

# 3<sup>rd</sup> European Congress on Social Insects

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# PROCEEDINGS



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**Keywords:** Juvenile hormone analogue, W-328, *Prorhinotermes simplex*, larvae, pseudergates, nymphs, soldiers, artificial intercastes, morphometry.

Application of JHA's to groups of termites usually leads to differentiation of soldier intercastes. We set up a force-feeding tests (spruce blocks treated by JHA W-328, i.e. ethyl-N-{2-[4-{[2,2-(ethylenedioxy)cyclohexyl]methyl}phenoxy]ethyl}carbamate) using groups of termites of defined instars (larvae from the first to sixth instar and nymphs). No differentiation was observed among the first instars. The second instar larvae differentiate into nearly perfect soldiers while older larvae into intercastes with variably pronounced larval and soldier characters. Application of JHA to nymphal groups lead to differentiation of intercastes revealing diverse characters of nymphs, soldiers and imagoes as well.

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## **A new social parasite of leaf-cutting ants from Brazil**

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The cultivation of fungus by ants appeared in South America around 50-60 million years ago in an ancestor of the tribe Attini. This tribe is restricted to the American continent and has at present 210 described species in 13 genera, all of which are in symbiosis with a fungus. Socially parasitic ants use the nests and the workforce from other ant species to raise their own offspring. There are three described species of social parasites in Attini : (1) *Pseudoatta argentina argentina* and the other subspecies *Pseudoatta argentina platensis* are parasites of *Acromyrmex lundii* nests and have no worker caste. Their queens and males are morphologically very specialized. (2) *Pseudoatta* sp., the social parasite of *A. rugosus*, occupies a similar position. (3) *Acromyrmex insinuator* is a social parasite very closely related to its host - *A. echinator* - and produces workers as well as queens and males. Here, we report the occurrence of a new *Acromyrmex* species found in Minas Gerais State, Brazil. It occupies a similar position to *A. insinuator* in the levels of social parasitism, e.g., it produces a worker caste and greatly resembles the two host subspecies, *A. subterraneus subterraneus* and *A. subterraneus brunneus*. It is generally admitted that social parasitism is more unusual in the tropics than in temperate zones, but this may be due to the limited knowledge of the natural history of numerous ant species from the Neotropical region.

### **Reference**

Schultz, T. R., D. Bekkevold and J. J. Boomsma, 1998. *Acromyrmex insinuator* new species: an incipient social parasite of fungus-growing ants. *Insectes soc.*, 45: 457-471.

## **Development of an experimental protocol for the quantification of the attractivity of the male sexual pheromons of the *Bombus terrestris***