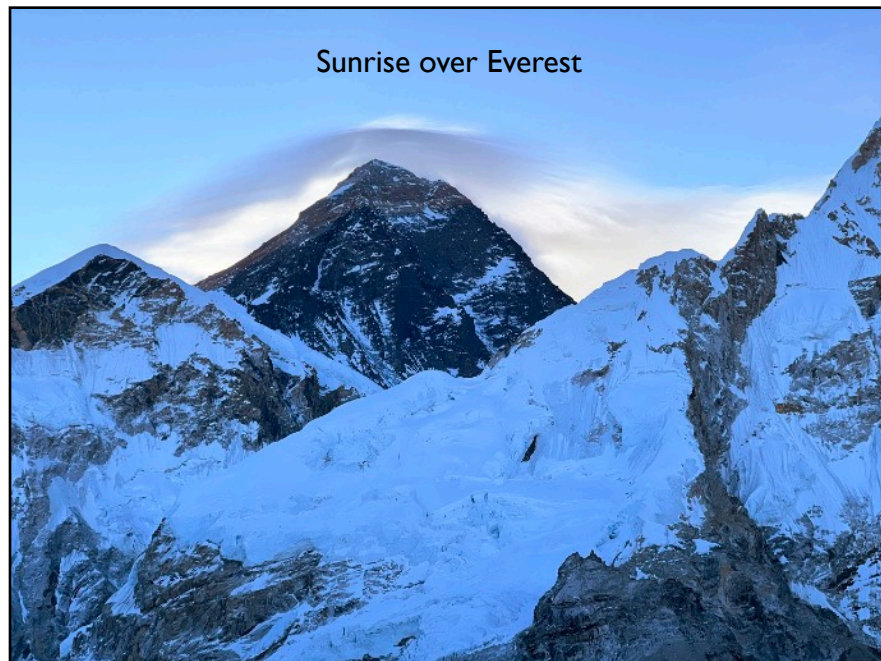


Mount Everest—The World's Tallest Mountain

March Program.

Keith Riding



Sunrise over Everest

Towering at 29,031 feet, Mount Everest is the highest mountain on Earth, drawing adventurers, climbers, and nature enthusiasts from across the globe. Situated in the Himalayas on the border between Nepal and Tibet (China), this legendary peak has

fascinated people for centuries.

While the Himalayas have been known for thousands of years, Western awareness of Mount Everest began in the 19th century. In 1856, British surveyors working on the Great Trigonomet-

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FIELD TRIPS

Hi, Everyone. It has been a while. I have agreed to take over as Field trip Director. I hope to start in March. This is a job that I am familiar with. I hope we can all have fun. Our first trip will be to Crow Creek in March. This is the new site. There we will find jaspers, agates, fossils, petrified wood, some bone, and more. Wear your rubber boots. Bring a collecting bag or bucket and whatever tool you think

CHARLES HILL, FIELD TRIP DIRECTOR
you might need.

The field trip for April will be to Sugar Creek. The field trip for May will be to the quarry in Jonesboro. This is an active mine, so hard hats will be required.

I will soon have directions and meeting places for all of these trips. I hope to see all of you at the March Membership Meeting.

MEMPHIS ARCHAEOLOGICAL AND GEOLOGICAL SOCIETY

MAGS Rockhound News ♦ A monthly newsletter for and by the members of MAGS

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MAGS AND FEDERATION NOTES

Memphis Archaeological and Geological Society,
Memphis, Tennessee

The objectives of this society shall be as set out in the Charter of Incorporation issued by the State of Tennessee on September 29, 1958, as follows: for the purpose of promoting an active interest in the geological finds and data by scientific methods; to offer possible assistance to any archaeologist or geologist in the general area covered by the work and purposes of this society; to discourage commercialization of archaeology and work to its elimination and to assist in the younger members of the society; to publicize and create further public interest in the archaeological and geological field in the general area of the Mid-South and conduct means of displaying, publishing and conducting public forums for scientific and educational purposes.

MAGS Membership Meetings are at 7:00 P. M. on the second Friday of each month May–October, and 10:00 Am on Saturday after the second Friday November–April. The meetings are held in the Fellowship Hall of Shady Grove Presbyterian Church, 5530 Shady Grove Road, Memphis, Tennessee.

MAGS Website: memphisgeology.com

MAGS Show Website: <https://earthwideopen.wixsite.com/rocks>



Please contribute articles or pictures on any subject of interest to rockhounds. The 20th of the month is the deadline for next month's issue. Send material to mlybanon@yahoo.com.

Go to <https://www.southeastfed.org/sfms-field-trips/dmc-field-trip-program> for the DMC field trip schedule and other information.

Links to Federation News

- ➔ AFMS: www.amfed.org/afms_news.htm
- ➔ SFMS: <https://www.southeastfed.org/>

MEMPHIS ARCHAEOLOGICAL AND GEOLOGICAL SOCIETY

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Mount Everest
Continued from P. 1

British Survey of India determined that a peak referred to as "Peak XV" was the highest in the world. In 1865, it was named "Mount Everest" in honor of Sir George Everest, a former Surveyor General of India, despite his objections. Locally, the mountain is known as "Sagarmatha" in Nepal and "Chomolungma" in Tibet.

The first serious attempts to climb Everest began in the 1920s, with early expeditions led by British mountaineers. However, it wasn't until May 29, 1953, that New Zealander Sir Edmund Hillary and Nepali Sherpa Tenzing Norgay successfully reached the summit. Since then, thousands of climbers have attempted the ascent, facing extreme conditions, avalanches, and the notorious "death zone," where oxygen levels

are dangerously low. Traditionally the death zone is considered anything above 8,000 meters (approximately 26,000 feet). Worldwide there are only 14 mountains that reach the 8,000 meter threshold.

Today, climbing Everest remains a significant challenge, requiring months of preparation, proper acclimatization, and physical endurance. However, for those who dream of experiencing Everest without attempting the climb, visiting the base camp in Nepal, which sits at an impressive 17,600' is an incredible adventure available to anyone who is reasonably physically fit.

The Everest Base Camp (EBC) trek begins with a short flight from Kathmandu to Lukla, Nepal. Over the course of the next 14 days trekkers experience stunning landscapes, remote villages, and ancient monasteries. They also

experience the hospitality and warmth of the Nepali people. Standing at the foot of the famous Khumbu Ice Fall, the base camp offers breathtaking views and a sense of achievement without the extreme risks of summiting. In some cases, you can even spend the night at the camp and experience what it is like for the climbers who spend more than a month here.

Our March program will be presented by MAGS Member Keith Riding about his 2024 trek to Everest. Keith started his mountaineering career in 2010 and has climbed many iconic peaks throughout the world. He first saw Everest from Tibet in 2016 when he went to the Himalayas to climb Cho Yoo, the world's 6th tallest mountain. Come and join us for an armchair journey to the roof of the world.



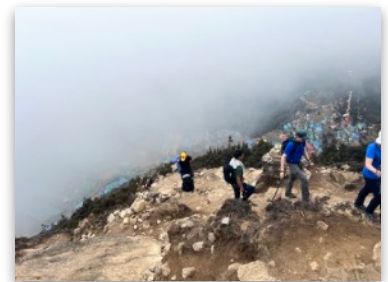
Traditional Stupa in Kathmandu.



Sign to Everest.



One of many bridges.



Steep Climb out of Namche.



Sunset in Himalaya.



Base Camp



Journey Home.

Fabulous Tennessee Fossils

Dr. Michael A. Gibson

University of Tennessee at Martin

FTF 120

Deformed *Maclurites*

In the last essay, I introduced you to the Ordovician gastropod *Maclurites magnus*, which had a circular outline shaped coiled shell, that was flat on the lower side, with a central depression in the coiled center of the shell. In this essay, I want to share another interesting thing that occurs to some *Maclurites magnus* from East Tennessee; they are often found deformed. Figure 1A is one of dozens of specimens of *Maclurites* collected by Phil Young (“Fossil Phil”, FTF 96) at the Kerbel Temple off Cha.P.M.an Highway in Knoxville that now resides in the collection at UT Martin. Notice that it has distinctly different outline shape when compared to typical *Maclurites magnus* provided in the figures in the last essay; these specimens are oblong in outline. Why would the snail have changed its outline shape? Is this a different species than *magnus*? Is there another explanation for the shape difference?

I used the East Tennessee *M. magnus* in my Principles of Paleontology class to illustrate a couple of points about the science of paleontology. Early in the semester, I would give a series of lectures on growth dynamics and methods in organisms, organized around the two primary types of growth—*ontogeny* (growth of an individual throughout its lifespan) and *astogeny* (growth of a colony). Within

Kingdom Animalia
Phylum Mollusca
Class Gastropoda
Order Archaeogastropoda or Euomphalina
Family <i>Macluritidae</i>
Genus <i>Maclurites</i> LeSueur, 1818
Species <i>magnus</i> LeSueur, 1818

ontogeny, we would discuss the sources of variation within a fossil organism that could be part of the formal description of a species. One type is *ontogenetic variation* (variation occurring within the lifespan of a single organism), is variation that is related to growth stages of organism and is genetically controlled. As an example for humans, this might be changes in your height as you grew older. Another source of variation is *population variation* (variation occurring between individuals within the same population, which is partly genetically determined, partly ecologically and environmentally determined, the later type of variation sometimes called ecophenotypic variation when the variation can be tied to specific environmental settings and causes. Using your height example above, population variation could be differences in your height as compared to your mother’s height, your sibling’s height, or your best friend’s height.

There is another source of variation that paleontologists must consider that the modern biologist

does not have to be concerned with when recognizing species. Variation can occur in fossil organisms as a result of post-burial processes of fossilization and deformation that are not related to the genetics or living environment of the organism, but can influence what a paleontologist sees and uses when describing the features of a fossil in the formal description and naming of the fossil. Some variation is thus partly *taphonomically* controlled (mode and style of preservation, subsequent changes in the fossil while buried, exhumation processes) in the case of fossils. Paleontologists must be vigilant to recognize fossil variation that is taphonomic, rather than genetic, when describing what they think might be new species, or even when recognizing an existing species. East Tennessee *Maclurites*, and some trilobites, are excellent exemplars of this paleontological principle.

The Middle Ordovician in East Tennessee is exposed in a series of northeast-southwest trending valleys and ridges that were formed during the Allegheny/Appalachian Orogeny in the late Paleozoic Era. Each valley is floored by one or more *thrust faults* (compressional reverse faults that have significant horizontal motion, resulting in stacking of strata) with packages of rocks having slid over top of one another

Continued, P. 5

Fabulous Tennessee Fossils during the
Continued from P. 4 compression

event much like imbricated books or magazines. Individual strata are tilted and folded. Deformation increases as one approaches the actual fault plane itself with strata being bent and broken. Any fossils preserved in those strata are subject to being deformed as well. If the deformation is extensive enough, fossils can be fractured or may be destroyed; however, deformation may also take the form of bending, squeezing, stretching, or shearing. Fossils preserved in shale are particularly susceptible to this taphonomic disgrace due to the ductile nature of shale under stress. Phil Young's *Maclurites* were collected in one of the thrust fault zones that involved the Lenoir Formation shales. Rather than being destroyed, the *Maclurites* were deformed by stretching along an axis (the red line passing through the *Maclurites*). The Lenoir Formation was subjected to several Paleozoic deformation events with the Appalachian Orogeny being the largest and most recent of those events. Most likely, this was when his *Maclurites* snails stretched to their oblong shape.

Because the outline shape (circular versus oblong) can be one of the primary characteristics used by paleontologists to recognize and name new taxa, it is imperative that the paleontologist recognize post-burial structurally deformed fossils from genetically determined shape change in a species. More than once in the paleontological literature has an unsuspecting paleontologist accidentally erected a new taxon using

structural deformed fossils. Incidentally, structural geologists (geologists who study the deformation of rocks) often use the re-orientation of elongate axes in structurally deformed fossils to reconstruct the "vectors" (directions of stress) involved in the deformation processes. When I took my paleontology classes under the late Jerre Johnson, and my structural geology from the late Bruce Goodwin, in the middle 1970s at the College of William and Mary, they both used photographs of trilobites (the same trilobite) as an example of fossils deformed by tectonic processes. For years I used the same trilobite images in my lectures, until Phil Young's fossil donation to UT Martin. From that time on, I used his deformed *Maclurites* specimens for my example of this phenomenon for my students. I had them measure the outline shape of a "population" of circular and elongate *Maclurites* and asked them to determine how many species were present, along with which feature was the most diagnostic of the species. Only after they posed their arguments and debated their conclusions would I provide them with the information about the structural deformation of the strata to see if they needed to modify their hypotheses. Like clockwork, each new class would separate the population into two species, one elongate and one circular, ascribing these to genetic causes with elaborate hypotheses regarding the "fitness" of the outline within the environment, only to revise their conclusions to a single species once they recognize the shape change due to structural stresses.

Thank you, Phil, for enhancing my paleontology lessons!



Figure 1. Steinkern preservation of two deformed *Maclurites magnus*, a gastropod from the Middle Ordovician Lenoir Formation, Knoxville, Tennessee, donated by amateur fossil collector Phil Young (UT Martin Collection). Compare with *Maclurites magnus* Figure 1 from *Fabulous Tennessee Fossils* # 96. Red lines mark the elongation axis of stretching due to thrust fault deformation of the original circular fossils (Scale in cm; photos by Michael A. Gibson).



MAGS Member Bill McManus sent this photo of some rocks picked up for tumbling on Nonconnah Creek during a cleanup with Memphis Works and Nonconnah Creek Conservancy, Monday, February 17, 2025.

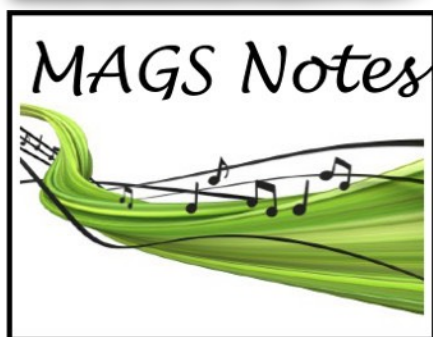
MEMPHIS ARCHAEOLOGICAL AND GEOLOGICAL SOCIETY

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2025 Meeting Dates

Membership Director Bob Cooper supplied this list of meeting dates. Thanks, Bob.

- March 8th—Saturday at 10:00 A.M.
- April 12th—Saturday at 10:00 A.M.
- May 9th—Friday at 7:00 P.M.
- June 13th—Friday at 7:00 P.M.
- July 11th—Friday at 7:00 P.M.
- August 8th—Friday at 7:00 P.M. (Annual indoor rock swap/potluck dinner)
- September 12th—Friday at 7:00 P.M.
- October 10th—Friday at 7:00 P.M.
- November 8th—Saturday at 10:00 A.M.
- December 12th—Friday at 7:00 P.M. (Annual holiday party)



Adult Programs

March 8: Keith Riding, "Mt. Everest"

April 12: Jane Coop, "Gemology 101" (rescheduled from January)

May 9: Alan/ & Debbie Schaeffer, "Israel trip"

Junior Programs

March-May: TBD.

Field Trips

March: Crow Creek

April: Sugar Creek

May: Jonesboro quarry

March Birthdays

- | | |
|----|---------------|
| 3 | Debi Stanford |
| 5 | Walter Davis |
| 11 | Nancy Folden |
| 14 | Danny Baker |
| 17 | Bob Cooper |
| 18 | Laura Brem |
| 24 | Lori Parish |
| 25 | Carole Martin |
| 30 | Jim Collins |
| | Hisami McNeil |
| 31 | Hunter Hill |

January Board Minutes

Josh Anderson

Zoom meeting called to order 6:35 P.M. Present: Christine Anderson, Joshua Anderson, Bonnie Cooper, Nannett McDougal-Dykes, Matthew Lybanon.

Secretary: Presented December 2024 Board meeting minutes. Minutes approved.

Treasurer: Report approved.

Membership: Christine A. (VP) will take over Membership temporarily. Christine is working with Bonnie Cooper to obtain all mailed renewals. Also, working on tallying renewals from Holiday Party. Will have numbers next month.

Adult Programs: April, July, and November 2025 open and need presenters. January, Jane Coop, Gemology 101. February, Dr. Jeremy Veldman, Memphis Astronomical Society, Eclipse 2024. March, Dr. Keith Rid-

ing, possibly Mt. Everest Adventures.

Field Trips: Position Open. Feb, Graceland, Pompeii exhibit. DMC report needs to be completed, and date chosen for MAGS next DMC trip. Suggested date was October 2027. Christine and Josh will address this task.

Youth Programs: No report.

Library: Book honoring Leigh Butchko has arrived, "The Fossil World." A book report will be submitted.

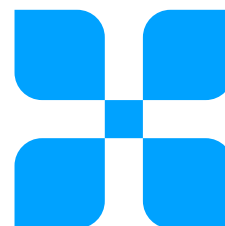
Editor: Requests three months of material and events. The last date to submit materials is the 20th of each month.

Show 2025: Date change request has been finalized with Agricenter. Amended show dates: 12/4-12/8 2025. Payment made to Agricenter for half of the remaining 2025 show cost. Josh Anderson added to MAGS Show checking account and appointed Acting Show Chairman. Upcoming payment for Cooper Storage aka "The Shed" is due in April. Cooper Storage should be reserved for the new dates of the show. Josh and Christine will get with W.C.

Old Business: Need to update Board Members on accounts for club. This list of accounts includes MAGS club checking account, MAGS CD accounts.

New Business: Nannett brought to the Board's attention a need to notify the church of suspicious activity in the parking lot during our evening meeting on 12/5/24.

Adjourned 7:10P.M.



MAGS At A Glance

February 2025

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
23	24	25	26	27 Zoom Board Meeting, 6:30 P.M.	28	1 MAGS Field Trip Coon Creek Date TBD
2	3	4 MARDI GRAS	5	6	7	8 Membership Meeting, 10:00 A.M., Keith Riding, "Mount Everest"/DMC Field Trip
9 	10	11	12	13	14	15
16	17 Happy St. Patrick's Day	18	19	20 SPRING	21	22
23	24	25	26	27	28	29
30	31	1	2	3	4	5