

## ANTS OF THE GENUS *CARDIOCONDYLA* EMERY IN THE UNITED STATES

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This article attempts to present all facts known to the author concerning the taxonomy, biology, and distribution of the four species of *Cardiocondyla* that have been recorded from the United States. Although these species have been found only in Florida, it is reasonable to expect that representatives of the genus will be collected eventually in some of the other subtropical areas in the country, since its members are known to occur over most of the warmer regions of the earth. Often it is extremely difficult to ascertain whether the species in a given region are native or introduced. Certainly the small size of the ants and their colonies, as well as their habit of nesting within plants or other exportable material, would afford them an excellent means of becoming widely disseminated by commerce. Emery (1909, Deut. Ent. Ztschr. p. 27) states that although *emeryi* Forel was described from specimens taken in St. Thomas, Virgin Islands, he believes it was probably introduced there from an original home in Asia. Wheeler (1932, N. Y. Ent. Soc. Jour. 40: 7) also remarks that two of the species occurring in Florida (*nuda* var. *minutior* Forel and *wroughtoni* var. *bimaculata* Wheeler) were probably introduced. He did not venture an opinion on the remaining species.

Although the biology of our species is little known, *emeryi*, at least, has been observed to nest in the soil and within cavities of plants and, like the variety *bimaculata*, has been found visiting honeydew-excreting insects and feeding on the flesh of small arthropods.

One of the most interesting facts about these ants is the occurrence of ergatoid, or wingless, workerlike males in some of our species and the strong probability that they are produced by all of them. Only the ergatoid male is known for the species *wroughtoni*, and this is so peculiar in appearance that when Forel (1890, Ann. Soc. Ent. de Belg. 34: 110) described it he proposed the new generic name *Emeryia* for it. Recently the author has seen an ergatoid male among some specimens of *wroughtoni* var. *hawaiensis* Forel from Hawaii; hence, it may be expected that this type of male likewise occurs in the variety *bimaculata*. For many years *emeryi* was known to possess only a normal male, but recently Borgmeier (1937, Rev. de Ent. 7: 132) has shown that this species also has an ergatoid male. So perplexing have been the females, males, and ergatoid males of *Cardiocondyla* that so illustrious a formicologist as Emery