A PRELIMINARY LIST OF IOWA ANTS

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Of considerable value in entomological work is the determination of the distribution of the various species of insects. This work, while carried on extensively for many insects of economic importance, is often neglected in the case of families of less economic importance, such as the Formicidae. That the Formicidae would be neglected to a great extent were it not for the fascination which their instinctive and behavioristic patterns hold for many men, and which occasionally leads them over into taxonomic phases, is without doubt. The taxonomy of North American Formicidae has been very well worked out by Wheeler, Emery, Forel, Mayr, Smith and others. Some new forms are still being described but these are mostly of subspecific or varietal rank. A great deal of the distribution has also been worked out, some of it by means of State lists. No list of Iowa ants has ever been published. The writer has been collecting ants and working on their identification for the past two years, and it seemed advisable, therefore, to present a list of species from the state, as incomplete and as circumscribed in its scope as it may be.

This list contains no species not actually seen by the writer and only five forms (*Formica truncicola* subsp. *obscuriventris* var. *gymnomma, F. sanguinea* subsp. *rubicunda* var. *sublucida, F. (Proformica) neogagates* subsp. *lasioides, Camponotus caryae* subsp. *discolor,* and *C. caryae* var. *minutus*) have not been collected by the author. These were identified from old material reposing in the College collection. Such material, mounted singly without regard to the colonial and polymorphic character of ants, and much as if they were beetles or solitary Hymenoptera, is often very difficult to determine. Ants should always be collected by the colony if possible and an attempt should be made to secure a representation of all the worker forms of the colony and also any sexual or winged forms which may be present.

At the present writing extensive collecting trips to the various corners of the state have just been completed and as a result many more species have been found which will be identified and listed in a later publication. One of these, *Eciton (Acamatus) nigrescens,*[2] a "driver ant," has been inserted in the present paper because of its importance as a distributional record.

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[2] M. R. Smith has recently shown *Eciton (Acamatus) schmitti* to be synonymous with this species.

The bluffs along the Missouri river, where several colonies of *nigrescens* were found as well as another still unidentified species of Eciton, present an interesting ecological change from the rest of the state. These bluffs, composed mainly of clay (loess) have very steep slopes and are therefore very quickly drained and quite arid. This region thus simulates the conditions of the arid southwest and it is not surprising that southwestern ant forms have become part of the fauna. Several other species have been found in these bluffs which are rare or absent in other parts of the state.

The greater part of Iowa's ant fauna seems to be eastern or northeastern in character. Undoubtedly Iowa once supported a widely distributed and extensive prairie ant fauna also, which has now been displaced and destroyed in a great part by cultivation. Only one species can be classed as a part of the western or Rocky Mountain fauna. This is a "thatching ant," a member of the *rufa* group of the genus *Formica*. It can be found in Iowa only in the extreme northwest corner of the state along the Big Sioux river.

FAMILY FORMICIDAE

SUBFAMILY PONERINAE

Genus *Ponera* Latreille

1. *P. coarctata* Latreille subsp. *pennsylvanica* Buckley. ☿ ♀ ♂—Ames, Clinton.

   Common near Ames; nesting under stones in small colonies.

SUBFAMILY DORYLINAE

Genus *Eciton* Latreille

Subgenus *Acamatus* Emery

2. *E. (A.) nigrescens* Cresson. ☿—Little Sioux, Sioux City.

This ant is common in Iowa only in the bluffs along the Missouri river. Since *nigrescens* appears to follow these bluffs closely I believe that it also exists in northern Nebraska and southern South Dakota on the bluffs of the same river. Thus *nigrescens* has a much greater range than heretofore suspected.

SUBFAMILY MYRMICINAE

Genus *Stenamma* Westwood

3. *S. brevicorne* Mayr subsp. *diecki* Emery var. *impressum* Emery. ☿ ♀ ♂—Ames, Arnolds Park.

   Rare; nesting in very small colonies under stones.

Genus *Leptothorax* Mayr

4. *L. curvispinosus* Mayr. ☿ ♀ —Ames.

Fairly common; the nests are small and obscure. Several colonies were found nesting in dried, hollow stalks.

5. *L. curvispinosus* subsp. *ambiguus* Wheeler. ☿ —Ames.

Much rarer than *curvispinosus* s. str.; known only from individual workers caught in sweeping.

6. *L. fortinodis* Mayr var. *melanoticus* Wheeler. ☿ —Clinton.

A few workers were found crawling on trees along a small stream.

Genus *Cremastogaster* Lund

7. *C. lineolata* Say. ☿ ♀ ♂ —Ames, Clinton, Van Buren County.

Fairly common; nesting under rocks and logs. Some of the colonies are very populous.

Genus *Solenopsis* Westwood

8. *S. molesta* Say. ☿ ♀ ♂ —Ames, Clinton.

Common; often nesting apparently far from other ants as well as in the more preferred location near them.

Genus *Monomorium* Mayr

9. *M. pharaonis* Linn. ☿ —Ames.

A few workers were taken in the Science building at Iowa State College where they are a pest on cabinet specimens.

Genus *Strumigenys* F. Smith

Subgenus *Cephaloxys* F. Smith

10. *S. (C.) clypeata* Roger. ☿ ♀ —Ames.

Apparently the rarest of ants near Ames. One winged female found crawling beside a pathway on the Campus and one worker found under a stone are all that I have been able to secure.

Genus *Pheidole* Westwood

11. *P. vinelandica* Forel. ☿ —Ames, Clinton.

Common; it prefers to nest in open woodland under stones. It is quite common in town under sidewalks.

12. *P. pilifera* Roger. ☿ ♀ —Ames.

Less common than the preceding species. It nests in small crater nests in the ground and can be found only rarely under stones.

Genus *Myrmica* Latreille

13. *M. scabrinodis* Nylander var. *schencki* Emery. ☿ ♀ —Ames, Clinton.

Common; nesting under stones and in small crater nests in open woodland.

Genus *Aphaenogaster* Mayr

14. *A. tennesseensis* Mayr. ☿ ♀ ♂ —Ames, Clinton.

Common; nesting in rotten tree trunks and logs. I have only once taken it in a double nest with *A. fulva* Roger subsp. *aquia* Buckley, its temporary host.

15. *A. fulva* Roger subsp. *aquia* Buckley. ☿ ♀ —Ames.

Common; nesting in the ground under rocks and logs unlike *A. tennesseensis.*

16. *A. fulva* subsp. *aquia* var. *picea* Emery. ☿ ♀ —Ames, Clinton.

A darker, smaller variety of the preceding species.

SUBFAMILY DOLICHODERINAE

Genus *Dorymyrmex* Mayr

17. *D. pyramicus* Roger var. *niger* Pergande. ☿ —Ames.

Common on open grassy hills where the grasses and other plants are much like those of the original virgin prairie but not found elsewhere.

Genus *Tapinoma* Förster

18. *T. sessile* Say. ☿ ♀ —Ames.

Common; nesting in any available cavity under bark, leaves, rocks, logs, etc.

SUBFAMILY FORMICINAE

Genus *Prenolepis* Mayr

19. *P. imparis* Say. ☿ ♀ ♂ —Ames, Clinton.

Common, but rarely seen except in early spring and late summer and fall. Its crater nests are most numerous in deep woods.

Subgenus *Nylanderia* Emery

20. *P. (N.) parvula* Mayr. ☿ ♀ ♂ —Ames, Clinton.

Rather rare, nesting under stones in dry, sunny situations.

Genus *Lasius* Fabricius

21. *L. niger* Linn. var. *neoniger* Emery. ☿ ♀ ♂ —Ames, Clinton, Thompson.

This variety of *L. niger* seems to be even more numerous than *americanus* around Ames. Almost all of my specimens have proved to be *neoniger.*

22. *L. niger* Linn. subsp. *alienus* Förster var. *americanus* Emery. ☿ ♀ —Ames.

While not as common as *neoniger* near Ames, *americanus* is probably very common over most of the state.

Subgenus *Formicina* Shuckard

23. *L. (F.) umbratus* Nylander subsp. *mixtus* Nylander var. *aphidicola* Walsh. ☿ ♀ ♂—Ames, Clinton.

Fairly common; it nests under logs and stumps buried deep in moist soil.

24. *L. (F.) umbratus* subsp. *minutus* Emery. ☿—Ames.

Rare; I have taken only one colony which was nesting under a deeply buried stone in damp soil.

Subgenus *Acanthomyops* Mayr

25. *L. (A.) interjectus* Mayr. ☿ ♀ ♂—Ames.

The most common hypogaeic ant near Ames. One colony, nesting under the cement floor of a warm basement in Ames, carried on wedding flights during the month of January, 1939.

26. *L. (A.) latipes* Walsh. Beta-form ♀—Ames, Clinton.

I have never taken the workers of this species and know it only from several of these peculiarly formed females found crawling about after their wedding flight.

27. *L. (A.) claviger* Roger. ☿ ♀—Ames.

Fairly common, nesting as *interjectus* does under rocks and logs buried deep in damp soil.

Genus *Formica* Linn.

28. *F. fusca* Linn. var. *subsericea* Say. ☿ ♀ ♂—Ames, Jewell, Clinton, Van Buren County.

Common; prefers to nest in lawns and open woodlands.

29. *F. truncicola* Nylander subsp. *obscuriventris* Mayr var. *gymnomma* Wheeler. ☿—Ames, Red Oak.

Evidently very rare. I have been unable to take this ant myself and all my specimens are from old unidentified material in the College collection.

30. *F. sanguinea* Latreille subsp. *rubicunda* Emery. ☿ ♀—Ames.

This subspecies of *F. sanguinea* is the more common one in woodlands. It is rare within city limits.

31. *F. sanguinea* subsp. *rubicunda* Emery var. *sublucida* Wheeler. ☿—Ames.

Apparently very rare. I have only two old specimens from the College collection which I can assign to this variety.

32. *F. sanguinea* subsp. *subintegra* Emery. ☿—Ames.

Fairly common for a slavemaker within the city of Ames. It is rare, however, in woodlands.

33. *F. cinerea* Mayr var. *neocinerea* Wheeler. ☿ —Ames, Jewell.

This ant was found nesting commonly in the tops of boggy hummocks around the shores of Goose Lake and Little Wall Lake near Jewell and also rarely in lawns at Ames.

Subgenus *Proformica* Ruzsky

34. *F. (P.) neogagates* Emery. ☿ —Ames.

Common in lawns at Ames; I have never taken it outside the city limits, however.

35. *F. (P.) neogagates* subsp. *lasioides* Emery. ☿ —Ames.

Apparently very rare. I know this species only from old College material.

36. *F. (P.) neogagates* subsp. *lasioides* var. *vetula* Wheeler. ☿ ♀ —Ames.

More common than the preceding form but still rare; it nests under stones in open woodlands.

Subgenus *Neoformica* Wheeler

37. *F. (N.) pallide-fulva* Latreille subsp. *schaufussi* Mayr var. *incerta* Emery. ☿ —Ames, Clinton.

Rather rare, nesting under stones and in crater nests in open prairie.

38. *F. (N.) pallide-fulva* subsp. *nitidiventris* Emery. ☿ —Ames.

The rarest of our three forms of *Neoformica,* near Ames at least.

39. F. *(N.) pallide-fulva* subsp. *nitidiventris* var. *fuscata* Emery. ☿ ♀ —Ames.

Common; nests under stones and logs in open woodlands and prairies. It is also fairly common in lawns in Ames.

Genus *Polyergus* Latreille

40. *P. rufescens* Latreille subsp. *lucidus* Mayr. ☿ ♀ —Ames.

Fairly common for a slavemaker in the lawns of Ames. I have not taken it outside city limits, however. Colonies of this species have been observed but not taken at Clinton and Davenport also.

Genus *Camponotus* Mayr

41. *C. herculeanus* Linn. var. *pennsylvanicus* DeGeer. ☿ ♀ ♂ —Ames, Clinton, Van Buren County.

Common; it nests with equal facility in live trees as well as stumps, logs, and sometimes frame houses.

42. *C. herculeanus* subsp. *ligniperdus* Latreille var. *noveboracensis* Fitch. ☿ ♀ —Ames, Clermont.

Rare near Ames, nesting in the same situations as *pennsylvanicus.*

43. *C. castaneus* Latreille subsp. *americanus* Mayr. ☿ ♀ ♂—Ames, Clinton.

Fairly common; usually nests under stones or logs in the ground rather than in wood like *herculeanus*.

44. *C. caryae* Fitch. ☿ ♀ ♂—Ames.

Rare; nests in dead branches.

45. *C. caryae* subsp. *discolor* Buckley. ☿—Ames.

Rare; nests in the same situations as *caryae* s. str.

46. *C. caryae* subsp. *discolor* var. *clarithorax* Emery. ☿—Ames.

Rare, a darker variety of the preceding subspecies.

47. *C. caryae* var. *minutus* Emery. ☿—Ames.

Rare; this variety as well as *caryae* subsp. *discolor* was determined from old material in the College collection.

48. *C. caryae* subsp. *subbarbatus* Emery. ☿ ♀—Ames.

Rare; I have taken only one colony of this species. They were nesting in rather damp ground in open woodland underneath an old board.