



Summer 2009 Newsletter, Volume 6, Issue 2

F. TOM TURPIN TO BE HONORED FOR CONTRIBUTIONS TO ENTOMOLOGY

In This Issue

Page 1

- *Tom Turpin to be Honored for Contributions to Entomology*
- *Exciting Young People About Science through Insects Educator Workshop*

Page 2 & 3

- *Recipient Highlights*
- *Opportunity to Excite Young People to Science*

The Entomological Foundation will recognize and celebrate Dr. Tom Turpin for his accomplishments in and outstanding commitment to the field of entomology and his contributions to educating and exciting young people and adults about science through insects at the Foundation's 17th Annual Dinner and Dance in Indianapolis, Indiana. Dr. Turpin currently teaches one of the most popular courses at Purdue University that draws more than 450 students each semester. He also created the Purdue University "Bug Bowl" - a celebration of insect science which drew over 12,000 visitors in 1997 and attracted media attention from around the world.

The dinner will be held on December 14, 2009, at Union Station in Indianapolis. More information will be forthcoming on the Foundation's web site <http://www.entfdn.org>. Or, for more information contact April at the Entomological Foundation, 301-459-9083, or april@entfdn.org

EXCITING YOUNG PEOPLE ABOUT SCIENCE THROUGH INSECTS EDUCATOR WORKSHOP

An educator workshop will be offered on Saturday, December 12, 2009 at the Indianapolis State Fair Grounds. K-12 educators who are involved in both formal and non-formal learning environments are invited to attend. Workshop activities will focus on Indiana's state science standards and will include learning activities that help students understand the life sciences through insects. These activities focus on the characteristics of organisms, life cycles, and organisms and the environment. Educational activities presented are suitable for all grades and will teach educators how to integrate the study of insects into other disciplines including art, math, and reading.

The goals of the workshop are to meet the science education needs of educators in formal and non-formal educational settings who want to teach about insects and entomology; foster understanding, interest, and appreciation for the world of insects by helping educators integrate insect-based programming into current science-based educational programs; improve access for diverse audiences to obtain youth and educator entomological education resources; and promote awareness and interest in insect science.

Our focus for the day is to conduct hands-on projects in insect science. Educational materials and resources will be provided, along with the opportunity for participants to receive continuing education credits from Purdue University. Stay tuned for more information about this free workshop in our upcoming newsletter. If you know an educator in the Indianapolis area who may want more information concerning the workshop, please send their contact information to April Gower, Entomological Foundation, april@entfdn.org.

Do you know an educator?

Lesson plans are available from the winners of the Entomological Society of America's President's Prizes for Outstanding Achievement in Primary and Secondary Education. Check it out:
<http://www.entfdn.org/presidentprizes.php>



RECIPIENT HIGHLIGHTS

WHO WE REACH

The Entomological Foundation reaches both teachers and parents. Here is a small sample of the recent requests we have received for educational materials and resources to teach children about science through insects. With your financial support, we were able to fill these and many more requests.

I was looking for materials to help teach my children and came across a post on a website that had a link to the Entomological Foundation. My oldest child is a bug nut, he asks me questions about them all the time and I'm hard pressed to answer them... I believe your educational materials could help my son enjoy school again... Thank you for your time and for any materials you are able to send. Parent, MI

I am writing to you with regard to educational materials that are available to implement entomology into my classroom. I teach in the inner-city. There are limited funds for the bare necessities, never mind any extras such as posters, bookmarks, or other visual aids. I hope you can understand how much we appreciate any material that you could spare. I understand that it may not be possible for you to accommodate the five second grades (80 students), so I will be happy to accept the minimum and gladly share with my colleagues. Elementary educator, VA

I have a 7 year old son who has been extremely focused on entomology since he was 3 years old. I have tried to expand his interests, but he always goes back to the study of insects. He is quite determined that he will be an entomologist when he grows up. Could you please forward any materials you have available? ... My son has read every book at the public library. Thank you very much. Parent, NV

I teach kindergarten to economically disadvantaged children from diverse ethnicities. One thing they have in common is that they love to learn about bugs! Every year we study and observe the life cycle of at least three different insects. Thank you for any support you can give me to supplement this learning opportunity. Elementary educator, CA

OPPORTUNITY TO EXCITE YOUNG PEOPLE TO SCIENCE

The Entomological Foundation is on the lookout for good ideas for science fair projects to add to its new web site. The target audiences are students, teachers, and families. Students of elementary, middle, and high schools, and their parents are constantly searching for exciting ideas for science fair projects, yet many are discouraged and end up not participating due to a lack of good ideas that will spur their imaginations. Most schools provide guidelines to design a project; although good questions are hard to come by, not to mention help related to design of experiments to answer those good questions. In response to this growing need, the Foundation will create a web site containing a collection of science fair project ideas, based on grade level, the majority of which will involve insects or which are based upon an entomological question.

The Foundation's goal is to develop an interest and understanding of scientific laws and principles that are the foundation of our natural world. Authorship credit will be cited for submitted science fair projects published on the web site. Any ideas that relate to insects are welcome. Please submit your project to April Gower at the Foundation at april@entfdn.org and indicate if you would be willing to be identified as a contact for further questions by the users of the site. Our plans are to identify and include on the website a "mentor" or resource for each listed project. The next page is a sample of a project submitted by Dr. Nan-Yao Su and illustrates the format to use when submitting a science fair project idea:



Title: *Why are there no insects as large as many other animals?*

Provided by: Dr. Nan-Yao Su, University of Florida, Ft. Lauderdale, FL

Grade: Middle school

Observations: Insects are generally small, and much smaller than most animals we are familiar with, including mammals, lizards, birds, or fish. Put an elephant, the largest mammal on land, next to the Thorny Stick from Malaysia (**Fig. 1 below**), and you will find out the enormous size difference (**Fig. 2 below**). Even a small dog is much larger than a large insect (**Fig. 3, next page**).

Question: Why are insects smaller than many other animals we see on earth?

Hints to form the hypothesis: Looking for differences in body structure between larger animals and smaller animals such as insects, and you will notice vertebrates (with solid bones inside the body) tend to be larger than invertebrates (with exoskeleton or bones on their body surface). Other invertebrates include shrimps or crabs, and they are also rather small.

Hypothesis: With the same amount of material available, a structure supported by solid bones inside is stronger than a structure supported by the outside shell (or exoskeleton-type structure).

Materials: Tin foils. Threads. Small plastic sandwich bag or Ziploc® bag. Two cardboard boxes of the same height. Coins. A digital camera to take pictures for presentations.

Experiment:

1. Prepare four pieces of tin foil of the same size.
2. Roll the tin foils into tubes of one, two, or three layers and a solid bar (**Fig. 4, next page**). The solid bar represents a vertebrate bone and the hollow tubes represent the outer shell of an insect at different thickness.
3. Bridge the bar or tube between two boxes and hang a thread at the middle. Attach a small plastic bag (a Ziploc® bag or sandwich bag) to the thread.
4. Place coins in the bag and count how many it takes to bend or break the bar or tubes.
5. Repeat the same experiment at least three times and take the average number of coins it took to break the bar or tubes.

Result: Present the result in a bar chart (**Fig. 5, next page**).

Discussion: Present your thoughts regarding the results and how the results confirm or reject your hypothesis, and why. Formulate the follow-up question and hypothesis if possible.

References: (list, preferably with link to an internet resource)

Fig. 1. Measuring at 14 cm (7") long, the Thorny Stick from Malaysia is one of the largest insects in the world.



Fig. 2. If you compare with an elephant side-by-side, you'd realize how small the largest insect is.



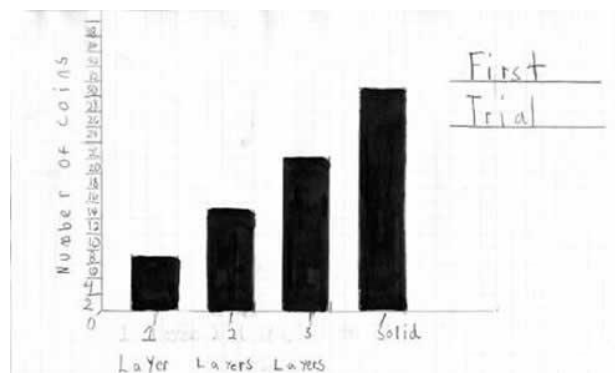
Fig. 3. In fact, even a small dog is much larger than a large insect.



Fig. 4. Roll the tin foils of the same size into tubes of one, two, or three layers and a solid bar.



Fig. 5. A bar chart describing the numbers of coins it took to bend or break the solid bar or tubes of 1, 2, or 3 layers.



The science fair project web site can only be a success with your help. If you have any questions or would like to submit a science fair project, please contact April Gower at the Foundation, 301-459-9083 or april@entfdn.org. Dr. Nan-Yao Su's science fair project above can also be found at: <http://www.entfdn.org/ScienceFairExperiments.htm>



(Vol. 6, Issue 2)

Entomological Foundation (EIN 52-1756169)
9332 Annapolis Rd., Suite 210
Lanham, MD 20706