ANTS COLLECTED ON CAPE COD, MASSACHUSETTS

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The list below represents the results of collections made each summer from 1925 to 1930 inclusive. Ants have been recorded from Cape Cod by Wheeler (1906, 1910, 1913); these records have not been reproduced in the present list except where they represent localities or forms not included in my own collections.

All available records are included, even for the commoner ants, with the result that a rough estimate of the frequency of a species on the Cape may be made by noting the number of localities from which it has been taken. The dates given represent the extremes between which winged queens or males have been collected. Dates in parentheses are from neighboring portions of eastern Massachusetts when these extend the limits found for Cape Cod.

The list as given cannot be supposed to represent the entire fauna of the region. Three forms in particular were expected and carefully searched for, without success—Lasius aphidicola, L. interjectus, and Camponotus caryae. They are certainly either absent or much less common than in neighboring portions of the mainland. Other forms that may be expected are Pheidole pilifera (recorded by Wheeler from Naushon) and Tetramorium cespitum (which I have taken at Rochester, only a few miles from the Cape).

Cape Cod apparently represents the northern limit, or very nearly so, for the range of several ants: Monomorium minimum, Aphaenogaster treatae, Leptothorax davisi, Pren-
olepis parvula, and Formica difficilis. Lasius neoniger, Formica argentea, F. subænescens, and Camponotus novo-
boracensis here approach their southern limits at low ele-
vations in the eastern states.

This list may be compared profitably with Wheeler's lists
for New England (1906), Nantucket (1928a), and Penikese
(1926), and with Davis and Bequaert's list for Long Island
and Staten Island (1922).

1. Stigmatomma pallipes Haldeman. East Falmouth
Waquoit, Mashpee. (Naushon, August 31). This species
is usually found in the beech-holly association that occurs
sporadically in eastern Massachusetts.

2. Ponera coarctata pennsylvanica Buckley. East Fal-
mouth, Brewster. Woods Hole (Wheeler 1906). Much less
common than in the New York region.

3. Monomorium minimum Buckley. Woods Hole, Wa-
quoit, Pocasset, South Yarmouth, North Eastham, South
Wellfleet, Truro. July 15 (mating flight). Common in
sand; also nests on the mounds of Formica exsectoides. I
have found it only in the latter situation in northern New
Jersey.

4. Solenopsis molesta Say. Woods Hole, West Fal-
mouth, Sandwich.

5. Crematogaster lineolata Say. Woods Hole, Falmouth,
East Falmouth, Pocasset, Sandwich, Hyannis, South Har-
wick, South Chatham, Brewster, South Orleans, Truro.
July 24-August 29 (Rochester, July 22).

6. Myrmecina graminicola americana brevispinosa
Emery. Woods Hole. Two specimens, under fallen leaves.

Darker colored than specimens from Mississippi.

8. A. fulva aquia Buckley. Woods Hole, East Falmouth,
Waquoit, Pocasset. August 6-18.

9. A. fulva aquia picea Emery. Woods Hole, East Fal-
mouth, Waquoit, Brewster, Provincetown. July 15-Sep-
tember 8.

11. *M. leaviniodes bruesi* Wheeler. Woods Hole. July 29-August 28. This form was described from specimens taken in the woods adjoining the Fay Rose Gardens. It is now the dominant ant in these woods, but I have been unable to find a single specimen in any other place. The numerous nests seem to represent branches of a single family, since transfers of workers never lead to fighting—in spite of the fact that the species is very pugnacious and has the most painful sting of any ant I have encountered in the northeastern states.


23. *Prenolepis imparis* Say. Woods Hole, Falmouth, East Falmouth, Waquoit. August 17. This form is apparently common, but is not easily found in mid-summer—as is also true in the New York region.

24. *P. parvula* Mayr. East Falmouth, Pocasset, South Wellfleet. August 29. This species is easily overlooked and may be commoner than is indicated.

25. *Lasius niger neoniger* Emery. Woods Hole, Falmouth, Falmouth Heights, Chatham, Truro. July 24-September 3. This form is not clearly distinct from americanus in this region. I have identified all the intermediates as americanus; I am inclined to suspect that the extreme hairy specimens listed here are not really distinct from the paler form of americanus referred to below.

26. *L. niger alienus americanus* Emery. Woods Hole, Falmouth, Falmouth Heights, West Falmouth, East Falmouth, Pocasset, Sandwich, Hyannis, South Yarmouth, South Chatham, Chatham, Brewster, North Eastham, South Wellfleet. July 11-September 30. There appear to be two distinct forms here—a darker form typically nesting in stumps and logs in the woods, not found infested with Mermithids; and a paler form typically nesting in the soil in sunny places (often on the beaches down to high-tide level), frequently producing short-winged mermithogynes (see Wheeler 1928). In the absence of adequate series from the Palaearctic region and from the western states, I am unable to make a thorough revision of the forms of niger—without which it seems to me undesirable to describe and name these types.
27. *L. brevicornis* Emery. Woods Hole, West Falmouth. August 19-September 30. I have once found mermithogynes in this species (see Wheeler 1928).


31. *Formica sanguinea rubicunda* Emery. Cotuit. Woods Hole (Wheeler). (Rochester, July 22.) The only nest I have found on Cape Cod had *F. subænescens* slaves.

32. *F. sanguinea subintegra* Emery. Woods Hole, West Falmouth, Waquoit, Mashpee. August 17-19. I have observed raids on August 6, and (on Naushon) August 25. Two colonies moving to new nest-sites were observed, August 12 and 15. All the slaves observed on Cape Cod have been *F. subsericea*.


38. *F. fusca argentea* Wheeler. Woods Hole, Falmouth, Falmouth Heights, West Falmouth, Sandwich, Chatham,
Truro. Cotuit (Wheeler). July 24. This form is common on the beaches and sand-dunes. I have taken it at Guilford, Connecticut, but it has not been found on Long Island.

39. *F. fusca subænescens* Emery. Mashpee, Cotuit. (Fairhaven, August 13.)


41. *F. neogagates* Emery. Woods Hole, Sandwich, Mashpee, Truro. (Rehoboth, August 18.) The specimens from Sandwich were in a nest that also contained the following form, and that was situated on the edge of a sand-dune. This species typically forms small colonies under stones in woods.


47. *Polyergus lucidus* Mayr. Falmouth, West Falmouth. The slaves in both nests were *F. incerta*.


50. *C. herculeanus pennsylvanicus* Degeer. Woods Hole, Sandwich, Mashpee, North Eastham. August 16-27. (Naushon, August 30.)

51. *C. herculeanus pennsylvanicus mahican* Wheeler. Woods Hole (Wheeler). I have been unable to find this form.

52. *C. herculeanus pennsylvanicus ferrugineus* Fabricius. Woods Hole. One queen and two workers, taken separately.

53. *C. herculeanus ligniperda noveboracensis* Fitch. Woods Hole, Waquoit, Mashpee, Hyannis, Chatham. July 4. Common in logs about sandy ponds, where it replaces pennsylvanicus. At Woods Hole it is much less common than pennsylvanicus; on Naushon pennsylvanicus is still more frequent, but I have not found noveboracensis.

**LITERATURE CITED**

Davis, W. T., and J. Bequaert.

Wheeler, W. M.