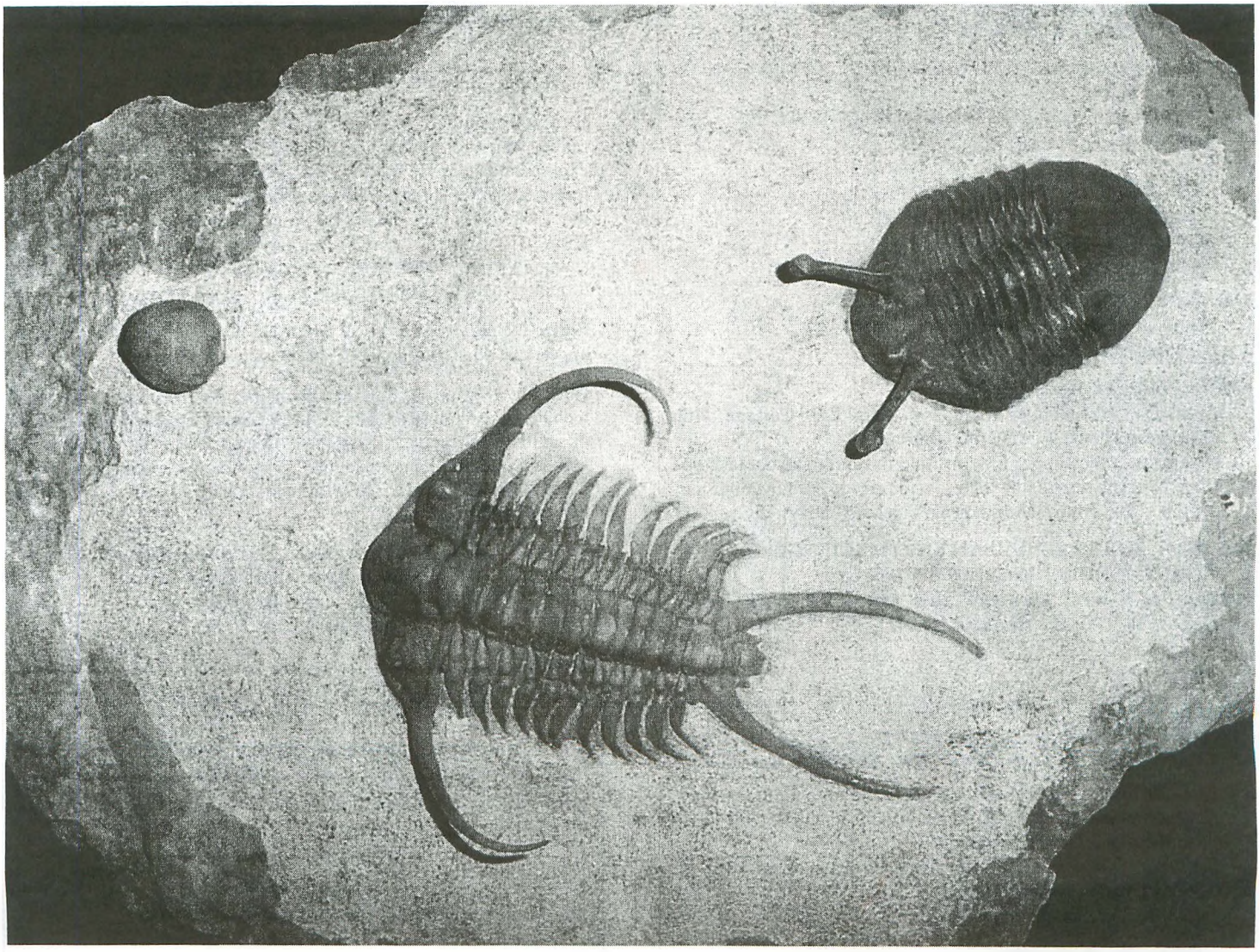
M·A·P·S Digest

Official Publication of
Mid-America Paleontology Society

Volume 26, No 5 & 6
June-September 2003



A LOVE OF FOSSILS BRINGS US TOGETHER

MARK YOUR CALENDARS

Oct 11 MAPS MEETING
Trowbridge Hall, University of Iowa, 123 N. Capital St. Iowa City, IA. Main Lecture Room, #125.
1:00 Board and General meeting
2:00 Program

Nov 8: MAPS MEETING
Trowbridge Hall, University of Iowa, 123 N. Capital St. Iowa City, IA. Main Lecture Room, #125.
1:00 Board and General meeting
2:00 Program: "Jane" the Dinosaur, presented by Michael Henderson , Director of Earth Sciences from the Burpee Museum in Rockford , Illinois (Tentative)
www.burpee.org/janeteam.htm; www.burpee.org/index.htm

Oct 4: FOSSIL DIG
Lizzadro Museum of Lapidary Art, 220 Cottage Hill, Elmhurst, IL 60126; 2:00 (60 minutes) $3/person
Join members of the Earth Science Club of Northern Illinois to learn about Mazon Creek fossils. Learn where to collect and find some fossils of your own to take home. Ages 6-Adult.
Reservations Recommended: 630-833-1616

Oct 15-16: INDIANA STATE MUSEUM 2nd ANNUAL SHOW
Includes fossils
650 West Washington St., Indianapolis, IN 46204
In White River State Park
Sat. 10-4
Sun. 11-4
Contact: Peggy Fisherkeller 317-232-7172;
pfisherkeller@dnr.state.in.us
www.indianamuseum.org

Oct 15-18: THE SVP 63RD ANNUAL MEETING
Radisson Riverfront Hotes, St. Paul, MN
www.vertpaleo.org

Oct 18: T-rex The Real World
Lizzadro Museum of Lapidary Art, 220 Cottage Hill, Elmhurst, IL 60126; 2:00 (60 minutes)
Scientists at the Black Hills Institute in South Dakota take you from the dusty prairie into their laboratories to see how dinosaurs are found, excavated, and studied. Video. Youth-Adult.

Oct 18-19: SOUTH SUBURBAN EARTH SCIENCE CLUB 34th ANNUAL SHOW – INCLUDES FOSSILS
Dept. of Natural Science, Prairie State College, 202 South Halsted St., Chicago Heights, IL 60411
Sat. 10-6
Sun. 10:30-5
Contact Bob Frank 708-388-7365; SSESCUS@yahoo.com

Oct 24-26 2IST ANNUAL FOSSILMANIA
Somervell County Expo Center, Hwy 67 in Glen Rose, TX
Fossil & fossil-related show. Dealers from all over the country. Free programs Fri. & Sat. Free fossils for all kids. Fossil identification, door prizes, raffle.
Fri & Sat: 9:00 a.m. – 6:00 p.m.; Sun: 9:00 a.m. to noon
Speaker Charles Finsley Fri. night at 7:30
Fossil Auction Sat. night at 7:30
Contact: Bill Morgan (after 8 p.m.) 210-492-9163
www.tmm.utexas.edu/sponsored_sites/aps/
www.dallaspaleo.org

Oct 25-26: 2ND ANNUAL INDIANA STATE MUSEUM SHOW – INCLUDES FOSSILS
650 West Washington St., Indianapolis, IN 46204. In White River State Park
Dealers, Displays, Activities.
Saturday 10-4; Sunday 11-4
Contact: Peggy Fisherkeller pfishkeller@dnr.state.in.us
www.indianamuseum.org

Nov 7-9: FOSSIL FEST 2003
Old Settler's Park, Located on Hwy 79, 3.3 miles east of IH 35, Round Rock, TX
10-5 all three days
Displays, Demonstrations, Dealers, Door Prizes.
Contact: Bill Kidd, 2103 B Pompton, Austin, TX 78757 512-453-9686; http://www.texaspaleo.com/CTPS

Mar 26-28, 2004: MAPS NATIONAL FOSSIL EXPOSITION XXVI – Paleo Techniques: Discover, Develop, Display
Western Illinois University, Western Hall, Macomb, IL
Fri., Mar 26 8 am - 5 pm—Keynote Speaker @ 7:30
Sat., Mar 27 8 am - 5 pm—Meeting & Live Auction @ 7:00
Sun., Mar 29 8 am - 12 noon
Information will be included in the December 2003 issue.

2003/09 DUES ARE DUE

Are your dues due? You can tell by checking your mailing label. It reflects dues received by September 22. The top line gives the expiration date in the form of "year" followed by "month" – 2003/09 means 2003/September. Dues cover the issue of the Digest for the month in which they expire. We do not send notices but will let you know if you are overdue by highlighting your mailing label and stamping your Digest. We carry overdues for two issues before dropping them from our mailing list.

Please include on your check 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 currency.) Library/Institution fee is $25.

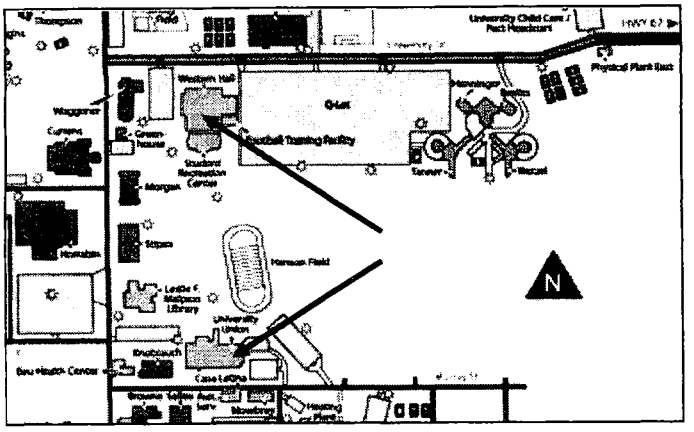
Make check payable to MAPS and mail to:
Sharon Sonnleitner, Treas.
4800 Sunset Dr. SW
Cedar Rapids, IA 52404

ABOUT THE COVER

This month's cover photo shows a cystoid and two trilobites from the Ordovician of Russia. The specimens were brought to Expo 2003 by Extinctions, Inc., Colorado Springs, CO. Specimens, from the left, are:

Echinosphaerites sp.
Cheirurus ingricus
Asaphus (Neoasaphus) kowalewskii
Ordovician
Asery Level
Wolchow River
St Petersburg, Russia

2004 EXPO TO MOVE TO WESTERN HALL (WIU GYM)



MAPS Expo will move from Western Illinois University Union to Western Hall for the 2004 show. From the campus map above, you can see the relative locations of the two buildings. Several factors influenced our decision to move the show: the Gym is 234' x 116' while the Union is 146' x 74'; wiring and lighting are better at the Gym; the Gym offers ground floor unloading and free parking; the auction and programs can be held in an adjoining ground floor room; and there is a food stand in the adjoining room.

Please pass the word to anyone you know who attends Expo. The Union will advertise the change with an electronic sign during at the Union during the show.

As a result of the move, the table limit will be raised to three per membership, and the table fee may be raised to $20.

PROCEEDINGS OF THE BOARD September 14, 2003

EXPO: Gil Norris, show chair, will reserve the hotel rooms at the Union, even though we are holding the show at Western Hall. He will also block 30 rooms at the Macomb Inn. Gil is working on a keynote speaker. The table limit was raised to 3 per member.

DAVID JONES GRANT: Julie Golden and her assistants at the University of Iowa, have been working on a pilot program to teach children how to identify and catalog their fossil finds. They took a prototype of the project to the Iowa State Fair in August to test it out. We are awaiting a report.

DONATIONS: Since proceeds from this year's Expo auction combined with the memorials for Tom Walsh were about the same as the auction proceeds from Expo 2002, Gil made a motion that we make the same donations this year as we did in 2002 - $250 to the University of Iowa, $750 to the Paleontological Research Institute ($500 to the Capital Campaign; $250 unrestricted), $2100 to the Paleontology Society, and $100 to the Strimple fund of the Paleo Society. Motion was seconded and carried.

RICHARDSON AWARD: We have two nominations for this award from last year and will solicit additional candidates this year.

MISC.: Marvin Houg and Dale Stout are the nominating committee to secure a slate for the November election of officers for 2004.

ATTENTION AMATERUS: NOMINATE A PROFESSIONAL FOR MAPS' RICHARDSON AWARD

A few years ago MAPS established the Eugene Richardson Award to honor a professional paleontologist who has significantly helped amateurs in their pursuits of paleontology. Joseph Emeility was the first recipient. The second award was given to Frank Perry in 2001.

Although the award was not intended to be given annually, we are sure there are many other professionals out there who have had a significant impact on amateurs. This is your chance to express your gratitude them for their assistance. Since we want the award to be meaningful, we ask that candidates have shown a commitment to a number of amateurs over a period of years. If your know someone who fits that description, send MAPS President Marvin Houg his/her name and a list of what he/she has done for you and others you know. Then contact others who have benefited from his/her assistance and ask them to do the same. You can also ask your candidate to supple you with information on what he/she has done. Things to consider include help with identification, encouragement in collecting and/or in-depth study, help with or collaboration in publishing articles, sharing use of facilities and/or equipment, encouragement of young people and/or clubs, etc.

ADD YOUR EXPERTISE TO THE EXPO DIGEST!

Dear Maps Members,

If you read your last Digest, you know by now that our theme for next year's EXPO is "Paleo Techniques: Discover, Develop, Display!" We seek articles about the ***how*** of our work with fossils.

In addition to complete articles, I am seeking information from as many members as possible on two subjects.

1) How you number your fossil specimens. Do you just go from 1 to 100,000 and put everything in the same category? Do you go by state—IA 1, MN 1, etc.? Or do you have some other approach, maybe by geological period or by creature? I hope everybody will send a quick email or note to me indicating this, so I can tabulate the information and find out what the most popular method is and how many variations exist.
2) What fossil websites you find interesting and useful. If many of you who search for fossil sites online will send me the links PLUS your evaluation of each site, I will create an annotated bibliography of sites. Be sure to type the link accurately. Maybe we can put the bibliography up on the MAPS website for all to use as well as publish it in the EXPO Digest. Don't worry about duplication. I'll eliminate the dupes.

I am also looking for people to write articles on these computer-related topics:

1) I would like an article that gives tips on how to put together a website to display fossils and information about fossils.
2) I would like an article by someone who uses a *computer* database for fossil cataloguing, describing that process—not how to use the software, but what different categories were created, in other words, some description of the contents and then what the advantages of using a database might be.

Any takers?

I am also happy to receive articles on any other topics related to our theme. I'd like to have them by the end of October. About 15 people have promised me articles to date, and one article has actually arrived in my mailbox. Congratulations to Phil Burgess for finishing your article first. You will receive an award at MAPS next March.

Thanks to all of you for any help you can give. I'm having a wonderful time doing this.

Kathleen Morner
kmorner@comcast.net
7205 Ticonderoga Rd. NE
Albuquerque, NM 87109
505-796-9198 home
505-980-6556 cell

HELP NEEDED TO PRESERVE FOSSIL COLLECTING AREA

As some of you may be aware, a group of concerned fossil collectors has over the last couple of years attempted to convince the Illinois Department of Natural Resources that the Mazon-Braidwood Conservation Area needed to be managed so that fossil collecting could continue at this world class location. We worked with Billy Wilder, former mayor of Wilmington, to request, through his personal friend former governor George Ryan that the old tipple area where Mr. Tulley found his monsters be plowed annually and not to be seeded. This would allow an open area for continued collecting into the future. Unfortunately this did not get done before the change in government. However, the request is still at the IDNR. Now we need to engulf the agencies with our personal letters or e-mails.

The person to contact to express your thoughts is Mr. Tim Hickman at thickman@dnrmail.state.il.us Hopefully with your help, this can be accomplished by next year.

Cheers,
John Washburn
jrwashburn2@msn.com

DIGGING DINOSAURS AT COMO BLUFF

By Joe Kchodl, Midland, Michigan

Several months ago, I was sitting in front of the TV with my trusty remote, my zapper, channel surfing and by some strange quirk I happened to stop on TechTV. Much to my amazement I saw Dr. Robert T. Bakker describing Wyoming Dinosaur Adventures by a group, the Wyoming Dinosaur International Society. They lead paleontology digs to the world famous Como Bluff.

I was lost in a fog for the next several hours as I found the web site <http://www.wyodino.com> and read each page. It seems that Dr. Bakker and a group of dedicated Dino hunters have been leading excursions into the Wyoming prairie. They find and recover dinosaur remains for use and display within Wyoming. Apparently the bones that were dug in Wyoming over the past century have migrated to museums all over the country and world, leaving virtually nothing in Wyoming for people to enjoy. I could go into great detail about the group, but I'll leave it for you to discover on their web site.

Dinosaur aficionados all know the story of Como Bluff. Dinosaur remains were discovered when the Union Pacific Railroad was cutting a path through the Como Bluff area on its way to the west. This is the location of the famous Dinosaur Wars between Othneil Charles Marsh and Edward Drinker Cope. Each man had a crew there digging dinosaurs and bringing them back east. The rival crews even fired bullets at each other across the prairie. At times the rivalry was so intense that the crews dynamited their own quarries before they left in order to deny the bones to the rival crew. And now I, too, could dig in the same rich locations as Cope and Marsh, a weeklong dig in Dinosaur Mecca.

Needless to say I jumped at the opportunity to dig with Dr. Bakker, a maverick in the field of Paleontology. I sent away my application and began making plane reservations. The dig – of course - has a modest fee which includes, breakfast, lunch and dinner, a room at a local hotel in Medicine Bow, transport to and from the dig site and all the tools and equipment you'll need while there. The most educational aspect of the digs was the daily morning discussions with Dr. Bakker as he described the previous day's activities and challenged you to think and reason out the answers. And yes, you will be able to dig side by side with Dr. Bakker and his crew. The scientific research being done there today will astonish you. You'll be part of a crew that is writing the history of the Jurassic of Como *Bluff.* You'll see how Dinosaurs lived, how they died and the evidence of their lives in that area. You'll see the victims and perpetrators of death during the Jurassic.

Now as I leave my cushy world behind, follow me deep into the Wyoming prairie, the Carlin Ranch and Como Bluff.

Unless you are lucky enough to live within driving distance, it is best to fly into Denver and then aboard a regional airline company, Great Lakes Airlines, for a short 35-minute hop to Laramie, Wyoming. The first thing that struck me is the lack of vegetation - trees to be specific. The view of the rolling hills and plains is wonderful. Two staff members of the Wyoming Dinosaur International Society met me at the airport. Mel, short for Melanie, and Nancy – both Paleontologists for the Wyoming Dinosaur International Society – were there to make sure we were well taken care of. Mel, the only person to ever find a complete Apatasorus skull in Como, and Nancy, a fossil preparator at the Tate Museum in Casper, Wyoming, were both very knowledgeable and started our education right away. As we left the tiny airport building, I was escorted to a Chevy Suburban affectionately named "Conan." Conan, a blue and white 4 wheel drive vehicle, was dusty, full of gear and "stuff", had a cracked spider webbed windshield, and dents and dings – all in keeping with the character of a Dinosaur Hunting vehicle. Alas, I was not there yet. We drove for just over 1 hour along Wyoming 287 through tiny quaint, almost ghost towns. As we neared the town we would be staying in, we passed the Carlin Ranch. The ranch encompasses the Como Bluff. Closer to town lies the famous *Bone* House. This is a structure in which the outside walls are built entirely of dinosaur bones. Finally, we arrived in historic Medicine Bow, the setting for the Owen Whister book, "The Virginian." This book made famous the western phrase "When you call me that....smile". Also do you remember that The Virginian was made into a TV show starring James Drury, Lee J. Cobb and Doug McClure – now I'm dating myself.

We passed the Virginian Hotel, the old train depot and the Little "Dip" (Diplodocus) Bar and Grill and on to the Trampas Lodge, my home away from home.

The first afternoon and evening was more or less an acclimation period for me. Medicine Bow is just over 7,000 feet above sea level. That evening I went to the Virginian – as I would every night at 7pm for dinner. I introduced myself to the other "diggers." The digging crew was from all over the United States. I am from Michigan. We had a couple from New York, someone from Nebraska, a couple from Arkansas (the husband bought her this trip for their anniversary – how sweet) and so on. I also had the chance to meet the staff.

The tension could have been cut with a knife when someone finally asked, "When is Dr. Bakker coming?" The answer from the staff was "We don't know, maybe tonight, maybe in the morning - we never know with Dr. Bob." About 15 minutes into dinner, a tall man – I'm short – wearing a terribly beaten wide brimmed hat, long beard and long hair drawn back in a ponytail entered the room: Dr. Bob. The air was electric. College students, couples and of course I, were all excited just to see him walk in. This experience is going to be real. We ate dinner in the wonderful western Victorian dining room listening to stories from Dr. Bakker and his staff. Morning could not come soon enough.

The First Day

Coming from Michigan and being somewhat excited about our first dig day, I was up at 5am (7am Michigan time). I opened my door to the Trampas Lodge Motel to let some cool clean air into the room, and there by the road, enjoying the calm quiet morning air – you guessed it – Dr. Bakker. Like a star struck kid, I grabbed my copy of the Dinosaur Heresies and went out to get Dr. Bakker to sign it. After that, I began to mumble a conversation with him. Shyness melted quickly away as I realized that Dr. Bakker was a very down to earth individual who just happened to love to dig Dinosaurs. We spoke about the morning stillness and the philosophies of museums and educating the public. I began to feel very comfortable here. This was going to be a great adventure. I excused myself and went back to my room to get my gear and walked the two blocks to the Medicine Bow Elementary School. At the school was Arnold, another staff member from the dig team. He was a petroleum geologist who "saw the light." Also he could easily make it big as an impressionist opening in Vegas. He had so many voices in his repertoire that he kept us more than slightly amused throughout the dig. Many a time I couldn't see the bones because I was laughing so hard. When we needed to have some comic relief on those hot summer days, all we had to do was listen to Arnold.

The school, built in 1926, has since been closed. The facilities are in great shape and the WYODINO crew is using part of the school for a briefing facility. The cafeteria is set up for breakfast and we packed our lunches there as well. They also have set up a prep lab in one of the classrooms so we could actually prep specimens that came out of the field. Dr. Bakker would come in and mingle with everyone while eating breakfast. After eating, Dr. Bakker would move to the chart boards and begin his morning briefing sessions and class.

Following the class we would make our lunches, pack them in coolers, collect up our tools and get ready to pile into the vehicles. We would get into the vehicles – some people in Dr. Bakker's Toyota 4x4 some in "Conan" and some in the various other vehicles for the trip to the dig site. The rest of the days would begin like this.

Turning off the main road into the Carlin Ranch we saw prairie dogs, pronghorn antelope, golden eagles, hawks, herds of cattle, sagebrush and cactus – in short lots of flora and fauna. We actually passed the original 1880's dig site of O.C. Marsh on our way to the new bone beds. We traveled up this dirt ranch road about 7 miles and we finally turned onto a two track through the fields. Through a locked gate we went. The next several miles were kidney crushing and bladder busting. We went on to the location that would be our playground for the next 5 days. Our "playground" was a valley 10 miles long and 2 miles wide. Our first stop was the ***Morton Quarry***. This location in the Morrison formation contains a rich fossil bed with many skeletons in various stages of excavation. Just down the hill, in another horizon, was the ***Laughton Quarry***. A juvenile Allosaurus was located there that I began working on with several others while another group continued to excavate a sauropod which was also in the process of being plaster casted.

Many groups had been there before us, but there was still a great deal of digging to be done. Every year more and more bone was being exposed by natural erosion. Dr. Bakker began to circulate around the dig site recounting tales of what the ancient Jurassic could have been like. He would periodically get down next to us and examine our work. He would also take out some of his tools and join in. After some time he would drift away disappear over a ridge and go on a "walkabout" to look for more sites. According to staff, there are about 200 documented sites and only about 40 that are actually being visited and worked. We ate lunch in the field, took a brief siesta and back to it. I took it a bit easy the first day, but to no avail. After lunch the altitude and hot beating sun got to me a bit and I took a 45-minute break. We were constantly putting water on our heads and water on kerchiefs around our necks, etc., to help combat the heat, altitude and fatigue.

When I had recovered a bit I went back to the Allosaurus site. After a while Dr. Bakker reappeared and began to visit each site again. About 7 feet away above the horizon we were working, Dr. Bakker noticed a small sliver of bone exposed on the hill, "Ahh" he exclaimed, "bone", then "Ahh look here!" and "Ahh" and "Ahhhhhh." He called me over with my tools and we began to dig. All of a sudden we found a caudal vertebra from a Camptosaurus. He told me to keep at it and I found another and another. We had just located another site on a different horizon, a totally new event. That is about how it went all week long. With so much to do, so many bones and so little time, it was very hard to tear away from what I was doing to even get a drink of water. We were often cautioned, instructed and even ordered to drink lots of water to prevent heat stroke. We were also cautioned to work slowly, especially flatlanders like me. Again to no avail, I was beat by 5pm. My stomach hurt, head hurt, my body hurt from all the digging and stooping. It didn't matter. I had worked on excavating an Allosaurus all morning and a new find, a Camptosaurus all afternoon. We departed the dig site around 5 and went back for dinner. Invitations to come to the prep lab to do bone prep were accepted by some, but most went to their rooms, a cold shower and sleep. Day one was pretty good.

Claw Quarry and The Road of Death
Days 2 and 3

The Road of Death. This rutted roadway is affectionately called the Road of Death. This was a "small" hill, at about a 45-degree angle and about 400 feet long. It was full of ruts and washouts. Sitting on the passenger side of Dr. Bakker's Toyota, looking down to my right, there was only but a door between the valley floor and me. Dr. Bakker has been down this road many times before and anyway ... the shortest distance between two points is a straight line, isn't it?

After the usual breakfast and small talk, Dr. Bakker explained what we had witnessed the day before. In an exceptional educational style, he questioned and queried us in an attempt to get us to think about the circumstances of the death of these beasts and their deposition. He explained the clues we saw or didn't see. Were there broken teeth around? Was the skeleton a partial? How were the bones laid out? All of these questions helped us understand that day in the Jurassic. Dr. Bakker used the chart boards to draw – very well I might add – a cross section of where we had been. Finding broken Allosaurus teeth all around was a very important clue. If you find broken teeth, it was an active feeding site. Teeth of large carnivorous dinosaurs are broken off in the feeding process. A lack of teeth in the excavation will show that the deposition was made very swiftly or the carcass was transported to the site of deposition. If the teeth were present, someone had a really good picnic.

Dr. Bakker explained another site they had found earlier, Bertha, an Apatosaurus yahahpin. Bertha was a large sauropod whose skeleton was found preserved UPRIGHT – STANDING UP. What a great find. What can be gleaned from the fact that the skeleton is standing up? Bertha was most probably walking along a very muddy, swampy area. She stepped into soft deep mud and sank in too deep to climb out. Fortunately for paleontologists and unfortunately for her she died and was preserved. The skeleton of Bertha was the first sauropod that had a full set of gastrailia. Gastrailia are the small rib type bones in the belly.

After class we piled into the vehicles again and off we went. This morning – and for the next several days, I rode with Dr. Bakker. We were off to ***Claw Quarry***. Claw is a micro site quarry with loads of fossils. The fossils in this quarry would prove to be excellent storytellers. Everyone on the dig was going to find teeth this day. But first we had to get there. We drove to Claw as before through the bladder busting fields.

We did take another turn and passed by an occasional pond. Dr. Bakker explained that the previous week they had a great deal of rain and the winter was pretty wet as well. This particular pond had been dry for the last number of years, and Dr. Bakker stopped the caravan – actually only two of the 4-wheel drive vehicles, the others took the long way. We walked over to the pond, and not to miss out on an educational experience, Dr. Bakker asked us about the similarities with what we see here and what could have happened in the Jurassic. A very wet year can change the course of rivers, redeposit skeletons and bury long exposed layers. We talked about this area during the Jurassic and speculated what it was like. We stayed about 15 minutes in the morning stillness looking, listening and enjoying the morning. We got back in the vehicles and several minutes later we hit the river crossing. No problem getting over, drop it into 4 wheel drive and across with no problems. *Coming back won't be as easy.*

We got to ***Claw Quarry*** and everyone piled out. Claw is an exposure on the side of a hill. The exposure is light gray in color and very easy to dig. The fossils here were quite small but very abundant. Before we started the short climb to the dig site about 30 feet above us, Dr. Bakker told us to walk slowly and look down. The ground we would be walking up was very fossil rich. He wanted us to find Jurassic Crocodile teeth. And guess what .... croc teeth we found. As we walked up people exclaimed, "Got one", "Got one", "Is this one?", on and on. I found three on my walk up. We also found croc scutes and turtle scutes. They were small but unmistakable. Was this a feeding area? We would find out soon.

We each took up a location along the ridge and began digging in our own little area. It was packed with fossils. We actually stayed for two days so my descriptions will cover both days. We found nearly 100 broken croc teeth. Remember teeth of dinosaurs and crocs break off while feeding. Dinosaurs and crocs replenish their teeth during life. It was very rare at this location to find a complete croc tooth, one that was dislodged post mortem when the ligaments loosened, jaws decayed and teeth dropped out. We found turtle and croc scutes in great abundance, but they were small. One of the dig team found a very large croc tooth; most of the ones we found were about ¼ inch in length. Another member of the team found part of a Raptor claw. Other members found bones of several small creatures. One lady was walking around the ridge to go to the "ladies room"- just over the next ridge; looked down and found a wonderful Ceratosaurus tooth. One other member of the team found a wonderful mammal bone. Very small but unmistakable. It had three trocanters for muscle attachments. Another digger found a giant Lungfish tooth. What a great site!!! I found a wonderful cache of bones and scutes. As I was digging I exposed a limb bone with what appeared to be another associated limb bone. As all paleontologists know, one begins to excavate above and around the fossil you want to keep, to make sure there are or are not other bones associated. Well, as I began to excavate around the bone I found croc scute after croc scute, large turtlescutes on top of others and two croc teeth as well. We took compass readings on the croc teeth to help determine the direction of the water in which these fossils were deposited. In short this was a very fine location where a small eddy may have formed allowing all these pieces to come to rest and fossilize in that location. It took me the full two days to excavate this site and remove all the bones and scutes.

During the first day at ***Claw Quarry***, after digging for many hours, I decided to take a break and do a "walkabout" myself. I walked around the "Men's Room" side of the cliff and kept going for a while. I sat down on a large rock in the shade of a scraggly conifer tree overlooking the valley we had been criss-crossing for several days. Not a sound but the blowing wind and an Eagle screeching. After about 10 minutes the Eagle came by and sat in an old dead tree not 20 yards from me. What a grand and magnificent creature. We sat there looking at each other for a while. What a serene and beautiful place we were in.

Again this was a two-day excursion. On our way back the first day, we drove down by the river which the week before was 6 feet or so higher than today. Not to miss an educational opportunity we stopped in the valley next to the now slow moving shallow river and got out. Immediately we began to find bones. Not dinosaur bones, but buffalo and other creatures. These were anywhere from 200 years old to 2000 years old. But what did they tell us? Catastrophic events sometimes deposit bones in certain areas. Bones can be deposited and re-deposited prior to fossilization. The riverbank had eroded severely in several areas and even trees were uprooted and fell into the water.

After our little side trip we got back in the vehicles and drove toward the river crossing. We made it across with no problem in Dr. Bob's tough, trusty, Toyota 4x4, but Mike, who was driving behind us, didn't quite make it. Well, he tried for quite a while getting out of the river, he could back up but couldn't go up the bank in front of him. Soooo after about 45 minutes of trying – we unloaded Dr. Bakker's Toyota, jammed as many people in as possible and went back to town to get a rope and come back. By the time Dr. Bakker returned, Mike had gotten the jeep out and was on the far bank. Needless to say he took the long way home that night.

That night as we were going to The Virginian for dinner, there was a short downburst of rain. As we walked over to the Hotel, I saw first one rainbow then a second right next to it. I had never seen a rainbow so vivid, so beautiful and complete. It went from ground to ground. We don't have a lot of wide-open spaces in Michigan with no trees or buildings. To see two rainbows was spectacular. I ran into the hotel dining room to tell the others. We all ran out and guess what?.... there were now three concentric rainbows. It was a spectacular ending to a spectacular day.

Track ways, Nail Quarry and Squid Butts
Days 4 and 5

We start out again in the morning as we have done every day. Today we were breaking up into two groups. One was going to ***Nail Quarry*** and I went with the other group to the ***Dinosaur Track Way***. Day 5 we would switch.

Well, the ***Dinosaur Track Way*** was very exciting. We could see large sauropod tracks, therapod tracks and also there was a rarity, a Pterodactyl track. I know, I know, A Pterodactyl was a flying dinosaur, but they had to land sometime. This track was of the Pterodactyl knuckle. When it walked on land the wings folded up somewhat and the Pterodactyl "walked" on its knuckles. Another very exciting part of the track way was the largest sauropod track in the world. It was just smaller than a one person Jacuzzi. The track named Steve, (why?, I never bothered to ask) was monstrous. The sauropod was walking in a muddy area. You can easily see the margin of the track where the mud was pushed up, the toe marks on the track and also where the sauropod put his front feet in a successful attempt to get out of the mud. There was only the right rear foot impression. Guess what? The rest was still under several feet of overburden on the side of a hill. Guess what? It was my job along with Ryan, one of Dr. Bakker's crew, to begin to remove that overburden. Well, several hours and about 3 cubic yards of dirt later we got to the Track Way layer. We did uncover several sauropod tracks but we had not yet hit the left foot track. Actually, I think we did, but we just didn't get a chance to dig it out. We left the dirt in the tracks to protect them until we could get more overburden off. Mike from Rochester, New York, who had been to this site several years ago when they found Steve, continued to work there. They were cleaning the track out from all the debris of the last several weeks and he was getting it ready to make a mold and cast.

After many hours of digging the tracks out of the overburden, Dr. Bakker offered to take a bunch of us over the hill through another river to go looking for "SQUID BUTTS". I had never heard that before, but how perfect. I always called belemnites – well belemnites. I never thought of calling them squid butts. A belemnite is the part of a squid - the hard part that gives it the bullet shape. It is an internal structure and the only part of a squid that can fossilize. What a great way to catch the attention of school children – but that is another story.

We walked around along a 15 foot high cliff over a series of washouts and then – there they were. Literally ka jillions of squid butts. "Ka Jillion" – humorously a word that means a whole lot of something. You couldn't help but see belemnites everywhere. I had a gallon size plastic bag and needless to say – I filled it up. We were allowed to keep these if we wanted. I'll use these as give away prizes when I teach kids about fossils. You should have seen the airport security when they x-rayed my carry on bag and saw all these things that looked like bullets. " No really sir, I am a paleontologist. Yes sir, really, I dug these up at Como Bluff, No sir you can't put them in a gun and fire them, they're made of stone, sir!!" Anyway I've got my squid butts from the Jurassic.

On the way back again, as a little reward for working so hard, Dr. Bakker stopped the Toyota in the middle of the river and we got out to splash around awhile before we went back to work. We caught crayfish and played around in the river a bit – enough of that and back to work.

The next day we dropped off some people at the Track Way, but most of us went to ***Nail Quarry***. Nail got its name due to the fact that they originally found a nail; you know – hammer and nail – in the quarry. This location was reported to have been one of the locations Barnum Brown excavated earlier in the century. This was the richest dinosaur bone bed in the Como Bluff area we had yet seen.

When we got there many of the exposed bones were already jacketed with foil, burlap and plaster. Many had already been removed and were awaiting shipment, some still had yet to be rolled, and some bones were exposed ready to be jacketed. I worked in an area where there was a large vertebra. Needless to say, as I dug I found more and more bone. This final day was cut short by thunderstorms. We packed up early - about 3pm, just before the storm let loose. Dr. Bakker stayed a bit longer with a crew that had started to jacket a few beautifully preserved vertebrae.

The days were long and hot. We put up tarps to help protect us from the harsh sun. We drank gallons of water; we used tubes of sunscreen and insect repellent. But we found bones, lots of bones from the Jurassic. Dinosaurs that once roamed this area we now call Como Bluff, Wyoming. I can see why this location has been one of the most collected since the 1800's. I can see why Dinosaur Hunters from all over descended upon this valley barely 10 miles long and 2-3 miles wide. What a rich flora and fauna this once was. What a large variety of dinosaur species, what great evidence of these magnificent beasts. What great stories these long buried bones told us.

If you have an opportunity and a desire, contact the Wyoming Dinosaur International Society. This was a trip of a lifetime for me. Growing up in New York and spending most of my life in areas with only marine invertebrate fossils, this was an experience to remember. Anyone can participate in these digs. Dr. Bakker and crew will give you the information and tools you'll need to have a great dinosaur collecting experience. Remember though, the dinosaurs you find will remain in Wyoming. Thanks to the staff of WYODINO, and I hope to be able to see you again soon.

ADDENDUM
August 23, 2003

A few days ago I received this email from my friends at Como Bluff. It is very sad news. It is sad that they are not able to continue with the field trips but it is good that research will continue.

It is with deep regret that the Wyoming Dinosaur International Society announces its decision to discontinue our yearly dinosaur expeditions to Como Bluff, WY. This decision was not made lightly, but with the current economic situation around the country along with a change in the leasing entity of the bone quarries, WDIS felt it had to examine its current status.

Sadly, all voting members realized we had no choice but to terminate our activities as an organization.

To offer a bright light, however, the Como Bluff quarries will still be worked and research will continue. The University of Colorado at Denver has acquired the lease to the quarries. They've also purchased the Old School in Medicine Bow and it will be refurbished to become a resource facility for science educators. There are plans to establish a museum, repository for the specimens collected from the quarries, research facilities for visiting educators, and dormitories for long-term stay.

Dr. Bakker will still be involved with the quarries and the University of Colorado group. His research at the Como Bluff quarries spans more than 30 years and we are delighted that his work can continue. We have also been invited to continue our research efforts at the sites and we look forward to a lasting relationship with the UC group.

FOSSIL FACTS AND ODDITIES

BY Sam Maselli
From *The Tully*, Sam Maselli, Ed. 5-6/03

The use of fossils to make divisions in the earth's history got its start during the 1790's by William Smith of England, Georges Cuvier and Alexandre Brongniart of France. The thinking before that was that all fossils were laid down in a brief span of time after creation. Followers of this new outlook expanded the calendar of fossil deposition to an extent that resembled the current view of vast periods of time between the arrival and departure of species. (The Fossil Book by Carroll Lane Fenton and Mildred Adams Fenton, Doubleday, New York, New York. 1989.) Recognition of the fact that development of species, their adaptation to their surrounding, and their eventual demise was a function major changes in the earth's surface was chronicled by Charles Lyell when he published his book Elements of Geology in 1838.

The relationship of fossil deposits puzzled many fossil collectors as there seemed to be like deposits separated by large stretches of ocean, also fossils of tropical plants and animals existed in places that were very cold. Geologist had figured out that marine fossils could occur on mountain top due to the uplift of these mountains but this was different. Geologist looked at the parallelism of the coasts and by the beginning of the twentieth century began to suspect that perhaps the continents moved, in 1912 Alfred Wegener wrote a book on the subject. H. H. Hess in 1962 wrote a paper on seafloor spreading which pulled together a lot of research by others to make a sensible theory of the way things worked. Armed with theories and facts we can now better reason about an ancient crust of a world that was unlike the one we live in today.

Fossils can be compared by location and by development across time. Organisms change in order to use their environment more efficiently or to better compete with each other. Creatures that crawled improved their lives by developing the means to walk and creatures that lived where sight was useful developed better eyes. The same creature that has improved features can be assumed to be younger than its primitive ancestor. Many creatures came to use appendages for different things as they evolved and this also can help in identifying the age of fossils. A good case can be made for saying that the fancier a creature is the further along the evolutionary trail it is.

Shells protect an animal and force the animals who want to eat it to develop special tools to get around this protection. Some fossils show the marks of the predators who killed them. The shell limits movement and lessens agility some animals evolved right out of their shells and others into bigger and stronger ones. Books and papers exist to help you identify your fossil on this basis. Also some shelled creatures had coils, frills, spines and even keel like structures, these may show only as groves or stubs if wear has taken place.

Some creatures replaced other creature simply because they were more efficient. The belemnoids may have evolved into teuthoids which you know as squids and octopods. The descendents may have eliminated their predecessors by eating their food supply or by actually eating them. For a short period animals exist which are transitional in nature and these fossils are often of great interest to collectors. North Africa produces some very nice blemnoid fossils with white shells in a dark gray matrix which are very impressive when polished. The plant kingdom remains untouched but that is just as well because it deserves systematic coverage in many separate articles. The animal fossils do also and even the single cell animals who leave their glass shells in such abundance.

WORLD'S LARGEST TRILOBITE FOUND

From *The Fossil Record*, Cliff Barnes, Ed., 8/03

According to an article in the January 2003 issue of the Journal of Paleontology, specimens of the largest known species of trilobite have been excavated from the Upper Ordovician Churchill River Formation on the shores of Hudson's Bay in northern Manitoba, Canada. The new species, named *Isotelus rex* by researchers David M. Rudkin (Royal Ontario Museum, Tornto), Graham A. Young and Edward P. Dobrzanski (the Manitoba Museum, Winnipeg), and Robert J. Elias (Department of Geological Sciences, University of Manitoba, Winnipeg), is represented by several well-preserved dorsal shields which indicate that the creature measured some 700 mm in length; that's over 27 inches long for us Americans.

The largest arthropods living today tend to be cold-water species, like the king crabs of Alaska, but the stratum where *I. rex* was found appears to have been deposited in warm tropical seas, some 5 degrees from the equator. From trace fossils found in rocks of the same age it's thought that this trilobite was a predator that hid in sand and ambushed its prey. Like all the other members of its family, the Asaphidae, *I. rex* apparently died out in the mass extinction event that marks the end of the Ordovician.

For more information see *The world's biggest trilobite — Isotelus rex, new species from the Upper Ordovcian of northern Manitoba, Canada* in the January 2003 issue of the Journal of Paleontoloy.

GOT OLD JEANS? MAKE A NIFTY GIFT

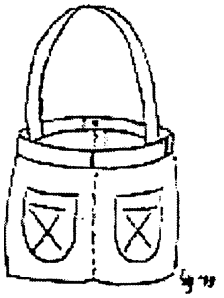
by Linda Jaeger.TRMS

Source: T-Town Rockhound, Tulsa R&M Society, Dec 1999, via Quarry Quips, Wichita G&MS, June 2003 (with adaptations) via *Paleo Newsletter*, Jean Wallace, Ed. 8/03

Everyone can use a collecting bag. And this one is as washable as your jeans.

You will need:

- old jeans (boys sizes 12-18 are good)
- scissors
- thread to match the jeans
- zigzag sewing machine
- black pencil
- straightedge (ruler)



Place the jeans on a flat surface with the seat side up, so you can see the back pockets, making sure the waist is together at the front and back. Use a straightedge ruler and pencil to mark a line across each leg about 3 inches below the back pockets. Carefully cut off each leg by following your line. From the legs cut 2 strips, each about 5 inches wide and 24 inches long. The strips will make the strap.

Turn the seat part of the jeans wrong side out and stitch across each of the legs with a 1-inch seam. Stitch again about 1/4 inch from the first seam with a zigzag stitch, and then trim away the excess seam allowance. Turn the jeans right side-out.

Now seam the 2 long strips together along the 5-inch side with right sides together. Fold in half length-wise, right sides together. and stitch again, making a casing. Turn the casing right side out. Press the casing flat.

Find the belt loop on the jeans. Place one end of the strap inside the waistband, just behind the loop. Stitch through the strap at the top of the waistband and at the bottom of the waistband. Place the other end of the strap inside the waistband, just in front of the right belt loop. Stitch through the strap & waistband at the top and bottom of the waistband.

Be sure to zip up the zipper and button or snap the waistband. and this rock bag is ready for rocks.

To make this an extra special gift, tuck a state map in one of the back pockets and a small notebook and pen in the other. Add a compass, whistle and small specimen bags to the front pockets, and toss in a section of newspaper and a small spray bottle, too. Feeling really generous? Take your friend and his new rock bag to a favorite spot to hunt!

PRI'S MUSEUM OF THE EARTH CAPITAL CAMPAIGN

MAPS contributed $500 to this campaign in 2002 and will donate another $500 this year from money raised at the Expo Auction.

August 28. 2003

Dear Supporter of the Museum of the Earth:

I am writing to share some wonderful news. As a partner in bringing the Museum of the Earth to life, you will be pleased to hear that earlier this week we learned that the Museum Campaign has received a major challenge pledge from an anonymous donor. For each dollar received before December 1, 2003, either in new gifts or payments on existing pledges, the- Campaign wilt receive an additional dollar in new giving from an anonymous source, up to a total of $250,000.

What does this challenge mean to you?

1) It means that we are a major step closer to completing the Campaign. Through your generosity, we have raised just over $6.4 million in pledges and gifts, on our way to the total goal of $8.6 million. Matching this challenge could get us a long way toward that goal.

2) It means that you can help spread the word of this extraordinary challenge to others who might be motivated to support the Museum Campaign by this opportunity to double the impact of their giving.

3) If you are in a position to do so, please consider accelerating your own pledge payment schedule to take advantage of the match. If you have already paid your pledge in full, and can consider an additional gift, think about making that gift before Dec. 1.

Thanks to your early belief in and support of this project, the new Museum will be dedicated on September 25 and will open to the public on September 27. Thank you for your generosity and continuing support!

Sincerely,

Warren D. Allmon
Director

THE BIG BONE BASH

by Justin Runnicliff

***Roamin 'Rams* 12/00, *Paleo-Newsletter* 3/02 via *Dinny's Doin's*, Sharon Ottilige, Ed. 6/02**

First Place AFMS 2000 Article (Juniors 12-17)

Ladies and Gentlemen! Introducing the battle of the century!

In this corner we have the defending champion, Edward Drinker Cope born in 1840 in Fairfield, Pennsylvania. As the son of a wealthy Quaker ship maker, Cope grew up with the finer things of life and had one of the best educations money could buy. He wrote his first scientific paper at age 18!

And, in this corner, Othniel Charles Marsh born in Lockport, New York in 1831. His father was an inept farmer from New England. Marsh was raised as a fairly ordinary child and never shared a large amount of ambition. He didn't publish his first scientific paper until he was 30.

Both contenders have much in common. They both lost their mothers when they were 3 years old. Both developed an early fascination with paleontology. Marsh inherited a large sum of money at age 21 and therefore was able to study and travel abroad like Cope.

The Challenge

Marsh challenged Cope when he discovered an error in one of Cope's drawings. Cope had sketched a dinosaur skeleton with a head on the wrong end. Marsh embarrassed Cope by publicly publishing his discovery.

Round 1

Morrison, Colorado

The first round promises to be exciting. We have two schoolmasters from Chicago teaming up with the Cope and Marsh for a tag team bout. Arthur Lakes and 0. W. Lucas unexpectedly join the Fray. But, I'm not telling who's on who's side or I might spoil the fun.

Lakes enters the contest in the match to test his skills while Lucas waits patiently hanging on the ropes. Lakes seems a little confused on whom he wants to join forces with. He is sending gigantic bones that he found in Morrison, Colorado to both contenders. Meanwhile Marsh takes a cheap shot at Cope by telling Lakes to keep the discovery of the bones a secret. Cope dodges the blow and rebounds by describing the bones for publication by the American Philosophical Society. It appears Lakes has finally chosen sides. He tells Cope to send all of his bones he sent to him to Marsh thereby brutalizing Cope and ending this round!

Round 2
Morrison, Colorado

Lucas leaps onto the mat and pounds Marsh and Lakes by informing Cope of a larger and better preserved dinosaur bone discovery near Marsh's original dig site. This has to be the shortest round in history! Marsh and Lakes are saved by the bell but they're still not getting up

Round 3
Come Bluff, Wyoming

Two men jump in to help Marsh recuperate. They inform him of giant bones they have just discovered in Como Bluff. They are willing to sell the bones to him.

Lakes is still holding his own against Cope and Lucas. Wait! Cope nails Lakes with a right and finishes him in this round!

Cope all of a sudden discovered the incredible amount of bones Marsh is bringing in from Como Bluff. He dispatches a team to Wyoming immediately. Although we have a few confrontations between Cope and Marsh's men, they are leery of entering the ring. The bell signals the end of this long, drawn-out round with still no winners!

Final Round
Montana

This is it! The final round of the battle between Marsh and Cope. There is no interference from team members or workers this time! It's a raw battle just between the two contenders to determine who the champion really will be! Cope begins the round in Montana in the Judith River Beds looking for Cretaceous dinosaur skeletons and comes back with many new species of dinosaurs. Marsh travels to the same area and also discovered many new species. Here it comes! They both threw a punch at the same time! They're both down! The round is over! The match is finished to this most unpredictable of events!

Cope and Marsh went on to become two of the world's most famous paleontologists, responsible for discovering more than one hundred new dinosaur species, and unfortunately they are all too often more associated with their famous feud instead of their unprecedented achievements in the field of paleontology.

Edward Drinker Cope died in 1897. Othniel Charles Marsh died in 1899.

"...Cope spent his (final) illness on a cot surrounded by a pile of bones.. .six men sat quietly around his coffin at his Quaker funeral, amidst the fossil bones, with a pet live tortoise and Gila monster moving stealthily around the room". Uri Lanham

As a tribute to Cope, the paleontologist, Dr. Robert T. Bakker, a renowned paleontologist himself, named the dinosaur Drinker after Cope.

SOURCES

Colbert, Edwin H., *The Great Dinosaur Hunters and Their Discoveries,* Dover Publications, Inc., New York
Hellman. Hal, *The Fossil Feud,* 1999
http://www.ingersoll-rand.com/compare/jan99/cpgO4.htm
http://www.thehistorynet.com/AmericanHistory/articles/1998/089 8_text.htm
Huntingtron, Tom, *The Great Feud,* 1998.

PALEONTOLOGY BOOK LIST

Compiled by Stan Balducci, Email: hbalducci@erols.com

A Field Guide to Dinosaurs, David Lambert, 1983. Good illustrated guide on dinosaurs.

Ammonites and the Other Cephalopods of the Pierre Seaway, Neal Larson et al., 1997. An identification guide on fossil cephalopods.

Ancient Marine Reptiles, Jack Callaway and Elizabeth Nichols, 1997. Technical and comprehensive.

Basic Paleontology, Benton and Harper, 1997. Interesting read on how to be a paleontologist in your own time.

Dinosaur Data Book, David Lambert, 1991. Definitive illustrated encyclopedia.

Dinosaur!, David Norman, 1991. Very readable format.

Dinosaurs: The Textbook, Spencer Lucas, 1994. Very educational textbook on dinosaur paleontology.

Dynamics *of Dinosaurs and Other Extinct* ***Giants,*** R. Alexander, 1989.

Encyclopedia of Dinosaurs, Phil Currie and Kevin Padian, 1997. Very comprehensive.

Extinction: Bad Genes or Bad Luck?, David Raup, 1991. Very informative read on extinction studies.

Fossils, Cyril Walker and David Ward, 1992. Comprehensive recognition guide to over 500 fossils.

Historical Geology, second edition, Reed Wicander and James Monroe, 1993. Very extensive, interesting textbook on evolution of the earth and life through time.

History of Life, Second edition, Richard Cowen, 1995. Very educational read of the life of the past.

Invertebrate Paleontology, third edition, E.N.K. Clarkson, 1993. Very extensive textbook on fossil invertebrates.

Life of the Past, fourth edition, W. Ausich and N. Lane, 1999. One of the books in the Prentice Hall Earth Science Series. Extremely interesting textbook.

Life Pulse; Episodes from the Story of the Fossil Record, Niles Eldredge, 1987. Interesting read.

Life, Richard Fortey, 1997. Interesting *read* about evolution.

Mass Extinctions and their Aftermath, A. Hallam and P. Wignall, 1997. Technical, but quite readable.

Night Comes to the Cretaceous, James Powell, 1998. Very readable.

Paleobotany and the Evolution of Plants, second edition, W. Stewart and Gar Rothwell, 1993. Very extensive textbook on paleobotany.

Prehistoric Life, David Norman, 1994. Interesting general reading.

Principles of Paleontology, second edition, David Raup and Steven Stanley, 1978. Very extensive but interesting textbook on fossil studies.

Raptor Red, Bob Bakker, 1995. Interesting novel about the life of a family of Utahraptors.

Rivers in Time, Peter Ward, 2000. Very interesting read on extinctions.

The Age of Reptiles, Edwin Colbert, 1967. Interesting and concise.

The Complete Dinosaur , James Farlow and M.K. Brett-Surman, 1997. Very comprehensive feast for dinosaur lovers.

The Dinosaur Heresies, Bob Bakker, 1986. Very informative and readable.

The Evolution and Extinction of the Dinosaurs, David Fastovsky and David Weishampel, 1996. Textbook, but very readable.

The Fossil Book: A Record of Prehistoric Life, Rich et.al., 1989. Very comprehensive survey of fossils.

The Great Palezoic Crisis, Doug Erwin, 1993. Part of the *Critical Moments in Pa/eobio/ogy and Earth History Series.* Very readable.

The Horned Dinosaurs, Peter Dobson, 1996. For those who love these Cretaceous "rhinos."

The New Penguin Dictionary of Geology, Philip Kearey, 1996. Very extensive, concise geologic dictionary: 7,600 entries

The Practical Paleontologist, Steve Parker, 1990. Very good introduction to fossils.

The Science of Jurassic Park and the Lost World, Rob Desalle and David Lindley, 1997. Interesting read about geetic engineering.

Trex and the Crater of Doom, W. Alvarez, 1997. Interesting account of the asteroid impact theory.

Vertebrate Paleontology, Michael Benton, 1990. Very extensive textbook on vertebrate history.

MORE ON THE NORTH AMERICA MUSEUM OF ANCIENT LIFE

by Richard E. Hill, Tucson, AZ

I was delighted to see the article, New Paleontology Museum by Bill Beiriger in the (February) Digest. My family and I visited this museum last summer and the only thing Mr. Beiriger did wrong was understate what a great museum this is. It is not only a 'must see' if you are passing through Utah, it is worth a day or two diversion! There was so much to see and so much information to absorb that we never even got to the theater.

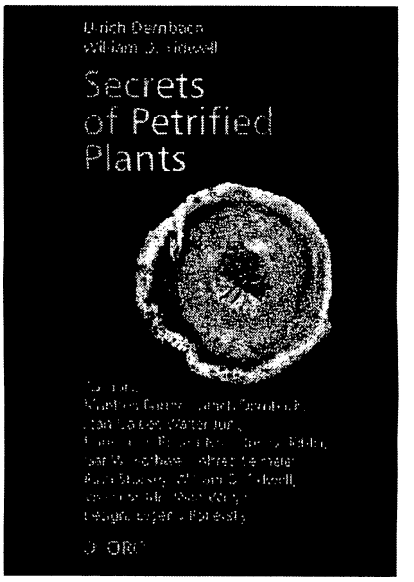
The display of Precambrian through Paleozoic fossils was one of the most complete I have ever seen. There were models of many of the creatures as well. Each era had a diorama. (I was raised on these at Cranbrook Institute of Science near Detroit and consequently have a great affinity for them.)

One of my favorite displays was the trilobite cabinet with a few dozen different genera represented. But a close second was the large Utah Cambrian diorama with cabinets of the fossils from the Cambrian layers in that state. Beyond this was a large wall display of other invertebrates and an even larger one of fossil fishes through the Paleozoic and Mesozoic.

To say there are "60 complete dinosaur skeletons" does not even begin to describe the scene. One of the "skeletons is a Supersaurus that the visitor walks UNDER. There are two T-rexes engaging each other and many other such dynamic scenes with other dinosaurs from throughout the Mesozoic. In one room there is a what, at first, appears to be a ffight of pterosaurs across the ceiling, dozens of them. Upon closer inspection it turns out to be a sequence of different species from one end to the other. There is, in the same room, a large rack of several dozen skulls, from the late Paleozoic to present, fish to reptiles to mammals to birds. The comparisons were very instructive and fascinating.

I urge anyone that is coming within a day's travel of Lehi to set aside one day to visit the North America Museum of Ancient Life. We make frequent trips to Montana to visit with family, so I plan on stopping there again soon.

SECRETS OF PETRIFIED PLANTS
FASCINATION FROM MILLIONS OF YEARS
Ulrich Dernbach & William D. Tidwell



This beautiful, well-illustrated book is the work of a number of authors associated with petrified plants that were brought together by Ulrich Dernbach from Universities and Museums of Europe and North America.

Articles in the book were selected to illustrate the developmental stages of land plants from some of the earliest of the Devonian, through the ferns and gymnosperms of the Carboniferous and Permian, through the Mesozoic, to the more recent broad-leaved and needle-bearing trees of the Tertiary. Many items new to science are included as well. The startling beauty of petrified plants and their scientific value are emphasized. Readers are invited to share the thrilling pursuit of knowledge about these fossil plants through this very exciting book.

Order Form

Quantity	ISBN	Title	Price	Subtotal
	3-932181-04-2	Secrets of Petrified Plants	$ 79.00	$

Send Books To:
Name:
Address:
City/State/Zip:
Telephone:

Send your orders, together with check or money order to: D'Oro Verlag, c/o Prof. Dave Douglas, 10985 N. Poinsettia Drive, Tucson AZ 85737. Phone Nr: 520-742-0294 E-mail: Douglassminerals@aol.com

PLEASE ADD THE FOLLOWING NEW OR REJOINING MEMBERS TO YOUR DIRECTORY:

Terrence Adams & Naomi Nakamoto
1517 9th St. South
Fargo ND 58103-
701-234-0512
atsdr@msn.com

Insect Physiologist (retired). Major Paleobotany. Wants to meet fellow collectors.

Tom Blume
PO Box 294
Tripoli IA 50676
319-882-3778

Teacher. Will trade. Interested in field trips.

David Foben
2972 Asherton Ave
Nashua IA 50658
641-435-2216

Self-employed Carpenter. Will trade. Interested in field trips.

Ted Mlotek, D.C.
2210 W. Virginia Ave
Peoria IL 61604
309-231-3580
Eclected@hotmail.com

Chiropractor. Nothing for trade yet. Wants to expand his knowledge, go on field trips and meet new people with similar interests

Gerry D. Pogue
265 Ripon St. SW
Cedar Rapids IA 52404
319-364-7037

Custodian. Will trade. Major interest trilobites. Interested in field trips.

Glen Rocca
1804 Clay St.
Cedar Falls IA 50613
319-266-2843
glenr@cfu.net

Computer Service Technician. Will trade.

PLEASE NOTE THE FOLLOWING CHANGES OF ADDRESS OR CORRECTIONS:

Doug & Connie DeRosear
#8 29th Place
Fort Madison IA 52627
319-372-5101
dougbugs@interl.net

Collecting since 1963. Soil Conservation. Will trade. Interested in all fossils, esp. trilobites, blastoids, starfish, and crinoids.

Stephen R. Dickerson
5902 Glenmore Dr. SE
Olympia WA 98501-

College Professor of Philosophy. Nothing to trade yet. Major interest trilobites, Mesozoic fossils, Tertiary crustaceans. Wants to learn more about fossils, make contacts, and broaden his collection.

John Fagan
74W. 124th St.
NY NY 10027-
212-369-5225
wk 212-369-4100; fax 212-348-4631
jfagancfc@hotmail.com

Collecting since 1970. High school administrator, former HS math & science teacher. Will trade. Interested in learning about all fossils, field trips.

Glen B. & Lori G. Kays
1144 Wickfield Ct
Naperville IL
60563-3300
630-469-2854; fx 773-714-9805
gkays@retec.com

Geologist. Main interest Tertiary Chelonian paleontology. Paleontology student ('02) interested in continuing in the profession as an informal area of interest outside current profession.

Robert Rondinelli M.D.
13121 Beechwood Drive
Urbandale IA 50323
515-270-6563
rondinrd@ihs.org

Physician. Major interest ammonites and trilobites. Member of KS/MO Paleo Soc.

ADVERTISING SECTION

Ads are $5.00 per inch. Send information and checks payable to MAPS to : Mrs. Gerry Norris, 2623 34th Avenue Ct., Rock Island, IL 61201. Phone: (309) 786-6505 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 (March). Ads can be printed in different sizes of type to fit a 1" space.

The **M**id-**A**merica **P**aleontology **S**ociety (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: $20.00 per household covers one year's issues of DIGESTS. For new members and those who renew more than 3 issues past their due date, the year begins with the first available issue. 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 over the 9 yearly issues.)

MAPS meetings are held on the 2nd Saturday of October, November, January, and February and at EXPO in March or 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.

The MAPS official publication, MAPS DIGEST, is published 9 months of the year—October through April, May/June, and July/August/September. View MAPS web page at http://midamericapaleo.tripod.com/