

SKYLIGHTS

Newsletter of the Astronomical Society of Northern New England



AUG. 2009



**Member of NASA's
Night Sky Network**



**Astronomical League
Member**

ASNNE MISSION

ASNNE is an incorporated, non-profit, scientific and educational organization with three primary goals:

1) *To have fun sharing our knowledge and interest with others.*

2) *To provide basic education in astronomy and related sciences to all who are interested.*

3) *To promote the science of Astronomy.*

What's Up In August

By Bernie Reim

We are in the middle of summer now and more people will get outside to enjoy the warm summer nights. The highlights for this month will include the most famous of all meteor showers, the Perseids, a chance to glimpse a rare phenomenon in the upper limits of our atmosphere called the noctilucent clouds, and the opposition of Jupiter.

The Perseid meteor shower is caused by Comet Swift-Tuttle, which swings by the earth about every 130 years. It was first discovered in July of 1862, when Lincoln was president. Shortly thereafter it was determined that the orbit of this comet closely followed the orbit of the dust particles that create the Perseids. So when you watch these meteors on Tuesday the 11th and Wednesday the 12th, you will be watching tiny, sand grain sized pieces of this comet burning up 50 to 70 miles high in our atmosphere. You could see up to 60 meteors per hour, but this year the moon will interfere when it rises around 10 pm.

It was originally predicted that Comet Swift-Tuttle might hit the earth on its next pass on August 14, 2126, but its orbit was then recalculated to miss us by 10 million miles. However, a future pass in 3044 may bring this comet within less than one million miles of earth, which is only 4 times the distance to the moon. The nucleus of this comet is about 5 miles in diameter, which is about the size of the comet that probably destroyed the dinosaurs 65 million years ago and left a 200-mile-wide crater in the Gulf of Mexico off the Yucatan Peninsula.

Noctilucent clouds are a very mysterious and interesting phenomenon that are more likely to be seen in summer from our latitude northward. Also called polar mesospheric clouds or night-shining clouds, these clouds appear 50 miles above the ground, much higher than any normal clouds which only happen in the troposphere up to about 8 miles

high. Noctilucent clouds take on a mysterious electric blue appearance, but they don't dance around like Northern lights. I saw these clouds once and mistook them for Northern lights until I researched it farther and discovered what they were.

These clouds are only seen shortly after sunset as the sky is growing darker. They shine because they are so high up that they are still catching the light from the sun, similar to the way we can see satellites orbiting the earth several hours after sunset. These clouds are made of tiny ice crystals, but the mesosphere is extremely cold and dry and shouldn't have any water vapor and dust particles. The original source of this dust was probably the volcanic eruption of Krakatoa in 1883, since these clouds were first noticed after that momentous event.

Jupiter will reach opposition on Friday, August 14. That means the King of the Planets will be at its best and brightest and closest for the year. Since it is now directly opposite the sun from the earth, similar to a full moon, it will rise at sunset, reach its highest point at midnight, and not set until sunrise. Jupiter will pass just three degrees south of the full moon

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on August 6. Notice that you can see all four of its largest moons, also called the Galilean moons in honor of their discoverer 400 years ago, in just a good pair of binoculars.

Saturn is now much lower in the western sky in Leo, setting about 90 minutes after sunset. Through a telescope you will notice that its rings are very thin, tilted only 2 degrees from horizontal. They will not be directly edge-on until next month, but Saturn will have dropped below the horizon by then, not to reappear until early October in the morning sky.

Our neighboring planets, Mars and Venus, continue their dance in the morning sky near the Pleiades and Hyades star clusters in Taurus. Notice that Venus, the brightest object in the sky after the sun and the moon, is about 100 times brighter than orange Mars, which is ever so slowly getting higher and brighter in our sky approaching its own opposition in February of next year. The Red planet's most famous opposition happened on August 27, 2003, when it made its closest approach to earth in 60,000 years. It was mistakenly reported that Mars became as large as the full moon in the sky at that time, but that was referring to its view through a telescope. Even at its largest and closest, Mars is still 60 times smaller than the full moon, which covers half a degree of the sky. Mars reaches opposition every 26 months. The last one was on Christmas Eve in 2007.

August 3. The moon is at apogee, or farthest from Earth today.

August 5. Full moon is at 8:55 p.m. EST. This is also called the Sturgeon, Green Corn, or Grain Moon. Neil Armstrong was born on this day in 1930. We just celebrated the 40th anniversary of the historic occasion of Armstrong and Aldrin being the first humans to ever set foot on the moon on July 20, 1969.

August 11. The Perseid meteor shower peaks tonight and tomorrow night, although some Perseids will be visible throughout August. On this day in 1877, Asaph Hall discovered Deimos, the smaller of the two moons of Mars at 8 miles in diameter. This moon was actually visible in a good telescope from our observatory in Kennebunk during the August 2003 opposition. Phobos, which Mr. Hall discovered

just 6 days later, is a little larger at 14 miles in diameter, but it orbits closer to Mars so it is harder to see. These moons are too small to even have a round shape and they are probably captured asteroids. If you were to walk around on one of them, you would only weigh about 2 ounces and you could easily throw a baseball into orbit around that moon!

August 13. Last quarter moon is at 2:55 p.m.

August 14. Jupiter reaches opposition.

August 15. Mars will be just 3 degrees south of the moon this morning. The asteroid called Juno will be stationary in our sky today. It is one of the 4 largest asteroids in our solar system along with Ceres, Vesta, and Pallas. You would need a small telescope to see them.

August 19. The moon is at perigee, or closest to Earth today. Orville Wright was born on this day in 1871. The Wright Brothers made their historic first ever heavier than air powered flight in December of 1903. We would make the ultimate flight, all the way to the moon, which is still the only place other than Earth that humans have ever gone, less than 66 years later.

August 20. New moon is at 6:02 am. On this day in 1975 Viking 1 was launched to Mars and on this day in 1977, Voyager 2 was launched to the outer solar system after close encounters with 3 of our planets.

August 22. Saturn will be 7 degrees north of the slender waxing crescent moon this evening.

August 27. First quarter moon is at 7:42 a.m. Antares in Scorpius, which is also one of the largest stars in our whole Milky Way galaxy of over 200 billion stars, will be less than one degree below the moon tonight.

Moon Phases

Aug 5
Full

Aug 13
Last Quarter

Aug 20
New

Aug 27
First Quarter

Moon Data

Aug 3
Moon at apogee

Aug 6
Jupiter 3° south
of Moon

Neptune 3° south
of Moon

Aug 9
Uranus 6° south
of Moon

Aug 15
Mars 3° south
of Moon

Aug 17
Venus 1.7° south
of Moon

Aug 19
Moon at perigee

Aug 22
Saturn 7° north
of Moon

Mercury 3° north
of Moon

Astronomical Society

Of

Northern New England**Business Meeting**

July 10, 2009

Present:

Richard Beaulieu (secretary), David Bianchi, Ron Burk (president), Joan Chamberlin, Bob Conley, Chase Hamblin, Bro. Albert Heinrich.

Treasurer's Report:

The treasurer was absent.

Secretary's Report:

The officers would like the secretary to email the completed minutes to them.

Observatory:

An 80 mm Celestron has been attached to the Mead.

A Mead representative hopes to have some equipment to show us at a meeting or during Starfest.

We have also been given an 8 in. telescope. This might be sold, auctioned or raffled.

Our book library is already on our Yahoo site.

The observatory will need a new coat of paint in the next year or so.

Meeting Programs:

Ron would like to have anew position created called the program coordinator who would plan the evenings for our meeting nights.

Tonight Bro. Albert.

August 7 Paul Howell on the history of astronomy.

Starfest Walter McDougal, a professor at UMO. He will be aided by another.

October 2 Jerry Lasala, professor at USM, on the sun and how we know what We know about it.

November 6 Joan Chamberlin and Joyce Brann who will give a report on how Even children can contribute to the study of a variable star that might go into its 27 year dimming in mid 2009.

December 4 Xmas potluck.

"Continued on page 4"

Minutes “Continued from page 3”

By the next meeting, we will have a better idea about the subject of the talk and other activities at Starfest.

Star Parties:

| | |
|-----------------|-------------|
| July 24 | club/public |
| August 21 | club/public |
| September 18-20 | Starfest |
| October 23 | club/public |
| November 20 | club/public |
| December 18 | club/public |

Auction:

We would like to have a silent auction to empty the closets of our belongings at the Masonic Lodge where we have our meetings.

Respectfully submitted,
Richard Beaulieu

Editor: Joan Chamberlin wrote the following on the club’s list serve:

Hi ASNNE Members,

Our club has won a moon globe from NASA Night Sky Network. Five events were drawn at random from all the events for the past 3 months and we were the first of five drawn.

Joan



**Principal
Meteor
Showers in
2009**

January 4
Quadrantids

April 22
Lyrids

May 6
Eta Aquarids

July 30
Delta Aquarids

August 12
Perseids

October 9
Draconid

October 21
Orionids

November 9
Taurids

November 18
Leonids

November 26
Andromedids

December 14
Geminids

December 22
Ursids

*Note: Dates are
for maximum*

Got any News? 
Skylights welcomes your Input.

Here are some suggestions:

*Book reviews -- Items for sale -- New equipment -- Ramblings --
Star parties -- Observing -- Photos.*

Club Items For Sale



Our club has merchandise for sale at:
www.cafepress.com/asnne

All money raised goes to our operating fund.

Any design can be put on any item.
Just let our Director, David Bianchi, know.

SHOP CATEGORIES

Postage · Apparel · Housewares
Hats & Bags · Stickers, Buttons & Magnets

Sky Object(s) of the Month - August 2009
“Chaple’s Arc”
By Glenn Chaple

Forgive me for the apparent ego trip, but this month I’m going to introduce you to an amazing little asterism called “Chaple’s Arc.” I stumbled upon the Arc in the mid-1970s while looking for the double star h1470. Instead of one double, I found four arranged in an arc 1/2° across. So smitten was I by its extraordinary appearance that I eventually wrote about it in the September 1980 issue of *Deep Sky Monthly*. New York amateur astronomer John Pazmino viewed the group and dubbed it “Chaple’s Arc.”

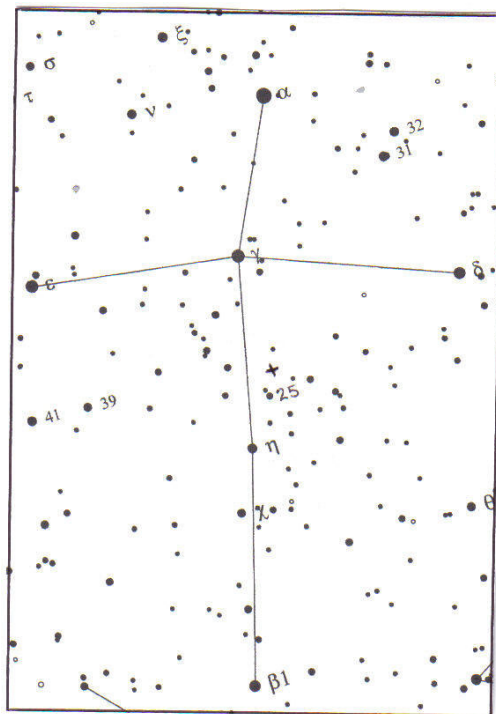
A quarter century later, I decided to introduce the Arc to a much larger audience by featuring it in my “Observing Basics” column in *Astronomy*. To my amazement, I saw the same group described in the British magazine *Sky at Night*. The writer called it the “Fairy Ring.” Uh-oh! Had I missed something?

After a little detective work and an assist from *Sky and Telescope*’s Sue French, I learned that the Arc had been seen by Utah amateur astronomer Kim Hyatt in the early 1990s. Like me, he found it during a search for h1470. Because he was using a larger telescope than I had, he was able to view some faint pairs that, along with my four, formed a ring of double stars. Not knowing about Chaple’s Arc, he and a friend christened it the Fairy Ring.

This summer you can view a famous Ring (M57) for the gazillionth time, or you can be one of the few to glimpse a much lesser-known Ring (the Fairy). Here’s how to find it. Using a low-power eyepiece, trace a line from eta Cygni to 25 Cygni and extend it a half degree beyond to the Arc.

For an interesting discussion on Chaple’s Arc/the Fairy ring, Google “Chaple’s Arc” and look for the Cloudynights thread in the subject. Whether you call it Chaple’s Arc or the Fairy Ring, this is one asterism that will astound and delight you.

Your comments on this column are welcome. E-mail me at gchaple@hotmail.com.



Finder chart for the fairy Ring (Chaple's Arc)
 (from Cartes du Ciel)

Club Meeting & Star Party Dates

| Date | Subject | Location |
|-----------|---|--|
| August 7 | 5:30-6:30 PM: Business Meeting 6:40-7:30PM: Social Hour and Joan's Beginner Astronomy Class (Topic TBD). 7:30-9:30PM: Club Meeting: * 2009 NASA NSN Theme Meeting Items. *Bernie Reim's "What's Up." *Astro Shorts & Astro News. *NASA Night Sky Network Activity. *Dark Skies: Friendly Lighting Updates. | Masonic Hall West Kennebunk, Me. Guest Speaker: Paul Howell - Topic: "Revolutions in our understanding of the Cosmos from Aristotle to Einstein and beyond," an entertaining talk about the ideas and people who made things happen in astronomy. Paul will also talk about the research he has been doing for his doctorate program at Boston University. |
| August 21 | Club/Public Star Party. (<i>Visit website for cancellations and or updates</i>). | Starfield Observatory, West Kennebunk, Me. |

Directions to ASNNE event locations

Directions to Masonic Hall

From I-95:

If coming southbound, take Exit 25 off of I-95. Come out to Rte. 35. Turn left at stop sign and turn right at next stop sign. Proceed straight ahead and you will see a variety store on the left and the Masonic Hall will be on the right.

If coming northbound, take Exit 25 off of I-95. Turn right at the stop sign and cross over I-95. Proceed straight for about 1/2 mile. There will be a variety store on the left and the Masonic Hall will be on the right.

Directions to Starfield Observatory

From North:

Get off turnpike at exit 32, (Biddeford) turn right on Rt 111. Go 5 miles and turn left on Rt 35. Go 2 miles on Rt 35 over Kennebunk River to very sharp 90 degree left turn. The entrance to the Starfield Observatory site is at the telephone pole at the beginning of the large field on the left. Look for the ASNNE sign on the pole.

From South:

Get off the turnpike at exit 25 in Kennebunk. After toll both turn right on Rt 35. Go up over the turnpike and immediately turn right on Rt 35. About 4 miles along you will crest a hill and see a large field on your right. Continue until you reach the end of the field. Turn right into the Starfield Observatory site at the last telephone pole along the field. Look for the ASNNE sign on the pole. If you come to a very sharp 90 degree right turn you have just passed the field.

To join **ASNNE**, please fill out the below membership form. *Checks should be made payable to: Astronomical Society of Northern New England (A.S.N.N.E).* For more details, please visit our website:
<http://www.asnne.org>



Astronomical Society of Northern New England
 P.O. Box 1338
 Kennebunk, ME 04043-1338

2009 Membership Registration Form

(Print, fill out and mail to address above)

Name(s for family): _____

Address: _____

City/State: _____ Zip code: _____

Telephone # _____

E-mail: _____

Membership (check one):

Individual \$35 _____ Family \$ 40 _____ Student under 21 years of age \$10 _____ Donation _____

Sky & Telescope (\$32.95) _____ Astronomy (\$34) _____

Total Enclosed _____

Tell us about yourself:

1. Experience level: Beginner _____ Some Experience _____ Advanced _____

2. Do you own any equipment? (Y/N) And if so, what types?

3. Do you have any special interests in Astronomy?

4. What do you hope to gain by joining ASNNE?

5. How could ASNNE best help you pursue your interest in Astronomy?

6. ASNNE's principal mission is public education. We hold many star parties for schools and the general public for which we need volunteers for a variety of tasks, from operating telescopes to registering guests to parking cars. Would you be interested in helping?

Yes _____ No _____

7. ASNNE maintains a members-only section of its web site for names, addresses and interests of members as a way for members to contact each other. Your information will not be used for any other purpose. Can we add your information to that portion of our web site?

Yes _____ No _____

