures on mesoscutum and scutellum thin, mere septa, punctures angulated-----20
20. Frons meeting vertex in more or less of a curve; emargination of frontovertex apparently never very pronounced<sup>3</sup>; postmarginal vein usually distinctly longer than stigmal vein, its apex usually merging with darkish costal border of wing and indistinct; small individuals, thorax very distinctly less than 1.5 mm in length-----**muesebecki**, new species  
 Frons meeting vertex in a more or less sharp keel; emargination of frontovertex usually conspicuous (best marked in males); postmarginal vein as a rule as long or only slightly longer than stigmal vein and usually clearly defined at apex; larger individuals, thorax about 1.5 mm long-----**robertsoni** Crawford

**PERILAMPUS CAROLINENSIS**, new species

*Female*.—Length about 4.5–5.5 mm. Head: Frons with a carina extending from behind the anterior ocellus downward on each side of the scrobal cavity to beyond the level of the insertion of the antennae, carina prominent and lower portion sharply curving toward eye margin; frons laterad of the carina with large, shallow, irregular

<sup>3</sup> Head viewed dorsally.



punctures and also somewhat longitudinally wrinkled; ocellocular area with coarse punctures and some transverse wrinkles; emargination of frontovertex almost touching a line tangent to posterior margins of lateral ocelli and anterior margin of anterior ocellus only slightly in front of anterior margins of lateral ocelli; postocellar line three to four times the length of median line of vertex and practically twice the length of ocellocular line; eyes with a conspicuous smooth area along posterior orbit; cheeks and face on each side of clypeus with coarse or fairly coarse rugae (former very rarely in part smooth), the rugae well separated, neither dense nor numerous, lowermost ones on face commingling or continuous with those on cheeks, cheeks usually with more or less conspicuous punctures interspersed with the rugae; malar furrow absent, rarely very faintly indicated; hyperclypeal area strongly or rather strongly depressed in relation to face on each side; scrobal cavity deep, sides steep, beginning to flare at or about level of base of scape; clypeus wider than long, longer than hyperclypeal area, more or less conspicuously punctate, anterior margin very faintly arcuately emarginate medially, basal margin usually markedly concavely arcuate, face on each side immediately above rugae more or less conspicuously punctate; cheeks convexly rounded; head in front view distinctly transverse, eyes reaching more or less below level of base of clypeus.

Thorax: Scutellum produced at apex and as a rule distinctly longer than mesoscutum and prothorax together; areas along inner margins of parapsides more or less roughened with punctures and often also with aciculations; suture separating prepectus from pronotum very distinct; axilla with an elongate fingerlike extension running posteriorly along lateral margin of scutellum, the base of extension falling distinctly below middle of axilla, and the face of axilla depressed or excavated immediately above base of extension, the portion immediately anterior to extension not sloping toward latter, surface of axilla as a rule in large part smooth and shining, with more or less conspicuous rugae immediately above base of extension; basal shallow furrows on underside of apex of scutellum turning caudad near middle of scutellum and running more or less parallel to each other to peripheral furrow; propodeum laterally depressed and rugose; walls between punctures on middle of scutellum more or less thickened, a small spot near center usually impunctate; wing veins long, postmarginal vein occupying about one-fourth to one-third the distance between the end of the marginal vein and the apex of the wing in a straight line and usually about three-fourths the length of the marginal vein; wing hairs rather dense.

Abdomen: Posterior face wider than long, as a rule very markedly wider; first tergite very strongly transverse, smooth or practically smooth and with no elevated anterior margin; hair punctures on second segment conspicuous.

Color: Head green, usually with violaceous or brassy reflections; vertex, front laterad of carina, temples, and hyperclypeal area rarely definitely brassy or cupreous; flagellum of antenna grayish black with apices sometimes reddish; scape concolorous with head; thorax green to violaceous-green, the axillae often brassy or with a brassy reflection; abdomen violaceous with green or greenish reflections; legs (outer faces at least) green; anterior tibiae in large part testaceous to brown, often with only a green stripe above; tarsi testaceous to pale reddish brown; wings hyaline, veins testaceous to brown.

*Male*.—Length about 3.5–4 mm. Essentially similar to female; differing largely in having the punctate portion of dorsum of thorax in large part bronzy or cupreous, the abdomen green or black with a blue-green reflection, and the intermediate tibiae sometimes in large part brown. Portion of scape bearing sensorial punctures fairly broad apically, and comprising somewhat over one-third to nearly one-half of scape, the sensoria rather fine and not dense.

*Type*.—U.S.N.M. no. 49777.

*Type locality*.—Rosslyn, Va.

*Remarks*.—Described from 18 females and 2 males. The type and allotype bear the following data: "Rosslyn, Va., Sept. 3, 1923, captured on thistle." Ten of the female paratypes and the one male paratype are also in the National Museum. Of these, two females bear the same data as the type; another is from Barcroft, Va. (Aug., J. C. Bridwell); five females were reared from *Anisota senatoria* Abbot and Smith (July, Aug., and Sept.) under the Melrose Highlands Laboratory no. 12431H1b and are from Mystic, Conn.; one female was reared from the same host species (Aug.) under the Melrose Highlands Laboratory no. 12431J2, and is from Bristol, Vt.; one female is from an unknown locality. The single male paratype was also reared from *A. senatoria* (July) under Melrose Highlands Laboratory no. 12431H2, and is from Elmira, N. Y. Of the remaining seven, one is in the collection of the Academy of Natural Sciences of Philadelphia from (?Pitman) New Jersey (Aug.); two are in the collection of the Melrose Highlands Laboratory—one from Southern Pines, N. C. (Sept., A. H. Mance), the other from Somerville, N. J., where it was reared by the writer (Aug. 25, 1924), under the laboratory no. 11744J2a, from *Datana integerrima* Grote and Robinson; and four are in the American Museum of Natural History in New York and were taken in the valley of the Black Mountains, N. C. (Aug. and Sept.), by W. Beutenmüller. The specimens reared from *Anisota* and *Datana* were likely hyperparasitic.

PERILAMPUS REGALIS, new species

*Female*.—Length about 3.5 mm. Head: Frons with a prominent carina extending from behind anterior ocellus downward on each side

of the scrobal cavity to beyond level of insertion of antennae, its lower portion sharply curving toward eye margin; ocellocular area and frons laterad of the carina conspicuously wrinkled and with rather large, shallow, irregular punctures; emargination of frontovertex falling considerably in front of a line tangent to the posterior margins of lateral ocelli, and anterior margin of anterior ocellus well in front of anterior margins of lateral ocelli; postocellar line twice or less than twice the length of median line of vertex, much less than twice the length of ocellocular line and sometimes only a little longer than the latter; eyes with a conspicuous smooth area along posterior orbit; cheeks and face on each side of clypeus with coarse ridges or rugae, the lowermost rugae on face commingling or continuous with those on cheeks, these rugae well separated, not dense and numerous; malar furrow absent; scrobal cavity deep, its sides beginning to flare somewhat above level of base of scape; hyperclypeal area rather strongly depressed in relation to face on each side; clypeus wider than long, longer than hyperclypeal area (sometimes nearly twice as long), its anterior margin shallowly but distinctly arcuate; cheeks convexly rounded; head in front view distinctly transverse; eyes reaching level of base of clypeus.

Thorax: Scutellum about as long as or not much longer than meso-scutum and prothorax together; area along inner margin of parapsides shallowly punctate and aciculate; suture separating prepectus from pronotum very distinct; axilla with an elongate fingerlike extension running posteriorly along lateral margin of scutellum, the base of extension falling distinctly below middle of axilla, face of axilla depressed or excavated immediately above base of extension, the portion immediately anterior to extension not sloping toward latter, surface of axilla in large part smooth or practically smooth and shining but with more or less conspicuous rugae immediately above base of extension; basal shallow furrows on underside of apex of scutellum turning caudad and meeting in an acute angle on median line of scutellum; propodeum depressed laterad of the smooth median areas; scutellum with a conspicuous smooth median longitudinal line; walls between punctures on mesoscutum medially slightly thickened; wing veins long, the postmarginal vein occupying about one-fourth the distance between marginal vein and apex of wing in a straight line and about three-fourths the length of the marginal vein; wing hairs rather dense.

Abdomen: Posterior face very distinctly wider than long; first tergite very strongly transverse, apparently smooth and with no elevated anterior margin; hair punctures on second segment fairly conspicuous.

Color: Head, except face and scrobal cavity which are black, bright cupreous with a greenish reflection; hyperclypeal area cupreous to brassy; base of mandibles bluish to violaceous; flagellum of antenna



pale ferruginous; scape greenish; thorax violaceous to blue, anterior portion of prothorax blackish; abdomen black with a strong blue-green reflection and with a strong violaceous reflection beneath; legs (outer faces at least) more or less concolorous with thorax, anterior tibiae testaceous to brownish, sometimes with a violaceous stripe above, tarsi straw color to testaceous; wings hyaline, veins testaceous.

*Type*.—U.S.N.M. no. 49778.

*Type locality*.—Cadet, Mo.

*Remarks*.—Described from type and one female paratype. The latter is in the American Museum of Natural History; it is from Swannanoa Valley, N. C. (June). The type was taken by J. G. Barlow, June 19, 1889.

#### PERILAMPUS HYALINUS Say

*Perilampus hyalinus* SAY, Contr. Maclurian Lyc. Arts and Sci. Philadelphia, vol. 1, p. 79, 1829.—LECONTE, The complete writings of Thomas Say on the entomology of North America, vol. 1, p. 382, 1859.—VIERECK, Connecticut State Geol. Nat. Hist. Surv. Bull. 22, p. 524, 1916.

?*Perilampus hyalinus* PROVANCHER, Nat. Can., vol. 12, p. 293, 1881; Petite faune entomologique du Canada et particulièrement de la province de Québec, vol. 2, Hymén., p. 572, 1883.

?*Perilampus aciculatus* PROVANCHER, Additions et corrections au volume II de la Faune entomologique du Canada traitant des Hyménoptères, p. 199, 1887.

*Female*.—Length about 2–5.5 mm. Head: Frons with a prominent carina extending from behind the anterior ocellus downward on each side of the scrobal cavity to level of insertion of antennae and beyond, its lower portion nearly straight or at least not very sharply curved, approaching eye margin gradually; frons laterad of carina with longitudinal rugae and ocellocular area with transverse rugae, the former area rarely smooth and in rare instances again marked with irregular ridges and coarse punctures, resembling the condition in *regalis*; emargination of frontovertex extending back between lateral ocelli, in some specimens almost touching a line tangent to posterior margins of same, anterior margin of anterior ocellus as a rule not much in front of anterior margins of lateral ocelli; postocellar line three to four times (sometimes more) the length of median line of vertex and distinctly longer than ocellocular line, often about twice as long; eyes without a smooth area along posterior orbit (striations often faint) or with such area narrow; cheeks and face on each side of clypeus with rather coarse rugae, the lowermost rugae on face commingling with or continuous with those on cheeks, the rugae on cheeks as a rule rather dense and numerous; malar furrow absent although rarely faintly indicated; scrobal cavity fairly deep, its sides beginning to flare considerably above level of base of scape, especially in the smaller specimens; hyperclypeal area, in relation to face, usually not greatly, sometimes not at all, depressed; clypeus wider than long (rarely almost as long as wide), somewhat longer than



hyperclypeal area, usually more or less conspicuously punctate, its anterior margin medially faintly arcuate and its basal margin sometimes markedly arcuate; face on each side immediately above rugose area usually conspicuously punctate; cheeks convexly rounded; head in front view usually distinctly transverse, eyes reaching to or below level of base of clypeus (the latter condition usually especially marked in the males).

Thorax: Scutellum, as a rule, of same length or only slightly longer than mesoscutum and prothorax together; area along inner margin of parapsides more or less roughened with punctures or aciculations or with both, the punctures usually shallow; suture separating prepectus from pronotum very distinct; axilla with an elongate fingerlike extension running posteriorly along lateral margin of scutellum, the base of this extension falling distinctly below middle of axilla; face of axilla more or less excavated immediately above base of extension, the portion immediately anterior to extension not sloping toward latter; surface of axilla usually smooth or nearly smooth and shining, but with more or less conspicuous rugae immediately above base of extension; basal shallow furrows on underside of apex of scutellum turning caudad medially; propodeum laterally impressed and rugose; upper surface of scutellum rarely with a smooth median longitudinal line; wing veins usually long, postmarginal vein occupying about one-fifth to one-fourth the distance between the end of the marginal vein and the apex of the wing in a straight line and about two-thirds to three-fourths the length of marginal vein; wing hairs moderately to quite dense.

Abdomen: Posterior face usually wider than long, rarely longer than wide (more often so in the males); first tergite very strongly transverse and smooth or practically smooth and with no elevated anterior margin; hair punctures on second segment usually minute.

Color: Head green, blue, violaceous, or in some instances mostly blackish; vertex often brown or blackish and rarely brassy, front laterad of carina and the hyperclypeal area sometimes more or less brassy; flagellum of antenna grayish black to dark brown with tip and occasionally the whole underside reddish or brownish; scape more or less concolorous with head; thorax green, blue-green, blue, bluish black, or violaceous, very rarely with a brassy reflection; area along inner margin of parapsides often wholly or in part black or blackish and propodeum sometimes black, the median lobe of mesoscutum occasionally bronzy or cupreous; abdomen greenish, greenish violaceous, violaceous, or black, the green or blue-green reflection varying in strength and usually stronger on underside; legs (outer faces at least) more or less concolorous with head and thorax although sometimes more distinctly green; anterior tibiae largely testaceous or brownish except a stripe above; intermediate tibiae sometimes largely

brown; rarely with coxae, posterior tibiae, and all femora largely brown; tarsi more or less testaceous to brownish; wings hyaline, veins testaceous to brown, sometimes reddish basally.

*Male*.—Length about 2–4 mm. Essentially similar to female, differing largely as follows: Vertex and front laterad of carina often brassy, sometimes more or less cupreous, rarely the whole head with exception of scrobal cavity brassy or cupreous (resembling *regalis*); dorsum of thorax often almost entirely brassy or cupreous and rarely in larger part black or bronzy black; pleural region sometimes more or less brassy or with a brassy reflection; abdomen very rarely with some brassy or cupreous reflections; metallic stripe on anterior tibiae generally abbreviated toward apex and rarely altogether absent, intermediate and posterior tibiae quite consistently conspicuously pale at apex. Portion of scape bearing sensorial punctures moderately broad apically and comprising about one-third to nearly one-half of scape, the sensoria fine to coarse and dense or moderately dense.

*Type*.—Evidently lost. Redescribed from a very large series of specimens of both sexes.

*Distribution*.—This is perhaps the most common of our species. It occurs, evidently, throughout the United States and at least in southern Canada. I have seen material from 35 States, the District of Columbia, and 2 provinces in Canada, as follows: Maine (July, Aug.); New Hampshire (June); Massachusetts (May to Sept., incl.); Rhode Island (June); Connecticut (May); New York (June to Sept., incl.); New Jersey (May to Sept., incl.); Pennsylvania (July to Sept., incl.); Delaware; Maryland (May to Sept., incl.); Virginia (June to Sept., incl., “on thistle” and “*Ceanothus*”); North Carolina (June to Sept., incl.); Georgia (July); Florida (Jan.); Michigan (July); Indiana; Alabama (Apr.); Wisconsin (July); Illinois (July); Minnesota (June, July); Iowa (July); South Dakota (July); Nebraska (June, July); Kansas (June, Sept.); Texas (June, July, Dec.); Montana (Aug.); Wyoming; Colorado (June, 6,000 to 7,000 feet; July, “on hop”; Aug.); New Mexico (“on *Populus*”); Idaho (June); Utah (July); Arizona; Washington (July); Oregon; California (May to July, incl., Nov.); District of Columbia (June, July); Nova Scotia (Aug., Sept.); Ontario (July).

*Hosts*.—*Compsilura concinnata* Meigen; *Ernestia ampelus* Walker; ?*E. ruficauda* (Brauer); *Achaetoneura euchaetiae* Webber; *A. melalophae* Allen; “tachinid puparium”; *Eulimneria valida* Cresson; *Eulimneria* sp.; *Apanteles hyphantriae* Riley; *A. melanoscelus* Ratzeburg; *Meteorus hyphantriae* Riley. I find also the following hosts recorded: “*Diprion* cocoon”; “*Hyphantria cunea* Drury”; and “*Euchaetias egle* Drury”, but the real host was very likely some parasite attacking these.

## PERILAMPUS PLATYGASTER Say

- Perilampus platigaster* SAY, Boston Journ. Nat. Hist., vol. 1, p. 274, 1836.—  
LECONTE, The complete writings of Thomas Say on the entomology of  
North America, vol. 2, p. 722, 1859.  
? *Perilampus platygaster* PROVANCHER, Petite faune entomologique du Canada et  
particulièrement de la province de Québec, vol. 2, Hymén., p. 572, 1883.—  
VIERECK, Connecticut State Geol. Nat. Hist. Surv. Bull. 22, p. 524, 1916.

*Female*.—Length about 2.5–3.5 mm. Head: Frons with a prominent carina extending from behind the anterior ocellus downward on each side of the scrobal cavity to or beyond level of insertion of antennae, sometimes reaching nearly to level of ventral margin of eye; frons laterad of carina and ocellular area usually in large part distinctly shagreened; emargination of frontovertex narrowly arcuate and not widening rapidly downward, the distance between lateral ocellus and nearest point on carina about equal to or shorter than the shortest distance from this point to anterior ocellus, when longer usually not considerably so; apex of emargination touching or slightly cutting line tangent to anterior margins of lateral ocelli; postocellar line distinctly or considerably longer than median line of vertex (not so pronounced in the males); scrobal cavity deep, its sides sloping steeply, the steep slope continued more or less to level of base of clypeus so that hyperclypeal area appears relatively considerably depressed; eyes with a dull surface; face at sides of clypeus rugulose or rugose or rugose-granular (usually coarsely granular); malar furrow present but sometimes weak and rarely, in the males at least, practically absent or merely indicated; clypeus as a rule about as long as wide and about one and one-half times to nearly twice as long as hyperclypeal area (in one male more than twice as long), anterior margin of clypeus medially faintly arcuate, the basal margin usually slightly arcuate; cheeks convexly rounded, the striae on same not crossing malar furrow onto face; head in front view transverse; eyes reaching to or below level of base of clypeus (latter condition generally more pronounced in the males).

Thorax: Walls between umbilicate punctures on mesoscutum and scutellum thin, mere septa (on the latter sometimes slightly thickened along median longitudinal line); area along inner margin of parapsides distinctly and completely or practically completely shagreened; suture separating prepectus from pronotum indistinct; axilla with an elongate fingerlike extension running posteriorly along lateral margin of scutellum, the base of this extension falling more or less distinctly below middle of axilla; face of axilla more or less excavated immediately above base of extension, the portion immediately anterior to extension not sloping toward latter; surface of axilla completely or practically completely sculptured and opaque or subopaque and as a rule without very conspicuous rugae immediately above base of extension; basal shallow furrows on underside of apex of scutellum



turning caudad medially; outer portion of mediolateral areas of propodeum as a rule not depressed although sometimes marked with coarse rugae, as a rule not differing materially from greater part of surface; postmarginal vein occupying about one-sixth or less than one-sixth the distance between end of marginal vein and apex of wing in a straight line, about one-half to nearly two-thirds the length of marginal vein<sup>9</sup>; wing hairs fairly or quite dense and usually dark, rarely rather pale.

Abdomen: Posterior face wider than long, sometimes about as long as wide; first tergite strongly transverse and more or less sculptured, its anterior margin not, or rarely, slightly elevated and as a rule more or less distinctly emarginate; third segment (second of the gaster) concealed or only slightly exposed.

Color: Black; flagellum of antenna grayish dull dark brown to grayish reddish brown with apical portion paler, the paler color usually more extensive on underside and in some specimens taking in the whole of the underside; scape as a rule bluish or greenish; legs brown to blackish brown; coxae usually black; posterior femora as a rule bluish or greenish, anterior and intermediate femora also sometimes greenish or bluish; posterior and intermediate tibiae apically and anterior tibiae, except a stripe at base above, pale testaceous to brownish, the basal portion of posterior pair sometimes with a bluish or greenish tinge; in males all tibiae sometimes completely testaceous; tarsi straw color to testaceous or brownish testaceous; wings hyaline, veins dull yellowish to brownish, sometimes reddish basally.

*Male*.—Length about 2.25–3 mm. Essentially the same as the female; scape slender, the portion bearing sensorial punctures not very greatly broadened at apex and comprising nearly the whole length of the scape, sensoria fine to moderately coarse and dense.

*Type*.—Evidently lost. Redescribed from 12 females and 9 males.

*Distribution*.—Massachusetts (July); New Jersey (July); Pennsylvania; Maryland (July, Sept.); District of Columbia; Virginia (May, Aug., Sept.); Illinois. Say described the species from Indiana.

The species has been reared from a pupa of *Melittia*, but very likely it was hyperparasitic.

PERILAMPUS CRAWFORDI, new species

*Female*.—Length about 2.5–3 mm. Head: Frons with a carina extending from behind the anterior ocellus downward on each side of the scrobal cavity to beyond the level of the insertion of the antennae, this carina prominent or fairly prominent; frons laterad of carina and ocellular area usually in part faintly shagreened (sometimes more distinct in males); emargination of frontovertex narrowly arcuate and slowly widening downward; the distance

<sup>9</sup> The posterior limit of the postmarginal vein is often rather difficult to make out, the vein merging with the costal border of the wing.



between lateral ocellus and nearest point on carina very distinctly exceeding shortest distance from this point on carina to anterior ocellus, apex of emargination falling distinctly in front of a line tangent to anterior margins of lateral ocelli; postocellar line equal to or not greatly exceeding median line of vertex; scrobal cavity deep, its sides sloping steeply and steep slope continued more or less to level of base of clypeus so that hyperclypeal area appears relatively depressed; eyes with a dull surface; face at side of clypeus rugulose or rugose-granular or rather coarsely granular; malar furrow present but sometimes weak; clypeus very distinctly wider than long and about one and one-half times as long as hyperclypeal area, its anterior margin medially truncate or practically truncate, its basal margin usually faintly arcuate; cheeks convexly rounded, the striae on same not crossing malar furrow onto face; head in front view more or less transverse, eyes reaching level of base of clypeus (in some males reaching distinctly below).

Thorax: Walls between umbilicate punctures on mesoscutum and scutellum, at least along the median line, distinctly thickened and reticulated (not always so distinctly in the males), the interspaces elsewhere also conspicuously sculptured; punctures on mesoscutum and scutellum round or roundish; area along inner margin of parapsides in part usually weakly shagreened or aciculate; suture separating prepectus from pronotum sometimes distinct; axilla with an elongate fingerlike extension running posteriorly along the lateral margin of the scutellum, the base of this extension falling more or less distinctly below middle of axilla; face of axilla more or less depressed or excavated immediately above base of extension, the portion immediately anterior to extension not sloping toward latter; surface of axilla completely sculptured and opaque or subopaque and without conspicuous rugae immediately above base of extension; basal shallow furrows on underside of apex of scutellum turning caudad medially; outer portion of mediolateral areas of propodeum usually neither depressed nor differing materially in sculpture from surface as a whole; postmarginal vein occupying about one-sixth or less than one-sixth the distance between end of marginal vein and apex of wing in a straight line, about one-half the length of marginal vein<sup>10</sup>; wing hairs quite dense and dark.

Abdomen: Posterior face wider than long or about as long as wide; first tergite strongly transverse and usually in part sculptured, its anterior margin not or but slightly elevated, truncate or practically so, sometimes appearing as if shallowly and broadly arcuate, at least in the males; third segment (second of the gaster) usually not exposed, rarely slightly so.

<sup>10</sup> The posterior limit of the postmarginal vein is sometimes rather difficult to make out, the vein merging with the costal border of the wing.

Color: Black; flagellum of antenna grayish dull dark brown with extreme apex usually paler, pale area sometimes more extensive beneath; scape bluish or greenish; legs brown; coxae blackish brown, the posterior pair often with a greenish, bluish, or violaceous reflection; posterior femora outwardly greenish, bluish, or violaceous, or with such reflections, anterior and intermediate pairs sometimes with such reflections; anterior tibiae testaceous to brown with a darker stripe above, intermediate and posterior pairs also darker above, the outer face of posterior usually, and of intermediate sometimes, with a bluish or greenish reflection; tarsi testaceous to brownish; wings hyaline, veins testaceous to brown, sometimes reddish basally.

*Male*.—Length about 2.5–3 mm. Essentially similar to female; scape slender, portion bearing sensorial punctures not greatly broadened at apex and occupying one-half or somewhat less than one-half of scape, sensoria coarse and dense.

*Type*.—U.S.N.M. no. 49781.

*Type locality*.—Glencarlyn, Va.

*Remarks*.—The type and allotype were taken, respectively, in June and July.

Described from four females and five males. Of the three female paratypes, one, from Van Cortland, N. Y. (July, J. L. Zabriskie), is in the American Museum of Natural History; one, from Swarthmore, Pa. (July), is in the Academy of Natural Sciences of Philadelphia; and the third (in rather poor condition), from Riverton, N. J. (Aug., C. W. Johnson), is in the collection of the Boston Society of Natural History. Of the four male paratypes, one, from Laurel, Md. (July, E. B. Marshall), is in the U. S. National Museum; one, from Falls Church, Va., and another, from Laurel, Md. (July, E. B. Marshall), are in the Museum of Comparative Zoology; and one, from Glencarlyn, Va. (July), is in the collection of Prof. C. T. Brues, of Harvard University.

#### PERILAMPUS SUBCARINATUS Crawford

*Perilampus subcarinatus* CRAWFORD, Proc. Ent. Soc. Washington, vol. 16, p. 70, 1914.

*Perilampus bakeri* CRAWFORD, *ibid.*, p. 72.

*Female*.—Length about 2.5–3.75 mm. Head: Frons with a carina extending from behind the anterior ocellus downward on each side of the scrobal cavity nearly to level of insertion of antennae or beyond, the carina sometimes delicate; frons laterad of carina and ocellular area sometimes smooth, sometimes distinctly sculptured (the sculpturing more common and usually more conspicuous in males); emargination of frontovertex broadly or rather broadly arcuate; the distance between lateral ocellus and nearest point on carina as a rule distinctly or considerably shorter than shortest distance from this point on carina to anterior ocellus; emargination touching or nearly

touching a line tangent to anterior margins of lateral ocelli; postocellar line very distinctly longer than median line of vertex, sometimes more than twice as long (not so distinctly so in the males), usually about twice as long as ocellocular line; lateral ocelli not depressed and vertex medially not elevated; sides of scrobal cavity <sup>11</sup> not very steep (usually steeper in males) and face at side of hyperclypeal area quite strongly flaring, the hyperclypeal area relatively not at all or but slightly depressed; eyes with a dull surface; face at sides of clypeus finely rugulose, or rugose-granular, this sculpture sometimes extending above level of base of clypeus; malar furrow present but sometimes faint (in the males, rarely, practically absent); clypeus distinctly wider than long and distinctly longer than hyperclypeal area, its anterior margin medially broadly and shallowly arcuate to practically truncate, basal margin weakly to quite distinctly arcuate; cheeks convexly rounded, the striae on same usually not crossing malar furrow onto face; head in front view more or less transverse, eyes reaching or about reaching level of base of clypeus (generally reaching distinctly beyond in the males).

Thorax: Mesoscutum and scutellum coarsely punctate, the walls between punctures on prothorax as a rule in large part widened; area along inner margin of parapsides smooth or practically smooth and polished; suture separating prepectus from pronotum as a rule indistinct; axilla with an extension running posteriorly along lateral margin of scutellum, this extension sometimes not much longer than wide, its base falling more or less distinctly below middle of axilla; face of axilla more or less depressed or excavated immediately above base of extension, the portion immediately anterior to extension not sloping toward latter; surface of axilla completely sculptured and opaque or subopaque, the upper part sometimes rather finely sculptured and shining, usually without very conspicuous rugae immediately above base of extension; basal shallow furrows on underside of apex of scutellum turning caudad medially; outer portion of medio-lateral areas of propodeum usually not depressed, sometimes with coarse or conspicuous rugae but usually not differing materially from greater part of surface, the surface adjacent to median carina usually excavated and rugulose; postmarginal vein occupying about one-sixth or less than one-sixth the distance between end of marginal vein and apex of wing in a straight line, sometimes not much longer than stigmal vein, slightly less than one-half to nearly two-thirds the length of marginal vein, the end distinctly visible; wing hairs rather short and not dense, mostly pale but with some darker hairs on apical portion of wing (in the males the apex of postmarginal vein sometimes indistinct and the hair of the entire wing sometimes dark and longer).

<sup>11</sup> In the broad sense, the portion included between the carinae.

Abdomen: Posterior face as long as or distinctly longer than wide; first tergite strongly transverse and as a rule more or less sculptured, its anterior margin more or less elevated and more or less distinctly emarginate; third segment (second of the gaster) considerably exposed.

Color: Head black, very often wholly or in large part metallic black and sometimes in part greenish black; vertex, front laterad of carina, clypeus, and hyperclypeal area sometimes bronzy; thorax black to metallic black, the notum sometimes in part bronzy black and the areas along inner margins of parapsides sometimes greenish; abdomen black or gray metallic black; flagellum of antenna grayish dull dark brown to grayish reddish brown, usually paler apically, the pale color more extensive beneath and sometimes embracing the whole lower surface; scape black, sometimes with a greenish reflection; legs brown; coxae generally blackish brown; anterior and posterior femora outwardly sometimes blackish brown but usually with a greenish, bluish, or violaceous tinge and sometimes markedly green; anterior and intermediate tibiae usually testaceous or approaching testaceous, with a darker stripe above which may have a distinct green or blue-green reflection; posterior tibiae sometimes with a very distinct green reflection; tarsi testaceous or reddish testaceous; wings hyaline, veins testaceous to brown.

*Male*.—Length about 2.5–3.5 mm. Essentially similar to female; scape stout, the part bearing sensorial punctures conspicuously thickened or broadened and occupying distinctly more than one-half to three-fourths of scape, the sensoria rather fine to moderately coarse and dense.

*Type*.—U.S.N.M. no. 18298. The type of *bakeri* is also in the National Museum (no. 18301).

*Remarks*.—Redescribed from 19 females and 22 males, including the type series of the species and also of the synonym *bakeri* Crawford. A study of the types and paratypes of *subcarinatus* and *bakeri* in connection with additional material available for study indicates that the two are identical. I have, therefore, suppressed *bakeri* as a synonym.

*Distribution*.—Alabama (Aug.); Louisiana (Sept.); Texas (May, July, Oct.); Nebraska (July); Colorado, 3,700–5,100 feet (Aug.); Idaho (June to Aug., incl.); California (May).

PERILAMPUS CARINIFRONS Crawford

*Perilampus carinifrons* CRAWFORD, Proc. Ent. Soc. Washington, vol. 16, p. 71 1914.

*Female*.—Length about 1.75–3.25 mm. Head: Frons with a carina extending from behind the anterior ocellus downward on each side of the scrobal cavity to or beyond the level of insertion of antennae, the



carina usually not very prominent; frons laterad of carina and ocellular area smooth; emargination of frontovertex as a rule rather broadly arcuate, the distance between lateral ocellus and nearest point on carina, or edge of emargination, shorter than shortest distance from this point on carina to anterior ocellus, sometimes about equal; emargination touching or nearly touching line tangent to anterior margins of lateral ocelli; postocellar line distinctly longer than median line of vertex; lateral ocelli not depressed and vertex medially not distinctly elevated although sometimes faintly so; sides of scrobal cavity<sup>12</sup> not sloping very sharply (sometimes steeper in males) and face at side of hyperclypeal area strongly flaring, the hyperclypeal area relatively not depressed or but slightly so; eyes with a vitreous surface; face at side of clypeus smooth except for hair punctures, sometimes weakly sculptured along outer edge; malar furrow present but may be indistinct; clypeus distinctly wider than long and distinctly longer than hyperclypeal area, its anterior margin medially usually faintly arcuate and the basal margin not at all or only very slightly arcuate; cheeks convexly rounded, the striae on same not crossing malar furrow onto face; head in front view transverse, eyes reaching or nearly reaching level of base of clypeus.

Thorax: Walls between punctures on prothorax sometimes distinctly widened; mesoscutum very often in part at least rugosopunctate; area along inner margin of parapsides smooth; suture separating prepectus from pronotum indistinct; axilla with an elongate fingerlike extension running posteriorly along lateral margin of scutellum, the base of this extension falling below middle of axilla, face of axilla more or less depressed or excavated immediately above base of extension and the portion immediately anterior to extension not sloping toward latter; surface of axilla completely sculptured and opaque or subopaque, the upper part sometimes more finely sculptured and shining, usually without very conspicuous rugae immediately above base of extension; basal shallow furrows on underside of apex of scutellum turning caudad medially; outer portion of mediolateral areas of propodeum not depressed and not differing materially from greater part of surface, slightly excavated adjacent to median carina; postmarginal vein occupying one-sixth or much less than one-sixth the distance between end of marginal vein and apex of wing in a straight line and about one-half or somewhat more than one-half the length of the marginal vein; wing hairs fairly dense and mostly dark.

Abdomen: Posterior face somewhat shorter than broad to longer than broad; first tergite strongly transverse and more or less sculptured, its anterior margin usually more or less elevated and truncate or apparently truncate; third segment (second of the gaster) more or less exposed.

<sup>12</sup> In the broad sense, the portion included between the carinae.

Color: Black, area along inner margin of parapsides sometimes greenish or gray metallic black; flagellum of antenna grayish dull dark brown to grayish reddish brown, usually paler at apex and on the whole of the underside; scape black, sometimes in part brown and in some instances with a greenish reflection; coxae black or blackish; femora outwardly usually dark brown or blackish brown, the anterior and intermediate pairs usually with a bluish or greenish tinge and posterior pair usually very distinctly greenish or bluish; tibiae brown, anterior usually more or less testaceous except for a stripe above, posterior usually with a greenish or violaceous tinge or reflection; tarsi straw color to testaceous; wings hyaline, wing veins testaceous to brown, sometimes reddish basally.

*Male*.—Length about 2–2.25 mm. Essentially like the female; scape slender, portion bearing sensorial punctures not greatly broadened apically and occupying two-thirds or somewhat more than two-thirds of scape, sensoria rather fine and dense.

Species characterized by smoothness of head.

*Type*.—U.S.N.M. no. 18300.

*Remarks*.—Redescribed from eight females and three males, including type, allotype, and paratypes; all from Texas (Jan., May, June, Sept., Oct.). Nine of the specimens are in the United States National Museum; one is in the American Museum of Natural History, and one in the collection of Prof. C. T. Brues, of Harvard University.

PERILAMPUS OCELLATUS, new species

*Female*.—Length about 3–3.25 mm. Head: Frons with a carina extending from behind anterior ocellus downward on each side of scrobal cavity to beyond level of insertion of antennae, this carina not very prominent, sometimes masked by sculpturing of head and occasionally altogether absent behind anterior ocellus; frons laterad of carina and ocellocular area weakly to distinctly sculptured, shagreened or irregularly rugulose; emargination of frontovertex broadly or rather broadly arcuate, the distance between lateral ocellus and nearest point in edge of emargination considerably shorter than shortest distance from this point to anterior ocellus, emargination nearly reaching line tangent to anterior margins of lateral ocelli; postocellar line longer than median line of vertex; lateral ocelli distinctly depressed, the vertex medially more or less distinctly elevated and this elevation continued diagonally in front of lateral ocelli; upper margin of anterior ocellus usually falling markedly below anterior edge of vertex and the ocelli sometimes noticeably small for size of insect; sides of scrobal cavity distinctly shagreened or rugulose, not sloping very sharply; face at side of hyperclypeal area quite strongly flaring, the hyperclypeal area relatively not depressed or but slightly so; eyes with a vitreous surface; face at side of clypeus

rugulose or rugulose-granular; malar furrow usually distinct; clypeus distinctly wider than long and hyperclypeal area about as long as clypeus; anterior margin of clypeus medially truncate or practically truncate, basal margin straight or slightly convex; cheeks convexly rounded, the striae on same not crossing malar furrow onto face; narrow area along posterior orbit sometimes very finely and densely sculptured; head in front view more or less transverse; eyes reaching about to level of base of clypeus.

Thorax: Mesoscutum and scutellum with the interspaces between umbilicate punctures conspicuously reticulately sculptured, the interspatial wall along median longitudinal line of scutellum slightly thickened; area along inner margins of parapsides very finely shagreened; suture separating prepectus from pronotum indistinct; axilla with an elongate fingerlike extension running posteriorly along lateral margin of scutellum, the base of this extension falling distinctly below middle of axilla, the axilla more or less depressed or excavated immediately above base of extension and with the portion immediately anterior to extension not sloping toward latter; surface of axilla completely sculptured and opaque or subopaque, and without conspicuous rugae immediately above base of extension; basal shallow furrows on underside of apex of scutellum turning caudad medially; mediolateral areas of propodeum finely rugulose sculptured, not depressed laterally but sometimes excavated more or less on each side of the median carina; postmarginal vein occupying about one-sixth or less than one-sixth the distance between end of marginal vein and apex of wing in a straight line and about one-half to nearly two-thirds the length of the marginal vein; wing hairs fairly dense and dark.

Abdomen: Posterior face somewhat broader than long to longer than broad; first tergite strongly transverse and usually more or less sculptured, its anterior margin more or less elevated and apparently truncate; third segment (second of the gaster) more or less distinctly exposed.

Color: Black; flagellum of antenna grayish black to grayish reddish brown, paler at apex and beneath; the scape black or blackish brown; legs brown; coxae black; anterior and posterior femora outwardly dark brown or blackish with a bluish or greenish tinge, posterior femora usually distinctly green; anterior tibiae more or less testaceous with a darker stripe above, posterior tibiae often with a bluish or greenish tinge; tarsi testaceous or reddish testaceous; wings hyaline, veins yellow-brown to brown.

*Male*.—Length about 2.75–3.25 mm. Essentially the same as the female; scape slender, part bearing sensorial punctures not greatly broadened at apex and occupying more than one-half to about two-thirds of scape, sensoria fairly coarse and dense.

*Type*.—U.S.N.M. no. 49782.

*Type locality*.—Missouri.

*Remarks.*—Described from two females and three males. The type is labeled "C. Mo., July" and the allotype "Ashmead." The female and the two male paratypes are from Georgia, one of the males from Chickamauga (June), and are in the collection of the Academy of Natural Sciences of Philadelphia.

PERILAMPUS CANADENSIS Crawford

*Perilampus canadensis* CRAWFORD, Proc. Ent. Soc. Washington, vol. 16, p. 74, 1914

*Female.*—Length about 3–4.5 mm. Head: Frons meeting vertex in a sharp angle but without a carina; emargination of frontovertex deeply and widely angulated and cutting a line tangent to anterior margins of lateral ocelli, anterior margin of anterior ocellus usually not far in front of that of lateral ocellus; scrobal cavity deep and wide, its sides sloping more or less sharply, the slope usually continued more or less on each side of hyperclypeal area and latter may appear relatively depressed; ocellocular area and upper part of front between eye and scrobal cavity usually with large and very shallow pits surrounding hair punctures; face along and below malar furrow with prominent punctures; clypeus wider than long and more or less longer than hyperclypeal area; cheeks convexly rounded and smooth except for hair punctures; head in front view transverse; eyes reaching to or beyond level of base of clypeus.

Thorax: Robust; area along inner margins of parapsides usually roughened with rather coarse punctures and aciculations; suture separating prepectus from pronotum distinct; axilla with a triangular extension as wide as or wider than long on side of scutellum, its base extending above middle of axilla, the face of axilla not depressed or excavated above base of extension and sloping toward base of extension; basal shallow furrows on underside of apex of scutellum not turning caudad medially but meeting to form a more or less continuous curve; wing veins usually long; wing hairs as a rule long and coarse.

Abdomen: Posterior face usually wider than long, sometimes as long as wide; first tergite very strongly transverse and smooth, its anterior margin not elevated; third segment (second of the gaster) considerably exposed.

Color: Black; notum of thorax more or less bronzy; the area along inner margin of parapsides often bright bronzy, sometimes approaching cupreous; ocellocular area (sometimes the whole of vertex) and upper part of front between eye and scrobal cavity usually somewhat bronzy, the cheeks also sometimes bronzy; temples, cheeks, and hyperclypeal area sometimes greenish; flagellum of antenna grayish black or grayish dull dark brown, usually obscurely ferruginous at apex and sometimes ferruginous on the whole of the underside; scape concolorous with head, sometimes distinctly greenish; legs brown,



coxae usually blackish, hind femora dark brown or black and usually with a blue or green luster, anterior femora usually blackish brown with a blue luster, anterior tibiae in large part pale brown or testaceous and usually with a darker stripe above, intermediate tibiae darker above, and posterior pair in part blackish brown with a blue or green luster; tarsi testaceous or reddish testaceous; wings hyaline, veins as a rule light brown or reddish brown.

*Male*.—Length about 2.5–3.5 mm. Similar to female; part of scape bearing sensorial punctures fairly broad apically and occupying one-half or somewhat less than one-half of scape, the sensoria fairly coarse and not very dense.

*Type*.—U.S.N.M. no. 18306.

Redescribed from 15 females and 8 males, including type and allotype. Eight specimens are in the United States National Museum and 12 of the others in the Museum of Comparative Zoology.

*Distribution*.—Pennsylvania (July); Maryland (July); Virginia (June, July, Aug.); Louisiana; Minnesota (June); "Canada."

*Host*.—*Zenillia (Exorista)* sp.; another record reads "reared with *Macremphytus*", but the host in this case was probably some parasite.

PERILAMPUS CANADENSIS NITIDUS, new variety

*Female*.—Length about 3–3.5 mm. Differs from *canadensis* Crawford in the following respects: Head bright cupreous or with the vertex and front between eye and scrobal cavity bright cupreous and the temples and cheeks and more or less of the remainder of head greenish; antennal scape metallic (the flagellum missing); punctures of thorax unusually deep and coarse, the interspaces more or less cupreous, the bottoms of pits bluish; areas along inner margins of parapsides bright cupreous; legs sometimes in part violaceous; abdomen sometimes green; mesoscutum usually markedly convex; angle formed by front and vertex sometimes not well marked or sharp outside of ocellar region and emargination of frontovertex only moderately wide; ocellocular area and front between eye and scrobal cavity without large shallow pits or with such pits very faint; face along malar furrow as a rule not conspicuously punctured; eyes sometimes not reaching level of base of clypeus.

*Male*.—Length about 2.5 mm. Similar to female except that areas along inner margins of parapsides may be brassy green; flagella of antennae ferruginous or obscurely ferruginous. Part of scape bearing sensorial punctures not greatly broadened apically and occupying about one-third the length of the scape, sensoria rather fine to fairly coarse.

*Type*.—U.S.N.M. no. 49784.

*Type locality*.—New Jersey.

*Remarks.*—Described from three females and two males. The type, labeled "N. J. 2057, collection C. F. Baker", and the allotype, "Pa. 2216, collection C. F. Baker", and a female and the male paratype, both from Louisiana, also from the Baker collection and bearing, respectively, nos. 2337 and 2335, are in the United States National Museum collection. The other female paratype, from Falls Church, Va. (Aug.), is in the Museum of Comparative Zoology.

PERILAMPUS CHRYSOPAE Crawford

*Perilampus chrysopae* CRAWFORD, Proc. Ent. Soc. Washington, vol. 16, p. 73, 1914.  
*Perilampus chrysopae* var. *laevicephalus* CRAWFORD, Insector Inscitiae Menstruus, vol. 4, p. 144, 1916.

*Female.*—Length about 1.5–3 mm. Head: Frons without a carina, meeting vertex in more or less of a curve, upper part of frons between eye and scrobal cavity usually wrinkled or rugose (in males the sculpture sometimes extending to base of antennae) and ocellocular area often similarly sculptured; anterior ocellus cutting or nearly cutting line tangent to anterior margins of lateral ocelli, the anterior margin of anterior ocellus usually not far in front of anterior margins of lateral ocelli; malar furrow, with rare exceptions, half or less than half the width of cheek at apex; cheeks convexly rounded; head in front view distinctly transverse, rarely somewhat subtriangular; eyes reaching to or beyond level of base of clypeus (latter condition generally more marked in the males).

Thorax: More or less robust; area along inner margin of parapsides smooth or only very weakly sculptured, occasionally with some fairly prominent punctures; umbilicate punctures on mesoscutum and scutellum large and somewhat angulated, the interspaces thin, mere septa, rarely with the interspaces widened and punctures round or roundish; scutellum usually broadened apically and usually more or less conspicuously emarginate at apex; pronotum laterally usually very distinctly shorter than dorsal margin of prepectus; axilla with a triangular or roughly triangular extension as wide as or wider than long on side of scutellum, its base extending above middle of axilla; surface of axilla sloping toward base of extension and not depressed or excavated above base of extension; basal shallow furrows on underside of apex of scutellum not turning caudad medially but meeting to form a continuous gently curved furrow, very rarely forming a slight angle medially; postmarginal vein relatively rather long, sometimes about as long as marginal vein.

Abdomen: Posterior face as wide as or wider than long (in the males frequently longer than wide); first tergite strongly transverse, smooth or only weakly sculptured, its anterior margin usually more or less

elevated and truncate or only slightly convex, and only partially masking posterior aspect of neck of propodeum.

Color: Ranging from distinctly metallic to nearly black; head dark metallic green to nearly black, sometimes with a cupreous tinge above; flagellum of antenna grayish black to entirely pale ferruginous, frequently with the apex and under side paler than the rest; scape usually concolorous with head; dorsum of thorax dark green, greenish, or bluish, sometimes with a cupreous or bronzy cast and rarely quite dark or blackish, the areas along inner margins of parapsides usually distinctly metallic green but occasionally nearly black; abdomen black or black with greenish reflections, sometimes distinctly green; legs dark brown or blackish, the hind femora sometimes and more rarely all of the femora as well as the hind tibiae with greenish or bluish reflections; anterior tibiae testaceous or reddish testaceous, sometimes with a dark stripe above; tips of intermediate and hind tibiae usually testaceous, the latter often so at base; tarsi testaceous or reddish testaceous; wings hyaline, veins testaceous to brown.

*Male*.—Length about 1.5–2.5 mm. Similar to female; front between eye and scrobal cavity usually more strongly wrinkled and emargination of frontovertex usually more sharply pronounced; part of scape bearing sensorial punctures variable, slightly to very distinctly broadened apically and occupying from somewhat over one-third to two-thirds of scape, sensoria very fine to moderately coarse.

*Type*.—U.S.N.M. no. 20822.

The type of *laevicephalus* is in the same collection.

Redescribed from a large series of specimens of both sexes, including types, allotypes, and paratypes.

*Distribution*.—Widely distributed. I have seen material from "Canada" and the District of Columbia (Sept., Oct.), and from the following States: Maine (July, Aug.); New Hampshire; Vermont (June); Massachusetts (July, Aug.); Rhode Island (June); New York; New Jersey (Aug.); Pennsylvania; Maryland; Virginia (Aug., Oct.); North Carolina (Aug., Sept.); South Carolina (Sept.); Michigan; Indiana (July); Alabama; Wisconsin (July); Illinois; Mississippi (Aug.); South Dakota; Kansas (Sept.); Oklahoma (April, Sept. "on *Eupatorium serotinum*"); Texas (May, July, Aug.); Montana (Aug.); Wyoming (July); Colorado (Sept.); Idaho (Aug.); Nevada (July); Washington (May, July); Oregon; California (Sept.).

*Hosts*.—*Chrysopa* spp. One of these is *Chrysopa californica* Coquillett; another record reads "Ex *Chrysopa* cocoon collected on cotton." According to Essig,<sup>13</sup> the species is also a primary parasite of *Symphorobius angustus* (Banks), the slender brown lacewing, and related species in California.

<sup>13</sup> Insects of western North America, p. 849, 1926.

## PERILAMPUS ROHWERI, new species

*Female*.—Length about 2–3 mm. Head: Frons without a carina, meeting vertex in a curve; emargination of frontovertex subacute or not markedly obtuse; ocellocular area and front between eye and scrobal cavity smooth (rarely, in the males at least, in part faintly wrinkled); malar furrow more than half the width of cheek at apex; clypeus wider than long and usually longer than hyperclypeal area; cheeks convexly rounded and smooth; head in front view more or less distinctly transverse; eyes reaching or about reaching level of base of clypeus.

Thorax: Area along inner margin of parapsides smooth; umbilicate punctures on mesoscutum and scutellum angulated, the interspaces thin, although here and there and especially at base of scutellum a wall may be thickened; scutellum not or at most only slightly broadened apically; pronotum laterally as long as or not much shorter than dorsal margin of prepectus, the margins of latter converging ventrally into a single carina; axilla with a triangular or roughly triangular extension on side of scutellum, this extension as wide as or wider than long and with its base extending above middle of axilla, the face of axilla sloping toward base of extension and not depressed or excavated above base of extension; basal shallow furrows on underside of apex of scutellum not turning caudad medially but meeting to form a single gently curved furrow, rarely meeting at a slight angle; postmarginal vein about three-fourths or more than three-fourths the length of the marginal vein.

Abdomen: Posterior face broader than long or as long as broad; first tergite strongly transverse, smooth, its anterior margin only slightly elevated, and truncate or nearly truncate, sometimes partially masking posterior aspect of neck of propodeum; third segment (second of the gaster) not exposed (may be somewhat so in the males).

Color: Black; notum of thorax very slightly metallic and pleural region sometimes with a greenish or bronzy reflection; head often with blue-green reflections (in males the ocellocular area and upper part of front between eye and scrobal cavity sometimes somewhat bronzy or metallic); flagellum of antenna grayish dull dark brown, obscurely ferruginous at apex and sometimes extensively so beneath; scape greenish or with a green luster; legs brown to blackish brown; femora, especially the posterior pair, with a greenish luster (quite green or with a bronzy luster in the males); anterior tibiae pale brown to testaceous except a dark stripe above; tarsi testaceous; wings hyaline, veins brown to testaceous.

*Male*.—Length about 2.5–3 mm. Similar to female; part of scape bearing sensorial punctures fairly broad apically and occupying more than one-third but less than one-half of scape, sensoria fairly dense and moderately coarse.

*Type*.—U.S.N.M. no. 49780.

*Type locality*.—"Canada."



*Remarks.*—Described from four females and three males, all in the United States National Museum. The type and two female paratypes bear the number 2066, the allotype and one of the male paratypes the number 2068, and one male paratype the number 2021. These were collected by C. F. Baker in Canada. One female paratype is from Lakehurst, N. J.

PERILAMPUS CAPITATUS, new species

*Female.*—Length about 2–3 mm. Head: Frons without a carina, meeting vertex in a sharp angle (very rarely not very sharp); emargination of frontovertex markedly obtuse; ocellocular area and frons between eye and scrobal cavity smooth except for hair punctures; malar furrow more than half the width of cheek at apex (in males sometimes no more than half the width); clypeus wider than long and more or less longer than hyperclypeal area; cheeks convexly rounded and smooth; head in front view, with very rare exceptions, distinctly transverse; eyes about reaching level of base of clypeus.

Thorax: Area along inner margins of parapsides smooth; umbilicate punctures on mesoscutum and scutellum large and angulated, the interspaces usually thin, sometimes slightly thickened along median line of thorax; scutellum more or less distinctly broadened apically; pronotum laterally as long as or not much shorter than dorsal margin of prepectus, the carinate margins of prepectus not converging ventrally to form a single carina; axilla with a triangular or roughly triangular extension on side of scutellum, this extension as wide as or wider than long with its base extending above middle of axilla, the face of axilla sloping toward base of extension and not depressed or excavated above base of extension; basal shallow furrows on underside of apex of scutellum usually not turning caudad medially but meeting to form a single curved furrow, occasionally meeting in a slight angle; postmarginal vein about three-fourths or more than three-fourths the length of the marginal vein.

Abdomen: Posterior face broader than long to longer than broad (sometimes very distinctly longer than broad in the males); first tergite strongly transverse, smooth or weakly sculptured, its anterior margin more or less distinctly elevated and truncate or slightly convex, sometimes completely masking posterior aspect of neck of propodeum; third segment (second of the gaster) not at all or only slightly exposed.

Color: Black, the punctate portion of notum of thorax sometimes bronzy black; flagellum of antenna grayish black to grayish dull dark brown, usually paler at tip and beneath; scape rarely with a greenish luster; legs black; anterior tibiae brown to testaceous except a basal stripe above; middle and posterior tibiae reddish testaceous

at apex, sometimes wholly brown except a stripe above; tarsi testaceous or reddish testaceous; wings hyaline, veins testaceous to brown.

*Male*.—Length about 1.75–2.75 mm. Similar to female; portion of scape bearing sensorial punctures fairly broad apically and occupying somewhat more than one-third to about one-half of scape, sensoria fine to moderately coarse and dense.

*Type*.—U.S.N.M. no. 49776.

*Type locality*.—Fennville, Mich.

*Remarks*.—Described from 55 females and 46 males, all in the United States National Museum. Most of these were obtained "from bands on apple" in the codling moth survey of 1930 by the U. S. Bureau of Entomology. The type and allotype are labeled "Codling Moth Survey 1930, Coll. L. Brown, June, 1930." Six of the paratypes were taken at East Falls Church, Va., by L. H. Weld, June 30, 1926.

*Distribution*.—New York (Sept.); New Jersey (June); Pennsylvania; Delaware (Aug.); Maryland (July, Aug.); Virginia (June); Kentucky (June); Indiana (June, July, Aug.); Michigan (May, June, Aug., Sept.).

*Hosts*.—One specimen in the U. S. National Museum from Staunton, Va., is labeled "ex *Cremastus* cocoon, Oriental Fruit Moth Investigation, specimen no. 1295." Another, from Fennville, Mich., is labeled "bred from codling moth larva, June 1926 by L. G. Gentner." A third specimen is labeled "Reared from parasitized codling moth, Dover, Del., Aug. 13, 1920, E. R. Selkregg, Quaint. no. 14123." The last two specimens were probably hyperparasitic.

#### PERILAMPUS ANOMOCERUS Crawford

*Perilampus anomocerus* CRAWFORD, Proc. Ent. Soc. Washington, vol. 16, p. 72, 1914.

*Female*.—Length about 1.75–2.5 mm. Head: Frons without a carina, meeting vertex in a curve; emargination of frontovertex not very deep or pronounced; cheeks straight or nearly straight; clypeus sometimes as long as broad and hyperclypeal area sometimes almost as long as clypeus; head in front view slightly transverse, rarely elongate, and usually subtriangular (in the males rarely distinctly transverse); eyes not reaching level of base of clypeus (may reach same in the males); third joint (ring joint) of antennae as long as wide, rarely shorter than wide, second joint (pedicel) usually very distinctly longer than wide; front and face, except hyperclypeal area, rather densely pubescent with stout whitish hair.

Thorax: Area along inner margin of parapsides smooth or finely aciculate; umbilicate punctures on mesoscutum and scutellum round or roundish; interspaces rather broad, especially so near middle of mesoscutum, finely lineolately sculptured except near the middle line of mesoscutum and scutellum, the scutellum laterally not granularly

opaque although sometimes rather closely lineolated; pronotum laterally as a rule shorter or no longer than the prepectus measured on a line bisecting angle of latter at tegula of wing; axilla with a triangular or roughly triangular extension about as wide as or somewhat wider than long on side of scutellum, its base extending to or above middle of axilla, surface of axilla sloping toward base of extension and not depressed above base of extension; basal shallow furrows on underside of apex of scutellum not turning caudad medially but united at median line to form a single gently curved furrow; wing hairs short and dense.

Abdomen: Posterior face wider than long or as wide as long, rarely longer than wide, with some conspicuous hairs on each side of the middle; first tergite strongly transverse, usually coarsely sculptured but rarely smooth, its anterior margin strongly elevated and convex completely masking posterior aspect of neck of propodeum and very often resting on latter so as to give the appearance of a distinct petiole.

Color: Green or greenish, the propodeum sometimes black; notum of thorax including areas along inner margins of parapsides more or less coppery or bronzy; upper part of head often and rarely the whole head somewhat bronzy or coppery; abdomen black; flagellum of antenna grayish dark brown to ferruginous, the underside except apically usually paler than above; scape more or less concolorous with head; femora greenish or bronzy with apices narrowly testaceous; tibiae reddish testaceous to ferruginous; tarsi testaceous to reddish testaceous; wings hyaline, sometimes with a small darkish or brownish spot or patch at apex of submarginal vein; veins brown or reddish brown, paler basally.

*Male*.—Length about 1.75–2.25 mm. Similar to female; portion of scape bearing sensorial punctures not greatly broadened apically and occupying approximately one-half of scape, sensoria fine.

*Type*.—U.S.N.M. no. 18302.

Redescribed from 47 females and 19 males, including type, allotype, and paratypes, all in the United States National Museum. This appears to be a western species.

*Distribution*.—Colorado; Idaho (July).

#### PERILAMPUS GRANULOSUS Crawford

*Perilampus granulatus* CRAWFORD, Proc. Ent. Soc. Washington, vol. 16, p. 73, 1914.

*Female*.—Length about  $\frac{1}{2}$  1.75–2.75 mm. Head: Frons without a carina, meeting vertex in a curve; emargination of frontovertex not very deep or pronounced; cheeks straight or nearly straight; head in front view slightly to rather distinctly transverse and usually subtriangular; lower extremity of eye above level of base of clypeus;



third joint (ring joint) of antennae wider than long, second joint (pedicel) usually a little longer than wide; front and face, except hyperclypeal area, rather densely pubescent with stout whitish hair.

Thorax: Area along inner margin of parapsides smooth, sometimes finely aciculate or reticulate; umbilicate punctures on mesoscutum and scutellum round or roundish, the interspaces on mesoscutum and middle of scutellum more or less conspicuously broad and usually in large part smooth, the scutellum laterally with dense granular sculpture; pronotum laterally usually distinctly longer than prepectus measured on a line bisecting the angle of latter at tegula of wing; axilla with a triangular or roughly triangular extension as wide as or wider than long on side of scutellum, its base extending to or above middle of axilla, surface of axilla sloping toward base of extension and not depressed or excavated above base of extension; basal shallow furrows on underside of apex of scutellum not turning; caudad medially but meeting on the median line to form a single gently curved furrow, rarely forming a slight angle medially; wing hairs rather short.

Abdomen: Posterior face wider than long to longer than wide (the latter condition usually better marked in the males); area on each side of middle sparsely covered with long hairs; first tergite strongly transverse, usually smooth or weakly sculptured, the anterior margin strongly elevated and convex, completely masking posterior aspect of neck of propodeum, sometimes resting on latter and appearing to form a petiolelike tergite.

Color: Head green to cupreous, usually with more or less of front and face dark olive green or blackish; thorax green or greenish, the notum usually more or less cupreous (in males sometimes entirely so), propodeum and pleural regions in large part black; abdomen black, usually with more or less of a greenish or cupreous cast; flagellum of antenna grayish dull dark brown to ferruginous, more or less pale on underside except usually at apex; scape greenish brown to cupreous; femora green, bronzy, or brown with apices testaceous to ferruginous; tibiae reddish testaceous to ferruginous; tarsi testaceous or reddish testaceous; wings hyaline, very often with a small darkish or brownish spot or patch at apex of submarginal vein and sometimes with a faint cloud below marginal vein; veins brown to ferruginous, paler basally.

*Male*.—Length about 1.75–2.5 mm. Similar to female; portion of scape bearing sensorial punctures not greatly broadened apically and occupying somewhat over one-third to nearly one-half of scape, sensoria fine to moderately coarse.

*Type*.—U.S.N.M. no. 18305.

*Remarks*.—Redescribed from 11 females and 8 males, including type, allotype, and paratype, all in the United States National Museum except four in the collection of the Academy of Natural Sciences of Philadelphia.



This species has been reared from two lepidopterous insects, *Ancylis comptana* Froelich and (*Phthorimaea*) *Gnorimoschema operculella* Zeller, but very likely as a hyperparasite.

*Distribution*.—New Jersey (June); Delaware (June); Maryland (June); North Carolina (Nov.); Alabama; Louisiana (Sept.); Kansas; Texas (Aug., Sept.).

PERILAMPUS GAHANI, new species

*Female*.—Length about 2–3 mm. Head: Frons without a carina, completely or in part weakly and irregularly wrinkled or aciculate; face and cheeks similarly sculptured except that clypeus and hyperclypeal area are smooth; temples finely aciculate-striate; cheeks convexly rounded, sometimes only slightly so; head in front view transverse; eyes about reaching or falling somewhat short of level of base of clypeus; vertex behind ocelli more or less transversely rugose or striate.

Thorax: Area along inner margin of parapsides smooth or in part very finely reticulated; umbilicate punctures on mesoscutum and scutellum angulated, the interspaces thin; axilla with a triangular or roughly triangular extension as wide as or wider than long on side of scutellum, and extending more or less above middle of axilla, the face of axilla sloping toward base of extension and not depressed or excavated above base of extension; basal shallow furrows on underside of apex of scutellum turning caudad medially and meeting at an angle; wing hairs short.

Abdomen: Posterior face ranging from somewhat wider than long to longer than wide; first tergite petioliform, without an elevated anterior margin or flange and usually more or less rugosely sculptured.

Color: Black or blackish; face and area along inner margins of parapsides distinctly greenish; head and thorax usually in part cupreous or with a cupreous tinge, the thorax sometimes mostly so; abdomen sometimes in part greenish with its apex often tinged with cupreous; flagellum of antenna grayish brown to ferruginous, more or less pale on underside; scape concolorous with head; coxae and femora greenish, the apices of latter testaceous or reddish testaceous; tibiae reddish testaceous to ferruginous, the posterior pair sometimes with a greenish tinge above; tarsi testaceous or reddish testaceous; wings hyaline.

*Type*.—U.S.N.M. no. 49779.

*Type locality*.—Bernalillo County, N. Mex.

*Remarks*.—Described from four females, all in the United States National Museum. The type was collected by B. Brown, June 1896, and bears the number 259; two of the paratypes are from Albuquerque, N. Mex., and the third from Colorado, from the C. F. Baker Collection, no. 1227.

## PERILAMPUS FULVICORNIS Ashmead

*Perilampus fulvicornis* ASHMEAD, Trans. Amer. Ent. Soc., vol. 13, p. 126, 1886.

*Female*.—Length about 1.5–3.5 mm. Head: Frons without a carina, meeting vertex in more or less of a curve although sometimes with a semblance of a carina behind the anterior ocellus; front and face completely or almost completely smooth except for hair punctures; cheeks convexly rounded, rarely nearly straight; head in front view transverse but sometimes only slightly so and very rarely subtriangular; eyes about reaching level of base of clypeus (in males sometimes reaching beyond).

Thorax: More or less compact; area along inner margins of parapsides smooth or only finely sculptured; umbilicate punctures on mesoscutum and scutellum angulated, rarely nearly round, the interspaces thin and usually with distinct, fine, reticulate sculpture; anterior edge of pronotum at lateral angles sharp, not depressed, the punctate portion of pronotoprepectal area at dorsal margin occupying half or more than half the distance between anterior edge of pronotum and the tegula of wing; axilla with a triangular or roughly triangular extension about as wide as or wider than long on side of scutellum, its base extending to about middle or above middle of axilla, the face of axilla sloping toward base of extension and not depressed or excavated above base of extension; basal shallow furrows on underside of apex of scutellum turning caudad medially and meeting on the median line in an acute or subacute angle; neck of propodeum usually coarsely sculptured; wing hairs usually short.

Abdomen: Posterior face usually wider than long or about as long as wide, rarely considerably longer than wide (the longer-than-wide type of abdomen more common among the males); first tergite petioliform, without an elevated anterior margin or flange and more or less rugosely sculptured, rarely almost entirely smooth.

Color: Black; head sometimes grayish, clypeus rarely bronzy or cupreous; punctate portion of notum of thorax sometimes bronzy and area along inner margin of parapsides very rarely with a greenish reflection; abdomen often with a greenish reflection beneath; flagellum of antenna grayish dull dark brown to ferruginous and more or less pale beneath, sometimes entirely ferruginous; scape blackish, sometimes with a greenish or cupreous tinge; femora brown to black, often tinged with metallic, their apices usually testaceous or reddish testaceous; tibiae brown to ferruginous, with more or less of apices testaceous or reddish testaceous, the anterior pair sometimes entirely testaceous and sometimes all of tibiae so, the posterior pair rarely blackish and often more or less greenish; tarsi testaceous or reddish testaceous; wings hyaline, veins pale testaceous to dark testaceous.

*Male*.—Length about 1.5–3 mm. Similar to female; portion of scape bearing sensorial punctures slightly broadened to quite broad

apically and occupying about one-third to somewhat more than one-half of scape, sensoria usually coarse or moderately coarse.

*Type*.—U.S.N.M. no. 22886.

Redescribed from a large series of specimens of both sexes including the type, which is a male from eastern Florida.

*Distribution*.—Widely distributed and apparently a rather common species. I have seen material from the District of Columbia and two or three provinces in Canada, including British Columbia (June), and from the following States: Maine (June, July); New Hampshire (July, Aug., Sept.); Massachusetts (July, Aug.); Rhode Island (Aug.); New York (July, Aug.); New Jersey (July to Oct., incl.); Pennsylvania (July, Aug., Sept.); Delaware (June, Aug.); Maryland (June to Sept., incl.); Virginia (July, Aug., Sept. "captured on thistle"); Florida (July); West Virginia; Ohio (April to Sept., incl.); Michigan; Indiana (Aug., Sept.); Illinois (April, July, Aug.); Missouri (July); Arkansas (July); Louisiana; Kansas (Aug.); Oklahoma; Texas (May to Dec., incl.); Colorado (Aug.); Nevada (July); Washington (May); California.

*Hosts*.—*Zenillia (Exorista)* sp., *Ascogaster* sp., *Cremastus cooki* Weed, *Meteorus* sp., *Apanteles* sp., *Macrocentrus pallisteri* De Gant, "hymenopterous cocoons."

The species has been reared in association with a number of lepidopterous insects, but very likely it was hyperparasitic.

**PERILAMPUS FULVICORNIS PROTHORACICUS, new variety**

*Female*.—Length about 2–3 mm. Differs from *fulvicornis* Ashmead in three essential respects: (1) Anterior edge of pronotum at lateral angles depressed, the punctate portion of pronotoprepectal area at dorsal margin short, seemingly occupying distinctly less than half the distance between anterior edge of pronotum and the tegula of wing; (2) basal shallow furrows on underside of apex of scutellum not turning caudad medially or turning caudad only slightly and meeting on the median line to form a single more or less curved furrow or an obtuse angle; (3) neck of propodeum weakly sculptured, only rarely coarsely sculptured.

Other differences are as follows: Area along inner margins of parapsides usually rather distinctly sculptured or roughened; interspaces between unbiccate punctures on scutellum apparently always entirely finely reticulated; base of extension of axilla on side of scutellum sometimes not quite reaching to middle of axilla; wing hairs, post-marginal vein, and stigmal vein usually long; head often with a greenish tinge and sometimes distinctly greenish; thorax often a gray metallic black, the areas along inner margins of parapsides rarely bronzy; abdomen often with a distinct gray reflection; wings rarely with a very faint brownish cloud beneath marginal vein.



*Type*.—U.S.N.M. no. 49785.

*Type locality*.—Louisiana.

*Remarks*.—Described from 15 females, of which the type and 10 paratypes are in the United States National Museum. The type is labeled "Loui. 5668, collection C. F. Baker." One paratype in the same museum bears Quaintance no. 11779 (Aug.); one is from Oakland, Md. (July); one from Marquette, Mich. (July); one from St. Louis, Mo. (July); three from Nebraska; two from the "Codling Moth Survey 1930" (May), Yakima, Wash., L. Brown, collector, and one from the same locality, "reared from codling moth" (Sept.), E. J. Newcomer, collector. Of the remaining four, one from Falls Church, Va. (Sept.), is in the Museum of Comparative Zoology, and three from Mount Washington, N. H., from the collection of Mrs. A. T. Slosson, no. 26226, in the American Museum of Natural History.

The specimen said to have been reared from the codling moth was probably hyperparasitic.

The status of this variety may possibly have to be changed with the receipt of additional material for study.

#### PERILAMPUS STYGICUS Provancher

*Perilampus stygicus* PROVANCHER, Additions et corrections au volume II de la Faune entomologique du Canada traitant des Hyménoptères, p. 406, 1888.

*Female*.—Length about 1.75–2.25 mm. Head: Frons meeting vertex in more or less of a curve, without a carina, except sometimes with a faint one extending for a short distance on the upper part; front and face practically smooth; hyperclypeal area often as long as clypeus; cheeks straight or nearly straight; head in front view somewhat transverse and sometimes subtriangular; eyes not quite reaching level of base of clypeus.

Thorax: Area along inner margin of parapsides smooth or but finely sculptured; umbilicate punctures on mesoscutum and scutellum more or less angulated, interspaces thin although rarely slightly thickened on scutellum medially; whole scutellum and mesoscutum in part with the interspaces finely reticulately sculptured; anterior edge of pronotoprepectal area usually depressed, the punctate portion actually or seemingly occupying distinctly less than half the area between anterior edge of pronotum and tegula of wing, usually appearing as a narrow anterior border; axilla with a triangular or roughly triangular extension as wide as or wider than long on side of scutellum extending to or above middle of axilla, face of axilla sloping more or less toward base of extension and not depressed or excavated above base of extension; basal shallow furrows on underside of apex of scutellum not turning caudad medially or turning only slightly and meeting on the median line to form a single more or less curved furrow or an obtuse angle; neck of propodeum finely sculp-



tured, somewhat more coarsely so laterally; wing hairs usually long and rather dense.

Abdomen: Posterior face wider than long or about as wide as long (in males sometimes somewhat longer than wide); first tergite petioliform, without an elevated anterior margin or flange and more or less rugosely sculptured.

Color: Black; head grayish black or greenish black, the vertex, hyperclypeal area and clypeus sometimes bronzy or brassy; notum of thorax somewhat grayish black, the area along inner margin of parapsides sometimes metallic black (latter sometimes bronzy in the males); abdomen sometimes in part brown or brownish black (usually with a gray reflection in males); flagellum of antenna grayish dull dark brown to ferruginous, more or less pale beneath; scape brown to blackish, sometimes with a greenish tinge; legs brown to ferruginous; coxae and femora blackish with more or less of a greenish tinge and sometimes quite green, the apices of femora usually testaceous or reddish; apices of posterior and intermediate tibiae testaceous or reddish, the anterior pair and sometimes also the intermediate wholly testaceous or reddish except for a more or less distinct darker stripe above; tarsi testaceous or reddish; wings with an infuscated spot or cloud below marginal vein.

*Male*.—Length about 1.75–2 mm. Similar to female; frons sometimes meeting vertex at somewhat of an angle; front and face sometimes in large part aciculate; cheeks sometimes more or less convexly rounded; head in front view sometimes rather distinctly transverse; eyes sometimes reaching below level of base of clypeus; portion of scape bearing sensorial punctures broadened throughout its whole length and comprising nearly whole length of scape, usually somewhat stouter basally, the inner margin faintly concave in its apical half; sensoria fine to fairly coarse and dense, absent at apex.

*Type*.—In the Museum of Public Instruction, Quebec, Canada. I have not seen it.

*Remarks*.—Redescribed from eight females and seven males believed to be this species. Eight specimens are in the United States National Museum, six in the collection of the Boston Society of Natural History, and one in the collection of Prof. C. T. Brues, of Harvard University. It is quite likely that my definition of the species, based upon the above 15 specimens, is in some respects too narrow.

*Distribution*.—I have seen material from "Canada"; Maine (July, Aug.); Massachusetts (Aug.); New York (Aug.); New Jersey (Aug.); Maryland; District of Columbia; Virginia; Ohio; Louisiana; Kansas. Provancher described the species from Cap Rouge, Quebec.

*Host*.—*Macrocentrus* sp. The species is said to have been reared also from the lepidopteron *Epiblema strenuana* Walker "in *Ambrosia*", but was probably a hyperparasite.

## PERILAMPUS SIMILIS Crawford

*Perilampus similis* CRAWFORD, Proc. Ent. Soc. Washington, vol. 16, p. 73, 1914.

*Female*.—Length about 1.75–3.75 mm. Head: Frons without a carina, although rarely (more particularly in the males) with a semblance of a carina on the upper part; the union of vertex and front usually forming a sharp angle in the ocellar region; front and face smooth, except for hair punctures, rarely aciculate or slightly wrinkled along lateral margins of clypeus; cheeks straight or nearly straight; head in front view transverse, sometimes only slightly so, usually subtriangular in outline (less often so in the males); eyes as a rule not reaching level of base of clypeus (usually reaching same in males).

Thorax: Area along inner margins of parapsides smooth; interspaces between umbilicate punctures on mesoscutum and scutellum medially usually slightly thickened or widened (less commonly so in the males), the punctures with the more conspicuously thickened walls round or roundish; anterior edge of pronotum at lateral angles not depressed, the punctate portion of pronotoprepectal area at dorsal margin occupying half or more than half of distance from anterior edge of pronotum to tegula of wing; axilla with a triangular or roughly triangular extension as wide as or wider than long on side of scutellum, the base extending to or above middle of axilla, face of axilla sloping more or less toward base of extension and not depressed or excavated above base of extension; basal shallow furrows on underside of apex of scutellum turning caudad medially and meeting or nearly meeting on the median line to form an acute angle, rarely an obtuse angle; propodeal neck, except very rarely, coarsely sculptured; wing hairs usually pale and wings clear; apex of postmarginal vein usually distinct.

Abdomen: Posterior face usually longer than wide, often considerably so (latter condition more common among the males); first tergite petioliform, without an elevated anterior margin or flange and more or less rugosely sculptured, sometimes in large part smooth.

Color: Head black or black with a metallic tinge, rarely in part bronzy; thorax black, the punctate portion of notum usually bronzy black, rarely greenish black, the areas along inner margins of parapsides usually with a greenish or bronzy tinge, otherwise metallic black; pleural region usually with a very slight greenish or bronzy tinge or reflection; abdomen shining black, sometimes with a greenish tinge; flagellum of antenna grayish dull dark brown to ferruginous and usually more or less pale beneath; scape black or greenish; femora brown to black, sometimes with a greenish cast or reflection which is usually more pronounced on the posterior pair, their apices sometimes testaceous or reddish; tibiae brown to ferruginous, sometimes with a slight metallic cast, the anterior pair usually reddish testaceous except

a stripe above, the middle and posterior pairs sometimes darker above, at least basally; tarsi testaceous or reddish; wings hyaline, veins testaceous to dark brown.

*Male*.—Length about 1.75–2.75 mm. Similar to female; portion of scape bearing sensorial punctures slightly broadened to quite broad apically and occupying slightly more than one-third to about one-half of scape, sensoria fine to moderately coarse.

*Type*.—U.S.N.M. no. 18303.

Redescribed from 71 females and 38 males, including the type and 3 female paratypes. Nearly all the above material is in the United States National Museum. This is evidently a western species.

*Distribution*.—North Dakota (July, Aug. "taken from sunflowers"); Nebraska (June); Kansas (July); Texas (Feb. to Oct., inclusive and ?Dec.; taken in April "on *Lepidium*", in June "from *Sphaeralcea angustifolia*", and in September "on *Amorpha fruticosa*"); Colorado (May, Aug.); New Mexico (April "on *Sisymbrium*", June, Sept. "on *Bigelovia*"); Idaho (June, July); Arizona; Oregon (June, Aug.); California.

The species has been reared in association with *Acrobasis* sp., but very likely as a hyperparasite. One specimen is labeled "on *Eulophus*, Dallas, Texas, 9-V-'06, F. C. Bishopp coll."

PERILAMPUS MUESEBECKI, new species

*Female*.—Length about 1.5–2.75 mm. Head: Frons without a carina, meeting vertex in more or less of a curve; emargination of frontovertex apparently never very pronounced; front and face smooth except for hair punctures; hyperclypeal area usually as long as or about as long as clypeus; cheeks straight or nearly straight; head in front view more or less elongate or slightly transverse and as a rule subtriangular; eyes not reaching level of base of clypeus.

Thorax: Area along inner margin of parapsides smooth or practically smooth; umbilicate punctures on mesoscutum and scutellum angulated and interspaces thin, mere septa; anterior edge of pronotum at lateral angles not depressed, the punctate portion of pronotoprepectal area dorsally long, occupying half or more than half of distance between anterior edge of pronotum and the tegula of wing; axilla with a triangular or roughly triangular extension about as wide as or wider than long on side of scutellum, the base extending about to middle or above middle of axilla, face of axilla sloping more or less toward base of extension and not depressed or excavated above base of extension; basal shallow furrows on underside of apex of scutellum turning caudad medially and meeting or nearly meeting on the median line to form an acute or subacute angle; neck of propodeum coarsely sculptured, very rarely with weak sculpture; wing hairs short and usually dark but sometimes in large part pale; postmarginal vein



longer than stigmal vein and usually merging with the darkish costal border of the wing, the apex rather indistinct; thorax very distinctly less than 1.5 mm long.

Abdomen: Posterior face ranging from somewhat wider than long to longer than wide; first tergite petioliform, without an elevated anterior margin or flange and more or less rugosely sculptured, sometimes in large part smooth.

Color: Black; head grayish black, rarely with a greenish reflection, and sometimes brown, area along inner margins of parapsides very rarely greenish, abdomen sometimes with a greenish reflection beneath; flagellum of antenna grayish brown to ferruginous and more or less pale beneath; scape greenish, rarely brown; coxae and femora brown to blackish, the femora, especially the posterior pair, with a greenish tinge and sometimes quite green, their apices sometimes testaceous or reddish; tibiae brown to ferruginous, the anterior pair usually testaceous or reddish except for a stripe above, the posterior and intermediate pairs usually darker with their bases and apices reddish testaceous; tarsi testaceous or reddish; wings hyaline, veins testaceous, usually reddish basally.

*Male*.—Length about 1.5–2 mm. Similar to female; portion of scape bearing sensorial punctures somewhat broadened apically and occupying between one-third and one-half of scape, sensoria fine to moderately coarse and dense. Anterior and intermediate tibiae sometimes entirely testaceous except for a stripe on latter above. In some males the eyes reach the level of base of clypeus. In one male specimen, believed to be this species, the cheeks are somewhat convexly rounded and the head appears rather distinctly transverse.

*Type*.—U.S.N.M. no. 49783.

*Type locality*.—Washington, D. C.

*Remarks*.—Described from a series of 24 females and 14 males of which the type, allotype, and 33 paratypes are in the United States National Museum. The type is labeled "Washington, D. C."; the allotype, "D. C., Aug. 24, '84." Of the paratypes in the National Museum two females are from Nelson, N. H. (Aug.); one female from Lake George, N. Y. (Aug., J. L. Zabriskie); five females and nine males from Virginia, two of these males from Blacksburg (Sept. and Oct.), the others without definite locality; one male from eastern Florida (Ashmead); five females and one male from "West Pt.", Nebr. (Sept., J. C. Crawford, collector); seven females from Riley County, Kans. (Sept., Marlatt); one female from Colorado, from the C. F. Baker Collection; and one male from Fitch's Collection, bearing the number 14978. Of the remaining three paratypes, one female and one male, from Big Island and Mosholu, N. Y. (Sept.), respectively, are in the American Museum of Natural History; and one female from Mount Airy, Pa. (Sept.), bearing the number 126, is in the collection of the Academy of Natural Sciences of Philadelphia.



## PERILAMPUS ROBERTSONI Crawford

*Perilampus robertsoni* CRAWFORD, Proc. Ent. Soc. Washington, vol. 16, p. 71, 1914.

*Female*.—Length about 2.5–3 mm. Head: Frons meeting vertex in a more or less sharp angle, sometimes with a semblance of a carina; emargination of frontovertex usually conspicuous, the scrobal cavity rather deep, its sides sloping rather sharply; front and face smooth except for hair punctures; hyperclypeal area as long as or nearly as long as clypeus; cheeks straight or nearly straight; head in front view somewhat elongate and subtriangular, very distinctly narrowed below eyes; eyes not reaching level of base of clypeus; face below eyes sometimes somewhat concave.

Thorax: Area along inner margin of parapsides smooth (sometimes more or less roughened in the males); umbilicate punctures on mesoscutum and scutellum angulated, interspaces thin, mere septa; anterior edge of pronotum at lateral angles not depressed, the punctate portion of pronotoprepectal area dorsally occupying half or more than half of distance between anterior edge of pronotum and tegula of wing; axilla with a triangular or roughly triangular extension as wide as long on side of scutellum, the base extending to or above middle of axilla, face of axilla sloping more or less toward base of extension and not depressed or excavated above base of extension; basal shallow furrows on underside of apex of scutellum turning caudad medially and meeting on the median line at an acute angle; neck of propodeum coarsely sculptured; wing hairs short and pale; postmarginal vein about as long as or only slightly longer than stigmal vein, its apex rather distinct; thorax as a rule about 1.5 mm in length.

Abdomen: Posterior face more or less longer than wide; first tergite petioliform, without an elevated anterior margin or flange and usually more or less rugosely sculptured, sometimes almost entirely smooth.

Color: Black; head and abdomen often with a grayish reflection; flagellum of antenna grayish dull dark brown to grayish brown, more or less pale on under side; scape greenish; legs brown, in part with a greenish tinge or reflection, coxae and femora sometimes black or blackish, the apices of femora sometimes testaceous or reddish, tips of intermediate and posterior tibiae and anterior tibiae except a stripe above testaceous or reddish, tarsi testaceous or reddish; wings hyaline, veins testaceous, sometimes reddish basally.

*Male*.—Length about 2.25–2.75 mm. Similar to female; but the frons meeting vertex in a distinct angle, often with a rather distinct carina above, the emargination of frontovertex more pronounced and the sides of scrobal cavity more sharply sloping than in the female; head usually somewhat transverse and eyes usually reaching base of clypeus; scape rather broad apically, the portion bearing sensoria

punctures occupying more than one-third but less than one-half of scape, sensoria rather fine to moderately coarse and dense; anterior and intermediate tibiae sometimes entirely testaceous except for a darker stripe on latter above.

*Type*.—U.S.N.M. no. 18299.

Redescribed from three females and six males, including type, allotype, and male paratype. The material is in the United States National Museum.

*Distribution*.—"Canada"; Illinois; Nebraska (Sept.); Colorado.

#### UNIDENTIFIED SPECIES

##### PERILAMPUS ALEXINUS Walker

*Perilampus alexinus* WALKER, List of the specimens of hymenopterous insects in the collection of the British Museum, Chalcidites, pt. 1, p. 89, 1846.

*Type*.—Presumably in the British Museum.

This appears in the British Museum list as an American species, although no locality is given. Dalla Torre, in his catalog of the Hymenoptera, lists it as a synonym of *hyalinus* Say, but it does not seem to be this species, judged from the description. In fact, it does not appear to belong to the *hyalinus* group of species.

##### PERILAMPUS CYANEUS Brullé

*Perilampus cyaneus* BRULLÉ, Histoire naturelle des insectes, Hyménoptères, vol. 4, p. 573, 1846.

*Type*.—Presumably in the Muséum d'Histoire Naturelle in Paris. "Hab. la Caroline." From the former Bosc Collection.

It is possible that I have redescribed this species as new under the name of *carolinensis*, since Brullé in his description states that the "vertex" is very strongly punctured; on the other hand, it may well be *hyalinus* Say or possibly even *chrysopae* Crawford, although the color characters would seem to preclude *chrysopae*.

##### PERILAMPUS ENTELLUS Walker

*Perilampus entellus* WALKER, Ann. Mag. Nat. Hist., ser. 1, vol. 12, p. 103, 1843.

*Type*.—Presumably in the British Museum.

"Found by R. Forster, Esq., in Ohio."

Dalla Torre calls this species a synonym of *platygaster* Say, but it is clearly not that species, judged from the description. It may be Say's *hyalinus* or my *carolinensis*.

PERILAMPUS LAEVIS Provancher

*Perilampus laevis* PROVANCHER, Additions et corrections au volume II de la Faune entomologique du Canada traitant des Hyménoptères, p. 199, 1887.

Type.—In the W. Hague Harrington Collection, Ottawa, Canada. "Ottawa (Harrington)."

This species may not be a *Perilampus* at all, as suggested by Provancher himself in connection with the description.

PERILAMPUS LEPREOS Walker

*Perilampus lepreos* WALKER, List of the specimens of hymenopterous insects in the collection of the British Museum, Chalcidites, pt. 1, p. 89, 1846.

Type.—Presumably in the British Museum.

"a. Georgia. From Mr. Abbot's collection."

Dalla Torre lists this species as a synonym of *P. triangularis* Say, probably, as in the case of *alexinus* and *entellus*, on the authority of the elder Cresson.<sup>14</sup> It is difficult to say from the description whether it is *triangularis*, but if it is it belongs in *Euperilampus*, in which genus *P. triangularis* Say is now placed.

KNOWN HOST LIST

Host	Species of <i>Perilampus</i>
DIPTERA	
<i>Achaetoneura euchaetiae</i> Webber.....	<i>hyalinus</i> Say.
<i>melalophae</i> Allen.....	<i>hyalinus</i> Say.
<i>Compsilura concinnata</i> Meigen.....	<i>hyalinus</i> Say.
<i>Ernestia ampelus</i> Walker.....	<i>hyalinus</i> Say.
? <i>Ernestia ruficauda</i> (Brauer).....	<i>hyalinus</i> Say.
<i>Zenillia (Exorista) sp.</i> .....	{ <i>canadensis</i> Crawford. <i>fulvicornis</i> Ashmead.
HYMENOPTERA	
<i>Apanteles sp.</i> .....	<i>fulvicornis</i> Ashmead.
<i>hyphantriae</i> Riley.....	<i>hyalinus</i> Say.
<i>melanoscelus</i> Ratzeburg.....	<i>hyalinus</i> Say.
<i>Ascogaster sp.</i> .....	<i>fulvicornis</i> Ashmead.
<i>Cremastus sp.</i> .....	<i>capitatus</i> Smulyan.
<i>cooki</i> Weed.....	<i>fulvicornis</i> Ashmead.
<i>Eulimneria sp.</i> .....	<i>hyalinus</i> Say.
<i>valida</i> Cresson.....	<i>hyalinus</i> Say.
<i>Macrocentrus sp.</i> .....	<i>stygius</i> Provancher.
<i>pallisteri</i> DeGant.....	<i>fulvicornis</i> Ashmead.
<i>Meteorus sp.</i> .....	<i>fulvicornis</i> Ashmead.
<i>hyphantriae</i> Riley.....	<i>hyalinus</i> Say.
NEUROPTERA	
<i>Chrysopa spp.</i> .....	<i>chrysopae</i> Crawford.
<i>californica</i> Coquillett.....	<i>chrysopae</i> Crawford.
<i>Symphrobobius angustus</i> (Banks).....	<i>chrysopae</i> Crawford.

<sup>14</sup> Cresson, E. T., Synopsis of the families and genera of the Hymenoptera of America, north of Mexico, together with a catalogue of the described species, and bibliography, p. 235, 1887.

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