



First Light

The Newsletter of the Cape Cod Astronomical Society



February, 2015

Vol. 26 No. 2

Are we so wrapped up in technology and signals, astrometry and cameras, capturing and documenting rare events and rare phenomena and such...



The Pleiades, viewed thru 15 x 70 binoculars, field of view: 4.5°

...that we forget to really look at the night sky, enjoy the beauty that we see, and devote more time to better introducing novices to our sky and its wonders?

...please see page 3 for followup ideas...

Next Monthly Meeting: is Thursday, February 5th at 7:30pm. Recently joined member Jim Lynch will present “**Acoustics and Astronomy, with a small dose of Salt Water**” at our meeting on February 5th. Jim is a Senior Scientist at the Woods Hole Oceanographic Institution. Public welcome.

Reminders The next “Quarter Moon Saturday” Star Party takes place at The Dome on February 21st at 7:30pm. Public welcome.

In this issue: Let’s look at beauty in the night sky / Jupiter / More Comet Lovejoy / Presentation at CCMNH:
Planet Quest: The Search for Another Earth

Bright New Stars:

We like to profile new members in our Society in this section of *First Light* each month. If you are a new member and have not yet been so recognized, or might have new information for us (background, astro equipment preferred, interests, etc.) on yourself or someone else, please let us know (email info@ccas.ws).

MEMBERS: PLEASE CONSIDER SUBMITTING AN ITEM OR ARTICLE FOR PUBLICATION IN *FIRST LIGHT*.

CCAS News Items and Current Events:

Dues:

If you have not yet paid your dues for the 2014-2015 cycle, [please bring your check to the February 5th meeting](#) or mail to: CCAS, 34 Ridgewood Rd., Orleans, MA 02653. Thank you.

President:

We have yet to find a member to serve as CCAS President since the end of Mike Hunter's term. If you know of anyone who might consider serving in this position, please let one of the current officers know.

The Cape Cod Astronomical Foundation is now participating in the AmazonSmile program (<http://www.smile.amazon.com>); please go to this amazon login page and sign up. Going forward, 0.5% of the price of all your Amazon purchases will be donated to the Cape Cod Astronomical Foundation when you are a signed up participant.

CCAS Meetings:

Many thanks to past CCAS president Mike Hunter who presented practical advice for the users of stargazing and astrophotography equipment: **"Choices in Amateur Astronomy: Some Intended, Some Unexpected"** at our January meeting.

Amateur astronomers make choices in the following areas, among others; Mike provided examples in each category:

- Websites for information on the night sky
- The focal length of your telescope (long focal length [usually "faster"] is good for bright objects such as planets; short focal length [usually "slower"] better for deep sky "fuzzies")
- Types of telescopes (such as refractor, Schmidt-Cassegrain, Schmidt-Newtonian) and the advantages and disadvantages of each

- Mount types and the advantages and disadvantages of each
- Spend your money on a really excellent 'scope... or on a really excellent mount? The importance of the mount in a satisfying observing experience.

Recently joined member Jim Lynch will present **"Acoustics and Astronomy, with a small dose of Salt Water"** at our meeting on February 5th. Jim is a Senior Scientist at the Woods Hole Oceanographic Institution and Editor-in-Chief of the Journal of the Acoustical Society of America. Jim says, "This should be a fun talk, and hopefully show the group a few different looks at things!" We look forward to it, Jim!

Reminder:

Mike Hunter (or his delegate) "hosts" a Dutch-treat dinner gathering for members and friends on each CCAS meeting night (before the meeting) at the South Yarmouth Hearth & Kettle restaurant at 5:45pm; (the meetings begin at 7:30 at D-Y.) The speaker for each meeting is always invited.

Please join the group to dine and talk about all things interesting, including astronomy, [this February 5th](#). The H&K is at 1196 Rte 28, South Yarmouth, about a half mile west of the Station Avenue/Main Street intersection with Rt. 28 (stop light).

Effort continues to find a speaker and topic for our meetings for March and thereafter.

Members, **PLEASE** participate in the effort to recruit good speakers to present programs in astronomy and related sciences at our meetings. Please send any ideas or contact information to Charlie, Gus, or Peter or to info@ccas.ws. For sure we will follow up.

[Please let us know if you have any leads...](#)

or, even better, volunteer to give a talk yourself!

Minutes:

The minutes of our January meeting are on our website; click on the "Minutes" button at www.ccas.ws or go to <http://www.ccas.ws/minutes/ccasminutes010815>.

From the Dome:

Once-a-month "Quarter Moon Saturday" Star Parties continue this month. Each event begins at 7:30pm. These gatherings are usually held on the Saturday closest to the date of the First Quarter Moon. All events are open to the public. Here is the schedule:

Schedule for Monthly Quarter Moon Saturday Star Parties for 2014-2015:

1 st QTR Moon Date	Star Party Saturday
25 Feb 15	21 Feb 15
27 Mar 15	28 Mar 15
25 Apr 15	25 Apr 15
25 May 15	23 May 15
24 Jun 15	20 Jun 15

As always, "Private" group or individual observing sessions at the Werner Schmidt Observatory may be scheduled by contacting Observatory Director Joel Burnett at Joelburnett@comcast.net or sending an email to info@ccas.ws

Our Society exists to promote observing! Help us promote this objective by asking for time at the Dome! CCAS has both 8" and 14" Dobsonian telescopes for loan to members. If you wish to borrow one of these scopes, contact info@ccas.ws

February Observing:

[Editorial]:

Picking up on the ideas expressed on page 1:

**Are we so wrapped up in technology and signals, astrometry and cameras, capturing and documenting rare events and rare phenomena and such...
...that we forget to really look at the night sky, enjoy the beauty that we see, and devote more time to better introducing novices to our sky and its wonders?**

How can we increase the energy CCAS members devote to promoting the *simplest aspects* of viewing and enjoying the night sky? How can we better introduce casual visitors to our Star Parties to the *wonder* and *beauty* of the night sky?

We might consider new emphasis on any or all of the following at our star parties and presentations:

- constellations and the key stars and amazing deep sky objects each contains
- how the sky moves from hour to hour, night to night, and season to season
- the immensity of the sky and the universe to include the concept of distances expressed in light years, "when those photons left that star"
- etc..

Anyone interested in leading or joining new initiatives in these areas, please contact your editor or any member of the Observatory Staff.

This essay was prompted by a wonderful little article on binocular viewing by Gary Seronik in the February issue of *Sky & Telescope*, p45.

Gary's article included little gems like:

- one's first view of the Pleiades is a "first meeting with the stars"... and...
- one observer has described the Pleiades as being
"a forest of starlight bathed in moonlit mist."

Observing Resources:

Please see resources in the February issue of *Astronomy Magazine*, pp 36-43, and *Sky and Telescope*, pp 43-61, and Reference 5 for good guides to the sky. See p 41 in *Astronomy*, and p 53 in the *S&T* and also reference 6 for positions of the moons of Jupiter for February. Details for special phenomena of Jupiter's moons and the movement of the "Great Red Spot" for February can also be found on p51 of the *S&T*.

Mooncusser's Almanac and Monthly Alert ¹ FEBRUARY 2014			
Object	Feb. 1 (EST)	Feb. 15 (EST)	Feb. 28 (EST)
Sun	R: 06:52 S: 16:55	06:36 17:13	06:17 17:29
Moon	R: 15:08 S: 05:18	03:51 13:41	13:09 03:21
Mercury (dawn)	R: 06:21 S: 16:39	05:18 15:12	05:13 15:11
Venus (evening)	R: 08:03 S: 18:54	07:47 19:28	07:29 19:59
Mars (evening)	R: 08:22 S: 19:44	07:51 19:44	07:21 19:44
Jupiter (all nite)	R: 17:14 S: 07:22	16:09 06:21	15:10 05:26
Saturn (predawn)	R: 02:08 S: 11:54	01:17 11:02	00:27 10:12
Uranus (evening)	R: 09:24 S: 22:04	08:30 21:11	07:40 20:23
Neptune (evening)	R: 07:59 S: 18:55	07:05 18:03	06:15 17:14
Pluto (predawn)	R: 05:08 S: 14:41	04:15 13:47	03:25 12:58

Without question, the highlights of the February sky are **Jupiter with its moons**, and, easy binocular target, bright (mag 5.8) **comet Lovejoy C/2014 Q2**.

Jupiter is at the middle of its seasonal evening show being at opposition on the night of February 6th. Although technically it is at its brightest that night (magnitude a blazing -2.6), you might choose to view it and its moons a few days *after* the 6th when a waning gibbous moon (nearly full and directly under Jupiter at 10pm on the 6th) is becoming dimmer and rising later and later at night.

Many CCAS members viewed **Comet Lovejoy** at a special observing session held at the Schmidt the night of January 10th. Your editor viewed it that night from his back deck: it was easily seen through binoculars being located at the lower right corner of a square formed by Betelgeuse (upper left corner) Aldabaron (upper right corner), the comet (lower right corner) and Rigel, (lower left corner.) A nice fuzzbal in 8 x 35 binoculars. A look a few days later showed it as moving up and to the right.

The comet stays bright and nicely positioned in the sky for viewing all thru February, travelling toward Cassiopeia under Perseus. Try at The Schmidt Observatory or in your backyard (finder chart in the February Astronomy, page 42).

Minima of Algol^{1,3}, February:

Algol, a variable double star in Perseus, shines normally at mag 2.1 but once every 2.87 days dims to mag 3.4. The dimming is caused by the dimmer of two self-orbiting stars eclipsing the brighter as viewed from earth.

There are *three* evening occurrences of the Minima of Algol at Cape Cod during convenient evening hours in February: Tuesday, February 17th, at 12:19am; Friday, February 20th, at 9:08pm; and Sunday, February 22nd, at 6:06pm.

Using binoculars or a small telescope, try to begin viewing two to three hours before the minima to watch the dimming and up to two to three hours after the minima to watch the brightening.

Moon Phases, February, 2015

Full Moon, Tuesday, February 3rd, at 6:09pm EST

Last QTR, Wednesday, February 11th, at 10:50pm EST

New Moon, Wednesday, February 18th, at 6:47pm EST

First QTR, Wednesday, February 25th, at 12:14pm EST

"Quarter Moon Saturday" Star Party: February 21st

Declination Tables for the Moon² during this month please contact your editor for information or sources.

Announcement of Astronomy Presentation at Cape Cod Museum of Natural History

Teresa Izzo, Program Coordinator / Publicist for CCMNH, requested that we help publicize what looks like a very interesting presentation on research in exoplanets:

The Cape Cod Museum of Natural History presents
Planet Quest: The Search for Another Earth with Dr. Chuck Kunesh

The Cape Cod Museum of Natural History in Brewster, MA will be hosting speaker Dr. Chuck Kunesh who will be giving a presentation on astronomy on **Sunday, February 15 at 1pm**.

Dr. Kunesh will first explore the major and minor planets that orbit the sun in our own solar system, then look back at what people from ancient times through the 20th century thought about the possibility of other solar systems around other stars. He will discuss how astronomers discovered the first Jupiter-like planets orbiting other stars by using something called the radial velocity method, how the Kepler spacecraft has discovered thousands of additional planets by using a technique called the "transit method", and astronomers' plans to find Earth-like planets orbiting nearby stars and to look for conditions which might allow life on those planets.

Chuck Kunesh is from western Pennsylvania and received his Ph.D. from the University of Pittsburgh in physical chemistry. His career was spent conducting and managing industrial chemical research, but ever since he was a child his real passion has always been astronomy. Chuck is a member of the Lehigh Valley Amateur Astronomy Society in Allentown, PA and has given numerous talks on astronomy and space travel in schools and at astronomy events. He currently resides in Bethlehem, PA, but spends as much time as possible at his vacation home on Cape Cod.

The talk is free after Museum Admission. Teresa can be reached at 508-896-3867, ext 137. tizzo@c.mnh.org .

Cape Cod Astronomical Society

President	Position is Open	
Vice President	Charles Burke	5083949128
Secretary	Gus Romano	7819294770
Treasurer	Peter Kurtz	5082550415
Observatory Director	Joel Burnett	5082217380
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Orleans MA 02653

Cape Cod Astronomical Foundation

Chairman	Werner Schmidt	5083629301
Vice Chairman	Michael Hunter	5083859846
Director of R&D	Bernie Young	5083941960
Secretary	Ed Swiniarski	5088965973
Treasurer	Pio Petrocchi	5083621213
Observatory Director	Joel Burnett	5082217380
Observatory Phone Line		5083984765

The **Cape Cod Astronomical Society** meets at 7:30 pm on the first Thursday of every month in the library of the DennisYarmouth Regional High School in Yarmouth, Massachusetts. Meetings are open to the public. Membership dues are \$30 for adults, \$15 for students in two year colleges and part year residents, and no charge for spouses or for students in K12 schools.

REFERENCES AND NOTES FOR THIS ISSUE:

- 1) Information for The Mooncussers Almanac and Monthly Observing Alerts was extracted from Sky Events, Astronomy Magazine Online (Astronomy.com), Stargazing.net's Planet Rise/Transit/Set calculator (<http://www.stargazing.net/mas/planet2.htm>), *Astronomy Magazine*, *Sky & Telescope Magazine*, *Sky and Telescope Skywatch 2011*, and other sources. The *Observer's Handbook, 2010 and 2011*, published by The Royal Astronomical Society of Canada is also an important reference, particularly for information on lunar libration and declination and the minima of Algol.
 - 2) Information on how Libration and Declination Maxima and Minima can make visible parts of the moon normally hidden was reviewed in the January2007/January2008 *First Light*. Quick recap: Max Long brings to view extra right side; Min Long, extra left side; Max Lat, extra north side; Min Lat, extra south side. Max Dec puts it high in our sky during its transit; Min Dec puts it low.
 - 3) Algol is an eclipsing variable star in Perseus which has its brighter component eclipsed or covered by its companion once every 2.87 earth days. When the dimmer component is not eclipsing the brighter, Algol appears typically about magnitude 2.1; when eclipsed, magnitude 3.3 The minima usually lasts about two hours with two hours on either side to bring it back to mag 2.1. Good comparison stars are γ Andromedae to Algol's west, mag 2.1, and ϵ Persei to its east, mag 2.9.
 - 5) Here is the web address for Astronomy Magazine's "The Sky This Month" online for February: <http://www.astronomy.com/magazine/sky-this-month/2014/12/jupiter-shines-brilliantly> See also S&T resources online at <http://www.skyandtelescope.com/>
 - 6) S&T's interactive Java utility for showing the positions of Jupiter's main moons for any date and time: <http://www.skyandtelescope.com/observing/objects/planets/3307071.html> :
for Saturn's moons: <http://www.skyandtelescope.com/observing/objects/planets/3308506.html>
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