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THE NORTH AMERICAN WASPS OF THE SUBGENUS  
PEMPHREDON LATREILLE.

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The North American species of *Pemphredon* as treated by Fox, Trans. Amer. Ent. Soc., Vol. 19, 1892, p. 307, may be divided into two well-defined subgenera. The first subgenus has a recurrent vein in both of the cubital cells and is *Pemphredon* in the strict sense. The other subgenus has both recurrent veins received by the first cubital cell and is *Diphlebus* Westwood. Morice and Durant contend that the name *Pemphredon* should fall as a synonym of *Cemonus* Jurine. According to the rulings of the International Commission of Zoölogical Nomenclature, the genus *Pemphredon* was founded in 1796 by Latreille and antedates *Cemonus*.

In this synopsis only the species of the subgenus *Pemphredon* are tabulated. *Pemphredon provancheri* Ashmead and *Pemphredon tinctipennis* Cameron are not included. The unsatisfactory description of *provancheri* makes it difficult to form a definite idea of this species and there is nothing in the collection which agrees well enough to be considered as that species. Judging from the description, *Pemphredon tinctipennis* Cameron is a valid species and is different from any of the species in the collections available.

The nests of the species of the genus *Pemphredon* are as a rule made either in brashy wood or in the old galleries of wood-boring larvæ and are provisioned with paralyzed flies.



## KEY TO THE NEARCTIC SPECIES.

1. Males ..... 2.  
 Females ..... 10.
2. Flagellar joints four to eight produced beneath ..... 3.  
 Flagellar joints simple ..... 6.
3. Enclosed area of propodeum flat and uniformly longitudinally striate 4.  
 Enclosed area of propodeum depressed basally, the base with longitudinal rugæ, the apical part shining ..... 5.
4. Petiole slightly longer than the hind basitarsis; head seen from above with anterior width distinctly less than twice the length, not narrowing distinctly behind the eyes ..... *rileyi* Fox.  
 Petiole slightly shorter than the hind basitarsis; head seen from above with the anterior width nearly as great as the length, distinctly narrowing behind the eyes ..... *errans* Rohwer.
5. Distance between the eyes at the clypeus distinctly greater than the length of the eye; vertex with distinct although scattered punctures, *confertim* Fox.  
 Distance between the eyes at the clypeus subequal with the length of the eye; vertex practically impunctate ..... *cockerelli* Rohwer.
6. Propodeal enclosure longitudinally striate; anterior margin of the clypeus tridentate ..... *nearcticus* Kohl.  
 Propodeal enclosure rugose; anterior margin of the clypeus arcuately emarginate ..... 7.
7. Head seen from above with the cephalo-caudad length distinctly more than half the anterior width; petiole distinctly longer than hind basitarsis ..... *concolor* Say (Fox).  
 Head seen from above with the cephalo-caudad length less than or subequal with the anterior width; petiole subequal with the hind basitarsis ..... 8.
8. Propodeum with a more or less distinct, U-shaped, finely aciculate ridge defining off the more coarsely rugose area; mesoscutum with close punctures anteriorly ..... *angularis* Fox.  
 Propodeum without a U-shaped ridge ..... 9.
9. Distance between the eyes at the clypeus distinctly greater than the length of the eye; scutum transversely striato-punctate; ocellocular line nearly twice as long as the postocellar line ..... *shawii* Rohwer.  
 Distance between the eyes at the clypeus slightly less than the length of the eye; scutum shining, sparsely punctured; ocellocular line but little longer than the postocellar line ..... *virginiana* Rohwer.
10. Basal dorsal area of the propodeum with distinct longitudinal carinæ 11.  
 Basal dorsal area of propodeum rugoso-reticulate ..... 13.
11. Anterior margin of the clypeus strongly biemarginate or tridentate; scutum shining, sparsely punctured ..... *nearcticus* Kohl (Fox).  
 Anterior margin of clypeus not biemarginate; scutum transversely rugulose ..... 12.



12. Anterior margin of the clypeus deeply, arcuately emarginate; scutum finely rugulose and with a few scattered punctures.....*rileyi* Fox.  
Anterior margin of the clypeus subtruncate with a median tooth; scutum rather coarsely punctato-rugulose .....*errans* Rohwer.
13. Anterior margin of the clypeus deeply biemarginate or tridentate; scutum with distinct rather large punctures .....*foxii* Rohwer.  
Anterior margin of the clypeus truncate or somewhat produced; scutum rugulose or punctato-rugulose ..... 14.
14. Basal dorsal middle of propodeum coarsely rugo-reticulate, separated from the rest of the propodeum by a U-shaped area which is finely aciculate; anterior margin of the clypeus produced into an angle; scutum with fine, curved wrinkles .....*angularis* Fox.  
Propodeum without a U-shaped area; clypeus different ..... 15.
15. Anterior margin of clypeus subtruncate, without a median tooth or lateral angles; scutum punctato-rugulose; third antennal joint fully one third longer than fourth .....*concolor* Say (Fox).  
Anterior margin of clypeus truncate, with a median tooth and with lateral angles of truncation prominent, so there is an indication of being tridentate; scutum punctato-rugulose. third antennal joint about one fourth longer than fourth .....*virginiana* Rohwer.

***Pemphredon errans* new species.**—*Pemphredon rileyi* Fox, Trans. Amer. Ent. Soc., Vol. 19, 1892, p. 310. Male, not female.

The male which Fox associated with the female he described as *rileyi* is the male of one of the females which he wrongly placed under this species. Of the specimens originally placed under *rileyi* by Fox only one of them, the holotype female, really belongs there. The others are a new species and are described herewith. The description of the female given by Fox was, at least for the greater part, taken from the holotype.

*Female.*—Length 7 mm. Clypeus flat, shining, with large, rather close punctures, the anterior margin subtruncate with a small median tooth and rather prominent lateral angles; distance between the eyes at the clypeus somewhat greater than the length of the eye; front punctato-aciculate; posterior orbits and vertex shining, sparsely punctured; seen from above the anterior width of the head is not twice as great as the cephalo-caudad length; head not markedly narrowing behind eyes; ocellular line one half longer than the postocellar line; third antennal joint one third longer than the fourth; scutum with a median depression anteriorly where the curved striato-punctations meet; scutellum sparsely punctured; dorsal basal area of propodeum flat, with uniform longitudinal striæ which become weaker posteriorly; sides and posterior face (except the median channel) aciculato-punctate; petiole not strongly sulcate laterally, much shorter than the hind basitarsis. Black; wings hyaline, with radial area somewhat dusky.

*Male.*—Length 7 mm. Clypeus flat, closely punctured, the anterior



margin with a median emargination; distance between the eyes at the clypeus distinctly greater than the length of an eye; front closely punctured, some of the punctures confluent; posterior orbits and vertex shining with rather close punctures; seen from above the anterior width of the head is nearly twice as great as the cephalo-caudad length; head distinctly narrowing behind eyes; ocellocular line nearly twice as long as the postocellar line; third antennal joint distinctly longer than the fourth; antennal joints 6-9, distinctly produced beneath; scutum shining, sparsely punctured and with a few oblique wrinkles; otherwise as in female.

*Type Locality*.—Monterey County, California, one female in April; allotype and one paratype male from San Mateo County, California, in March; paratype female Placerville, California, reared from an oak gall by F. B. Herbert.

*Type*.—Cat. No. 21562 U. S. Nat. Mus.

**Pemphredon rileyi** Fox.—Type: Cat. No. 1884 U. S. Nat. Mus. Female.

*Type Locality*.—Placer County, California, September (A. Koebele). See remarks under *errans* Rohwer.

*Male*.—Length 8.5 mm. Clypeus flat, with fine, close punctures, the anterior margin with a median emargination; distance between the eyes at the clypeus distinctly greater than the length of the eye; front closely, sometimes confluent punctured; posterior orbits and vertex shining with separate distinct punctures, seen from above the anterior margin of the head is not merely twice as wide as the cephalo-caudad length, scarcely narrowing behind the eyes; ocellocular line about one half longer than the postocellar line; third antennal joint distinctly longer than the fourth; antennal joints 6-9 prominent beneath; scutum punctato-striate anteriorly, sparsely punctured posteriorly; scutellum striato-punctate; propodeum like *errans*; petiole distinctly sulcate laterally, longer than the hind basitarsis. Black; wings hyaline, faintly smoky.

Described from two males from Pyramid Ranger Station, California, collected on *Sambucus glauca* by F. B. Herbert, August 20, 1915.

**Pemphredon cockerelli** Rohwer.—*Pemphredon cockerelli* Rohwer, Trans. Amer. Ent. Soc., Vol. 35, 1909, p. 103.

This is a male and not a female, and is allied to *confertim* Fox.

**Pemphredon angularis** Fox.—A female collected on the campus of the University of Colorado at Boulder by T. D. A. Cockerell.

**Pemphredon shawii** new species.—*Male*.—Length 8 mm. Clypeus convex, subopaque, with sparse, well-defined punctures, the anterior margin depressed, with a deep, arcuate, median emargination; the distance between the eyes at the clypeus much greater than the length of the eye; frons opaque with close, sometimes confluent punctures; posterior orbits punctured similar to but more sparsely than the front; seen from above the head is much wider anteriorly than its cephalo-caudad length and dis-



tinctly converges posteriorly; vertex shining with sparse, well-defined punctures; postocellar line a little more than half as long as ocellular line; the third antennal joint about one fifth longer than the fourth; meso-scutum subopaque, with a median depression anteriorly towards which the oblique striato-punctation converges; posterior margin of the scutum shining; scutellum shining, punctured; dorsal aspect of the propodeum rugose anteriorly, rugoso-granular posteriorly, sides reticulate; petiole a trifle shorter than the hind basitarsis. Black, densely clothed with long gray hair; wings hyaline, distinctly dusky beyond the basal vein; venation pale brown, costa and stigma dark brown.

*Type Locality*.—Hampton, New Hampshire. Described from one male collected June 28, 1905, by S. A. Shaw, for whom the species is named.

*Type*.—Cat. No. 21563, U. S. Nat. Mus.

***Pemphredon foxii*** new species.—This species has been confused with *concolor* by Fox, but the characters given in the above table show that it is easily separated from that species by the puncturation of the scutum and the different conformation of the anterior margin of the clypeus.

*Female*.—Length 10 mm. Clypeus subconvex, polished, with widely separated distinct punctures, the anterior margin deeply biemarginate or tridentate with subequal teeth; distance between the eyes at the clypeus somewhat greater than the length of the eye; front shining, medianly sparsely punctured, laterally, the punctures become confluent so there is distinct tendency towards striato-punctation; posterior orbits and vertex polished, with small scattered punctures; seen from above the width of the anterior margin of the head not more than one half greater than the cephalo-caudad length; head not receding behind the eyes; post-ocellar line about one fourth shorter than the ocellular line; third antennal joint distinctly longer than the fourth; scutum shining with large close punctures; scutellum with close, sometimes confluent punctures; base of the propodeum depressed, coarsely rugose, the superior posterior angles shining, obliquely rugulose, the sides and posterior face reticulate; petiole strongly sulcate laterally, subequal with the length of the posterior basitarsis. Black; head, thorax and petiole with long black hair; wings dusky hyaline, venation pale brown, costa and stigma dark brown.

*Type Locality*.—Camden County, New Jersey. Described from one female collected July 27, 1890. Named for W. J. Fox.

*Type*.—Cat. No. 21564, U. S. Nat. Mus.

***Pemphredon virginiana*** new species.—*Female*.—Length 10 mm. Clypeus flat, shining, sparsely punctured, the anterior margin truncate with a median tooth and prominent lateral angles so it appears feebly tridentate; distance between the eyes at the clypeus subequal with length of an eye, front sparsely punctured medianly, striato-punctate laterally; posterior orbits and vertex shining, sparsely punctured; seen from above the anterior width of the head is not nearly twice as great as the cephalo-caudad



length; head not narrowed behind the eyes; postocellar line about half as long as the ocellocular line; third antennal joint one fourth longer than the fourth; scutum coarsely punctate with some of the punctures confluent; scutellum striato-punctate; basal dorsal area of propodeum depressed; rugose, the sides and posterior face reticulate; petiole not sulcate laterally, subequal in length to the hind basitarsis. Black; wings hyaline, the radial area somewhat dusky.

*Male*.—Length 8.5 mm. Clypeus flat, closely punctured, the anterior margin with a median emargination; distance between the eyes at the clypeus distinctly less than the length of an eye; front and vertex sculptured like female; seen from above the anterior width of the head is twice as great as the cephalo-caudad length; head distinctly narrowing behind the eyes; flagellum simple; the third antennal joint one fourth longer than the fourth; scutum shining, with large separate punctures; scutellum and propodeum as in female; petiole subequal with the hind basitarsis. Color as in female.

*Type Locality*.—Falls Church, Virginia. Described from three females and five males reared from a decaying tulip stump by William Middleton.

*Type*.—Cat. No. 21565, U. S. Nat. Mus.

LIST OF THE NEACTIC SPECIES OF PEMPHREDON LATREILLE SENSU LATORE

angularis Fox.

bipartior Fox = Diphlebus.

cockerelli Rohwer.

concolor Say (Fox).

concolor Provancher (not Say) = provancheri Ashmead.

confertim Fox.

errans Rohwer.

foxii Rohwer.

giffardi Rohwer = Diphlebus.

grinnelli Rohwer = Diphlebus.

harbecki Rohwer = Diphlebus.

inornatus Say (Fox) = Diphlebus.

marginatus Say—probably Passaloecus.

montanus Dahlbom—a European species recorded from British Columbia by Kohl.

morio Cresson = concolor Say (Fox).

nearcticus Kohl.

provancheri Ashmead.

rileyi Fox.

shawii Rohwer.

tenax Fox = Diphlebus.

tinctipennis Cameron.

virginiana Rohwer.