

Article XXVI.—THE ANTS OF NORTH CAROLINA.

By WILLIAM MORTON WHEELER.

The following list of the ants known to occur in North Carolina has been compiled from the literature and from a fine collection made by Mr. Wm. Beutenmüller in the Black Mountain region during 1903 and 1904. Some years ago Professor A. Forel collected and studied the ants of the same region and published a series of valuable notes on their habits. The new species discovered by Forel in North Carolina are described in a paper entitled "Variétés Myrmécologiques" (Ann. Soc. Ent. Belg., Tome 45, 1901). The list shows very clearly that the ant fauna of the State in question presents a commingling of Carolinian, subboreal, and transitional species. Characteristic of the Carolinian fauna are such species as *Eciton carolinense*, *Stenamamma treatæ*, *S. lamellidens*, *Solenopsis carolinensis*, *Pheidole morrissi*, and *Ph. dentata*, *Pogonomyrmex badius*, *Leptothorax pergandei*, and *L. floridanus*, *Atta septentrionalis*, and *Dolichoderus mariaë*. The following species are subboreal and peculiar to cold woods and meadows among the higher hills and mountains: *Stigmatomma pallipes*, *Myrmecina americana*, *Stenamamma brevicorne*, *Myrmica brevinodis*, *Lasius neoniger*, *L. aphidicola*, *Formica difficilis*, *F. neogagates*. Most of the remaining species are transitional and widely distributed through the lowlands of the Northern States. Undoubtedly the following list, though rather extensive, is still far from complete. We should expect it to comprise several additional species belonging to the genera *Sysphincta*, *Leptothorax*, *Myrmica*, *Solenopsis*, *Strumigenys*, *Formica*, and *Camponotus*. Unless otherwise stated, the notes refer to the specimens collected by Mr. Beutenmüller.

SUBFAMILY PONERINÆ.

1. *Stigmatomma pallipes* Hald. Several workers, varying in size and coloration, from the North Fork of the Swannanoa

¹ Ann. Soc. Ent. Belg., T. 43, 1899; Rivista di Sci. Biol., II, No. 3, Como, 1900. The latter more complete account has been translated into English by A. P. Morse (Psyche, Vol. 9, Aug.-Sept., 1901, pp. 232-238, 243-245).

River ("in siftings") and from the "Half-way Place" on Black Mountain.

2. **Proceratium melinum** *Roger*. Recorded by Roger from "Carolina."

3. **Ponera coarctata pennsylvanica** (*Buckl.*) *Emery*. A few workers and a dealated female from Black Mountain and a large number of workers from Sugar Fork, Craggy Range, Buncombe Co., and Bat Cave, Blue Ridge, Henderson Co. Among the specimens from the latter locality are two fine ergatoid females, which are nearly as large as normal females of this species and have ocelli, but the thorax constructed like that of the worker. According to Forel this species is "very common in decayed trunks and under stones."

SUBFAMILY DORYLINÆ.

4. **Eciton carolinense** *Emery*. Originally described from North Carolina. Cotypes received from the late Rev. P. J. Schmitt O. S. B., are labeled Belmont, Gaston Co. Forel took the species at Faisons.

5. **Eciton opacithorax** *Emery*. Taken by Rev. P. J. Schmitt O. S. B., at Belmont, Gaston Co. Eighty to one hundred specimens of an ecitophilous beetle (*Ecitonusa schmitti* *Wasmann*) were found scattered through the cluster of workers. In this nest was found the first female *Eciton* taken in the United States.

6. **Eciton schmitti** *Emery*. Many workers taken from under a large stone at Bat Cave, Blue Ridge, Henderson Co. This species has not been found hitherto east of Texas and Missouri. It occurs as far north as Colorado Springs, Colo., where I saw three colonies during the summer of 1903.

SUBFAMILY MYRMICINÆ.

7. **Myrmecina graminicola americana** *Emery* var. **brevispinosa** *Emery*. According to Emery there are specimens of this form from "Carolina" in the Berlin Museum.

8. **Monomorium minutum** *Mayr* var. **minimum** (*Buckl.*) *Emery*. This is evidently the form referred to by Forel as *M. ebeninum*, occurring at Faisons.

9. **Solenopsis texana truncorum** *Forel*. The worker and female types were taken by Forel at Faisons.

10. **Solenopsis texana carolinensis** *Forel*. The male, female, and worker types are from the same locality as the preceding. Mr. Beutenmüller took several workers on the North Fork of the Swannanoa River.

11. **Solenopsis pergandei** *Forel*. The male, female, and worker types were collected by Forel at Faisons.

12. **CreMATogaster lineolata** (*Say*) *Emery*. Specimens from several colonies taken in the Swannanoa Valley, at Black Mountain R. R. Station and in Panther Gap, Blue Ridge, Buncombe Co. Some of the workers approach the vars. *lutescens* *Emery* and *subopaca* *Emery*, whereas others belong to the typical form as defined by *Emery*.

13. **CreMATogaster lineolata læviuscula** *Mayr*. North Carolina (*Emery*).

14. **Pheidole pilifera** (*Roger*) *Emery*. Carolina (*Emery*).

15. **Pheidole vinelandica** *Forel*. Forel took this species at Morganton, Faisons, Goldsboro, Tyson's farm, at an altitude of more than 1000 meters. "The females and males were flying and *in coitu* in great numbers at Morganton, July 17. This form lives in the earth, under stones, along roads. It forms small mounds; its formicaries are small, but very abundant everywhere. Although the soldiers are usually distinct from the workers, intermediate forms exist, evidently much less frequent than in *Ph. kingi* and *vaslitti*, but not very exceptional." In my collection there are many specimens from Belmont. Specimens taken by Mr. Beutenmüller at Bat Cave, Blue Ridge, Henderson Co., represent a very dark variety.

16. **Pheidole tysoni** *Forel.* The types of the soldier, worker, and male were taken July 20 at Tyson's farm, at the foot of Mount Mitchell (altitude more than 1000 meters).

Mr. Beutenmüller's material comprises soldiers and workers from two colonies taken on the North Fork of the Swannanoa and at Bat Cave, Henderson Co. These specimens agree very closely with cotypes sent me by Professor Forel.

17. **Pheidole morrиси** *Forel.* All the sexual forms from North Carolina (Forel), Goldsboro, Faisons, Morganton (July 14-29). "This species makes its nest in the earth of meadows with a very conspicuous masonry dome. The colonies are very populous, and become very much excited when the dome is demolished."

18. **Pheidole morrиси vanceæ** *Forel.* All the sexual forms were taken by Forel at Black Mountain, near Mrs. Vance's villa (July 19). "It is especially this variety that makes striking earthen domes."

19. **Pheidole dentata** *Mayr.* Forel collected all the sexual forms of this species at Faisons and Goldsboro, July 26-29. "This species lives under bark of rotten trees. It does not make earthen domes."

20. **Pheidole crassicornis** *Emery.* The type (soldier only) described by Emery is from Charlotte. Forel took the workers and males at Faisons and Morganton, July 26, in rotten wood and under bark. Rev. P. J. Schmitt O. S. B. sent me specimens from Belmont.

21. **Stenammas brevicorne** *Mayr.* A single worker from the North Fork of the Swannanoa.

22. **Stenammas (Aphænogaster) tennesseeense** *Mayr.* A single winged female taken during August on Black Mountain.

23. **Stenammas (Aphænogaster) treatæ** *Forel.* Workers from three colonies found on the North Fork of the Swannanoa River. According to Forel this species "abounds in the forests at Morganton, Black Mountain, near Mr. Tyson's

and here (Faisons), in all parts of North Carolina, and excavates little nests in the ground (never in logs), sometimes under stones. The workers go out singly and are fearless hunters."

24. **Stenamma (Aphænogaster) lamellidens** *Mayr.* North Carolina (Emery). Mr. Beutenmüller took several large workers from a colony in the Swannanoa Valley at Black Mountain R. R. Station.

25. **Stenamma (Aphænogaster) fulvum** (*Roger*) *Emery.* Workers from several colonies collected May 22-30 along the North Fork of the Swannanoa, on Gray Beard Mountain, and in Panther Gap. These specimens are all darker than the typical *fulvum*, but are furnished with long epinotal spines.

26. **Stenamma (Aphænogaster) fulvum aquia** (*Buckl.*) *Emery.* North Carolina (Emery).

27. **Stenamma (Aphænogaster) fulvum aquia** (*Buckl.*) *Emery* var. **rude** *Emery.* North Carolina (Emery).

28. **Stenamma (Aphænogaster) fulvum aquia** (*Buckl.*) *Emery* var. **piceum** *Emery.* Workers from Blue Ridge, near Black Mountain R. R. Station.

29. **Pogonomyrmex badius** *Latreille.* Forel found two formicaries of this species at Faisons. This must be very near the northernmost limit of its range.

30. **Myrmica rubra brevinodis** *Emery.* Two workers. Half-way Place, summit of Black Mountain and North Fork of the Swannanoa River. These localities must be near the southernmost limit of the range of the genus *Myrmica* in the Atlantic States.

31. **Leptothorax (Dichothorax) pergandei** *Emery.* Morganton, N. C. A specimen sent me by Professor Forel.

32. **Leptothorax (Dichothorax) floridanus** *Emery.* Faisons, N. C. A specimen received from Professor Forel.

33. *Strumigenys clypeata* Roger. "Carolina." (Roger.)
34. *Atta* (*Trachymyrmex*) *septentrionalis* McCook [= *tardigrada* (Buckl.) auct.]. Black Mountain. (Forel.)

SUBFAMILY DOLICHODERINÆ.

35. *Dolichoderus plagiatus* Mayr var. *beutenmülleri* var. nov. Differs from the typical form in the total absence of spots on the basal gastric segments. Eleven workers taken by beating, near the Black Mountain R.R. Station.

36. *Dolichoderus mariæ* Forel. A large colony, comprising several hundred workers of this beautiful species, found under a small stone in the pine woods at Panther Gap, Blue Ridge, Buncombe Co.

37. *Dolichoderus taschenbergi* Mayr. Emery mentions specimens from "Carolina" in the Berlin Museum.

38. *Dorymyrmex pyramicus* Roger var. *niger* Pergande. Faisons, N. C. (Forel.)

39. *Dorymyrmex pyramicus* Roger var. *flavus* McCook. Faisons, N. C. (Forel.) Forel describes a mixed colony of this and the preceding variety.

40. *Tapinoma sessile* (Say) Emery. Workers from four colonies of the typical dark-colored form of this species. Different localities in the Swannanoa Valley, Black Mountain, etc.

41. *Iridomyrmex analis* André. This is, in all probability, the form mentioned by Forel as occurring near Morganton, N. C., and as being related to *I. humilis*.

SUBFAMILY CAMPONOTINÆ.

42. *Brachymyrmex heeri depilis* Emery. Several workers from the North Fork of the Swannanoa River.

43. *Prenolepis imparis* (Say) Emery var. *testacea* Emery. Numerous workers from six different colonies of this variety,

which is paler and smaller than the typical form. Swannanoa Valley.

44. **Prenolepis parvula** *Mayr.* Several workers from Black Mt. R. R. Station.

45. **Lasius niger** *L. var. americanus* *Emery.* Numerous workers from four colonies, North Fork of the Swannanoa River; Black Mt. R.R. Station; Sugar Fork, Craggy Range.

46. **Lasius niger** *L. var. neoniger* *Emery.* Workers of a light-colored form of this variety from two colonies taken on the North Fork of the Swannanoa River and at Blue Ridge, Henderson Co.

47. **Lasius brevicornis** *Emery.* Numerous workers from Blue Ridge, near Black Mt. R. R. Station.

48. **Lasius umbratus mixtus** *Nyl. var. aphidicola* (*Walsh*) *Emery.* Workers from four colonies taken in the Swannanoa Valley at Black Mountain and Panther Gap, Blue Ridge.

49. **Lasius (Acanthomyops) claviger** *Roger.* A dozen workers taken at Panther Gap, Blue Ridge.

50. **Lasius (Acanthomyops) murphyi** *Forel.* The male, female, and worker were described by Forel from specimens taken at Morganton, July 16.

51. **Formica sanguinea rubicunda** *Emery.* Workers from two colonies, with *F. subsericea* as slaves. Panther Gap, Blue Ridge.

52. **Formica rufa integra** *Nyl.* Forel mentions the occurrence of a considerable colony of about thirty nests of this species near Faisons.

53. **Formica difficilis** *Emery.* Workers and females were taken by Forel near Mr. Tyson's farm (north Fork of the Swannanoa River). Many workers from three colonies collected by Mr. Beutenmüller at Black Mt. R. R. Station, and

at Panther Gap, Blue Ridge. Among the specimens from the former locality is a dealated female of the remarkably small size and pale coloration so characteristic of this sex in *F. difficilis*, which should rank as a distinct species (and not as a subspecies of *F. rufa*) related to *F. microgyna* Wheeler.

54. ***Formica exsectoides* Forel.** Mentioned by Forel as occurring near Black Mountain.

55. ***Formica pallide-fulva schaufussi* Mayr.** Many workers of the typical form from Black Mt. R. R. Station and Panther Gap, Blue Ridge. Among those from the latter locality is a specimen of the myrmecophilous beetle, *Cremastocheilus harrisii* Kirby.

56. ***Formica pallide-fulva nitidiventris* Emery var. *fuscata* Emery.** Numerous workers from two colonies taken at Black Mountain.

57. ***Formica fusca* L. var. *subsericea* (Say) Emery.** Workers from two colonies collected near Black Mt. R. R. Station. Among one lot of these workers were two specimens of the myrmecophilous beetle, *Cremastocheilus canaliculatus* Kirby.

58. ***Formica fusca subpolita* Mayr var. *neogagates* Emery.** Workers from two colonies collected on Gray Beard Mountain, Blue Ridge.

59. ***Polyergus rufescens lucidus* Mayr.** In my collection there is a single worker of this subspecies from Belmont (Rev. P. J. Schmitt O. S. B.).

60. ***Camponotus castaneus americanus* Mayr.** Workers, soldiers, and a male from four formicaries found on Gray Beard Mountain, and at Panther Gap, Blue Ridge.

61. ***Camponotus herculeanus pennsylvanicus* De Geer.** Numerous workers, soldiers, males, and females taken in various localities about Black Mountain.