



The Meridian

The newsletter of the
Quad Cities Astronomical Society

January 2010

<http://www.qcas.org>

Secretary's Notes

Karl Adlon

Note to the Notes: Karl took these notes, so if you don't like them, blame him, not Joe.

Members in attendance at the November meeting:

Karl Adlon	Joyce Erickson	Cecil Ward
Craig Cox	Chris Hebel	
Jay Cunningham	Dana Taylor	

The meeting started about 7:35 and the first order of business was Election of Officers. Dana had received 4 ballots, all of which voted for the unopposed candidates. Therefore, since there were no positions with more than one candidate, Joyce proposed that the slate be accepted as read. Craig seconded and the vote was unanimous. Officers for this year are (Congratulations!):

President:	Dana Taylor	Vice President:	Chris Hebel
Secretary:	Joe Bannon	Treasurer:	Craig Cox

Old Business:

Dana read his draft notes on the By-Law changes he will finalize and propose for membership discussion and vote. One change is deletion of the Astronomical League (AL) discussion in the By-Laws. This would bring the By-Laws into agreement with membership decision to not join the AL at this time. We may still join in the future without the need to amend the By-Laws. Individuals may also join on their own if they so desire.

Some discussion of the cost of joining the AL versus the benefits of membership took place. The club's past decision was left unchanged.

New Business:

The topic of upcoming star parties was discussed, including: now is a good time to view Orion. Yes, it can be bitter outside, and there could be problems opening the roof with ice on the tracks, but still there's interest in

scheduling a star party or two. Those interested should try to email or otherwise communicate they are going and the following dates were scheduled:

January 9 and January 16 – New Moon is January 15, so the 9th should be OK for Orion. If the 9th is not cloudy, I'd encourage you to attend that date. The 16th would be a cloud date and/or an additional date.

Messier Marathon Star Party - March 13 or 20, weather permitting.

Messier Marathons were discussed including: why do they occur at this time of the year; difficulties of seeing the beginning objects due to evening twilight and ending objects due to morning twilight; and difficulties validating the Virgo Cluster galaxies, with there being so many of them.

The meeting was adjourned approximately 8:35.

Observations

Karl's Astronomical Junkyard

Karl Adlon

There's lots of stuff in the junkyard. Probably the BIGGEST junkyard in the modern world is the Internet! The bad pictures I've taken, both astro and non-astro, could be used to create a cyber junkyard. The biggest astro-related issue has my getting pictures with a good exposure. On a users group, someone asked how to find the right exposure of the night sky using a Canon DSLR. A good question and I was expecting a complicated answer. Wrong!

★ Many cameras can show a histogram of an image. My Canon 20D that I use for astrophotography (occasionally and not enough) will show it once the image is taken. My wife's little Sony will show it "live", as shown to the right.

A histogram shows how much of an image is dark, how much is bright and how much of various levels in between. Note this picture has quite a bit of white and the histogram shows a tall white bar on the right. If I had wanted details to show in the white areas, I would have wanted to underexpose this image to obtain those details.

On the next page are two astro-examples:



Each example is a picture with its histogram visible below the picture. If you look only at the two pictures and compare them, you'll see that the right image is better than the left. The left image was 175 seconds and the right was 360 seconds. (For some reason, the person in charge of the imaging set the camera at only ISO 400. He should have used 800 or even 1600.) What does the histogram tell us?

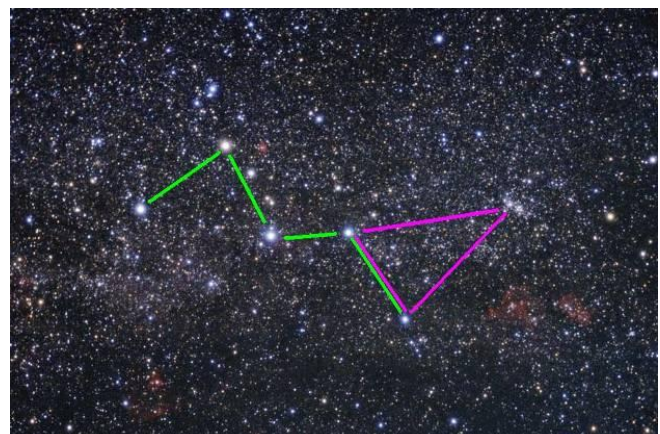


In each histogram, dark is on the left and bright is on the right – let's say it's 0% to 100%. While most daytime scenes are a wide range of lighting conditions, we can see that everything here falls in a narrow band. The left image is centered about 12% and the right about twice that. What I've read is that the band should be centered at about 30%, so the right image is close and maybe could have used a little more exposure while the left image is underexposed.

A discussion of the histogram, though not astro-related, can be found at:
<http://www.luminous-landscape.com/tutorials/understanding-series/understanding-histograms.shtml>

★ Bridge Problems: I'm not looking forward to traveling to the observatory from Port Byron once they start work on the I-80 bridge next spring. It adds at least 15 minutes to the drive home, when I'm already tired from observing. I might have to consider other options, like staying over night or finding observing sites on the Illinois side of the river.

★ What's Up? The Double Cluster. Perhaps all of you know how to find it. So here's how to tell someone else how to find it. Look in a northerly direction and find the "M" in Cassiopeia. Using the two easterly



stars, imagine a tall isosceles triangle and the DC will be at the tall point. In clear, dark skies you can see it naked eye, though binoculars are needed in light polluted skies.

A couple years ago, Sky & Telescope had a two page picture of the DC and I noticed something that I later saw visually and like to look for. The picture below shows what I look for (courtesy NOAO/AURA/NSF).



Hopefully, you can see that there are a few red stars. The one I look for first is the one on a line from one cluster to the other. Then I can usually see a couple more. Some people have told me they can't see them. I hope you can.

★ Here's wishing (upon a star?) for a Happy New Year with CLEAR SKIES!

Upcoming Celestial and Club Events

Jan. 2-4	Quadrantid meteor shower visible late evenings
Jan. 2	Earth at perihelion; Mars rises about 7° left of the Moon in the evening
Jan. 8	Saturn's rings tilted the widest they will be through August in the predawn
Jan. 9	Star party
Jan. 11	Antares close to the waning crescent Moon at dawn
Jan. 13	Crescent Moon is 5° to 6° lower right of Mercury about an hour before sunrise
Jan. 16	Star party (backup to the party on the 9 th or possible second party)
Jan. 16-29	Mercury is visible low in the SE about 45 minutes before sunrise
Jan. 17	Crescent Moon is about 5° lower right of Jupiter in WSW at twilight
Jan. 18	Monthly meeting
Jan. 27	Mars is closest to Earth through 2013
Jan. 29	Mars is at opposition and near the full Moon
Jan. 30	Moon is closest to Earth for 2010 at about 2:15 a.m.

Jens-Wendt Observatory – Quad Cities Astronomical Society – Located at Sherman Park in Dixon, Iowa

Monsignor Menke Observatory – St. Ambrose University – Located at Wapsi River Environmental Education Center in Dixon, Iowa

QCAS Contacts

Elected Officers			Volunteers and Committees		
President	Dana Taylor	dana@nelsontaylor.com	Facilities	Jim Rutenbeck	jrutenbeck@frontier.com
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Treasurer	Craig Cox	Admiralcox2000@yahoo.com	Programming	Jim Rutenbeck	jrutenbeck@frontier.com
Director	Karl Adlon	Kmja79@yahoo.com			

All other contacts can be sent to the club at P.O. Box 3706, Davenport, IA, 52808.

Members are also reminded that anyone can submit articles for *The Meridian*. Submit articles to Joe Bannon at jbannon@midamerican.com and mzbannon@aol.com.

Member Astrophotography



This image of the crater J. Herschel, which is the large, shallow crater just above center, was taken with my Celestron 9.25" f/10 scope on November 28, 2009, at 6:08 pm. I estimated the seeing to be 2 on a scale of 1-5 (1 the worst). The image was based on a video of 1,217 frames taken with an Imaging Source DBK21 video camera used with the telescope at its f/10 focus. The best frames were stacked and processed using freeware called AviStack. In the lower left corner most of Sinus Iridum (Bay of Rainbows) is also visible. The mare (the flat area) between J. Herschel and Sinus Iridum is Mare Frigoris, the Sea of Cold.

Submitted by Ken Boquist