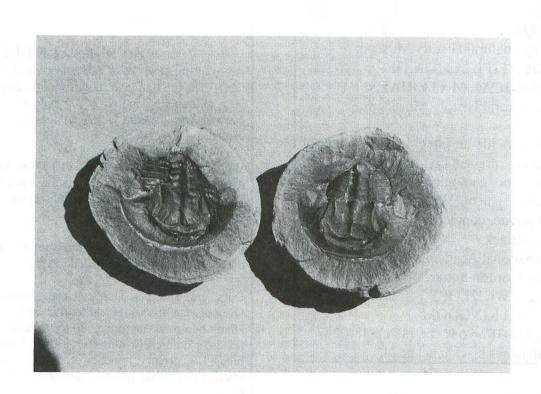


Official Publication of Mid America Paleontology Society

Volume 20 Number 2 February 1997



#### MARK YOUR CALENDARS

### Apr 18, 19, & 20 MAPS NATIONAL FOSSIL EXPOSITION XIX--EXTINCTIONS

Fri., Apr. 18: 8am - 5:00pm Sat., Apr. 19: 8am - 5pm Sun., Apr. 20: 8am - 3pm

### Mar 22-23 BUFFALO GEOLOGICAL SOCIETY 29TH ANNUAL SHOW

Hamburg, NY. Includes fossils. Sat. 10-8

Sat. 10-8 Sun. 10-6

## Mar 24-27 CONSERTION OF GEOLOGICAL SITES

San Diego Natural History Museum

# May 27-30 PREVENTIVE CONSERVATION OF GEOLOGICAL MATERIALS

San Diego Natural History Museum

# June 2-5 ADVANCED CONSERVATION OF GEOLOGICAL MATERIALS

San Diego natural History Museum

### Sept 16-19 IDENTIFICATION OF GEOLOGICAL MATERIALS

Denver Natural History Museeum

Courses provide an integrated overview of the nature, prevention, and treatment of damage to geological-origin materials, inclunding paleontology, among others. For catalogue, contact:

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#### **ABOUT THE COVER**

This month's cover photo, sent by Jim and Sylvia Konecny, Prescott, Arizona, is the horseshoe crab *Euproöps danae* (Meek & Worthen). It is from Middle Pennsylvanian, Carbondal Fm., Francis Creek Sh. Mem. The crab is a Mazon Creek animal from the non-marine Braidwood Biota.

#### AN ANECDOTE

from The Little Brown Book of Anecdotes ed. by Clifton Fadiman, p. 8 Sent by James Gabriel

AGASSIZ, JEAN LOUIS RODOLPHE (1807-73): A Swiss naturalist, who made contributions to paleontology with his theories on the origin of animal species.

It is said of Agassiz that he refused to address a learned society in lectures in that it took too much time away from research and writing saying, "I can't afford to waste my time--making money."

#### 97/02 DUES ARE DUE

Are your dues due? You can tell by checking your mailing label. The top line gives the expiration date in the form of year followed by month--97/02 means 1997/Feb. Dues cover the issue of the Digest for the month in which they expire.

We do not sent notices but will let you know if you are overdue by highlighting your mailing label on your Digest. We carry overdues for two months before dropping them from our mailing list.

Please include your due date and name exactly as it appears on your mailing label--or include a label.

Dues are \$20 per U.S./Canadian household per year. Overseas members may choose the \$20 fee to receive the Digest by surface mail or a \$30 fee to receive it by air mail. (Please send a check drawn on a United States bank in US funds; US currency; a money order; or a check drawn on an International bank in your currently.) Library/Institution fee is \$25.

Make checks payable to MAPS and mail to: Sharon Sonnleitner, Treas. 4800 Sunset Dr. SW Cedar Rapids, IA 52404

#### DIGEST OFF SCHEDULE

You probably don't need anyone to tell you that the *Digest* was late last month and is late again this month. Last month it was held up in printing, and this month I'm off schedule, for which I apologize. The March issue will also be sent later in the month, and the April issue will be mailed from EXPO for all those who do not pick it up there.

#### **EXPO PREPARATIONS IN FULL SWING**

We are now just weeks away from our 1997 EXPO. Most tables are sold and we look forward to another outstanding show. For those of you who have never been to EXPO, it features both large and small dealers, who buy, sell, and trade. Members come from all over the U.S., including Alaska and Hawaii, and from several other countries, including Canada, England, Germany, Italy, and Poland.

The show is free for attendees, and there is always much to see since the variety increases each year. We always look forward to seeing the many people we've met through the years and to meeting new ones.

#### **DINOTOUR 1997**

by Leslie R. Adler, Calgary, Alberta, Canada

Dinotour 1997 leaves Calgary, Canada, May 9th, returning May 19th. Scientific leader: Dr. Philip Currie, Curator of Dinosaurs, Royal Tyrrell Museum. \$1300 U.S. for a single. Includes Como Bluff with Dr. Bob Bakker, Black Hills Institute (T. rex), Saskatchewan (T. rex), and Dinosaur Provincial Park, Alberta. "An Expedition to Study the Cretaceous and Jurassic Dinosaur-Bearing Formations of the Northern United States and Southern Prairie Provinces of Canada."

For more information, write:

Corliss Moore 12331 Lake Fraser Way, S.E. Calgary Alberta CANADA T2J-3T2

Phone: (403) 239-6454

### DINOSAUR DIGGING IN UTAH AND WYOMING

by David Jones, Worthington, Minnesota

Collection and study of dinosaurs and other vertebrates are booming in the late Jurassic of Utah and Wyoming. Many of the specimens found in the northern end of the Colorado plateau near Price, Utah, have been prepared for public display by Don Burge at the Prehistoric Museum in downtown Price. Michael Flynn, who teaches geology at Sheridan College, Sheridan, Wyoming, has led parties of students and amateurs o collect late Jurassic (Morrison) donosaurs on the east slope of the Bighorn Range.

The early Cretaceous Cloverly and Cedar Mountain formations of the same areas are getting a lot of attention, too. Kenneth Stadtman, of the Brigham Young University Earth Science Museum, reports: "There is a site near Moab, Utah, called Dalton Well, in the Cedar Mountain formation, that is interesting and exciting from a scientific point of view. We worked several weeks there last summer. It is the most varied early Cretaceous North American fauna available. It is being worked cooperatively with the Museum of Western Colorado, where Brooks Britt is the curator. All the specimens will be housed at the Brigham Young University Earth Science Museum."

#### PERMIAN EXTINCTION

Drexel Pitts brilor@mindspring.com from *Paleo Newsletter*, Fe 97, Jean Wallace, Ed.

Earth Magazine reports a Harvard scientist has proposed anew explanation for the Permian mass extinction of sea life.

Theory goes that the formation of Pangea caused poor ocean current circulation and bacteria build-up of large amounts of carbon dioxide in the lower layers. Then a cooling period set off new currents which ended up bringing the carbon dioxide to the upper layers and surface. And, voila, 'twas bad news for the fishys, et al.

Something similar has actually happened in Africa. Stagnant lakes have "belched" huge bubbles of carbon dioxide and killed nearby villagers and wildlife.

Whether it's true or not, it's refreshing to hear a new idea on the subject.

### LAND OF THE COLORED TURTLES

A True Story by B. Leonard Stinchcomb, Ferguson, Missouri

Ferguson, Missouri, in the late 40's and early 50's was a small town, remote in some way, but not greatly so from St. Louis, and separated sufficiently from urban congestion by four or more miles of dairy farms, woods and fields. It was here as a boy I grew up! Our house, in a small subdivision, was built just before the clouds of war in 1941 aborted the beginnings of St. Louis suburban development. Just down at the end of Patricia Street was "the creek," a major tributary of Maline Creek, one of the major watersheds of the pre-1980 St. Louis metropolitan area.

As a small boy of six, just about the time of the nuclear annihilation of Hiroshima and Nagasaki and the end of WW II, I and friends would explore flora, fauna and rocks in part of the close-to-home woods along this creek. Many wonders of WW II were also to seen there. Older boys in the 10-15 age bracket had built fox holes, caves and bunkers. When we could sneak away to "the creek," we were sometimes given guided tours of these marvelous replicas of monuments to recent hostilities. bunker dug into the alluvial soils near the creek, its earth floor some eight feet below the surface and covered by a log roof, was magnificently illuminated by candles. In the corner of the bunker reposed a picture of A. Hitler with a picture of some Japanese nearby. Both pictures were severely perforated by quantities of ammunition, presumably shot from Daisy BB guns and perhaps even 22's. The other "military installation" was a horizontal tunnel dug straight back into the high alluvial bank of the creek. It likewise was a repository for articles relevant to recently ceased world hostilities.

But the greatest wonder of the creek, at least to me, was the turtles. As many, if not all small boys are, I was absolutely mesmerized by turtles. The older (and hence of greater-authoritative-stature) builders of the caves and bunkers informed us that on the inaccessible (to us) opposite side of the creek was a place where there occurred all sorts of wonderful turtles. These were said to be of many shapes and sizes; some even were colored, with shells of yellow,

red and orange being among the many possibilities. Now even little boys don't always believe everything they're told; however, the data relayed to us concerning these turtle-wonders had strong support for credibility.

Some three years earlier, about the time President Roosevelt came over our Zenith radio assuring that "there was nothing to fear but fear itself" during the darkest days of WW II, I, barely more than a toddler, was in the front yard after a hard spring rain. Up the concrete gutter, at the edge of the sidewalk, came two small dark brown turtles completely unlike the box turtles we had kept in the basement. Much smaller than the box turtles, these (small alligator snapping) turtles had protuberances and projections on their shells. (Perhaps next to turtles, the other animals a small boy loves are dinosaurs, and many dinosaurs were graced with protuberances and projections, viz., Triceratops and Ankylosaurus.) These two turtles, coming up the storm gutter from the direction of the creek. combined the best of two worlds--turtles and This turtle experience reinforced the possibility a few years later of the actual existence of a "land of colored turtles." I became a regular explorer and inhabitant of "the creek," where there were many and wondrous things to be discovered.

A few years later, in the early 50's, when I was about eleven, I remember sitting on the big rocks. The big rocks, large slabs of Pennsylvanian limestone, were not only good places to read our Dubble Bubble or Bazooka Joe finnies, but also made a convenient crossing of the creek, whereby we had access for exploration of the woods and Minners's Pasture on the other side. Sitting upon one of the "Big Rocks" on day, I discovered a number of embedded fossils; the thought immediately struck, "These are neat!"

A carpenter hammer from home aided in extraction, but managed to shatter most of them; however, a few were successfully extricated from the matrix. These were promptly mounted on a board. I then proceeded in earnest to search for more, and more

there were! The Pennsylvanian shales along the cow trails of Minnert's Pasture proved to be an excellent locality as did the big rocks and gullies which were along the cut of the old abandoned railroad. This was a railroad built to accommodate incoming tourists to the Worlds Fair in 1904. (Its rails were removed after the fair and its now tree-covered right-of-way cut straight through the "land of the colored turtles.") This land was not only yielding many, many different types of fossil snails, but also a lesser variety of fossil sea shells (brachiopods) and some funny fossils looking like segmented cylinders and "little volcanoes," neither of which I could identify.

I asked my 7th grade science teacher about them. He was also the coach and his real interests were those of other coaches of the early 50's (and today?) and didn't include fossils! My parents said the segmented cylinders were fish bones; the "little volcanoes" remained an enigma. Banks of the creek, the RR cut and Minnert's Pasture continued to yield fossils.

From "crinkly limestons" came the link with the turtles: snails ornamented with protuberances and projections were much like those on the baby alligator snappers from a few years earlier. From these I developed my first paleontological hypothesis: that prehistoric life usually is ornamented with spines, projections protuberances. I had no idea of the geologic age of these fossils, and I couldn't find any information on them in the library or at school. I knew they were prehistoric, though: they were in rock and, like dinosaurs, they had spines, projections protuberances.

That summer my parents took me collecting to Rockwoods. Here on the edge of the Ozark uplift, Mississippian cherts and flints yielded impressions of similar fish bones (now suspect as to their being from bona fide fish). My second paleontologic hypothesis developed at this time: that fossil matrix hardness is related to geologic age or "the harder the enclosing rock, the older the fossil. My relative ages of the two fossil occurrences were right, but for the wrong reasons. Only later did I find that the soft Pennsylvanian limestones and shales of "the creek" were stratigraphically above and hence geologically

younger than the hard Mississippian flints. If one could dig some 1,600 feet below "the creek," one would have encountered the flints.

The "cylindrical fish bones," which I noticed differed in the two occurrences of different ages, were crinoid stems. The "little volcanoes" were dermal tubercles of late Paleozoic shark-like fishes and the snails with projections and protuberances were members of the gastropod genus *Trachydomia*, a guide fossil and representative of a family of marine snails widespread in the late Paleozoic. Of the many other types of snails found in the creek or in Minnert's Pasture, these had been sorted out, organized and published on by J. Brooks Knight in the early 1930's.

The great diversity of snails in Pennsylvanian strata in the St. Louis area had piqued Knight's interest in Paleozoic gastropods so much that later he published a major work in which all the bewildering gastropods and snail-like fossils of the Paleozoic era were sorted out, categorized and classified (J.B. Knight, Paleozoic gastropod genotypes, Geological Society of America, Special Paper 32, 1941). Knight's "snail sorting" helped to lead the way toward recognition of extinct molluscan body plans, which in turn, assisted by many other parts of the fossil record, appears to substantiate a model of evolution differing from the phyletic gradualism espoused in the 19th century by C. Darwin.

The "crinkly limestone" turned out to be algal in origin, and the extensive algal mats of the mid-Pennsylvanian St. Louis area supplied an ample food source, which supported the vast gastropod population. The colored gastropods from the "land of the colored turtles" turned out to be both snail shells silicified with red chert and specimens preserving some actual color patterns.

Around 1975 Minnert's Pasture became Minnert's Industrial Court. A lot of excavation was done, and large slabs of both silty and "crinkly limestone" were exposed. In the silty buff limestones were large bellerophontid gastropods (4-6 inches in diameter), planispiral gastropods? of an extinct type. The peculiar bellerophontid *Knightites* is appropriately well ornamented with protuberances and

projections. Most of the old outcrops are now gone; the big rocks were removed by the St. Louis Metropolitan Sewer District in channeling the creek.

To keep them from eroding, the soft shale banks were covered with wire cages filled with (unfossiliferous) crushed St. Louis Limestone.

# ALUM BLUFF SITE ON THE APALACHICOLA RIVER IN LIBERTY COUNTY, FL by Eric S. Kendrew, Valrico, Florida

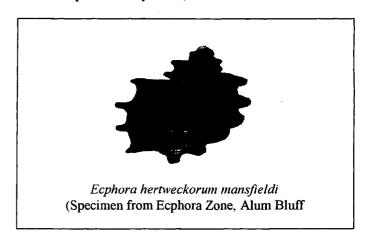
If you are interested in fossils and geology, this is one site in the state of Florida you do not want to miss. I have lived in Florida all my life and only visited this site this year. Since Florida is not really known for geological exposures and most of our fossil-collecting experiences have been surface collecting the mining areas and river diving, it was a whole new concept for me to visit these areas where exposures do exist.

The oldest rock exposures in Florida are of Eocene Age. In the area around Alum Bluff, the exposures are from the Lower Miocene of the Chipola Formation to the Early to Late Pliocene of the Jackson Bluff Formation. Many species of molluscs are present and well preserved and are being washed out all the time as natural erosion occurs.

Alum Bluff is part of a nature preserve operated by the Nature Conservancy. The Conservancy does not like people to climb the bluffs because of the erosion that will occur, but you can surface collect the area. Most of the better material is found at the bottom of the bluffs. Depending on how you approach the Nature Conservancy, you may be allowed to dig for fossils, as long as you do not dig in the upper parts of the bluffs

The Chipola Formation lays at the bottom of the bluff. Depending on the water level of the river, it could be at the water's edge or above the water level. The Chipola Formation is of blue to white to orange to white sandy clay conglomerate. The Jackson Bluff Formation rests uncomfortable on top of the Chipola Formation. This area is of early Pliocene age and contains the Ecphora Zone, which is represented by a one meter thick layer. The Ecphora Zone and the Chipola Formation is what strikes interest in most collectors that visit this area.

In the 1920's, early studies in the area were done by Mansfield on the Jackson Bluff Fauna and Gardner on the Chipola Fauna. The waters were much cooler at the time of deposition and produced some of the following species in the Jackson Bluff Formation: Ecphora hertweckorum Mansfieldi, Calliostoma aluminium, Cancellaria depressa, Hesperisternia filicata, Ptychosalpinx duerri, Busycotypus libertiense, Torcula gardnerae, Heilprinia dalli, Terebraspire harveyensis, Turritella alumensis.



These Turitellas are exposed by the thousands, but to find a perfect one was a chore. Many of these mollusc species have been found in the Sarasota Shell Bed and have a direct stratigraphic equivalent of the Rushmere Member of the Yorktown Formation of Virginia and northern North Narolina, the Dublin Formation of southern North Carolina and South Carolina, and the Raysor Formation of South Carolina and northern Georgia (Petuch, 1994).

This mollusc system was once part of an ancient doral reef system that extneden throughout many other counties surrounding Liberty County. But Liberty County seems to contain the most abundant mollusc and corals in the system. There are many other localities in the area, such as along the Chipola River, Ten Mile Creek, Four Mile Creek, Farley Creek, Econfina River, and Choctawhatchee River, to name a few. There is no permit required to collect invertebrate fossils along the river banks, as long as it is not in a State Park and you do not destroy the

banks along the river (due to heavy digging). There are many streams and tributaries in this part of the panhandle of Florida and a lot of unexplored areas. We have also found mammal fossils along the banks. They were possibly washed in on an ancient beach when the animal died.

Some areas can be reached by foot. Of course to do the best collecting in these areas, you would need a boat. The Alum Bluff site is easily reached by boat, but you can take the 3 mile nature walk through a beautiful Steephead Ravine Forest. I took the walk since we decided not to use our canoe. The Apalachicola River is a large fast-moving river with lots of barges hauling wood to the saw and paper mills--not a safe place for a conoe. The say the walk is only 3 miles, but it seemed like 5 miles to me.

The walk is exciting and gives you a good cardiovascular workout. The walk goes through a pine and hardwood, sandlot forest, then enters into a subtropical forest. It's a constant walk up and down hills, over large tree roots, and climbing over fallen logs, with spiders webs every three feet. (You will need a good stick for these.) You will be walking around large sink holes that drop down over 120 ft. that are all heavily wooded. Some of these sinks have springs at the bottom and some are dry. You will walk over and through clear spring streams flowing into the river. Please make sure you follow the signs with arrows; many are old and some have fallen along with the trees. (A good sense of direction is important here!)

Along the way I spotted just about every animal that exists in Florida, except a panther and bobcat. I spotted three deer walking in in the morning and two more on the way out. Of course my wife says they were all probably the same deer. There is an abundance of plant life, also. Some species were strange to me.

Once you reach the Bluff you will be 180 feet above the river. For us Floridians it's as close as it comes to standing on top of a mountain. The scene is breathtaking. For miles you can take in the panoramic view of forest land, and if you take binoculars with you, you can spot more bluffs upstream.

From this point if you want to collect fossils, you will have to make your way around to the bluff's edge. Remember it is a rule not to climb up or down the bluff's face. Also remember there are no restroom or trash receptacles in the preserve. So pack out what you take in. Good hiking shoes, water, food and a camera are musts!

For the nature walk you take Hwy. 12 north to the Garden of Eden Road, which is 1 mile north of Bristol, Florida. Turn left. Go 1/2 mile and you will see a small fenced-in area for parking (cars in fenced area only) on your right. your wald starts there. When you reach the visitor center (kiosk), there is a sign-in book, maps, and a water spigot. There are motels int he town of Blountstown and caming at Torreya State Park close by. Have fun and a safe trip!!

For more information, write to:
Nature Conservancy
c/o Apalachiocola Bluffs & Ravines
PO Box 393
Bristol, FL 32321
or call: (904) 643-2756

# ADDRESS CHANGES AND CORRECTIONS (CONTINUED FROM PAGE 8) Parks & Rec. Will trade. Major interest

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Anthony J. Verdi 1225 Ledge Rd. Hinckley OH 44233 216-239-1245 Karlene: Entomologist. Steve: Science teacher. Main interests: Mazon Creek, arthropods (especially insects), showy specimens that can be used forteaching & field collecting. Will trade. Have for trade primarily Mazon Creek animal fossils.

shark teeth, plants and ammonites.

Retired teacher. Major interest all fossils, esp. conularia and brachiopods.

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This space is a \$5.00 size.

To extend currently running ads, please send request and remittance to Editor by the 15th of the month. We do not bill Ads do not run in the EXPO issue (April). Ads can be printed in different sizes of type to fit a 1" space.

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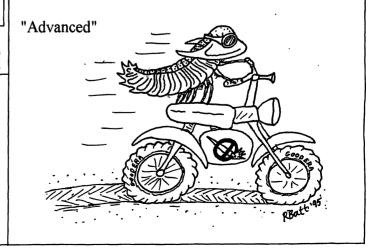
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Barry Sutton 1533 Greenfield Crossing Ct. Ballwin MO 63021 314-394-7316 Tool Designer. Member of Fos. Soc. of Cleveland Mus. of Nat. Hist. Wants to find new hunting locations and learn more about identifying his specimens.

Member of Fos. Soc. of Cleveland Mus. of Nat. Hist.

Interested in finding hunting sites in MN, Northeast IA. Also interested in learning about preparation.

Retired. Major interest trilobites & Mazon Creek & blastoids and crinoids. Will buy specimens. Wants to know more about fossils and where to collect them.

Biologist. Will trade. Major interest fossil fishes and vertebrates. Has for trade fossils from classical German locations; Devonia--Undenbach/Eozan--Messel/Jurasic--Solnhofen. Interested in fossils since 1970.

#### PLEASE NOTE THE FOLLOWING CHANGES OF ADDRESS OR CORRECTIONS:

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Cynthia Miller 1219 Glenside Ave. Wilmington DE 19803 302-478-7382

Mark D. Palatas 6307 Six Mile Lane Louisville KY 40218-2350 502-499-8921 Senior Systems Analyst/Medical Receptionist. Will buy/sell/trade. Limited stock for sale/trade. Dar's main int. crinoids & trilobites. Randy's main int.: ammonites & echinoids. Secondary interests: fossil shells; shark teeth; plants (esp. wood); insects; vert.; & comparative paleo. Also any well-defined fossils. Want to learn from contact & meet others w/ same interests.

Collecting since 1970. High shoool administrator, former HS math & science teacher, will trade, interested in learning about all fossils, field trips.

H.S. Biology Teacher. Collect all fossils. Will buy, sell, or trade. (Currently have Baltic Amber with insects and opal replaced (Australian) clams available). Interested in field trips to new collecting sites, in the U.S. and Canada.

Will trade

Air Force/Fossil Preparator. Will trade. Interested in trilobites, crinoids, and Solnhofen crustaceans. Also interested in depositional environment studies and taphonomy.

The <u>Mid-America Paleontology Society</u> (MAPS) was formed to promote popular interest in the subject of paleontology; to encourage the proper collecting, study, preparation, and display of fossil material; and to assist other individuals, groups, and institutions interested in the various aspects of paleontology. It is a non-profit society incorporated under the laws of the State of Iowa.

Membership in MAPS is open to anyone, anywhere who is sincerely interested in fossils and the aims of the Society.

Membership fee: One year from month of payment is \$20.00 per household. Institution or Library fee is \$25.00. Overseas fee is \$20.00 with Surface Mailing of DIGESTS OR \$30.00 with Air Mailing of DIGESTS. (Payments other than those stated will be pro-rated. Send dues to Treasurer

MAPS meetings are held on the 2nd Saturday of October, November, January, and March and at EXPO in April. A picnic is held during the summer. October through March meetings are scheduled for 1 p.m. in Trowbridge Hall, University of Iowa, Iowa City, Iowa. One annual International Fossil Exposition is held in April.

MAPS official publication, MAPS DIGEST, is published 9 months of the year--October through April, May/June, July/August/September.

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Dated Material - Meeting Notice

CYATHOCRINITES



Mrs. Sharon Sonnleitner MAPS DIGEST Editor 4800 Sunset Dr. SW Gedar Rapids, IA 52404

FIRST CLASS MAIL