

# Harford County Astronomical Society



## Monthly Newsletter

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*Volume 36 Issue 4 April 2010*

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### **Public Star Party (Open House):**

**Saturday, April 24, 2010**

**at 8:00pm**

**At the HCAS Observatory**

### **General Meeting:**

**Thursday, April 29, 2010**

**at 7:00pm**

**In the Observatory Classroom**

Please check our new website for possible schedule updates and changes:

<http://www.harfordastro.org>



<http://astroleague.org/>



<http://nightsky.jpl.nasa.gov/>

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## HCAS General Meeting

The meeting was called to order at 7:04pm by President Tom Rusek. The minutes of February's meeting were approved as published in the Newsletter.

**Treasurer's Report:** Tim states we have \$4011.63 in the Checking account, and we now have 51 members, with the addition of new member Bill Gelston.

**Newsletter Issues:** Tom had a copy of the February newsletter at the meeting. There were wonderful submissions, including a photo of our sister German astronomy club, Volkssternwarte.

**Outreach:** Recap of previous events - Tom did a presentation for the McFaul Activity Center in BelAir, in return they sent us a \$20 donation. The Patterson Mill High School event on March 24 had 50 people. We supplied 6 or 7 telescopes for the 2-hour event. Our monthly Open House on March 20 saw an amazing 89 visitors and 18 club members in attendance. Conditions could not have been better, and the event lasted nearly 3 hours. The public was treated to spectacular views of solar system objects, stars/double stars and deep space objects. Some kids have brought back their Young Astronomer's cards to get punched. Thank you to everyone who participated! Tom stated we received a wonderful email thanking us for the great Open House, and they were impressed by the knowledge of our Members. Upcoming events - Earth Day will be celebrated on April 17th at Aberdeen Festival Park, 11am-4pm. Prospect Mill Elementary School will also have an Earth Day Celebration on April 18 from 1 - 3pm.

Tom states that there are several issues that need addressing: First, we need to use either the red scrolling sign or realtor signs to point the public from the HTHS parking lot toward the Observatory. Second, member's parking is an issue at the Observatory. If you have a load in your vehicle, please unload then park your vehicle along the sides. We need to keep the center of the lot and entry way to the Observatory clear. Thank You! Third, there is a board on the north side of the observing area that sticks up posing a trip hazard. Tom will look at it in the daylight and see what needs to be done.

**Observatory Operations:** Dome renovations are not far from done, Mark reports. There is some aligning of the dome hardware and roller supports, and the drive chain needs to be spot welded in place. Mark will request the welding be done by the college. It is the goal to have the

dome done by the next Open house on April 24. Mark states that the money not used in the renovation of the dome stays at the college for rebidding/redistribution. The school's laptop computer is still being worked on, as there are a number of issues with the machine. Tom also states that he is working on a letter to request paving of the driveway and parking lot. The list of safety Issues will be revisited before the grand reopening of the Observatory, to see what needs to be taken care of.

**HCAS-40 Observing Certificate:** Karen reports that the pins were ordered from Hogeys, Inc. approximately 3 1/2 weeks ago, she is waiting for them to come in. Two people have already submitted their lists. The list is in Excel, and Larry will convert it to PDF and put it on the website and Roy will publish it in the newsletter.

**Observing Reports:** There has been one outing to Broad Creek, and it was reported in the newsletter. Conditions haven't been good lately because of weather. Some people went to Eden Mill. There are a lot of trees covering the southern horizon. There was some observing done at Stepping Stone. Conditions were good and there was no dew. The DelMarVa Stargazers star party is set for April 15-18, cost is \$15/night. We have a large group attending the Cherry Springs Star Party starting on June 10 thru the 13th. Let's hope for good conditions. Stellafane is in August.

**Night Sky Network:** Grace reports that all events that qualify for Night Sky Network events must be entered by the person who organized it. The website has been simplified, and it is very easy to navigate. Enter your information, go to the "Our Calendar" to add the event.

The club has received some new file cabinets; as a result, there is talk about getting rid of the mirror-grinding table. It has not been used in years, and is just taking up space at this time. There are a couple of leads as to some groups that do make their own telescopes. Otherwise the table will go into storage or should be disposed of by the College.

**Officer and Board of Directors Elections:** Nominations will take place this month. Tim will send out an email to all members with the ballot. The ballot needs to be returned to the PO Box or brought to the April Meeting, where the ballots will be counted. Officers and BoD Members will take their places in May. Nominations are as follows:

Board of Directors (3 positions available):  
Joe Manning  
Gary George  
Dave Jayroe  
Gary McDaniel (pending his acceptance)

Officers (all current officers are re-nominated):  
President - Tom Rusek  
Vice President - Grace Wyatt  
Treasurer - Tim Kamel  
Secretary - Karen Carey

Tim will also email out the membership renewals. Cathy asks if membership cards can be mailed to members, so that if they are observing at Broad Creek, they do have proof of their membership if asked for it.

Jeremy asked if he can change the focuser of the 13" Odyssey to receive a 2", and add a Telrad. Joe said this might be a problem, as the optics are set up for the 1 1/4" focuser. He will look at the focal length numbers and what he has available, and see if it will work.

We have a presentation tonight by Phil. The meeting was adjourned at 8:00pm.

- Karen Carey, Secretary

## A Note from the President

Our club has become quite diverse over its 40-year history. We are now heavily involved in astrophotography, as well as in an established outreach program. Astrophotography has brought us many fine photos of the cosmos and a way to bring us together by learning a new field. Likewise, our outreach programs help us educate the public by making them more aware of the heavens above.

But today, I would like to praise that member, or anyone for that matter, who observes the heavens either with a telescope, a pair of binoculars, or just with their eyes. These people are indeed the core of our club and the epitome what we are all about. These hard core observers are the ones who eat the cake without the frosting. They need nothing else but what they have. On any clear night, they will fearlessly venture out and brave the elements of their trade just to view a long lost Messier object, a dim globular or a far off forgotten galaxy. And what is their reward? There are no trophies, or monetary rewards for their accomplishments. There are more important rewards set aside for them. They are the discoverers who view the universe as it is or should I say as it was light years ago. They are alone in the night with what they see. They are the heroes, the heart of the HCAS. So "hats off to you, oh brave observers." Before you we stand with gratitude for your efforts and awe for your inspiration.

- Tommy

## Observation Reports

**The best times to observe at Broad Creek are between the last quarter and first quarter of the lunar cycle. The next two such periods are :**

**April 3 through April 17, 2010**

**May 4 through May 18, 2010**

***Try to keep some of these dates open on your schedule!***

*Because of the unpredictable weather conditions, we cannot set a specific date and time to observe. Sometimes the decision to go to BC is made within a few hours before sunset. In any case, all club members will be notified by email.*

*For any questions, contact Roy Troxel at: [rtroxel@comcast.net](mailto:rtroxel@comcast.net)*



**Broad Creek**  
**March 17, 2010**

March 17th was a good evening to spot a young moon. I went outside and observed the following between 7PM and 8PM:

I was able to observe the waxing crescent moon, about 8 degrees north and to the right of Venus. According to [The Complete Sun and Moon Naval Observatory](#), the moon was 3% lit. According to our club web site, the moon would have been 4.2% lit. Also the moon was 1.9 days old.

While observing the moon, I decided to watch Venus set behind a house. Or as Larry explained at the BC star party, Venus was actually rising. Regardless, it is now seen in the west during evening hours. I was able to watch it go down behind a house. As I moved to a different location, it was easy to watch the motion as it drifted between several tree branches.

I had not watched Venus or Mercury do this in a very long time, so it was a short enjoyable 1 hour session. The observing was done with naked eye only.

*- Cathy Tingler*

A group of 8 members formed at Broad Creek around 7:30PM. All of us were set for a great night of observing and astrophotography. The group consisted of myself, Roy, Phil, Gary, Larry, Tony, Jeremy and Paul.

I had purchased an EZ Finder Scope Deluxe. Was very looking forward to using it. I found that my purchase was indeed a great choice. The little red dot or cross hair, made things so much easier to locate.

I spent time observing M81 and M82. Wonderful views of M35 and M37. I saw the double star called Almach. It is now on my club list of 40, with a more recent date. M45 and M44 were among my short list of objects. I spent quite a bit of time observing Mars, the Moon and Saturn. Saturn's moon Titan was also visible. I changed eyepieces and used a variety of filters.

Roy and I attempted to locate Hinds Crimson Star. It is now in a very dim stage of its variable cycle. According to a report from Roy in the last newsletter, the star is about a Magnitude 10. At the time we attempted to look for it, that area was low on the horizon.

Earlier in the night I viewed the trapezium in Orion. I clearly saw 4 stars. At one point I could make out 5 stars.

We got a fantastic view of the ISS. Jeremy was able to confirm the sighting. A second sighting was to have occurred later during the night. I am not sure if anyone saw it or thought about it. The second sighting would have been very low.

Several bright meteors were seen by the group.

The air was very dry and it stayed comfortable. I observed until about 11:30PM then began to pack. After a 4 hr session, believe it or not, NO DEW formed on my equipment. It was a very nice and enjoyable evening.

I used both my Cass Apex 127 Spotting scope and 10x50 bino's.

Everyone had a wonderful time sharing views. I believe Tony observed quite a few of the club's 40-object project items.

*-Cathy Tingler*

## March 19-20, 2010

Started observing at 8 PM. Seeing and transparency were both a 4 out of 5 and remained fairly constant throughout the observation. 16 inch scope was used with Roy's 35mm Panoptic for most of the evening. Also used my 12mm 2 inch TeleVue Nagler for some objects.

NGC 2264 in Monoceros, a large open cluster was seen. The Cone nebula and Hubble's variable nebula were searched for but not seen. In Orion, M42, M43 and Sigma Orionis (4 of the 5 stars were seen).

Saturn's rings were easy to see, along with Titan and one other satellite. Mars was rather impressive, a large reddish disk with some markings visible as well as the south polar cap.

In the constellation of Cancer, M44, the Beehive, a bright open cluster and the smaller, dimmer M67, another open cluster that appears similar to M11 and M52 were seen. In Puppis, M47, a fairly bright open star cluster was seen along with M46 another open star cluster and the planetary nebula NGC 2438. Another open cluster, NGC 2401 was also seen.

In the constellation Leo, the double star Algieba was easily split. NGC 2903, a relatively bright 9th magnitude spiral galaxy was easy. M65, M66 and the fainter NGC 3628 were visible. In Canes Venatici, M51 and NGC 5195 were weak but visible. M3, a globular also in Canes Venatici was somewhat resolved. In Gemini, M35 and NGC 5128 both open clusters were seen. Mel 111, a large open cluster was seen as were two nearby galaxies, NGC 4494 and NGC 4565. In the Virgo galaxy cluster, M84, M86 and M87 were all seen. In Taurus M45 was a naked eye object even with the four day old Moon nearby. Shortly after the Moon had set behind some trees, M1 was seen, although it wasn't too clear.

In Ursa Minor, Polaris was split, and in Ursa Major, the double star Mizar was seen. M81 and M82 were both very bright. Also seen were M108, a spiral galaxy and M97, the Owl Nebula. I saw one of the eyes of this planetary nebula. Returning to Gemini, NGC 2392, a 9th magnitude planetary nebula, known as the Eskimo or Clown nebula was obvious. NGC 2371-2, a little known planetary nebula not too far from Castor, is listed at 13th magnitude, but appears brighter. This planetary shows two lobes, similar to M76, but smaller and fainter.

We shut down about 12:30am and left by 12:50 AM. The temperature was 47 degrees. There was no wind and no dew throughout the observing session.

- *Phil Schmitz*

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## Broad Creek April 5, 2009

After so many clear nights during the week, the weather still held up for Friday night. We had a large group, 8 club members showed up, and most stayed until 11:30pm or 12:30am. The conditions were fairly good, about a 4/5 most of the time with some thin clouds moving around the horizon and lowest parts of the sky but rarely overhead, allowing us to do quite a bit of observing. I brought my camera along and let it go on M46 and M3. The seeing was so good I couldn't pass up shooting a globular. With a lot of different scopes there, including a 16" dob, we had plenty to look at. Once I got the camera setup I spent the rest of the night using the 15x70s or looking through other scopes. The skies remained clear except for the low clouds the entire night, dew was NEVER an issue (a rare thing here), and it was a very comfortable mid 50's most of the night and actually warmed up later in the night. Once the moon set at 11:30pm, the sky really got pretty dark for that site, about mag 5. Tonight should be clear until midnight so I'll probably be going to the open house as well.

With my 15x70s I easily logged around 20 objects, no log kept, but a few of the other better objects included M51 and its companion galaxy NGC5195 being spotted as well as M81 and M82 showing a decent amount of shape to them and being the best binocular view I've had yet.

Through the scopes there were plenty of different objects; most I've seen before but a new one for me was NGC2371-2 (it's 2371 and 2372) in Gemini. It's a small planetary nebula that had 2 distinct lobes of nebulosity and I even spotted a little bit of fuzziness on another star in a pair that mimicked the orientation and separation of the 2 stars in the PN. Looking in my deep sky atlas, I couldn't find any other numbers, so I checked images online. It might have been another part of the PN, but it's a pretty good size and really neat-looking.

- *Jeremy Kirkendall*

**Broad Creek**  
**April 5, 2009**  
8:00pm - 11:00pm

The sky was clear, with a few thin clouds appearing throughout the session. Average seeing and transparency had been predicted. The temperature was in the 70s. On this night, I wanted to test my new OIII filter, which is most effective on nebulae that emit a lot of radiation from oxygen gas clouds.

Mercury and Venus were low in the east.

Mars was almost overhead, next to the Beehive in Cancer. Saturn was low in the east, in Virgo. A total of 4 planets were visible - 5 if you include Earth!

With 10x50 binos, could see Pleiades, about 25 degrees above the horizon. Orion nebula was beginning to appear.

In the southwest sky, five of the Trapezium stars in M42 were very clear, using the 12mm eyepiece. Also looked at M50 cluster in Monoceros. Couldn't see the Rosette nebula, even using my new Orion OIII filter and 35mm Panoptic eyepiece. Easily saw the star cluster in the doughnut hole, however. The sky was still a little light, but no sign of the notorious Bel Air light dome.

I'm concluding that the OIII filter would work best (for my scope) with a 24mm eyepiece. That would gather enough light to counter the darkening process of the OIII filter, while at the same time permitting higher magnification than the 35mm eyepiece.

Saturn in the 12mm was disappointing, because the rings are now almost edge-on, from earth's perspective. I tried to locate the Cassini Division, but couldn't find it. I could clearly see the space between the rings and the planet, however, along with 2 moons, Titan and Enceladus. Orion Nebula, M42: Using the OIII filter, I thought I would be able to see more of the "ball" of the nebula, because of its large oxygen content, but that wasn't possible. It was mostly the area around the "fish mouth" that was visible. Maybe the seeing wasn't good enough for nebulae.

The M1 nebula looks about the same in the UltraBlock and OIII filters.

M44 cluster in Cancer: high in the sky, very bright.

M65 and 66 in 35mm - both dim, because of the low air transparency.

M86 and M84 galaxies in Markarian's Chain. Appeared against a very light gray background of haze. The Chain is a group of galaxies in the Virgo Supercluster that appear to be moving in unison, although this hasn't been proven definitely.

M104 in Virgo. Tonight very dimly seen, against a light gray background. Could see the dark cloud lane and bright core, for the "sombbrero" effect.

M67 in Cancer: Rich cluster, often neglected in favor of the Beehive.

Mars is near the zenith, with not much detail visible. I tried a #25A red filter, but still didn't see much, not even a polar cap. Also used my lunar variable filter, but not much detail was visible with that, either. The planet shows a slight gibbous phase.

Saturn. Rings are edgewise, of course. Tried to see the Cassini Division, but it was invisible. Could see the space between the rings and the planet, however. A belt visible south of the rings' shadow on the planet.

M3 globular cluster in Canes Venatici, about 45 degrees in the hazy northeast sky. Had to use averted vision to resolve it into individual stars.

M105, 95 and 96 galaxies, all in the same field in the 12mm eyepiece, near the zenith, in Leo.

With 10x50 binos, I observed Coma Berenices, one of the star clusters closest to earth.

M100 galaxy in Coma appeared dim.

M97 planetary nebula in Ursa Major. Saw hints of the two eyes of the owl, with and without the OIII filter.

By 11pm, Vega was rising in the northeast. The sky was becoming hazier, so I began packing up. It had been a worthwhile night.

- Roy Troxel

### **Observation Report and First Light Tuesday, 4/6/2010**

It was Tuesday and it was a beautiful day and I had high hopes for a decent night. I had just bought a new scope and was dying to try it out. Problem was that the last few days had also been beautiful but thin clouds came in and ruined the night. On Tuesday, though, the Clear Sky Clock and all the weather sites agreed that it was going to be a good night. Coincidentally, I had scheduled a work at home on Wednesday and this would allow me to stay out a little bit later.

When the word went out, I decided I would go. I was the last to arrive at Astronomy Hill and when I got there, there were 6 other members already there and in the process of setting up. Already present were Paul, Roy, Phil, Gary, Larry and Bill Gelston, a new member.

I proceeded to set up my new (used) scope, a Sky Watcher 100mm ED Pro refractor. The story of this scope started with Larry buying an 80mm Celestron Onyx ED refractor a few months ago. They were being discontinued and were available at a really good price. I thought about getting one myself but decided that I already had a 70mm refractor and an 80 just did not seem to add enough to justify the purchase. After looking through it a few times, I began to regret my decision. My ETX 70 was an Achromat, and an f/5 at that, with lots of false color on bright objects. So I started looking on Astromart for something that I could use. I found two of the Onyx scopes, including one in Baltimore. Unfortunately, they were already sold by the time I saw the ads. Then I saw the ad for this Sky Watcher. It is a 100 mm F/9 ED design that is also sold by many other vendors, including Orion. The design has an excellent reputation and the review that I found for the Sky Watcher was very good. It has a beautiful livery, comes with a matching RACI finder, a 2" 2-speed Crayford focuser, a 2" dielectric diagonal, mounting rings and dove tail bar. It was five months old and comes with a nice foam lined metal case. I felt that being an f/9 is a little too slow for astrophotography but I just could not pass it up at the price it was listed for. A focal reducer would take care of the long focal length.

I set it up on my LXD 75 mount and tried to grab a look at Venus, the first object that was visible as it started to get dark. No good, as it was behind a tree. I waited for Polaris to become visible and polar aligned the scope. Then I did a two-star easy alignment and was ready. I had several eyepieces ranging from 50 mm f/l down to a 5 mm and used them all during the night to check out how they worked on the scope.

My first target was the Pleiades, followed immediately by the Orion Nebula where I spent a bunch of time zooming in on the Trapezium hoping to see stars E and F. I did not see them and neither did anybody else since the seeing was not very good. I then hit several notable objects as I swung around to the west, north, east and back to the south, including M 41, 50, 46/47, 38, 37, 36, 35, 81/82, the Double Cluster, Alcor/Mizar and M44. At some point, Saturn rose high enough for a look along with two of its moons. I saw two globular clusters, M 3 and M 13. I was also able to pick up M 97 and M 51 for the first time at Broad Creek. Both were incredibly faint, visible as slight wisps.

Views of the star clusters were impressive. Stars focused to tiny points and were very pleasing to look at. The Pleiades filled the field of view in a 50 mm eyepiece. The Double Cluster and M 44 were particularly memorable. M 81/82 were both in the field of view and fairly bright. Saturn was crisp and the rings were fine edged. Saturn's two moons were close to the edge of the rings but were clearly visible in the glare. The two globular clusters, however, appeared dim and I could not resolve the stars. Seeing M 97 and M 51 was a surprise and made me wonder what I could see using this scope at a darker site or with filters. I was able to split Mizar. No luck with the Double Double. It was low and seeing this night was not good.

The two-speed focuser was a joy to use. This was the first time that I spent some time getting comfortable with using a two-speed focuser and what a difference this makes. I believe that the fine focus contributed much to the nice views that I had.

I learned an interesting lesson tonight. I spent a good part of the night laying or sitting on the ground in order to use the eyepiece while looking at objects higher in the sky. This is a characteristic of refractors. I must remember to raise the legs on my tripod the next time or bring a blanket.

Did I remember to mention clouds? Thin high clouds started rolling in as I drove to Broad Creek but cleared up as it got dark except for some haze to the south. However, by 11:30, the clouds returned. By then, Gary and Bill had already left. Larry, Paul and I packed up and left about 12:20. Roy and Phil remained to wait for the moon to rise.

Overall, a pleasing night. We got about 4 hours of observing. I got to see some bright Messier objects using my new scope. The weather was warm but there were few bugs.

- *Tim Kamel*

### **Broad Creek Observations of April 6-7, 2010**

Scope used was a 16 inch Dobsonian. Temperature was very warm, probably 80 degrees. The seeing and transparency were no better than a three throughout the observing session. Clouds were in the south and the east during most of the observation.

Using the 12mm eyepiece, Venus appeared roundish, no gibbous phase was discernible. Mercury was spotted at 7:53, it appeared somewhat gibbous. In Orion, the multiple star Sigma Orionis was seen. M42 and M43 were seen as well. Reddish Mars was nice, not sure if I was seeing the polar cap or not.

Saturn looked like a disk with a line drawn through it. Its yellow color was very distinctive. I did see Titan later on in the evening.

Switched to the 19mm wide field TeleVue eyepiece and picked up M65 and M66, two spiral galaxies in Leo. Also looked at some double stars; Cor Caroli, in Canes Venatici; Mizar, in Ursa Major; and Castor in Gemini.

Switched to the club's 35mm Panoptic eyepiece and saw M35 and the small field open cluster NGC2158. This cluster is actually many times larger and further than M35 and it appeared as a soft glow; its individual stars were not seen. The Beehive, M44 in Cancer, was impressive in the 35mm eyepiece. M48, an open cluster in Hydra that I haven't seen in years, appeared circular with a vertical string of stars within it. Switching back to the 19mm eyepiece, NGC 2642, a 12.6 magnitude spiral galaxy in Hydra, was round at 1.5 x 1.5 arc minutes in size, very faint, even surface brightness with several faint field stars nearby, seen at 10:02 PM. This was my first observation of this galaxy and the only "new" object I saw this session.

Continuing with the 19mm eyepiece, M3, a globular cluster in Canes Venatici showed many stars across its core. M51 showed little spiral structure, its companion NGC 5195 was also seen. Moving into Coma Berenices, the large, naked eye open cluster Mel 111 was seen. This cluster has at least eight galaxies nearby, I saw four of them this session, NGC 4494, a 9.8 magnitude elliptical, NGC 4565, a 9.6 magnitude spiral, NGC 4448, an 11.1 magnitude spiral, and NGC 4251 a 10.7 magnitude spiral. Also seen was M53, a 7.5 magnitude globular cluster, rather compact, some stars were seen at the periphery of the cluster. M64, (the Black Eye Galaxy), an 8.5 magnitude spiral galaxy was very bright and large.

Looked at the double stars Algieba in Leo and the double-double, Epsilon Lyra. Switched to the 12mm eyepiece to see M97, the Owl Nebula, a 9.9 magnitude planetary nebula in Ursa Major. It was large and faint; the eyes were not visible. M108, a 10.0 magnitude galaxy, was nice, a rather bright core with extensions on either side of the core. I switched to the 40mm eyepiece and saw M57.

The sky was clouding up, again, so we decided to shut down; the time was 1:15. We had seven club members observing during this session. We had no dew at all. It was 68 degrees at 1:45AM when we actually left. I got home at 2:46 AM and the temperature was 74 degrees. Very unusual weather for early April.

- Phil Schmitz



Photo: Gary George

**Broad Creek**  
**April 6, 2010**  
8pm

Like the night before, galaxies and nebulae were being obscured by low seeing and transparency conditions. On the other hand, there very few, if any, clouds. The overall seeing was 2 out of 5, according to the Clear Sky Chart.

Saw Mercury, using the 12mm eyepiece and #58 green filter. The planet was in a gibbous phase, just past the quarter phase. Venus likewise displayed a gibbous phase.

Mars was overhead, also a slight gibbous phase, like Mercury and Venus. This is unusual for an outer planet. Used the #25A red filter, and saw some hints of detail, but that was all.

On to M42 in Orion, I used 9mm Nagler eyepiece (175x), but still couldn't see more than 4 stars in the Trapezium. Orion was low in the southwest, where there was obviously a lot of haze, along with the usual light dome from Bel Air. Other objects observed on this evening were:

M41 cluster in Canis Major. Also in the southwest mist, but it looked very bright in the 35mm Panoptic eyepiece. Planetary nebula NGC2486 in front of M46 could be seen, dimmer than usual, using an OIII filter.

The Clown (or Eskimo) Nebula, NGC2392 in Gemini, looked sharp and distinctive in the 9mm Nagler eye[piece, both with and without the OIII filter. Also saw NGC2371 planetary nebula in Gemini, using a 12mm eyepiece (121x) with OIII filter.

M35 star cluster in Gemini very bright, but its companion cluster, NGC2158, appeared dimmer than usual. This latter cluster is about 4 times the distance from us than M35.

NGC2237: Rosette Nebula in Monoceros was easily visible using the OIII filter. On the other hand, neither the Cone Nebula or any other nebulosity in the Christmas Tree asterism was visible. I tried both the OIII and UltraBlock filters.

M50 open cluster in Monoceros. A little fuzzy looking, but impressively bright, considering it was fading into the southwest light dome.

Two Hickson galaxies in Leo - NGC3190 and NGC3193. These galaxies are named from a list drawn up by astronomer Paul Hickson in 1982. They are compact groups of galaxies, acting gravitationally with each other, producing much radio emission and containing much dark matter.

Just west of the "sickle" of Leo, the NGC 2903 galaxy is bright. Its elliptical shape and bright core were very apparent. Also in Leo, NGC3628 galaxy, dim in the triplet with M65 and M66.

M48 star cluster in Hydra appeared round, almost like a globular cluster.

NGC4565 appears very dim, and the elongated shape that distinguishes it could be seen only with averted vision.

M3 globular cluster, like the night before, was resolvable into stars with averted vision.

Saw Saturn through a blue filter. Could see shadow of the rings on the planet and a dark band in the southern hemisphere.

It is still early spring, and many galaxies are coming into view in the northern region of the sky. The constellations of Leo, Virgo, Coma Berenices and Ursa Major contain hundreds of galaxies that are visible in modest telescopes.

M81 and M82 were very clear, as there was no haze in the northern sky. They both appeared in the same FOV in the 35mm Panoptic eyepiece. <sup>11</sup>

Saw NGC3077 and NGC2976 galaxies, which belong to the same galactic group as M81 and M82.

M51 in Canes Venatici - dim but able to see the companion, NGC5195, and the spiral arms around them.

It was now around midnight and Coma Berenices, one of the open clusters closest to earth, was very high in the sky. There are many objects in the vicinity of this cluster:

NGC4251, a 10<sup>th</sup> magnitude galaxy.

NGC4448 galaxy. Magnitude 11.

M53 globular cluster .

NGC5053: Distant globular cluster.

M64 galaxy. Couldn't see its distinguishing "black eye" dust cloud.

NGC2403 in Camelopardalis. One of my favorite galaxies. It appeared dimly and without its usual sparkling stellar clouds. Another member of the M81 group.

In Leo, M105 and its two companion galaxies NGC3389 and 3384. A triplet within the larger triplet that includes M95 and 96.

Saw M13 globular cluster in Hercules through a cloud, also the M92 globular.

NGC 6543 planetary "Cat's Eye" nebula in Draco. OIII filter made it very bright.

Viewed the M84 and M86 galaxies in Virgo, with the 35mm Panoptic. Both looked dim. M106 galaxy appeared bright in Ursa Major.

Scorpius was rising around 1 am, bringing on the summer sky, but a combination of clouds and haze prompted us to begin packing. It had been another good session.

- Roy Troxel

**Broad Creek**  
**April 10/11, 2010**  
8pm to 1:45am

Unusually clear night for BC. High transparency and seeing, and no clouds in sight. The Trapezium in Orion was about 10 to 15 degrees above the horizon after sunset. Only four stars could be seen at 175x, so there was clearly haze in the direction of Bel Air. The light dome increased as the sky darkened. However, that didn't affect the observing conditions in the rest of the sky.

Venus through the #58 green filter. Shows a gibbous phase. The image is wobbling, as it is just above the trees, low in the western sky.

Not far from Venus, but lower in the sky, was Mercury, which displayed almost a quarter phase. The planet was about 60% illuminated.

Looked at Saturn next. The sky had not completely darkened, but I saw two moons, Titan and Rhea, on either side of the planet. Could see the black shadow of the rings on the planet, as well as a band in the southern hemisphere and a thicker but lighter band on the opposite hemisphere. Using 175x eyepiece.

Began looking at galaxies in the region of Leo, Virgo, Ursa Major and Coma Berenices. They all appeared brighter than usual, partly because they were nearly overhead. They included the following:

NGC3242: The "Ghost of Jupiter" planetary nebula in Hydra. Using the OIII filter, it really did look like Jupiter, minus the distinctive cloud bands.

NGC4565 in Coma Berenices: A long needle of a galaxy, seen edgewise. Could see hints of the black cloud around the core. Also saw the M98 galaxy.

M94 galaxy in Canes Venatici.

In Ursa Major:

M82 - could see the dark vertical lanes through its edges

M81 - could see its bright core and a "cloud" of its arms.

M108 - elongated galaxy, seen edge-on

M109 galaxy.

The Spring months also bring many globular clusters into view. These are a few that I saw:

M4 globular , west of Antares. Low in the southeast through a haze.

M80 - small but brighter than M4, northwest of Antares.

NGC6229 - globular cluster in Hercules

Two planetary nebulae: NGC6210 in , and NGC2371 in Gemini, both seen through the OIII filter.

I closed the evening with two sets of double stars in Lyra: Zeta and Epsilon (the double-double star). Began to pack up the equipment at 1:45am. It had been a good night, free of dew, with reasonably dark skies.

- Roy Troxel

### **Observation of April 10 – 11, 2010**

When I arrived at Broad Creek at about 6:45 PM, Paul, Dave and Bill were already there. The temperature was 55 degrees. Roy and Jim arrived around 7pm and Cathy was there by 7:30. The sky was a dark blue with no clouds and no haze visible. But would it hold?

All observations were with the 12mm eyepiece using the 16 inch scope unless otherwise noted.

Around 8 PM, I spotted Venus and at 8:10, I spotted Mercury in my finder. Through the 16-inch scope, Mercury appeared to be around half full, definitely in a gibbous phase. I could not see Mercury naked eye. With twilight still in the west, using my 12mm eyepiece, I checked out Sigma Orionis, a nice multiple star, and the M42 and M43 nebulae. A lot of detail was visible in the Orion nebula, including four stars of the Trapezium (M42). As it was getting dark, the winter triangle of Betelgeuse (Orion), Procyon (Canis Minor) and Sirius (Canis Major) was easy to see naked-eye.

Mars was a brilliant reddish orange disk, but I couldn't see any indication of the polar cap. Saturn was very yellowish; with its thin rings, along with Titan, made for a nice view.

With the 35mm Panoptic, I checked out some open clusters. Although M44, the Beehive, in the constellation of Cancer, doesn't completely fit in the 35mm eyepiece field, several hundred stars were visible. The Pleiades, M45 in Taurus, now well into the western part of the sky, was a spectacular sight in the 35mm eyepiece. I then turned the scope toward Gemini and looked at M35 and its small line-of-sight companion, NGC 2158. (M35 also didn't fit in the 35mm eyepiece view.) NGC 2158 is some 13,000 light years away from us. It is only 5 arc minutes in diameter and glows at magnitude 8.6. No stars were discernible in NGC 2158, just a soft glow, using

averted vision. If this cluster were at the same distance as M35, it would be one of the finest open clusters in the sky. M35 is only about 2,200 light years away and shines at magnitude 5.1. Moving on to M1 in Taurus the Bull, this supernova remnant is not very large in the 35mm eyepiece, so I switched back to the 12mm eyepiece and could barely discern the "S" shaped pattern, I have seen it better. M1, of course, is slipping down in the western sky this time of the year.

Turning the scope toward Canes Venatici, I could see some spiral structure in M51. Its companion NGC 5195 was also visible. M3, a nice globular cluster in Canes Venatici, did not appear very sharp, so I decided to collimate the scope again and this time I got it right! M3 looked much better.

All the other objects were open clusters, except for M1, and the 35mm eyepiece was more forgiving of collimation errors; the 12mm, being much higher magnification is not forgiving at all! (Maybe why M1 didn't appear its best!)

Moving into galaxy country - the constellation of Leo - I tracked down 12 galaxies. The triplet M65, M66 and NGC 3628 are all spiral galaxies; however, NGC 3628 does appear to be the more elongated of the three. M66 is the brightest member at magnitude 8.9, then M65 at 9.3, and lastly NGC 3628 at 9.5, Messier must have just missed seeing this galaxy. I did take a glance at Algieba, a close binary pair of yellow suns some 90 light years away from us.

Nearby Algieba is Hickson 44, one of the easier viewed Hickson galaxy groups. NGC 3190 is an 11.2 magnitude spiral galaxy and along with NGC 3193, a 10.9 magnitude, are the easiest two of the four galaxies to view. I was not able to see the other two, NGC 3187 and NGC 3185. Another pair of galaxies seen in Leo were NGC 3226 and NGC 3227. These two appear similar in the 12mm eyepiece, however, NGC 3226 is an 11.4 magnitude elliptical galaxy and NGC 3227 is a 10.3 magnitude spiral galaxy. Although in long exposure photographs, these two seem to be connected, however, visually, you can easily see separation between them. Moving on in Leo, I spotted M96 first, a 9.2 spiral galaxy, and then I stumbled across the M105 group while looking for M95.

M105, a 9.3 magnitude elliptical galaxy is visible with NGC 3384, a 9.9 magnitude spiral galaxy and NGC 3389, an 11.9 magnitude spiral galaxy, in the same high power field of view. How Messier missed NGC 3384 is a mystery. Finally, I located M95, a 9.7 magnitude spiral galaxy, completing this group of five galaxies.

Canes Venatici houses a treasure trove of galaxies. I have seen 46 galaxies in this small constellation, although I only saw two tonight. M63, a very bright, 8.3 magnitude spiral galaxy, also known as the Sunflower Galaxy, is around 35 million light years away. This galaxy is 13.5 arc minutes by 8.3 arc minutes making it a true giant galaxy. Imagine how this galaxy would look if it was at the distance of M31? The other galaxy seen was M94, an 8.2 magnitude spiral galaxy in the Canes Venatici 1 Galaxy Cloud. This galaxy at 13.0 arc minutes by 11.0 arc minutes is another giant galaxy at a distance of 21 million light years!

I also took a little time to look at the multiple stars Castor in Gemini, Mizar in Ursa Major, Polaris in Ursa Minor and Cor Caroli in Canes Venatici.

NGC 2392, a 9.2 magnitude planetary nebula, in the constellation of Gemini, shows some mottling effect across its disk. The central star is easily visible. This object shows more detail than most planetary nebulae.

In Ursa Major, M81 and M82 were viewed in the 35mm eyepiece. These two look extremely nice in a wide field view. Also in Ursa Major, M97, the Owl Nebula, a 9.9 planetary nebula was an excellent sight tonight. Only saw one eye, but most nights I don't see either one. Another galaxy seen was M108, a beautiful 10.0 magnitude edge on spiral galaxy. Lots of detail in this one, bright central core with very long extensions on either side! It may have been the best view of this galaxy I have ever had!

Moving to Coma Berenices, M53, a bright 7.5 magnitude globular cluster, did slightly resolve. The neighboring globular cluster NGC 5053, a very sparse, low density object was not visible, even though it is 9.9 magnitude. This is a very difficult object and requires the optimum skies to see! I kept trying and trying and it just wasn't visible. I was disappointed! By contrast, the next object, M64, a bright 8.5 magnitude spiral galaxy, was easy to see. This is the Black-Eye Galaxy and the black eye was seen. Next up was Melotte 111, a bright, 1.8 magnitude open cluster that only contains 38 stars. It is 260 light years distant and is about half a billion years old. Other objects seen were NGC 4494, a 9.8 magnitude oval shaped elliptical galaxy and NGC 4565, a large 9.6 magnitude spiral galaxy that looked better tonight than the previous observation, however, it did not look as nice as M108 this evening!

I noticed that M57 may be above the trees in the east so I searched for it and it was visible through the tree branches! The branches did not diminish the view of this bright 8.8 magnitude planetary nebula. Also viewed the multiple stars; Epsilon Lyrae (the double double), and Beta Lyrae. In Hercules, the globular cluster M13 (Class V) was impressive as always, glowing at magnitude 5.7, this cluster easily resolves to the core. M92, another globular cluster, shining at magnitude 6.4 appeared brighter than M13 tonight. It is a much more concentrated globular (Class IV) than M13. In Cygnus, the optical double star Albireo was seen as was M39, a nice bright, magnitude 4.6 open cluster.

Closing out the night's observation were two contrasting globular clusters in Scorpius, M4, a very loose 5.8 magnitude globular cluster (Class IX), appeared fainter than usual since it was low in the east. Also visible was M80, a 7.3 globular cluster (Class II). M80 is very concentrated and showed no stars across its core. As Roy and I decided to stop observing (we were the last two), I looked over to the east and saw the Summer Triangle; Vega (Lyra), Deneb (Cygnus) and Altair (Aquila), announcing the arrival of Summer! So both the Winter and Summer triangles were visible during this observing session.

We stopped observing at 1:55 AM and started to pack up. It was 2:38 AM when we left and it was 46 degrees. There were no clouds during the entire observation. When was the last time that happened? Overall, the seeing was a four and the transparency a five. I can say that after this evening my galaxy withdrawal is officially over! I arrived home at 3:30 and the temperature was 50 degrees. This has been the best observing at Broad Creek since October 31, 2008!

- Phil Schmitz

## **Outreach Programs**

### **Patterson Mill High School March 23, 2010**

I had the opportunity to participate in an outreach program after an absence of several months. This one was at the Paterson Mill Middle/High School complex at the corner of Emmorton Road and Patterson Mill Road in Bel Air. The school is less than two miles from my house and I could not pass up the opportunity.

A science teacher at the school had asked that we provide a program for three of his classes and seven club members responded. Besides me, Gary, Joe, Mark, Mike, Tom Miller, Roy, Gary McDaniel and Grace also participated. We had 50 guests, students and their families.

Though the sky was clear all day, by the time I was driving over to the school, there were thin clouds moving in, and these basically covered the entire sky by the time it got dark. They were thin enough that the brighter objects in the sky were still visible. As the night went on, the clouds thinned and then returned several times before eventually completely clearing as we were heading home. However, we were still able to showcase many objects that included Mars, Venus, Saturn and, of course, the moon. Deep sky objects included the Pleiades, Praesepe, double cluster and Mizar/Alcor, among others.

Overall, this was a great outreach. The guests, both students and their parents, were very courteous and inquisitive about the scopes and what we were looking at. The faculty was thrilled at the level of turnout that we provided and inquired if we could do this on a regular basis. It would be difficult to say no given the reception we received.

- *Tim Kamel*

## **Open House March 20, 2010**

Tonight was our March open house and it was an excellent event. Weather had been beautiful all day and the forecast was for it to continue into the evening. I planned on getting to the observatory around 7pm to give me time to get set up in daylight and before the guests arrived. As I drove past the Technical School, I saw that there were many cars parked at the far end of the parking lot that is near the observatory. As I got onto the driveway and close to the observatory, I found the parking lot to be full, with members setting up scope and many visitors waiting.

I was able to squeeze into a parking spot, get my equipment unloaded and set up. I had again brought my trusty ETX-70 and set it up to look at the moon while we waited for darkness to fall. Several other members were also set up and were viewing the moon and other bright objects as they became visible.

After it got dark enough, I did my alignment and held a view of Venus till it set below the roof line of the observatory. During the evening, I alternated between the moon, M 42, M 45 and M 44, and also showed off Saturn, though the view was somewhat unsatisfactory due to low magnification of my scope and the edge on nature of Saturn at this time. Other members were able to show case dimmer objects including galaxies and globular clusters.

Though we were not hosting any scout troops this month, we still had 89 visitors. This was our best showing so far this year.

Also participating for the club were Paul, Dave, Joe, Phil, Mark, Jeremy, Karen and Maggie, Larry and Ricky, Gary George, Tom and Angela, Grace, Roy, Gary Almes and his son Griffin and Bill Gelston, a new member who had joined that evening.

The public session continued till after 10, after which many of us hung around to take looks through Joe's 20" Dobsonian, mostly looking at faint fuzzies that show up really nice on that scope.

- *Tim Kamel*

## Astrophotography



**M46 Open Cluster in Puppis**

*By Jeremy Kirkendall.*

*Note: Newsletter images are low-resolution and not suited for printing, wallpaper, etc. If you are interested in a CD of the full-resolution, uncompressed .tif files of our results so far, just ask or email Larry Hubble and he will bring it to the next club meeting. Larry can be reached at: [lhubble@comcast.net](mailto:lhubble@comcast.net)*

## Miscellaneous

### THE SCULPTOR GALAXY GROUP

The Sculptor Galaxy Group is not well placed for mid northern observers. This group is apparently the closest galaxy group to us; the M81 group is the next closest (This group will be discussed in the next newsletter). Known members in the Sculptor group include NGC 55, NGC 253, NGC 300 and NGC 7793 in Sculptor, and NGC 247 and possibly NGC 45 in Cetus. The group is about eight million light years away from us.

NGC 253 is the brightest member of this group of galaxies. It is also huge, at 30 x 6.9 arc minutes with an overall magnitude of 7.6. Because of its low surface brightness, about 13.2, the outer extensions are not easily visible. This galaxy is some 70,000 light years in diameter. Photos of most of these galaxies are probably on the internet, or you can see a photo of this galaxy in Burnham's Celestial Handbook Vol. 3 on pages 1737 and 1738 (upper photo).

My basic description: Faint, large, elongated, 3x15, viewed at 45x, 40mm eyepiece, 16 inch telescope.

NGC 300 is another large diffuse galaxy. Its size is 20 x 13 arc minutes, shining at magnitude 8.1, but with a surface brightness of magnitude 14. This galaxy is at least 32,500 light years in diameter. There is a photo of NGC 300 in Burnham's Celestial Handbook Vol. 3 on page 1738 (lower photo).

My basic description: Not yet seen

NGC 55 is the second brightest member and is some 70,000 light years in diameter. NGC 55 is 30 x 6.3 arc minutes, shines at magnitude 8.1, and has a low surface brightness of 13.6. This galaxy is seen edge on. In photos, this galaxy appears to have the central core off to one side. There is a photo of NGC 55 in Burnham's Celestial Handbook Vol. 3 on page 1735.

My basic description: Not yet seen

NGC 7793 is smaller than most of the other galaxies in this group, around 14,500 light years in diameter. It is 10.5 x 6.2 arc minutes in size, shining at magnitude 9.2 with a surface brightness of 13.6. There is a photo of NGC 7793 in The Night Sky Observer's Guide Vol. 1 on page 368.

My basic description: Bright, 6x4, viewed at 50x, 40 mm eyepiece, Celestron 8 inch telescope

NGC 247 in neighboring Cetus is a spiral galaxy shining at magnitude 9.2. Another large elongated galaxy, 19 x 5.5 arc minutes, has a surface brightness of 14.1. There is a photo of NGC 247 in Burnham's Celestial Handbook Vol. 1 on page 648 (upper photo).

My basic description: Faint, elongated, 10x4, viewed at 50x, 40mm eyepiece, Celestron 8 inch telescope

NGC 45, also in Cetus is a 10.8 magnitude spiral galaxy, smaller in size than the other members at 6.3 x 4.6 arc minutes, with a surface brightness of 14.3. Photos of it show it to be near a 7th magnitude star. There is a photo of NGC 45 in The Night Sky Observer's Guide Vol. 1 on page 155 (right photo).

My basic description: Not yet seen

I definitely need to revisit this group, especially the three that I haven't seen!

When the light we see today left this nearby galaxy group, some 8 million years ago, it was the Miocene Epoch here on Earth. One of the principal creatures roaming the Earth's oceans was *Carcharocles megalodon*, the Extinct Giant White Shark, which is believed to have reached lengths of at least 60 feet!

- Phil Schmitz

The ***Delmarva Stargazers***  
are pleased to announce the

**Star Gaze XVI  
Star Party**

***When:*** Starting Thursday April 15, 2010 at 11 AM  
Ending Sunday morning April 18, 2010

***Where:*** Tuckahoe State Park's Equestrian Center  
near Queen Anne, MD.

For more information, go to  
[Delmarvastargazers.org](http://Delmarvastargazers.org)

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**Cherry Springs  
Annual Star Party  
June 10 – 13, 2010  
(Thursday thru Sunday)**

**Registration is now OPEN!**

For more information and online registration, visit:  
<http://www.astrohbg.org/CSSP/Registration.html>

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