

SCIENCE LAB

PROTECTING THE FUNGUS

Ants were millions of years ahead of us in producing antibiotics

In the rain forests of South America, long before early humans cultivated wheat, barley, lentils and flax, ancient leaf-cutter ants raised fungus. And like human farmers, the ants had to fend off crop pests, particularly a parasitic fungal disease. "If the fungus dies, the ants die," said Cameron Currie, a microbial ecologist at the University of Wisconsin-Madison.

To fight the pestilence, the ants aligned themselves with bacteria that produce a chemical capable of subduing the parasite. Dr. Currie and his colleagues have found evidence suggesting that the partnership between ants and antimicrobial bacteria has existed for tens of millions of years.

The key clues came from two 20-million-year-old ants that were discovered, trapped in amber, in the Dominican Republic.

"It's kind of like the ants are walking pharmaceutical factories," said Dr. Currie, who is an author of the study, which appeared in the journal *Proceedings of the National Academy of Sciences*. "This indicates that, like in the way ants predated us in growing crops, they also predated us by tens of millions of years in associating with microbes to produce antibiotics." *NICHOLAS ST. FLEUR*

