

cies could be plausibly placed in the genus *Monomorium*. We were also influenced by the precedent of parasitic species of *Solenopsis* with reduced or absent clypeal carinae, such as the South American *S. daguerrei* (Santschi). There is no evidence, however, that *S. phoretica* is closely related to *S. daguerrei* and its relatives. The latter species lacks a number of features found in *S. phoretica*: enlarged punctures bearing short setae on the head and mesosoma; angulate subpetiolar process; falcate mandibles with a strongly projecting basal angle. The petiole of *S. daguerrei* is sharply angulate above in lateral view, the post-petiole is narrow in posterior view, the anterior edge of the mesonotum is slightly protuberant, overhanging the pronotum, and the inner margins of the mandibles are oblique with four teeth (including the apical tooth).

We suspect that *S. phoretica* is parasitic because it was found clinging to the petiole of a nest queen of *Pheidole dentata* and because the mandibles and concave clypeal area fit exactly around the petiole. The radical nature of the clypeal and mandibular modifications suggest a relatively long phoretic association, although not necessarily with *P. dentata*. There are other local ants, such as *Pheidole crassicornis* Emery, *Solenopsis geminata* (Fabricius) and possibly *S. pergandei* Forel that have a petiole that might well accommodate the mandibles of *S. phoretica*. A phoretic relationship in which the parasite is attached to the petiole of the host queen is, to our knowledge, unique in ants. *Solenopsis daguerrei* queens cling to the neck of their host queen, immobilizing her, and greatly decreasing her reproductive ability (Silveira-Guido et al. 1973). There is also a highly specialized parasitic ant, *Teleutomyrmex schneideri* Kutter, whose queens ride about unattached on the host queen (Hölldobler & Wilson 1990).

It is impossible to define, on the basis of our single observation, the nature of the suspected

parasitic relationship. *Solenopsis phoretica* seems equipped for a prolonged period of phoresy on its host, but it is still possible that *S. phoretica* dismounts after it is fully imbued with the odor of the host queen. It is tempting to suggest, by analogy with known parasitic *Solenopsis*, that *S. phoretica* is a workerless parasite, but there is no evidence of this, aside from the absence of worker *Solenopsis* in the host nest. Whatever relationship *S. phoretica* may have with its host, it is certain to be interesting and unusual. We hope that myrmecologists and other naturalists working in southeastern North America will be on the lookout for this species. It might not be necessary to find nest queens of the host, as at some point in the life cycle of *S. phoretica* there should be numerous alate *S. phoretica* in the host colony.

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LITERATURE CITED

- BOLTON, B. 1995. A New General Catalog of the Ants of the World. Harvard University Press, Cambridge, MA. 504 pp.
- ETTERS HANK, G. 1966. A generic revision of the world Myrmicinae related to *Solenopsis* and *Pheidologeton* (Hymenoptera: Formicidae). Australian J. Zool. 14: 73-171.
- HÖLLDOBLER, B., AND E. O. WILSON. 1990. The Ants. Harvard University Press, Cambridge, MA. 732 pp.
- SILVEIRA-GUIDO, A., J. CARBONELL, AND C. CRISCI. 1973. Animals associated with the *Solenopsis* (fire ants) complex, with special reference to *Labauchena daguerrei*. Proc. Tall Timbers Conf. Ecol. Animal Control Habitat Management 4: 41-52.