

# Bacterial symbionts in agricultural systems provide a strategic source for antibiotic discovery.

Ramadhar TR, Beemelmans C, Currie CR, Clardy J (2014) Bacterial symbionts in agricultural systems provide a strategic source for antibiotic discovery. *J Antibiot (Tokyo)* 67(1), 53-58.

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## Abstract

As increased antibiotic resistance erodes the efficacy of currently used drugs, the need for new candidates with therapeutic potential grows. Although the majority of antibiotics in clinical use originated from natural products, mostly from environmental actinomycetes, high rediscovery rates, among other factors, have diminished the enthusiasm for continued exploration of this historically important source. Several well-studied insect agricultural systems have bacterial symbionts that have evolved to produce small molecules that suppress environmental pathogens. These molecules represent an underexplored reservoir of potentially useful antibiotics. This report describes the multilateral symbioses common to insect agricultural systems, the general strategy used for antibiotic discovery and pertinent examples from three farming systems: fungus-farming ants, southern pine beetles (SPBs) and fungus-growing termites.

## Involved units

[Chemical Biology of Microbe-Host Interactions](#) [Christine Beemelmans](#) [Read more](#)

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## Topics

[Secondary metabolites from insect-associated microbes](#)

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