

The following paper was accepted for publication:

## DESCRIPTIONS OF NEW PSENID WASPS FROM THE UNITED STATES.

[Hymenoptera; Psenidæ.]

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If in general Dr. Ashmead's classification of the Sphecoidea is to be followed, and the genera *Psen* and *Pemphredon*, as understood by Latreille (Prec. car. génér Insect, 1796) are to be united in the same family, the name should be Psenidæ and not Pemphredonidæ, as Dr. Ashmead has it, because *Psen* was described on page 122 and *Pemphredon* on page 128.

According to many authors these two genera have been made the types of two distinct families, and by some have been widely separated. Such wide separation has been due to the fact that some authors have considered cubital venation to be of the greatest importance. This view of the great importance of venation is gradually being given up and students are looking to the body itself for the principal characters and treating the appendages secondly. Such a method of study will no doubt bring about a more natural classification. It is, however, to be expected that in many—perhaps a majority—cases the characters of the appendages will correlate so well with the body characters that a satisfactory arrangement could be built up on characters easily seen on the appendages. But until such relationships have been fully established the body should be carefully studied.

Whatever may have been the origin of the Pseninæ and Pemphredoninæ, there can be but little doubt that at the present they are closely enough related to belong to the same family. An examination of the type genera of the two subfamilies will show that the thorax and abdomen are much the same, but that the head of *Pemphredon* is larger, and has the antennæ inserted close to the clypeus. In the wings *Pemphredon* differs in the loss of the first transverse cubitus. All these differences do not hold throughout the two subfamilies, however, for in *Ammoplanus*, *Diodontus*, and in some species of *Passalæcus* the head is smaller, and has more the shape of species found in Pseninæ. The position of the antennæ is as in *Pemphredon*, and at least one transverse cubitus is wanting. The difference in venation between the types of the two subfamilies is not as great as the difference between *Stigmus* and *Pemphredon*, both belonging to the Pemphredoninæ.



For in *Stigmus*, and allies, the second recurrent nervure is wanting; and the presence or absence of a recurrent nervure is of far greater importance than the presence or absence of one of the transverse cubiti. As far as known the habits of the two subfamilies are much the same.

The above remarks should justify the uniting of *Psen* and *Pemphredon* in the same family.

*Psenulus* (*Neofoxia*) *sayi*, new species.

Belongs near *tibialis* Cress., but the sculpture of the dorsulum is not as strong, the mesopleura is sparsely punctured, not striato-punctate, the head more shining, and the abdomen with a broader red band.

*Female*.—Length 6 mm. Anterior margin of clypeus gently rounded, not dentate or notched; front closely punctured, vertex and posterior orbits shining and very sparsely punctured, carina from anterior ocellus complete and distinct; a depression beside each lateral ocellus; distance between the lateral ocelli slightly greater than the distance between one of them and the nearest eye margin; flagel robust, the first joint slightly longer than second; dorsulum and scutel with distinct, well separated punctures; mesopleuræ similarly punctured; enclosure well defined, with some oblique striæ; furrow of the posterior face deep; rest of the metathorax finely striated, with a tendency to reticulations on the sides; third transverse cubitus sinuose; second cubital narrowed about one-half above; femora robust; abdomen elongate, petiole shorter than the rest of the segment, flattened above; pygidium narrowed slightly apically, finely granular. Black; flagel beneath and tegulæ testaceous; four anterior tibiae and tarsi, hind tibiae and tarsi at the base whitish; all of the second and third abdominal segments bright red. Wings clear hyaline, iridescent; venation dark brown.

*Type locality*: Onaga, Pottawatomie County, Kansas (Creve-cœur).

*Type*: No. 12356, U. S. National Museum.

This is the species recorded as *Mimesa pauper* from Texas by Cresson in *Hymenoptera Texana*, but it is much different from that species, in venation and sculpture as defined by Fox and Packard.

*Psenulus* (*Neofoxia*) *brevipetiolatus*, new species.

Very distinct in the short petiole and simple clypeus.

*Female*.—Length 9 mm. Middle of the anterior margin of the clypens truncated, the sides rounded, without teeth; a line-like furrow from anterior ocellus to base of clypeus; front finely granular; vertex and posterior



orbits punctured, the vertex more finely so; flagel robust, the first joint distinctly longer than the second; dorsulum and scutel with distinct separated punctures; mesopleuræ granular, the central part more finely so; enclosure with irregular striæ; metathorax granular with a fine rugose appearance on the sides, middle furrow distinct; femora very robust, hind tibiæ arcuate in the middle when seen from above; second cubital strongly narrowed above; venation as in *Neofoxia*; petiole shorter than the remaining part of the segment, widening apically, flat above with the margins distinct; abdomen narrow, elongate; pygidium very narrow, fully three times as long as wide, coarsely granular. Black; flagel testaceous; mandibles, apex of second, and most of the third segment rufous; tegulæ, turbercles, and four anterior tibiæ and tarsi whitish; hind tarsi brownish. Wings hyaline, strongly iridescent; venation dark brown.

*Type locality*: Los Angeles County, California, (Coquillett).

*Type*: No. 12355, U. S. National Museum.

*Psen (Mimesa) similis*, new species.

Belongs to group *nigra* and in the long antennæ is related to *longicornis* and *mellipes*, but is perhaps nearer to *nigra* or *mixta*. The slender antennæ, striato-punctate vertex, narrow distance between the lateral ocelli, almost impunctate mesopleuræ and dorsulum, the large, smooth space in the enclosure, and slightly dusky wings will serve to distinguish this from its allies.

*Male*.—Length a little more than 5 mm. Anterior margin of the clypeus notched; supraclypeal area finely granular; frontal carina not strong but present; head finely striato-punctate, the punctures in same places more abundant than the striæ; distance between the lateral ocelli much less than the distance from one of them to the nearest eye margin; antennæ a little longer than the head and thorax, simple, not clavate, third joint about the same length as fourth; dorsulum, scutellum, and mesopleuræ shining, with only a few widely separated small punctures; enclosure with a few slightly oblique striæ, the diamond-shaped area large and smooth; rest of the metathorax except the finely granular pleuræ finely reticulate; legs and venation normal, petiole trisulcate, about the same length as the hind femora; abdomen broadened and not especially elongate. Black; the four anterior tarsi pale brown, silvery pubescence not dense. Wings slightly dusky hyaline, iridescent, venation dark brown.

*Type locality*: Florissant, Colorado, July 17, 1907 (S. A. Rohwer).

*Type*: No. 12357, U. S. National Museum.



**Psen (Mimesa) floridana**, new species.

Entirely black and runs in with *regularis* or *leucopus* in Fox's tables, but is not related closely to these or to any North American species described. In many ways the fauna of the coast southeastern region of Florida is distinct from the rest of the United States, but has related forms in the neighboring islands. Dr. Ashmead had given this species the manuscript name *floridana*, and it is used on that account.

*Female*.—Length 7.5 mm. Anterior margin of the clypeus rounded, slightly irregular medially; front striato-punctate, vertex and posterior orbits with small separate punctures; frontal carina not reaching the clypeus; ocelli in a triangle, the distance between the lateral ones less than the distance from one of them to the nearest eye margin; flagel robust, the first joint distinctly longer than the second; dorsulum striato-punctate; scutel with widely separated, distinct punctures, mesopleuræ shining, with small separated punctures; enclosure with a few strong rugæ, a smooth diamond-shaped area apically; metathorax above reticulate, below and on the pleuræ granular; petiole strongly trisulcate and longer than the hind femora; second cubital narrowed more than a half above; legs normal; pygidium narrowed apically, and with large separate punctures. Entirely black except the whitish anterior tarsi; wings dusky hyaline, iridescent, venation black.

*Type locality*: Biscayne Bay, Florida.

*Type*: No. 12360, U. S. National Museum.

The sculpture of this species is very fine, and above description was made from magnification of 35 diameters.

**Psen (Mimesa) erythropoda**, new species.

Belongs to group *Kohli* of Fox and may be easily recognized by the rufous four posterior femora, the striated enclosure at the base of metathorax, and smooth mesopleuræ.

*Female*.—Length 10 mm. Clypeus rather strongly convex, the anterior margin broadly notched medially; mandibles broad and very robust; deep furrows nearly encircling the lateral ocelli; head shining with a few rather small punctures, the punctures closer in the postocellar area; dorsulum with larger punctures, posteriorly these punctures become confluent and irregular striæ take the place of the punctures; scutellum with well-separated punctures; mesopluræ and metapleuræ shining, almost impunctate; the enclosure with strong, longitudinal striæ; posterior face of the metathorax rugoso-reticulate; petiole longer than the hind femora; hind tibiæ with short spines, its inner spur slightly flattened and broadened medially; pygidium long, well defined, granular, a series of punctures around the margin. Black, with the usual silvery pile; basal



half of antennæ, including scape, tegulæ, anterior tibiæ, four posterior femora and tibiæ (the middle femora are blackish basally), red; tarsi pallid; wings hyaline, iridescent, venation pale brown.

*Type locality*: Great Falls, Virginia, August 22 (F. Knab).

*Type*: No. 12362, U. S. National Museum.

**Psen (Mimesa) punctata v. carolina**, new variety.

*Female*.—Length 12 mm. Very like *punctata* Fox, but is larger, the basal joints of the flagel, the tibiæ and tarsi, and petiole are red, the pubescence of the face is slightly golden, and the facial quadrangle is slightly narrower.

*Type locality*: Raleigh, North Carolina, September 12, 1905.

*Type*: No. 12363, U. S. National Museum.

**Psen (Mimesa) coquilletti**, new species.

Related to *proxima* Cress., but the distance between the lateral ocelli is greater than the distance between one of them and the nearest eye margin, not equal to it; enclosure has a median furrow; head is not "closely punctured"; and other characters. The species described by Cameron, *coloradoensis* and *interstitialis*, have the clypeus different, and the male differs from Cameron's description in the metathorax not being reticulate, the tarsi are not tectaceous, etc.

*Female*.—Length a little over 9 mm. The sharply defined produced middle portion of the clypeus with low rounded teeth in the middle, front closely punctured, vertex and occiput shining, with widely separate punctures; no frontal carina, although a broad depressed line extends backward from the anterior ocellus; a depressed area at the side of each lateral ocellus; flagel stout, the first joint distinctly longer than the fourth; dorsulum and scutel dull, with widely separate punctures; mesopleuræ granular; enclosure not sharply defined, with slightly oblique striæ, a medium furrow extending down the posterior face; metathorax with rather strong striæ dorsally on the pluræ, the striæ are weak; second recurrent nervure interstitial with the second transverse cubitus; second cubital narrowed above a little less than half; petiole stout, a little shorter than the hind femora, nearly flat above; pygidium rather broad, with distinct punctures; abdomen elongate. Black; flagel and tegulæ testaceous; tarsi and part of the tibiæ brown; most of abdominal segments two and three dull red. Wings clear hyaline, iridescent; venation dark brown. Silvery pile rather more abundant than usual.

*Male*.—What may be the male has the clypeus gently rounded and simple, the dorsulum more shining, and the flagel darker.

*Type locality*: San Diego County, California, female; males Los Angeles, California (Coquillet); and two males, Southern California, in the Fox collection.

*Type*: No. 12861, U. S. National Museum.



*Ceratophorus gennelli*, new species.

Related to *tenax* (Fox), but may easily be distinguished by the smooth, impunctate enclosure of the metathorax, more sparsely sculptured head and dorsulum, shorter tibial spurs, and other characters.

*Female*.—Length about 6 mm. Anterior margin of the clypeus shallowly tridentate; head with small separate punctures, not much thicker on the front; third antennal joint slightly longer than the fourth; space between the lateral ocelli much less than the distance from one of them to the inner eye margin; dorsulum and scutellum sculptured similar to the head; mesopluræ somewhat more coarsely sculptured; enclosure of the metathorax smooth, shining, impunctate, except at the base, which has short, longitudinal striæ; the rest of the metathorax with small, irregular punctures, median furrow deep; petiole rather stout, a little longer than half of the hind femora, above with rather large, irregular punctures; legs and venation normal; abdomen smooth, shining; pygidial area with separate punctures. Entirely black; venation black, wings dusky; hair gray.

*Type locality*: Pasadena, California, May 31, 1909 (F. Grinnell, jr.).

*Type*: No. 12865, U. S. National Museum.

*Passalæcus melanognathus*, new species.

Easily known from other described Nearectic species by the black mandibles.

*Female*.—Length 7.5 mm. Mandibles punctured at the base; anterior margin of the clypeus tridentate, the teeth narrow; front punctato-granular below, punctured above, vertex and orbits with punctures more separated; distance between the lateral ocelli subequal with the distance between them and the nearest eye margin; scape broadening apically, third joint one-third longer than fourth; dorsulum and scutellum with distinct separate punctures; no foveolate lines on the dorsulum, nor are the lateral margins foveolate; mesopleuræ with smaller punctures; metathorax coarsely reticulate, the pleuræ more finely so and anteriorly granular; legs and venation normal, the second cubital narrower than usual; abdomen as usual. Black; a narrow line on scape and a very small spot at extreme base of mandibles dull yellowish. Wings hyaline, slightly dusky, iridescent; venation deep black.

*Type locality*: Oregon (Koebele).

*Type*: No. 12866, U. S. National Museum.

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