



# The Meridian

Newsletter of the Quad Cities Astronomical Society • December 2014

## Upcoming QCAS Meetings

All meetings start at 6:30pm.

**January 5th**, Astronomy dialogs/meeting.

**January 19th**, monthly business meeting.

## Meeting Notes

**From December 15th.** Notes by Dale Hendricks. The meeting was called to order by Dale Hendricks at 6:35pm. The meeting was attended by 11 members. Members included: Gary Sissel, Bruce Brooker, Dr. Robert Mitchell, Jim Rutenbeck, Dana Taylor, Dale Hendricks, Matt Neilssen, John Baker, Jeff Struve, Brian Haysbrook and Steve VanHyfte.

*Treasurer's Report:* Balance in account is ~\$2,100. Includes most dues for the current year.

*Old & New Business:* Dale reviewed our public outreach – Davenport Parks and other activities and asked the question whether to continue? Short answer from all present – yes.

- Meeting with Argus/Dispatch/Radish: Dr. Mitchell referred a reporter from *The Radish* to Dale. *The Radish* is a local magazine/publication and was wanting to have an interview for an article about winter sky watching and astronomy. Dale and Karl Adlon met with Anthony Watt for an hour meeting during which the issues of the winter sky, viewing instruments, proper clothing, where to go and what to look for – all for amateurs who want to see the winter sky. The article will be published in either the January or February edition.

Shortly after the interview, Dale received a phone call from the Editor of *The Radish* who, after reading the story, decided that it would be the cover story and wanted photographs for the article. They needed a cover shot and then some shots for the story inside the cover. Alison and I drove to Sunset Marina for the shoot with Sarah, the editor, and a very dedicated photographer. It was a very cold day but bright and perfect for the shoot—they wanted a profile shot which they got and apparently liked a great deal. I asked for 15 copies of the magazine and will bring them to the first meeting after they are delivered. *The Radish* receives a wide distribution in the Quad Cities so we should have some great “press” for our group.

- Dale called Walt Wickham to discuss the issues raised by our members regarding the new proposed building. Walt and the Board have discussed this and Walt was pleased to hear from us again. It was agreed that we need to have another meeting for a follow up discussion and to that issue. Dale, John Baker and Dana will meet with the CCC Board at a date TBD for early next year.

Grants and applications were discussed again. Dana provided a list of web sites for grants. Gary Sissel offered that he knew the newly appointed head of the RDA and has agreed to contact him to discuss in general terms what the RDA is looking for in grant applications.

- Next Board Meeting and agenda – Dale will contact Board Members to set up a date and place for the Board meeting. Expect that this

will be scheduled for late January or February.

- Menke Observatory telescope issues under consideration by Dr. Mitchell and St. Ambrose University. Numerous emails (all-club distribution) flew around preceding the meeting helping to form the basic discussion which centered on two different proposals. Photos at right provide a record of the condition of existing facilities.

One proposal is that Dr. Mitchell should take the SAU budget he has, and buy a GoTo scope, thus eliminating the need for setting circles. Dr. Mitchell admitted that he could easily find celestial objects that he had already observed but had more difficulty finding new and fainter objects. A GoTo scope would assist in locating these objects.

The other proposal is that funds be used to repair the mount and associated equipment already installed at Menke and simply replace the existing telescope.

The club is acting more as a sounding board and no firm resolution on the issue can be made by the club. But many suggestions and ideas were provided, leaving Dr. Mitchell to bring order and sense to all input and opinions. His deadline for making a proposal is mid-February, with funds needing to be spent in Spring or risk their loss.

Several of our members have been involved in offering their help and will continue to assist Dr. Mitchell in whatever ways they can.



Photos of Menke Observatory Telescope taken by Karl Adlon



Main telescope and yoke mount.



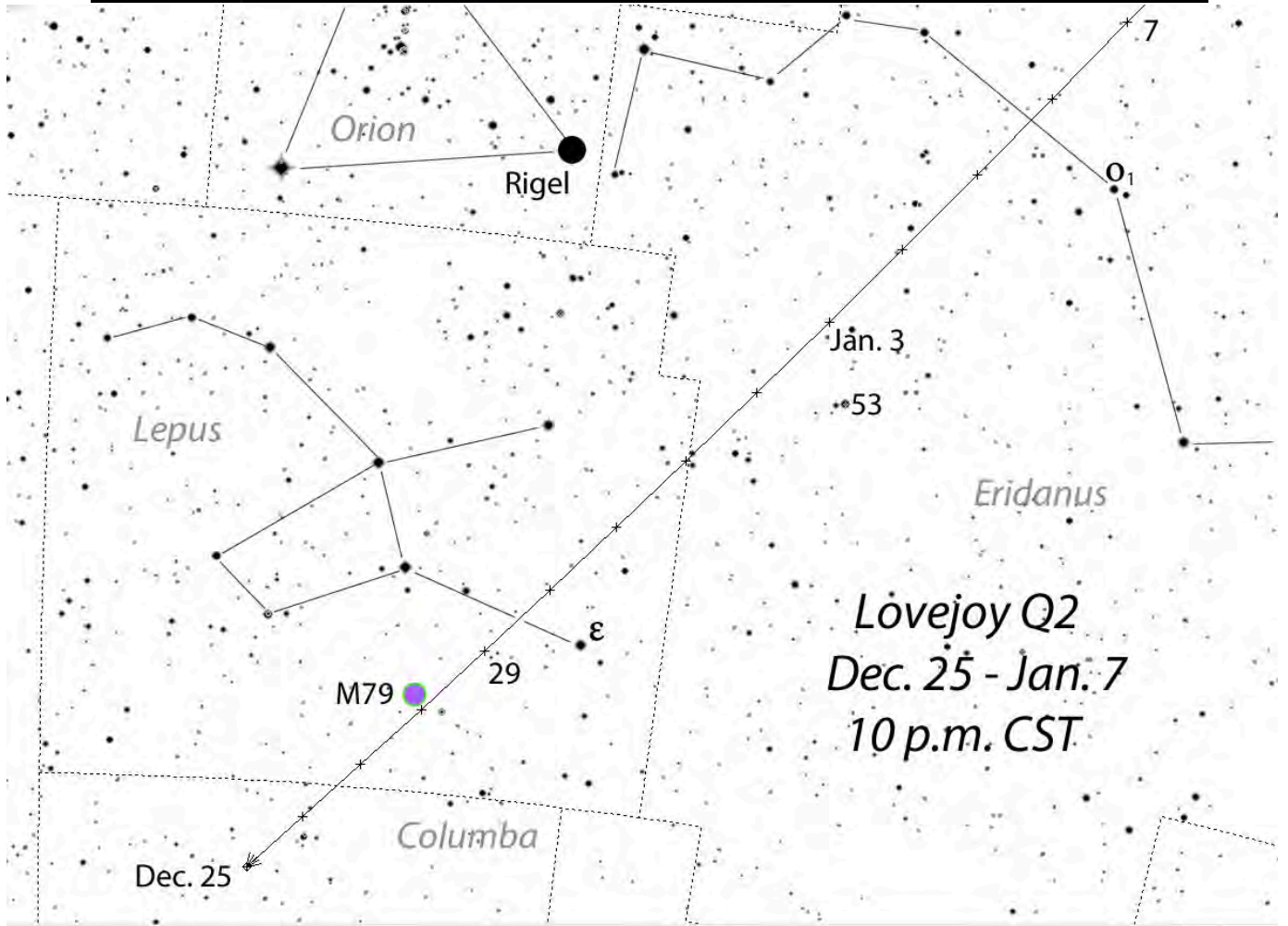
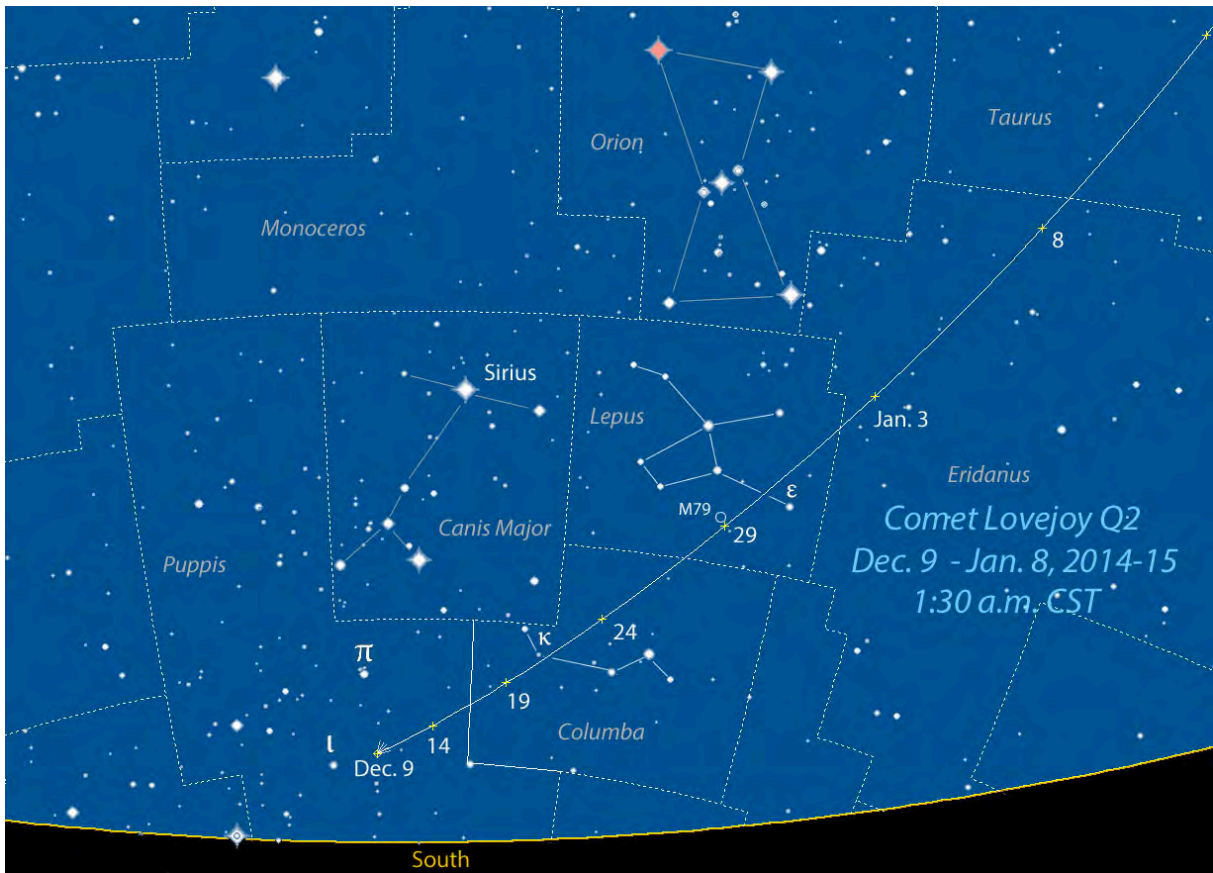
Yoke mount and pillar.



Condition of primary mirror.



# When the Clouds Break, Look for Comet Lovejoy Q2!



## Simulation of Universe with Realistic Galaxies

ScienceDaily.com, December 30, 2014.

An international team of astronomers, based at the Universities of Leiden in the Netherlands and Durham in the UK and, led by professor Joop Schaye (Leiden University), developed a simulation of the universe in which realistic galaxies are created; their mass, size and age are similar to those of observed galaxies. Their similarity is caused by the simulation of strong galactic winds – gas winds that are blown from galaxies.

The simulations took several months to run at the “Cosmology Machine” in Durham and at “Curie” in Paris, among the largest computers used for scientific research in the U.K. and France, respectively. Astronomers can now use the results to study the development of galaxies from almost 14 billion years ago until now. The results will be published in *Monthly Notices of the Royal Astronomical Society* on 1 January.

For years, astronomers have studied the formation of galaxies using computer simulations, but with limited success. The galaxies that formed in previous simulations were often too massive, too small, too old and too spherical.

The galaxies formed in the EAGLE-simulation (Evolution and Assembly of Galaxies and their Environments) are a much closer reflection of real galaxies thanks to the strong galactic winds, which blow away the gas supply needed for the formation of stars. EAGLE’s galaxies are lighter and younger because fewer stars form and they form later. In the EAGLE simulation these galactic winds -- which are powered by stars, supernova explosions and supermassive black holes -- are stronger than in earlier simulations.

The sizes and shapes of the thousands of galaxies that form in the EAGLE simulation are also similar to those of galaxies that astronomers observe in the Universe. “The universe generated by the computer is just like the real thing. There are galaxies everywhere, with all the shapes, sizes and colours I’ve seen with the world’s largest telescopes. It is incredible. In the EAGLE universe I can even press a button to make time run backwards,” says coauthor Richard Bower from Durham University.

Having developed a simulation which produces galaxies with characteristics similar to observed galaxies, astronomers can now study the evolution of individual galaxies in detail. “This is the start of a new era for us,” says coauthor Rob Crain from Liverpool John Moores University. “We can now manipulate the conditions of the Universe and study the evolution of galaxies throughout the past 14 billion years.”



## Celestial Calendar

Jan 02 05:35 Aldebaran 1.4°S of Moon  
03 20 Quadrantid Meteor Shower  
04 00 Earth at Perihelion: 0.98328 AU  
04 22:53 FULL MOON  
08 02:16 Jupiter 5.1°N of Moon  
08 19:34 Regulus 4.1°N of Moon  
09 12:17 Moon at Apogee: 405411 km  
10 19 Mercury 0.6° of Venus  
12 09:33 Moon at Ascending Node  
13 03:27 Spica 3.1°S of Moon  
13 03:47 LAST QUARTER MOON  
14 14 Mercury at Greatest Elong: 18.9°E  
16 05:52 Saturn 1.9°S of Moon  
20 07:14 NEW MOON  
21 11:39 Mercury 3.0°S of Moon  
21 14:06 Moon at Perigee: 359643 km  
21 15 Mercury at Perihelion  
21 23:01 Venus 5.6°S of Moon  
22 22:40 Mars 3.9°S of Moon

List from [www.astropixels.com](http://www.astropixels.com)



### QCAS Officers and Contacts:

President: Dale Hendricks	Vice-Pres: Bruce Brooker
Secretary: John Robbins	Treasurer: John Baker
Director: Dana Taylor	Facilities: John Baker
Web Master: Dana Taylor	Outreach: Tom Bullock
Programming: Jim Rutenbeck	

**QCAS Meetings:** First Monday (workshop) at 6:30pm, and third Monday, (business), at 6:30pm, Bettendorf Library, 2950 Learning Campus Dr., off of 18th Street, Bettendorf.

### QCAS Correspondence:

Please contact the society at:  
P.O. Box 3706, Davenport, IA, 52808.  
Members are welcome and encouraged to submit articles for The Meridian. Submit Any and all interesting items (via e-mail) to: John Robbins or Dale Hendricks.