

were present. Perhaps, therefore, *C. kennedyi* and *creightoni* represent a hitherto unknown type of social parasitism, in which the males and females of the parasite are permitted to develop to maturity in a host colony which not only retains its mother queen but also succeeds in rearing females and males of its own species. That the two parasitic species of *Crematogaster* have been brought to light only very recently is not surprising, because all the workerless parasitic ants are extremely rare. One of these, *Epæcus pergandei* Emery, described in 1894, from specimens taken by Pergande near Washington, D. C., is still known only from the types, notwithstanding long and diligent search for additional specimens by Dr. W. M. Mann, Dr. Creighton and myself. Moreover, the presence of workerless parasites in a colony is very apt to be overlooked unless the nest happens to be examined during the few days that intervene between the emergence of the parasites and their nuptial or dissemination flight. Since there is every reason to believe that both *kennedyi* and *creightoni* are derived phylogenetically from their respective host species, either by mutation or, more probably, by a gradual reduction in size and fecundity of certain females (compare, for example, the series of temporary social parasites of the genus *Formica*, beginning with such forms as *F. rufa* and *truncorum* and ending in the North American species of the *microgyna* group), the parasitism of the two species of *Crematogaster* may be in a primitive phylogenetic stage, that is one in which the reduction in size and fecundity of the female is already accomplished but in which the host species has not yet acquired the habit of substituting the parasitic queen for that of its own species, as in certain other workerless species (*Anergates*, *Bruchomyrma*, etc.).

*Crematogaster* (*Acrocœlia*) *pilosa*, the host of *C. creightoni* is not as well known as many of the other members of the *lineolata* "Formenkreis," which has a wide distribution, embracing Nova Scotia, Southern Ontario and the whole United States. Emery (1849) described only the worker *pilosa* as a subspecies of *lineolata* from specimens furnished by Pergande, who discovered it in the District of Columbia. It has since been recorded from Southern New Jersey and Florida. The specimens collected by Dr.