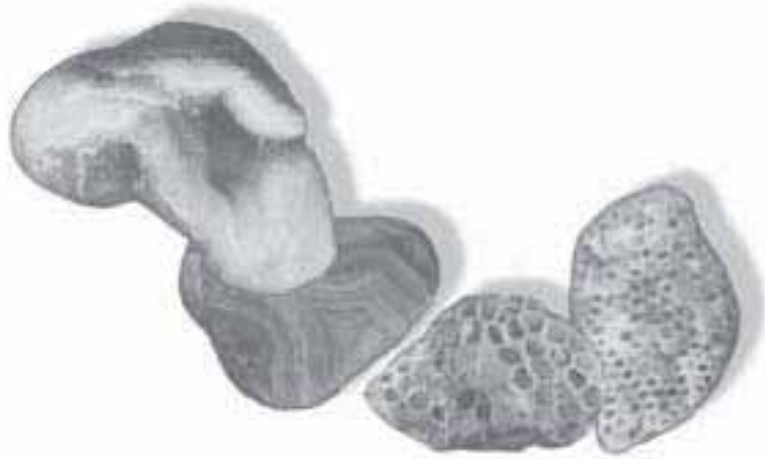


VOLUME 56 / NUMBER 7 / JULY 9, 2010

## Rocks and Fossils in Mississippi Gravels

### **Stones and Corals**

[Left to right] Geode, agate, tabulate coral, and tabulate coral found in Mississippi's gravels. Semi-precious stones found in Mississippi were precious in ancient times. Mississippi corals contributed to reefs in ancient times. Specimens above courtesy of the Mississippi Office of Geology, Mississippi Geology, June 1995.



Gravel is defined as an accumulation of rounded, water-worn, stones. Stones are rocks [composed of one or more minerals] larger than 2mm in size that have been transported by natural processes from their parent bedrock. As most “bedrock” in Mississippi is not rock but compacted clays and sands, the state’s gravel deposits were transported from the rocky terrains of other states. Stones from these terrains were carried to the state by ancient rivers. Some stones contain marine fossils, the imprints or hard remains of ancient sea creatures. These fossils are evidence of past oceans that covered North America some three hundred million years ago. In the northeastern part of the state, gravel is mined from the Cretaceous-age Tuscaloosa Group and from the Tombigbee River Alluvial Plain in which the Tuscaloosa gravels have been redeposited. It is also mined in high-level terrace deposits of the Tennessee River. In the southern part of the state, gravel is found in the Pliocene to Pleistocene-age Citronelle Formation. A belt of Pleistocene-age gravel underlies the loess belt of western Mississippi. These gravels contain an abundance of petrified wood.

*>> continued on page 6 >>*

### INSIDE THIS ISSUE

- 02 2009-2010 Officer and Directors; Message from the President; July Display Theme
- 03 Upcoming Field Trips; July DMC Field Trip to Diamond Hill Quartz Mine in Antreville, SC
- 04 MAGS Programs and Special Events
- 05 MAGS Members Volunteer at Ronald McDonald House Mexican Fiesta
- 06 Mississippi Gravels [continued from page 1]
- 07 Pictures from the June Rock Swap at the McNeil’s
- 08 May 2010 Board Meeting Minutes; May 2010 Membership Meeting Minutes
- 09 Pictures from the June Field Trip to Frankstown
- 10 Giant Predatory Whale Named for ‘Moby Dick’ Author

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## 2009-2010

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MAGS Rockhound News is published monthly by and for the members of the Memphis Archaeological and Geological Society. Please send your comments and articles to Mike Baldwin, 367 North Main Street, Collierville, TN 38017 or email mbaldwin05@gmail.com. ©2010.

## Message from the President

### A special appeal to all members

This summer two important MAGS events must occur: [01] At the August membership meeting the President must announce the appointment of a nominating committee to start the process of selecting MAGS' officers for 2011-2012. All elected offices are up for nomination and election. A very important point, the President is prohibited by MAGS by-laws from serving on the nominating committee. But you're not, so the first part of the special appeal is request members to serve. Three are needed. [02] At the October meeting the nominating committee must announce a slate of officers to the MAGS members. This slate, along with nominations from the floor, will be voted on by the members at the November meeting. New officers assume their positions and duties on January 1, 2011. I hope I will have the opportunity to vote for you on November 12.

A practice "ballot box" is presented below:

Just vote yes or no.

|                           |                          |  |
|---------------------------|--------------------------|--|
| <input type="radio"/> YES | <input type="radio"/> NO | MAGS needs officers to plan and carry your club events: regular scheduled meetings; adult programs; junior programs; field trips; DMC field trips; rock swaps; the show; the website; pay the bills; fund our programs; the newsletter |
|---------------------------|--------------------------|--|

*WC McDaniel, President*

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## July Display Theme

Nonconnah Rocks. MAGS Members can find (and have found) plenty of good specimens close to home. This will be a chance to show them to the rest of us. As always, the theme is just a suggestion.

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## Upcoming Field Trips

**Tuesday, July 13- Crow Creek near Forrest City, Ark.** This will not be a MAGS field trip. However, WC is going over to collect iron concretions and you are welcome to collect along. He will send information to any MAGS member that requests it.

**Saturday, July 31- Turkey Creek in Mississippi** to collect Marcasite (similar to pyrite ) and with any luck fossils such as masseur. This location is contingent upon little or no rain

**August [date TBA]**, if at least 10 people express an interest I will organize a day trip, car pool only, **to Jackson, Ms** to visit the Mississippi Petrified Forest and an exhibit at the Mississippi Museum of Natural Science ‘Megalodon; Largest Shark That Ever Lived’

<http://www.ms petrified forest.com/visitorinfo/>

[http://museum.mdwfp.com/everyone/special\\_exhibits.html](http://museum.mdwfp.com/everyone/special_exhibits.html)

<http://en.wikipedia.org/wiki/Mosasaur>

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## July DMC Field Trip

An Official Field Trip of the LOW COUNTRY GEM & MINERAL SOCIETY (Charleston, SC)(HOST)

An Official Field Trip of the Memphis Archaeological and Geological Society

**Diamond Hill Quartz Mine, near Antreville in Anderson County, SC**

**Saturday, July 17, 2010 – 7:00 AM to 4:00 PM EST**

**COLLECTING:** Quartz crystals in numerous forms such as amethyst, smokey quartz, clear crystals, milky quartz, skeletal quartz, and quartz coated with hematite or manganese. Also some microminerals such as cacoxenite are found there. In recent years new veins of amethyst and smokey quartz were uncovered by machines. You will be required to sign a waiver of liability & you must have a ticket before you can enter the mine site.

**FEE:** Adult fee is \$15.00, \$6.00 for children under 16 and for non-digging spouses and elderly. A filled out release of liability form will be necessary for each person attending. Some forms will be available, but you can avoid delays by going to [www.gaminal.org/commercial-diamondhill.htm](http://www.gaminal.org/commercial-diamondhill.htm) and printing off the form found under permission procedure for private individuals. Bring the completed form and fee with you.

**DIRECTIONS:** Take I-85 to exit 21 (US 178/ Anderson, SC). Go south on 178 for one mile and bear right onto SC 28. Stay on SR 28 all the way to Antreville. It is 21 miles from Exit 21 to Antreville. Drive past Crawford’s store on the left and turn right on SR 284 just before Emmanuel Baptist Church. Drive 2.3 miles and turn right on Suber road (S-01-508). Go 7/10 of a mile and turn right on Diamond Mine Road (gravel road). Go for 1/2 mile to the mine entrance on the right. The gaminal web site has a map.screen, drinks, and a picnic lunch. No power equipment is allowed.

For equipment and accommodations list, contact Mike Baldwin at [mbaldwin05@gmail.com](mailto:mbaldwin05@gmail.com).

For more information contact Lawrence Moss[field trip chair] 843-819-0726 or email [jorel611@yahoo.com](mailto:jorel611@yahoo.com)

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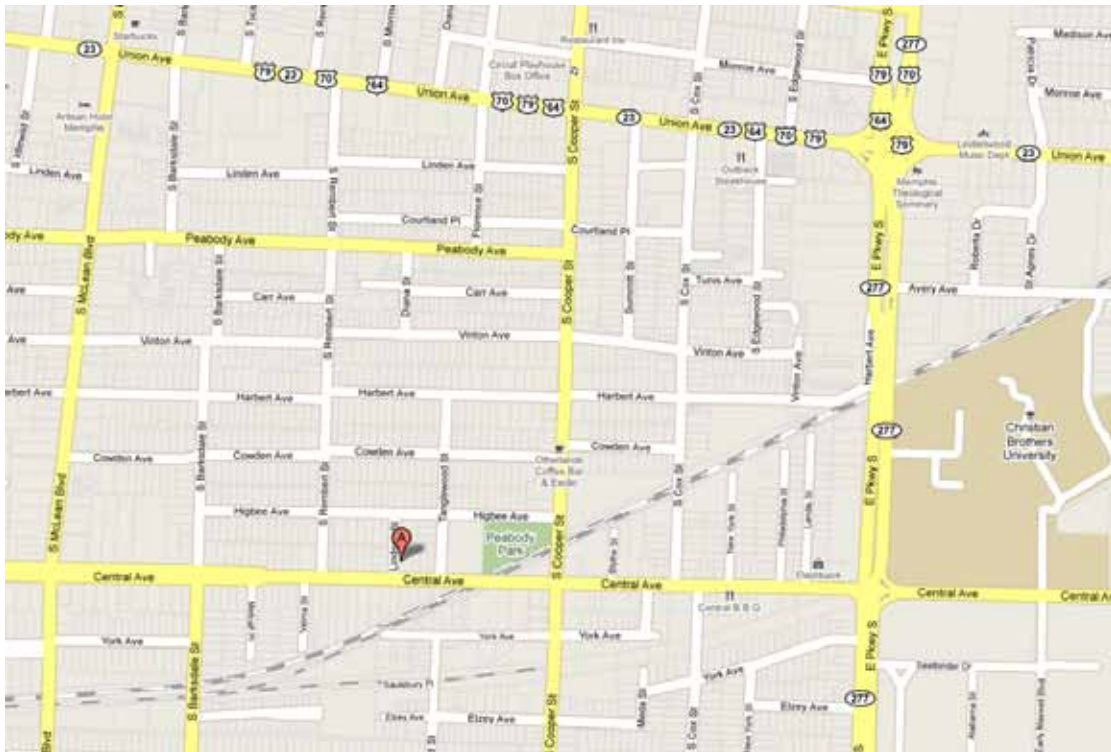
# MAGS Programs and Special Events

## Friday July 9 MAGS Membership meeting

- \* Adult program Dr George Swihart University of Memphis: “Phosphate Minerals of Nonconnah Creek” includes exhibit by MAGS member Marvin Nutt
- \* Junior program - TBA
- \* Bring displays - especially Nonconnah Creek

## Saturday July 10 MAGS Rock Swap

- \* At the McDaniel’s - 2038 Central Avenue, Midtown Memphis (see Google Map below)
- \* 9:30 am to 1:30 pm - includes free shade, fans and water
- \* Potluck on the food [bring your favorite dish to share], bring your drinks, cutlery provided
- \* Geode cracking available
- \* Geode bowling (world premier)
- \* Cleaning tips and demo for iron stains and miscellaneous debris
- \* Power washing (water) of material available (you tote and power wash your material)



courtesy of GoogleMaps.com

## Friday, August 13 MAGS Membership Meeting

- \* 7th annual Mid Summer Indoor and Rock Swap Look for details in August newsletter

## Special Events

- \* Saturday, September 25 - MAGS at the Ronald McDonald House Big Scoop Ice Cream Festival–Volunteers Required
- \* Friday, October 1 10am - 12 :00 “Memphis Rocks”  
MAGS and Memphis Botanical Gardens – Volunteers Required

# MAGS MEMBERS VOLUNTEER AT RONALD MCDONALD HOUSE MEXICAN FIESTA



CAROL AND MATTHEW LYBANON JOINED OTHER VOLUNTEERS TO HELP COOK FOR AROUND 150 PEOPLE ON JUNE 15 AT THE RONALD MCDONALD HOUSE OF MEMPHIS. CAROL WORKED WITH THE HEALTHY PART OF THE MEAL WHILE MATTHEW (TOO MODEST TO BE PICTURED) COOKED TACO MEAT. YOU CAN SEE SOME OF THE LONG SERVING LINE AND THE DINERS IN THE PICTURES. EVERYBODY HAD A GOOD TIME, EVEN THE HELPERS.



RONALD MCDONALD HOUSE CHARITIES®  
Of Memphis

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# Mississippi Gravels

[continued from page 1]

## AGE AND ORIGIN OF MISSISSIPPI GRAVELS

Geologic ages are periods of time, which are based on the presence or absence of certain fossils. The oldest fossils are from the Paleozoic Era, an era whose name means old [Paleo] life [zoic]. Fossils of this age include trilobites, segmented arthropods. The next eras, the Mesozoic Era--middle [Meso] life [zoic], was a time of dinosaurs. A dinosaur bone is clear evidence of a Mesozoic age. The greatest diversity of mammals lived in the Cenozoic Era--recent [Ceno] life [zoic], which continues to the present. Most mammal fossils indicate a Cenozoic age. Mississippi's gravels are stream-transported pebbles from eroded rocks of the Paleozoic Era. Most fossils found in these gravels are of Devonian or Mississippian age and are between 320 and 408 million years old. Rocks of that age can only be found in the northeastern corner of the state. The oldest gravel deposits in Mississippi are in the 86 to 90 million year old Tuscaloosa Group. Pliocene to Pleistocene gravel deposits of the Citronelle Formation are between 1 and 2 million years old, and the loess belt deposits are about a million years old or less. These gravels contain petrified wood that is the same age as that of the ancient river deposits. This wood is much younger than the Pleozoic pebbles with which they are found.

## WHAT'S IN THE GRAVEL?

Oolitic chert [whose carbonate particles formed at the bottom of a shallow tropical sea], quartz crystal lined geodes, gray and brown Mississippi agates, petrified wood which has been replaced by chalcedony, banded chert with alternating dark and light colors, and the red, translucent silicate Carnelian [prized as a gemstone in ancient times] are among the treasures to be found in Mississippi gravels. Quartzite, Milky quartz, laminated chert, fossil corals, brachiopods, bryozoans, crinoids, and [on very rare occasions] trilobites all lurk within the gravel.

Ref: David T. Dockery III; Rocks and Fossils Collected from Mississippi Gravel; Mississippi Geology; Mississippi Office of Geology; Jackson, MS, Volume 16, Number 2, June 1995. Information gathered for educational purposes under the provisions of the "Fair Use Act of 1976".

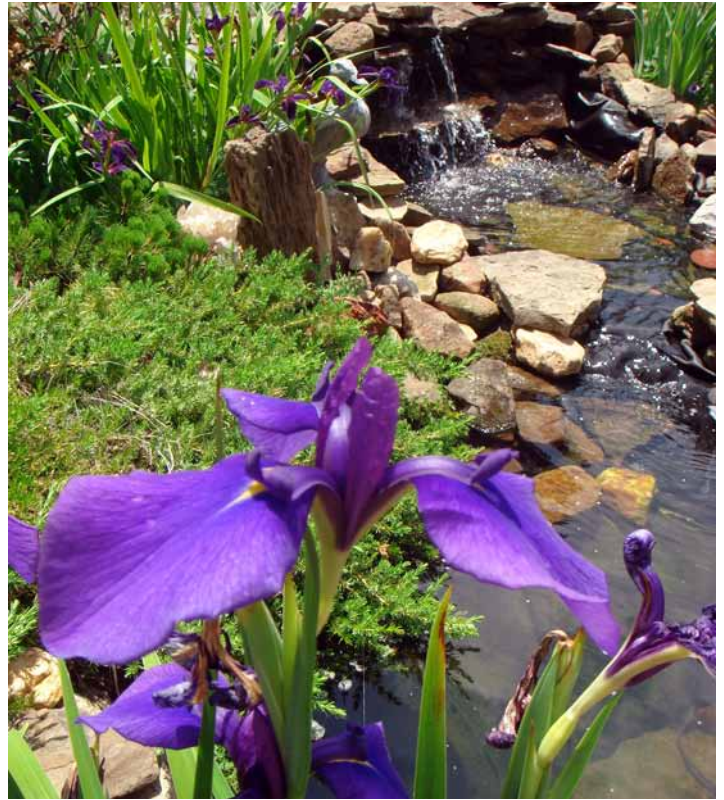
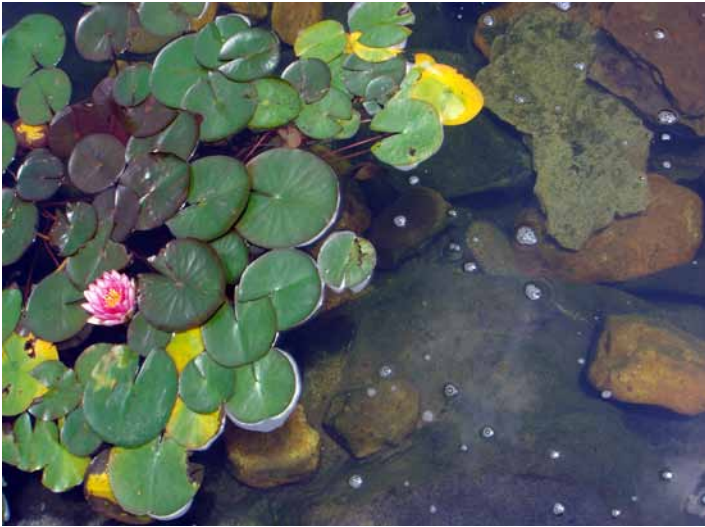


### Sources areas

for Paleozoic pebbles found in Mississippi's gravels. Source area A is the Nashville Dome. Source area B includes metamorphic rocks of the Appalachian Mountains and Piedmont. Arrows indicate the direction of stream transport, and black areas indicate gravels deposits. This figure is courtesy of the Mississippi Office of Geology, Mississippi Geology, June 1995.

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## Pictures from the June rock swap at the McNeil's



Photos by Mike Baldwin

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## May 2010 Board Meeting Minutes

Carol and Matthew Lybanon

The MAGS Board of Directors met May 6 at the Library in St. Francis Hospital, 5959 Park Avenue. The meeting was called to order at 6:45 P. M. Present were: Mike Baldwin, Ron Brister, Robert Duncan. Doris Jones, Carol Lybanon, Matthew Lybanon, W. C. McDaniel, Nannett McDougal-Dykes, Alan Schaeffer, and Paul Sides. Excused: Neville Mayfield, Kimberly Loveland, and Mike Wheeler.

**Secretary:** The minutes were approved with one minor spelling correction.

**Treasurer:** The report was approved subject to audit. Someone asked how much money we made at the Show. W. C. McDaniel said that the accounting has not been finished. He expects it will be completed soon and the information will be sent to Doris.

**Membership:** Neville Mayfield was not present. W. C. McDaniel will ask Neville to meet with him before the Membership Meeting, to get up-to-date membership information.

**Field Trips:** W. C. McDaniel reported on the Granite Mountain trip, which will take place on May 13. We will meet at 10:30 A. M. in Little Rock. Robert Duncan reported that the club will go to Blue Springs on May 22. The June trip will go to Frankstown. It will take place on Sunday, June 20, because of a scheduling conflict:

W. C. McDaniel can only host the rock swap on June 19. Robert would also like to schedule a Fall trip to Crater of Diamonds. W. C. talked to the property owner at Turkey Creek. As soon as a date is chosen we can finalize

**Adult Programs:** Paul Sides reported on upcoming adult programs: June, Bill Gilbert, "Pyrite From Navajun, Spain;" July, Dr. George Swihart, "Phosphate Minerals Of Nonconnah Creek;" August, indoor rock swap, buy, sell, and trade. Bill Gilbert would like to bring some specimens to sell at the June meeting, if the Board approves. The Board agreed, if he donates a few specimens or gives a percentage of his sales income to the club. W. C. McDaniel commended Paul on the quality of our programming.

**Junior Programs:** Alan Schaeffer reported that the May program will be on rocks and minerals, in June the Juniors will join in the adult program, July is open, and in August the Juniors will participate in the indoor rock swap

**Show:** W. C. McDaniel reported a preliminary admission figure of \$8,100-\$8,200. He also said we ordered more tables this year than ever before

**Library:** Ron Brister bought a couple of used bookcases, but found that they were not satisfactory. So he bought two new cases. He would like to sell the used cases at the Membership Meeting. Ron is going to work on building up the geology section of our library. He distributed a list of new acquisitions. He needs an up-to-date roster so he will know who is eligible to check out library materials.

**Newsletter:** Mike Baldwin reported that the May newsletter is almost ready to be published.

**Webmaster:** Mike Baldwin said that nothing is new, and everything is good.

**Historian/Rock Swap:** Nannett McDougal-Dykes listed the rock swaps for this year: May, the McNeils; June, the McDaniels; July is open (Nannett will call Charles Hill); August, indoor rock swap; September, Lou White; October or November, Parks fish fry.

W. C. McDaniel wants to start recruiting a nominating committee in June.

W. C. wants to develop some laptop projects, including new member orientation, filed trip rules, and field trip guides to places we have visited. Mike Baldwin suggested that we give new members a CD with new member orientation, constitution and bylaws, and field trip information.

W. C. said that the club needs money to purchase plastic storage boxes so that we can standardize the materials in the shed for easier transport.

The meeting was adjourned at 7:37 P. M.

## May 2010 Membership Meeting Minutes

Carol and Matthew Lybanon

The MAGS Membership Meeting was held at Shady Grove Presbyterian Church on May 14. The meeting was called to order at 7:37 P. M. 45 Members and 6 visitors were present. The visitors are Anna Sisk, Sam and Samuel Pike, Heather Pike, Marilyn Hicks, and Bill Cowell. Carol Lybanon welcomed visitors (Membership chair Neville Mayfield was absent). W. C. McDaniel gave a summary Show report. Attendance was down from last year, but the average income per ticket was up. W. C. reminded Members of this Saturday's rock swap at the McNeils. He also listed the next two field trips: May, Blue Springs; June, Frankstown. Matthew Lybanon thanked the Show sponsors. Anna Sisk told those present about an extensive rock collection that is for sale; more information is on a table in the back of the room. W. C. reminded members that it is time to pay for Show Member tickets: \$2 each until June 1, \$3 thereafter. Display presenters described their displays. The presenters were: Adult--Steven and April Gibbs, "Paint Rock;" Beth Day, "Various Stones Hand Polished, Druzy Quartz, Dolomite, Rhodochrosite, Amethyst;" Kim Hill, "Agate--Stones, Marbles, Spheres." Junior--Michael Montgomery-- "Miscellaneous Stones."

The winners were Kim Hill and Michael Montgomery. The Juniors went to their program, and Paul Sides listed upcoming adult programs: June, Bill Gilbert, "Pyrite From Navajun, Spain" (Bill has some specimens for sale); July, Dr. George Swihart, "Phosphate Minerals Of Nonconnah Creek;" August, indoor rock swap, buy, sell, and trade. Then Paul introduced tonight's speaker, Dr. Roy Van Arsdale, who gave an interesting presentation on "Mississippi River Valley And Its Earthquakes."

The meeting was adjourned at 9:00 P. M.



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# Pictures from the June field trip to Frankstown



Photos by Mike Baldwin

# Giant Predatory Whale Named for ‘Moby Dick’ Author

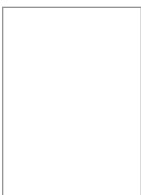
LONDON – Scientists have discovered an ancient whale whose bite ripped huge chunks of flesh out of other whales about 12 million years ago — and they’ve named it after the author of “Moby Dick.” The prehistoric sperm whale grew to between 13 and 18 meters (up to 60 feet) long, not unusual by today’s standards. But unlike modern sperm whales, *Leviathan melvillei*, named for Herman Melville, sported vicious, tusk-like teeth some 36 centimeters (14 inches) long. The ancient beast evidently dined on other whales, researchers said in Thursday’s issue of the journal *Nature*. They report finding a skull of the beast in a Peruvian desert.

The researchers named it in tribute to the 19th-century author and his classic tale of the great white whale, which includes frequent digressions on natural history that punctuate the action. “There is a chapter about fossils,” one of the paper’s authors, Olivier Lambert of the Natural History Museum in Paris, said. “Melville even mentions some of the fossils that I studied for my PhD thesis.” Anthony Friscia, a paleontologist at the University of California, Los Angeles, who wasn’t involved in the discovery, said scattered finds of huge fossilized teeth had long hinted at the ancient whale’s existence. But without a skull to fit them in, the creature’s shape, size and feeding habits remained a mystery.

“The fact that they have found the entire jaw — well, almost the entire skull — is what’s pretty unprecedented,” he said. The ancient beasts “were the killer whales of their time, although on a much grander scale,” Friscia said. “They were close to the biggest things around.” Friscia said he thought the choice of a name was fantastic.

“You gotta love any time you get a nod to literature in taxonomy,” he said. “It was a big whale, so why not?”

SOURCE: YahooNews



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