

# NEW FORMS OF SPHECOID WASPS OF THE GENUS DIDINEIS WESMAEL

By J. R. MALLOCH

*Biologist, Bureau of the Biological Survey*

and

S. A. ROHWER

*Assistant Chief, Plant Quarantine and Control Administration, Department of  
Agriculture*

The present paper contains a revision of the North American species of the genus *Didineis* Wesmael, with descriptions of two new species and one new variety.

## Genus DIDINEIS Wesmael

*Didineis* WESMAEL, *Revue Critique*, 1851, p. 96.—KOHLE, *Ann. k. k. Hofmus. Wien*, vol. 11, 1896, p. 402.—FOX, *Ent. News*, vol. 5, 1894, p. 126.

Kohl considers the genus *Didineis* as a subgenus of *Alyson* Jurine, but with the striking differences in the venation of the fore and hind wings (figs. 1, 2), together with the differences that seem to exist in the genitalia (figs. 3, 4), it would be desirable to recognize it as a genus, which has been done by many European and most American workers.

Fox tabulated the American species in 1894. Since that time three new species have been described, and in the collections of the United States National Museum there are representatives of two additional new species and a new variety. To make it easier to recognize these forms we have prepared the following key, which includes all the North American species; but the species marked with an asterisk is placed entirely on description.

### KEY TO THE NORTH AMERICAN SPECIES OF DIDINEIS

- |  |                                |
|--|--------------------------------|
| 1. Females .....                           | 2.                             |
| Males .....                                | 6.                             |
| 2. Thorax and abdomen reddish-brown .....  | 3.                             |
| Thorax and part of the abdomen black ..... | 4.                             |
| 3. Head black .....                        | <i>stevensi</i> Rohwer.        |
| Head pale .....                            | <i>peculiaris</i> Fox.         |
| 4. Apical tergites black .....             | * <i>sanctacrucae</i> Bradley. |
| Abdomen entirely rufous .....              | 5.                             |

5. Frons shining, with small distinct punctures which are separated by a distance as great as, or greater than, the width of a puncture; third antennal segment distinctly longer than twice the length of second, and distinctly longer than fourth; posterior face of propodeum coarsely reticulate; apex of pygidium rounded; apical margin of clypeus yellow—*texana* (Cresson).  
Frons dull, with close distinct punctures, the distance between them seldom as great as the width of a puncture; third antennal segment about twice as long as second, and but little longer than fourth; posterior face of propodeum granular, and with irregular wrinkles; apex of pygidium subtruncate; clypeus black.....*latimana*, new species.
6. Anterior tarsi much widened; anterior femora thin and concave on anterior side beneath; basal segments of antennal flagellum nodose beneath; head at least partly yellow or reddish.....7.  
Anterior tarsi not flattened; anterior femora more or less cylindrical, not concave beneath; basal segments of antennal flagellum simple; head black.....*texana* (Cresson).
7. Fore tibiae deep black except at apices, highly polished on ventral or inner surfaces, and about as wide as widest portion of fore tarsus (fig. 7), the ventral surface hollowed out; scape of antennae entirely fulvous yellow.....*dilata*, new species.  
Fore tibiae entirely testaceous yellow, or infuscated above, and not as wide as widest part of fore tarsus, the ventral or inner surface convex; scape of antennae blackened on one side, yellow on the other.....8.
8. Fore femur not much produced downward at middle, extreme height at middle much less than half as great as its entire length (fig. 5); sides of face usually without a yellow line.....*latimana*, new species.  
Fore femur much produced downward at, or beyond, middle, greatest height equal to, or over, half as long as entire length (fig. 6); face entirely or partly pale.....9.
9. Reddish brown species, apex of abdomen black; fore femur highest at apical third.....*peculiaris* Fox.  
Black species, with portions of the head and abdomen reddish or yellowish.....10.
10. Head ferruginous except for a black transverse band on vertex extending from eye to eye and enclosing the ocelli.....*vierecki* Rohwer.  
Head mostly black.....11.
11. Clypeus largely black, yellow along the lower margin.....*nodosa* Fox.  
Clypeus entirely yellow.....*nodosa* var. *clypeata*, new variety

**DIDINEIS STEVENSI** Rohwer

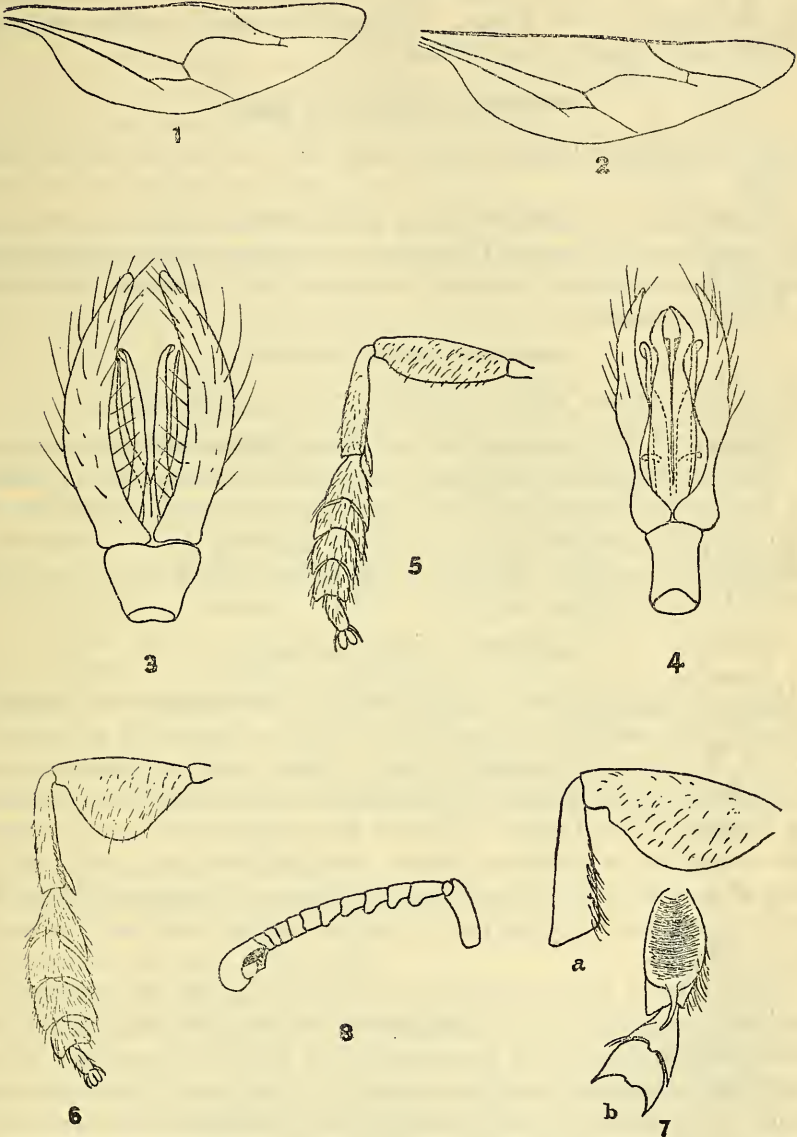
*Didineis stevensi* ROHWER, Proc. Ent. Soc. Washington, vol. 25, 1923, No. 4, p. 98.

This species is known only from a single female collected at Sheldon, N. Dak.

**DIDINEIS PECULIARIS** Fox

*Didineis peculiaris* FOX, Ent. News, vol. 5, 1894, p. 128.

This species was described from a number of males and females collected in Montana. As Bradley pointed out, the fore tarsi and femora of this species are peculiarly modified so it belongs to a group of males related to *nodosa*, but may be readily separated in both sexes



FIGURES 1-8.—ALYSON SP., HIND WING. 2, DIDINEIS NODOSA, HIND WING. 3, ALYSON SP., MALE HYPOPYGIUM. 4, DIDINEIS NODOSA, MALE HYPOPYGIUM. 5, *D. LATIMANA*, FORELEG FROM BEHIND. 6, *D. NODOSA*, FORELEG FROM BEHIND. 7, *D. DILATA*, *a*, FORE FEMUR AND TIBIA FROM BEHIND, *b*, FORE TIBIA AND BASAL TWO SEGMENTS OF FORE TARSUS FROM BELOW (INSIDE), 8, *D. NODOSA*, ANTENNA OF MALE

by the ferruginous color. The anterior femora of the male are thin, concave beneath and produced ventrally as in *nodosa* except that they are widest in the apical third, where the width is about one-half the length of the femur. The anterior tarsi are flattened and resemble very closely those of *nodosa*.

#### DIDINEIS SANCTACRUCAE Bradley

*Didineis sanctacrucae* BRADLEY, Trans. Amer. Ent. Soc., vol. 46, No. 801, 1920, p. 129.

This species is unknown to us except through the description. The types are in Cornell University. Bradley suggests that these may be the female of *nodosa*, and it is very probable that this association is correct.

#### DIDINEIS TEXANA (Cresson)

*Alyson texana* CRESSON, Trans. Amer. Ent. Soc., vol. 4, 1873, p. 226.

The type of this species is in the United States National Museum. It was originally described from a single male from Texas. There are specimens before us from Texas, Pennsylvania, District of Columbia, St. Augustine, Fla. (April 20, 1919, C. W. Johnson), Columbus, Ohio (July 15, 1921, A. E. Miller), St. Louis, Mo. (Rau No. 2633), and Tifton, Ga.

#### DIDINEIS LATIMANA, new species

*Male*.—Length, 6–8 mm. Black, shining. Under side of scape, the nodes of the swollen segments of flagellum, fore tibia except on dorsum, and most of fore tarsi lemon yellow; mid and hind femora and tibiae fulvous, more or less suffused with fuscous, tarsi of same legs fuscous, paler at bases. Sides of face opposite bases of antennae with or without a yellowish mark; posterior lobe of prothorax in front of and below wing base faintly fulvous. Abdomen with basal two tergites more or less red. Preapical dark band on forewing rather faint.

Antenna as in Figure 8; front very finely and closely punctured; prothorax punctured like front, more coarsely on sides except at lower portion where it is impunctate and glossy; mesonotum with fine close punctures; scutellum devoid of punctures in middle; enclosure of propodeum elongate U-shaped, its basal width over half its greatest length, the surface with a more or less complete central carina and three or four diverging carina on each side of it which are more or less connected by weaker rugae; laterad of the enclosure there are numerous fine rugae which are almost transverse, and the posterior face is finely rugoso-reticulate; mesopleura and sides of propodeum finely rugoso-punctate. Basal sternite coarsely longi-



tudinally striate. Fore legs as in Figure 5; the fore coxae not appreciably flattened in front. Other legs and venation of wings normal.

*Female*.—Length, 8 mm. Clypeus convex, the apical margin depressed and strongly tridentate, the teeth of equal width and length; the distance between the inner margins of the antennal fossae slightly less than the distance between the outer margin and inner margin of the eye; frons with close, distinct punctures; vertex with the punctures slightly more separated than those on the frons; postocellar line distinctly shorter than ocellocular line; pronotum and mesoscutum with distinct punctures which are separated by a distance less than the width of the punctures; scutellum punctured similarly to the mesoscutum except medianly, where the punctures are very widely separated; propodeum with the enclosure sharply defined and terminating almost at the transverse carina which separates the posterior and dorsal aspects; the surface of the enclosure with irregular wrinkles basally, sparsely coriaceous apically; the sides of the dorsal aspect finely, obliquely, irregularly wrinkled. Mesepisternum closely punctured and ventrally with irregular wrinkles so as to appear striato-punctate; the dorsal plate of the episternum opaque and punctured throughout; sides of the propodeum obliquely striato-punctate. Abdomen shining, pygidium sharply defined, the apical margin subtruncate, the surface covered with dense yellowish bristles. Black; mandibles, except apices, scape beneath yellowish; palpi pale brown; tarsi obscurely ferruginous; intermediate femora and posterior tibiae beneath piceous; posterior femora dark rufous; abdomen entirely rufous; wings dusky hyaline with the usual infuscated area in the radial cell and across the wing. Venation pale brown.

*Type locality*.—Glen Echo, Md.

*Allotype locality*.—Millville, N. J.

*Paratype localities*.—Falls Church, Va., and northern Illinois.

*Type*.—Cat. No. 29369, U.S.N.M.

Described from two males (one type) from the type locality collected August 30, 1923, by J. R. Malloch; one female (allotype) collected August 6, 1916, by E. R. Kalmbach; one male (paratype) collected at Falls Church, Va., September 4, 1915, by C. T. Greene; and one female (paratype) from northern Illinois.

The male specimen from Falls Church has the basal abdominal segments entirely rufous and the tip of the abdomen paler than in the other two males. The female of this species closely resembles *texana* but it is larger and the head and thorax are more closely punctured, while the propodeum is less coarsely sculptured.

**DIDINEIS NODOSA** Fox

*Didineis nodosa* Fox, Ent. News, vol. 5, 1894, p. 127.

Originally described from Washington State. We have four males from Oregon, one from Dallas, one from Corvallis, and two without definite locality; also two males from California (C. F. Baker).

One Oregon specimen lacks the yellow mark on the prothoracic tubercles.

**DIDINEIS NODOSA** var. **CLYPEATA**, new variety

*Male*.—Length, 7 mm. Differs from *nodosa* Fox in having the clypeus entirely yellow instead of with the upper half or more black. The enclosure of the propodeum is also much more closely and finely rugose. The mesepisternum is more shining and more distinctly striato-punctate. In the structure of the fore legs there is no difference from that of *nodosa*, the coxae being flattened in front, and the femora scooped out on anterior side and very much produced downward at middle.

*Type locality*.—Colorado (C. F. Baker).

*Type*.—Cat. No. 29370, U.S.N.M.

**DIDINEIS VIERECKI** Rohwer

*Didineis vierecki* ROHWER, Proc. Ent. Soc. Washington, vol. 13, 1911, (1), p. 4.

The original description of this species is far from complete in so far as the characters we use in the present paper are concerned, but Dr. H. B. Hungerford has kindly supplied us with information as to the structure of the forelegs of the type specimen in the collection of Kansas University which permits us to place it in our key to the species.

It was originally described from Kansas as *crassicornis* by Viereck, but the name was preoccupied and the above change proposed as indicated.

We have not seen the species.

**DIDINEIS DILATA**, new species

*Male*.—Similar in general coloration and structure to *latimana*, but the scape of antennae entirely fulvous yellow, legs of that color but the femora blackened at bases and apices, the fore pair narrowly so and with irregular marks on anterior side, fore tibiae glossy black except at extreme apices, mid and hind tibiae and tarsi brownish black, some portions irregularly paler.

Structurally this species is very similar to *latimana*, but the concave underside of the much wider fore tibia (fig. 7), and slightly

different form of the fore femur serve as good distinguishing features.

Length, 7 mm.

*Type locality*.—Columbus, Wis.

*Type*.—Cat. No. 42759, U.S.N.M.

Described from one male, Columbus, Wis., August 23, 1927, on alfalfa (E. M. Searls).

