



The Bear Claw



The Sandia Mountain Natural History Center Newsletter

July/August/September 2008

SMNHC Teams Up for Major Forest Health Initiative



The Sandia Mountain Natural History Center (SMNHC), in cooperation with the Ciudad Soil and Water Conservation District, New Mexico State Forestry Division, Forest Fitness and Pro Tree Service, is pleased to announce a major forest health initiative at the SMNHC. The first phase of this project began on July 1. This phase consists of thinning about 80 of the Center's 128 acres. The goals of this project are to reduce the fuel load and danger of catastrophic fire, increase the health of the forest, return the forest to a more natural state, increase biodiversity, and make the SMNHC a role model for forest health.

This project will be funded by the Ciudad Soil and Water Conservation District and will serve as a pilot program in its efforts to restore forest health to public lands. Long term

research and recent fires have shown the enormous benefits that this type of project can yield, and the Sandia Mountain Natural History Center is proud to be a part of it. Returning the ecosystem of the Sandia Mountain Natural History Center to its natural state has long been a goal of the SMNHC. Without a normal fire regime the forest has become very overcrowded which leads to disease, unhealthy trees, fire, and a decrease in biodiversity. The Forest Health Initiative will improve all these conditions and serve as a teaching tool to demonstrate to New Mexicans what a healthy forest should look like.

**FUN FACT:
ANTS DO NOT
SLEEP!**

**NUMBER OF PEOPLE
SERVED AT SMNHC:**

**SINCE JULY 1ST: 2670
(AS OF 6/30)**

SEPTEMBER: 1658

In the Spotlight...



Roger Weinstein is a teacher with a Masters degree in Elementary Education. He was born and raised on Long Island. He originally relocated to New Mexico for the wide-open spaces and an interest in native cultures. He says that since moving to New Mexico, he misses the accessibility to water that he enjoyed on the east coast.

Roger has volunteered with the SMNHC for the past three summers. He says that as a volunteer he has learned "a thing or two", and Roger has certainly been a learning tool for our staff. Roger says he enjoys the staff at SMNHC and that they are "smart, caring, hard working and quite funny at times." He also paid us another huge compliment saying that "the facility is extremely well managed, with many programs for all ages, all year long, and the land is, of course, beautiful too."

The staff at SMNHC enjoys having Roger as a volunteer and is proud to have such a dedicated and hardworking person as part of their team!

Upcoming Events at SMNHC:

Project Learning Tree
Saturday
November 15th
9:30-4:30 PM

Cost: **Free!** (PLT Activity Guide included free, as well)

PLT is one of the leading environmental education programs in the country. It incorporates activities designed for all subject areas, settings, and learning styles for students grades PreK-8.

Through hands-on, interdisciplinary activities, PLT helps students learn about ecology and conservation. Workshop participants will bring home the PLT Guide containing 96 activities! Visit the PLT website for more information at www.plt.org.

For more information on our upcoming programs call us at (505) 281-5259 or visit our website:

www.nmnaturalhistory.org/smnhc

The Sandia Mountain Natural History Center (SMNHC) is a natural history and environmental education facility located on the east side of the Sandia Mountains in Cedar Crest, New Mexico. The SMNHC is owned by Albuquerque Public Schools and operated by the New Mexico Museum of Natural History and Science.

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For more information about the Center, visit our website at: www.nmnaturalhistory.org/SMNHC

The Magnificent Mantis

Fall is a good time to find praying mantis egg cases; the tan cases of hardened foam can be found on plant twigs and stems. Each case (made of bird-repellent foam) contains hundreds of eggs. A female may lay 7500 eggs in her one short summer! In late spring the eggs hatch into nymphs (looking like miniature adults). Nymphs may eat their hatchmates (mantises are highly cannibalistic) and usually molt within two weeks in an ideal environment.

The Praying Mantis is one of North America's most loved insects. It is an excellent predator with a triangular, strangely humanoid head; elongated prothorax "neck"; upright posture and stealthy movements. Mantids are also the only insects that can turn their heads 180° and look over their shoulder.

To hunt, mantises stand completely still, then strike suddenly and incredibly quickly once prey (insects and small animals) is within range. Seeing them as they grasp prey is almost impossible because they strike takes only 3-5 hundredths of a sec-

ond! The mantid then grasps its prey (the two front forelegs have rows of sharp spines for this purpose), bites it on the neck to paralyze it, and eats it. Mantises have been known to eat things as large as hummingbirds!

While being one of the top bug predators, mantises have to watch out that they don't become prey themselves; they are eaten by birds, bats, spiders, and sometimes lizards, snakes, coyotes, or bears. The male is also often eaten during mating by the larger female, after being enticed by her wiggling hindquarters! Mantises have special ultrasonic hearing adaptations to sense and evade bats. They also have excellent vision; they can see up to 60 feet (180 mantis body lengths – comparable to a human seeing 975 feet) and in color.

Mantises & egg cases can be found many places where insects are common: meadows and forests as well as urban environments. Look for adults near pesticide-free gardens and porch lights in late summer and fall.

Activity of the month

Examining Live Mantises

Time: Variable - 30 minutes minimum

Materials: Mantis, terrarium, live prey (mantises and nymphs can be caught, hatched, or ordered from gardening websites)

Procedure: Set up the mantis in the terrarium and allow it to settle into the classroom setting, feeding it at least 2 times a week. After students have observed the mantis informally for a week or more (including feeding), have them ask questions & form hypotheses about it: some examples are what does it eat—dead or live prey, moving or still (anything moving); why does it climb (to catch flying prey); how does it react to danger (strikes or reaches arms up to look stick-like when scared) and does it learn from experience. Then pick some testable hypotheses, design experiments together, and carry them out. Afterward students draw conclusions. Have students write the experiment up using the steps of the scientific method.

Conclusion: The scientific method is a way to answer questions we have and solve problems.

Variations: Each student can get a nymph in a little vial, design & carry out their own (humane) experiments, and share with the class afterward.

Teacher resource spotlight



href="http://www.mzephotos.com/gallery/insects/praying-mantid-dark-eyed.html">© MzePhotos.com, Some Rights Reserved

Bug Resources

Want more information on bugs? Check out the New Mexico State Library's *Bugs* pamphlet (partly written by SMNHC staff), available at your local library.

Another resource is *Creepy Crawlies and the Scientific Method*, by Sally Kneidel—this book has information on collecting, caring for, and utilizing 14 different types of common bugs and other "creepy crawlies" to teach scientific skills.

Also check out www.prayingmantis.shawnolson.net.

Ecology teaching tip

Mantises go through "incomplete metamorphosis" (egg-nymph-adult).

Conservation Corner

Elmers glue bottles and glue sticks are now recyclable!

Check out the website, www.elmersgluecrew.com for more information and recycling activities / lesson plans.