Classification of the Fossorial, Predaceous and Parasitic Wasps, or the Superfamily Vespoidea No.17

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CLASSIFICATION OF THE FOSSORIAL, PREDACEOUS AND
PARASITIC WASPS, OR THE SUPERFAMILY
VESPOIDEA.

BY WILLIAM H. ASHMEAD, M. A., D. SC., ASSISTANT CURATOR, U. S.
NATIONAL MUSEUM.

(Paper No. 17.—Continued from Vol. XXXV., p. 310.)

TRIBE II.—Mutillini.

This tribe, to the initiated, is readily distinguished by the eyes, which
are usually quite differently shaped, rarely smooth and shining, and always
distinctly facetted, although a few females have small ellipsoidal or
somewhat rounded eyes, as in the tribes Phaopsidini and Sphaerophthal-
mini, and therefore, if the greatest care is not given to other characters,
could be confused with certain genera in those tribes.

Table of Genera.

Males ................................................. 1.
Females ............................................. 28.
1. Eyes not large, oval, ovate or ellipsoidal, never emarginate within,
distinctly facetted. .................................. 2.
Eyes large, always distinctly emarginate within. .................. 13.
2. Apterous or subapterous forms. .................................. 3.
Fully winged forms ..................................... 8.
3. Subapterous or with rudimentary wings. ......................... 7.
Apterous or entirely without wings.
Thorax with distinct sutures, the scutellum more or less
differentiated. ........................................ 4.
Thorax without sutures, the scutellum not differentiated, entirely
absent; eyes small, oval. (Europe, Africa and
Asia.) ................................................. Brachymutilla, André.
(Type B. gynandromorpha, André.).
4. Mandibles dentate ........................................ 5.
Mandibles edentate, acute at apex.
Thorax oblong, narrowed posteriorly, rounded in front, the scutellum very minute; eyes small, oval. (North America.) Morsyma, Fox. (Type M. Ashmeadii, Fox.)


Thorax ob-bell-shaped, widest in front, the pronotum very short, wider than the mesonotum and a little wider than the head.

Head transverse, the temples narrow; ocelli wanting; scutellum present; abdomen spotted with white, the first segment narrowed into a slight petiole at base, but broad at apex and sessile with the second. (Asia, Africa.) Spilomutilla, Ashm., gen. nov. (Type Mutilla perfecta, Radoszk.)

6. Thorax oblong, but compressed medi ally at the sides; head large, quadrate, the temples usually very broad, not oblique; ocelli distinct; scutellum indistinctly differentiated. (Africa.) Viereckia, Ashm., gen. nov. (Type Mutilla dombrodia, Péring.)

Thorax oblong, as wide behind as before, or nearly, and only slightly compressed at the sides medi ally; head obtrapezoidal, the temples oblique; ocelli subobsolete; scutellum entirely absent. (Africa.) Apteromutilla, Ashm., gen. nov. (Type Mutilla aeda, Péring.)

7. Head large, quadrate, usually much broader than the thorax, the thorax oblong quadrate, the sides parallel, or nearly, the front angles acute; mandibles 3-dentate.

Head armed with a large tooth on each side beneath, the upper hind angles acute; scutellum present; clypeus bidentate; eyes oval, placed anteriorly rather close to the mandibles. (North America.) Myrmilloides, André. (Type Mutilla grandiceps, Blake.)

Head unarmed, the upper hind angles not acute; scutellum present; clypeus not bidentate. (Europe, Africa, Asia.) Myrmilla, Wesmael. (Type Mutilla distincta, Lepel.)

8. Front wings with only two cubital cells ...................... 9.

Front wings with three cubital cells, or the third partially formed, never entirely absent. ........ II.
9. Not entirely black, the thorax red; head transverse, rounded behind, the hind angles not acute.. 10.

Entirely black.

Head transverse-quadrat.e, the hind angles acute; mandibles bidentate...... Pseudomethoca, Ashmead.

(Type Mutilla Canadensis, Blake.)

Head transverse, rounded behind, the hind angles not acute. Dimorphomutilla, Ashm., gen. nov.

(Type Mutilla lunulata, Spinola.)

10. Head transverse, wider than the thorax; mandibles not long; bidentate at apex. (Europe, Africa.) . Myrmilla, Wesmael.

Head transverse-quadrat.e, wider than the thorax; mandibles long, narrow, arcuate, tridentate at apex. (Africa.)... Labidomilla, André.

(Type Mutilla tauriceps, Kohl.)

11. Mesonotum with furrows; hind tibiae spinous on outer face... 12.

Mesonotum without furrows; hind tibiae not spinous on outer face.

Not entirely black, the thorax red; front wings with two recurrent nervures; antennal joints 3 and 4 more than twice longer than thick. (Europe.).................. Myrmilla, Wesmael.

Entirely black; front wings with only one recurrent nerved; antennal joints 3 and 4 hardly longer than thick...........(?) Dimorphomutilla, Ashm. (partim.)

12. Mandibles 3-dentate.

First and second joint of the flagellum not short, fully twice as long as thick. (South America.) .. Euspinolia, Ashm., g. nov.

(Type Mutilla chilensis, Spinola.)

First and second joints of the flagellum short, the first distinctly shorter than the second. (Africa.)... Dasylabroides, André.

(Type Mutilla capensis, Sauss.)


Thorax with distinct parapsidal furrows; the scutellum with a deep furrow across the base; front wings with three cubital cells. (Africa.)......... Psammotherma, Latreille.

(Type Mutilla flabellata, Fabr.)

14. Front wings with three cubital cells, or the third at least partially formed..
Front wings with only two cubital cells, the third entirely obliterated. 24.

15. Scutellum abnormal, conically or triangularly elevated, especially medially at apex. 16.
Scutellum normal, not conically or triangularly elevated. 17.

16. Mesonotum with distinct furrows; mandibles excised beneath, bidentate at apex: abdomen with the first ventral segment carinate medially, the hypopygium margined laterally, emarginate at apex. (Africa.) Trogaspidia, Ashmead.
(Type Mutilla medon, Smith.)

17. Mesonotum with distinct parapsidal furrows, or the furrows indicated posteriorly. 18.
Mesonotum without parapsidal furrows. 23.

18. Mandibles beneath, before the middle, excised or sinuated, and usually with a process or tooth before the incision. 19.
Mandibles beneath simple, not excised or sinuated, and never with a process or tooth beneath. 21.

Mandibles tridentate.

Submedian cell longer than the median, the second cubital cell more or less triangular, the third large, hexagonal; first joint of the flagellum shorter than the second. (Europe, Africa, Asia.) Mutilla, Linné.
(Type M. europaea, Linné.)

20. Submedian cell longer than the median, rarely equal, the marginal cell about twice as long as wide; first joint of the flagellum about as long as the second; hind tibiae spinous and also with long hairs, (North and South America.) Timulla, Ashmead.
(Type Mutilla dubitata, Smith.)

Submedian and median cells equal, the marginal cell not much longer than wide; first joint of the flagellum distinctly shorter than the second; hind tibiae not spinous, but with long hairs, (Europe.) Smicromyrme, Thomson.
(Type Mutilla ruifpes, Latr.)
   Mandibles bidentate.
   Submedian cell longer than the median; disc of clypeus subconvex;
   first joint of the flagellum a little shorter than the second;
   second ventral segment normal. (Europe.) Ronisia, Costa.
   (Type Mutilla brutia, Pet.)
   22. Second ventral segment carinate, and sometimes dentate posteriorly
       (Africa.) ........................................... Barymutilla, André.
       (Type Mutilla pythia, Smith.)
   23. Submedian cell longer than the median, the third cubital cell
       pentagonal. (Africa.) Dolichomutilla, Ashmead.
       Scutellum and metathorax abnormal, armed with teeth........... 27.
   25. Thorax with the front margin slightly arcuate, the angles not acute;
       front wings with two recurrent nervures....................... 26.
       Thorax with the frontal margin slightly concave, the angles acute;
       front wings with one recurrent nerved.
       Head transverse, not as wide as the thorax; mesonotum with
       distinct furrows; median and submedian cells of an equal
       length; abdomen with a white band.
       (Asia.) Radoszkowskii, Ashm., gen. nov.
       (Type Mutilla simplicifascia, Radoszk.)
   26. Head subquadrate, with two tubercles between the antennae, the
       temples broad; recurrent nervures converging and entering the
       second cubital cell close together.
       (Africa.) Blakeius, Ashm., gen. nov.
       (Type Mutilla bituberculata, Smith.)
       Head transverse, without tubercles between the antennae, the temples
       not broad; recurrent nervures not converging, widely separated.
       (Africa.) Mimecomutilla, Ashm., gen. nov.
       (Type Mutilla purpurata, Smith.)
   27. Scutellum transverse-quadratc, tridentate posteriorly; second ventral
       segment armed with a tooth. (Africa.), Péringueya, Ashm., gen. nov.
       (Type Mutilla erynnis, Péring.
       Scutellum large, flat, bidentate posteriorly, a tooth at each hind angle
       that curves inwardly; second ventral segment normal, unarmed
       (Africa.) Odontomutilla, Ashmead.
       (Type Mutilla Saussurei, Sèchel.)
28. Thorax quadrangular, not much narrowed posteriorly, the sides parallel or nearly, sometimes laterally slightly sinuate or compressed medially, rarely obtrapezoidal. ................. 29.
Thorax quite differently shaped, most frequently obpyriform, obovoid, violin-shaped or otherwise, usually narrowed posteriorly or much contracted at the sides. ....................... 39.

29. Pygidium not perfectly smooth, usually striate, rugulose, coriaceous or punctate, and with a pygidial area, i.e. with an elevated rim at the sides. ................. 30.
Pygidium usually smooth, without a distinct pygidial area, or the elevated rim is wanting or exceeding delicate. .............. 44.

30. Thorax with the front angles rounded, not acute. ................. 31.
Thorax with the front angles acute. ....................... 33.

31. Lateral margins of the thorax and the upper margin of the metathoracic truncature dentate or denticulate. ................. 32.
Lateral margins of the thorax and the upper margin of the metathoracic truncature usually simple, not dentate at the most, and rarely with only the upper margin of the truncature dentate. .... 34.

32. Thorax with sides parallel or nearly; head subquadrate, without tubercles between the antennæ; mandibles simple, unarmed; first joint of the flagellum obconical, about twice as long as thick, the second joint transverse. (Africa.) ...... (?) Trogaspidia, Ashmead.
Thorax with sides slightly compressed medially; head large, quadrate, with two tubercles between the antennæ; mandibles very long, tridentate (two widely-separated teeth within on inner margin); first joint of the flagellum very long, longer than 2 and 3 united. (South America.) ................. Euspinolia, Ashm., gen. nov.
(Type Mutilla chilensis, Spin.)

33. Head quadrate, a little wider than the thorax, with two triangular tubercles between the antennæ. (Africa.) Blakeius, Ashm., gen. nov.
(Type Mutilla bituberculata, Smith.)
Head transverse, not wider than the thorax, without tubercles between the antennæ. (Asia.) Radoszkowskius, Ashm., gen. nov.
(Type Mutilla simplicifascia, Radoszk.)

34. Upper margin of the metathoracic truncature armed with three or more teeth. ................. 35.
Upper margin of the metathoracic truncature normal, unarmed. ... 36.
35. Thorax not twice as long as wide, the upper margin of the truncature armed with 3 to 5 teeth; head large, quadrate, the temples very broad. (Africa.) ................. Pérénguey, Ashm., gen. nov.  
(Type Mutilla euterpe, Péring.)

Thorax a little more than twice longer than wide, the upper margin of the truncature armed with about 8 teeth; head subquadrate, the temples not especially broad.  
(Africa.) ................. Pristomutilla, Ashm., gen. nov.  
(Type Mutilla pectinata, Radoszk.)

36. Mandibles at apex not tridentate.  
37. Mandibles at apex tridentate, the outer tooth the longest. (Europe, Africa, Asia.) ................. Mutilla, Linné.

37. Mandibles not emarginate beneath towards base, without a process or projection.  
38. Mandibles emarginate beneath towards base, with a process or projection before the emargination. (Europe.) ... Ronisia, Costa.  
(Type Mutilla brutia, Pet.)

38. Head subquadrate or transverse, not or scarcely wider than the thorax.

Mandibles bidentate; third joint of the antennae not longer than the fourth, shorter than the fifth, or no longer.  
(Europe.) ................. Smicromyrme, Thomson.

Mandibles acuminate, edentate, rarely with a slight tooth within before apex; third joint of the antennae longer than the fourth, usually as long as joints 4 and 5 united. (North and South America.) ................. Timulla, Ashmead.

Head large, quadrate, wider than the thorax, the temples broad; thorax more than twice longer than wide; abdomen with two white dorsal spots on second segment. (Africa.) ... Viereckia, Ashmead.

40. Thorax somewhat escutcheon-shaped, sinuately emarginated or contracted from about the apical one-fourth, the posterior margin and angles rounded; head transverse, as wide as the thorax; eyes oval. (Africa.)  
(Minecomutilla, Ashm.)

40. Thorax quite differently shaped, without a lateral tooth at the apical third.  
41. Thorax sinuate and slightly narrowed posteriorly from a lateral tooth at the apical third.
Mandibles simple, edentate; third joint of the antennæ obconical, hardly longer than thick at apex.

(Africa.) Odontomutilla, Ashmead.

41. Thorax not hexagonal, usually obpyriform, obovoid, obtrapezoidal or violin-shaped.

Thorax distinctly hexagonal, widest at the angles a little before the middle, squarely truncate anteriorly.

Head quadrate, the temples broad; eyes oblong-oval.

(Africa.) Xenomutilla, Ashm., gen. nov.

42. Thorax not much elongate, less than thrice as long as wide.

Thorax much elongate, obpyriform, at least thrice as long as wide, or even longer; pygidium towards apex usually smooth, shining, the pygidial area nearly obliterated.

Thorax more than thrice as long as wide, coarsely pitted or rugose, the front margin rounded, the lateral margin with a triangular tooth before the middle; second ventral segment with a median tooth; head subquadrate, hardly as wide as the thorax, rounded behind, the temples broad; mandibles acuminate at apex, but with a tooth within near the middle, usually not visible when the mandibles are closed.

(Africa.) Dolichomutilla, Ashmead.

43. Thorax obpyriform, obovoid or subtrapezoidal, narrowed posteriorly.

Thorax subtrapezoidal; head subquadrate, rounded behind, the temples broad; eyes small, oval; mandibles arcuate, acuminate.

(Africa.) Brachymutilla, André.

Thorax obovoid or obpyriform.

Head quadrate, the temples broad; eyes ellipsoidal; mandibles conically-pointed; third antennal joint longer than the fourth, but not twice as long as thick.

(Africa.) Morsyma, Fox.
Head subglobose; eyes not small, oval or ovate; mandibles stout, conically-pointed; third antennal joint fully twice as long as thick, obconical, longer than the fourth. (Europe, Africa.)... Dasylabroides, André. (Type Mutilla caffrre, Smith.)

44. Thorax more or less contracted at the sides, almost violin-shaped or obtrapezoidal; if somewhat quadangular the sides sinuated... 45.

Thorax quadangular or nearly, trapezoidal or obpyriform...... 46.

45. Thorax, seen from above, almost violin-shaped.

Head large, quadrat e, wider than the thorax, the upper hind angles acute, beneath armed with a tooth on each side; mandibles usually bidentate, rarely simple, the outer tooth the longer. (North America.)... Pseudomethoca, Ashmead.

Head transverse, usually wider than the thorax, but with the hind angles rounded and beneath unarmed; mandibles with a tooth within before apex. (South America.)... Dimorphomutilia, Ashmead, gen. nov. (Type Mutilia lunulata, Spin.)

Thorax, seen from above, almost quadangular, with the sides bisinuate or crenulate; head transverse, a little wider than the thorax, the cheeks unarmed; eyes ellipsoidal; mandibles bidentate. (Africa.)... Barymutilia, André. (Type Mutilia pythia, Smith.)

46. Thorax not trapezoidal........... 47.

Thorax trapezoidal, slightly narrowed anteriorly.

No median longitudinal carina on thorax, the lateral margins finely denticulate; head large, nearly quadrate, wider than the thorax; eyes oval; hind tibiae spinous; scape long, somewhat curved; first joint of the flagellum very long, three or more times longer than the second; tarsi long and slender; mandibles large, falcate. (Africa.)... Labidomilla, André.

A feeble median longitudinal carina on thorax, the lateral margins not acute, the hind angles acute; head oblong, longer than wide; eyes oval; middle and hind tibiae smooth, not spinous. (Europe, Asia, Africa.)... Nanomutilia, André. (Type Mutilia voucheri, Turn.)

47. Thorax quadrangular or nearly, the sides parallel or nearly, rarely much compressed or sinuate at sides medially...... 48.

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Thorax obpyriform or much narrowed posteriorly ............... 52.

48. Thorax quadrangular or nearly ..................................... 49.

Thorax about twice as long as wide, the sides more or less compressed or sinuate medially.

Head not wider than the thorax; abdomen ovate, subsessile, the second segment large, with two white spots.

(Africa) ........................................ Apteromutilla, Ashmead.

50. Head somewhat large, but without a tooth on each side beneath, the hind angles rounded, not acute; eyes oval or oblong; antennal scape not specially long .................. 51.

Head large, with a tooth on each side beneath, the hind angles acute; eyes oval; antennae rather widely separated, the scape long, the third joint very long; mandibles long, narrow, arcuate and bidentate at apex. (North America.) ........ Myrmilloides, André.

51. Mandibles tridentate; third antennal joint only about twice as long as the fourth, or as long as joints 4 and 5 united. (Europe, Africa, Asia) .................................................. Myrmilla, Wesmael.

Mandibles acuminate at apex, with a tooth within before apex, never tridentate; third antennal joint more than twice longer than the fourth. (Europe, Africa.) .............. Edrinotus, Radoszkowski.

(Type Mutilla capitata, Lucas.)

52. Head not wider than the thorax, strongly concave beneath, the margins rimmed; second abdominal segment anteriorly depressed, the depression limited by an oblong cushion.

(Africa) .................................................. Platymutilla, André.

(Type P. quinquefasciata, André.)

A NEW JOINT-WORM PARASITE FROM RUSSIA.

BY WILLIAM H. ASHMEAD, M.A., D.SC., WASHINGTON, D.C.

_Homoporus Vassilieffii_, sp. nov.—♀—Length, 2 mm. Head and thorax bluish, finely, closely punctured, the face and the pleura with a greenish metallic lustre, the metapleura decidedly brassy; antennae brown, the scape yellow; legs concolorous with the thorax, the hind coxae with a metallic greenish fringe, the apices of all femora, all tibiae and tarsi, except the last joint, yellow; the last joint dark fuscous; wings hyaline, the nervures brown, the stigmatic vein two-thirds the length of the marginal, the
postmarginal vein very nearly as long as the marginal; abdomen aceneous black, tinged with metallic green basally at the sides, ovate, somewhat pointed at apex, very little longer than the thorax.

Type.—Cat. No. 1010, U. S. N. M.

Host.—Hym.: *Isosoma eremitum*, Portschinsky.

Hab.—Oufa, Russia. Described from a single specimen, received from Mr. Ivan Vassilief, of St. Petersburg.

Two of the Russian joint-worms described by Portschinsky, namely, *Isosoma apterum* and *I. eremitum*, should be relegated to the genus *Philachyra*, Haliday.

**CONCERNING GASTROPHILUS EPILEPSALIS, FRENCH.**

Mr. Washburn's note in the November number (p. 320) induces me to state that *Gastrophilus epilepsalis*, French, is no *Gastrophilus* at all; in fact, not the larva of an CEstrid. The figure shows that it is a Muscid larva, very probably of *Calliphora*, certainly so if the figure is correct. The species cannot be identified until more of these forms are reared. French's figure indicates that it is very close to the European *C. vomitoria* as figured by Piepers. There is no definite character known to identify CEstrid larvae, but the larvae of some Muscidae can be separated from the CEstridae. The larvae of *Calliphora* differ somewhat in the structure of the mouth from any known CEstrid larva. That Prof. Washburn had a *Gastrophilus* is quite possible from the habits; but it is not the *G. epilepsalis*, French.

**NATHAN BANKS.**

**CORRESPONDENCE.**

Sir,—Please insert the following addition to my paper on Isodontia, published in the *Canadian Entomologist* for October, 1903 (p 271):

*Isodontia macrocephala*, var. *cinerea*. Described from four specimens taken at Enterprise, Fla.; Columbia, S.C.; Texas, and one without locality. These cotypes are in the collections of the U. S. National Museum, American Entomological Society, Mass. Agricultural College, and Dr. W. H. Ashmead, the collections from which I received them.

H. T. Fernald.
SOME NEBRASKA BEES.

BY J. C. CRAWFORD, JR., WEST POINT, NEBR.

*Melissodes brevicornis*, Cress.—Lincoln, Aug. 12–27, on *Teucrium Canadense*. The ♂ differs from the ♀ only in having the face-parts black, pubescence on face lighter, segments 2 to 4 only banded; the scopa is yellowish. The ♂ ♀ taken all had the tibiae and tarsi entirely fulvous.

*Nomada grindelia*, Ckll.—♀. Head and thorax black, shiny, very sparsely punctured; abdomen red, very sparsely and finely punctured; face covered with decumbent, silvery-white pubescence; mandibles and labrum apically ferruginous; antennae ferruginous beneath; mesothorax almost impunctate medially; scutellum sub-bilobate; pleura of mesothorax swollen, whole thorax with white pubescence, especially pleura and metathorax; form more robust than in ♂. Length 7 mm.

♂.—The posterior femora have a small tooth beneath, toward base.

Common at Lincoln in August; taken on *Solidago Missouriensis, Grindelia squarrosa, Euphorbia and Lactuca*.

Mr. Pierce informs me that it is probably a parasite of *Halictus ligatus*, Say.

*Stelis lateralis*, Cress.—West Point, June 10, ’01. Taken at the holes of *Aclidamea simplex* in rose bushes.

*Neopasites Illinoiensis*, Robt.—Lincoln and West Point, Sept. 4 to 11, on *Solidago rigida* and *Grindelia squarrosa*.

*N. heliopsis*, Robt.—West Point and Lincoln, Aug. 30 to Sept. 11, on *Aster, S. rigida* and *G. squarrosa*.

*Halictoides marginatus*, Cress.—Common at Lincoln and West Point in August and September; found on *Grindelia, Helianthus, Solidago, Teucrium, Bidens*.

*H. maurus*, Cress.—Sioux Co., June, on Campanula. Mr. Viereck, to whom this was sent for comparison with Mr. Cresson’s types, informs me that the types are all males, and not females, as stated in the original description.

*Perdita maura*, Ckll.—Many specimens from both Lincoln and West Point, but all on *Physalis*. Dr. Graenicher writes that he has found it burrowing in loamy soil at Milwaukee, Wis., and regards it as an oligotrophic visitor of *Physalis*. Prof. Cockerell writes that it may possibly be found on Aster growing in the vicinity of *Physalis*, and no doubt this was the case in the type material.

December, 1903.