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AN ANNOTATED LIST OF THE ANTS OF IDAHO
(HYMEOPTERA: FORMICIDAE)

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The known ants of the state of Idaho comprise about 73 named species, subspecies and varieties. They occupy a wide variety of habitats ranging from dunes of pure sand, barren and wind-blown, to forests of yellow pine, fir and

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spruce, with an abundance of shade and moisture. Because of the large amount of vegetation in the montane forests and subalpine pine meadows a large percentage of the ant fauna lives there, if not exclusively at least in very great numbers. It is, however, rather surprising to observe the large number of species which nest on the dry plains of sagebrush, brome-grass and rabbitbrush, and on the scattered alkaline flats of greasewood in the southern part of the state.

The ants of the genus *Myrmecocystus* are almost exclusively inhabitants of sandy places, and those of the genera *Dorymyrmex* and *Iridomyrmex* often live there also. Ants of the genera *Leptothorax*, *Aphaenogaster*, *Pheidole*, *Stenamma*, *Myrmica*, *Crematogaster*, *Tapinoma*, and, in many cases, *Lasius* and *Formica*, seek stream margins, ditches and lake shores as nesting sites. In forests they colonize almost any moist and shady place. Representatives of the genus *Pogonomyrmex* build their pebble mounds in open sunny spots, as do many of the *Formica*, especially *F. rufa obscuripes* Forel whose mounds of twigs dot the plains of sagebrush. It is clear, then, that different species of ants may be found in almost any type of habitat throughout the state.

I am deeply grateful to Dr. M. R. Smith of Mississippi State College for making available to me his records of Idaho ants, and for his kindness in making determinations for me and checking the determinations which I made. While the writer's list is probably by no means complete, it is presented with the hope that it may be of use to other myrmecologists and an aid in establishing a complete list of the Idaho ant fauna. All the localities are those at which specimens have actually been collected and determined. The possibility of a representative fauna migrating into Idaho from neighboring states has not been considered, although there is no doubt in the writer's mind but what there has been an establishment in similar habitats. Records of Professor W. M. Wheeler, listed in his various publications on North American ants, have been used freely.

Subfamily Myrmicinae.

GENUS MONOMORIUM.

1. *Monomorium minimum* Buckley. Twin Falls, Rogerson (Cole).

GENUS SOLENOPSIS FABR.

2. *Solenopsis molesta* var. *validiuscula* Emery. Twin Falls, Hollister, Hagerman, Stanley, McCall, Payette (Cole).

GENUS PHEIDOLE WESTWOOD.

3. *Pheidole californica* Mayr. Twin Falls, Hagerman (Cole).
4. *P. californica* var. *shoshoni* Cole. Twin Falls, Hagerman (Cole)
5. *P. californica* var. *hagermani* var. nov.

The worker differs from that of the typical *californica* only in color. It is rather uniformly testaceous, varying in intensity among individuals. The gaster and the vertex of the head are commonly, but not necessarily, fuscous.

The soldier differs from that of the typical *californica* only in color. The head is of a uniform light tan; clypeus, frontal area, mandibles, antennae and thorax deep reddish brown; gaster fuscous.

Described from a large series of workers and soldiers collected by the writer at Hagerman, Idaho. The nest was beneath a rock on a south-facing hillslope covered with *Artemisia tridentata* Nutt. and *Bromus tectorum* L. The

colony was large and the occupants very timid and aggressive. Several of the nest chambers contained seeds common to the ants' nesting site. The holotype, a worker, and the stratotype*, a soldier, are deposited in the author's collection. Paratypes are to be deposited in the U. S. National Museum and in the collection of Dr. C. H. Kennedy.

6. *P. oregonica* Emery. Hagerman, Twin Falls (Cole).

GENUS CREMATOGASTER LUND.

7. *Crematogaster lincolata* near *cerasi* Fitch. Twin Falls (Cole).

GENUS STENAMMA WESTWOOD.

8. *Stenamma brevicorne* var. Twin Falls (Cole).

GENUS APHAENOGASTER MAYR.

9. *Aphaenogaster uinta* Whlr. Glens Ferry (Fox); Twin Falls (Cole).

10. *A. subterranea* var. *occidentalis* Emery. Moscow (J. M. Aldrich); Twin Falls, Muldoon, Galena, Stanley (Cole).

GENUS POGONOMYRMEX MAYR.

11. *Pogonomyrmex occidentalis* Cresson. Twin Falls, Burley, Nampa, Boise, American Falls, Pocatello, Rogerson, Hollister, Hammett, Glens Ferry, Indian Cove, Mountain Home, Caldwell (Cole). This species is widely distributed in the state, at the lower elevations. It is one of the most common ants of the Snake River Plains.

12. *P. occidentalis* var. Indian Cove, Hammett (Cole).

GENUS MYRMICA LATREILLE.

13. *Myrmica brevinodis* Emery. Twin Falls, Rogerson, Stanley (Cole)

14. *M. brevinodis* var. *sulcinodoides* Emery. Twin Falls (Cole).

15. *M. mutica* Emery. Twin Falls (Cole), Parma (Wakeland).

16. *M. (Neomyrmica) aldrichi* Whlr. Moscow (J. M. Aldrich).

GENUS LEPTOTHORAX MAYR.

17. *Leptothorax melanderi* Whlr. Moscow Mt. (A. L. Melander).

18. *L. curvispinosus* subsp. *rugatulus* Emery. Twin Falls (Cole). This ant is a frequent inhabitant of moist, shady places in the Snake River canyon. Like the other members of its genus, it is timid, inoffensive and very sluggish.

19. *L. eldoradensis* Whlr. Twin Falls (Cole). Colonies of this species are apparently rather rare in the state.

20. *L. acervorum* subsp. *canadensis* Prov. Stanley (Cole.) The single colony found was nesting in rotted wood.

21. *L. (Mychothorax) hirticornis formidolosa* Whlr. Moscow (J. M. Aldrich).

Subfamily Dolichoderinae.

GENUS DORYMYRMEX MAYR.

22. *Dorymyrmex pyramicus* Roger. Parma (Wakeland); Twin Falls, Pocatello (Cole).

GENUS TAPINOMA FORSTER.

23. *Tapinoma sessile* Say. Moscow, Salmon (Haug); Market Lake (J. M. Aldrich); Twin Falls, Stanley, Boise, Pocatello, Rogerson, American Falls, Muldoon, Payette, Hagerman (Cole).

*A term suggested by the writer for designating the type of the soldier caste. From the Greek, meaning "soldier."

GENUS IRIDOMYRMEX MAYR.

24. *Iridomyrmex pruinosus* var. *Twin Falls*, Bliss (Cole).

Subfamily Camponotinae.

GENUS LASIUS FABRICIUS

25. *Lasius niger* var. *americanus* Emery. Julietta (J. M. Aldrich); Troy (W. M. Mann); Twin Falls, Buhl, Hagerman, Rogerson, Stanley, Muldoon, Arco, Nampa, Burley, Pocatello, Payette, McCall (Cole).
 26. *L. niger* var. *sitkaensis* Perg. Troy (W. M. Mann); Moscow (J. M. Aldrich); Parma, Salmon, Moscow (Shull); Twin Falls, Buhl, Hagerman, Rogerson, Stanley, Muldoon, McCall, Payette, Nampa, Burley (Cole).
 27. *L. niger* var. *neoniger* Emery. Moscow (Shull).
 28. *L. (Formicina) umbratus vestitus* Whlr. Moscow (J. M. Aldrich).
 29. *L. (F.) umbratus mixtus* var. *aphidicola* Walsh. Twin Falls, Hagerman (Cole).
 30. *L. (F.) brevicornis* Emery. Craters of the Moon Nat'l. Monument (Cole).
 31. *L. (Acanthomyops) latipes* Walsh. Julietta (J. M. Aldrich).

GENUS FORMICA L.

32. *Formica sanguinea* subsp. *subnuda* Emery. Troy (W. M. Mann); Moscow (Shull); Hollister, Rogerson, Twin Falls, McCall, Stanley, Nampa, Boise, American Falls, Pocatello, Blackfoot (Cole).
 33. *F. sanguinea* subsp. *puberula* Emery. Parma (Wakeland); Nampa (Cole).
 34. *F. manni* Whlr. Boise (A. K. Fisher); Shoshone (Shull); Notus (Haegle); Twin Falls (Cole).
 35. *F. rufa* subsp. *obscuripes* Forel. Parma (Wakeland); Twin Falls, Rogerson, Craters of the Moon Nat'l Monument, Hollister, Hagerman, Shoshone, Jerome, Burley, American Falls, Pocatello, Boise (Cole).

This very common ant is abundant in the sagebrush semi-desert areas below 4,000 feet.

36. *F. rufa obscuripes* var. *melanotica* Emery. Moscow (Wakeland); Stanley, McCall, Payette, Muldoon, Galena (Cole).

This ant replaces the typical *obscuripes* at elevations somewhat above 4,000 feet. It is a common occupant of yellow pine forests, and in such habitats its mounds are composed of pine needles and other debris of the forest floor.

37. *F. rufa* subsp. *aggerans* Whlr. Lewiston, Market Lake, Collins, Moscow (J. M. Aldrich).
 38. *F. oreas* var. *comptula* Whlr. Rogerson (Cole).
 39. *F. dakotensis* var. *montigena* Whlr. Idaho (Wheeler).
 40. *F. whymperi* var. *alpina* Whlr. Troy (Wheeler).
 41. *F. fusca* Linne. Moscow (J. M. Aldrich).

There seems to be some doubt as to the presence of the typical *fusca* in Idaho and neighboring states. The writer has found only what he considers to be varieties of the Old World *fusca*. I am adding it to the list, however, because Wheeler has cited it from Idaho and many other western states.

42. *F. fusca* var. *subsericea* Say. Twin Falls, Hagerman, Hollister, Rogerson (Cole).
 43. *F. fusca* var. *subaenescens* Emery. Moscow (Wakeland); Twin Falls,

Stanley, Galena, Payette, McCall, Rogerson (Cole).

This variety is rather difficult to separate from *subsericca*.

44. *F. fusca* var. *argentea* Whlr. Moscow (Wakeland); Boise (A. K. Fisher).
 45. *F. fusca* var. *neorufibarbis* Emery. Parma (Wakeland); Twin Falls, Hollister, Burley, American Falls, Stanley, Shoshone, Jerome, Hagerman, Bliss, Mountain Home, Boise, Wendell (Cole).
 46. *F. fusca* var. *gelida* Whlr. Moscow, Salmon, Parma, Shoshone (Shull).
 47. *F. cinerea cinerea* var. *neocinerea* Whlr. Stanley (Cole).
 48. *F. cinerea cinerea* var. *canadensis* Santschi. Stanley, Muldoon (Cole).
 49. *F. cinerea cinerea* var. *altipetens* Whlr. Twin Falls (Cole).
 50. *F. subpolita* Mayr. Twin Falls, Burley, American Falls, Pocatello, Hammett, Hollister, Boise (Cole).
 51. *F. subpolita* var. *camponoticeps* Whlr. Twin Falls, Hollister, Hagerman, Bliss, Boise, Nampa, Galena, Jerome, Shoshone (Cole).

The varietal characters which segregate this ant from the typical *subpolita* are very obscure, and the writer doubts from this that the slight difference warrants the placing of *camponoticeps* as a distinct variety.

52. *F. neogagates* Emery. Parma (Wakeland); Twin Falls, Rogerson, Stanley (Cole).
 53. *F. neogagates lasioides* var. *vetula* Whlr. Shoshone (Haegle); McCall, Stanley, Muldoon (Cole).
 54. *F. truncicola integroides* var. *coloradensis* Whlr. Blackfoot, Market Lake (J. M. Aldrich).
 55. *F. truncicola integroides* var. *haemorrhoidalis* Emery. Moscow Mt. (J. M. Aldrich).
 56. *F. adamsi* var. *alpina* Whlr. Troy (W. M. Mann).
 57. *F. munda* Whlr. Virginia (Haug); Twin Falls (Cole).
 58. *F. limata* Whlr. (?) Hollister (Cole).

Although the determination of this ant is somewhat questionable, I am listing it for its worth without the presence of additional data.

59. *F. pallidefulva schaufussi* var. *incerta* Emery. Twin Falls (Cole).

GENUS POLYERGUS LATREILLE.

60. *Polyergus rufescens* subsp. *breviceps* Emery. Twin Falls (Cole).

One large colony of this ant was found on a hillslope in the Snake River canyon. The slaves were workers of *Formica fusca* var. *subaenescens* Emery.

GENUS MYRMECOCYSTUS WESMAEL.

61. *Myrmecocystus melliger semirufus* var. Hammett, Indian Cove, Clear Lakes (Cole).

This variety occupies small crater nests of pure sand. The ants are especially abundant in the sand dune area near Indian Cove. The winged forms appear during May and June. No repletes were found in the nests.

62. *M. mexicanus* var. Hammett, Indian Cove, Hollister, Twin Falls (Cole).

This variety has a somewhat greater distributional range than *M. melliger semirufus* var. and does not always nest in pure sand. The winged sexes appear in the nests as early as the middle of April at Indian Cove. Although more or less isolated to certain habitats the grouped sand craters are numerous and con-

spicuous where present.

63. *M. yuma* Whlr. Hammett (Cole).

This ant builds small crater mounds on rather sandy soil in which grow sagebrush and downy brome grass. The winged castes appear in late May or early June. The workers are extremely active.

GENUS CAMPONOTUS MAYR.

64. *Camponotus maculatus* subsp. *vicinus* Mayr. Moscow, Salmon (Haug); Juliaetta, Moscow (J. M. Aldrich).
 65. *C. maculatus vicinus* var. *plorabilis* Whlr. Moscow (J. M. Aldrich).
 66. *C. maculatus vicinus* var. *luteangulus* Whlr. Moscow (Shull); Moscow Mt. (W. M. Mann).
 67. *C. maculatus vicinus* var. *nitidiventris* Emery. Twin Falls, Hagerman, Stanley, Boise, Rogerson, American Falls, Ashton (Cole); Moscow (Shull).
 68. *C. herculeanus* var. *whymperi* Forel. Moscow (J. M. Aldrich).
 69. *C. herculeanus ligniperdus* var. *noveboracensis* Fitch. Salmon (Haug).
 70. *C. herculeanus* var. *modoc* Whlr. Moscow (Wakeland); Rogerson, Stanley, McCall, Muldoon (Cole).

This ant replaces *nitidiventris* at higher elevations throughout the state. It nests in fallen timber and the general lack of groves of trees in many parts of the state may account for its absence there. Although most nests of *C. nitidiventris* which I have observed have been beneath large flat rocks, I have never seen *modoc* in a like habitat.

71. *C. laevigatus* F. Smith. Moscow (Wakeland); McCall, Stanley (Cole).

I have never been able to examine a nest of *laevigatus* in Idaho but I have collected a large number of workers running singly on the ground or on trees.

72. *C. hyatti* Emery. Twin Falls, King Hill (Cole).

A solitary nest of *hyatti* was discovered on a hillslope in the Snake River canyon near Twin Falls. The colony lived beneath a small flat stone in a grassy area near a small stream. Lately I collected a few specimens of the worker caste on the sagebrush plains near King Hill but was unable to locate the nest. The King Hill specimens agree decidedly with those from the Twin Falls nest. It is possible that additional colonies of this interesting ant will be observed from time to time.

73. *C. fallax* var. *nearcticus* Emery. Idaho (Wheeler).

In conclusion I wish to state that additional species of the genera *Pheidole*, *Crematogaster*, *Myrmica*, *Formica* and *Brachymyrmex* are being determined and described and will be added to this list when the work is completed. It is evident that the state list should contain eventually well over a hundred different species, subspecies and varieties.