

ifornicus (Woodworth 1910; Shapley 1920; Mallis 1938; Michener 1942; Ward unpublished).

What does not appear to have been previously documented, perhaps because of exclusive concentration on conspicuous epigeaic species, is the *differential* displacement of indigenous California ants by *I. humilis*, a pattern that is quite pronounced, at least in the riparian woodland habitat investigated in this study. Thus, whereas most epigeaic species disappear from sites invaded by *I. humilis*, *Prenolepis imparis* is equally distributed between occupied and unoccupied sites, and the same is true of several hypogaecic species, notably *Stenammina diecki* and *S. californicum*. Two of the three most adversely affected ant species (*Liometopum occidentale* and *Tapinoma sessile*) are taxonomically and ecologically similar to *Iridomyrmex humilis* in that they are members of the same subfamily (Dolichoderinae) and they are dominant, opportunistic, epigeaic ants, with propensities to establish dense foraging trails, to tend homopterans, and to move nest sites readily. *Tapinoma* nests are polygynous (multiple-queened), like those of *I. humilis*, and this is probably also the case for *Liometopum*. Moreover, these two species forage under the same ambient conditions as *I. humilis*, that is, throughout the summer and during warmer winter weather. In contrast *Prenolepis imparis* tends to be active under cooler (and wetter) conditions and ceases foraging during summer months, a behavior that may reduce the frequency of its interactions with *I. humilis*.

Sixteen out of 27 native ants recorded from riparian woodland in the Sacramento Valley, including rare hypogaecic species such as *Amblyopone pallipes* and *Proceratium californicum*, were found only in sites unoccupied by *I. humilis*. Some of these species are confined to riparian woodland in California and face the danger (at least locally) of extinction in the face of an onslaught by *I. humilis*. The effects of this species on other indigenous insects remain largely unexplored. By excluding such dominant ant species as *Liometopum occidentale* and *Formica occidua*, *I. humilis* may significantly alter the homopteran and cynipid communities on oaks and other plants. Attention should also be directed to its effects on the valley elderberry longhorn beetle, (*Desmocerus californicus dimorphus*) (Coleoptera: Cerambycidae), a federally listed threatened (sub)species confined to riparian habitats in the Central Valley of California (Anon. 1980).

ACKNOWLEDGMENTS

This work was supported by University of California Temporary Hatch funds (Experiment Station Project 4162-H). I thank Lisa Lantsberger, Peggy Stern, and Bob Waegell for field and technical assistance. I am grateful to Lloyd Eveland, Earl Scheid, Violet Scott, James Ward, and other landowners, for permission to sample ants on their property.

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