


A monthly publication of the Clear Lake Gem & Mineral Society

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NUMBER 11



NEXT MEETING: **Tuesday, Nov 21, 2023**

TIME: **7:00 p.m.**

LOCATION: **Helen Hall Library
100 W Walker St.
League City, Tx 77573**

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November Meeting	1	<p><u>November MONTHLY MEETING</u></p> <p>We will have a good program this month.</p> <p>Christina Rankin will do a presentation on her Arrowheads collection.</p> <p>Show and tell.</p> <p>http://www.clgms.org/</p>
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MINUTES OF THE October CLGMS GENERAL MEETING

The Backyard Field trip was a success, and a lot of rock specimens were found, and members left with armfuls. All were very happy.

Postcards were sent to the printer and the cost of \$665.24 they will be ready for mailing.

Our Holiday Meeting/Gathering will be held at the new Kelley's in League City on 518. It will include a five-option set menu the drinks and desert.

John Caldine will sit at our table at the Houston Gem and Mineral Show in Humble.

Next meeting's guest speaker will be Christina Rankin talking about her Arrowhead collection: A trip around the US. Also, she will speak about the gemstones of the month.

Big thank you to Lori Westerman for an awesome refreshments.

MINUTES OF THE November CLGMS BOARD MEETING.

-The club is trying to revise the membership requirements but needs to review the Bylaws and Insurance.

-The SCFMS meeting minutes – submitted by Annabel Brownfield

SCFMS Convention and Annual Meeting – October 14, 2023

The next SCFMS Convention will be held in Dallas the weekend before Thanksgiving. SCFMS sends all their officers to national. They encourage the clubs to send their officers to the SCFMS Annual Conventions. They are also looking for clubs to sponsor the convention in 2025, 2026, etc. There were 20 in attendance and there should have been 33. Using Zoom is now an option for convention attendance.

They are reaching out for district representatives and committee members for the coming year. The executive VP reported four clubs disbanded this year, apparently due to Covid. He encourages the district representatives to reach out to the clubs in their district.

Amendments to the harassment policy were approved. There was a discussion regarding an EMT at conventions, and it was reported this is the responsibility and choice by the clubs. Officers were elected.

-The Individual price of \$24.99 per person for Christmas party is approved and the club will pay except for alcoholic beverages.

Christmas party - 2023

Members and guests are welcomed - Family up to 4, couples or single +1.

December 12, 2023 at 6 PM – Please note – this is one week earlier and 1 hour earlier than our normal meeting time.

Kelley's Country Cookin
1502 W Main St, League City, TX 77573-2012

Your choice of Entree (5 to choose from) – Chicken fried steak, Chicken fried chicken, Grilled chicken w/ pineapple, Shrimps and Fish combo, and Grilled or fried fish.
Salad and 2 sides of your choice (Normally- mashed potato, green beans or butter corn)
Drink, Small Dessert, Tax, Gratuity

Our next show will be February 24-25, 2024.

Upcoming events - We are looking forward to the following programs.

Christina Rankin will give presentation on her Arrowheads collections.

Please check out our Facebook page: **Clear Lake Gem and Mineral Society.**

Field Trips Announcement

Last month (10/21/23), we had a good back yard field trip to Dick Rathjen house. All of us came home with bucket(s) of rocks.

Here is a short video on rock hunting:

“Amazing Rockhounding on Private Property in West Texas” <https://youtu.be/g7t8WGF7D7s>

Here is the information about Alpines Field trips (Agates etc.):

October has brought some cooler weather to the Big Bend of Texas, so it's time to come out and join rockhunts to have fun and find some beautiful agate, jasper, amethyst, quartz crystals, and other specimens.

I am leading rockhunting field trips on The Ritchie Ranch, the South Larremore Ranch and East Needle Peak, and Aaron Thomas is leading them on the 06 Ranch. There are enough different locations for you to go for five days in a row and not be at any one place for more than a day.

Below is the schedule of rockhunts, and some information about costs and meeting locations. For further information on the ranches I lead rockhunts on, and what you'll need to do to prepare, follow this link: <http://terismithrockhunts.com/for-rockhunters/> To sign up for one of my rockhunts, send me an email at agatehunter@sbcglobal.net. The only requirement for my hunts in addition to the fees stated below is that you need to join the Rollin'. Rock Club. This club costs \$10 per year for a single membership (\$16 dual membership), and provides insurance that protects the landowner from any damage we may accidentally cause.

For information about Aaron's hunts, search for him on Facebook, or email or text him at aaronthomasrockhunts@gmail.com, or (432) 538-2399.

I also still have lots of wonderful agate for sale. I'll give you more details on that in a separate email which should come out in the next few days.

Regards,
Teri

Key for table below:

06 Ranch	East Needle Peak	S. Larremore Ranch	Ritchie Ranch
Meets at 8 am at the Tri-La-Bite food truck in Alpine	Meets at 8 am in the parking lot of Little Caesar's Pizza in Alpine	Meets at 8 am in the parking lot of Little Caesar's Pizza in Alpine	Meets at 9 am in the parking lot of Little Caesar's Pizza in Alpine
Cost: \$60 entrance fee and \$1 - \$3 per lb.	Cost: \$50 per day. First bucket of rocks you collect is included in cost.	Cost: \$60 per day. First bucket of rocks you collect is included in cost.	Cost: \$20 entrance fee and \$1 per lb for cutting material and crystals.
Leader: Aaron Thomas (432) 538-2399	Leader: Teri Smith (432) 386-3431	Leader: Teri Smith (432) 386-3431	Leader: Teri Smith (432) 386-3431

Date	Location
Thu 10/19	South Larremore Ranch
Fri 10/20	Ritchie Ranch
Sat 10/21	06 Ranch
Sun 10/22	06 Ranch
Mon 10/23	East Needle Peak
Thu 10/26	Ritchie Ranch
Fri 10/27	East Needle Peak
Mon 10/30	South Larremore Ranch
Thu 11/2	East Needle Peak
Fri 11/3	South Larremore Ranch
Mon 11/6	Ritchie Ranch
Thu 11/9	South Larremore Ranch
Fri 11/10	Ritchie Ranch
Sat 11/11	06 Ranch
Sun 11/12	06 Ranch
Mon 11/13	East Needle Peak
Tue 11/14	TBD
Wed 11/15	South Larremore Ranch
Thu 11/16	Ritchie Ranch
Fri 11/17	East Needle Peak
Sat 11/18	06 Ranch
Sun 11/19	06 Ranch
Mon 11/20	South Larremore Ranch
Thu 11/23	East Needle Peak
Fri 11/24	South Larremore Ranch
Mon 11/27	Ritchie Ranch
Thu 11/30	South Larremore Ranch
Fri 12/1	Ritchie Ranch
Mon 12/4	East Needle Peak

If you have a good location for our club field trip – please contact:
annabel.brownfield@gmail.com or call/text: 281-486-1866.

Arrowheads and Other Points: Myths and Little Known Facts

Myth-Busting, Scientific Information about the Common Arrowhead

By K. Kris Hirst

Updated on November 24, 2019

Arrowheads are among the most easily recognized type of artifact found in the world. Untold generations of children poking around in parks or farm fields or creek beds have discovered these rocks that have clearly been shaped by humans into pointed working tools. Our fascination with them as children is probably why there are so many myths about them, and almost certainly why those children sometimes grow up and study them. Here are

some common misconceptions about arrowheads, and some things that archaeologists have learned about these ubiquitous objects.

Not All Pointy Objects Are Arrowheads

- **Myth Number 1: All triangular stone objects found on archaeological sites are arrowheads.**

Arrowheads, objects fixed to the end of a shaft and shot with a bow, are only a fairly small subset of what archaeologists call projectile points. A projectile point is a broad category of triangularly pointed tools made of stone, shell, metal, or glass and used throughout prehistory and the world over to hunt game and practice warfare. A projectile point has a pointed end and some kind of worked element called the haft, which enabled attaching the point to a wood or ivory shaft.

There are three broad categories of point-assisted hunting tools, including spear, dart or atlatl, and bow and arrow. Each hunting type requires a pointed tip that meets a specific physical shape, thickness, and weight; arrowheads are the very smallest of the point types.

In addition, microscopic research into edge damage (called 'use-wear analysis') has shown that some of the stone tools that look like projectile points may have been hafted cutting tools, rather than for propelling into animals.

In some cultures and time periods, special projectile points were clearly not created for a working use at all. These can be elaborately worked stone objects such as the so-called eccentrics or created for placement in a burial or other ritual context.

Size and Shape Matters

- **Myth Number 2: The smallest arrowheads were used for killing birds.**

The smallest arrowheads are sometimes called "bird points" by the collector community. Experimental archaeology has shown that these tiny objects—even the ones under half an inch in length—are sufficiently lethal to kill a deer or even larger animal. These are true arrowheads, in that they were attached to arrows and shot using a bow.

An arrow tipped with a stone bird point would easily pass right through a bird, which is more easily hunted with nets.

- **Myth Number 3: The hafted tools with the round ends are meant for stunning prey rather than killing it.**

Stone tools called blunt points or stunners are actually regular dart points that have been reworked so that the pointy end is a long horizontal plane. At least one edge of the plane might have been purposefully sharpened. These are excellent scraping tools, for working animal hides or wood, with a ready-made hafting element. The proper term for these kinds of tools is hafted scrapers.

Evidence for reworking and repurposing older stone tools was quite common in the past—there are many examples of lanceolate points (long projectile points hafted onto spears) that were reworked into dart points for use with atlatls.

Myths About Making an Arrowhead

- **Myth Number 4: Arrowheads are made by heating a rock and then dripping water on it.**

A stone projectile point is made by a sustained effort of chipping and flaking stone called flint knapping. Flintknappers work a raw piece of stone into its shape

by hitting it with another stone (called percussion flaking) and/or using a stone or deer antler and soft pressure (pressure flaking) to get the final product to just the right shape and size.

• **Myth Number 5: It takes a really long time to make an arrow point.**

While it is true that making some stone tools (e.g., Clovis points) requires time and considerable skill, flintknapping, in general, is not a time-intensive task, nor does it necessarily require a great amount of skill. Expedient flake tools can be made in a matter of seconds by anyone who is capable of swinging a rock. Even producing more complicated tools is not necessarily a time-intensive task (though they do require more skill).

If a flintknapper is skilled, she can make an arrowhead from start to finish in less than 15 minutes. In the late 19th century, anthropologist John Bourke timed an Apache making four stone points, and the average was only 6.5 minutes.

• **Myth Number 6: All arrows (darts or spears) had stone projectile points attached, to balance the shaft.**

Stone arrowheads are not always the best choice for hunters: alternatives include shell, animal bone, or antler or simply sharpening the business end of the shaft. A heavy point actually destabilizes an arrow during launch, and the shaft will fly out from the bow when fitted with a heavy head. When an arrow is launched from a bow, the nock (i.e., notch for the bowstring) is accelerated before the tip.

The greater velocity of the nock when combined with the inertia of a tip of higher density than the shaft and on its opposite end, tends to spin the distal end of the arrow forward. A heavy point increases stresses that occur in the shaft when rapidly accelerated from the opposite end, which can result in "porpoising" or fishtailing of the arrow shaft while in flight. In severe cases, the shaft can even shatter.

Myths: Weapons and Warfare

• **Myth Number 7: The reason we so many projectile points is that there was a lot of warfare between tribes in prehistory.**

Investigation of blood residues on stone projectile points reveals that the DNA on the majority of stone tools is from animals, not humans. These points were thus, most often, used as hunting tools. Although there was warfare in prehistory, it was far less frequent than hunting for food.

The reason there are so many projectile points to be found, even after centuries of determined collecting, is that the technology is a very old one: people have been making points to hunt animals for over 200,000 years.

• **Myth Number 8: Stone projectile points are far more effective a weapon than a sharpened spear.**

Experiments conducted by the Discovery Channel's "Myth Busters" team under the direction of archaeologists Nichole Waguespack and Todd Surovell reveal that stone tools only penetrate about 10% deeper into animal carcasses than sharpened sticks. Also using experimental archaeology techniques, archaeologists Matthew Sisk and John Shea found that the depth of point penetration into an animal might be related to the width of a projectile point, not the length or weight.

Favorite Little Known Facts

Archaeologists have been studying projectile making and use for at least the past century. Studies have expanded into experimental archaeology and replication experiments, which includes making stone tools and practicing their use. Other studies include microscopic inspection of the wear on stone tool edges, identifying the presence of animal and plant residues on those tools. Extensive studies on truly ancient sites and database analysis on point types have given archaeologists a great deal of information about the age of projectile points and how they changed over time and function.

• **Little Known Fact Number 1: Stone projectile point use is at least as old as the Middle Paleolithic Levallois period.**

Pointed stone and bone objects have been discovered on many Middle Paleolithic archaeological sites, such as Umm el Tiel in Syria, Oscurusciuto in Italy, and Blombos and Sibudu Caves in South Africa. These points were probably used as thrusting or throwing spears, by both Neanderthals and Early Modern Humans, as long ago as ~200,000 years. Sharpened wooden spears without stone tips were in use by ~400–300,000 years ago.

Bow and arrow hunting is at least 70,000 years old in South Africa but was not used by people outside of Africa until the Late Upper Paleolithic, about 15,000–20,000 years ago.

The atlatl, a device to assist in throwing darts, was invented by humans during the Upper Paleolithic period, at least 20,000 years ago.

• **Little Known Fact Number 2: By and large, you can tell how old a projectile point is or where it came from by its shape and size.**

Projectile points are identified to culture and time period on the basis of their form and flaking style. Shapes and thicknesses changed over time, probably at least partly for reasons related to function and technology, but also because of style preferences within a particular group. For whatever reason they changed, archaeologists can use these changes to map point styles to periods. Studies of the different sizes and shapes of points are called point typologies.

In general, the larger, finely made points are the oldest points and were likely spear points, fixed to the working ends of spears. The middle-sized, fairly thick points are called dart points; they were used with an atlatl. The smallest points were used at the ends of arrows shot with bows.

Previously Unknown Functions

• **Little Known Fact Number 3: Archaeologists can use a microscope and chemical analysis to identify scratches and minute traces of blood or other substances on the edges of projectile points.**

On points excavated from intact archaeological sites, forensic analysis can often identify trace elements of blood or protein on the edges of tools, allowing the archaeologist to make substantive interpretations on what a point was used for. Called blood residue or protein residue analysis, the test has become a fairly common one.

In an allied laboratory field, deposits of plant residues such as opal phytoliths and pollen grains have been found on the edges of stone tools, which help identify the plants that were harvested or worked with stone sickles.

Another avenue of research is called use-wear analysis, in which archaeologists use a microscope to search for small scratches and breaks in the edges of stone tools. Use-wear analysis is often used in conjunction with experimental archaeology, in which people attempt to reproduce ancient technologies.

• **Little Known Fact Number 4: Broken points are more interesting than whole ones.**

Lithic specialists who have studied broken stone tools can recognize how and why an arrowhead came to be broken, whether in the process of being made, during hunting, or as an intentional breakage. Points that broke during manufacture

often present information about the process of their construction. Intentional breaks can be representative of rituals or other activities.

One of the most exciting and useful finds is a broken point in the midst of the flaky stone debris (called debitage) that was created during the point's construction. Such a cluster of artifacts offers copious information about human behaviors.

• **Little Known Fact Number 5: Archaeologists sometimes use broken arrowheads and projectile points as interpretive tools.**

When an isolated point tip is found away from a campsite, archaeologists interpret this to mean that the tool broke during a hunting trip. When the base of a broken point is found, it's almost always at a campsite. The theory is, the tip is left behind at the hunting site (or embedded in the animal), while the hafting element is taken back to the base camp for possible reworking.

Some of the oddest looking projectile points were reworked from earlier points, such as when an old point was found and reworked by a later group.

New Facts: What Science Has Learned about Stone Tool Production

• **Little Known Fact Number 6: Some native cherts and flints improve their character by being exposed to heat.**

Experimental archaeologists have identified the effects of heat treatment on some stone to increase a raw material's gloss, alter the color, and, most importantly, increase the stone's knappability.

• Little Known Fact Number 7: Stone tools are fragile.

According to several archaeological experiments, stone projectile points break in use and frequently after only one to three uses, and few remain usable for very long.

Hirst, K. Kris. "Arrowheads and Other Points: Myths and Little Known Facts." ThoughtCo, Feb. 16, 2021, [thoughtco.com/arrowheads-and-other-points-facts-167277](https://www.thoughtco.com/arrowheads-and-other-points-facts-167277).



Backyard Field trip to Dick Rathjen (white shirt) house.

SCFMS and MEMBER CLUB GEM SHOWS

<p>Houston Gem, Mineral, Jewelry & Fossil Show November 10-12, 2023 Humblw Civic Center http://www.hgms.org</p>	<p>Dallas Gem & Mineral Show - 11/18-19 Sat 10:00-6:00 Sun 10:00-5:00 Mesquite Conv. Center 1700 Rodeo Drive, Mesquite, TX 75149 http://www.dallasgemadmineral.org</p>	<p>Deridder Rock & Gem Show - 12/09-10 Sat 9:00-5:00 Sun 10:00-4:00 Vernon Parish Fairgrounds 276 H M Stevens Blvd, Leesville, LA 71446 https://www.rockngemswla.com</p>	

STONEY STATEMENTS
 Clear Lake Gem and Mineral Society, Inc

 PO BOX 891533
 Houston, Texas 77289

Meeting 3rd Tuesday of the Month
7:00 P.M.
 League City Library
 100 W Walker St, League City, Tx 77573



Member of

Next Annual Show

February 24-25, 2024

Pasadena Convention Center

CLGMS is on the Web:

<http://www.clgms.org>

FACEBOOK: CLEAR LAKE GEM AND MINERAL SOCIETY.



American Federation of Mineral Societies

South Central Federation of Mineral Societies

Clear Lake Gem and Mineral Society, Inc

MEMBER: American Federation of Mineralogical Societies and South Central Federation of Mineral Societies

PURPOSE: To promote education and popular interest in the various earth sciences; in particular in those hobbies dealing with the art of lapidaries and the earth sciences of minerals, fossils and their associated fields.

2023 OFFICERS:	President	Cynthia McGowan	281-546-2662	
	Vice President	David Tjiok	832-423-4802	
	Secretary	Christina Rankin	281-723-5408	
	Treasurer	Morgan Davies	281-224-2444	
	Program Director	VACANT		
	Board of Directors:	Sandra Christiansen	Jim Hawkins	
		Jim Edwards	John Caldyne	
Donna Nelson				
	Newsletter Editor	David Tjiok		

Annual Show 2024	Sandra Christiansen	Membership.....	Mike Flannigan
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Historian.....	David Tjiok	Education/Field Trips.....	Annabel Brownfield
Publicity.....	Annabel Brownfield		Casey Renner
Facebook.....	Cynthia McGowan		

Membership Dues Jan. to Dec. 2023: Adult \$15:00, Family Dues \$20.00 (4+) at same address. Send Dues to CLGMS, PO BOX 891533, Houston, TX, 77289