

Sky **WAA** tch

The Monthly Publication of the Westchester Amateur Astronomers

June 2009

Credit: STS-125 Crew, NASA



Hubble Refurbished

May 24th saw the successful completion of the Space Shuttle Atlantis' mission to service the Hubble space telescope with the safe landing of the Shuttle at Edwards Air Force base in California. During the mission, five long space-walks were used to fix and upgrade the aging telescope. These included upgrades to the Wide Field Camera, repair of the Advanced Camera for Surveys, and the Space Telescope Imaging Spectrograph. Astronauts replaced COSTAR with the Cosmic Origins Spectrograph. Numerous other general repairs included replacing batteries, gyroscopic sensors, and insulation panels.

ANNUAL ELECTIONS

It's election time for the Westchester Amateur Astronomers. Please print out the Ballot on Page 7 of this issue, mark your votes, and then bring it to the next meeting or mail to the Club at WAA, PO Box 44, Valhalla, NY 10595 postmarked by June 15th.

Events for June 2009

➤ **Monthly Meetings**

"Great Comets of the Last 400 Years"

Friday, June 5th, 8:00 PM

Andrus Planetarium

Hudson River Museum, Yonkers

Joe Rao will review and discuss the great comets of the last 400 years. Joe Rao serves as an instructor and guest lecturer at New York's Hayden Planetarium. He writes about astronomy for the New York Times and other publications, and he is also an on-camera meteorologist for News 12 Westchester. Free and open to the public.

➤ **Starway to Heaven**

Saturday, June 13th, 9:00-11:00PM

Meadow Picnic Area, Ward Pound Ridge Reservation, Cross River

This is our scheduled Starway to Heaven observing date for June, weather permitting. Free and open to the public. The scheduled rain/cloud date is June 27th.

New Members. . .

William Forsyth, Hartsdale, NY
Raymond Herbst, Mahopac, NY
Marypat Hughes, Briarcliff, NY
Deborah Bernstein, North Salem, NY

Renewing Members. . .

Eva Andersen, Croton, NY
Donna Cincotta, Yonkers, NY
Everett Dickson, White Plains, NY
Doreen Fitzpatrick, Ossining, NY
Gustav Forssell, Whitestone, NY
Jonathan Gumowitz, White Plains, NY
Jennifer Jukich & Jimmy Gondek,
Jefferson Valley, NY
Arthur Linker, Scarsdale, NY
Gerald Mannarino, White Plains, NY
Alex Meleney, Greenwich, CT
James Peale, Bronxville, NY
William Sawicki, Bronx, NY
Charles Schulster, Crompond, NY

The Annual WAA Bar-B-Que

June 13th, 2pm to 7pm

Trailside Museum,

Ward Pound Ridge Reservation.

This event is for WAA members and their guests only. Club members are encouraged to bring side dishes, salads, dips and desserts. Let us know what you are bringing. Also tell us if you will attend (along with the number of guests) so we can purchase the right amount of hamburgers and hot dogs. R.S.V.P: Charlie Gibson at:

waa-president@westchesterastronomers.org
or 1-877-456-5778.

Tell the guard at the front gate that you are going to the "WAA Bar-b-que".



Call: 1-877-456-5778 (toll free) for announcements, weather cancellations, or questions. Also, don't forget to periodically visit the WAA website at: <http://www.westchesterastronomers.org/>.

Westchester Amateur Astronomers, Inc., a 501(c)(3) organization, is open to people of all ages with the desire to learn more about astronomy. The Mailing address is: P.O. Box 44, Valhalla, New York 10595. Phone: 1-877-456-5778. Meetings: Andrus Planetarium, Hudson River Museum of Westchester, 511 Warburton Ave., Yonkers. Observing at Ward Pound Ridge Reservation, Routes 35 and 121 South, Cross River. Annual membership is \$25 per family, and includes discounts on *Sky & Telescope* and *Astronomy* magazine subscriptions. Officers: President: Charlie Gibson; Vice President: Michael Virsinger Vice President Programs (lectures): Pat Mahon; Treasurer: Doug Baum; Vice President Membership: Karen Seiter; Vice President Field Events: David Butler; Newsletter: Tom Boustead.

Articles and Photos

Low Hanging Fruit --viewing report, April 25th

By Dave Butler

The day started out so clear. Clouds were due to come in late but started coming in earlier than expected. We had a large turnout for the sky conditions largely due to the Botanical Society. Bob Kelly got the first target (the Moon) and photographed it a little later (See the May issue). The sky was very bright still and the Moon was only 20 hours new. I don't know how Bob was able to find it. After I had been shown its location several times, I could see the ultra thin ribbon of lit Moon in binoculars and then in Bob's scope. At 40 minutes after sunset the Moon would be only 5 degrees about the horizon.

Mercury was 6 degrees higher than the Moon and was slightly less than 1/2 lit; it was surprisingly clear in the eyepiece as it was orange yellow in color. The sky was mostly cloudy so targets came and left. I used Arcturus and Pollux to align my scope. Arcturus was redder than I remember.

There was a lot of high tech equipment including three BIPH's and a MallinCam. The Orion Nebula started out at 17-degrees with the BIPH but improved as the sky got darker. Even at 6 degrees high it showed dark dust clouds and almost photograph quality.

Doug used the BIPH to show the Seagull Nebula. He helped me find a focal reducer extender combination that worked well with my SCT scope and someone else with their MallinCam. Saturn was high up and gave a nice view with faint bands and what looked like a thin rectangle ring.

Double stars Castor, Algieba and Mizar were viewed. Our view of the Beehive cluster had a lot of stars arranged in connected triangles—perhaps giving rise to its name. I must admit I don't use averted vision as much as I should. It's hard to tell whether it will work or if you're doing it right. But it can be very helpful at times; such was the case with the Eskimo Nebula. It more than doubled with averted vision showing its outer layer. Although there were many globular clusters available--M13 and M92 were the only ones I heard anyone finding. Yet the Leo Trio Galaxies were viewed in the eyepiece and M81; M82 were also seen in the eyepiece.

Atlantis Lifts Off

By Bob Kelly

I saw the launch of the space shuttle Atlantis on May 11th from the Causeway (6.5 miles out). It was all over so fast; it was hard to take it all in. The shuttle looked so tiny on the pad. I could cover it with my little finger at arm's length. I watched the launch through my 8x25 Canon IS binoculars, which helped a lot.

I saw no sign of the preparations readying Atlantis for launch until the arms retracted in the last minute. I couldn't hear the count; so it was nerve-racking waiting to see engines start. Then: It was so bright, so intensely bright, and so orange once the solid rocket boosters ("SRBs") ignited. Through binoculars, I followed the launch past SRB separation (at least a minute). The main engines appeared as one bright point, almost star-like, after SRB separation. Cirrus clouds made SRB sep hard to see, but after a few seconds the SRBs were easy in the binoculars trailing exhaust and falling away. People with different lenses were calling out what they saw and that helped to pick out the details. Big cheers were sounded when we could tell that the SRBs had cleared from the shuttle.

We were left with an Atlantis cumulus cloud almost like a towering twisted funnel from the ground to the sky. The sound was a loud popping/crackling well after launch, which did not hit us hard but the delay impressed everyone since it was so loud for something so far away (6.5 miles). I would have loved to have been closer, but was thrilled to have seen what we saw! Even from where we watched, the launch was electrifying—a barely controlled, continuing explosion. I had to wonder how we have managed to use this intense fury to get people and materials into space.

I got an AVI movie at 3x zoom with my Canon A40 from about T-6 to +22 or so. I couldn't see the LCD screen in the sunlight, so I didn't know if it was working. On replay, it gives a good indication of what we could see.

Editor's Note: The link below will take you to Bob's message at Spaceflight.com. Once there, scroll down to message 485 and click the link [MVI_9124.AVI](#) to play the video. Do it!

<http://forum.nasaspaceflight.com/index.php?topic=11982.msg403452#msg403452>



◀ **Shallow Sky Triangle**

Bob Kelly shot this image of the Moon, Venus and Mars (center just above the tree line) on May 21st; it's a 5 sec exposure at 3x (16 mm focal length) zoom. Bob then did some levels adjustments in Photoshop Elements 5 to see if he could bring out Mars while keeping the blue sky.



◀ **Two Butterflies**

The following two images of the Butterfly nebula in Cygnus (IC 1318) were taken by Doug Baum. The top image was made using a FSQ-106mm refractor. It was a 30 minute sub Doug took when testing the tracking with his new auto-guider. The bottom image is the same region using 200mm F3.5 SLR lens, with the same camera, which took a wider field image. This time it was just a single 10 minute sub.



Constellation Corner

By Matt Ganis

According to Webster's online dictionary, a Keystone is "the wedge-shaped piece at the crown of an arch that locks the other pieces in place" or "something on which associated things depend for support". Well, I'm not sure the famous Keystone of Hercules fits that second definition, but clearly, it fits the first.

Many of the asterisms in the sky are easy to find (the Big Dipper, the Summer triangle, etc) but the keystone of Hercules is a little harder (note, I didn't say hard, just "hard-er"). The keystone is made up of group of four dim stars (around magnitude +2.0) that form an uneven four-sided figure which represents the torso of the giant. Hercules appears to hang upside down with head coming out of the keystone to the south, while his feet run away to the north with one foot on the head of Draco, the Dragon. To find it, face east and look for the brightest star in the sky, Vega in the constellation of Lyra. The Keystone of Hercules lies to the right of Vega, between Vega and Arcturus (another bright star in Bootes).

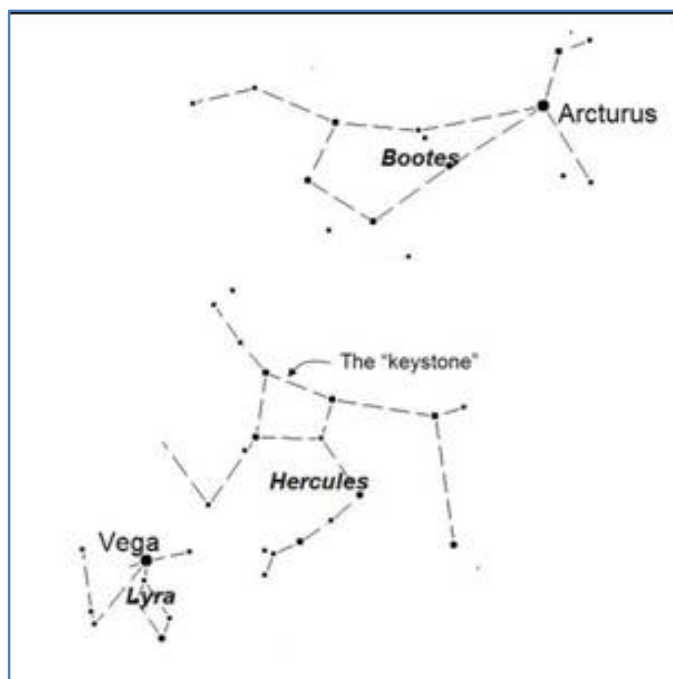
Several constellations resulted from the labors of Hercules. One of his first tasks was to slay the Leo the Lion, the fierce beast who descended to Earth from the Moon in the form of a meteor and ravaged the countryside of Corinth. Heracles strangled the beast and Zeus placed it among the stars; Hydra, a nine headed snake that would grow additional heads every time one was severed—Heracles burned the neck of each so that it could not grow back; finally, a crab was sent by Hera to bite the hero as he worked. Of course the Giant didn't notice and crushed it beneath his feet. The crab was then placed in the sky where it became the constellation Cancer.

As a young boy, Hercules became acutely aware of his extraordinary strength—and his temper. Like most Greek youths, he took music lessons. One day his music master was teaching Hercules to play the lyre. Hercules became frustrated, flew into a rage, and banged the lyre down on his head, killing him instantly. This the constellation of Lyra was placed into the sky. Clearly Hercules is a central figure in our summer skies.

The constellation also holds several deep sky treasures. Its most famous object is the great globular cluster known as Messier 13. This is one of a few hundred very old and dense clusters that represent early times in the history of the Milky Way

galaxy. It contains hundreds of thousands of stars that move about the center of the Galaxy in great circular orbits. This globular cluster is located over 20,000 light-years away from us, but because of its size (100 to 150 light years across) it's easily visible in even a modest telescope.

Hercules contains not just one globular cluster, but two of them. The second, M92, is not as bright as M13, but it is still one of the best globulars in the sky. The cluster lies only 9.5 degrees northeast of the spectacular M13, and is often overlooked if not completely forgotten. It's a very well "shaped" globular. Officially it's a Class IV globular on the Shapley-Sawyer scale, which ranges from I, for highly concentrated clusters, to XII for the least concentrated, so it exhibits a very nice "ball shape".

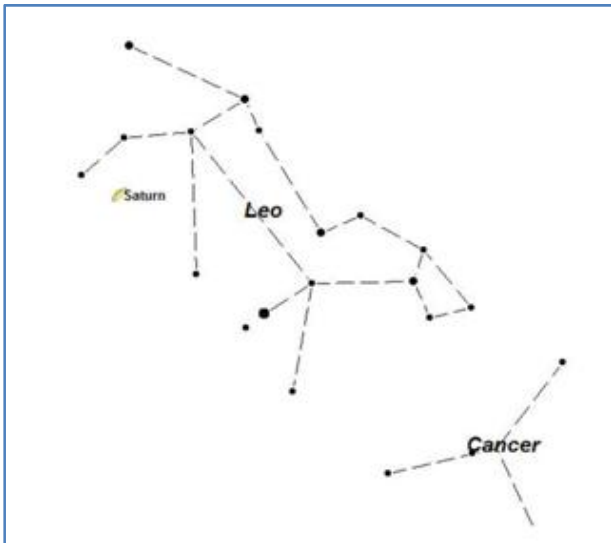


Hercules also holds a large number of galaxies within its borders (perhaps more than a thousand, each one containing billions of stars). Since some members of the group are as far as 8 billion light years from us, we see them as they were that long ago, when the light now reaching us left them. With large telescopes we can learn what the young Universe was like by observing these remote objects.

Almanac

For June 2009 by Matt Ganis

Welcome to the middle of 2009!!! Can you believe the year is just about half way done? It doesn't feel like summer yet, but I'm sure the hot, sticky days of Summer are just around the corner!



Before you miss it, don't forget to catch Saturn in your evening skies. The ringed planet is still located in the constellation of Leo and will set by about 1:30am during the month. More importantly, the rings are continuing to fade from view. By about midmonth, Saturn's rings will be inclined only by about 4° and they'll continue to become thinner as the month closes. The planet also continues to decrease in brightness, falling to magnitude +1.0.

Of course, when one planet leaves our sky, another enters. Look for Jupiter to be on the rise around midnight at the start of the month. The large planet, which is shining at a whopping magnitude -2.7 should be unmistakable in the constellation of Capricorn.

If you do happen to get a chance to check out our largest planet, you should be able to catch a glimpse of Neptune, which is only about $\frac{1}{2}^\circ$ away. It's not very bright shining at a mere magnitude of +7.8 but it's proximity to Jupiter should allow you to add it to your lists of "observed objects".



Jun 7



Jun 15



Jun 22

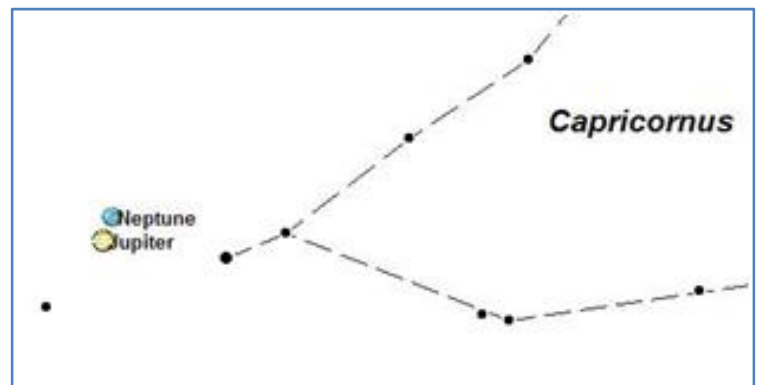


Jun 29

Mars is making its way back into our skies, rising about 2 hours before sunrise at the start of the month. Look for Mars with Venus close by on the Eastern horizon around 3:30am. The two planets come closest to each other around the 20th when they are only separated by about 2° .

Finally, what would a monthly sky almanac be without the pesky moon getting in the way of "something"? On the 6th of June, the nearly full moon will occult the 1st magnitude star Antares in the constellation of Scorpius. The bright star will disappear behind the moon around 10:50pm and should reappear about 33 minutes later. Look for the full moon to be about 20° above southern horizon, well placed for this event!

Here in the Northern Hemisphere the Summer solstice will occur on June 21st at approximately 1:45am EDT. The word Solstice (Sol + stice) derives from a combination of Latin words meaning "Sun" (Sol) + "to stand still." (Stice) As the days lengthen, the sun rises



higher and higher until it seems to stand still in the sky. As a major celestial event, the Summer solstice results in the longest day and the shortest night of the year. The Northern Hemisphere celebrates it in June, but the people on the Southern half of the Earth have their longest summer day in December.

Westchester Amateur Astronomers

Ballot June 2009

Member's Name _____

Please Vote for the nominated individuals (by marking in the spaces provided) or Write in an Alternative. Return this ballot by mail (postmarked no later than June 15th, 2009) to:

WAA
PO Box 44
Valhalla NY 10595

Alternatively, please give your ballot to an officer at the June meeting on June 5th.

1. For President:

Mike Virsinger_____. Alternative_____

2. For Vice President

Charlie Gibson_____. Alternative_____

3. For Treasurer

Doug Baum_____. Alternative_____

4. V.P. Membership/Secretary

Paul Alimena_____. Alternative_____

5. V.P. Programs

Pat Mahon_____. Alternative_____

6. V.P. Field Events

Dave Butler_____. Alternative_____

7. V.P. Newsletter

Tom Boustead_____. Alternative_____