CALIFORNIA STATE SCIENCE FAIR
2005 PROJECT SUMMARY

Name(s)
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Project Number
J0802

Project Title
Drink the Dew: Can Fog Be Harvested?

Abstract

Objectives/Goals
The objective was to determine whether a model of the Stenocara beetle, which harvests all of its water from desert fog, would collect more or less water vapor than models of a funnel collector and a net collector, which are being used in the world today. I predicted that the beetle model would harvest the most.

Methods/Materials
Three model vapor collectors were constructed. Each model was placed in a large pot, one at a time, with 625 milliliters of water in the bottom. The pot, with the collector and water in it, was placed on a burner and brought to a boil. The steam created was allowed to condense on each collector. When the set time was up, the collected water was measured and recorded. There were 3 trials.

Results
The results of my experiment followed more or less to my hypothesis. The Stenocara model collected approximately 4 times more than the two others, harvesting an average of 5 milliliters. The funnel model collected an average of 1.83 ml, and the net model took last with an average of 0.87 milliliters, and the control (no collector at all) harvested an average of 1.13 ml.

Conclusions/Discussion
The availability of clean drinking water is one of the world's largest problems. People already harvest fog, but my experiment showed that the model of the Stenocara beetle consistently collected more water than two other methods of fog collection. I think that if scientists were to study nature's methods, it would make the world a better place.

Summary Statement
My project is a comparison of three designs of fog collection devices: the net collector, the funnel collector, and a model of the Stenocara beetle's back.

Help Received
Amy Dewey helped with general support, Tom Dewey helped in the construction of the apparatus, and Kevin Lane helped in the project design, and editing the abstract.