CALIFORNIA STATE SCIENCE FAIR
2006 PROJECT SUMMARY

Name(s)
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Project Number
S1317

Project Title
It Stops Malaria but What About Bacteria?

Abstract

Objectives/Goals
The goal of this project is to determine if millipede secretions have antimicrobial properties.

Methods/Materials
Millipede secretions of Orthoporus texicolons and Archispirostreptus gigas were collected onto small, sterile filter disks. After the disks were weighed, they were placed on lawns streaked of different organisms: Streptococcus uberis, Micrococcus luteus, and Escherichia coli. The Mueller-Hinton plates were then incubated aerobically for 24 hours at 37°C. The diameter of microbial growth inhibition was measured and compared amongst the different millipede species and different bacterial organisms.

Results
Millipede secretions were effective in limiting the growth of E. coli, M. luteus, and S. uberis. The largest zones of diameter were seen against S. uberis while the smallest zones occurred against E. coli. It appears that the secretions of Archispirostreptus gigas were more effective in limiting the growth of S. uberis than the secretions of Orthoporus texicolons.

Conclusions/Discussion
I conclude that millipede secretions are effective in inhibiting the growth of E. coli, M. luteus, and S. uberis.

Summary Statement
To test millipede secretions for antimicrobial properties.

Help Received
Mentored by Jerry Kakkanad and Kathy Tran of Schmahl Science Workshop. Used facilities and equipment at Santa Clara University and The Insect Discovery Lab.