



EPHEMERALS february 2013

03/01
Skywatch
Northwest River Park

03/07, 7:30 pm
BBAA Monthly Meeting
TCC Campus, VA Beach
Building J, Rm JC-12

03/09
Nightwatch
Chippokes State Park
Surry, VA

03/22, 7:30 pm
Garden Stars
Norfolk Botanical Gardens

03/22, Dusk to 11pm
Mt. Trashmore Star Party



BACK BAY observer

The Official Newsletter of the Back Bay Amateur Astronomers
P.O. Box 9877, Virginia Beach, VA 23450-9877

Looking Up!

Hello again! As the weather warms up, we are approaching one of my favorite times of year for stargazing. The days are warm, the nights are cool but not cold, and the bugs haven't come out yet. Plus there are some very cool, but underrated, objects out in the spring. Although the darkness comes later, and some of the most recognizable constellations are no longer visible, there is still some great stuff out there.

Take, for instance, Auriga. Yes, it's setting earlier and earlier, but there are at least three Messier objects in this constellation (36, 37, and 38), not to mention a bunch of NGC objects.

How about Hercules? There's not a lot, but as it rises, its two jewels, the Great Cluster of Hercules and M92, both beautiful globular clusters, become more and more visible.

Of course, this year, both Jupiter and Saturn will be highly visible in the spring as well.

I hope to be doing a lot more stargazing this spring, especially since I'll be traveling up in the mountains on a pretty regular basis. The place I'm staying has beautifully clear, crisp skies, and is up out of the way of light pollution.

I hope that you all will take advantage of the warmer weather and the lovely constellations this spring. Clear Skies!

Courtney Flonta

CONTENTS

Ephemerals	1
Looking Up	1
NASA Space Place	2
Club Info	3
Meeting Minutes	3
A Sketching Tip	5
Dodging the Jinx	6
The Galileoscope	7
Calendar	8

The Art of Space Imagery

By Diane K. Fisher

When you see spectacular space images taken in infrared light by the Spitzer Space Telescope and other non-visible-light telescopes, you may wonder where those beautiful colors came from? After all, if the telescopes were recording infrared or ultraviolet light, we wouldn't see anything at all. So are the images "colorized" or "false colored"?

No, not really. The colors are translated. Just as a foreign language can be translated into our native language, an image made with light that falls outside the range of our seeing can be "translated" into colors we can see. Scientists process these images so they can not only see them, but they can also tease out all sorts of information the light can reveal. For example, wisely done color translation can reveal relative temperatures of stars, dust, and gas in the images, and show fine structural details of galaxies and nebulae.

Spitzer's Infrared Array Camera (IRAC), for example, is a four-channel camera, meaning that it has four different detector arrays, each measuring light at one particular wavelength. Each image from each detector array resembles a grayscale image, because the entire detector array is responding to only one wavelength of light. However, the relative brightness will vary across the array.

So, starting with one detector array, the first step is to determine what is the brightest thing and the darkest thing in the image. Software is used to pick out this dynamic range and to re-compute the value of each pixel. This process produces a grey-scale image. At the end of this process, for Spitzer, we will have four grayscale images, one for each for the four IRAC detectors.

Matter of different temperatures emit different wavelengths of light. A cool object emits longer wavelengths (lower energies)

of light than a warmer object. So, for each scene, we will see four grayscale images, each of them different.



This image of M101 combines images from four different telescopes, each detecting a different part of the spectrum. Red indicates infrared information from Spitzer's 24-micron detector, and shows the cool dust in the galaxy. Yellow shows the visible starlight from the Hubble telescope. Cyan is ultraviolet light from the Galaxy Evolution Explorer space telescope, which shows the hottest and youngest stars. And magenta is X-ray energy detected by the Chandra X-ray Observatory, indicating incredibly hot activity, like accretion around black holes.

Normally, the three primary colors are assigned to these gray-scale images based on the order they appear in the spectrum, with blue assigned to the shortest wavelength, and red to the longest. For Spitzer, with four wavelengths to represent, a secondary color is chosen, such as yellow. So images that combine all four of the IRAC's infrared detectors are remapped into red, yellow, green, and blue wavelengths in the visible part of the spectrum.

[Download a new Spitzer poster](#) of the center of the Milky Way. On the back is a more complete and colorfully-illustrated explanation of the "art of space imagery."

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with NASA.

The Back Bay Amateur Astronomer's Observer

The BBAA Observer is published monthly; the monochrome version is mailed to members who do not have internet access. Members who do have Internet access can acquire the full color version on the Internet at <http://www.backbayastro.org/observer/newsletter.shtml>

Please submit articles and items of interest no later than the date of the monthly meeting in order to be in the next month's edition.

Please submit all items to:
bbaa.newsletter@gmail.com or BBAA Observer, P.O. Box 9877, Virginia Beach, VA

President
Courtney Flonta
757-580-0644
president@backbayastro.org

ALCOR
Bill McLean
alcor@backbayastro.org

Vice President
Chuck Jagow
757-430-9732
vp@backbayastro.org

Librarian
Bill Newman
billn59@verizon.net

Treasurer
Jim Tallman
treasurer@backbayastro.org

Scholarship Coordinator
Ben Loyola
benito@loyola.com

Secretary
Kevin Swann
757-424-6242
kjswann@yahoo.com

RRRT Coordinators
Lawrence "Bird" Taylor
Lawrence.W.Taylor@nasa.gov
Kevin Weiner
kevin.weiner@cox.net

Webmaster
Nick Anderson
nranderson.deepskyobserver@gmail.com

Newsletter Editor
Paul Tartabini
bbaa.newsletter@gmail.com

BBAA Internet Links

BBAA Website
www.backbayastro.org

Yahoo! Groups
tech.groups.yahoo.com/group/backbayastro

BBAA Observer Newsletter
www.backbayastro.org/observer/newsletter.shtml

BBAA Meetings

The BBAA meet the first Thursday of every month except for July. The March meeting will be held in the KIVA Room at [Plaza Middle School](#) located at 3080 South Lynnhaven Rd in Virginia Beach 7:30 pm.

February 7, 2012 BBAA Meeting Minutes & Summary

The Meeting was held at TCC and was called to order by president Courtney Flonta at 7:31 PM.

Those in attendance were:

Curt Lambert, Courtney Flonta, Tony Flonta, Danny Lee, Karen Jagow, Chuck Jagow, Kenny Broun, Joey Quinn, Mark Gerlach, Robert Beuerlein, Paul Tartabini, Jim Tallman, Tom Flatley, Chris Jarvis, Bill Newman, Scott Patterson, Andrew Reisenweber, Bill Holmes, Ben Loyola, Robyn Korn, Kevin Swan.

New Guests:

Scott Patterson was at the Venus transit. Danny Lee was an old BBAA treasurer. Mark Gerlach brought another nephew, Chris Jarvis.

Calendar:

- March 1 Friday, Skywatch @ Northwest River State Park, Equestrian area, 6PM
- March 7 Thursday, Monthly Meeting @ Plaza Middle School, 7:30 PM
- March 12 Tuesday, Comet near the Moon.
- March 22 Friday, Garden Stars @ Norfolk Botanical Gardens, 7:30 PM
- April 4 Thursday, Monthly Meeting @ TCC-VA Beach Campus, 7:30 PM.
- April 5 Friday, Skywatch @ Northwest River State Park, Equestrian area, 7PM
- April 20 Saturday, Astronomy Day @ VA Beach Central Library, 10AM - 5PM (setup 9AM).

[Continued on page 4](#)

Meeting Summary, continued from page 3

Meeting Summary:

- Jeff Goldstein's 60mm refractor was donated to the Giangregorio couple.
- We need displays for Astronomy Day 4/20. Mark Gerlach has some NASA gifts for presentations.
- Jim Tallman passed out a survey for all present to fill out. It was for various seminar/speaker interests.
- At the end of the meeting a drawing was held for those present giving away a spiral bound star map – won by Tom Flatley.
- 8" Meade Equatorial mount still for sale – contact Mark Gerlach.
- George Reynolds is still holding the Club's solar scope.
- A motion to temporarily allow associate members to be any in a member's household was made. It was seconded.
- A motion to change the By-Laws' definition of associate members will be investigated. It was seconded.
- The evenings speaker was Ben Loyola about his "[Loyola Observatory](#)" in his home. His scope is a Celestron C-11 Schmidt-Cassegrain. It has web controls & is truly robotic. He added it while his home was being renovated. It has a "pier lift" pedestal on a free floor.

At the Top of the League

I am so very proud of our club members. Fifteen of us took up the challenge of gathering and sending in the requirements for the Astronomical League's **Venus Transit Program**. I have been informed by Aaron, the program coordinator, that our club has the highest percentage of club members completing the requirements in the world! Whoo Hoo!

For some of us this is the very first A.L. program completed. I believe this is Bird's first.



From left, Ben Loyola, Chuck Jagow, Bob Beuerlein and Curt Lambert get their AL certificates from President Courtney Flonta (far right) for earning the Venus Transit Pin at the Feb. 7 Meeting. Fifteen BBAA members in all received the award (see list to the left). In addition to the certificate and bragging rights, each received a cool pin as well (shown with the list).

Can you believe it? Bird's been in the observational astronomy game for, what, 40, 50 years?

On the same note, Kent received his first award- the **Planetary Nebula Program** a few months ago. Another lifetime observer succumbs to the allure of an A.L. program. They are fun!

If you do not know what I am blathering on about and might possibly be interested in the A.L.'s observing programs, please take a look at their site: astroleague.org and/or write me, I'd be glad to help you get started. Remember, if you are a paid member of BBAA you are also a member of the Astronomical League.

Carpe Noctem

Bill McLean

Scott Paterson
Thomas Flatley
Dino Giangregorio
Chuck Jagow
Jim Tallman
Ted Forte
Nick Anderson
Bird Taylor
Annette McLean
Bob Beuerlein



Curt Lambert
George Reynolds
Jeff Goldstein
Ben Loyola
Bill McLean

A Simple Sketching Tip | By Jim Tallman



Jim Tallman has found a Mini-Whiteboard to be the perfect medium for sketching starfields for the AL Double Star and Carbon Star Programs.

So you are out observing in your back yard. The wind is blowing a bit and it is cold which means you have your cold weather gear on.

For the most part that is a good thing. Until you have to sketch a star field because you are diligently working on one of the Astronomical League Programs like the Double Star or Carbon Star Programs that require you to make these simple sketches.

What do you do? Do you take off your gloves to hold the pencil, while trying to hold down the paper with the other hand? Need light? Maybe, if you are lucky, you have a red head-light so you don't need a third hand. Oh, and let's not even add the very real possibility of it

being a bit wet or frosty which makes your paper soggy.

I ran into this very scenario this winter and found that it really put the brakes on when I could observe. Even though I now have a nice warm log room in my shed, I still have to sit at the eyepiece when I make my drawing. I tried to make it easy by starting with a clipboard and paper divided into six sections so I could do six different drawings, but this became a task once the moisture started making the paper soggy.

While sitting in the log room I suddenly had an idea. I decided to try using the back of one of my 8x11 laminated eyepiece charts

and draw on the back of it. I grabbed the permanent marker that was on the work table and went back to the scope. With the chart in the clipboard and a red light in one hand I was able to quickly draw out the star field for U Cygni, a carbon star (not what is shown in the image above). After filling up the chart with sketches, I simply used some lens cleaner to clean the board off.

The next day I was at OfficeMax and happened to walk past the section with little whiteboards. It hit me that I could use one of the boards out in the yard at night.

That night I tried it out and was amazed how easy it was to use and clean after each observation. I even tried dividing it into six parts so I could make six observations at once, which worked, but since I could just go in get warm and log each observation one at a time, I stuck with that.

Now all I need to do is find a small LED book light and make a red light out of it to clip onto my sketch pad. I might also look for a small fine-tip whiteboard marker so I can make more detailed starfield drawings..

Avoiding the “New Telescope Jinx”

By Bob Beuerlein

I think I figured out how to avoid the “New Telescope Jinx”!

For those who did not know there was such a thing, the “jinx” refers to the remarkable propensity for cloudy weather unsuitable for observing to prevail for days and possibly weeks after receiving a new piece of observing equipment. Often it seems as if the more significant the equipment, the longer the poor observing conditions persist.

I acquired a new telescope on Dec. 13, a Celestron CPC 800 HD. I did not tell anyone about it. It arrived at 5:15PM. I assembled the scope and checked its operation in my living room. I noted that Celestron forgot to include the mandatory clouds, rain or snow that usually accompanies a new scope. Everything else checked out correctly.

As luck would have it, Dec 13th was the night of the Geminids. I packed everything up and headed out to [the GAP](#) at 10:00pm. The meteors were streaking thru the skies, making the setup and first sky alignment slower than what it should have been.

I could not have had a better night, for a first light at the GAP: cloudless, moonless and with better-than-normal seeing. I was surprised how well the GOTO function positioned the object in the 50% center of the eyepiece at 305x magnification. It was the first time I saw with any of my scopes five bands on the surface of Jupiter!

I was giving skytours to visitors and enjoying the meteor shower until my back finally gave out and I reverted to the BOS* and watched the meteors until we called it quits at about 5:00AM. I estimated I saw approx. 150 meteors and missed probably more than that due to using my new scope.

The next evening was another observing session at York River State Park, and



Bob Beuerlein next to his brand new Celestron CPC 800 HD telescope.

again a clear night. I was still impressed with the GOTO accuracy and the sharpness of everything I looked at, until dew and a low battery shortened my night.

Since then, clouds, Christmas and New Year's trips have curtailed my observation sessions, with one exception of a light polluted, full moon outing.

However, I'm looking forward to further exploring the limits of the Celestron CPC 800 HD in the very near future.

Perhaps keeping a new scope secret may have confused and confounded the New Scope Jinx!

* BOS - Bird Observing System (A lawn chair, sleeping bag and optional binoculars). See the [October 2012 Observer](#) for more details.

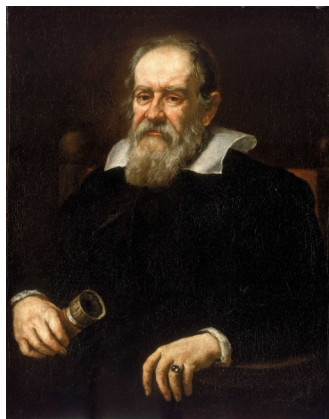
The View Through a Galileoscope

Working towards the AL's Galileo Award

By Tom Flatley



Searching through the Astronomical League's observing programs I found one that was interesting, [The Galileo Club](#).



Working this Club, you make the same observations that Galileo made 400 years ago (e.g., the Moon, Jupiter's moons, Orion, Pleiades, Saturn, Venus, etc.), using magnifications between 10x and 20x only.

Not having a lens for my Dob that was in that range nor a mount for my binoculars, I went on a search. Another good reason to get more astronomy gear.

I found plans to make a scope like Galileo's out of cardboard shipping tubes but that didn't sound right for a humid summer night.

What I did end up buying was the Galileoscope, an educational scope designed for the 400th anniversary of Galileo's observations (1609/2009). Only \$50 and it had the right lenses.

The scope comes disassembled with directions and educational material. It's a plastic 50mm f/10 refractor that comes with a 20mm plastic (ABS) two-piece achromat eyepiece, 2x Barlow ABS and a two-piece glass achromat objective lens.

Depending on how you assemble it, you can either have a 25x, 50x or 17x setup. The plans said it could be assembled in 5 minutes or less by a young child with some adult supervision. Since I didn't have a young child handy, it only took me 30 minutes and some new vocabulary to put it together. Because I wanted the "rather frustrating 'Galileo experience'" as the instructions call it, I went with the 17x lens with right-side up view configuration.

Using the scope is very easy. Before snapping the two halves of the tube together, you insert the right size nut into a cavity and you can then mount it to any typical tripod. For aiming, there is the 'iron sights', stem in the rear and "v" at the front. This takes getting used to but it works fine.

My first observation was of the Moon, easy enough to find. I needed to make several sketches of different phases and the scope works great for that. Just aim and move eyepiece in and out to focus. The imperfections of the lenses makes you appreciate the difficulties that Galileo may have had. But then again, he didn't know any better since he didn't have access to the advanced equipment that even a meek amateur has nowadays.

Only partially through the requirements for the pin, I am astounded by the accuracy of Galileo's observations using the equipment he had and humbled with the extent and magnitude of his work.



Tom's Galileoscope, which affords him wonderfully frustrating views at a magnification of 17x, has given him an appreciation of the legendary scientific pioneer.



March 2013

BBAA Events	Special Outreach	Astronomical Events
03/01 SkyWatch @ Northwest River Park		All month, look for Comet PANSTARRS
03/07 BBAA Monthly Meeting		03/04 Last Quarter
03/09 Nightwatch @ Chippokes State Park	03/22 Mt. Trashmore Star Party, dusk to 11 pm	03/11 New Moon
	03/22 Garden Stars @ NBG	03/19 First Quarter
		03/27 Full Moon



Sneak Peek into April

Thu 4/04/2013 BBAA Monthly Meeting, TCC Campus, 7:30 pm
 Fri 4/05/2013 Skywatch at Northwest River Park
 Sat 4/13/2012 Nightwatch at Chippokes State Park, Surry VA.
 Fri 4/19/2012 Garden Stars at Norfolk Botanical Gardens, 8:00pm