

the gaster predominantly smooth and shining. Variation in the queens is poorly known because not many of the "*unidentata*" workers are accompanied by females in the collections I have seen. In general, *louisianae*-complex queens have stronger gastric sculpture than the workers accompanying them.

In view of the discordant nature of the variation in the only good distinctive characters available, I am forced to consider *fusca*, *unidentata*, and *clamospongia* as synonyms of *louisianae*. It is possible that the variation of this very plastic species is even greater in central and northern South America, from which our samples are so few, and perhaps even the large, very long-mandibulate *producta* is only another extreme variant of *louisianae*. The type of *fusca* does show tendencies in the direction of *producta*, but we shall need more material from Western Brazil and Bolivia before we decide this question. Of course, the possibility must not be overlooked that *louisianae* really is made up of a number of cryptic species, inseparable by conventional morphological study.

A fact of continuing interest is the absence of *S. louisianae* from the forest on Barro Colorado Island in the Panama Canal Zone. Intensive collecting by a number of myrmecologists on the Island was repeated in January 1960 by Dr. E. S. McCluskey and myself, making full use of Berlese funnels and other modern collecting techniques, but no one has yet found *S. louisianae* on the Island or elsewhere in Panama. This is especially strange in view of the fact that the species is common in banana plantations on both the Atlantic and Pacific sides of Costa Rica near the Panama border (El Palmar and Coto in the Golfo Dolce, E. O. Wilson leg.). While we now have very inadequate ecological information, it does seem possible that *S. louisianae* may be a species that has adapted to habitats marginal to the rain forest of the South American continent, and that this has something to do with its present wide distribution — the widest of any New World dacetine. In this sense, *S. louisianae* may fit Wilson's (1959) "Stage-I" category of expanding species. It is also of interest to note that the species is much less variable ("more typical") in the North American extremities of its range than in the presumed evolutionary center in South America. Furthermore, the "typical" characteristics of short mandibles and reticulate gastric sculpture, while discordant one with the other geographically, tend to prevail at the extremities of the range in North America and South America as well, indicating a centrifugal evolution and movement of these characters.

Below I have listed some of the available samples of *S. louisianae* by geographical regions, with special emphasis on some of the more