

**Observations of *Neivamyrmex fallax* Borgmier and *Solenopsis xyloni* McCook
(Hymenoptera: Formicidae)**

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Introduction

Species in the genus *Neivamyrmex* Borgmeier (Hymenoptera: Formicidae: Ecitoninae) are commonly referred to as army ants. These species feed almost exclusively on animal prey, typically the brood of other ant species. Army ants do not have a permanent nest site, but instead are nomadic in nature, with the entire colony periodically moving to a new temporary nest site, also called a biovouac. The habits of many army ant species are not well known as they seem to avoid direct sunlight or are primarily subterranean in nature. However, the raids and migrations of several, species such as *N. californicus* Mayr, *N. harrisi* Haldeman, *N. nigrescens* Cresson, *N. opacithorax* (Emery), *N. pilosus* (Smith), and, *N. texanus* Watkins, often take place above ground (Watkins, 1985). *Neivamyrmex fallax* Borgmeier, a species upon which little is known, was first described in 1953 from a series of specimens from Texas and Louisiana (Borgmeier, 1953). Since then, this species has been reported from Guatemala and Mexico, and in the United States from Arizona, Kansas, and New Mexico (Watkins, 1985).

Observations

On 27 June 2006, while on a collecting trip in west Texas, a colony of *N. fallax* was observed raiding a colony of *Solenopsis xyloni* McCook. These observations were made just outside of Alpine, in Brewster County, Texas (30°20'46"N 103°41'39"W) at 1,548 m, behind a pavilion along a fencerow separating a hotel parking lot and a pasture. The activity occurred in an area measuring approximately 1x1.5 m that consisted of mostly bare soil and gravel with some forbs and *Cynodon dactylon* (L.) Pers (Poaceae) (Bermuda grass). The observations were made between 7:55 P.M.-9:10 P.M., and the temperature was 28.8°C.

While collections of ants were being made in the area, a large number of *S. xyloni* were observed, apparently relocating their colony from an old nest site to a new one approximately one meter away. Many *N. fallax* workers were emerging from three holes in the ground between these two locations, whereupon they attacked the *S. xyloni* workers and took their brood (eggs and pupa). In most cases, the *S. xyloni* workers only minimally defended their brood, before dropping it and running away. In other cases, the *N. fallax* took the brood from the mandibles of the *S. xyloni* workers after a brief skirmish. Several *S. xyloni* workers carrying brood apparently tried to evade the onslaught of their attackers by climbing onto a small forb. When a *N. fallax* worker ventured up the forb, the *S. xyloni* moved further up the plant until they were at the top. When the *N. fallax* neared them, the *Solenopsis* dropped their brood, and fell to the ground. The *N. fallax* workers also were observed also attacking male and female *S. xyloni* alates and carrying them underground after they were subdued. One *S. xyloni* worker also was observed being carried underground. Additionally, several *N. fallax* workers were seen entering and exiting the *S. xyloni* colony, but none of those exiting were observed carrying anything.

During the course of these observations, the movement trail of the *Solenopsis* became more obtuse as the *Neivamyrmex* pushed further into their ranks. A couple of workers of two other ant species, *Pogonomyrmex rugosus* Emery and *Aphaenogaster cockerelli* André, were also moving throughout the area. The *S. xyloni* attacked both of these larger species when encountering them with seemingly greater aggressiveness than they exhibited for the more similar sized *N. fallax*, and in one case were able to kill one of the *P. rugosus* workers.

The observations ceased near sundown. The next morning the site was visited again, but there was no sign of either the *Neivamyrmex* or the *Solenopsis*. It would be interesting to know whether the *Solenopsis* were already moving their colony at the time and the *Neivamyrmex* took advantage of their vulnerability, or if the *Solenopsis* were moving because the *Neivamyrmex* already had attacked their original colony.

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