

# CONSTELLATION

An Official Publication of the Bucks-Mont Astronomical Association, Inc

VOLUME 25, Issue No 2	April/May/June 2010	Scott Petersen and Chris Sommers, Editors
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## Spring 2010 President's Message

- by *Dwight Dulsky*

### Get Comfortable with Old Friends

We are on the verge marking another Summer Solstice and hopefully a better observing summer here in the northeast. So far, the spring has been better than 2009 with some very nice warm evenings. As the weather becomes nicer, it a great time to visit those old celestial friends. Whether you are a new observer or an old salt, summer is a great time to get comfortable at that eyepiece for some extended observing. Much of my limited observing time is spent at StarWatches usually trying to show folks as many things as quickly as possible. But, my best memories are the quiet times under a warm summer sky engaged with some of the old familiar targets. Let's face it, when it is 20 degrees out in the middle of January it's hard to spend much quality time at the eyepiece. But in summer, those cool evenings are perfect for extended viewing of our favorite objects.

Unless you are very lucky, observing can really become a pain in the ... back. It seems that most astronomers I know suffer some back issues. Whether it's from all of our heavy equipment or the fact that were all just an older demographic with tired old spines! It always seems just when you get your favorite object centered in the eyepiece – you're either kneeling on the ground or hunched over in some contortionist's pose that starts hurting your back or neck in about 2 minutes. If you're in pain you'll be spending more time looking for the Motrin and less time looking for Messiers.

A little preplanning may help you prepare for more comfortable observing sessions. The best views in our suburban skies are generally straight up. For refractor owners this means your eyepiece will be low. Perhaps lowering your tripod will enable you to sit comfortably in a chair while observing. There are special observing chairs available that may make your sessions a lot easier on your back. Most of these enable you to adjust the height to bring you to the eyepiece with less pain and suffering. If you are handy, you might try building one yourself. There are plans and examples available on the Internet. Some folks have used a similar chair that drummers use (known as a Drummer's Throne). These are height adjustable, too. The one thing to check out is the end of the legs. Since you will most likely be setting up on soft ground, legs that are too thin may sink into the soil and throw you off balance.

Even though it is summer, bring along some warm clothes as a good clear night will end up getting quite cool as the evening wears on. Those shorts you wore at 9:30 PM will be inadequate at 1 AM when it is 50 degrees. Another item not to forget for those summer nights is – bug spray. But be careful not to get your hands and fingers covered with the goop as you will be getting it all over your eyepieces and equipment later on.

So enjoy these great warm nights visiting old friends and discovering new ones under the summer sky.

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**Submission deadline for articles is the 15th of the month prior to publication.**

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## Observations from Vermont March 2010

- by *Bob Dudley*

This month I decided to try a new spot to observe from, namely my deck behind the house. The house effectively blocks the light from traffic on River Rd and Route 313. Unfortunately the house also blocks the whole western half of the sky and I do have to look over the roof of the garage. To make matters worse there is a maple tree that interferes with viewing. It will be a real problem when the leaves come out. I guess that I could chop it down, but I much rather have the shade from the tree in the summer. I guess that I will keep looking for a better spot in the yard. I am blessed with good skies and cursed with a yard full of trees.

Unfortunately at this time of the year the good skies come with bitter cold temperatures. On the 6<sup>th</sup> I went out to do some viewing, the skies were beautiful and the night was cold. It was so cold my eyepieces frosted over from my breath. To add to my frustration I did not find one of my objects on my viewing list and did I mention that it was cold? It seems that cold weather adds to my frustration. I called it quits and went inside.

The 7<sup>th</sup> was warm, I was out in my shirt sleeves (temperature was 49). Unfortunately there were some high thin clouds with heavy clouds to the south. The first object up was M-41 it did not contain as many stars as when I previously observed it. The brightest star in the cluster is supposedly a red giant, however I did not see a red star in the cluster.

Another cluster that I tried to find the night before was NGC 2362 and I was successful this night. It is a small cluster of stars surrounding Tau or 30 Canis Majoris. It is a small cluster approximately 6' in diameter. The members of the cluster range from mag 7.5 to 13 with the exception of 30 Canis Majoris which is a Mag 4 member of the cluster. I easily saw a dozen stars with the grainy grayness typical of unresolved dim stars. It must be a marvelous little cluster under ideal observing conditions.

The last object on my list was the Beehive Cluster, M-44. Using Mars as a guide I was readily able to spot the cluster visually. The finder scope view was good as it is a large cluster with a good number of bright stars. It did not disappoint when I observed it through my Dob using my 25 mm eyepiece. It is a large cluster and it filled the whole field of the eyepiece plus some.

My observing list contained several galaxies but they would have to wait until March 17 when the sky conditions were a lot better. The temperature that day was in the lower 60's and the humidity was low. The other advantaged was there was no wind. I moved my scope back to the drive way as my goal was to observe galaxies and a planetary nebula in Ursa Major. I was somewhat thwarted as I wanted to observe M-101 but unfortunately trees interfered. Possibly another tree to cut down(?). I guess that I will have to wait until later in the year when it is higher in the sky. I did look at Mizar. It was easily split at 48 X. Is it an illusion that one star slightly larger than the other? They are almost equal intensities when I observe then, but one appears slightly small. I know this sounds strange as all stars are point objects.

Fortunately Beta Ursa Majoris was well up in the sky. Moving the field of view approximately 1° south I moved my telescope ~3° west and I was on top of M-97, The Owl Nebula. It was dim (Mag 9.9), but it was fairly easy to observe. It stood out better from the background using a Tele Vue Bandmate NebuStar Filter. With the filter it appeared that the planetary nebula had some difference in brightness across its face which was not observed without the filter. There was a dim star to the west of the nebula that did pop in and out of visibility. As I was observing this object a dim satellite moved through the field of view. The magnitude of the satellite changed with a regular period and I wonder if it was a piece of space junk tumbling in its orbit. Later on in the evening I observed a second dim satellite in my finder scope.

As I was working my way to M-97 I had come across something that appeared to be a string of dim, poorly resolved stars and I decided to return to them. After consulting my charts I realized that I was looking at NCG 3556 (M109). This edgewise galaxy shines at Mag 10.0, however it appeared to be brighter than M-97. The galaxy was definitely not uniform in appearance as parts of it were brighter than other and the faint star west of the core was just visible adding to the mottled appearance.

Neither of these objects took higher power well. M-97 disappeared into the background and it was hard to focus on either object as there was not a bright star in the field of view. To aid in the focusing of the object. I guess that a 17mm 2" diameter eyepiece is on my wish list, along with a good 5mm eyepiece of a 2x Barlow.

My one frustration is that I am still having difficulty finding the objects; however it is becoming easier the more that I am using the telescope. Dark skies help a lot especially when I have to move my telescope only a few feet from a breezeway to either the garage or deck. The breezeway is several degrees warmer than the weather outside and it protects the telescope from the elements. It usually set the telescope up, outside, shortly before sunset and the mirror has reached thermal equilibration before it is dark enough to observe for the night.

Another frustration is the quirky weather. The end of March is blustery and cold with an unexpected snow fall. The moon is now up and I am relegated to looking for open clusters. So the first half of April will be open clusters and the second half is galaxies. The end of April I have a road trip to Philadelphia-Raleigh-Williamsburg-back to Philadelphia and finally Vermont. It may be the best seeing of the year while I am on this little jaunt.

Clear Skies  
Bob Dudley

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## Copernicus Gets His Due

- by Dwight Dulsky



***“This fool wants to turn the entire science of astronomy upside down!”***

Martin Luther 1539

Astronomers have long acknowledged Nicholas Copernicus’s contributions to the evolution of astronomical science. He is finally getting some overdue recognition from the Catholic Church this spring. Declared a heretic for his belief in a Sun centered universe, the Polish astronomer was buried over 467 years ago in an unmarked grave in the Frombork Cathedral.

Although we all know Copernicus for his contributions to astronomy, when you read a summary of his life, astronomy was a dual career with of all his other duties as a Canon of the Catholic Church. He performed many administrative functions for the church throughout his entire lifetime while simultaneously developing his theories of how the universe worked.

In the time frame between 1514 and 1516, Copernicus “purchases a house convenient for his astronomical observations; he has an observation platform built in the back for his astronomical instruments.” (<http://www.frombork.art.pl/Ang11.htm> ). Sounds like something we might do! Although astronomical publications and letters punctuated his life, it wasn’t until very close to his death that Copernicus published what he knew would be a controversial paper - *On the Revolutions of the Heavenly Spheres*.

When he died a few months later, Copernicus was buried in an unmarked tomb beneath the Frombork cathedral. At the time of his death, Copernicus was regarded as a common man thus receiving a common burial. It wasn't until many years later when his papers were translated from Latin into the more common local languages that the church became concerned about these "radical" ideas of a heliocentric universe could become cause for concern among the masses. It was only in 2005 that testing of these remains and other DNA fragments from books he was known to have handled proved that the body was indeed that of Nicolas Copernicus. In the fervor that followed after his death Copernicus's ideas were denounced as heretical by the church and his final paper banned.

So now some 467 revolutions around the Sun later, Copernicus is getting a proper burial and recognition from the Church. On Sunday May 23, 2010 the body was moved into a tomb in the main part of the Cathedral, blessed with holy water and words describing him as the "Creator of Heliocentrism" and praising him for his lifetime of hard work and dedication. *Note: that in the 3<sup>rd</sup> century, Aristarchus of Samos first proposed the idea of a Heliocentric model, but it wasn't widely accepted until Copernicus could actually prove it mathematically.*

Click here for a short [YouTube video](#) of the reburial ceremony.

References: <http://www.timesonline.co.uk/tol/news/world/europe/article7134341.ece>  
<http://www.frombork.art.pl/>

Painting "Conversation with God" by Polish artist Jan Matejko 1873 oil on canvas (image in the public domain)

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## Tips for April

- by *Bernie Kosher*

The milder weather has come (ha!) and observing begins in earnest. Last time we covered things to do in preparation for the evenings ahead, with a check of our equipment foremost. Let's talk over some planning and what charts and such to use.

Set up some sort of plan for the night. Most of us just jump from one show object to the next, and this is fun. Not all of us wish to have a structured plan for the session, which is fine, but you'll find you can get in more observing if you check what constellations and such are well placed for that night. Pick some objects you haven't tried before and make an effort at these. While scanning for the target you will find attractive patterns of stars and possibly some deep sky sights. Your eye will become more sensitive to faint nebulous objects. Once your target is located search the general area. Galaxies, clusters and double stars abound in some regions. The bowl of the Dipper contains over 10 galaxies locatable in a 6" from a dark sky. Log your observations. I've never kept track of my observations and have no idea how many of the Messier and other objects I've even found. This season I'll start, and plan on finishing the Messier objects within the year.

Setting up a plan involves using a chart or PC program. Personally, I find the Edmund Mag 5 Atlas a simple and easily used guide. It lists most of the Messier and some surprisingly bright NGC objects. Making copies of the pages and adding your own notes is a good idea. Nortons is still a good atlas to about mag 6.5. Beyond that the choice seems to be Tirions 2000 (about mag 7.5) or similar. The Uranometria 2000 goes to about mag 9 as does the AAVSO atlas. PC programs can go even deeper depending on the program and if it uses CD-ROM. On my laptop, I find TheSky very effective and full of features. These also offer map printing and this can be a great convenience.

Anyhow, it's all for enjoyment. So whatever your system, enjoy your evenings.

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*This article was first published in April 1996, CONSTELLATION, Vol 11, No 4. [- ed]*