

**Theodore Pergande—Early Student of Ants**

MARION R. SMITH, U. S. D. A. Entomology Research  
Division, Retired

It is not generally known that Theodore Pergande played an unusually important role in the founding of North American myrmecology and that he should therefore be given full credit for this. I am sure he little realized when he was carrying out his ant studies that his work would eventually form the basis for the cornerstone of North American myrmecology. One naturally wonders not only why he became interested in ants but also at what period he actually began serious work on them. I might have been able to answer these and many other questions pertaining to Pergande had I known him personally. He died in March 1916 and unfortunately I did not come to Washington, D. C., to work in the Truck Crop Insect Investigations, Bureau of Entomology, U. S. Department of Agriculture until the fall of 1917.

At this late date (1966) we will probably never know why Pergande became interested in ants but at least we can hazard a guess as to the approximate date he began work on them. I believe Pergande started work on ants as an avocation after he came to Washington, D. C., in the seventies, and he maintained a deep interest in them until his death although his greatest period of activity appears to have been from the seventies until the early years of nineteen hundred. When Pergande embarked on the work North American myrmecology was in an incipient and chaotic state. Most of the ants that had been described (and there were very few of them) were described by Europeans (Fabricius, Latreille, DeGeer, Roger, Smith, Mayr, et cetera) and the types were in European museums. Even the descriptions were in European journals. Our native workers (Say, Haldeman, Cresson, Fitch, Walsh, and others) were not primarily interested in ants but described them only incidentally.

Only one native worker, S. B. Buckley, a geologist by profession had made a rather serious and extensive attempt to

describe 67 North American ants, largely from Texas, Washington, D. C., New York, Connecticut, and other localities. Not only did his work prove to be a complete fiasco but to add to the difficulties his types were lost. To date, only 10 species bear Buckley's name and these are recognized largely by Buckley's descriptions of their habits and habitats rather than by their entirely inadequate technical descriptions.

For an excellent and detailed account of the chronology of the development of North American myrmecology the reader is referred to W. S. Creighton, 1950.

The only comprehensive publication available to Pergande in the early period of his work was the section giving keys to families and genera and also a list of the described species in Cresson, 1887. Pergande's personal collecting of ants appears to have been limited to only those localities in the vicinity of Washington, D. C., as attested by such labels as old Georgetown, banks of Potomac River, Ivy City, Bladensburg Road, Corcoran Hill, Rosslyn, Va., et cetera. Like other myrmecologists, however, he also acquired specimens from special friends or by other incidental means.

Two of his friends who contributed a large number of specimens were Father P. J. Schmitt and Titus Ulke. The former sent him specimens from such localities as Beatty, Pa., Belmont, N. C., and localities in Florida and Colorado. The ants from Ulke were collected by him in the vicinity of Hill City, S. Dak., while Ulke was engaged in mining investigations. For a more detailed account see Smith, 1950.

Realizing the utter hopelessness of the North American situation where there were no colleagues to aid him, a lack of types and other authentic material with which to compare his specimens and inadequate library facilities Pergande naturally turned his attention to Europe where he had lived the early part of his life and was familiar with specialists on various groups of insects including ants. The men whose help he especially sought were Gustav Mayr of Austria, Carlo Emery of Italy, and Auguste Forel of Switzerland, three of the most noted myrmecologists of the World. This relationship resulted in these men

not only identifying many of Pergande's North American ants but also in their describing many new North American species. Realizing Pergande's general interest in ants they made it a custom to send him authentically determined specimens of their own species as well as those of other authors. These specimens came from not only Europe but diverse regions of the World and quite often represented newly described species or species of new genera.

It so happened, probably not by accident, that Pergande chose to send Emery the bulk of his North American species for determination. Pergande made it a habit to split or divide his series of specimens of a given species so that Emery received part of the individuals and Pergande retained the remainder. If Emery reported the specimens to be a new species and described them, Pergande would label his individuals for example, thus, "*Formica ulkei* Emery, new sp., types." According to present day procedures, however, such a practice was incorrect for two reasons; first, the specimens retained by Pergande were not used by Emery in describing the species (although it cannot be denied they came from the original nest series) and were therefore not types, and second, if types, they should have been called cotypes since Emery did not describe the species from a single specimen or holotype but based his description on characters common to a number of individuals.

Regardless, though, of these facts there are many ants in the Pergande collection that are unusually valuable because they belong to original nest series from which species were described. The ants sent Emery by Pergande resulted in two rather large and comprehensive publications by Emery on North American ants in 1893 and 1895. For the first time there thus appeared two large, authentic and comprehensive publications that described and discussed ants from various localities but especially from the United States. It should be mentioned here, however, that a previous publication on our ants by Mayr had appeared in Vienna in 1886.

Many of the ants described by Emery were from Washington, D. C., and Hill City, South Dakota, or their vicinities and it is

more than likely that these two localities have more species described from them than any other localities in the United States. According to Creighton, *loc. cit. supra*, by 1900 Emery had described approximately 108 of our forms. Although Pergande's determination labels were written in a very neat and legible handwriting his personal collection lacks a great deal of uniformity and preciseness. Quite often vital information such as specific locality, date, or collector's name is missing from pinned individuals of numerous series. One frequently finds a series of individuals of the same species for example, labeled thus, "Nebraska, 1888, No. 110."

It was a common custom for Pergande to label series with certain assigned numbers regardless of the completeness of the other data. Undoubtedly he must have had notebooks pertaining to his ant collection which gave not only the correct number of each series but all other data as well. I am indebted to the late Mr. H. S. Barber, a former coleopterist in the Bureau of Entomology, for some pertinent information concerning Pergande and his ant collection. He knew Pergande for many years and was well qualified to speak concerning him. He told me that contrary to popular belief the collection of ants was Pergande's personal one and that he kept it in his home. At his death it was given by his family through the Bureau of Entomology to the National Museum; unfortunately, however, the family did not recognize the value of his notebooks and destroyed them.

The destruction of the notebooks was one of the most calamitous things that could have happened to Pergande's ant collection. Many myrmecologists including myself have found ourselves stalemated on numerous occasions as we have sought definite information on certain specimens or series of Pergande's ants. Wishing to check further into the acquisition of the ant collection by the U. S. National Museum I requested the proper authorities there to kindly check their records for such information as to when acquired, from whom, size of collection, and details concerning number of species and also number of types. They reported that the collection was acquired by the museum in September 1916 as a gift from Miss Laura

Pergande (Pergande's daughter) through Dr. L. O. Howard, Chief, Bureau of Entomology, U. S. Department of Agriculture. The collection was recorded by them as an "exceedingly valuable" one but no data were given as to size, total number of specimens and species, or total number of types.

In 1899, Forel visited the United States. He especially visited Washington, D. C., to renew his acquaintance with Pergande. The two collected ants together along the banks of the Potomac River where they found some unusually interesting species. Forel also visited Boston as well as North Carolina. In the latter state he collected ants in such localities as Faisons, Goldsboro, Morganton, and the Black Mountains around Asheville. His visit to this country resulted in a publication by him in 1901, in which he discussed and described many ants he had collected on the trip.

It is surprising that although Pergande collected and studied ants for forty years or more he published less than half a dozen articles on them and amazingly these were not on the ants of the United States proper (with which he should have been most familiar) but with ants of such distant localities as Lower California (Mex.), Mexico, and Alaska. His papers on ants, in chronological order, were:

- 1894 (1893). On a collection of Formicidae from Lower California and Sonora, Mexico. *Proc. Calif. Acad. Sci. ser. 2*, 4: 23-36.
- 1893 (1893). Formicidae of Lower California, Mexico. *Op. cit.* 4: 161-165.
1896. Mexico Formicidae. *Op. cit.* 5: 858-896.
1900. Papers from the Harriman Alaska Expedition XVII. Entomological results (11); Formicidae. *Proc. Wash. Acad. Sci.* 2: 519-521.
1904. Formicidae of the Expedition. Harriman Alaska Expedition 9, *Ins. pt. 2*: 113-117. (Pp. 115-117 reprinted from *Proc. Wash. Acad. Sci.* 2: 519-521.)

In these Pergande described and discussed numerous species. His descriptions for that period were entirely adequate and fully demonstrated his aptitude for the work. One of the high points was his description of *Ceratopheidole*, a new subgenus of *Pheidole* which is still recognized as a valid taxon. However, a large

number of Pergande's species have gradually fallen into synonymy. Of the ants which he described that are native to the United States or else occur here, there are now perhaps less than a half-dozen valid species.

In 1900, the distinguished scholar, Dr. W. M. Wheeler, joined Pergande in the field of myrmecology and continued in the field until his death in 1937. The bulk of his work on North American ants was carried out between 1900 and 1917 when he described approximately 270 forms and revised many genera. In his work with North American ants he was in constant correspondence with Pergande who furnished him numerous specimens for study as well as very pertinent notes on their history, and biology.

In summarizing Pergande's contribution to myrmecology I would say that it was not Pergande's taxonomic work on ants or his wide knowledge of them that perhaps distinguished him most but his excellence in collecting and assembling specimens as well as knowing who were the best authorities to aid him in their determination. His aid to Wheeler must have been indispensable. Pergande deserves exceptional praise for his fine collection which was without doubt the earliest, largest, and most authentic ant collection in North America and which later became the nucleus for the present ant collection in the United States National Museum.

#### LITERATURE CITED

- CREIGHTON, W. S. 1950. The ants of North America. Bull. Mus. Comp. Zool., Harvard University 104: 1-585.
- CRESSON, E. T. 1887. Synopsis of the Hymenoptera of America north of Mexico. Trans. Amer. Ent. Soc., Suppl. Vol. 1887. Pp. 1-350.
- EMERY, C. 1894 (1893). Beiträge zur Kenntniss der nordamerikanischen Ameisenfauna. Zool. Jahrb., Syst. 7: 633-682. 1895. *Op. cit.* 8: 257-360.
- FOREL, A. 1901. Variétés myrmécologiques. Ann. Soc. Ent. Belg. 45: 334-382.
- MAYR, G. 1886. Die Formiciden der Vereinigten Staaten von Nordamerika. Verh. Zool.-Bot. Gesell., Wien 36: 419-464.
- SMITH, M. R. 1950. On the collection of ants made by Titus Ulke in the Black Hills of South Dakota in the early nineties. Jour. N. Y. Ent. Soc. 60: 55-63.