

Brazilian scarab beetles found to be termitophiles

January 13 2015



Termite soldiers are able to chemically detect intruders in their colonies. While most trespassers are swiftly dealt with, some spiders, centipedes, millipedes, and insects are allowed to find shelter within termite nests. These arthropods are known as "termitophiles."

Now for the first time ever, an international team of scientists has provided a record of chafer leaf beetles (*Leucothyreus suturalis*) living in the nests of two different termite species—*Cornitermes cumulans* and *Silvestritermes holmgreni*—in Brazil. Their observations are published

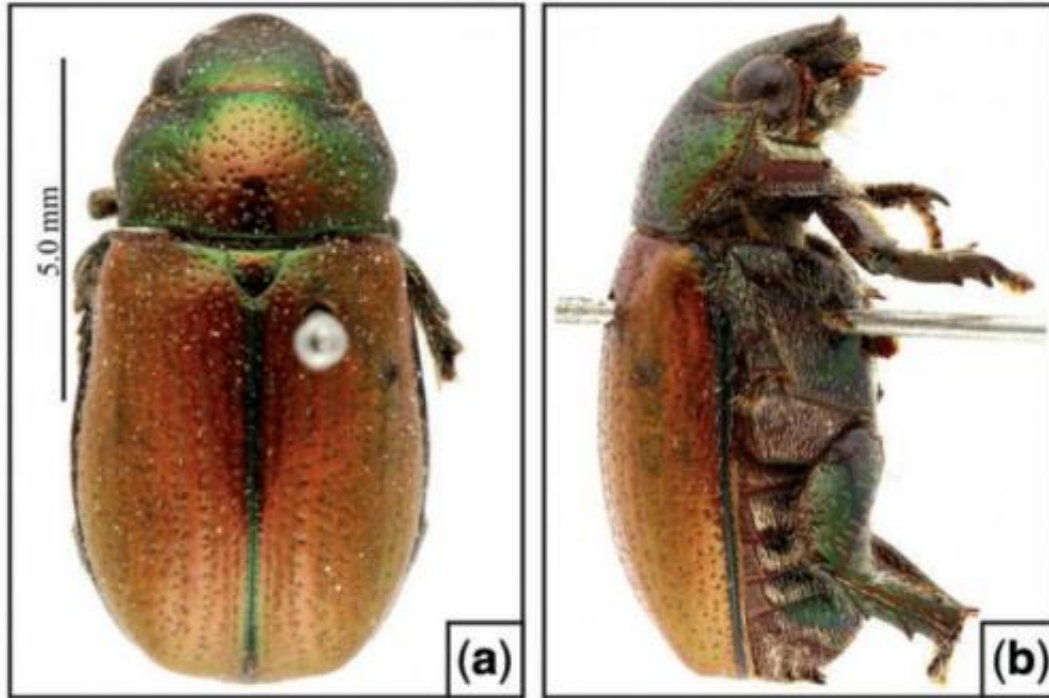
in the journal *Annals of the Entomological Society of America*.

"Third-instar [larvae](#) of *Leucothyreus suturalis* Castelnau (Coleoptera: Scarabaeidae: Rutelinae) were found embedded in peripheral areas of the nests of *C. cumulans* and *S. holmgreni* located in pasturelands or in forest edges of the Brazilian Atlantic Forest," they wrote. "Additionally, we provide information on the life cycle of this beetle species."

More than 4,000 scarab beetles in the subfamily Rutelinae have been described, but only seven have been previously documented to be associated with social insects—namely, honey bees, leafcutter ants, and harvester ants. This is the first time that a member of this subfamily has been documented among termites.

How do they survive?

According to the authors, the scarab beetle larvae are probably able to remain undetected because they dwell in parts of the termite nest that are not inspected often.



Female specimen of *Leucothyreus suturalis*. (A) dorsal view, (B) lateral view.
Credit: Entomological Society of America

"We think that the location of the larvae of *L. suturalis* within the periphery of the host nest is a strategy that maximizes survival and also minimizes costs to the host colony," they wrote. "Larvae were not integrated into the host galleries, and soldiers were not apparently patrolling this portion of the nest."

They also believe that *L. suturalis* larvae feed on something within the termite nest, unlike other beetles in the genus *Leucothyreus*, which are known to feed on roots.

"Feeding on roots within the termite nest would require larvae to migrate toward the root resource, thus exposing them to patrolling termite soldiers," they wrote. "Therefore, we think it is most plausible that larvae of *L. suturalis* feed on the nest structure itself rather than roots within the

exterior wall of the nest."

More information: *Annals of the Entomological Society of America*,
aesa.oxfordjournals.org/content/14/12/29/aesa.sau004

Provided by Entomological Society of America

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