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QUAKE IN ALASKA

CHANGED YELLOWSTONE GEYSERS



Castle Geyser

Photo courtesy of www.yellowstone.net.
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2002, is the first known to have changed the behavior of such hydrothermal features at great distances, according to Smith and his colleagues. They say the magnitude 7.9 quake was one of the strongest of its type in North America in the past 150 years.

Smith conducted the study with Stephan Husen, a University of Utah adjunct assistant professor of geophysics who works at the Swiss Federal

27 MAY 2004 PRESS RELEASE: LEE SIEGEL, SCIENCE NEWS SPECIALIST, UNIVERSITY OF UTAH: A powerful earthquake that rocked Alaska in 2002 not only triggered small earthquakes almost 2,000 miles away at Wyoming's Yellowstone National Park—as was reported at the time—but also changed the timing and behavior of some of Yellowstone's geysers and hot springs, a new study says. "We did not expect to see these prolonged changes in the hydrothermal system," says University of Utah seismologist Robert B. Smith, a co-author of the study in the June 2004 issue of the journal *Geology*. While other large quakes have been known to alter the activity of nearby geysers and hot springs, the Denali fault earthquake of Nov. 3,

see Alaskan Quake on page five . . .

JULY MAGS EVENTS

- 01 6:30p Board Meeting @ Blue Plate Café, 5469 Poplar Avenue
09 7:30p General Meeting @ Shady Grove Presbyterian Church, 5535 Shady Grove Road, Memphis [bring refreshments and displays]
Program: "Pre-1862 Memphis Artifacts" presented by Lou White
Youth Program: "Wire-wrapping Shark's Teeth" with Kim Prudhomme
10 7:30a DMC Field Trip to Ashland, AL for garnet crystals [see page 6 for details]
15 7:00p M3 Micromounters Meeting at the home of Roger Van Cleef
17 8:30a MAGS Field Trip to Black Rock, AR [see page 3 for details]



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FROM THE PRESIDENT

The arrival of July signifies we have reached the midpoint of the year. It also means a very important and mandated (by the MAGS' bylaws) event must occur, the election of officers. First, the President will be appointing a three person nominating committee. They will be searching and requesting members to participate in the club by serving as an officer. We will need and want your help, active participation and [most important] commitments. If the nominating committee gives you a call please consider serving.

About 30 people came out to see Charlie McPherson's collection on Saturday the 12th. No matter how many times you visit you are always awe struck. We are hopeful most of this collection will stay intact.

The live and silent auctions were successful at the June meeting and we will have them again at the July meeting. Auction items will be on display before the meeting, so come early and check them out. You can also start bidding on silent auction materials at that time.

Mark your calendar for the August MAGS meeting. This will be our third annual indoor picnic and rock swap. Food, rocks, good bargain and a good time will be in abundance. Look for details in the August newsletter.

If you planned to attend the May field trip to Black Rock, AR, you are in luck. The field trip in May was cancelled due to weather conditions, but it has been rescheduled for July.

WC McDaniel

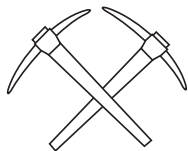
2004 MAGS FIELD TRIPS

DAVID McILWAIN: Mark your calendars and clear your weekends. Note the change for July. Here's what you have to look forward to:

JUL 17	Barite/dolomite; Vulcan Mine; Black Rock, AR
AUG 21	Shark's teeth/fossils; W.M. Browning Cretaceous Fossil Park, Frankstown, MS
SEP 18-19	Fossils; MAGS hosts DMC at Coon Creek; Adamsville, TN
OCT 23	Agates, jasper, ice age fossils; Richardson Landing; Millington, TN
NOV 20	Fossils; Vulcan Quarry; Parsons, TN

DEADLINE FOR SUBMITTING NEWS, ARTICLES, ANNOUNCEMENTS, OR PICTURES FOR THE AUGUST ISSUE OF MAGS ROCKHOUND NEWS IS JULY 17, 2004.

MAY 2004 MAGS FIELD TRIP



SATURDAY, JULY 17, 2004 • 7:30AM
BLACK ROCK, AR • DOLOMITE AND CALCITE
THIS FIELD TRIP IS OPEN TO MAGS MEMBERS ONLY

Collecting site: The Vulcan Materials Company–Black Rock Quarry in Lawrence County near Black Rock, AR. This trip is open to MAGS members ONLY, and collecting is free at this site.

Specimens: Calcite crystals, pink dolomite crystals, chalcopryite, pyrite, marcasite and quartz crystals. These specimens may be found in the limestone rock.

Required Equipment: Hard hats, steel toed safety shoes and safety glass are required to worn at all times. Children under 8 years of age are not permitted to enter this quarry. Children 8 years of age and up, are permitted to wear hard-soled shoes if safety shoes are not available in their sizes.

Release/wavier: The Vulcan Materials Company requires each person to sign a Release, Wavier and Indemnity Agreement form before entering the facility. These forms will available at our meeting place.

Driving Directions: From Memphis take I-40 west toward Little Rock, then take I-55 north exit number 277 toward Blytheville/Jonesboro. Take US-63 north exit number 23B toward Marked Tree/Jonesboro. Continue on US-63 north through Jonesboro and Hoxie to Black Rock. Allow approximately 2 to 2 1/2 hours driving time.

Meeting Time/Place: 7:30 am, Rena's Café located at 3430 Highway 63, Black Rock (870) 878-9283. We will convoy to the Vulcan facility promptly at 7:45 a.m. Follow AFMS Field Trip Convoy Guidelines. (Optional hotel/motel accommodations) Days Inn & Suites located at 2805 Highway 67 S, Pocahontas, AR (870) 892-9500, for those who want to travel and stay over on Friday night.

Tools: Bring rock pick, hammers, chisels, pry bars, etc. Leather gloves and newspapers for wrapping specimens, collecting containers such as bucket or clothe bags.

Safety Note: While at this site, all safety rules must be followed. All children and junior members must be

supervised by an adult member at all times. Please be advised that there is always a possibility for injury. Sorry, no pets please. Follow AFMS safety rules, code of ethics and collect courtesy code.

Difficulty Level: 4 to 6 on a scale of 1 (easy) to 10 (hard).

Saturday's Agenda:

8:00 am: We'll enter the Black Rock Quarry and be escorted to the collecting site.

11:00–noon: We'll break for lunch. Please bring a sack and/or picnic lunch, that way you will be able to stay at the quarry and collect longer. Also, bring plenty of cold soft drinks and/or bottled water or Gatorade.

2:00 pm: We'll be escorted out of the quarry and head for home.

If you want to go, please sign the list. If you sign up and decide not to go, please contact David McIlwain ASAP.

David McIlwain, MAGS Field Trip Coordinator
305 Caitlin Drive • Oakland, Tennessee 38060-4259
Home: (901) 465-7388 • Cellular: (901) 266-1446
Office: (901) 867-4303 • E-mail: davidmcilwain@netscape.net

This trip was previously scheduled for May.



Dolomite with chalcopryite. Photo courtesy of Minerals.net

MAGS MICROMOUNT [M³] NEWS

MICROFOSSILS: UNDER THE MICROSCOPE

Microfossils may be split into three groups based on size – mesofossils, microfossils and nanofossils.

Mesofossils are roughly 0.1 – 1 cm in size. These are small macrofossils or parts of macrofossils [such as small gastropods, bivalves, brachiopods and the spines and plates of echinoids, ossicles of crinoids and starfish, and fish teeth]. This group of small fossils are usually ignored by both the micropaleontologist [because they are not complete organisms] and the macropaleontologist [because they represent broken and thus imperfect individuals]. However sieving and studying bulk samples can reveal a lot of information about depositional environments.

Microfossils are roughly 0.05 – 2mm in size. These are the remains of complete organisms. The common ones are foraminifera and ostracods.

Nanofossils are smaller, usually much smaller, and are such things as coccoliths, dinoflagellate cysts and pollen. These need high magnification for their study,

and special preparation techniques, which probably puts them outside the scope of most amateurs.

Microfossils are present in most sedimentary rocks, but for practical reasons some rocks are better to work with than others. Look for rock that is fairly soft or poorly cemented, so that you can disaggregate the grains to look for the fossils. Good materials to work with are shelly beach sand or silts; sedimentary rock clays and silts; and soft chalk and marl bands from the chalk.

The MAGS field trip for August will be to Frankstown Fossil Park in northern Mississippi. This will be a great opportunity to search for microfossils. Take a bucket of Frankstown material home with you and sift through the sediment. You might be surprised at the treasures you see under a microscope.

Ref: Mike Horne; *Collecting and Studying Microfossils*; www.mineraltown.com; July 2003. Information used for educational purposes under the provisions of the "Fair Use Act of 1976."

WEB REPORT

MIKE BALDWIN: Here's a brief look at our website (www.memphisgeology.org) from 01.21.2002 through 06.21.2004:

Visits*	109,524	Top pages in the past 30 days:	g_herkimer.html	256 hits
Hits**	467,134	Home Page	Explorer0903.pdf	245 hits
Visits in the past 30 days	7,353	Explorer0703.pdf	Explorer0203.pdf	226 hits
Hits in the past 30 days	32,015	RockNews0604.pdf	Average visits/day past month	229

* visit=every time someone comes to the site ** hit=every page viewed on the site



JULY BIRTHDAYS

Birthstone = Ruby

- | | | |
|-----------------------|---------------------|---------------------|
| 1 - David Barton | 17 - Melinda Warren | 23 - Myrna Muir |
| 3 - Kathryn Van Cleef | 19 - Bill Scheffer | 23 - Doris Parsons |
| 3 - Wayne Williams | 21 - Steve Huber | 25 - Jenny Vaughn |
| 5 - Clay Crumpton | 21 - Susan Vaughn | 27 - Ken Lovelett |
| 9 - Ali Harrell | 22 - John Givens | 28 - Roman Novarese |
| 14 - Sandy Ward | 23 - Karen Loud | 30 - Maria Wood |
| 16 - Lee Ramsey | 23 - Mary Gibson | |



SUNSHINE REPORT

CORNELIA McDANIEL: This month we want to send CHEERS to **Kathy Hemmingway** and our condolences to **Anna Sisk**, following the loss of her brother.

ALASKAN QUAKE . . . continued from page one

Institute of Technology; Ralph Taylor, an engineer who designs geyser monitoring equipment at Yellowstone National Park; and Henry Heasler, Yellowstone National Park's geologist.

Less than 18 hours after the Denali earthquake in Alaska, Smith and colleagues at the University of Utah Seismograph Stations reported the major jolt had triggered more than 200 small earthquakes in Yellowstone—something widely reported by news media in the days following the quake.

Smith now says the triggered quakes at Yellowstone numbered more than 1,000 within a week of the Denali quake—if the count includes tiny temblors that were not “located,” meaning their epicenters and depths were not determined. He says the quakes ranged in magnitude from minus 0.5 to just under 3.0. (Tiny quakes have negative magnitudes because modern seismic equipment can detect quakes smaller than was possible when the logarithmic magnitude scales were devised.)

Most of the triggered quakes were centered near geysers and hot springs.

Strong Earthquakes as Seismic and Geothermal Triggers

Scientists once believed that an earthquake at one location could not trigger earthquakes at distant sites. That belief was shattered in 1992 when the magnitude 7.3 Landers earthquake in California's Mojave Desert triggered a swarm of quakes more than 800 miles away at Yellowstone, as well as other temblors near Mammoth Lakes, California, and Yucca Mountain, Nevada.

The magnitude 7.5 Hebgen Lake, Montana, quake northwest of Yellowstone—a 1959 disaster that killed 28 people—triggered changes in Yellowstone's geysers and hot springs, something not unexpected for a strong quake nearby.

Smith believes the Denali fault ruptured in such a direction—from northwest to southeast—that the brunt of its energy and its powerful surface waves were aimed southeast toward Yellowstone. As a result, the stresses rippling through the ground at Yellowstone were 200 to 300 times greater than if the Denali quake's waves were aimed elsewhere, he says.

As the Denali quake's surface waves arrived at Yellowstone, changes in hydrothermal activity were first noted at the 100 Spring Plain hot spring system in Norris Geysers Basin.

“Several small hot springs, not known to have geysered before, suddenly surged into a heavy boil with eruptions as high as 1 meter [about 39 inches],” Smith and colleagues wrote in *Geology*. “The

see Alaskan Quake on page eight . . .

MAGS ROADCUT

Welcome to the MAGS ROADCUT. ROADCUT is designed to provide general information and news for rockhounds. .

. . . mixed mixing messages. There are many recipes for the ‘correct formula’ for mixing oxalic acid and water and how long to “cook” your minerals in order to remove iron stains. They range from a pound of oxalic acid to a gallon of water and on downward. Recommended cooking length ranges up to several days. I use a mixture of about two tablespoons per 2-quart crock-pot of hot but not boiling water. Cooking time will vary so check your minerals frequently, Surface stains from crystals points will frequently disappear in a couple of hours.

. . . in the news. National Geographic states a “shoulder bone” refers to those fossils you pick up, take a look at and through back over your shoulder because you have too many.

. . . display techniques. pale, blue satin is the considered the best background for displays. White Styrofoam is also favored.

. . . Federation news. While it might be to late to plan a trip to the American Federation's July convention in New York, the 2005 show will be held just up the river in St. Louis. We'll keep you informed on dates and activities.

Send your MAGS Roadcut News to WC McDaniel at cfmcdaniel@worldnet.att.net

SOUTHEAST FEDERATION NEWS



DMC Program of the SFMS Field Trip Committee An Official Field Trip of the Montgomery Gem and Mineral Society (Host) • 7:30am [CST] Saturday, July 10, 2004 Garnet Crystals • Ashland [Clay County], AL

Site Location: Erin Road, Ashland [Clay County, AL to collect garnet crystals. This trip is FREE. Children [any age] are always encouraged to attend our field trips. Pets—only if kept under control.

Collecting: Massive Almandine Garnet crystals, samples will be displayed before trip. Kyanite, black tourmaline (schorl), and quartzite are sometimes found.

Special Conditions: It will be hot and dry in the collecting area. Plan ahead and bring plenty to drink.

Bring: something to collect in, simple digging tools, drinks, and comfortable clothing.

Where to Meet and Directions: Meet in the Winn Dixie Parking lot in Wetumpka at 7:30am [CST]. Follow Highway 231 north from Montgomery into Wetumpka. Turn right (east) into the Winn Dixie parking lot. We will be staging from here to go north to Ashland on Hwy 9. If you wish to meet us in Ashland, we will be leaving Ashland on Hwy 77 west and will stop at the last convenience store/gas station before leaving town [west

of the center of town approximately 1-1.5 miles on the south side of Hwy 77] at approximately 8:30 CST. Vehicles larger than an SUV not recommended. Drive time is about 1.5 hours from Montgomery, .5 hours from Ashland.

Collecting Area: In the Talladega National Forest. Collecting will be along a dirt road that runs through privately managed forestry land [on the road surface, the banks, and the area near the road]. Other materials can be collected in this same area. No large holes are allowed, however there are plenty of easily collected garnets. Material is “poor” quality, however can be cabbed or used for spheres and eggs.

Contacts: James Mallonee (VP-Field Trips) 334-567-0765 or email koldunbelyj@hotmail.com .

Field trips are open to all members of associated clubs of the DMC program of the SFMS Field Trip Committee and to all members of SFMS member clubs who have provided their membership with SFMS liability insurance. Because of insurance requirements, members of the GENERAL PUBLIC are NOT invited on this or any DMC program field trips!

SFMS & OTHER CLUB SHOWS AND EVENTS

July 21-25, Franklin, NC– The Gem and Mineral Society of Franklin, NC. Macon County Community Building, 1288 Georgia Highway, Franklin, NC. Hours: 21-24, 10:00am-6:00pm; 25, Noon-5:00pm. Contact: Fred Plesner at willa@dnet.net.

Sept 3-6, Hendersonville, NC– Henderson County Gem and Mineral Society. 23rd Annual Gem and Mineral Spectacular and Sale. Whitmire Activity Building, Lily Pond Road, Hendersonville, NC. Hours: 3-5, 10:00am-6:00pm; 6, 1:00pm-5:00pm. Contact Margaret Johnson, PO Box 6391, Hendersonville, NC 28739, 828.692.1249.

Sept 4, Hendersonville, NC– Henderson County Gem and Mineral Society. 15th Annual Micromount Symposium, Salvation Army Building, Grove Street between 3rd and 4th Aves., Hendersonville, NC. Hours: 9:00am-4:00pm. Contact Emily Adams, 355 Pelham Road, Greenville, SC 29615, 864.271.3877.

MAGS REVIEW

MAY 6, 2004 BOARD MEETING NOTES

RAYNEE RANDOLPH: The MAGS board of directors met May 6, 2004 at The Blue Plate Café, 5469 Poplar Avenue. The following were present: Mike Baldwin, Idajean Jordan, Cornelia and W.C. McDaniel, David McIlwain, Park Noyes, Raynee Randolph, Bill Scheffer, and Roger Van Cleef. The following reports were given: (1) Treasurer. (2) 1st VP: No one came home rich from the Crater of Diamonds and David McAlister was a tremendous help at Magnet Cove. May 22 we are going to Black Rock Quarry from 8am till 2pm. Steel toed shoes or boots, hard hats and safety glasses are required. Memorial Day the McIlwains will be going to Jet OK. In September we will be hosting the DMC trip which will be at Coon Creek. The date will be the 17-19. More information later. (3) Editor/Web: The website is being refreshed. If you have any changes or additions, see Mike Baldwin. (4) Juniors: The Juniors will be going over "safety" in collecting. (5) Membership/Sunshine: We will have a portion of the newsletter called "Rock Stars Shine". The purpose being to acknowledge any of our members that are doing exemplary volunteer work. The Stars for this month will be Frank and Francis Walker. (6) Show: The show was a huge success. The committee will meet once more for evaluations. (7) Old Business: {a} Science fair judging is over and certificates have been awarded. {b} TEST fossil boxes are complete, including a book, and have been distributed to TN teachers (8) Announcement: June 12 will be the tentative date for a tour of Charlie McPherson's. Adjourned at 7:10pm.

MAY 14, 2004 GENERAL MEETING NOTES

RAYNEE RANDOLPH: MAGS May General Membership meeting was held at Shady Grove Presbyterian Church on May 14, 2004, presided by Vice President David McIlwain. There were 46 members and 9 visitors present. They were: Laura Edwards, David Manson, Lucy Fullerton, Mike and Laura Carrier, Pam Gurley, Margaret Mickle, Alan Adams, and Joi Adams Bennett. (1) Field trips: May 22 we will collect pink dolomite from the Black Rock mine in Arkansas. Regulations of the mine REQUIRE steel-toed shoes or boots, hard hats and protective eye wear. This is a working mine. We will meet at 7:30am and PROMPTLY leave for the quarry to arrive there at 8:00am. Release forms must be signed before entrance into the mine. Memorial Day weekend a group will be going to Jet, OK for selenite clusters. See David McIlwain if you are interested in going. June 11-13 will be a rock swap in Ledington Missouri. Micromounters will meet May 17. (2) Library: There are Rock and Gem magazines free for the taking here on the table, and there are also forms available for the Wild Acres Workshops. (3) Programs: John McFarland is our speaker tonight. He comes from Arkansas and is the Arkansas State Geologist. He will be educating us on the "Fossils of Arkansas". (4) Displays: Adult: Lou White-Amber collection; Dr. Young-fossil leaves. Juniors: Rena South-fossils from Franklin TN. Winners-Lou White and Rena South. There were three door prizes awarded and we dismissed @ 9:30 for refreshments.

MEMBER ADDRESS CHANGE

Floyd and Docia Lenz: RR 2, Box 334, Salem, MO 65560 • (573) 729-5230

Visit the Southeast Federation at <http://www.amfed.org/sfms> for federation news, Wild Acres and William Holland updates and Lodestar newsletter online.

ALASKAN QUAKE . . . continued from page five

temperature at one of these springs increased rapidly from about 42 to 93 degrees Celsius [about 108 to 199 degrees Fahrenheit]" and became much less acidic than normal. "In the same area, another hot spring that was usually clear showed muddy, turbid water."

Yellowstone has more than 10,000 geysers, hot springs and fumaroles (steam vents), and scientists monitored how often 22 of the geysers erupted during the winter of 2002-2003. Eight of the 22 "displayed notable changes in their eruption intervals" after the Denali quake, 10 showed no significant changes and the other four were too erratic in the timing of their eruptions to determine if the quake changed them, the researchers wrote. Of the eight that changed:

- Geysers that erupted more frequently following the Denali quake included Daisy, Depression, Plume and Riverside geysers in Upper Geyser Basin, and Pink Geyser in Lower Geyser Basin.
- Geysers that erupted less frequently after the Denali quake included Castle and Plate geysers in Upper Geyser Basin and Lone Pine Geyser in West Thumb Geyser Basin.

Most geysers returned to their normal timing days to months after the Denali quake.

Oddly, geysers affected by earlier nearby earthquakes—most notably Old Faithful and Grand Geyser in Upper Geyser Basin—were not affected by the Denali earthquake.

How the Denali Quake Sparked Yellowstone Activity

Scientists do not know if the strong surface waves from the Denali quake independently triggered Yellowstone's small quakes and changes in geyser activity. Smith suspects not. He believes the Denali quake's waves affected the geysers by changing water pressure in underground conduits or "pipes" that feed the geysers. Such changes – which in some cases would have made hot water "flash" explosively into steam – would have altered the pressure on adjacent faults, triggering small earthquakes nearby. That would explain why the quakes were clustered around geyser basins.

Why did some geysers erupt more often and others less often? The researchers believe that when the Denali quake waves rippled through Yellowstone, they jarred

loose minerals that had sealed some underground hot water conduits.

In some cases, that allowed superheated, pressurized water to flow more freely to make geysers erupt more often. In other cases, the rupturing of subterranean mineral seals enlarged the size of the conduits supplying geysers, reducing water pressure so those geysers erupted less often. Smith speculates that yet other geysers remained unchanged because they did not have pent-up gas and water pressure and were not affected by the Denali quake's surface waves.

The Denali quake also generated noticeable water waves in Seattle's Lake Union, Louisiana's Lake Pontchartrain and in swimming pools on the East Coast. It also triggered small quakes in California's Geysers geothermal area, which is north of San Francisco, and in eastern California's Long Valley, which, like Yellowstone, is a caldera, or giant volcanic crater created by cataclysmic prehistoric volcanic eruptions.

The Denali quake also triggered a few small quakes in Utah, and Smith says it is possible some of those quakes occurred near little-known hot springs along the Wasatch fault at the base of the Wasatch Range.

Smith says the fact that the Denali quake triggered geyser and hot springs changes at Yellowstone raises an interesting question: "Could large earthquakes closer to Yellowstone trigger hydrothermal explosions?"

Such steam-and-hot water explosions in prehistoric times blasted out a hole that now is Mary's Bay on Yellowstone Lake. One such explosion has occurred roughly every 1,000 years since the glaciers receded from Yellowstone roughly 14,000 years ago.

Smith says there is no evidence prehistoric quakes triggered those blasts. And such explosions were not triggered by the magnitude 7.5 Hebgen Lake, Mont., quake in 1959 or the magnitude 7.3 Borah Peak, Idaho, quake in 1983.

Nevertheless, a big quake near Yellowstone with its surface waves aimed the right way conceivably might "cause large hydrothermal eruptions," says Smith. "I would hypothesize that is certainly possible."

Reference: Lee Siegel, Science News Specialist, University of Utah Public Relations; *Quake in Alaska Changed Yellowstone Geysers*; Public Release; University of Utah Public Relations, 201 S. Presidents Circle, Salt Lake City, Utah; www.utah.edu/unews; 27 May 2004.

MINI-MAGS NEWS [WHAT'S HAPPENING WITH THE KIDS]

2004 PROGRAMS

IDAJEAN JORDAN: Kids, mark your calendars. Here are the programs we have planned for you for the remainder of 2004.

JULY 9: Kim Prudhomme will show you how to wire-wrap shark's teeth for pendants. We will furnish the tools, wire, and cord. If you have a special tooth, bring it or we will have teeth for you to choose from.

AUGUST 13: Bring items for a Rock Swap. We will have an area set up just for you, so while the regular MAGS Rock Swap is going on that evening, you can have your own.

SEPTEMBER 10: Librarian Nancy Folden will bring her large collection of shells to show you. If you have special shells or other beach treasures you have found, bring them to show.

OCTOBER 8: We will be conducting several mineral experiments. If you have minerals that you're not sure how to identify, bring them with you.

NOVEMBER 12: *Dinomania*

DECEMBER 10: Christmas Party

TWO TICKS: AMERICAN DOG AND DEER

MIKE BALDWIN: Ticks are external parasites on mammals, birds, reptiles, and amphibians. Ticks are considered harmful because they transmit diseases. Like many other organisms, however, their role in the food chain serves a positive ecological function. Ticks are an essential food source for many reptiles, birds, and amphibians.

The American dog tick is found throughout the United States except in parts of the Rocky Mountain region. It also occurs in parts of Canada and Mexico. Its habitat includes wooded areas, abandoned fields, medium height grasses and shrubs between wetlands and woods, and sunny or open areas around woods. Larvae and nymphs feed primarily on small mammals (especially rodents), while the adults feed mainly on dogs, but will readily bite humans. Adults are active from mid-April to early September.

This species is the primary carrier of Rocky Mountain spotted fever in the eastern United States, and can also transmit Tularemia and cause tick paralysis.

The deer tick is found in eastern North America including the New England, mid-Atlantic, and southeastern states, and the Midwestern states of Minnesota and Wisconsin. Deer ticks prefer heavily-forested or dense brushy areas and edge vegetation, but not open areas. An exception to this occurs in upstate New York where the species is found on well-maintained lawns in residential areas. Larvae and nymphs feed primarily on small mammals (especially the white-footed mouse, other rodents, and insectivores), and also on birds, dogs, deer, and humans. Nymphs aggressively bite humans. Adults feed primarily on deer, but also attach to large mammals (foxes, raccoons, opossums, dogs) and humans. Larvae are active from July through September, nymphs from May through August, and adults in the fall, winter, and early spring (October-May).

The deer tick is the major carrier of Lyme disease in the northeastern and Midwestern United States.

References:

[01] Jun Fan; *Ticks*; <http://www.isis.vt.edu/>; August 1998.

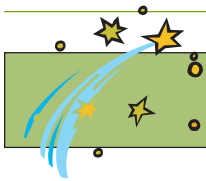
[02] *Ticks*; National Park Service; Fort Collins, CO; August, 1998.

Information gathered for educational purposes under the provisions of the "Fair Use Act of 1976".

Ticks [left to right]

American Dog Tick; Female Deer Tick; Male Deer Tick
Photo courtesy of <http://www.isis.vt.edu/>





ROCK STARZ SHINE

CORNELIA McDANIEL: Each month we recognize volunteer efforts of MAGS members who continually make contributions to the success of our club. This month we recognize the father/daughter team of Carl and Melinda Warren. Carl travels a considerable distance from his home in Clarksville,

TN. He and his daughter, Melinda, arrive at the church early and assist with preparations for the meeting. Carl and Melinda are a great help in arranging chairs so members can enjoy the monthly programs in comfort. Thank you Carl and Melinda. Your hard work does not go unnoticed.

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AFMS NEWSLETTER AWARDS:

New Editor 7th-95 • Junior Article 3rd-98; 8th-03 • Special Pub 4th-03

SFMS NEWSLETTER AWARDS:

New Editor 1st-86 • New Editor 2nd-88, 97 • New Editor (Explorer) 4th-03

Certificate of Excellence-89, 90, 91, 92, 93 • Large Bulletin 1st-87

Small Bulletin 4th-03 • Special Publication 2nd-03 • Art-77, 80, 81, 82, 86 • Junior Article 1st-03

Adult Article-(2th) 89, 90; (3rd) 92; (4th) 85; (5th) 91, 03; (6th) 87; (Hon. Men.) 03

DUES:

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The Memphis Archaeological and Geological Society's main purpose is to promote and advance the knowledge of the Lapidary Sciences in the mining, identification, cutting, polishing and mounting of gems, minerals and fossils to the utmost of our geological and lapidary capabilities.

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MAGS Rockhound News
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Collierville, TN 38017-2301

MARK YOUR CALENDAR

Board Meeting
July 1

General Meeting
July 9

DMC Field Trip
July 10

M³ Meeting
July 15

MAGS Field Trip
July 17

