The baiting experiments demonstrated that in situations of interference competition for a concentrated resource *Wasmannia* is the best competitor on Santa Cruz. While suggestive, these data do not prove that *Wasmannia*'s dominance is due to superior interference competitive ability. Other possible explanations could be superior exploitative competitive ability, direct predation on other ants, or most probably some combination of these three processes. It would be possible to resolve the problem through careful observation of ant foraging at sharp boundary areas and in non-*Wasmannia* sites.

The ant fauna of Santa Cruz is in a state of transition. Two of the endemic species, *Camponotus planus* and *Pheidole williamsi*, have been devastated by *Wasmannia* (tables 1 and 2). The other two known endemics, *Cylindromyrmex williamsi* and *Camponotus macilentus*, have largely escaped the effects of *Wasmannia*, since both species are arid-zone specialists (table 1; Wheeler 1924). The effects of other species of introduced ants on the arid-zone endemics are not known.

The present data demonstrate that no ant now present on Santa Cruz can resist *Wasmannia* in areas of high *Wasmannia* density (tables 2 and 3). To the extent that a species' distribution overlaps with *Wasmannia*'s, therefore, that species must be considered endangered on Santa Cruz.

The long-term ecosystem effects of *Wasmannia* in the Galápagos are impossible to predict, primarily because comparative data on invertebrate density in *Wasmannia* and non-*Wasmannia* areas are not available. Given the observed density of *Wasmannia* and the catholic range of prey taken, it is very likely that in areas of high *Wasmannia* density, invertebrate density has been substantially reduced. A similar situation has apparently occurred in Hawaii, where according to Zimmerman (1970) the introduced predatory ant *Pheidole megacephala* has devastated the endemic insect fauna.

Wasmannia currently occurs on Santa Cruz, Floreana, San Cristóbal, Isabela, and Santiago Islands. It was introduced but successfully eradicated on the arid island of Santa Fe. Based on the Santa Cruz data, it appears that areas of maximum *Wasmannia* impact are the mesic zones, which occur only on the high islands of the Galápagos. It is especially vital that high islands which have not yet been infected (Pinta, Fernandina, some volcanoes of Isabela) be protected. Areas which are probably undergoing rapid change (like Santiago) should be studied.

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LITERATURE CITED

BROWN, J. H., AND D. W. DAVIDSON. 1977. Competition between seed-eating rodents and ants in desert ecosystems. Science, N.Y. 196: 880-882.

CREIGHTON, W. S. 1950. The ants of North America. Bull. Mus. comp. Zool. (Harv.) 104: 1-585.

CROWELL, K. L. 1968. Rates of competitive exclusion by the Argentine ants in Bermuda. Ecol. 49: 551-555.

ERICKSON, J. M. 1971. The displacement of native ant species by the introducted Argentine ant *Iridomyrmex humilis* Mayr. Psyche 78: 257-268.

FERNALD, H. T. 1947. The Little Fire Ant as a house pest. J. Econ. Ent. 40: 428.

GREENSLADE, P. J. M. 1972. Interspecific competition and frequency changes among ants in Solomon Island coconut plantations. J. Appl. Ecol. 8: 323-349.

HAMANN, O. 1979. On climatic conditions, vegetation types, and leaf size in the Galápagos Islands. Biotropica 11: 101-122.

HASKINS, C. P., AND E. F. HASKINS. 1965. *Pheidole megacephala* and *Iridomyrmex humilis* in Bermuda-equilibrium or slow replacement? Ecol. 46: 736-740.

HÖLLDOBLER, B., AND E. O. WILSON. 1977. The number of queens: an important trait in ant evolution. Naturwissenschaften 64: 8-15.

KUSNEZOV, N. 1951. El género *Wasmannia* en la Argentina. Acta Zool. Lilloana X: 173-182.

LEVINS, R., M. L. PRESSICK, AND H. HEATWOLE. 1973. Coexistence patterns in insular ants. Am. Sci. 61: 463-472.

LIEBERBURG, I., P. KRANZ, AND A. SEIP. 1975. Bermudian ants revisited: the status and interaction of *Pheidole megacephala* and *Iridomyrmex humilis*. Ecol. 56: 473-478.

OSBURN, M. R. 1948. Comparison of DDT, Chlordane, and chlorinated camphene for control of the little fire ant. Fla. Ent. 31: 11-15.

SILBERGLIED, R. 1972. The Little Fire Ant *Wasmannia auropunctata*, serious pest in the Galápagos Islands. Noticias de Galápagos 19-20: 13.

SPENCER, H. 1941. The small fire ant *Wasmannia* in citrus groves—a preliminary report. Fla. Ent. 24: 6-14.

WHEELER, W. M. 1919. The ants of the Galápagos Islands. Proc. Calif. Acad. Sci., 4th Ser., Vol. II, Pt. II, pp. 259-297.