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Report upon The Collections of Hymenoptera made in portions of Nevada, Utah, Colorado, New Mexico, and Arizona, during The Years 1872, 1873, and 1874

Ezra Townsend Cresson

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INTRADEPARTMENTAL LIBRARY MEMO

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From

Nancy Cook Ill

7/8/76

Date

To Faye

I do hope, Dr. Parker appreciates this one. It was an all day project before we were thru. The proper citation is US. Geographical Surveys west of the 100 Meridian."

Wheeler, George M. was a Lt. in charge of a mapping exhibition done by the Engr. Dept. US Army. There are several and different reports. One is on Ornithological specimens collected in years 1871...etc. We have a ~~copy~~ copy of the rpts. in our special collections. W8.2 and W 5. I have copied the plates, but they are in color and really beautiful and Dr. Parker might like to go over some day and look thru it.

CHAPTER VII.

REPORT

UPON

THE COLLECTIONS OF HYMENOPTERA

MADE IN PORTIONS OF

NEVADA, UTAH, COLORADO, NEW MEXICO, AND ARIZONA,

DURING

THE YEARS 1872, 1873, AND 1874.

BY

E. T. CRESSON.

WITH

LIST OF FORMICIDAE.

BY

EDWARD NORTON.

45 z

George M.
Cresson. In Wheeler, Rpt. Geog. Geol. Expl. and
Surv. West of 100th Meridian.
1875.

703

CHAPTER VII.

1. TENTHREDO SEMIRUFUS.

Tenthredo semirufus, NORTON, Proc. Ent. Soc. Phila., iii, 12.

1 ♀ specimen; Eastern Nevada; 1872; Dr. H. C. Yarrow.

2. TENTHREDO VARIEGATUS.

Tenthredo variegatus, NORTON, Proc. Ent. Soc. Phila., iii, 12.

1 ♂ specimen; Eastern Nevada; 1872; Dr. H. C. Yarrow.

3. UROCERUS AREOLATUS.

Urocerus areolatus, CRESS., Trans. Am. Ent. Soc., i, 375.

1 ♀ specimen; Colorado; Dr. H. C. Yarrow.

4. UROCERUS EDWARDSII.

Urocerus Edwardsii, BRULLÉ, Hym., iv, 645, pl. 45, f. 1.

1 ♀ specimen; Arizona; Jas. M. Rutter.

5. UROCERUS CYANEUS.

Sirex cyaneus, FAB., Ent. Syst., ii, 127.

1 ♀ specimen; New Mexico; J. Alborn.

6. UROCERUS ALBICORNIS.

Sirex albicornis, FAB., Ent. Syst., ii, 127.

1 ♀ specimen, with bright orange-yellow wings; New Mexico; J. Alborn.

7. UROCERUS FLAVICORNIS.

Sirex flavicornis, FAB., Ent. Syst., ii, 126.

Sirex bizonatus, STEPH., Kirby, Fn. Bor.-Am., iv, 256.

3 ♀ specimens; Eastern Colorado; 1873; Dr. J. T. Rothrock; New Mexico; Dr. H. C. Yarrow.

8. TREMEX COLUMBA.

Sirex columba, LINN., Syst. Nat., ii, 929.

1 ♀ specimen, with abdomen pale yellow, with five narrow black fasciæ; South Arizona; H. W. Henshaw; 1874.

9. ICHNEUMON SUTURALIS.

Ichneumon suturalis, SAY, Bost. Jour. Nat. Hist., i, 226.

2 ♂ ♀ specimens; New Mexico, Colorado; Dr. H. C. Yarrow.

10. TROGUS MELLOSUM, *sp. nov.*

♂.—Large, honey-yellow, opaque; head and antennæ lemon-yellow, tips of the latter and of mandibles black; mesothorax with a brownish longitudinal stripe on each side over tegulæ; scutellum and tegulæ pale honey-yellow, the former convex, shining, finely punctured; metathorax with sharply defined carinæ, the disk elevated, central area lunate, shining; wings yellow, apical margin fuscous, nervures and stigma honey-yellow; legs yellow, femora honey-yellow; abdomen velvety, paler on apical middle of segments; basal incisure of third segment narrowly black; apex of first segment with a prominent shining tubercle on summit. Length, 12 lines.

1 specimen; New Mexico; collected by T. V. Brown?, 388.

11. OPHION MACRURUM.

Ichneumon macrurus, LINN., Mant., 540.

1 ♀ specimen; Eastern Nevada; 1872; Dr. H. C. Yarrow.

12. OPHION BILINEATUS.

Ophion bilineatus, SAY, Contrib. Macl. Lyc., i, 75.

11 ♂ ♀ specimens; Eastern Nevada; 1872; Dr. H. C. Yarrow.

13. OPHION PURGATUS.

Ophion purgatus, SAY, Bost. Jour. Nat. Hist., i, 238.

1 ♀ specimen; Eastern Nevada; 1872; Dr. H. C. Yarrow.

14. CRYPTUS CALIPTERUS.

Cryptus calipterus, SAY, Bost. Jour. Nat. Hist., i, 234.

1 ♀ specimen; Arizona; 1873; H. W. Henshaw.

15. FORMICA PENNSYLVANICA.

Formica pennsylvanica, DE GEER, Ins., iii, 603.

2 ♀ specimens; Colorado, Arizona; 1873; H. W. Henshaw.

16. FORMICA RUFA.

Formica rufa, LINN., Syst. Nat., ii, 962.

2 ♂ specimens; Colorado; 1873; H. W. Henshaw.

17. MUTILLA OAJACA.

Mutilla oajaca, BLAKE, Trans. Am. Ent. Soc., iii, 228.

2 ♂ specimens; Colorado; Dr. H. C. Yarrow.

18. MUTILLA ORCUS.

Mutilla orcus, CRESS., Proc. Ent. Soc. Phila., iv, 428.

4 ♀ specimens; Eastern Nevada; 1872; Dr. H. C. Yarrow: Arizona (1294); Dr. J. Rothrock.

19. MUTILLA MAGNA.

Mutilla magna, CRESS., Proc. Ent. Soc. Phila., iv, 385.

1 ♀ specimen; Arizona; Jas. M. Rutter.

20. MUTILLA AUREOLA.

Mutilla aureola, CRESS., Proc. Ent. Soc. Phila., iv., 385.

2 ♀ specimens; New Mexico; Dr. Oscar Loew.

21. MUTILLA BIOCULATA.

Mutilla bioculata, CRESS., Proc. Ent. Soc. Phila., iv, 431, ♂.

♀.—Black; occiput, thorax above, and first large abdominal segment above clothed with a long, dense, yellowish-ferruginous pubescence; remainder of the body and legs clothed with black pubescence. Length, 7 lines.

4 ♂ ♀ specimens: Eastern Nevada; 1872: Colorado; Dr. H. C. Yarrow.

22. MUTILLA FULVOHIRTA.

Mutilla fulvohirta, CRESS., Proc. Ent. Soc. Phila., iv, 433.

1 ♂ specimen; New Mexico; Dr. H. C. Yarrow.

23. MUTILLA URSULA.

Mutilla ursula, CRESS., Trans. Am. Ent. Soc., v, 120.

1 ♂ specimen; New Mexico; Dr. H. C. Yarrow.

24. MUTILLA CALIFORNICA.

Mutilla californica, RAD., Blake, Trans. Am. Ent. Soc., iii, 235.

12 ♀ specimens; Eastern Nevada; 1872: New Mexico, Colorado; Dr. H. C. Yarrow: Arizona; 1873; Dr. J. T. Rothrock: New Mexico; H. W. Henshaw.

25. MUTILLA COCCINEOHIRTA.

Mutilla coccineohirta, BLAKE, Trans. Am. Ent. Soc., iii, 235.

1 ♂ specimen; Arizona; 1873; Dr. J. T. Rothrock.

26. MUTILLA AEGINA.

Mutilla Aegina, CRESS., Proc. Ent. Soc. Phila., iv, 435.

11 ♀ specimens; Arizona; 1873; Dr. J. T. Rothrock: New Mexico; Dr. H. C. Yarrow.

27. MUTILLA GORGON.

Mutilla gorgon, BLAKE, Trans. Am. Ent. Soc., iii, 233.

1 ♀ specimen; Eastern Nevada; 1872; Dr. H. C. Yarrow.

28. MUTILLA SACKENI.

Mutilla Sackeni, CRESS., Proc. Ent. Soc. Phila., iv, 385.

2 ♀ specimens; Eastern Nevada; 1872; Dr. H. C. Yarrow.

29. MUTILLA FENESTRATA.

Mutilla fenestrata, ST. FARG., Hym., iii, 627.

3 ♂ specimens; New Mexico; Dr. H. C. Yarrow, W. G. Shedd.

30. MUTILLA SIMILLIMA.

Mutilla simillima, SMITH, Brit. Mus. Cat. Hym., iii, 62.

6 ♀ specimens; New Mexico; Dr. H. C. Yarrow.

31. AGAMA TAPAJOS.

Agama Tapajos, BLAKE, Trans. Am. Ent. Soc., iii, 262.

1 ♂ specimen; Arizona; 1874; H. W. Henshaw.

32. AGAMA ALCANOR.

Agama alcanor, BLAKE, Trans. Am. Ent. Soc., iii, 264.

1 ♂ specimen; New Mexico; Dr. Oscar Loew.

33. AGAMA NITIDA, *sp. nov.*

♂.—Pale chestnut-brown, polished, very sparsely punctured, clothed with a long, scattered, pale pubescence; antennæ and tegulæ pale testaceous; postscutellum with a central pit; disk of metathorax with a shallow longitudinal depression, slightly striated at base; wings hyaline, faintly tinged with yellowish; nervures and stigma fuscous; marginal cell very short, appendiculated at tip; second submarginal cell triangular, petiolated; third submarginal cell large, subquadrate; abdomen very feebly punctured; basal segment petiolate, gradually dilated to tip; disk faintly sulcate; venter tinged with fuscous. Length, 5–6½ lines.

3 specimens; Colorado; Lieutenant C. W. Whipple. This is allied to *Alcanor*, Blake.

34. AGAMA GLABRELLA.

Mutilla glabrella, CRESS., Proc. Ent. Soc. Phila., iv, 414.

5 ♂ specimens; Eastern Nevada; 1872: Colorado, New Mexico; Dr. H. C. Yarrow.

35. AGAMA ALBIPES, *sp. nov.*

PLATE XXXIII, FIG. 2.

♂.—Uniform dark honey-yellow, clothed with a long, thin, pale pubescence, more dense on abdomen; sparsely punctured; metathorax closely and rather coarsely reticulated; mandibles pale, with black tips and long hairs; palpi pale; antennæ yellowish-white; scape with long hairs; wings pale yellowish-hyaline; marginal cell with a fuscous cloud, rather narrow, about equal in length with the stigma, truncate at tip; second submarginal cell subtriangular; the third subquadrate, slightly narrowed beneath; legs entirely yellowish-white, clothed with a long whitish pubescence; abdomen more or less tinged with fuscous, ovate, petiolate; the petiole long, much swollen beyond the middle, strongly and rather closely punctured; the apex strongly constricted. Length, 5–5½ lines. (Trans. Am. Ent. Soc., 1875.)

4 ♂ specimens; Eastern Nevada; 1872: Colorado; Dr. H. C. Yarrow.

36. MYZINE SEXCINCTA.

Scolia sexcincta, FABR., Syst. Ent., 356.

9 ♂ specimens; New Mexico; 1873; Dr. Oscar Loew: Colorado; Dr. H. C. Yarrow.

37. MYZINE HAMATA.

Myzine hamatus, SAY, Bost. Jour. Nat. Hist., i, 300.

3 ♂ ♀ specimens; Eastern Nevada; 1872: New Mexico; Dr. H. C. Yarrow.

38. MYZINE FRONTALIS, *sp. nov.*

♀.—Black; narrow anterior orbits confluent with a broader transverse line immediately above antennæ, line behind the eyes, a spot on disk of occiput, prothorax above, subquadrate spot on disk of mesothorax, a cuneiform spot on each side over tegulæ, scutellum except basal margin, post-scutellum, two spots on pleura, metathorax except two black approximate spots on posterior face, a black spot on each side at base, spot on all the

femora, spot on posterior coxæ, anterior tibiæ in front, broad band on five basal segments above with posterior margin more or less sinuate, and lateral spots on second, third, and fourth ventral segments, all bright lemon-yellow; wings hyaline, costal margin tinged with yellowish, nervures fulvous; abdomen smooth, polished, sparsely punctured, terminal segment opaque black, longitudinally aciculated, apical margin narrowly dark rufous, tip rounded and subcrenulated. Length, $6\frac{1}{2}$ lines.

1 ♀ specimen; New Mexico; collected by Dr. H. C. Yarrow.

39. MYZINE HYALINA.

Myzine hyalina, CRESS., Proc. Ent. Soc. Phila., iv, 442.

12 ♂ specimens; Colorado; Dr. H. C. Yarrow, Wm. H. Hance.

40. TIPHIA ALBILABRIS.

Tiphia albilabris, ST. FARG., Hym., iii, 556.

11 specimens; Eastern Nevada; 1872: New Mexico; Dr. H. C. Yarrow.

41. SCOLIA HAEMATODES.

Scolia hæmatodes, BURM., Abh. Nat. Ges. Halle, i, 33.

15 ♂ ♀ specimens; Eastern Nevada; 1872: New Mexico; Dr. H. C. Yarrow: Arizona; H. W. Henshaw.

42. SCOLIA LECONTEI.

Scolia Lecontei, CRESS., Trans. Am. Ent. Soc., i, 376.

13 ♂ specimens; New Mexico, Colorado; Dr. H. C. Yarrow.

43. ELIS XANTIANA.

Elis Xantiana, SAUSS., Ann. Soc. Ent. Fr., 4e sér., iii, 18.

2 ♀ specimens; New Mexico, Colorado; Dr. H. C. Yarrow.

44. ELIS ZONARIA.

Elis zonaria, CRESS., Trans. Am. Ent. Soc., i, 378.

8 ♂ ♀ specimens; Eastern Nevada; 1872: Colorado; Dr. H. C. Yarrow.

45. POMPILUS ÆTHIOPS.

Pompilus æthiops, CRESS., Proc. Ent. Soc. Phila., iv, 451.

1 ♂ specimen; Colorado; Wm. H. Hance.

46. POMPILUS ATROX.

Pompilus atrox, DAHLB., CRESS., Trans. Am. Ent. Soc., i, 98.

1 ♀ specimen; Arizona; Henry Johnson.

47. POMPILUS MARGINATUS.

Pompilus marginatus, SAY, Long's 2d Exped., ii, 333.

1 ♀ specimen; New Mexico; Dr. H. C. Yarrow.

48. PRIOCNEMIS TEXANUS.

Priocnemis texanus, CRESS., Trans. Am. Ent. Soc., iv, 204.

1 ♀ specimen; New Mexico; Dr. H. C. Yarrow.

49. PRIOCNEMIS TERMINATUS.

Pompilus terminatus, SAY, Am. Ent., pl. 42.

1 ♀ specimen; Arizona; H. W. Henshaw.

50. PEPSIS CAERULEA.

Sphex caerulea, LINN., Syst. Nat., i, 497.

Pompilus formosus, SAY, Am. Ent., pl. 42.

Numerous ♂ ♀ specimens; Eastern Nevada; 1872; Dr. H. C. Yarrow: Arizona; Jas. M. Rutter.

51. PEPSIS ORNATA.

Pepsis ornata, ST. FARG., Hym., iii, 486.

10 ♂ ♀ specimens; Eastern Nevada; 1872: Colorado, New Mexico; Dr. H. C. Yarrow: Arizona; Jas. M. Rutter.

52. AMMOPHILA YARROWI, *sp. nov.*

♂.—Black; head and thorax covered with a rather long, dense, silvery-cinereous pubescence; metathorax with an elongate, black, transversely aciculated space on each side of disk; tegulae fulvous, black anteriorly; wings hyaline, slightly dusky at tip; legs black, covered with very fine sericeous cinereous scales; tibiae sometimes varied with ferruginous; abdomen: the petiole long and very slender, the second joint except upper edge, and the first, second, and sides of third segments, ferruginous. Length, 11 lines.

2 ♂ specimens; Pueblo, Colorado; collected by Dr. H. C. Yarrow.

53. AMMOPHILA PRUINOSA.

Ammophila pruinosa, CRESS., Proc. Ent. Soc. Phila., iv, 455.

15 ♂ ♀ specimens; Eastern Nevada; 1872: New Mexico, Colorado; Dr. H. C. Yarrow.

54. AMMOPHILA VARIPES.

Ammophila varipes, CRESS., Proc. Ent. Soc. Phila., iv, 457.

8 ♂ ♀ specimens; Colorado, New Mexico, Dr. H. C. Yarrow, Lieutenant C. W. Whipple.

55. AMMOPHILA VULGARIS.

Ammophila vulgaris, CRESS., Proc. Ent. Soc. Phila., iv, 458.

6 ♂ ♀ specimens; Eastern Nevada; 1872: New Mexico; Dr. H. C. Yarrow: Colorado; Lieut. C. W. Whipple.

56. AMMOPHILA ROBUSTA.

Ammophila robusta, CRESS., Proc. Ent. Soc. Phila., iv, 461.

6 ♂ ♀ specimens; Eastern Nevada; 1872; Dr. H. C. Yarrow: New Mexico; J. Alborn.

57. AMMOPHILA LUCTUOSA.

Ammophila luctuosa, SMITH, Brit. Mus. Cat., iv, 224.

8 ♂ ♀ specimens; Colorado; 1873; Dr. J. T. Rothrock: Eastern Nevada; 1872: New Mexico; Dr. H. C. Yarrow.

58. PELOPOEUS CEMENTARIUS.

Sphex cementaria, DEURY, Ins., i, 105.

7 ♂ ♀ specimens; Eastern Nevada; 1872: New Mexico, Colorado; Dr. H. C. Yarrow.

59. PELOPOEUS CAERULEUS.

Sphex caerulea, LINN., Syst. Nat., i, 941.

2 ♀ specimens; Eastern Nevada; 1872; Dr. H. C. Yarrow: Arizona; 1873; Dr. J. T. Rothrock.

60. PELOPOEUS TEXANUS.

Pelopæus texanus, CRESS., Trans. Am. Ent. Soc., iv, 210.

1 ♀ specimen; Arizona; 1873; H. W. Henshaw.

61. CHLORION CAERULEUM.

Sphex caerulea, DEURY, Ins., ii, 75.

1 ♀ specimen; Arizona; 1873; Dr. J. T. Rothrock and H. W. Henshaw.

62. SPHEX LAEVIVENTRIS.

Sphex laeviventris, CRESS., Proc. Ent. Soc. Phila., iv, 463.

1 ♀ specimen; Eastern Nevada; 1872; Dr. H. C. Yarrow.

63. SPHEX RUFIVENTRIS.

Sphex rufiventris, CRESS., Trans. Am. Ent. Soc., iv, 211.

1 ♀ specimen; New Mexico; Dr. Oscar Loew.

64. SPHEX ICHNEUMONEA.

Sphex ichneumonea, LINN., Syst. Nat., ii, 959.

5 ♂ ♀ specimens; Eastern Nevada; 1872: New Mexico; Dr. H. C. Yarrow.

65. PRIONONYX ATRATA.

Sphex atrata, ST. FARG., Hym., iii, 355.

9 ♂ ♀ specimens; Colorado, New Mexico; Dr. H. C. Yarrow, Wm. H. Hance.

66. PRIONONYX THOMAE.

Sphex Thomæ, FABR., Ent. Syst., ii, 199.

8 ♂ ♀ specimens; Eastern Nevada; 1872: New Mexico; Dr. H. C. Yarrow: Arizona; H. W. Henshaw.

67. TACHYTES ABDOMINALIS.

Larræ abdominalis, SAY, West. Quar. Rep., ii, 77.

5 ♀ specimens; Eastern Nevada; 1872: Colorado, New Mexico; Dr. H. C. Yarrow, Wm. H. Hance.

68. ASTATA UNICOLOR.

Astata unicolor, SAY, Long's 2d Exped., ii, 337.

1 ♂ specimen; New Mexico; Dr. H. C. Yarrow.

69. BEMBEX SAYI.

Bembex Sayi, CRESS., Proc. Ent. Soc. Phila., iv, 467.

2 ♂ specimens; New Mexico; Dr. H. C. Yarrow.

70. BEMBEX FASCIATA.

Bembex fasciata, FABR., Syst. Piez., 224.

9 ♂ ♀ specimens; Eastern Nevada; 1872: Colorado; Dr. H. C. Yarrow: New Mexico; H. W. Henshaw.

71. STIZUS GRANDIS.

Stizus grandis, SAY, Am. Ent., pl. 2.

1 ♀ specimen; Eastern Nevada; 1872; Dr. H. C. Yarrow.

72. *STIZUS NEVADENSIS*, *sp. nov.*

PLATE XXXIII, FIG. 1.

♂.—Black; middle of face, clypeus, labrum, mandibles except tips, anterior orbits ending in two dots within the ocelli, tubercles, narrow posterior margin of prothorax, sometimes narrow line over tegulæ, and a band or two spots on scutellum, both sometimes wanting, yellow; base of antennæ ferruginous; tegulæ dull honey-yellow, with a yellow spot anteriorly; thorax with a very short, dense, changeable pile; wings pale yellowish-fuscous; marginal cell darker; costa more deeply tinged with yellow; legs ferruginous, sometimes more or less black at the base; anterior femora beneath, four anterior tibiæ exteriorly, and base of posterior tibiæ, yellow; abdomen shining, pale yellow above; base of first segment and basal and apical margin of all the segments narrowly black; on each side of first segment anteriorly an oblique, generally bifurcate, black mark; anterior margin of second segment more or less undulate, and on each side anteriorly a rounded black spot; a short, oblique, black line on each side of second and third, and sometimes fourth, segments posteriorly; the yellow band on fifth, and sometimes fourth, segments deeply indented with black on each side anteriorly; sixth segment with a large, transverse, yellow mark; apical segment black, tipped with ferruginous; the anal spine rather long and acute; sometimes the base of second segment is ferruginous; venter black, sometimes varied with ferruginous; a yellow band on posterior margin of second segment deeply indented laterally; three following segments with a lateral yellow line or spot. Length, 10–12 lines. (Trans. Am. Ent. Soc., 1875.)

3 specimens; Eastern Nevada; 1872; Dr. H. C. Yarrow. The prevailing color of the dorsal segments of abdomen is a pale yellow; the bands occupying nearly the entire width of the segments, leaving only a narrow, black margin at base and apex; the basal margin of the yellow on first segment is more or less sinuous.

73. *LARRA UNICINCTA*.

Stizus uncinata, SAY, West. Quar. Rep., ii, 77; Am. Ent., pl. 2.

8 ♂ ♀ specimens; Colorado; Dr. H. C. Yarrow, Wm. H. Hance: New Mexico; Dr. H. C. Yarrow, Dr. Oscar Loew.

74. PHILANTHUS VENTILABRIS.

Philanthus ventilabris, FABR., Ent. Syst., suppl., 268.

3 ♀ specimens; Colorado; Wm. H. Hance: New Mexico; Dr. H. C. Yarrow.

75. CERCERIS FRONTATA.

Cerceris frontata, SAY, West. Quar. Rep., ii, 80.

2 ♀ specimens; Colorado; Dr. H. C. Yarrow.

76. CERCERIS BICORNUTA.

Cerceris bicornuta, GUÉR., Icon. Règ. Anim., 443, ♀.

Cerceris Dufourii, GUÉR., Icon. Règ. Anim., iii, 444, ♂.

Cerceris venator, CRESS., Proc. Ent. Soc. Phila., v, 116, ♂.

11 ♂ ♀ specimens; Eastern Nevada; 1872: Colorado, New Mexico; Dr. H. C. Yarrow.

77. CERCERIS SEXTA.

Cerceris sexta, SAY, Bost. Jour. Nat. Hist., i, 382.

2 ♀ specimens; Colorado; Wm. H. Hance.

78. MASARIS VESPOIDES.

Masaris vespoïdes, CRESS., Proc. Ent. Soc. Phila., ii, 69.

1 ♂ specimen; Colorado; 1873; Dr. J. T. Rothrock.

79. ODYNERUS CAPRA.

Odynerus capra, SAUSS., Rev. Mag. Zoöl., 1857, 273.

2 ♂ ♀ specimens; Eastern Nevada; 1872: New Mexico; Dr. H. C. Yarrow.

80. EUMENES COLORADENSIS, *sp. nov.*

♀.—Black; rather densely clothed with a short, pale pubescence; apex of clypeus, two oblique spots on upper margin (sometimes nearly confluent with apical spot), clavate spot between antennæ, dot behind summit of each eye, scape beneath, anterior margin of prothorax, dot beneath wings, dot on each side of scutellum, postscutellum, a round spot on each side of metathorax at base, apex of femora, anterior pair beneath, all the tibiæ, dot on each side of first segment of abdomen above, its narrow and wavy apical margin, a transverse, rather oblique mark of variable size on each side of second segment, its broad, apical margin (narrowed laterally, sometimes deeply indented on anterior middle, sometimes entire, inclosing a black dot),

apical margin of remaining segments above and beneath (more or less indented laterally above), and a large quadrate mark on apex of second ventral segment, lemon-yellow; tarsi pale ferruginous; tegulae yellowish, pupilled with fulvous; wings subhyaline, with costae of anterior pair yellowish-fuscous; marginal cell fuscous. Clypeus elongate, convex at base, flattened at apex, which is deeply emarginate, the surface shining, with a few large, scattered punctures; thorax densely and deeply punctured; abdomen shaped much like that of *fraterna*, densely punctured, clothed with a dense, yellowish, sericeous pile, very conspicuous in certain lights; lateral tubercle on first segment distinct. Length, $5\frac{1}{2}$ lines.

♂.—Varies considerably in markings; clypeus entirely lemon-yellow; band on post scutellum sometimes interrupted medially; dot on each side of first abdominal segment generally wanting; lateral mark on second segment varies considerably both in length and breadth; the broad apical margin sometimes indented; hook at tip of antennae ferruginous and very acute; the pubescence of the body is longer and more dense than in ♀, and the sericeous pile on abdomen more conspicuous. Length, 5–6 lines.

5 ♂ ♀ specimens; Colorado; Dr. H. C. Yarrow. This is allied to *verticalis*, Say, but is less robust and more densely pubescent; ♀ clypeus narrower, with apex more deeply emarginate.

81. ODYNERUS ANNULATUS.

Odynerus annulatus, SAY, Long's 2d Exped., ii, 348.

43 ♂ ♀ specimens; Colorado; Dr. H. C. Yarrow, Wm. H. Hance, Almont Barnes: New Mexico; Dr. H. C. Yarrow, Dr. Oscar Loew.

82. ODYNERUS DUCTUS.

Odynerus ductus, CRESS., Trans. Am. Ent. Soc., iv, 238.

5 ♂ specimens; New Mexico; Dr. H. C. Yarrow.

83. ODYNERUS ANORMIS.

Eumenes anormis, SAY, Long's 2d Exped., ii, 346.

2 ♂ specimens; Arizona; 1873; H. W. Henshaw: Colorado; Dr. H. C. Yarrow.

84. ODYNERUS TAOS.

Odynerus taos, CRESS., Trans. Am. Ent. Soc., i, 381.

15 ♂ ♀ specimens; Colorado; Dr. H. C. Yarrow, Almont Barnes: New Mexico; Dr. H. C. Yarrow, Dr. Oscar Loew.

85. PTEROCHILUS 5-FASCIATUS.

Pterochilus 5-fasciatus, SAY, Long's 2d Exped., ii, 347.

4 ♂ specimens; Colorado; Dr. H. C. Yarrow, Almont Barnes: New Mexico; Dr. Oscar Loew; H. W. Henshaw.

86. POLISTES CANADENSIS.

Vespa canadensis, LINN., Syst. Nat., i, 952.

1 ♀ specimen; New Mexico; Dr. H. C. Yarrow.

87. POLISTES NAVAJOE.

Polistes Navajoe, CRESS., Trans. Am. Ent. Soc., i, 383.

7 ♂ ♀ specimens; Arizona; Jas. M. Rutter, Henry Johnson.

88. POLISTES FLAVUS.

Polistes flavus, CRESS., Trans. Am. Ent. Soc., i, 383.

6 ♂ ♀ specimens; Arizona; Jas. M. Rutter: New Mexico; Dr. H. C. Yarrow, Wm. G. Shedd, Gilbert Thompson.

89. POLISTES AURIFER.

Polistes aurifer, SAUSS., Mon. Guêpes Soc., 78.

8 ♂ ♀ specimens; Eastern Nevada; 1872; Dr. H. C. Yarrow.

90. POLISTES VARIATUS.

Polistes variatus, CRESS., Trans. Am. Ent. Soc., iv, 247.

7 ♂ ♀ specimens; New Mexico; 1873; Dr. Oscar Loew, Dr. H. C. Yarrow: Colorado; Dr. H. C. Yarrow.

91. VESPA MACULATA.

Vespa maculata, LINN., Syst. Nat., ii, 948.

1 ♀ specimen; New Mexico; Dr. Oscar Loew.

92. VESPA OCCIDENTALIS, *sp. nov.*

PLATE XXXIV, FIGS. 1, 2.

♀.—Black; clypeus, mandibles except tips, large triangular mark on front, anterior orbits filling the sinus, broad posterior orbits, scape in front,

large elongate mark on each side of prothorax in front of tegulæ, a triangular spot beneath wings, two large transverse spots on scutellum, band on postscutellum interrupted medially, sometimes two spots on metathorax, and sometimes two small spots on mesothorax posteriorly, lemon-yellow; clypeus rather broader than long, with a black dot on middle; the apex broadly and rather deeply emarginate; the lateral angles prominent; eyes and base of mandibles contiguous; tegulæ yellow, pupiled with black or brown; wings pale fuscous; legs lemon-yellow; base of femora more or less black; abdomen lemon-yellow; first segment with a black spot on each side anteriorly, not inclosed, and a large triangular one on the middle; base of second, and the three following, segments, more or less broadly black, deeply indenting the yellow medially, and with a black spot on each side of the middle; apical segment black, with a large, triangular, black spot on each side; venter yellow, with a transverse, black spot on each side; second segment broadly black at base, confluent with the lateral black spot; the yellow band, occupying the apical half of this segment, divided by a black, median stripe. Length, $8\frac{1}{2}$ lines. (Trans. Am. Ent. Soc., 1875.)

♂.—Resembles the ♀ in markings, except that the apical yellow bands on second and three following segments are much narrower and acutely indented medially and squarely on each side of the middle; the black spots not inclosed. Length, 6 lines.

23 ♀ specimens; Eastern Nevada; 1872; Dr. H. C. Yarrow: New Mexico; 1873; H. W. Henshaw, Dr. H. C. Yarrow, Dr. Oscar Loew: Colorado; Dr. H. C. Yarrow, Lieut. C. W. Whipple.

Distinguished at once from *germanica* by the scape of antennæ being yellow beneath, and by the different ornamentation of the first abdominal segment.

93. HALICTUS TRIZONATUS, *sp. nov.*

PLATE XXXIII, FIG. 3.

♀.—Black; finely, not densely punctured, clothed with a pale, griseous pubescence, more dense on face, cheeks, sides of thorax, postscutellum and sides of metathorax; scutellum shining; inclosed space at base of metathorax finely, longitudinally rugose; tegulæ brown; wings hyaline, tinged with yellow; veins honey-yellow; subcostal nerve black; legs black, with

short, dense, griseous pubescence; abdomen rather short, ovate, convex, smooth, and shining; base and sides with a long, thin, griseous pubescence; second, third, and fourth segments each with a broad band of short, dense, white pubescence; anal rima fulvous. Length, $4\frac{1}{2}$ lines. (Trans. Am. Ent. Soc., 1875.)

1 specimen; Eastern Nevada; 1872; Dr. H. C. Yarrow.

94. HALICTUS DISPARILIS.

Halictus disparilis, CRESS., Trans. Am. Ent. Soc., iv, 253.

2 ♀ specimens; Eastern Nevada; 1872; Dr. H. C. Yarrow.

95. AGAPOSTEMON TEXANUS.

Agapostemon texanus, CRESS., Trans. Am. Ent. Soc., iv, 255.

6 ♀ specimens; Colorado, New Mexico; Dr. H. C. Yarrow, Dr. Oscar Loew.

96. AGAPOSTEMON TRICOLOR.

Agapostemon tricolor, ST. FARG., Hym., ii, 289.

14 ♂ specimens; Eastern Nevada; 1872; Colorado; Dr. H. C. Yarrow; New Mexico; Dr. H. C. Yarrow; H. W. Henshaw; Dr. Oscar Loew.

97. AGAPOSTEMON MELLIVENTRIS, *sp. nov.*

PLATE XXXIII, FIG. 4.

♀.—Golden-green, very densely punctured, clothed with a pale ochraceous pubescence; anterior margin of clypeus, and mandibles except tips, which are black, yellow; antennæ black; scape at base and beneath pale yellow; flagellum testaceous beneath; metathorax coarsely reticulated, sometimes tinged with blue, the truncate apex inclosed by a nearly semi-circular carina; tegulæ pale yellow; wings pale yellowish-hyaline; nervures pale; legs yellowish, with pale ochraceous pubescence; coxæ and base of femora black, more or less tinged with green; abdomen ovate, clothed above with a short, pale sericeous pile, very dense at base of the segments; the fourth segment has a narrow, black band across the middle, and the following segment more or less tinged with black; beneath, the apical segments are more or less blackish. Length, $4\frac{1}{2}$ lines. (Trans. Am. Ent. Soc., 1875.)

3 specimens. Easily recognized by the green head and thorax and the fulvous abdomen.

98. *NOMIA NORTONI*.

Nomia Nortoni, CRESS., Trans. Am. Ent. Soc., i, 385.

1 ♀ specimen; Colorado; Dr. H. C. Yarrow.

99. *NOMIA NEVADENSIS*, *sp. nov.*

PLATE XXXIV, FIGS. 3, 4.

♀.—Head and thorax black, rather densely clothed with a short ochraceous pubescence; three or four basal joints of antennæ, and sometimes the middle of face and clypeus, fulvous; scutellum and metathorax fulvo-feruginous; on sides of thorax, the pubescence is long and dense, and short and dense on anterior part of mesothorax, on posterior margin, and on post-scutellum; basal space of metathorax inclosed by a well-defined carina, and longitudinally rugose; tegulæ pale honey-yellow; wings yellowish, with apical margin broadly fuliginous; legs fulvous, with dense ochraceous pubescence; abdomen fulvous; apical margin of the segments depressed, pale, and fringed with ochraceous pubescence; venter fringed with long, ochraceous pubescence. Length, $5\frac{1}{2}$ lines. (Trans. Am. Ent. Soc., 1875.)

♂.—Less robust, and more densely pubescent, especially on the face; posterior femora much swollen and curved; their tibiæ dilated inwardly at tip, which has a stout, obtuse tooth; the margin above rather deeply emarginate; middle of first and second abdominal segments deeply and transversely excavated, the third less deeply so; fourth and fifth segments, except apical margins, black, the third sometimes tinged with black. Length, 5– $5\frac{1}{2}$ lines. (Trans. Am. Ent. Soc., 1875.)

8 ♂ ♀ specimens; Eastern Nevada; 1872; Dr. H. C. Yarrow.

The pubescence is doubtless much faded from being long immersed in alcohol.

100. *EUNOMIA MARGINIPENNIS*, *sp. nov.*

♀.—Entirely black or brown-black; head and abdomen shining; thorax clothed with a short, dense, velvety-black or brown pubescence; legs generally brown, with sericeous pubescence on tibiæ; inclosed space behind postscutellum coarsely rugose; metathorax coarsely punctured; wings yellowish-hyaline, with apical margins broadly fuliginous; abdomen depressed above, with little or no pubescence, finely punctured; base deeply excavated. Length, 8 lines.

♂.—Very different from ♀, the body being clothed with a brownish-ochraceous pubescence, paler on the face; apical joint of antennæ enlarged and much flattened; legs shining; anterior tibiæ and tarsi fringed behind with long, ochraceous pubescence; intermediate femora much swollen, produced beneath into a sharp, bisinuate edge, their tibiæ short, simple, their tarsi long, slender; posterior femora clavate, being swollen at tip, their tibiæ short, triangular, flattened, undulate beneath, the apex beneath dilated and truncate or subbilobate, their tarsi slender, nearly as long as the femora and tibiæ together; first joint very long, longer than the remaining joints together; wings as in ♀; abdomen narrower than in ♀, more convex above, the depressed apical margin of the segments testaceous; all the segments above covered with a short, brownish-ochraceous, sericeous pubescence; venter flat, smooth, and shining. Length, $8\frac{1}{2}$ lines.

5 ♂ ♀ specimens; Colorado, New Mexico; Dr. H. C. Yarrow, Dr. Oscar Loew, W. G. Shedd. This is congeneric with *heteropoda*, Say; the males of both species having the apex of antennæ dilated and flattened, and the same formation of legs. I therefore separate them from our other species under the generic name given above. The *N. ? apacha*, Cress., of which the ♀ only is known, and which resembles the ♂ of *marginipennis* very closely in color, also belongs to this genus.

101. MEGACILISSA YARROWI, *sp. nov.*

♀.—Black; head, thorax, legs, and basal segment of abdomen clothed with a rather long, dense, ochraceous pubescence; wings subhyaline, dusky beyond the cells; apical margin of second, third, and fourth segments of abdomen with a narrow continuous band of white pubescence; two apical segments entirely black; venter with ochraceous pubescence; four anterior tibiæ and all the tarsi black. Length, 9 lines.

2 ♀ specimens; New Mexico; Dr. H. C. Yarrow.

102. PANURGUS? ÆTHIOPS.

Panurgus æthiops, CRESS., Trans. Am. Ent. Soc., iv, 259.

1 ♂ specimen; New Mexico; Dr. H. C. Yarrow.

103. MACROTERA ALBIPENNIS.

Perdita? albipennis, CRESS., Trans. Am. Ent. Soc., i, 386.

3 ♀ specimens; New Mexico; Dr. Oscar Loew.

104. MONUMETHA BOREALIS.

Monumetha borealis, CRESS., Proc. Ent. Soc. Phila., 1864, 388.

1 ♀ specimen; Eastern Nevada; 1872; Dr. H. C. Yarrow.

105. MONUMETHA ARGENTIFRONS.

Monumetha argentifrons, CRESS., Proc. Ent. Soc. Phila., 1864, 387.

1 ♂ specimen; Colorado; 1873; Dr. J. T. Rothrock. This is probably the ♂ of *borealis*.

106. OSMIA BUCEPHALA.

Osmia bucephala, CRESS., Proc. Ent. Soc. Phila., 1864, 17.

1 ♀ specimen; Colorado; 1873; Dr. J. T. Rothrock.

107. LITHURGUS APICALIS, *sp. nov.*

♀.—Black; the face with a transverse ridge, with the sides elevated into a prominent obtuse tubercle, and beneath a large, quadrate, flattened, smooth, shining space, having a few large scattered punctures; at base of antennæ, down the sides of the face, and on the margin of the clypeus covered with dense, whitish pubescence; that on the latter intermixed with fulvous; cheeks, sides of thorax and of metathorax, and postscutellum clothed with long, whitish pubescence; thorax convex, densely and rather coarsely rugose; wings subhyaline; legs clothed with a pale pubescence; that on tarsi beneath fulvous; abdomen depressed, much flattened and excavated at base, shining, finely and closely punctured on the sides, smooth on the disk of the segments, the apical margins of which have a narrow band of white pubescence, generally interrupted medially; apical segment above densely covered with a fulvo-fuscous pubescence; ventral scopa dense and whitish. Length, 6–8 lines.

2 ♀ specimens; Colorado, New Mexico; Dr. H. C. Yarrow, C. E. Aiken. This is closely allied to *gibbosus*, Sm., also found in Colorado, but is readily distinguished by the fulvous apex of the abdomen; in *gibbosus*, the apical segment is black.

108. MEGACHILE PRUINA.

Megachile pruina, SMITH, Brit. Mus. Cat., i, 190.

10 ♂ ♀ specimens; Eastern Nevada; 1872; Dr. H. C. Yarrow: Colorado, New Mexico; Dr. H. C. Yarrow, Dr. Oscar Loew.

109. MEGACHILE DISPARILIS.

Megachile disparilis, CRESS., Trans. Am. Ent. Soc., iv, 264.

1 ♂ specimen; New Mexico; H. W. Henshaw.

110. ANTHIDIUM MACULIFRONS.

Anthidium maculifrons, SMITH, Brit. Mus. Cat. Hym., ii, 214.

1 ♂ specimen; Colorado; Almont Barnes.

111. ANTHIDIUM EMARGINATUM.

Megachile emarginata, SAY, Long's 2d Exped., ii, 352.

2 ♂ specimens; Eastern Nevada; 1872; Dr. H. C. Yarrow.

112. ANTHIDIUM ZEBRATUM.

Anthidium zebratum, CRESS., Trans. Am. Ent. Soc., iv, 270.

1 ♂ specimen; New Mexico; Dr. H. C. Yarrow.

113. NOMADA GRANDIS, *sp. nov.*

♀.—Head ferruginous, densely punctured; face clothed with yellowish pubescence; apical half of mandibles black; posterior orbits more or less yellowish; the ocelli are sometimes surrounded by a blackish stain; antennæ ferruginous, paler beneath and at extreme tip above. Thorax ferruginous, very densely and confluent punctured; collar yellow; mesothorax with a deeply impressed longitudinal line in front and a black central stripe; tubercles sometimes yellow, deeply notched anteriorly with blackish; scutellum subbilobate, entirely yellow, with a transverse line behind it; metathorax densely clothed with yellowish pubescence, black at base and down the middle, yellowish on the sides; tegulæ ferruginous. Wings subhyaline, the apical margins broadly and costal half of marginal cell fuliginous; nervures at base of wing, costal nervure and stigma ferruginous. Legs ferruginous, clothed with short, golden pubescence; coxæ pubescent, base of middle pair black. Abdomen broad, ovate, very finely and densely punctured, shining, bright yellow; basal half of first segment, as well as

the narrow apical margin of all the segments, ferruginous; apex densely clothed with fuscous pubescence, having a silvery reflection in certain lights; venter ferruginous, more or less varied with yellowish Length, 6-7 lines.

3 ♀ specimens; Colorado; Dr. H. C. Yarrow.

114. *CÆLIOXYS DUBITATA*.

Cælioxys dubitata, SMITH, Brit. Mus. Cat. Hym., ii, 272.

1 ♀ specimen; New Mexico; W. G. Shedd.

115. *MELECTA THORACICA*, *sp. nov.*

PLATE XXXIII, FIG. 5.

♀.—Deep black; occiput, thorax above, and first abdominal segment above, clothed with a dense ochraceous pubescence; wings fuscous. Length, $6\frac{1}{4}$ lines.

1 specimen; Eastern Nevada; 1872; Dr. H. C. Yarrow.

116. *EPEOLUS REMIGATUS*.

Melecta remigata, FABR., Syst. Piez., 387.

7 ♂ ♀ specimens; Eastern Nevada; 1872: Colorado, New Mexico; Dr. H. C. Yarrow, Dr. Oscar Loew.

117. *MELISSODES OBLIQUA*.

Macrocera obliqua, SAY, Bost. Jour. Nat. Hist., i, 403.

14 ♂ ♀ specimens; Eastern Nevada; 1872: Colorado, New Mexico; Dr. H. C. Yarrow, Dr. Oscar Loew, Wm. H. Hance.

118. *MELISSODES COMANCHE*.

Melissodes Comanche, CRESS., Trans. Am. Ent. Soc., iv, 276.

2 ♀ specimens; Colorado, New Mexico; Dr. H. C. Yarrow.

119. *MELISSODES NEVADENSIS*, *sp. nov.*

PLATE XXXIV, FIG. 6.

♂.—Black; densely clothed with a long ochraceous pubescence; clypeus, labrum, and spot on base of mandibles white; mandibles with pale-fulvous stripe to tips; antennæ reaching beyond metathorax, black; scape densely pubescent; the pubescence on legs more yellowish, shading into

brown on the tarsi; abdomen clothed with short, black pubescence, that on first segment entirely ochraceous; a band on base of second segment, another near apex, and also near apex of third and fourth segments, of short, dense, pale, ochraceous pubescence; sometimes there are indications of a band near apex of fifth segment; venter fringed with pale pubescence. Length, $6\frac{1}{2}$ –8 lines. (Trans. Am. Ent. Soc., 1875.)

20 specimens; Eastern Nevada; 1872; Dr. H. C. Yarrow.

120. MELISSODES MENUACHUS.

Melissodes menuachus, CRESS., Trans. Am. Ent. Soc., i, 388.

10 ♂ ♀ specimens; Arizona; 1873; H. W. Henshaw: Colorado, New Mexico; Dr. H. C. Yarrow, Dr. Oscar Loew, W. G. Shedd.

121. MELISSODES DENSA.

Melissodes densa, CRESS., Trans. Am. Ent. Soc., iv, 282.

1 ♂ specimen; New Mexico; Dr. H. C. Yarrow.

122. ANTHOPHORA OCCIDENTALIS.

Anthophora occidentalis, CRESS., Trans. Am. Ent. Soc., ii, 292.

5 ♂ ♀ specimens; Colorado, New Mexico; Dr. H. C. Yarrow.

123. ANTHOPHORA BOMBOIDES.

Anthophora bomboides, KIRBY, Faun. Bor.-Am., iv, 271.

2 ♂ ♀ specimens; Colorado; C. E. Aiken.

124. ANTHOPHORA SMITHII.

Anthophora Smithii, CRESS., Trans. Am. Ent. Soc., ii, 289.

4 ♂ specimens; Colorado; 1873; H. W. Henshaw: New Mexico; Dr. H. C. Yarrow.

125. ANTHOPHORA CALIFORNICA.

Anthophora californica, CRESS., Trans. Am. Ent. Soc., ii, 290.

1 ♀ specimen; Colorado; 1873; Dr. J. T. Rothrock.

126. XYLOCOPA CALIFORNICA.

Xylocopa californica, CRESS., Proc. Ent. Soc. Phila., 1864, 40.

3 ♂ ♀ specimens; Eastern Nevada; 1872; Dr. H. C. Yarrow.

127. XYLOCOPA PURPUREA.

Xylocopa purpurea, CRESS., Trans. Am. Ent. Soc., iv, 284.

2 ♀ specimens; Eastern Nevada; 1872; Dr. H. C. Yarrow.

128. BOMBUS PENNSYLVANICUS.

Apis pennsylvanica, DE GEER, Ins., iii, 575.

1 ♀ specimen; Eastern Nevada; 1872; Dr. H. C. Yarrow.

129. BOMBUS CALIFORNICUS.

Bombus californicus, SMITH, Brit. Mus. Cat., ii, 400.

1 ♀ specimen; Eastern Nevada; 1872; Dr. H. C. Yarrow.

130. BOMBUS NEVADENSIS, *sp. nov.*

PLATE XXXIV, FIG. 5.

♀.—Black; thorax above, and three basal segments of abdomen above, clothed with a dense, yellowish pubescence; wings black or dark fuliginous; legs clothed with black pubescence. Length, 9 lines.

♂.—Like the ♀, except that the pubescence of the face and head above is yellowish; the face narrower, and the eyes much larger, antennæ longer, &c. Length, 8 lines. (Trans. Am. Ent. Soc., 1875.)

5 ♂ ♀ specimens; Eastern Nevada; 1872; Dr. H. C. Yarrow: Arizona; 1873; H. W. Henshaw: New Mexico; Dr. H. C. Yarrow.

131. BOMBUS FERVIDUS.

Bombus fervidus, FABR., Syst. Piez., 352.

1 ♂ specimen; Eastern Nevada; 1872; Dr. H. C. Yarrow.

132. BOMBUS TERNARIUS.

Bombus ternarius, SAY, Bost. Jour. Nat. Hist., i, 414.

2 ♂ specimens; Colorado; 1873; Dr. J. T. Rothrock: New Mexico; Dr. Oscar Loew.

133. APATHUS INSULARIS.

Apathus insularis, SMITH, Jour. Ent., i, 155.

2 ♂ ♀ specimens; Eastern Nevada; 1872; Dr. H. C. Yarrow: Colorado; 1873; Dr. J. T. Rothrock.

*Report upon the collections of Formicidæ, made during the years 1872, 1873,
and 1874, by*

EDWARD NORTON.

To make sure of the correct determination of this series of Ants, I forwarded a set of them to Dr. G. Mayr, Vienna, who kindly compared them with his large collection, and fixed them with greater precision than is possible in this country.

It is a matter of surprise to find so many species along certain parallels of latitude, apparently identical in this country and in Europe, and in some cases around the whole world.

So many new species have been found in Mexico that this result was hardly to be expected in New Mexico and Colorado.

I have before learned that great caution will be required in making up a list of the Formicidæ of the Northern United States.

FAM. FORMICIDAE.

1. Subfamily FORMICIDAE.

CAMPONOTUS, Mayr.

Camponotus, MAYR, Eur. Formiciden, 1861, 35.

1. CAMPONOTUS MARGINATUS, Latr.

Formica marginata, LATR., Hist. N. Formic., 103, ♀ nec ♂.—MAYR., Form. Austr., 42, ♂.—SMITH, Brit. Mus. Cat., 11.

Formica fallax, NYL., Ann. Sc. N. Fr., iv, ser. v, 57, ♂.

Camponotus fallax, MAYR, Eur. Form., 36.

Common in Southern and Middle Europe and North and South America.

No.	Locality.	Date.	Collector.
153 E	Plaza del Alcalde, N. Mex.	1874	Dr. H. C. Yarrow.

2. CAMPONOTUS PENNSYLVANICUS, De Geer.

Formica pensylvanica, DE GEER, Hist. Ins., i, 289; iii, 603, pl. 31, 9, 10, ♂, ♀, ♂.

Formica pubescens, var., LATR., Hist. Formic., 99.

Camponotus pensylvanicus, MAYR, Myr. Stud., 666.

Formica semipunctata, KIRBY, Zoöl. Brit. N. Am., T. 262.

Common in North America.

No.	Locality.	Date.	Collector.
L 43	"New Mexico"	—, 1874	Dr. O. Loew.
B 197	San Luis Valley, Colo	—, 1872	Dr. J. T. Rothrock.

3. CAMPONOTUS PUBESCENS, Fabr., var.

Camponotus pubescens, MAYR, Eur. Form., 36.

Formica pubescens, FABR, Syst., Ent., 1775, 392; Ent. Syst., ii, 352.

Formica fuscoptera, OL., Encyc. Méth., vi, 491.

Formica vaga, SCHRANK, Ins. Aust., No. 835.—SCOP., Ins. Carn., 313.

Formica pensylvanica, ASA FITCH, Rept., i, 152.

Formica caryæ, ASA FITCH, Rep., i, 151.

Europe, Asia, Algeria, Madeira, and North America.

No.	Locality.	Date.	Collector.
L 97	New Mexico	Sept. 1, 1874	Dr. O. Loew.
105 C	Taos, N. Mex	Aug. 17, 1874	Dr. H. C. Yarrow.
1425	Cave Spring, Ariz	Aug., 1874	Henry Johnson.

4. CAMPONOTUS SYLVATICUS, OL.

Camponotus sylvaticus, ROG., Berl. Ent. Z., 1862, 291.

Formica sylvatica, OL., Encyc. Méth., vi, 491.

Formica pallens, NYL., Add. alt., 36.

Formica marginata, LTR., Hist. Form., 103, ♂, not ♀

Formica castaneipes, LEACH, Zoöl. Jour., ii, 289.

Camponotus marginatus, MAYR, Eur. Form., 36.

Southern Europe, Northern Africa, and Madeira.

No.	Locality.	Date.	Collector.
284 E	Pagosa, Colo	Sept. 1, 1874	C. E. Aiken.

5. CAMPONOTUS VICINUS?, Mayr.

Camponotus vicinus, MAYR, Neue Formic., 1870, 940.

Connecticut, Virginia, New Mexico, and California.

No.	Locality.	Date.	Collector.
247 C	New Mexico	Sept. 18, 1874	Dr. H. C. Yarrow.

Worker very like *C. ligniperda* and *C. herculanea*. Differs only in having the mandible 5-6 dentate and clypeus distinctly carinate and moderately protracted before.

LASIUS, Fabr.

Lasius, FABR., Syst. Piez., 1804, 415.

1. LASIUS ALIENUS, Foerst.

Formica aliena, FOERST., Hym. Stud., i, 1850, 41, ♂, ♀, ♂.*Lasius alienus*, MAYR, Eur. Form., 50.

Southern and Middle Europe.

No.	Locality.	Date.	Collector.
L 21	Abiquiu, N. Mex.	—, 1874	Dr. O. Loew.

2. LASIUS CLAVIGER, Rog.

Formica clavigera, ROG., Berl. Ent. Z., 1862, 241, ♀, Penn.*Acanthomyops claviger*, MAYR, Myr. Stud., 1862.*Lasius claviger*, MAYR, Neue Form., 1870, 950, ♂, ♂, Ct., N. Y.

Connecticut, New York, and Pennsylvania.

No.	Locality.	Date.	Collector.
271 B	Pagosa, Colo.	—, 1874	Dr. H. C. Yarrow.

3. LASIUS NIGER, Linné.

Formica nigra, LINNÉ, Faun. Suec., 1723.*Lasius niger*, FABR., Syst. Piez., 415.*Formica fusca*, FÖRST., Hymen. Stud., i, 33, ♂, ♀, ♂.*Formica pallescens*, SCHENK, Jahrb. Beschr. Nass., 1852, 55, ♂, ♀, ♂.

All of Europe, Madeira, and North America.

No.	Locality.	Date.	Collector.
B 197	San Luis Valley, Colo.	Sept., 1872	Dr. J. T. Rothrock.

FORMICA, Linné.

Formica, LINNÉ, Faun. Suec., 1761, 426.

1. FORMICA CINEREA, Mayr.

Formica cinerea, MAYR, Verh. z.-b. V., 1853, 281, ♀, ♂, ♂ — —, Neue Form., 1870, 951.

South and Middle Europe and California.

No.	Locality.	Date.	Collector.
L 37	New Mexico	—, 1874	Dr. O. Loew.

2. FORMICA FUSCA, Linné.

Formica fusca, LINNÉ, Faun. Suec., 1722, 226.—MAYR, Neue Form., 1870, 951

Formica glebaria, NYL., Act. Soc. Sc. Form., ii, F. iii, 917.

Formica flavipes, GEOFF., Encyc. Méth., vi, 493.

Europe, Africa, Madeira, Newfoundland, North America, and California.

No.	Locality.	Date.	Collector.
L 37	New Mexico	—, 1874	Dr. O. Loew.
137 E	Taos, N. Mex.	Aug., 1874	W. G. Shedd.
234	Tierra Amarilla, N. Mex.	Sept., 1874	Do.
1604	San Ildefonso	Aug., 1874	Dr. H. C. Yarrow.

3. FORMICA GAGATES, Latr., var.

Formica gagates, LATR., Hist. N. Formic., 1802, 138, pl. 5, 26, ♀, ♂.—MAYR, Neue Form., 1870, 951.

Formica picea, NYL., Act. Soc. Sc. Fenn., 917.

All of Europe, Northern Africa, Connecticut, and California.

No.	Locality.	Date.	Collector.
53 E	Fort Garland, Colo.	July, 1874	Dr. H. C. Yarrow.

4. FORMICA INTEGRAL, Nyl.

Formica integra, NYL., Ann. Sc. Nat., F. iv, ser. v, 8.—MAYR, Neue Form., 951.

Connecticut and New York.

No.	Locality.	Date.	Collector.
271 B A 184 C	Pagosa, Colo..... Roaring Fork, Colo.....	Sept. 18, 1874 Aug.—, 1872	Dr. H. C. Yarrow. Dr. J. T. Rothrock.

5. FORMICA RUFIBARBIS, F., ♀.

Formica rufibarbis, FABR., Ent. Syst., ii, 1792, 355, ♀.*Formica cunicularia*, LATR., Hist. N. Fourm., 1798, 151.—MAYR, Neue Form., 1870, 951.*Formica obsoleta*, LATR., Ess. Hist. Fourm. Fr. 38.*Formica pratensis*, OL., Encyc. Méth., vi, 504.*Formica nicæensis*, LEACH, Vigor's Zool. Jour., 1825, ii, 289!*Formica stenoptera*, FÖRST., Hym. Stud., i, 26, 8, ♀.

Europe, Northern Asia, and Connecticut (Mayr).

No.	Locality.	Date.	Collector.
L 21 160 B	Abiquiu, N. Mex..... San Ildefonso, N. Mex.....	—, 1874 —, 1874	Dr. O. Loew. Dr. H. C. Yarrow.

6. FORMICA SCHAUFUSSI, Mayr.

Formica schaufussi, MAYR, Myrm. Beitr., 1866.—MAYR, Neue Form., 1870 951.

New Jersey.

No.	Locality.	Date.	Collector.
L 37	New Mexico.....	—, 1874	Dr. H. C. Yarrow.

7. FORMICA TRUNCICOLA, Nyl., var. OBSCURIVENTRIS, Mayr.

Formica truncicola, NYL., Adn. Mon. Form., 907.*Formica truncorum*, FABR., Syst. Piez., 403, 8.

North and Middle Europe, Piedmont, and Spain.

Var. *obscuriventris*, MAYR, Neue Formic., 1870, 951.

Connecticut.

No.	Locality.	Date.	Collector.
L 21	Abiquiu, N. Mex.....	—, 1874	Dr. O. Loew.
165 A	Pueblo, Colo.....	—, 1874	C. E. Aiken.
374 A	Fort Garland, Colo.....	—, 1874	F. Klett.
L 1	New Mexico.....	—, 1874	Dr. O. Loew.
197 K	San Luis, Colo.....	—, 1872	Dr. J. T. Rothrock.

This may be considered the American variety of *F. truncicola*.

CATAGLYPHIS, Först.

Cataglyphis, FÖRST., Verh. Naturh. v. Rheinl., vii, 1850, 485.

Monocombus, MAYR, Form. Austr., 1861, 109.

Myrmecocystus, WESM., Bull. Acad. Rog. Brux., 1838, 764.

1. CATAGLYPHIS MELLIGERA, Llave.

Cataglyphis melligera, LLAVE, Rog. Berl. Ent. Z., 1862, 254.—MAYR, Myrm. Stud., 701, 1862.

Formica melligera, LLAVE, Reg. Mem. Hist., 1832.

Myrmecocystus mexicanus, WESM., Bull. Ac. R. Brux., 1838, 766, ♂.

Myrmecocystus melligerus, LUC., Rev. Mag. Zoöl., 1860, 269.

Mexico and Texas.

No.	Locality.	Date.	Collector.
X Y	Santa Fé, N. Mex.....	—, 1872	T. Collins.
L 37	New Mexico.....	—, 1874	Dr. O. Loew.

This is the famous honey producing ant of Mexico.

5. Subfamily MYRMICIDAE.

DORYMYRMEX, Mayr.

Dorymyrmex, MAYR, Formic. Nov. Amer., 1868, 7.

1. DORYMYRMEX PYRAMICUS, Rog.

Prenolepis pyramica, ROG., Ber. Ent. Zeit., 1863, sp. 42, ♂, 160.

Brazil, Bahia, and Corrientes.

No.	Locality.	Date.	Collector.
153 E	Plaza del Alcade, N. Mex.....	Aug., 1874	Dr. H. C. Yarrow.

POGONOMYRMEX, Mayr.*Pogonomyrmex*, MAYR, Formic. Nov. Amer., 1868, 11.**1. POGONOMYRMEX BARBATUS, Smith.***Myrmica barbata*, SMITH, Brit. Mus. Cat., 125.*Pogonomyrmex barbatus*, MAYR, Neue Formic., 1870, 971, 7, 8.

Mexico and Texas.

No.	Locality.	Date.	Collector.
1299	Southern Arizona	—, 1874	H. W. Henshaw.
L 1	New Mexico	—, 1874	Dr. O. Loew.
L 67	Santa Fé, N. Mex.	—, 1874	Dr. O. Loew.
L 68	Santa Fé, N. Mex.	—, 1874	Dr. O. Loew.
318	Bowie Agency, Ariz.	—, 1874	Henry Johnson.

2. POGONOMYRMEX OPACICEPS, Mayr.*Pogonomyrmex opaciceps*, MAYR, Neue Formic., 1870, 971, 8.

New Mexico.

No.	Locality.	Date.	Collector.
A 197 B	San Luis Valley, Colo.	Sept., 1872	Dr. J. T. Rothrock.
14 K	Colorado	—, 1872	Do.
L 97	New Mexico	—, 1874	Dr. O. Loew.
104 E	San Ildefonso, N. Mex.	—, 1874	Dr. H. C. Yarrow.
160 B	San Ildefonso, N. Mex.	—, 1874	Do.

3. POGONOMYRMEX ———!, *sp. nov.*

No.	Locality.	Date.	Collector.
L 9	New Mexico	—, 1874	W. D. Wheeler.

4. POGONOMYRMEX ———!, *sp. nov.*

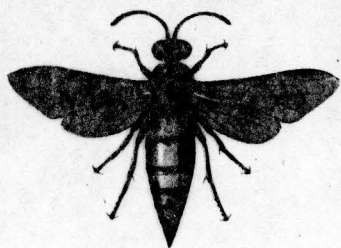
No.	Locality.	Date.	Collector.
247 C	New Mexico	—, 1874	Dr. H. C. Yarrow.

APHAENOGASTER, Mayr.

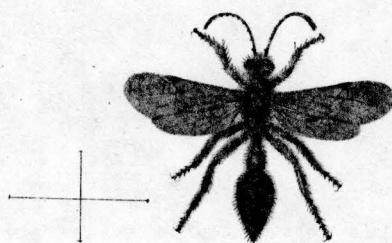
Aphaenogaster, MAYR, Verh. z.-b. V., 1853, 107, 87, REISE, Freg. Novara., 1865, 19.

1. APHAENOGASTER ———!, *sp. nov.*

No.	Locality.	Date.	Collector.
1015 C	Camp Hall.....	Oct. 17, 1874	Jas. M. Rutter.



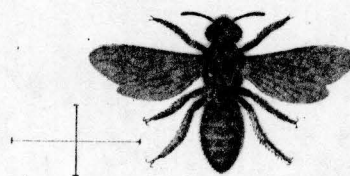
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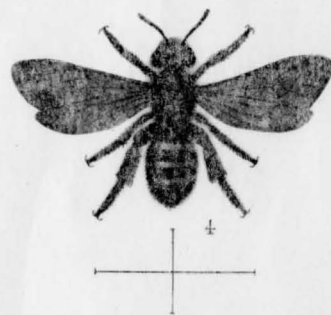
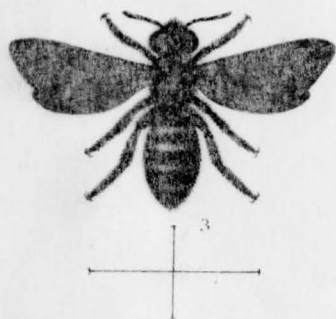


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FIG. 1. STIZUS NEVADENSIS. ♂ FIG. 2. AGAMA ALBIPES. ♂
FIG. 3. HALICTUS TRIZONATUS. ♀ FIG. 4. AGAPOSTEMON MELLIVENTRIS. ♀
FIG. 5. MELECTA THORACICA. ♀



T. G. Fair & Co. San Francisco.

FIG. 1 VESPA OCCIDENTALIS ♀ FIG. 2 VESPA OCCIDENTALIS ♂
 FIG. 3 NOMIA NEVADENSIS ♀ FIG. 4 NOMIA NEVADENSIS ♂
 FIG. 5 BOMBUS NEVADENSIS ♀ FIG. 6 MELISSODES NEVADENSIS ♂