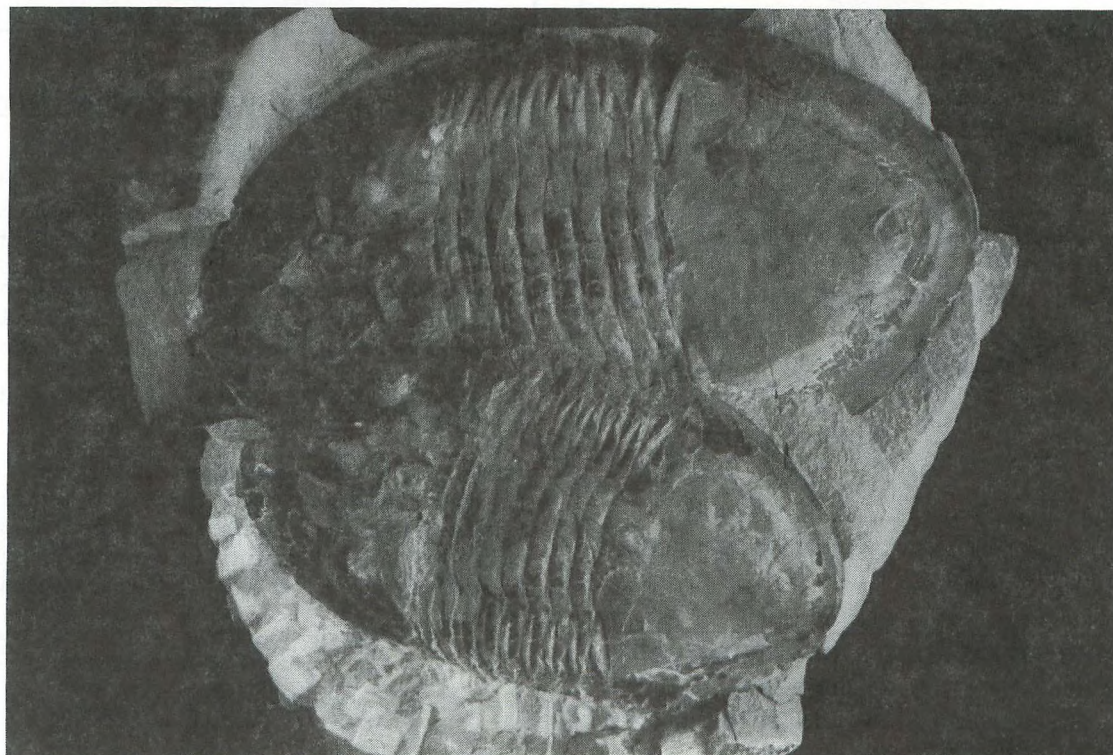
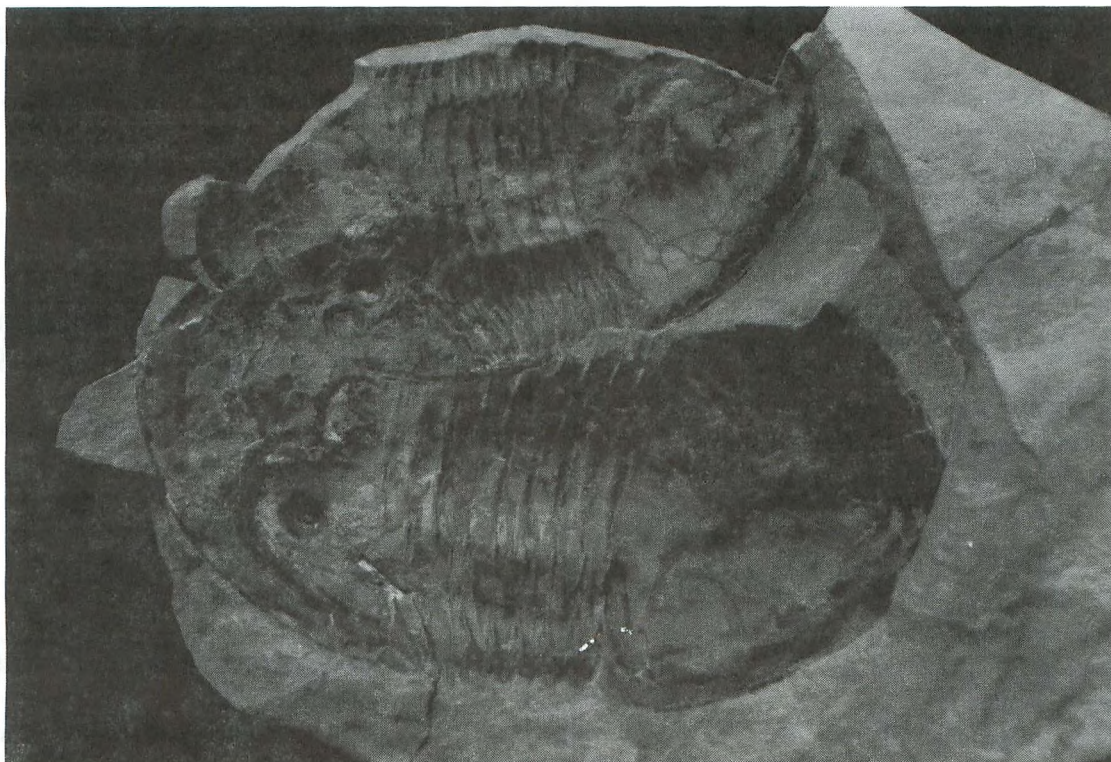


M.A.P.S. *Digest*

Official Publication of
Mid-America Paleontology Society

Volume 21, Number 6
July-September 1998



A LOVE OF FOSSILS BRINGS US TOGETHER

MARK YOUR CALENDARS

Sep 19-20 FALLS FOSSIL FESTIVAL

Hosted by the Falls of the Ohio State Park

Sat: 9:00 am - 7:00 pm. *Keynote Presentation: Tracking Dinosaurs, Dr. James Farlow, Indiana University - Purdue University at Fort Wayne.*

Sun: 9:00 am - 5:00 pm. *Keynote Presentation: History of Mollusks - Dr. John Pojeta, Smithsonian Institution.*

Hikes on the fossil beds, Workshops on IN & KY geology (pre-reg. req.), Mineral and fossil id., Fossil collecting piles, Field Trips (arranged), Exhibits.

Speakers on common fossils of IN & KY, Calcite of IN, Fossils of the Coal Age, Fossil Collecting Tips, Mineral Collecting Tips, Low-down on High-Temperature Dinosaurs, History of Crinoids.

Outdoor events free. Regular admission for Interpretive Center.

Contact: Alan Goldstein, falls3@aye.net or 812-280-9970 ext. 403.

Or Mary Bedan, Clarksville Riverfront Foundation, P.O. Box 741, Jeffersonville, IN 47131-0741, (812) 283-4999

Web Site: <http://www.cismall.com/fallsoftheohio/index.html>

Oct 3-4 "BVFS FLORIDA FOSSIL FAIR

Sponsored by the Bone Valley Fossil Society, Inc.

Lake Mirror Center, 800 E. Main St., Lakeland, FL

Sat: 9 a.m. - 5 p.m.

Sun: 9 a.m. - 4 p.m.

Contact: Ed Metrin

162 Broadmoor Avenue

Lake Mary, FL 32746-3914

407-321-7462

Miocene@earthlink.net

October 10 MAPS MEETING

Trowbridge Hall, University of Iowa, 123 N. Capital St., Iowa City, IA. Main Lecture Room, #125.

1:00 Board & General Meeting Combined

2:00 Program

Oct 23-25 FOSSILMANIA XVI, SPONSORED BY AUSTIN AND DALLAS PALEO SOCIETIES

Somervell County Expo Center, Hwy 67 in Glen Rose, TX

Fri: 9 a.m. - 6 p.m.

Sat: 9 a.m. - 6 p.m. (Auction and Raffle Drawing at night)

Sun: 9 a.m. - 2 p.m.

Contact: William W. Morgan

113 Shavano Drive

San Antonio, TX 78231

210-492-9163 after 7:00 p.m.; 567-3816 (wk); 567-3803 (fx)

<Morgan@UTHSCSA.edu>

Oct 24 FOSSIL DIG, LIZZADRO MUS. OF LAPIDARY ART

220 Cottage Hill, Wilder Park, Elmhurst, IL 60126

Led by Don Auler of the Earth Science Club of Northern IL (and MAPS). Take home your own fossil. Reservations recommended. Small admission charge. Ph. 630-833-1616

Oct 23-25 FOSSILMANIA XVI, SPONSORED BY AUSTIN

Nov 10 MAPS MEETING

Cornell College Norton Geol. Building, Mount Vernon, IA.

1:00 Board & General Meeting Combined

2:00 Program by Cornell Professor Ben Greenstein

Nov 7-8 FLORIDA FOSSIL HUNTERS 7TH ANNUAL FLORIDA FOSSIL, MINERAL AND GEM FAIR.

National Guard Armory, 2809 S. Ferncreek Ave., Orlando

Sat: 9 a.m. - 6 p.m.

Sun: 9 a.m. - 5 p.m.

Contact: Terry R. Angell, 226 Palmyra Dr., Orlando, FL 32807

407-277-8978; <FOSSILFAIR@aol.com>

Nov 18-20 SECOND CONFERENCE ON PARTNERSHIP OPPORTUNITIES FOR FEDERALLY-ASSOCIATED COLLECTIONS

Contact: Sally Shelton, Director, Collections Care

San Diego Natural History Museum

P.O. Box 1390

San Diego, CA 92112

619-232-3821, x226; fx 619-232-0248

<sshelton@sdnhm.org>

Dec 4-6 ROUND ROCK, TX, 8TH ANNUAL "FOSSIL FEST"

Sponsored by the Central Texas Paleo Society

Old Settlers Park Exhibit Hall, Hwy 79, 3.3 miles east of IH35

For more information, call (512) 864-0334

98/09 DUES ARE DUE

Are your dues due? You can tell by checking your mailing label. It reflects dues received by the 1st of Sept. The top line gives the expiration date in the form of year followed by month—98/09 means 1998/Sept. 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 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 currency.) Library/Institution fee is \$25.

Make checks payable to MAPS and mail to:

Sharon Sonnleitner, Treas.

4800 Sunset Dr. SW

Cedar Rapids, IA 52404

PROCEEDINGS OF THE BOARD

July 12 MAPS Meeting

Last year MAPS donated \$2,000 to the Paleo Society's Scholarship Fund. Since the EXPO auction proceeds this year were close to \$3,000, last year's were over \$2,000, and we have a very healthy treasury, it was decided to donate \$3,000 to the Scholarship Fund this year.

The Board approved spending up to \$2,000 for software for the computer.

Gil Norris reported he had a call asking if the summer picnic could be held on a Saturday instead of a Sunday to allow those from farther away to attend. If there are others who would like to see this change, please let us know so we can decide if there is enough interest to warrant a change.

Since many of the people joining MAPS are interested in field trips, Sharon Sonnleitner suggested the possibility of having regional MAPS field trips. Members in different areas of the country/world would organize field trips and make them open to all MAPS members. Perhaps it could be a field trip that is organized for a member's local club and then also opened to MAPS members. Field trips would be listed in the Digest. Is there any interest in doing this? Please let one of the officers know.

ABOUT THE COVER

by George L.H. Stone, Carterville, IL

This month's cover photos were taken by George L.H. Stone. The prints are of *Isotelus iowensis*, both part and counterpart. These trilobites are from the Maquoketa Shale, Upper Ordovician age, near Bowling Green, Missouri. The largest trilobite is 5½" long. They were preserved by a distal tempestite and rapid burial (obration by a thick mud blanket). The particular horizon in which the trilobites are found is a calcareous mudstone or clayey micrite.

WANTED—ARTICLES & COVERS

It's the time of the year again when the request goes out for articles and cover photos or drawings. Please remember that anything you're interested in will probably also be of interest to other members.

Articles may be typewritten, neatly handwritten or sent on disc—IBM compatible, Windows (Word Perfect, Microsoft Word) or DOS text format. Articles can be mailed or e-mailed to the editor:

Sharon Sonnleitner
4800 Sunset Dr. SW
Cedar Rapids, IA 52404
<Sonnrb@aol.com>

KEN SMITH DIES WHILE DIVING

It was with shock and great sadness that we learned that MAPS member Ken Smith died from a lung embolism while scuba diving off Puerto Rico with a group of students on July 14. Ken, from Dallas, Texas, was a regular at EXPO and one of the auctioneers/helpers at the live auctions. He was a friendly, energetic, upbeat guy who was considered a friend by all of us who knew him, even though we saw him only once a year.

Ken was a high school teacher and an active fossil collector and preparator and was very active in the Dallas Paleo Society, which has established a Ken Smith memorial fund. Tax deductible contributions can be made to the Society in Ken's name throughout the year. Current plans are to make the fund into an endowment fund.

Our sincere condolences to his family.

FROM THE PALEO SOCIETY

Thank you for the contribution you recently sent to the Paleontological Society. I will place the \$3,000 from MAPS in the Student Scholarship Fund for awards to be made in Spring 1999. It is fantastic that the EXPO auction proceeds raised more money than expected allowing for MAPS to make such a generous contribution to the Scholarship Fund. Please inform the other officers and members of MAPS of the Paleontological Society's appreciation for MAPS continuing support of the very important program.

In Spring 1998 we awarded the \$2,000 of MAPS Student Scholarships (\$1,000 each) to Mark Webster of the University of California, Riverside, and Heather A. Moffat of the University of Rochester. Both were very deserving and appreciative for the support.

Sincerely,
Thomas W. Kammer, Treasurer

SEDIMENTARY NOTES

Tom Walsh, Coal Valley, IL, had surgery in June to remove part of his cancerous colon. He reluctantly took a home test at his wife's urging, but now recommends that everyone take the test.

Eric & Sandy Kendrew's, Fossil Store, Valrico FL, had a huge inventory reduction sale in August. Four large collections were also for sale: 149 Artifacts; Shark Tooth Collection; 98 Echinoids, 1,152 Molluscs. Contact Eric to see if they are still available. Proceeds from the sale went to the expenses of treating Sandy's cancerous live tumors. She has been undergoing extensive chemotherapy since August 1997. The Kendrews have been regulars at EXPO. We wish her the best.

A FEW NOTES ON COLUMBIAN AMBER

by Dr. Bruce L. Stinchcomb, Geology Department, St. Louis Community College at Florissant Valley

Fascination with different modes of preservation of organisms in the form of fossils contrasts with the contemplation of the organisms themselves and is one of the many delights of Paleontology. No method of fossil preservation of extinct (usually) lifeforms can equal the fidelity and perfection of insects in amber. The two best known and prolific sources of amber fossils are the classic Baltic sea region of northern Europe and the Dominican Republic. Recently, however, a number of additional sources of "amber" have surfaced at shows such as MAPS EXPO, Tuscon and elsewhere. Some of these new sources of "amber" are Madagascar, East Africa and Columbia, South America

A variety of trees exude large amounts of resin (a chemical term for a high molecular weight organic compound capable of polymerization). These trees include the pines, spruces, hymanurians and the araucarians, the latter two being tropical trees. The araucarians are a family of tropical trees which includes the curiously named monkey puzzle tree. Hymanurians and araucarians are the source of much of the fossil resin (amber and copal) found in tropical regions.

Tree resins when exuded are viscous, chemically complex liquids which can trap and embed a variety of organisms. The liquid resin, on loss of lower molecular weight compounds like terpenes (terpentine is a low molecular weight volatile terpene of pine trees) can become solid but is, contrasted to copal or amber, still relatively soft. What converts a solidified tree resin into a hard, permanent material which is hard enough to be used as a gem stone is time—lots of it!

Time and pressure acting over geologic time cause the molecules of the relatively soft resin to become what chemistry calls cross-linked. This cross linkage of resin molecules is part of the polymerization process. Cross linking and joining together of smaller molecules is present and familiar in the polymerization process which produces plastics and rubber. Fossil resins such as amber and hard copal are really a form of natural plastic, polymerized over a period of geologic time.

There are a variety of fossil and sub-fossil resins of which amber is the hardest and usually the most desirable. Some of the common fossil resins are copal, kauri gum, retinite and amber. Copal is a fossil or sub-fossil resin which usually occurs in the tropics or the subtrpoids. Some copals are found in association with

living trees still exuding resin; however, most deposits are associated with paleosoils (ancient soils divorced from any forests of the living resin-producing trees. The terms *fossil* and *sub-fossil* refer to a relationship with the most recent parts of geologic time, the Pleistocene and Recent Epochs of the Cenozoic Era. Geologic time is generally said to end with the Pleistocene Epoch (2.8 million years to 15-12,000 years ago). *Fossil* refers to an organic structure's being Pleistocene in age or older. *Sub-fossil* refers to an organic material (fossil=organic material revealing specific structural or taxonomic information) younger than the Pleistocene Epoch and hence Holocene or Recent in geologic age. The critical issue with Columbian copal (or amber?) Is whether it is fossil or sub-fossil in age. If the material is Pleistocene or older, insect inclusions in it are true fossils. If Columbian and other tropical copals are Holocene or Recent, their insect inclusions are not fossils; they would not have the necessary geologic age.

Insect inclusions in Columbian amber are truly sublime; the insects are large, distinct and the embedding resin is clear. These beautiful specimens are also often obtainable at relatively low prices. All Columbian fossil or sub-fossil resins I've encountered at shows have been referred to and labeled as copal rather than as amber. The age of it, when such is stated, is usually given as Pliocene, viz. between 2.5 and 6 million years old. Rumors circulate, however, and some literature such as Grimaldi, 1996 states that this material is not fossil but is modern or recent, mention being made that it is only a few hundred years old.

A very young age is indeed possible with some forms of copal. Resins which lose their volatile fraction of terpenes can become hard enough to polish if of the right composition, and this volatile loss can happen in a relatively short time under the right conditions. These very young sub-fossil resins, however, will still retain some amounts of volatiles so that when they are polished, further volatile loss takes place and the specimen will crack and craze and even flow slightly over a few years. Copal from East Africa, which used to be mined and extensively used in the compounding of varnish will do this in a matter of a year or more after being polished. These resins are also readily soluble in organic solvents such as ether or alcohol. Most Columbian copal, unlike much African copal, does not craze readily on being polished, although this

material has been stated to be young like the East African copal, which is only a few hundreds or thousands of years old (Grimaldi, 1996).

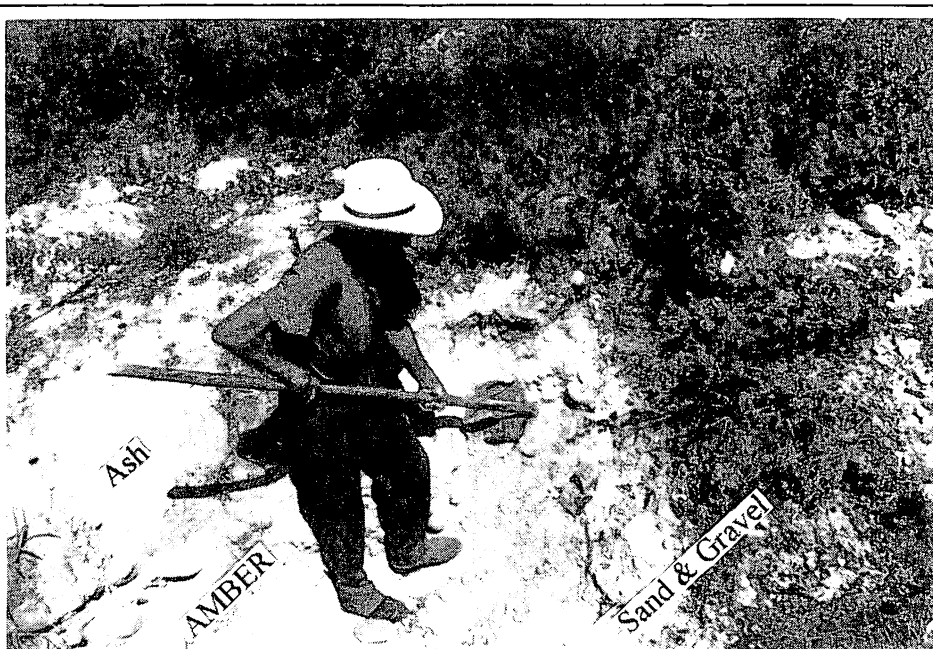
To get to the point of this article, there appears to be considerable ambiguity as to the age of Columbian copal and as to whether this material is really a true fossil resin or not. Two conflicting sets of facts exist! The following facts and observations support a young (sub-fossil) age for Columbian copal:

1. The contained insect fauna is similar or identical to that of the modern tropics.
2. Columbian copal will dissolve in solvents if left exposed to such for a long enough time.
3. Carbon-14 age dates done on Columbian copal indicate that it is only several hundred years old.
4. The material is mined and collected by locals from superficial deposits, viz. old soil and soil horizons occurring at or near the surface. The material is purported to often being collected in fields of Santander Province when plowing for "cash" agricultural crops which include cocaine.

All of the above arguments appear as strong ones supporting that Columbian copal is sub-fossil and therefore not of geologic antiquity.

Arguments for Columbian copal having some geologic antiquity, however, are perhaps equally compelling, some of which are as follows:

1. Reliable reports (Allen Graffham of Geological Enterprises, Ardmore, Oklahoma) on the copal occurrences in Santander Province, Columbia, says that "the copal occurs in strata which are overlain by marine marls and 'ash' of late Cenozoic (Pliocene) age." He also notes that the strata yielding the copal is tilted and not



A local digging amber in Boyaca Province, Columbia, S.A. Beds dip at 40 degrees. Below and to the right are two "log-like" chunks of amber, apparently broken from an elongate mass of the type which often contains numerous termites. Original color photo courtesy of Allen Graffham, Geological Enterprises, Ardmore, OK.

horizontal, as very young layers would be. Tilted strata implies that such strata was involved in tectonism. Tectonism's producing such tilting implies, like most things geological, that long time periods were involved. Time periods of sufficient length (usually a few millions of years) to uplift and tilt such strata. Allen Graffham visited some of the Santander localities some 25 years ago when they were more accessible. (From what I've been able to determine, the producing area(s) are currently not safe for entry by outsiders, since they are controlled by a Colombian drug cartel).

2. The hardness and compactness of the material affords its ability to take a high polish. Recent copal, if capable of taking a polish, loses it after a few years.
3. The previously mentioned lack of cracking or crazing of polished specimens which have been around for 5-10 years or more.

An explanation for some of the contradictions stated above might arise from the fact that Columbian copal appears to come from different parts of the country. These different occurrences, like the different occurrences of Dominican amber, could be of varying

ages. Almost none of the material has been collected in any systematic manner, and material from one part of Santander and other provinces may be recent, while other occurrences may be Pleistocene or older. This is similar to the situation in the Dominican Republic where amber of both Oligocene and Miocene age is mined as is sub-fossil copal on the eastern end of the country. From what information I have been able to piece together to be known about either the enclosed insect fauna or about the age of Columbian amber or copal.

It might be mentioned how a large mass of Columbian copal containing a layer of numerous termite inclusions was recently dropped and broken. From the broken layer containing the termites issued an organic, putrid smell which faded away after a few days. This would suggest a young age for this piece of copal since such protein containing organic material would seemingly decompose over long time spans. However, resin's ability to preserve organic material and associated molecules, including DNA or parts of DNA molecules (DNA has actually been isolated from insect inclusions in Baltic amber—ala Jurassic Park). Material capable of preserving DNA could conceivably have preserved some of the proteins present in the bodies of the termites?

Very young carbon-14 age dates on Columbian amber are difficult to explain if one is convinced of the exactness of the C-14 dating method. As is the possibility with other Columbian occurrences, this dated material might have come from one of the recent resin occurrences. It has been noted that the dating of amber by the Carbon-14 method has led to spurious results. These puzzling dates are difficult to explain, for young dates have been obtained on some fossil resins of unquestioned antiquity (Langenheim, 1990). The young dates might have something to do with the ability of a resin to preserve organic compounds, and if organic compounds such as proteins are preserved, they will contain nitrogen. Nitrogen, if subjected to high speed neutrons, will produce some carbon-14 from the nitrogen. This is the process which occurs in the upper atmosphere to produce Carbon-14, which is then taken into the biosphere through photosynthesis. High speed neutrons, besides coming from space (cosmic rays), can also come from radioactive material (uranium or potassium 40) present in sediments. Nitrogen present in the proteins of amber or copal inclusions, subjected to neutrons from either Potassium-40 or Uranium, present in the enclosing sediments, could produce some Carbon-14. The amounts of Carbon-14 in a sample are very small, but C-14 produced from nitrogen in an

insect inclusion would "read" as a young age for the sample. The amount of Carbon-14 present in a sample is an inverse exponential function of the age of the sample, and samples of any geologic antiquity will contain no C-14 at all (unless C-14 might be produced as shown above). It might be noted that young and spurious C-14 age dates on some petroleum, used as evidence for a 6,000-year-old Earth by "young Earth creationists"*, might also be explained by the same above mechanism.

Of a number of major works on amber and amber inclusions, the following ages are mentioned in reference to Columbian copal:

- Grimaldi, David A. 1996. Amber, window to the past. Harry N. Abrams—publisher in association with the American Museum of Natural History.

Grimaldi states (pg.19) "Many of these impressive pieces contain termite swarms and other insect inclusions and are sold to amateur collectors as 'Pliocene amber' (about two million years old), even though carbon-14 dating indicates it is only several hundreds years old, like the other *Hymenaea* copal deposits."

- Langenheim, Jean H. 1990. Plant resins; their fossilized form, amber, holds clues to their evolutionary history. American Scientist, Vol. 78, No.1, Jan.-Feb. 1990.

Langenheim (Table 1, Pg. 19) includes Columbian "amber" in the Tertiary "Precise age not known."

- Rice, Patty C. 1980. The Golden Gem of the ages, Van Nostrand Reinhold Co.

(Columbian copal is not discussed in this interesting work.)

Some sites on the "Net" dealing with amber:

- Garry@gplatt.demon.co.uk—An informative site dealing with a broad range of information on amber.
- www.amber-congress.com/—Information on an upcoming symposium on amber.
- lundberg@Kadets.d20.co.edu.

* See Henry. M. Morris, Those Fabulous Dinosaurs and the Men who Knew Them. Good News Publishers, Westchester, IL.

THE TAIPEI '98 NATURAL HISTORY SHOW

by David Cassel, Aptos, California

I arrived in Taiwan airport at 5:30 a.m. May 13th and stood groggily in one of the immigration lines, got my luggage and went through customs (they actually searched most of my backpack!). I passed into the airport lobby where the usual crowd was holding up the usual signs, most of them in Chinese. I found a money-changing window miraculously open, and traded \$100 US for 3,307 Taiwan dollars.

At one end of the terminal was the bus station, and I bought a ticket to the domestic airport in Taipei for 119 dollars. The girl behind the counter said, "Quickly, number one bus!" and pointed me out the front door of the terminal. I didn't see any numbers on the buses, so I got on the bus at the front of the queue. I sat behind the driver, and a young man with the bus company asked me where I was going. I said I was getting off at the Marimar Hotel.

We headed out of the airport, through rice paddies interspersed with patches of vegetables, straight-sided patches of scrubby forest, and gigantic decrepit buildings.

The freeway was crowded with cars, trucks, and more buses than I've ever seen before in my life. We changed lanes and crossed overpasses and bridges as we approached the smog-shrouded city of Taipei. The bus stopped and a disembarking passenger told me I should get off there, too.

He pointed to what I understood to be the Miramar Hotel, and I oriented myself to my little map and set out for the Amigo Hostel, a low-cost alternative to the Miramar. I was on the correct main street, but I couldn't find the correct side street. I walked around for a couple hours, asking the occasional person for help, to their great incomprehension. Finally a man took Amigo's phone number, got the correct address, and directed me to an inconspicuously marked doorway!

I climbed up three flights of stairs and met Captain Ni, the owner of the hostel. I paid for three nights in a top bunk in a grubby dorm room. I took a welcome bath and a nap.

I woke up hungry, and a young Australian man who told me he'd been traveling for 6 or 7 years sent me across the street and down a flight of stairs to the Alternative Library. I was led to a small room, weaving through a maze of bookcases packed with Japanese comic books to get there. Dinner was a few scraps of chicken in a lake of hot gravy, a mound of rice with a fried egg on top, and a small pile of what appeared to be 4" scraps of green slightly corrugated rubber bands.

After dinner I watched TV in the hostel—some Aussie movie, British auto racing, and Jay Leno. Then Captain Ni and I walked around the neighborhood hunting for a shop to make me some business cards. Afterward we sat on chairs on the flat roof of the hostel smoking Long Life cigarettes and drinking Wild Turkey.

The next morning, the 14th was the first day of the show, and the Miramar turned out to be about a mile from Amigo Hostel, and not the same building that had been pointed out to me the day before.

Taipei's main streets have the second floors of the buildings built out over the sidewalks, providing a spacious covered walkway, protection from the rain or hot sunlight. Motorscooters are parked close to the street, leaving space for walking in front of the shops. Between the scooters in front of the Audrey Hepburn Cafe was a little metal cart with trays of bean sprouts growing in a spot of sunlight.

Most of the main road the Miramar was on was devoted to funerals. I passed blocks of little shops full of coffins, urns, plastic flowers, Hell money, incense, intricately folded paper lotus blossoms with Chinese characters on the petals, etc.

The Miramar Hotel was very posh and air-conditioned, a welcome relief from the muggy heat. In a corner of the lobby were a cave bear skeleton, a giant quartz crystal, a large German amphibian skeleton and a few other bits, looking abandoned. I asked at reception if my friend had arrived yet. I wrote her name on a piece of paper. The staff gathered around and discussed the problem. They had never heard of her, had no reservation for her.

I asked where the show was located. "It is on the 5th floor, sir." In the elevator I noticed that not only was there no 13th floor, there was no 4th floor either. (In Chinese, "4" sounds like "death," so is unlucky). I signed my name (top-to-bottom) in the show register, paid an admission fee, and walked into the show.

The dealers were located in the hotel rooms to the right and left of the reception desk, mostly on the south side of the building. The first room I walked into I recognized a German dealer that I knew. Most of the dealers were Europeans, with a number of American and a few Asians.

There were lots of great fossils—Giant Siberian ammonites, Messel fish and bats and birds, Madagascar fish, amphibians from various places, ancient sharks and coelecanths, material from Java—petrified wood, crabs, echinoids (the latter, unfortunately, in poor condition), Lebanese shrimp and fish, and tables covered with mammoth teeth.

I returned to the Miramar later in the afternoon and got my friend's room number, and we went back to the show. One of the dealers was very happy, as he'd just sold several of his large Italian crabs. Other dealers were not so happy, as there were few customers. "You can't leave the room until you buy something," I was told. I stood talking in the hall with several dealers who were having trouble staying awake. One of them sprinted down the hall when a potential customer went into his room. "It's only the first year, we can't expect too much."

After one dealer told me the real price was really half of the posted price, I asked her why. "If the Taiwanese can't beat you down to 50%, they won't buy."

The next day I visited the National Palace Museum, said to be one of the world's four great museums, and looked at exquisite Chinese art treasures.

And the following day I flew to Hong Kong. In the Temple Street Night Market I saw a slab of stone with two Keichosaurus skeletons on it, for about \$200 US, in a sidewalk "antique" shop. They looked pretty good, but the light was poor. The longer I looked, the

more suspicious I got. The slab was the wrong kind of stone, and they appeared to have plaster smeared over them. "Very beautiful," I said. "You buy!" she said. "I'll come back tomorrow," I said.

Two shops down was a table with two more tone slabs with 2 skeletons each, clearly works of art, not nearly as persuasive as the first.

The Taipei '98 Natural History Show was Thursday - Sunday, May 14-17, 1998 at the Taipei Miramar Hotel, Taipei, Taiwan, R.O.C.

I don't know the dates of the '99 show, but the contact person is:

Dirk D. Ross

2-24-3-1006, Nukui

NERIMA-KU, TOKYO, 176-0021, JAPAN

Ph. & Fx.: 81-3-5241-5807

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 (April). Ads can be printed in different sizes of type to fit a 1" space.

FELLOW FOSSIL COLLECTORS

I'm looking to Buy, Sell and Trade Fossils
with other members of MAPS
Please write or call:

John D'Orazio, 95 Hill Street, Bloomfield, NJ 07003
973-743-1930. Thank you!

GEOLOGIC BOOKS AND PAPERS

Government, State and Museum publications
of US and World. Fossils, minerals, geologic & prospecting.
Thousands of items. Buy, Sell, Trade.
Ray Eklund, 10572 Harebell Run, Littleton, CO 80125
(303) 979-1889.

Please ADD the Following NEW OR REJOINING MEMBERS to Your Directory:

Ray Eklund
10572 Harebell Run
Littleton CO 80125
303-979-1889

Collected Badlands fossils since 65. A Wyoming University Geologist who now collects Geology and U.S. Government documents of Geology, Indian and maps. Enjoys "reading" about the early explorers.

Tom & Sue Ervin
21799 282nd Avenue
Le Claire IA 52753-9160
319-289-3139
fx: 319-289-3139
TBErvin@aol.com

High School Earth Science Teacher. Nothing to trade. Major interest mammoth remains.

Roger Lynch & M.E. Matthews
612 Home Park Blvd.
Waterloo IA 50701
319-234-5795

Retired & active Mail Carriers. Will trade. Major interest probably teeth or dinosaur bones and plant fossils. Not many duplicates for trade (98). Want to receive info on shows, sales, and possibilities to search on own.

Philip D. Oswalt
3030 Saddle Club Rd.
Greenwood IN 46143
317-535-6143

Jim Watson
3350 Hambletonian
Florissant MO 63033
314-838-5795
fx: 314-731-1085

Executive Recruiter. Will trade. Major interest marine invertebrates. Trade items constantly changing. Member of EMPS, St. Louis, MO. Wants to learn and to associate with people having like interests.

Please NOTE The Following CHANGES OF ADDRESS OR CORRECTIONS:

Scott & Rachael Arney
2221 Eugene Field Ave.
St. Joseph MO 64505
816-671-1506

No Trade at this time (98)

Rick Batt
268 Hinds St. #2
Tonawanda NY 14150

Jim Brace-Thompson
7319 Eisenhower Street
Ventura CA 93003

Jill Cohen
Justina Cotter
8201 East Snyder Road
Tuscon AZ 85750
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The Mid-America Paleontology Society (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.)

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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