

2794

THE SLAVE-MAKING ANT, *FORMICA SANGUINEA*
SUBINTEGRA EMERY, ITS RAIDS, NUPTIAL
FLIGHTS AND NEST STRUCTURE

MARY TALBOT

Lindenwood College, St. Charles, Missouri,

AND

CLARENCE HAMILTON KENNEDY

Ohio State University, Columbus, Ohio

The sanguinary ants, or "blood-red slave makers," have long been of interest because of their conspicuous habit of making periodic forays to capture the young of other ants and transport them to their own nests. Here the young develop, thus forming mixed colonies of red and black workers which together carry on the activities of excavation and caring for the young.

Gibraltar Island, the site of the Franz Theodore Stone Laboratory of Ohio State University, makes an ideal unit for a habit study of the slave-making ant *Formica sanguinea subintegra* Emery, and of its slave ant *Formica fusca subsericea* Say. The island lies at the west end of Lake Erie and is cut off from its nearest neighboring land, South Bass Island, by a bay one-fourth of a mile wide. It consists of six acres of rock, covered with a thin layer of soil which supports a lawn and scattered trees, and has been maintained in this condition since 1865 when J. Cooke established a summer home there.

The island has undoubtedly long ago reached the maximum population of ants which it will support and probably there is a fairly constant balance between the number of *F. fusca subsericea* and *F. sanguinea subintegra* colonies since the *sanguineas* exist at the expense of the *fuscas*. If they should increase to such an extent that they wipe out the *fuscas* they themselves probably would not survive. The *fusca* colonies are often depleted by the continuous yearly raids of the slave-makers, yet there is a surprisingly large number of colonies which are never seen until the raiding *sanguineas* find them. The number of *sanguinea* nests present at any one time was never accurately determined. The problem was complicated by the tendency of the colonies to move from their own well-established nests into those of raided colonies. Several such moves might be