

SCIENTIFIC NOTE

A COLLECTION OF *POECILOCRYPTICUS FORMICOPHILUS* GEBIEN (COLEOPTERA: TENEBRIONIDAE) FROM A MOUND OF THE IMPORTED FIRE ANT HYBRID, *SOLENOPSIS INVICTA* X *RICHTERI* (HYMENOPTERA: FORMICIDAE) FROM MISSISSIPPI, U.S.A.¹

Joe A. MacGown²

Poecilocrypticus formicophilus Gebien is a small, colorful tenebrionid beetle native to the Atlantic coast of South America. Steiner (1982) reported this species from Russell Co., Alabama (3 specimens), Leon Co., Florida (1 specimen), and Hancock Co., Mississippi (1 specimen). Steiner speculated that *P. formicophilus* was a recent introduction to the southeastern United States and apparently was established in that region. He also stated that this beetle might be associated with the imported fire ant, *Solenopsis richteri* Forel. This speculation is based primarily on a single specimen of *P. formicophilus* collected during a survey of animals associated with fire ants done in Uruguay by Silveira-Guido et al. (1972). It is not certain whether the specimen from that survey was actually in a fire ant mound or was only in the vicinity of one, because it was labeled somewhat ambiguously as “*saevissima richteri* nest” (referring to *Solenopsis richteri*). Fragments of a beetle that appeared to be *P. formicophilus* were recovered from a nest in Bastrop County, Texas (Taber, 2000). It is not known whether the beetle was prey of the fire ants, or was living in the nest as a myrmecophile. All of the published records of *P. formicophilus* in the United States coincide with areas where either *S. richteri* or another exotic fire ant species, *S. invicta* Buren, have become established. Recent collections of this beetle also fall within the geographic range of imported fire ants, with records in Mississippi from Greene Co. (1 specimen), Hancock Co. (3 specimens), and Jackson Co. (4 specimens) and in Alabama from Baldwin Co. (3 specimens). *Poecilocrypticus formicophilus* has also been collected from numerous other localities in other states where imported fire ants have spread (records from other states to be published at a later date, W. E. Steiner, Pers. Comm.) apparently paralleling the imported fire ant movement in the United States. However, no live specimens of *P. formicophilus* have been reported as being found in any *Solenopsis* spp. nests in the United States.

On 4 August 2002, I collected a single live specimen of *P. formicophilus* in an active mound of the hybrid fire ant, *S. invicta* X *richteri*. The mound was at the base of *Pinus taeda* Linnaeus (Pinaceae) located in a remnant of the Black Belt Prairie in Sessums, Oktibbeha County, Mississippi. This is the first definitive record of *P. formicophilus* being found alive in a fire ant mound in the United States, thus supporting Steiner's supposition that this beetle is associated with fire ants.

MacGown and JoVonn G. Hill collected seven individuals of *P. formicophilus* at Jeff Davis Lake in Jefferson Davis County on 11 August 2005. The beetles were col-

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² Mississippi Entomological Museum, Box 9775, Mississippi State, MS 39762, U.S.A. Email: jmacgown@entomology.msstate.edu

lected in grass clippings at the base of *Quercus falcata* Michaux (Fagaceae) in a disturbed open parklike area near a lake. Several species of ants were present in the sample with the beetles including *Brachymyrmex musculus* Forel, *Hypoponera opaciceps* (Mayr), *Pyramica membranifera* (Emery), *Pyramica* sp., *Cyphomyrmex rimosus* (Spinola), and *Solenopsis invicta* Buren. On a subsequent trip to the same site by Hill on 18 September 2005, live individuals of *P. formicophilus* were observed in the nests of *B. musculus*, *C. rimosus*, and *S. invicta*. All three of these ant species are considered to be exotic ants to this country from South and Central America. The presence of this beetle in the nests of two other species of ants indicates that it is not restricted to imported fire ant nests.

It is not clear whether *P. formicophilus* is an occasional nest scavenger or a more specialized myrmecophile. Other collections of this beetle have been made using a variety of methods, such as Berlese litter samples, pitfall traps, and blacklight traps, but not from inside fire ant mounds. In a study of arthropods found in imported fire ant (*S. richteri*) mounds done by Collins and Markin (1971), fifty-two species of arthropods were collected, but *P. formicophilus* was not found. Similarly, a study of beetles in fire ant nests in Texas done by Summerlin (1978) did not yield this species. However, those studies may have predated the arrival of *P. formicophilus* in those states. Except for some pupal characters (Steiner 1995), the biology and immature stages of this species remain unknown.

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