

The ECLIPSE

May
2014

The Newsletter of the Barnard-Seyfert Astronomical Society

Next Membership Meeting:

May 21, 2014, 7:30 pm
Cumberland Valley
Girl Scout Council Building
4522 Granny White Pike

Program Topic:

The Astronomical League

(details on page 4)

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From the President:

No one sent me any images from the lunar eclipse! The weather continues to be, well, frustrating! Perhaps one of the next couple will accidentally occur on a clear night.

We are a small group of folks that share a common interest. And although we don't have a very formal structure, we do need some organization. I hope our new members have ideas for how we can make the BSAS more valuable to you in observing, learning, and sharing astronomy with others. Because we need you!

The BSAS runs with a Board of Directors of 11 people....we've got the usual officers (President, Vice President, Treasurer, Secretary), but we also have six "at large" members who help plan star parties, round up speakers, keep the membership list, and whatever else comes along, plus the immediate past president. I'd like to invite everyone to consider helping out on the board. Terms are for two years, and no, you don't have to be able to make every meeting (the board meets the first Wednesday of the month at the Girl Scout office). By the way, every member is welcome to come out for board meetings!

Normally we'd be out twisting arm a little later in the year, but we have an open position here in the middle of the year. With sadness but a lot of thanks for the years of contributing to the BSAS, we note the retirement from the board of Bill Griswold. Most recently he has been the membership chair, editing the *Eclipse* newsletter and sending out

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Observing Highlights May and June

Open Clusters

M35, NGC2264
(*Christmas Tree*),
M41, M50, M47, M46, M93,
M48, M44 (*Beehive*), M67,
Mel111 (*Coma Star Cluster*),
NGC4755 (*Jewel Box Cluster*)

Galaxies

M81, M82,
NGC3115 (*Spindle Galaxy*),
M95, M96, M105, M108,
M65/M66/NGC3628
(*Leo Triplet*),
M109, M98, M99, M106, M61,
M100, M84, M85, M86, M49,
M87, M88, M91, M89, M90,
M58, M104 (*Sombrero Galaxy*),
M59, M60, M94,
M64 (*Black-Eye Galaxy*),
M63 (*Sunflower Galaxy*), M51
(*Whirlpool Galaxy*), M83,
M101/M102

Nebulae

NGC2392 (*Eskimo*), NGC3242
(*Ghost of Jupiter*),
M97 (*Owl*)

Variable Stars

L Puppis, R Leonis

Globular Clusters

M68, M53, M3, M5

Multiple Star Systems

Alpha Geminorum (*Castor*),
Gamma Leonis (*Algieba*), M40,
Gamma Virginis (*Porrina*),
Alpha Canum Venaticorum
(*CorCaroli*),
Zeta Ursae Majoris (*Mizar*),
Epsilon Bootis
(*Izar or Pulcherrima*)
Mu Bootis (*Alkalurops*)

Planets

Mercury, Venus, Mars, Jupiter,
Saturn, Uranus, Neptune

Upcoming Star Parties

Sat 5/31	Private star party at Natchez Trace Parkway mile marker 412 (Water Valley Overlook)
Sat 6/21 8:30 - 10:30	Long Hunter State Park
Sat 6/28	Private star party at Natchez Trace Parkway mile marker 433.5



May 28
Jun 27



May 6
Jun 5



May 14
Jun 12



May 21
Jun 19

Happy Birthday Estherville Meteorite by Robin Byrne

This month we celebrate a historic event that made a big impact on the state of Iowa. It was a Sunday afternoon on May 10, 1879, when several people saw something fly through the sky. It began with an explosion overhead that rattled homes and broke windows. What seemed to be a ball of fire was spotted flying through the air, heading from the Southwest to the Northeast.

There were many eyewitnesses to the event. The first came from a civil engineer working near Jackson, Minnesota (about 15 miles from Estherville, Iowa). He saw the fireball emerge from a storm cloud, estimating it to be 40 miles up and traveling at 3 miles per second. Next, two people 6 miles west of Estherville saw the meteor explode into three pieces directly above them. Cattle in Superior, Iowa began stampeding after being showered with stones. More stones fell on Four Mile Lake, peppering the surface.

The largest piece fell two miles north of Estherville, on the farm run by Sever Lee. Lee wasn't interested in trying to raise the 437 pound stone from the 14 foot deep hole it had made, but others were very eager to try. Eight young men hired a well digger to bring it out and claimed the meteorite for themselves. They had hoped to make some money off of it. They loaded it on a wagon, and hit the road with a large sign reading: "I am the Heavenly Meteor. I arrived May 10th at 5 o'clock. My weight is 437 pounds. From whence I came nobody knows, but I am en route for Chicago!"

However, who legally owned the meteorite began to be questioned, so they returned home and buried it. Sever Lee had defaulted on his farm, so an attorney named Charles Birge had purchased the land. Since he now owned the property, Birge claimed ownership of the meteorite and took possession of it. He sold it

to the British Museum for a reportedly large sum of money.

The second piece fell on the farm owned by A. A. Pingrey. The 151 pound piece made a hole over four feet deep. Pingrey wasn't interested in it, so he gave it to his neighbor. He later realized the mistake he made. The neighbor, James Horner, hid the meteorite in a cave. There he met with a representative from the University of Minnesota. By the light of a lantern, the University became the owner of the second piece.

It was another 8 months before the third piece was found in a five foot hole. The 92 pound meteorite was purchased by Charles Birge, who made more money selling it off. Meanwhile, thousands of smaller pieces ranging from small pebbles up to ones weighing a pound were found all over the area.

With a total weight of 744 pounds, the Estherville meteor fall is the largest to occur in North America. Pieces of it are now on display worldwide in the Musee National d'Histoire Naturelle in Paris, the Naturhistorisches Museum of Vienna, the Field Museum in Chicago, the National Museum in Washington, the American Museum of Natural History in New York, and the Estherville Public Library.

The meteorite itself has been classified as a Mesosiderite-A3/4 and is the only meteorite with that specific classification. Mesosiderites are stony-iron meteorites composed of almost equal parts silicates and nickel-iron. The internal structure finds the nickel-iron and silicates appearing as lumps within a finer grain matrix. These are rare meteorites, with 167 known samples (as of 2011), seven of which were from observed falls.

Estherville Meteorite, continued

The town of Estherville has reason to be proud of its meteorite, and they have been making an effort to publicize it. In 1980, the Estherville Area Arts Council held a sculpture competition with the meteorite as the theme. The winning piece, created by Tom Gibbs, is a stylized ball with a tail, the ball breaking into three fragments. The sculpture has been on display near the town library since the competition.

In 2010, the town purchased a piece of the meteorite (rather than continuing to display a loaned piece from the University of Minnesota). The plan has been to build a museum to tell the story of the meteorite. As of 2012, a building had been set aside for the Meteorite Center, with plans for a mural depicting the fall, display of the newly purchased piece visible from outside, a garden area to house Tom Gibbs' sculpture, displays of documents related to the meteorite, and videos about other meteor falls. It was scheduled to open Spring 2013.

On any clear night you can see several meteors whizzing across the sky. However, most of those will burn up long before they reach the ground. Witnessing an actual meteorite fall is incredibly rare. The people of Estherville, Iowa are truly fortunate to have as their legacy a piece of space that landed in their own backyard.

References:

Estherville Area Chamber of Commerce -
Estherville Meteorite
estherville.org/estherville-meteorite.htm

Meteoritical Bulletin: Entry for Estherville
www.lpi.usra.edu/meteor/metbull.php?code=10059

Mesosiderite - Wikipedia
en.wikipedia.org/wiki/Mesosiderite

Estherville Iowa Meteorites
www.iowagold.com/esterville_iowa_meteorites.htm

Jensens Initiate Plan for Meteorite Center -
The Estherville News
www.esthervilledailynews.com/page/content.detail/id/516083/Jensens-initiate-plan-for-Meteorite-Center.html?nav=5003

Next BSAS meeting
May 21, 2014, 7:30 pm
Cumberland Valley
Girl Scout Council Building
4522 Granny White Pike

Who and What is the Astronomical League?

All members of the BSAS are also members of the Astronomical League....what does that mean? President Theo Wellington will answer that question as we look at what this organization does for amateur and outreach astronomy and how working on League "clubs" can help you increase your knowledge of the night sky. There are more awards than just for Messier objects!

From the President, continued from page 1

gentle reminders to all of us to renew our memberships. Webmaster Drew Gilmore has been editing the newsletter, but we really need a new board member and someone to keep up with our member list. Please consider joining me and the nicest group of astronomy buffs I know to keep BSAS running smoothly!

We also get more asks for programs than we can possibly do. Boy and Girl Scout groups, occasional private parties, schools and others. If you have an interest in some of these random asks, the groups really appreciate anything we do for them. Just showing off the Moon is often enough. So please send me a note if you Have Telescope and would like to Travel. Outreach is fun and rewarding.

Clear, dark skies,

Theo Wellington

Hubble's Messier 5

"Beautiful Nebula discovered between the Balance [Libra] & the Serpent [Serpens] ..." begins the description of the 5th entry in 18th century astronomer Charles Messier's famous catalog of nebulae and star clusters. Though it appeared to Messier to be fuzzy and round and without stars, Messier 5 (M5) is now known to be a globular star cluster, 100,000 stars or more, bound by gravity and packed into a region around 165 light-years in diameter. It lies some 25,000 light-years away.



Roaming the halo of our galaxy, globular star clusters are ancient members of the Milky Way. M5 is one of the oldest globulars, its stars estimated to be nearly 13 billion years old. The beautiful star cluster is a popular target for Earthbound telescopes. Of course, deployed in low Earth orbit on April 25, 1990, the Hubble Space Telescope has also captured its own stunning close-up view that spans about 20 light-years near the central region of M5. Even close to its dense core at the left, the cluster's aging red and blue giant stars and rejuvenated blue stragglers stand out in yellow and blue hues in the sharp color image. [Image Credit: NASA, Hubble Space Telescope, ESA](#)

Barnard-Seyfert Astronomical Society
Minutes of the Regular Meeting of the Board of Directors
Held on Wednesday, April 2, 2014

The regular meeting of the Board of Directors of the Barnard-Seyfert Astronomical Society was held April 2, 2014, at the Girl Scouts of Middle Tennessee, 4522 Granny White Pike, Nashville, TN 37204.

A sign-in sheet was passed around instead of calling the roll. Present were Vice President Joe Boyd, Director Steve Cobb, Director Bill Griswold, Secretary Bud Hamblen, Director Jeff Horne, Director Kris McCall, Treasurer Bob Norling, President Theo Wellington, and guest Vesta Griswold. A quorum being present, the meeting was called to order by President Wellington at 7:30 PM. Theo Wellington asked for a motion to approve the minutes of March 5, 2014, meeting of the board as printed in the April, 2014, edition of the Eclipse. Steve Cobb so moved, Jeff Horne seconded, and the minutes were approved by a unanimous voice vote. Bob Norling reported that the regular account had a balance of \$1,523.21 and the equipment account had a balance of \$1,528.94.

Theo Wellington reported the following star parties were scheduled:

- April 5, public star party at Cornelia Fort Airpark (8:00 - 10:00 pm). The sign committee was urged to put out as many star party signs as possible.
- April 5, Astronomy Day at Nathan Bedford Forrest State Park. Theo noted that she would be attending the Nathan Bedford Forrest event.
- April 25, public star party at Bowie Nature Park, Fairview (8:00 - 10:00 pm).
- April 26, private star party at Spot Observatory. A second try at a Messier Marathon.
- May 2, public star party at Bells Bend Outdoor Center (8:30 - 10:30 pm).

During discussion of the star parties it was noted that it would be nice to recognize with a mention in the Eclipse the members who participated in putting on the events.

Bob Norling reported that he had the only set of keys to the society's post office box.

Bill Griswold tendered his resignation from the board of the society, saying that owing to health problems he believed that he was no longer able to perform his duties to his own satisfaction. However, he stated that he would continue as a regular member of the society and support the society in every way possible. The board resolved to

Minutes of the Regular Meeting of the Board of Directors, continued

accept with great regret Bill Griswold's resignation from the board and to commend Bill on his long service to the society. Motion was made by Joe Boyd and seconded by Steve Cobb, and was carried by unanimous voice vote.

The question of on-line payments was discussed. Simplify.com was suggested as a service provider. Simplify.com will receive on-line payments for a fee of 2.85% plus 30 cents per transaction, for example 87 cents on a payment of 20 dollars. The board resolved to ask Jeff Horne and Drew Gilmore to make a demonstration on-line payment system with simplify.com to test whether the system would be satisfactory, and report back the results. Joe Boyd so moved, Steve Cobb seconded, and the motion was carried by unanimous voice vote.

Theo Wellington reported that the following membership meeting programs were in the works:

Allyn Smith, APSU, at the April meeting will discuss the Dark Energy Survey and its goals.

Fabienne Bastien has been invited to speak in July about her research in stellar photometry.

Lauren Palladino has been invited to speak on hypervelocity stars. Craig and Tammy Temple have been invited to speak on astro imaging.

We need input from members on program material. Please let us know if you can serve on a program committee, have something to talk about at a meeting, or have a suggestion for a speaker or topic.

An application form and supporting documentation for the society's lapsed Tennessee sales tax exemption were provided to Theo Wellington.

It was suggested that the updated loaner program form be placed on the society's web site. Theo Wellington reported that she has loaned out the recently donated Celestron C8.

Theo Wellington reported that further details on training state park staff should be forthcoming.

Joe Boyd reported that he would be meeting with Megan Barry this week about dark skies and outdoor lighting.

Minutes of the Regular Meeting of the Board of Directors, continued

Joe Boyd passed around a copy of material from UMC Faithlink on the television series Cosmos, entitled “Cosmos - A Space Time Odyssey and Christian Faith.

There being no further business, Steve Cobb moved for adjournment, Joe Boyd seconded, and the meeting was adjourned at 8:17 PM.

Respectfully submitted,

Bud Hamblen, Secretary



Earth Day at Centennial Park

Our “booth” at Earth Day in Centennial Park on April 19. Members Theo Wellington, Poppy Simmons, Bud Hamblen, Bob Norling, and Spencer Bucker represented BSAS to Earth Day visitors, showing off safe solar viewing and encouraging a few new memberships.

Send your great amateur astrophotos to:
eclipse@bsasnashville.com

Barnard-Seyfert Astronomical Society
Minutes of the Monthly Membership Meeting
Held On Wednesday, April 16, 2014

The Barnard-Seyfert Astronomical Society held its monthly membership meeting for January at the Girl Scouts of Middle Tennessee, 4522 Granny White Pike, Nashville, Tennessee, on Wednesday, April 16, 2014. The meeting was called to order at 7:39 PM. Theo Wellington asked for a motion to approve the minutes of the March 19, 2014, membership meeting as published in the March edition of the Eclipse. Joe Boyd so moved, Spencer Buckner seconded, and the minutes were approved by unanimous voice vote. Bob Norling reported that there were \$1,528.94 in the regular account and \$1,612.21 in the equipment account.

The Wellington announced the following star parties:

Saturday, April 19, Earth Day public solar observing at Centennial Park. Spencer Buckner and Theo Wellington planned to bring H-alpha solar telescopes and Bud Hamblen planned to bring a white-light solar telescope. Chuck Schlemm said he might be there.

Friday, April 25, public star party at Bowie Nature Park.

Friday, May 2, public star party at Bells Bend Outdoor Center.

Saturday, May 3, private star party at Natchez Trace Mile Marker 412 (Water Valley Overlook).

Theo Wellington requested member assistance with programs for membership meetings. If you have something to say or know of someone who does, please step up and let one of the officers or directors know.

Dr. J Allyn Smith spoke to the group about dark energy and dark matter, commissioning the new Dark Energy Camera on the Victor Blanco 4-meter telescope at Cerro Tololo, Chile, and the joys of observing high in the Andes mountains.

Joe Boyd reported on his meeting with Megan Barry, Nashville Electric Service (NES) and Nashville Public Works (NPW) concerning outdoor lighting in Nashville. NPW claimed that installing full cut-off outdoor lighting would require repositioning light poles. They are studying LED lighting to reduce maintenance and running costs. Maintaining dark skies apparently has the lowest priority.

There being no further business the meeting was adjourned at 9:04 PM.

Respectfully submitted,

Bud Hamblen, Secretary

Become a Member of BSAS!

Visit bsasnashville.com to download and print an application for membership.

All memberships have a vote in BSAS elections and other membership votes. Also included are subscriptions to the BSAS and Astronomical League newsletters.

Then fill it out and bring it to the next monthly meeting or mail it along with your first year's membership dues to:

BSAS
P.O. Box 150713
Nashville, TN 37215-0713

Annual dues:

\$20 Individual
\$30 Family
\$15 Senior (+65)
\$25 Senior Family (+65)
\$12 Student*

* To qualify as a student, you must be enrolled full time in an accredited institution or home schooled.

You can check the status of your membership at bsasnashville.com.

There will be a two month grace period before any member's name is removed from the current distribution list.

About BSAS

Organized in 1928, the Barnard-Seyfert Astronomical Society is an association of amateur and professional astronomers who have joined to share our knowledge and our love of the sky.

The BSAS meets on the third Wednesday of each month at the Cumberland Valley Girl Scout Building at the intersection of Granny White Pike and Harding Place in Nashville. Experienced members or guest speakers talk about some aspect of astronomy or observing. Subjects range from how the universe first formed to how to build your own telescope. The meetings are informal and time is allotted for fellowship. You do not have to be a member to attend the meetings.

Membership entitles you to subscriptions to *Astronomy and Sky & Telescope* at reduced rates; the club's newsletter, the *Eclipse*, is sent to members monthly. BSAS members also receive membership in the Astronomical League, receiving their quarterly newsletter, the *Reflector*, discounts on all astronomical books, and many other benefits.

In addition to the meetings, BSAS also sponsors many public events, such as star parties and Astronomy Day; we go into the schools on occasion to hold star parties for the children and their parents. Often the public star parties are centered on a special astronomical event, such as a lunar eclipse or a planetary opposition.

Most information about BSAS and our activities may be found at bsasnashville.com. If you need more information, write to us at info@bsasnashville.com or call Theo Wellington at (615) 300-3044.

Free Telescope Offer!

Did someone say free telescope? Yes, you did read that correctly. The BSAS Equipment & Facilities Committee has free telescopes ranging in size from 2.6" to 8" that current members can actually have to use for up to 60 days at a time. We also have some other items in the loaner program such as a photometer, H-alpha solar telescope, educational CDs, tapes, DVDs, and books. Some restrictions apply. A waiting list is applicable in some cases. The BSAS Equipment Committee will not be held responsible for lost sleep or other problems arising from use of this excellent astronomy gear. For information on what equipment is currently available, contact info@bsasnashville.com.