

THE NATURAL HISTORY OF THE
WORKERLESS ANT PARASITE
FORMICA TALBOTAE

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Abstract. The ant *Formica talbotae* Wilson is a workerless social parasite of the *microgyna* group, which forms mixed colonies with the host ant *Formica obscuripes* Forel. Queens produce males and females only and there is also no worker brood of *F. obscuripes* in the parasitized colonies. The small alates have a long flight period stretching from mid-June to late September, with flights taking place on every suitable morning when the temperature is above 71° and rising, when the sun is shining, and when there is no appreciable wind. Flights are best between 78° and 83°F. Once up on plants, alates are reluctant to return to the nest so some flights, under poor conditions, are long drawn out. Flights are sparse, usually only 10 to 75 alates taking off in a day. Sometimes there is a small swarming reaction, with females loitering on plants above the nest while males fly about until they find them and mate.

Formica talbotae Wilson is the only known workerless social parasite of the genus *Formica* (Wilson, 1977). The queens live in colonies of the thatching ant, *Formica obscuripes* Forel, and produce winged males and females all through the summer. Since all of the brood in such a colony is that of the parasite (a few *F. obscuripes* males may be produced and are probably the result of worker-laid eggs), it is assumed that the small fertilized females enter colonies which lack queens or in some unknown manner bring about the death of any queen which may be present.

E. O. Wilson (1977), who described *F. talbotae*, reports that this small member of the *microgyna* group has also been found at Spirit Lake, Iowa, by Robert L. King and near Grand Forks, North Dakota, by Paul B. Kannoowski.

The *F. talbotae* colonies presented here were associated with five colonies of *F. obscuripes* on the Edwin S. George Reserve, Livingston County, Michigan. This is near the eastern margin for the distribution of the host ant, which is essentially a prairie form. *F. obscuripes* finds an excellent habitat on the Reserve since there are open, sloping fields which are sandy and well drained. Mounds are numerous in some fields, a condition necessary for the existence of such a parasite as *F. talbotae*.