

## SYNOPSIS OF THE NORTH AMERICAN SPECIES OF AMMOPHILA.

BY A. L. MELANDER, CHICAGO, ILL.

Recently through the kindness of the authorities of the Academy of natural sciences of Philadelphia I had the opportunity of studying the types of AMMOPHILA contained in their collection. A synopsis of the species was arranged in tabular form with the intention of further work on the group. As this plan cannot now be carried out it seems advisable to publish the notes made while in Philadelphia for the assistance of any who wish to study this interesting genus. In the original table have been interpolated the additional North American species not contained at the Philadelphia academy, their places having been determined from the descriptions alone. Owing to the incomplete diagnoses of some authors a number of these species have been placed out of their natural order, and hence the table is in part more artificial than is to be desired; but in the main a natural relationship is expressed.

It is strange that the study of such large, common, and intelligent insects should have been so long neglected. Possibly this is due to the uncertainty in the determination of the species of the older authors and to the confusion existing between the homonymous but different species of Dahlbom and Lepeletier. But as in the northeastern part of the United States the species are not numerous the student of at least that section should experience but little trouble in naming his captures. For example, some two hundred specimens collected by myself in central and southern Texas, Illinois, and New England yield only three PSAMMOPHILAS, nine AMMOPHILAS and the one COLOPTERA, thirteen species, of which ten are found in the Northeastern States. In order of abundance of individuals these species are: *procera*, *nigricans*, *urnaria*, *violaceipennis*, *extremitata*, *inepta* (Tex.), *abbreviata*, *vulgaris*, *grossa* (Tex.), *luctuosa*, *gracilis*, *wrightii* (Tex.), and an undescribed species from Illinois. It will be noticed that most of these are the species of the older authors. On account of the brevity of their descriptions the determination of these can best be accomplished by eliminating the other species found in the type locality. By this method, and as they seem to be the most abundant forms, the older species can be readily fixed. A careful redescription of them is desired from the next monographer.

A number of changes in nomenclature are instituted, whereby several well-known names are dropped as synonyms. The dubious *violaceipennis* is a common form of the United States, concerning whose identity it is indeed strange that a doubt should ever have existed. The Brazilian *urnaria* of Lepeletier is not the

same as Dahlbom's species; *procera* Lep. is not *procera* Dahlb., but is the other sex of his *intercepta* and both are synonyms of *nigricans* Dahlb.; *gracilis* Cam. is not *gracilis* Lep., while the Canadian form of same name seems to be a third species.

With such well-known and long established names as *cementaria*, *gryphus*, *procera*, *robusta*, *macra*, *anomala*, etc., untenable, the future student will hesitate before describing new species. However the Mexican and Central American species of Peter Cameron seem valid and in little danger of confluence. The stumbling block of the earlier describers has often been the association of the sexes, since a distinct dimorphism often prevails. Generally the males are more slender, more hirsute, and more brilliantly marked than the females, and in those species with the abdomen partially red the males frequently have the black encroaching dorsally as a median line. Their clasping sexual organs and the narrow and straight-sided face are distinctive of this sex.

Of the species of the United States some difficulty might be experienced in differentiating between certain forms. For this reason a few supplementary notes on the common species are added:—

*vulgaris* is a small species, about three fourths of an inch in length. The mesonotum of the female generally has a deep median furrow. The striae of the metanotum are close together, oblique and well-cut, and are generally connected by a median line.

*juncea* is founded on a slender male with very fine transverse metanotal striae. The central portion of the disc is sometimes confusedly punctate and slightly hairy. It is a larger form than *vulgaris*.

*strenua* is about one inch in length and has complete transverse striae on the metanotum not quite so well marked as in *vulgaris* but rougher than in *juncea*. The anterior striae tend to become oblique. The female has a short narrow impressed line on the mesonotum.

*urnaria*. The obsolete striate arrangement of the punctures near the tegulae is quite characteristic and fairly constant in this species. The rather coarse striae of the metanotum are more or less oblique and frequently become rugulose on the disc as in *juncea*.

*abbreviata* is quite distinct among the local species by the acuminate clypeus of the male, the short pale golden macule of the mesopleurae, and the black abdomen.

*nigricans* also has the abdomen mostly black but the pleurae are entirely black and the wings darkened.

*extremitata* is quite distinct by the yellowish wings. The thorax of the female is matte-black and the abdomen contains a brighter red than in the other common forms.

*procera* is the only local species with complete and coarse transverse striae on the notum. It is also the largest of our species, some specimens attaining nearly an inch and a half in length.

It is believed that the following table will give a truthful determination of the species of this group as they have been defined, and since the species need no longer be confused it is hoped that an interest in their study may be aroused. Especially to be desired is the observation of the habits of these intelligent wasps,—a pleasant research,—for the ammophiles are intellectually superior to the other fossorial Hymenoptera, as the entertaining records of Fabre, the Peckhams, Williston, and others have shown.

TABLE OF THE NORTH AMERICAN SPECIES.

Front wings with three submarginal cells, submedian cell but little shorter than the median . . . . .	2.
Front wings with but two submarginal cells . . . . .	3.
2. Petiole of abdomen consisting of the first abdominal segment only (PSAMMOPHILA)	4.
Petiole of abdomen consisting of the entire first segment and at least the basal portion of the second . . . . . (AMMOPHILA)	18.
3. Second and third submarginals united. Black species with the base of the abdomen red (anomalous species of <i>Ammophila</i> )	74.
Third submarginal cell wanting; submedian cell distinctly shorter than the median (COLOPTERA)	75.
4. Body wholly black, piceous-black, or blue-black . . . . .	5.
Abdomen more or less ferruginous . . . . .	7.
5. Metanotum centrally opaque, closely punctured . . . . .	10. <i>piceiventris</i> Cam.
Metanotum shining, transversely striolate . . . . .	6.
6. Slender; pubescence in part whitish; face silvery; abdomen more or less purplish	2. <i>luctuosa</i> Sm. ♂.
Robust; pubescence black; face broad, black pubescent; abdomen black	2. <i>luctuosa</i> Sm. ♀.
7. Pubescence of thorax wholly black . . . . .	8.
Pubescence more or less brownish, gray, or white . . . . .	13.
8. Abdomen except the petiole entirely ferruginous . . . . .	9.
Abdomen proper in part black . . . . .	11.
9. Clypeus broadly projecting in the middle, the projection sinuated . . . . .	6. <i>jason</i> Cam.
The margin of the clypeus pluridentate . . . . .	10.
10. Wings with a yellow tinge; metanotum obliquely rugose . . . . .	3. <i>valida</i> Cress.
Wings with a violaceous tinge; metanotum transversely striolated	11. <i>quadridentata</i> Cam.
11. Metathorax rugose; wings violaceous . . . . .	8. <i>sonorensis</i> Cam.
Metathorax trans-striate; wings violaceous-black to subhyaline . . . . .	12.
12. Petiole of abdomen short, not extending beyond the hind trochanters; large species	4. <i>grossa</i> Cress. ♀.

- Petiole extending beyond the hind trochanters; smaller species variable in pubescence and wing-coloration . . . . . 1. *violaceipennis* Lep.
13. Third submarginal cell small, barrel-shaped; eyes strongly convergent below . . . . . 12. *pacifica* Mel. and Br.
- Third submarginal normal, *i. e.*, broader below than above . . . . . 14.
14. Front and middle legs in part red . . . . . 9. *morrisoni* Cam.
- Legs entirely black . . . . . 15.
15. Petiole of abdomen short, not extending beyond hind trochanters; stout species . . . . . 4. *grossa* Cress. ♂.
- Petiole much longer; smaller species . . . . . 16.
16. Base of abdomen entirely ferruginous . . . . . 17.
- Only the sides of the first and second segments reddish . . . . . 5. *montana* Cam.
17. Legs densely pruinose . . . . . 7. *alpestris* Cam.
- Legs sparsely pruinose . . . . . 1. *violaceipennis* Lep. ♂.
18. Pro- or meso-notum transversely strigose . . . . . 19.
- Disc of thorax punctured or smooth, never with complete transverse strigae . . . . . 34.
19. Thorax or legs in part red . . . . . 20.
- Ground color of thorax and legs entirely black . . . . . 21.
20. Head red; metanotum transversely striate . . . . . 28. *ferruginosa* Cress.
- Head black; metanotal striae becoming rugose laterally . . . . . 30. *collaris* Cress.
21. Abdomen wholly black above . . . . . 22.
- Abdomen in part red above . . . . . 27.
22. Scutellum with strong longitudinal carinae . . . . . 43. *ceres* Cam.
- Scutellum with longitudinal grooves or simply punctate . . . . . 23.
23. Pleurae with golden to silvery spots; abdomen almost wholly black; clypeus of male acuminate . . . . . 24.
- Pleurae with elongate silvery markings; third ventral in part red; clypeus of male not produced . . . . . 25.
24. Tip of metapleurae with a marking of silvery pubescence . . . . . 13. *abbreviata* Fabr.
- Tip of metathorax not marked with glistening pubescence . . . . . 42. *aureonotata* Cam.
25. Face with silvery pile and pubescence; metathorax transversely striate . . . . . 17. *gracilis* Lep.
- Face more or less silvery but with black pubescence also; metanotum with oblique striae at least in part . . . . . 26.
26. Prothorax shorter, sculpture of thorax coarser and insect more pubescent . . . . . 23. *barbata* Sm.
- Prothorax longer and comparatively stout; sculpture of thorax less coarse . . . . . 16. *procera* Dahlb.
27. Black pilose species; upper part of metathorax velvet black, and arcuately strigose; wings fulvous . . . . . 31. *extremitata* Cress. ♂.
- Not such species; pile in part lighter . . . . . 28.
28. Metapleurae rugosely punctate . . . . . 29.
- Metapleurae strigose . . . . . 33.
29. Clypeus coarsely punctured; mesothorax punctured at middle but becoming strigose at the sides; disc of metanotum obliquely striated . . . . . 27. *conditor* Sm.
- Species not conforming with all these characters . . . . . 30.
30. Face with whitish pubescence; abdomen largely red . . . . . 31.

- Face with black pubescence . . . . . 32.
31. Legs completely black . . . . . 32. *polita* Cress.  
 Legs densely pruinose . . . . . 46. *striolata* Cam.
32. Prothorax transversely striate . . . . . 45. *championi* Cam.  
 Prothorax smooth . . . . . 25. *placida* Sm.
33. Abdomen almost wholly red . . . . . 26. *saeva* Sm.  
 Petiole and apical part of abdomen black . . . . . 16. *procera* Dahlb.
34. Legs at least in large part red . . . . . 35.  
 Ground color of legs wholly black or piceous . . . . . 40.
35. Head and clypeus black; metanotum at least centrally with transverse striae . . . . . 36.  
 Metanotum sharply, densely, and obliquely striated; face and clypeus silvery  
 19. *aberti* Hald.
36. Sides of thorax with markings of silvery pubescence; central part of metanotum pubescent . . . . . 37.  
 Pleurae and metanotum not pubescent, pleurae with three large silvery pruinose spots  
 60. *femur-rubrum* Fox
37. First joint of petiole black, *i. e.*, with more black than second joint . . . . . 38.  
 First joint of petiole with more red than second joint; species of 16-25 mm.  
 29. *pruinosa* Cress.
38. Pleurae with dense matted pubescence; species of 35 to 40 mm. 24. *yarrowi* Cress. ♀.  
 Pleurae with sparser more erect hairs; species under 30 mm. . . . . 39.
39. Base of femora black; thorax not densely pubescent above . . . . . 21. *breviceps* Sm.  
 Four anterior legs red; thorax densely pubescent above . . . . . 58. *comanche* Cam.
40. Wings yellowish or fulvous . . . . . 41.  
 Wings dark-violaceous to subhyaline . . . . . 42.
41. Head and thorax matte-black, sparsely black pilose . . . . . 31. *extremitata* Cress. ♀.  
 Head and thorax bluish, densely fusco-pilose . . . . . 44. *xanthoptera* Cam.
42. Mesopleurae with spots or oblique stripings of silvery golden color . . . . . 43.  
 Pleurae uniform in color, not with pubescent markings . . . . . 61.
43. Thoracic notum with appressed sericeous pubescence and erect hairs . . . . . 44.  
 Thorax devoid of dense appressed pubescence but often with sparse to dense hairs  
 and sometimes more or less pruinose . . . . . 48.
44. Central space of metathorax closely pubescent . . . . . 24. *yarrowi* Cress.  
 Metathorax not pubescent centrally . . . . . 45.
45. Abdomen largely red, the segments with a black dorsal spot . . . . . 61. *nasalis* Prov.  
 Abdomen nearly or wholly black . . . . . 46.
46. The dilated part of the second segment except its hind margin red 18. *arvensis* Lep.  
 Abdomen completely blue-black; third submarginal narrow; the sericeous pubescence  
 confined to the front part of the thorax . . . . . 47.
47. Metapleurae coarsely striated; hind coxae covered with silvery pubescence  
 37. *miliaris* Cam.  
 Metapleurae finely rugulose; hind coxae silvery above only . . . . . 13. *abbreviata* Fabr.
48. Central part of metathoracic disc rugulose, scutellum with longitudinal striae  
 20. *fragilis* Sm.  
 Central part but little roughened, generally more or less striated . . . . . 49.
49. Small species clothed with silvery cinereous pubescence; metanotum with well-marked  
 oblique striae generally connected by a median line . . . . . 33. *vulgaris* Cress.

- Species of other character, the metanotum only rarely with a median line . . . 50.
50. Face covered with golden pubescence; abdomen largely reddish; clypeus not produced . . . . . 51.  
 Pubescence of face of other color, if golden the abdomen is black and the clypeus of the male is produced . . . . . 52.
51. Punctures of thorax fine and sparse; scutellum strongly furrowed . . . . . 57. *chiriquensis* Cam.  
 Punctures of thorax close; scutellum rugose . . . . . 53. *dejecta* Cam.
52. Head and thorax with sparse black but no silvery pubescence . . . . . 53.  
 Pubescence of head (inclusive of face) and thorax in part silvery, gray, or fuscous . . . . . 55.
53. Mesonotum strigose or very thickly punctate towards the sides. Eastern species. . . . . 14. *urnaria* Dahlb.  
 Mesonotum simply punctate. Mexican species . . . . . 54.
54. Ground color black over all . . . . . 40. *iridipennis* Cam.  
 Abdomen with the second segment red . . . . . 50. *consors* Cam.
55. Scutellum sparsely punctate . . . . . 56.  
 Scutellum deeply channeled longitudinally . . . . . 59.
56. Silvery mark of mesopleurae elongate; base of abdomen red . . . . . 57.  
 Pleural spots short; abdomen nearly black; third submarginal cell narrow; clypeus of male produced . . . . . 58.
57. Dorsal furrow of mesonotum deep . . . . . 35. *strenua* Cress.  
 Dorsal furrow of mesonotum indistinct . . . . . 52. *montezuma* Cam.
58. Metapleurae finely rugulose; third antennal joint nearly twice the length of the second . . . . . 13. *abbreviata* Fabr.  
 Metapleurae coarsely striated; third antennal joint one fourth longer than the fourth . . . . . 37. *miliaris* Cam.
59. Thorax nearly impunctate, but covered with dense silvery pubescence; slender species . . . . . 36. *juncea* Cress.  
 Thorax strongly punctured, its pubescence with long darker hairs intermixed. Mexican species . . . . . 60.
60. Third submarginal cell twice as wide at the bottom as at the top . . . . . 55. *azteca* Cam.  
 Third submarginal only one fourth longer at the bottom than at the top—*gracilis* Cam.
61. Wings blackish; thorax black-sericeous; pubescence dense ♂, or sparser ♀ . . . . . 15. *nigricans* Dahlb.  
 Wings sub- or fusco-hyaline . . . . . 62.
62. Abdomen without red markings . . . . . 63.  
 Abdomen in part red . . . . . 65.
63. Blue-black species; pleurae more or less shining; face with sparse silvery pubescence . . . . . 64.  
 Black species; pleurae opaque . . . . . 41. *centralis* Cam.
64. Pubescence sparse; hind tibiae with fulvous hairs . . . . . 38. *gaumeri* Cam.  
 Pubescence dense, fuscous; legs with almost no hairs . . . . . 39. *micans* Cam.
65. Thorax opaque matte velvet-black on the sides; species of the United States . . . . . 66.  
 Pleurae not matte-black . . . . . 67.
66. A spot of golden pubescence above the base of the middle and hind coxae . . . . . 31. *extremitata* Cress.  
 No such spots present . . . . . *extremitata* var. *pictipennis* Walsh.
67. Pro- and meso-thorax silvery pruinose. Cuba. . . . . 62. *guerinii* D. T.

- Thorax not pruinose; more or less polished. Mexico . . . . . 68.
68. Metathorax transversely striate . . . . . 71.  
Metathorax transversely rugose or punctured . . . . . 69.
69. Antennae reddish; scutellum channelled . . . . . 49. *picipes* Cam.  
Antennae black; scutellum rugose . . . . . 70.
70. Face golden-pubescent . . . . . 47. *alticola* Cam.  
Face with sparse black hairs only . . . . . 22. *atriceps* Smith  
Face with silvery pubescence and black hairs . . . . . 48. *trichiosoma* Cam.
71. Scutellum rugose or coarsely punctured . . . . . 72.  
Scutellum deeply longitudinally channelled . . . . . 73.  
Scutellum finely punctured; sides of thorax silvery pubescent 50. *consors* Cam. ♂.
72. Thoracic punctures close; metathorax trans-striate; hairs of face sparse  
51. *nigrocaerulea* Cam.  
Sculpture of thorax indistinct, the metanotal striae oblique; hairs of face dense and  
silvery in the male . . . . . 34. *mediata* Cress.
73. Thorax shining, punctured . . . . . 54. *cora* Cam.  
Thorax opaque, finely rugose . . . . . 56. *voltanica* Cam.
74. Pubescence of body white . . . . . 59. *nearctica* Kohl.  
Pubescence of body black . . . . . 31. *extremitata* Cress. ♂.
75. Small slender reddish species with long petiole and transversely striate thorax  
63. *wrightii* Cress.

The following list includes the species of this group which have been described as from North America. The species are given in chronological order and show no phyletic sequence.

PSAMMOPHILA Dahlbom.

1. *violaceipennis* Lep., Hym., vol. 3, p. 370. (1845). Amer. bor.  
*cementaria* Smith, Cat. Hym. Brit. mus., vol. 4, p. 223. (1856).  
*robusta* Cress., Proc. Ent. soc. Phil., vol. 4, p. 461. ♀. (1865).  
*communis* Cress., *ibid.*, p. 462. ♂.
2. *luctuosa* Smith, Cat. Hym. Brit. mus., vol. 4, p. 224. ♀. (1856). Can. U. S., Mex.,  
Cuba.  
*argentifrons* Cress., Proc. Ent. soc. Phil., vol. 4, p. 462. ♂. (1865).  
*mexicana* Sauss., Reise Novara. Hym., p. 25. (1868).
3. *valida* Cress., Proc. Ent. soc. Phil., vol. 4, p. 461. ♀. (1865). Col.
4. *grossa* Cress., Trans. Amer. ent. soc., vol. 4, p. 209. ♀. (1872). Tex.  
Melander and Brues, Biol. bull., vol. 2, p. 41. ♂. (1902).
5. *montana* Cameron, Biol. Cent.-Amer. Hym., vol. 2, p. 20. ♂. (1888). Mex.
6. *jason* Cam., *ibid.*, p. 20. ♀. Guatemala.
7. *alpestris* Cam., *ibid.*, p. 21. ♂. Panama.
8. *sonorensis* Cam., *ibid.*, p. 21. ♀. Mex.
9. *morrisoni* Cam., *ibid.*, p. 21. ♂. Mex.
10. *piceiventris* Cam., *ibid.*, p. 22. ♀. Guatemala.
11. *quadridentata* Cam., *ibid.*, p. 23. ♀. Mex.
12. *pacifica* Melander and Brues, Biol. bull., vol. 2, p. 42. ♂. (1902). Cal.

## AMMOPHILA Kirby.

13. *abbreviata* Fabi., Syst. Piezatorum, p. 204. ♂ ♀. (1804). U. S., Mex., S. Amer.
14. *urnaria* Klug. Dahlb., Hym. Eur., vol. 1, p. 14, (1843). U. S.
15. *nigricans* Dahlb., *ibid.*, p. 14. ♂. Amer. bor.  
*intercepta* Lep., Hym., vol. 3, p. 378. (1845).  
*procera* Lep., *ibid.*, p. 376. ♀. (1845).  
*macra* Cress., Proc. Ent. soc. Phil., vol. 4, p. 460. ♂. (1865).
16. *procera* Klug. Dahlb., Hym. Eur., vol. 1, p. 15. ♂ ♀. (1843). Amer. bor.  
*gryphus* Smith, Cat. Hym. Brit. mus., vol. 4, p. 222. (1856).
17. *gracilis* Lep., Hym., vol. 3, p. 381. ♂ ♀. Can. U. S. Mex. (nec *gracilis* of Cameron).
18. *arvensis* Lep., *ibid.*, p. 384. ♂ ♀. Amer. bor.
19. *aberti* Haldeman, Stans. Gt. Salt Lake Exp., 368. (1852). West U. S.  
Patton, Bull. U. S. geol. surv., vol. 5, p. 353. ♀ ♂. (1879).
20. *fragilis* Smith, Cat. Hym. Brit. mus., vol. 4, p. 219. ♂ ♀. (1856). Brazil, Mex., Costa Rica. Tex.  
*inepta* Cresson, Trans. Amer. ent. soc., vol. 4, p. 209. ♂ ♀. (1872).
21. *breviceps* Smith, Cat. Hym. Brit. mus., vol. 4, p. 221. ♀. (1856). Mex.  
*varipes* Cress., Proc. Ent. soc. Phil., vol. 4, p. 457. ♂ ♀. (1865). Col. Mex.
22. *atriceps* Smith, Cat. Hym. Brit. mus., vol. 4, p. 221. ♂ ♀. (1856). Mex.
23. *barbata* Smith, Ann. mag. nat. hist., (4), vol. 12, p. 260. ♀. (1873). Mex.
24. *yarrowi* Cress., Rept. Geogr. geol. surv., 100th mer., vol. 5, p. 713. ♂. (1873). Col.
25. *placida* Smith, Cat. Hym. Brit. mus., vol. 4, p. 221. ♂. (1856). Cal.
26. *saeva* Smith, *ibid.*, p. 222. ♀. Cal.
27. *conditor* Smith, *ibid.*, p. 223. Fla.
28. *ferruginosa* Cresson, Proc. Ent. soc. Phil., vol. 4, p. 455. (1865). Col.
29. *pruinosa* Cress., *ibid.*, p. 455. Col.
30. *collaris* Cress., *ibid.*, p. 456. Col.
31. *extremitata* Cress., *ibid.*, p. 457. Col., Tex., Ill., N. Mex.  
*pictipennis* Walsh, Amer. ent., vol. 1, p. 164. (1869).  
*anomala* Taschenberg, Zeitschr. ges. naturw., vol. 34, 434. (1869). Ill.
32. *polita* Cress., Proc. Ent. soc. Phil., vol. 4, 458. ♀. (1865). Col.
33. *vulgaris* Cress., *ibid.*, p. 458. ♂ ♀. Col., Tex., N. Mex., Ill.
34. *mediata* Cress., *ibid.*, p. 459. ♂ ♀. Col.
35. *strenua* Cress., *ibid.*, p. 459. ♀. Col., N. Mex.
36. *juncea* Cress., *ibid.*, p. 460. ♂. Col.
37. *miliaris* Cameron, Biol. Centr.-Amer. Hym., vol. 2, p. 3, ♂. (1888). Guatemala, Panama.
38. *gaumeri* Cam., *ibid.*, p. 4. ♂. Guat., Mex.
39. *micans* Cam., *ibid.*, p. 5. ♀. Guat.
40. *iridipennis* Cam., *ibid.*, p. 5. ♂ ♀. Guat.
41. *centralis* Cam., *ibid.*, p. 6. ♂. Guat.
42. *aureonotata* Cam., *ibid.*, p. 7. ♂ ♀. Mex.
43. *ceres* Cam., *ibid.*, p. 8. ♂. Guat.
44. *zanthoptera* Cam., *ibid.*, p. 8. ♀. Guat.
45. *championi* Cam., *ibid.*, p. 9. ♀. Guat.

46. *striolata* Cam., *ibid.*, p. 10. ♀. Mex.  
 47. *alticola* Cam., *ibid.*, p. 10. ♂. Mex.  
 48. *trichiosoma* Cam., *ibid.*, p. 11. ♂. Guat.  
 49. *picipes* Cam., *ibid.*, p. 11. ♂. Mex.  
 50. *consors* Cam., *ibid.*, p. 12. ♂ ♀. Mex.  
 51. *nigrocaerulea* Cam., *ibid.*, p. 12. ♂. Mex.  
 52. *montezuma* Cam., *ibid.*, p. 13. ♂. Mex.  
 53. *dejecta* Cam., *ibid.*, p. 14. Mex.  
 54. *cora* Cam., *ibid.*, p. 14. ♂. Guat.  
 55. *azteca* Cam., *ibid.*, p. 17. ♀. Mex.  
 56. *voltanica* Cam., *ibid.*, p. 17. ♀. Panama.  
 57. *chiriquensis* Cam., *ibid.*, p. 18. ♀. Panama.  
 58. *comanche* Cam., *ibid.*, p. 19. Mex.  
 59. *nearctica* Kohl, *Verh. zool.-bot. ges. Wien*, vol. 34, p. 18. ♂. 1889. Wash.  
 60. *femur-rubrum* Fox, *Proc. Cal. acad. sci.*, (2), vol. 4, p. 102. ♀. (1894). L. Cal.  
 61. *nasalis* Provancher, *Nat. can.* vol. 20, p. 111. ♂. (1895). Cal.  
 62. *guerinii* Dalla Torre, *Cat. Hym.*, vol. 8, p. 400. (1897). Cuba.  
     *apicalis* Guérin, *Icon. reg. anim.*, vol. 7, p. 435. (1845).

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HULL ZOOLOGICAL LABORATORY  
 The University of Chicago,  
 May 25, 1903.

THE NORTH AMERICAN ANTS OF THE GENUS *STENAMMA*  
*SENSU STRICTO*.<sup>1</sup>

BY WILLIAM MORTON WHEELER, AMERICAN MUSEUM OF NATURAL HISTORY, NEW  
 YORK, N. Y.

There is a good deal of confusion in regard to the two described North American species of *STENAMMA sensu stricto*, owing to imperfect knowledge of the sexual forms of one of the species. *Stenamma nearcticum* was described by Mayr from two male and two female specimens taken towards the end of October in California. To the same species he referred two workers, one from New Hamp-

<sup>1</sup> Contributions from the Zoological Laboratory of the University of Texas. No. 51.



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