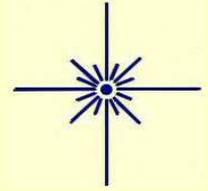




# The Guide Star

Newsletter of the Amateur Astronomers Association of Pittsburgh Inc  
Founded June 9, 1929 by Chester B. Roe and Leo J. Scanlon  
Website: [3ap.org](http://3ap.org)



April 2012

Volume 46, No. 4

## AAAP April General Meeting

**April 13, 2012, 20:00 [A half hour later than usual]  
Bayer Science Stage at the Carnegie Science Center**

There is no featured speaker scheduled. This meeting will be devoted to club business. Proposed amendments to the AAAP by-laws will be on the agenda.

## Hurry! On March 31st, Support the AAAP ....by Having a Meal

Dear members,

Please help with AAAP fund raising Saturday, March 31st. Working with area Hoss's restaurants, anyone who goes to one of the Hoss's Steak Houses this March 31st can help contribute towards our organization.

All you need to do is print out this announcement and present it when you check out. Feel free to pass out as many of these announcements as possible. You do not need to be a member of the AAAP, just make sure that you present this and ask that your bill be part of the fundraising code listed below!

Please help in making this fundraiser a success!

Anthony Orzechowski  
AAAP President

Dear Friend of AAAP:

We are excited to team up with Hoss's Steak and Sea House to raise money for a very worthy cause. Please consider visiting the Hoss's location(s) listed below on 3/31/2012 to aid us in raising money to benefit AAAP.

Print this announcement and present it on 3/31/2012 at Hoss's in Cranberry, Murrysville, Belle Vernon, Grove City or Greensburg.

Hoss's will then donate 20% of your total check paid to AAAP.

\*New this year: If your group raises \$1200 or more in sales, Hoss's will donate 25%! This applies to single day, single store events only.

**Group #16171**

Please print and present this announcement when ordering.

## AAAP Officer Nominations

Club Officer elections will take place in May. Those who wish to run for office or to nominate a fellow member should contact one of the following as soon as possible:

- Bill Yorkshire at [obgatekeeper@aol.com](mailto:obgatekeeper@aol.com)  
or phone (412) 793-9552
- John Close at [jmc10@pitt.edu](mailto:jmc10@pitt.edu)  
or phone (412) 422-0446
- Rowen Poole at [Persephone1@mindspring.com](mailto:Persephone1@mindspring.com)  
or phone (724) 502-2119

Biographies of the candidates should appear in the May issue of the Guide Star.

## Please Read: Election Voting Procedure

One month prior to the May election, the Nominating Committee will mail a ballot to each member in good standing according to the AAAP Membership Secretary. Each ballot will have the AAAP embossed logo to prevent any duplication, along with a sequence number.

Directions for completion of your vote, as stated in the by-laws, will be printed on the ballot (**Article XI: Election of Officers**). It reads:

" Each voter shall mark the ballot, seal it in an envelope, and sign his or her name to the return address part of the envelope depending on how many members reside at a given household address. The voter shall either mail the ballot to the Treasurer before the date of the election meeting in May, or bring it to the meeting in person and give it to a member of the Nominating Committee.

If a member in good standing has not mailed a ballot and is present at the May (election) meeting, he or she may vote by completing a ballot made available at this meeting and giving the ballot to a member of the Nominating Committee. Members submitting ballots at the May meeting must sign a form indicating that they have not voted by mail."

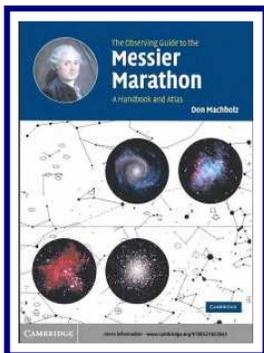
## April Star Parties

Both Mingo & Wagman: April 27th & April 28th.

## A Bit of Messier Marathon History

Newer members may not realize that the Amateur Astronomers Association of Pittsburgh played a major role in originating the Messier Marathon, one of the highlights of the observing year for many amateur astronomers.

Here's the story from one of the best books devoted to this "March & April madness", Don Machholz' An Observing Guide to the Messier Marathon. Writing about his efforts with the San Jose Astronomical Society in 1978, he says:



*".....I had never heard of anyone running a Messier Marathon, I believed that we were the only astronomers working towards one. Imagine my surprise upon receiving the March 1979 issue of Sky and Telescope and reading Walter Scott Houston's 'Deep Sky Wonders' column describing a Messier Marathon!*

*The article portrayed the Amateur Astronomers of Pittsburgh, which started marathoning in 1977. Tom Hoffelder, Ed Flynn and Tom Reiland all found a large number of Messier Objects in March/April 1977.*

*With the use of a descriptive sky map, Walter Scott Houston explained that M30 is the only object not visible during late March of each year. He mentioned that the record for the greatest number of Messier Objects found in one night was 103, held by Tom Reiland of Pittsburgh, while Tom Hoffelder had found 101 Objects.*

*This article (was) the first Messier Marathon article ever widely published.....*

*For the Pittsburgh Pennsylvania group, the idea originated when Tom Reiland, in May 1975, observed fifty Messier Objects in one night and suggested that an attempt to find a great number of objects in one night would be an interesting challenge. His first attempt was in April 1976, when he saw eighty-six objects before he was clouded out.*

*On March 24-25, 1977, Ed Flynn saw ninety-seven objects from his backyard in Pittsburgh. He used an RV-6 Dynascope, a 15 cm f/8 reflector.*

*On the following night, Tom Hoffelder, formerly of the Pittsburgh group, found 103 Objects from Akron, Ohio. He was using a 25 cm f/6 reflector.*

*On April 11-12, Tom Reiland found 103 Objects using a 15 cm f/6 reflector. In the following year, on March 10, 1978, Ed Flynn found 102 Objects with his 25 cm f/5.6 reflector...."*

There are two readily available books devoted to the Messier Marathon, the Machholz book mentioned above, which can be had at a bargain price from Amazon and The Year-Round Messier Marathon Field Guide by Harvard Pennington, which is published by Willman-Bell.

Both books have their strengths, but the Pennington includes extensive finder charts and is an excellent guide for finding the Messier objects at any time of year.

- Guide Star Editor

## Tom Reiland on the Messier Marathon

March is the best time of year to try a Messier Marathon.

March 22nd was New Moon and the prime night in 2012, but the two nights before and after New Moon were your the best shot to get 105 out of 107 in Western Pa.

We cannot see all 110 in one night from our location.

You should have observed all 110 objects before you attempt a marathon.

I suggest doing some practice runs before you go for an all night marathon, especially for the early evening objects that will set soon after twilight ends. The skies will have to cooperate and this time of the year the chances of that are slim to none.

You can also practice in the evenings when the Moon isn't visible and the same goes for the morning observing sessions.

M74 and M77 weren't visible during this year's prime New Moon period in March. M33 and M79 were difficult.

M31, M32 and M110 can be observed in both the evening and morning skies at this time. M30 will not be visible until sometime in April.

You need a location with dark skies and unobstructed horizons. Wagman Observatory is okay, except for the southern horizon. The club's Greene County spot is a good location. That's where I did my first complete Marathon sans M30.

Here is the list of the most difficult evening and morning M objects:

Evening sky M objects: M74, M77, M33, M31, M32, M110, M76, M79 and M34. M55, M75, M15, M2, M72, M73 and M30 in the morning sky.

The Messier Marathon is a test designed to challenge one's observing skill and the observer's ability to locate these objects **without electronic assistance**.

Some of you only use go-to scopes, so give it a try with your units. I'd really like to hear how many you can find and identify that way.

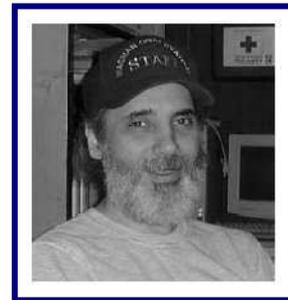
Good luck. Remember that you need to train for this event just like a regular Marathon. It will take ten hours to complete a full Marathon.

Observing 107 objects is the best possible in March this year and April offers a chance for 105.

Good Luck!

PS Former AAAP member Tom Hoffelder and I were two of the independent inventors of the Messier Marathon circa 1975-76 and I was the first to attempt an all night session in 1976, but clouds wiped out the first hour and a half. Ed Flynn and I were the first two to bag 109 in one night from our latitude on the night of March 15-16, 1980.

- Tom Reiland



## Observing with the Family Trees

[from the AAAPgh Yahoo Group]

My wife, JoAnne got up around 3:30 AM this morning, looked out the window and said it was clear. After a bit, I felt guilty, got dressed and went out to the backyard and observed with our 8" LX-200.

I hadn't used this scope for 2 years or so till last Saturday night when I found it needed its settings battery changed. I did that Sunday and last night proved the new one is working OK. I was also able to refine its collimation a bit using its "Bob's Knobs".

About 20 years ago JoAnne, our sons Sean and Geoff and I completed the Messier List as a family. We each (manually) found about 1/4 of the objects. The certificate Tom Reiland issued as AAAP president back then says "The Family Trees" in the name field.

About a year or two ago, I began to knock-off all the ones I hadn't personally logged. It's not that I hadn't found/observed most if not all, it's that I'm a terrible logger and never write down much of anything I see. Plus, many of those that were logged were located using the Sky Commander on our 17.5" scope.

Before going out last night I had completed the Messier list except for 7 galaxies in Coma and Virgo. Unfortunately, after last night I still need 7 to complete the list.

My Sky Tools software said that it would be virtually impossible to see the 7 galaxies. It was right. Sky Tools based its prediction on the small 8" scope and the strong light pollution of my home town. It didn't know that JoAnne's clear skies were, in fact, just "weather man clear". There were cirrus clouds, ranging from faint to thick, spread from the southern horizon to about 60 degrees altitude.

After I proved to myself I was unable to manually locate any of the galaxies through the cirrus, I used the LX-200's go-to feature to see what they'd look like. The brighter ones appeared fairly large but very faint in the 80power, 26mm eyepiece. There were a few that were barely detectable and a couple who even though I knew they were in the FOV were completely invisible. So, it was an exercise in futility. I'm not sure it would have helped under the circumstances, but I should have dug out my Uranometria and had more detailed maps than what I printed with my PC, but I didn't think of it.

The LX-200's images were "dark". I guess there were 2 reasons for that. I'm used to a 17.5" or a 12.5" mirror. And the clouds and light pollution dimmed or washed-out the viewed objects. There was no dew on the corrector plate.

So, I used the go-to and toured some old favorites. M65, M66, M104 and M101 were dim but I could see their shapes. M51 showed much more than I expected. Obviously both cores were visible, but there were hints of nebulosity around M51.

Mars was fairly blurry at 160x with a white polar cap and maybe some dark shading, but that was questionable. Saturn was nice, but not crisp, probably due to high altitude winds. I had little in the way of surface winds. There were 3 moons visible and I think a shadow of the rings. The northern hemisphere MAY have shown some occasional banding.

M3, M5 and especially M13 resolved nicely at 160x and showed a lot of stars...but were dim. M57 was a ring, but dim.

Disappointing in the details, but I'm glad I went out. Too bad it wasn't really clear.

Here are our totals for right now:

### Terry Trees:

Messier - 103 observed  
A.L. Herschel 400 - 250 observed  
A.L. Herschel II - 30 observed  
A.L. Open Clusters - 34 observed

### JoAnne Trees:

Messier - 80 observed

- Terry Trees

## Better Than A Cruise ?

One might ask "Is there anything better than a cruise of the eastern Caribbean during February"? For my wife and I the answer is yes – a cruise of the eastern Caribbean along with Professor Alex Filippenko, the world renowned astronomer.

Our trip started out as a cruise of the eastern Caribbean on the Celebrity Line ship Equinox. The itinerary was two days at sea followed by five days at various ports and then two days at sea. On the first sea day we looked at the agenda of shipboard activities. I saw an astronomy lecture sponsored by the Smithsonian Institute – "Beyond the Podium" series. Guest speaker would be Professor Alex Filippenko.



Dr. Filippenko is a faculty member at the University of California at Berkeley. He also has been on numerous "The Universe" series on television. So my wife and I decided to attend his lecture. The movie theater was packed – standing room only!

Dr. Filippenko's lecture was on "Beautiful Atmospheric Phenomena". He discussed various items such as sun dogs, rainbows, green flash at sunset, halo around the moon, Belt of Venus, and other atmospheric phenomena. During his lecture he interjected humorous items related to the subject. At the end of his lecture he challenged the audience to look for various atmospheric phenomena during the cruise.

The second sea day held another Dr. Filippenko lecture titled "The Runaway Universe". I eagerly went to hear him. Again the movie theater was packed – standing room only! Before the lecture started he asked the audience to report on any atmospheric phenomena that the passengers had observed. Some have seen rainbows, sundogs, and the green flash at sunset. During this lecture he spoke on Doppler shifts, the Big Bang theory, etc. Again he interjected humor during his lecture that was related to the subject. At the end of the lecture he again challenged the audience to look for various atmospheric phenomena.

After visiting five different ports, we began our voyage back to Florida. On the third sea day, there was another lecture by Dr. Filippenko. "No brainer" – I would be there. Again the movie theater was packed! The subject of this lecture was various solar eclipses. Again before he spoke on the topic, he asked the audience if they had seen any atmospheric phenomena. Again he got several responses that included a halo around the full moon. He then went on to talk about solar eclipses.

He included partial eclipses, total solar eclipses, and annular eclipses. As before, he interjected humor related to the subject. He also talked about his personal experiences with observing solar eclipse while on cruises.

The fourth and last full day at sea before our return to Florida brought the last lecture by Dr. Filippenko. As with the previous lectures, the movie theater was packed! And again he asked the audience about any atmospheric phenomena that they observed during the cruise. The subject of his final lecture was "Black Holes". I must admit that most of the material was over my head. I did understand bits and pieces. His humor during this lecture was a brief film clip regarding his famous yearly Halloween lecture to the Berkeley astronomy students – titled "Black Holes". For his Berkeley lecture he dresses up as a black hole – a black cape and hood, along with a pair of goofy sunglasses, and an alien doll hung from his neck – being "spaghettified" by the black hole. He related to us that some of his Berkeley colleagues jokingly told him that he looked more like a uni-bomber than a black hole! Without a doubt Dr. Filippenko was a hit with his shipboard audience.

In retrospect, my wife and I felt blessed having the opportunity to take an eastern Caribbean cruise during February. Beyond that, it was totally unbelievable that we heard not one, not two, not three, but four lectures by this world famous astronomer. We had no idea that he was conducting this lecture series ahead of time.

- Leonard Marraccini

Leonard Marraccini is an AAAP member who observes at Mingo.

By the way, you can learn more about Alex Filippenko and his research at his web site: <http://astro.berkeley.edu/~alex/>

### **The AAAP at Earth Day in Mt. Lebanon**

The AAAP will be taking part in the "Earth Day in Mt Lebanon" festivities on Saturday, April 28, from 10AM until 2PM in Main Park. It takes place across the parking lot from the Mt Lebanon Ice Center.

Lots of families come to look at displays and take part in activities involving recycling, renewable energy, and other nature-related themes



Last year, they had a Nissan Leaf electric car there to show, and this year there will be both a Leaf and the Tesla Roadster (!). Fred Klein and I attended and set up solar telescopes (one in white light and one H-alpha), and we had a fairly continuous stream of people wanting to look through them.

Fred also set up a table with astronomical photographs and flyers about the club and its star parties. This year, Bill Moutz and Dan Peden have also expressed interest.

I have an interesting challenge for us this year: can we keep a night-time telescope pointed at Venus throughout the event? Can we set up a pointer that would help people pick out Venus with their naked eyes? The planet is at its most brilliant on April 30, so this is a perfect opportunity.

It's a great way to get the word out about our activities, proselytize about light pollution, as well as to recycle a bunch of things we usually can't recycle. The website for more information is at <http://www.earthdaymtlebanon.org>

Their suggestions of things to bring are:

- old, worn out sneakers for NIKE REUSE-A-SHOE collection!!!
- laptop, cell phone, digital cameras, and MP3 recycling
- empty/old mascara wands, lipsticks, compacts recycling
- old/used-up tape rolls and dispensers, pens, markers, & glue sticks
- white t-shirt for iron oxide tie dyeing
- energy for energy bike demos
- your appetite

To help out, you just need to let me know you're coming ([cmullin@dyneye.com](mailto:cmullin@dyneye.com)) and show up. We can unload our equipment in the Ice Center parking lot, and then park up in the high school lots just up the hill.

- Chris Mullin

### **Last Month in Leo**

For five days in March, a small patch of sky in southern Leo, less than a degree across, caught the attention of both deep sky and planetary observers.

On March 16th, Italian observer Paolo Fagotti was the first to call attention to a rapidly brightening star apparently located within the arms of the magnitude 9.7 barred spiral galaxy Messier 95.

Discussions on the AAVSO list entertained the possibility that the star could be just a cataclysmic variable located within our own galaxy. (CV's are star which show sudden outbursts due to either the release of gravitational energy resulting from accretion of material from a close partner or from a thermonuclear process.)

But the most intriguing possibility was that the star was a true supernova, (a class of CV) shining brightly enough to be conspicuous across the 38 million light years that separate us from M95.

Subsequent spectroscopic analysis determined that the star was a type II-P supernova and it was given the designation SN2012aw. As of this writing it continues to shine at or near magnitude 13 and it's hoped that the star will brighten by at least another half magnitude.

*Supernova SN2012aw is quite conspicuous in this image captured by AAAP member Bill Snyder using a TMB 130mm refractor.*

SN2012aw is a type II-P supernova, indicating that its spectrum shows the presence of hydrogen, which type I supernovae do not. Type II supernovae also involve stars of more than eight solar masses.

The P designation is for "plateau", indicating that the star will maintain a constant brightness for a period of two to three months after outburst.

M95 itself is the best example of a barred spiral in the Messier catalogue. Its tightly wound spiral arms, almost closed in on themselves, led famed Palomar astronomer Allan Sandage to call it a "ring galaxy".

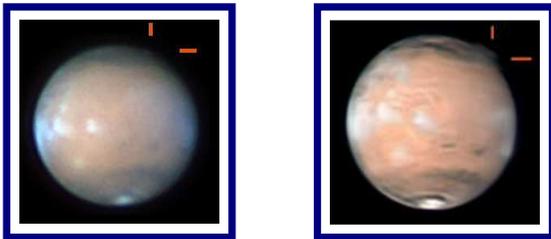
Visual observers might recall that M95's apparent magnitude makes it the dimmest of the close Leo I quartet whose other members are M96, M105 and NGC3384.



On March 19th, less than a degree away from M95 and its recently discovered supernova, Mars exhibited a rare phenomena whose explanation is still speculative.

A mysterious cloud-like or plume formation was spotted high above its eastern limb. What made it remarkable is its dramatic height, one estimate making it 195 to 240 kilometers high (that's about 120 to 149 miles) while the Martian atmosphere only extends to 160 kilometers (or 99 miles).

Further, dust storms are not usual at this time of the Martian year.



These two images show the location and extent of the limb disturbance. It appears to be over the Mare Cimmerium area.

Phenomena like this have been seen before but we have no definite explanation. A most interesting suggestion is that what we're seeing is the debris or dust kicked up by a major impact event. More on this story can be found at:

<http://www.skyandtelescope.com/observing/home/Strange-Happenings-on-Mars-143959576.html>

Stretching the Mars and March connection a bit, last month NASA released this fascinating image of a Martian surface event:



NASA's description runs:

"A towering dust devil, casts a serpentine shadow over the Martian surface in this image acquired by the High Resolution Imaging Science Experiment (HiRISE) camera on NASA's Mars Reconnaissance Orbiter.

The scene is a late-spring afternoon in the Amazonis Planitia region of northern Mars. The view covers an area about four-tenths of a mile (644 meters) across. North is toward the top. The length of the dusty whirlwind's shadow indicates that the dust plume reaches more than half a mile (800 meters) in height. The plume is about 30 yards or meters in diameter....The image was taken during the time of Martian year when the planet is farthest from the sun. Just as on Earth, winds on Mars are powered by solar heating."

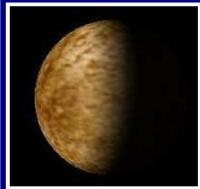
- Guide Star Editor

Sun	Mon	Tue	Wed	Thu	Fri	Sat
<p><b>1</b></p> <p>Occultation of magnitude 5.8 1 Cancri by dark limb of the Moon 02:09</p> <p>SR:07:03 SS:19:45 MR:14:13 MS:03:39 PI:62%</p>	<p><b>2</b></p> <p>SR:07:01 SS:19:46 MR:15:19 MS:04:14 PI:72%</p>	<p><b>3</b></p> <p>Venus in the Pleiades</p> <p>SR:06:59 SS:19:47 MR:16:28 MS:04:47 PI:81%</p>	<p><b>4</b></p> <p>SR:06:58 SS:19:48 MR:17:39 MS:05:19 PI:89%</p>	<p><b>5</b></p> <p>Occultation of magnitude 4.8 87 Leonis by dark limb of the Moon 02:34</p> <p>SR:06:56 SS:19:49 MR:18:52 MS:05:52 PI:95%</p>	<p><b>6</b></p>  <p>Second largest full moon of 2012 33.278 arc min</p> <p>SR:06:55 SS:19:50 MR:20:07 MS:06:26 PI:99%</p>	<p><b>7</b></p> <p>Saturn, Spica and Moon grouping</p> <p>SR:06:53 SS:19:51 MR:21:23 MS:07:04 PI:100%</p>
<p><b>8</b></p> <p>SR:06:51 SS:19:52 MR:22:38 MS:07:47 PI:98%</p>	<p><b>9</b></p> <p>SR:06:50 SS:19:53 MR:23:48 MS:08:36 PI:93%</p>	<p><b>10</b></p> <p>SR:06:48 SS:19:54 MR:***** MS:09:32 PI:85%</p>	<p><b>11</b></p> <p>SR:06:47 SS:19:55 MR:00:50 MS:10:33 PI:76%</p>	<p><b>12</b></p> <p>SR:06:45 SS:19:56 MR:01:43 MS:11:38 PI:66%</p>	<p><b>13</b></p>  <p>AAAP General Meeting CSC 20:00</p> <p>SR:06:44 SS:19:57 MR:02:28 MS:12:44 PI:55%</p>	<p><b>14</b></p> <p>SR:06:42 SS:19:58 MR:03:06 MS:13:49 PI:44%</p>
<p><b>15</b></p> <p>Saturn at Opposition 14:00 brightens to Mag 0.2</p> <p>SR:06:41 SS:19:59 MR:03:39 MS:14:52 PI:34%</p>	<p><b>16</b> Lyrid Meteor Shower Activity April 16 to April 25 with a Maximum of April 22 at 01:30 local time. Radiant lies west of Vega, just south of theta Herculis. Zenith hourly rate of 18 but can sometimes reach 90. Best seen from the Northern hemisphere after 22:30. Best rates only last for a few hours.</p>					
<p>SR:06:39 SS:20:00 MR:04:08 MS:15:53 PI:25%</p>	<p>SR:06:38 SS:20:01 MR:04:35 MS:16:53 PI:17%</p>	<p>SR:06:36 SS:20:02 MR:05:02 MS:17:52 PI:10%</p>	<p>SR:06:35 SS:20:03 MR:05:29 MS:18:50 PI:05%</p>	<p>SR:06:33 SS:20:04 MR:05:57 MS:19:48 PI:02%</p>	<p>SR:06:32 SS:20:05 MR:06:27 MS:20:46 PI:00%</p>	<p><b>21</b></p> 
<p><b>22</b> Lyrid Meteor Shower Activity April 16 to April 25 with a Maximum of April 22 at 01:30 local time. Radiant lies west of Vega, just south of theta Herculis.</p>						<p><b>23</b></p> <p>SR:06:30 SS:20:07 MR:07:01 MS:21:42 PI:00%</p>
<p>SR:06:29 SS:20:08 MR:07:39 MS:22:37 PI:03%</p>	<p>SR:06:28 SS:20:09 MR:08:22 MS:23:28 PI:06%</p>	<p>SR:06:26 SS:20:10 MR:09:10 MS:***** PI:12%</p>	<p>SR:06:25 SS:20:11 MR:10:03 MS:00:15 PI:19%</p>	<p><b>27</b></p> <p>Star Parties at both Mingo and Wagman Observatories</p> <p>SR:06:24 SS:20:12 MR:11:00 MS:00:58 PI:27%</p>	<p><b>28</b></p> <p>Star Parties at both Mingo and Wagman Observatories</p> <p>SR:06:22 SS:20:13 MR:12:00 MS:01:37 PI:36%</p>	
<p><b>29</b></p>  <p>SR:06:21 SS:20:14 MR:13:03 MS:02:12 PI:46%</p>	<p><b>30</b></p> <p>SR:06:20 SS:20:15 MR:14:09 MS:02:45 PI:56%</p>	<p>All times given are local.</p> <p>Legend: SR = Sunrise, SS = Sunset, MR = Moonrise, MS = Moonset, PI = Approximate Percentage Visible Lunar Surface Illuminated Local Midnight</p> <p>Details for AAAP Events can be found at: <a href="https://nightsky.ipl.nasa.gov/event-list.cfm?Club_ID=675&amp;EventEra=Future">https://nightsky.ipl.nasa.gov/event-list.cfm?Club_ID=675&amp;EventEra=Future</a></p>		<p><i>...The Sky is no wanton to give up all her best to every comer, but keeps a sweet and separate intimacy for each...</i></p> <p>- suggested by a phrase in Mary Austin's "The Land of Little Rain"</p>		

Some Solar System Highlights

*Selenographic Colongitude* is 23.5° at 0h UT on the first day of the month. Add 12.2° each day.

The following planetary entries include Local Rise and Set Times, Magnitudes and Disk diameters in Arc Seconds on the 1st, 11th, 21st and 30th days of the month.



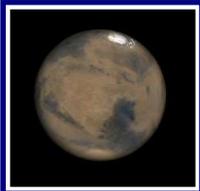
*Mercury* is in the dawn sky all month and brightens over the month. It reaches aphelion, or the point in its orbit farthest from the Sun on the 15th. It reaches greatest western elongation, 27° on the 18th. On the morning of the 18th, Mercury and the Moon's waning crescent might be spotted low in the east. Mercury will be only 2° south of Uranus on the 22nd.

<b>Rise / Set</b>	<b>(1st)</b> 06:18 / 18:11	<b>(11th)</b> 05:53 / 17:39	<b>(21st)</b> 05:39 / 17:42	<b>(30th)</b> 05:32 / 18:05
<b>Mag. / Arc Secs</b>	<b>(1st)</b> -02.00 / 10.63	<b>(11th)</b> 00.80 / 08.99	<b>(21st)</b> 00.30 / 07.53	<b>(30th)</b> 00.00 / 06.53



*Venus* is in Taurus in the western evening sky. Note that it will attain its greatest brightness at month's end when it will appear as a waning crescent, 27% illuminated and 37 arc seconds in diameter. Its apparent diameter will continue to increase through the month. Look for Venus and the Moon, only 6° south of the planet on the evening of the 24th.

<b>Rise / Set</b>	<b>(1st)</b> 08:49 / 23:47	<b>(11th)</b> 08:36 / 23:56	<b>(21st)</b> 08:23 / 23:57	<b>(30th)</b> 08:08 / 23:48
<b>Mag. / Arc Secs</b>	<b>(1st)</b> -04.40 / 24.85	<b>(11th)</b> -04.40 / 28.09	<b>(21st)</b> -04.50 / 32.24	<b>(30th)</b> -04.50 / 36.95



*Mars* is in Leo, having come to opposition early last month, it is dimming and growing smaller in apparent diameter. It reaches its maximum northern declination on the 5th. It is ideally placed for evening viewing all month.

<b>Rise / Set</b>	<b>(1st)</b> 16:20 / 05:58	<b>(11th)</b> 15:36 / 05:14	<b>(21st)</b> 15:00 / 04:33	<b>(30th)</b> 14:31 / 03:59
<b>Mag. / Arc Secs</b>	<b>(1st)</b> -00.70 / 12.55	<b>(11th)</b> -00.50 / 11.66	<b>(21st)</b> -00.20 / 10.76	<b>(30th)</b> -00.00 / 09.99



*Jupiter* in Aries, is low in the western sky and vanishes into evening twilight late in the month. Jupiter's System II longitude is 177°.

<b>Rise / Set</b>	<b>(1st)</b> 08:27 / 22:18	<b>(11th)</b> 07:54 / 21:50	<b>(21st)</b> 07:21 / 21:22	<b>(30th)</b> 06:52 / 20:57
<b>Mag. / Arc Secs</b>	<b>(1st)</b> -02.00 / 33.86	<b>(11th)</b> -02.00 / 33.42	<b>(21st)</b> -02.00 / 33.09	<b>(30th)</b> -02.00 / 32.89



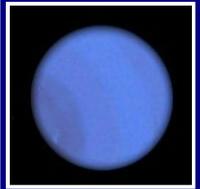
*Saturn* in Virgo, is visible all night. Throughout the month, it sits close to 1st magnitude alpha Virginis, Spica. Saturn comes to opposition on the 15th at which time its rings will span 43 arc seconds. The north side of the rings continue to face us at an angle of about 14 degrees.

<b>Rise / Set</b>	<b>(1st)</b> 20:45 / 07:59	<b>(11th)</b> 20:02 / 07:18	<b>(21st)</b> 19:19 / 06:37	<b>(30th)</b> 18:40 / 06:00
<b>Mag. / Arc Secs</b>	<b>(1st)</b> 00.30 / 18.91	<b>(11th)</b> 00.20 / 18.97	<b>(21st)</b> 00.20 / 18.97	<b>(30th)</b> 00.30 / 18.91



*Uranus* in Pisces, is invisible this month, being lost in the glare of dawn.

<b>Rise / Set</b>	<b>(1st)</b> 06:50 / 19:03	<b>(11th)</b> 06:12 / 18:27	<b>(21st)</b> 05:34 / 17:50	<b>(30th)</b> 05:00 / 17:17
<b>Mag. / Arc Secs</b>	<b>(1st)</b> 05.90 / 03.33	<b>(11th)</b> 05.90 / 03.33	<b>(21st)</b> 05.90 / 03.34	<b>(30th)</b> 05.90 / 03.35



*Neptune*, in Aquarius, is in the morning sky and not favorably placed for observation.

<b>Rise / Set</b>	<b>(1st)</b> 05:32 / 16:18	<b>(11th)</b> 04:53 / 15:40	<b>(21st)</b> 04:14 / 15:02	<b>(30th)</b> 03:40 / 14:28
<b>Mag. / Arc Secs</b>	<b>(1st)</b> 08.00 / 02.18	<b>(11th)</b> 07.90 / 02.19	<b>(21st)</b> 07.90 / 02.20	<b>(30th)</b> 07.90 / 02.21

**Jupiter Activity: Satellites & the Great Red Spot**



Following are times for Jovian satellite transits and occultations and Great Red Spot meridian crossings for the current month..

They are organized by observing sessions beginning with the first event of interest on a given evening and continuing to Jupiter's setting. Using April 7th as an example, after sunset, at 21:16 with twilight fading and Jupiter already low in the W, Io and its shadow will be in transit. At 21:16, the transit will end but Io's shadow will continue to transit the Jovian disk until 21:52. Jupiter itself will set at 21:54. All times are local.

1 21:34 Eur: Transit Begins T	9 20:03 Gan: Reappears from Occultation	21 20:07 GRS: Crosses Central Meridian
1 22:11 Jupiter Sets	9 20:07 GRS: Crosses Central Meridian	21 21:15 Jupiter Sets
3 20:30 Eur: Reappears from Eclipse	9 20:24 Gan: Disappears into Eclipse	22 20:18 Io : Disappears into Occultation
3 22:05 Jupiter Sets	9 21:49 Jupiter Sets	22 21:13 Jupiter Sets
4 20:57 GRS: Crosses Central Meridian	14 21:07 Io : Transit Begins T	23 20:11 Io : Shadow Transit Ends
4 22:03 Jupiter Sets	14 21:35 Jupiter Sets	23 21:10 Jupiter Sets
6 21:44 Io : Disappears into Occultation	15 20:55 Io : Reappears from Eclipse	26 20:08 Eur: Shadow Transit Begins ST
6 21:57 Jupiter Sets	15 21:32 Jupiter Sets	26 21:02 Jupiter Sets
7 21:16 Io : Transit Ends S	16 20:57 GRS: Crosses Central Meridian	27 20:28 Gan: Shadow Transit Ends
7 21:52 Io : Shadow Transit Ends	16 21:29 Jupiter Sets	27 20:59 Jupiter Sets
7 21:54 Jupiter Sets		

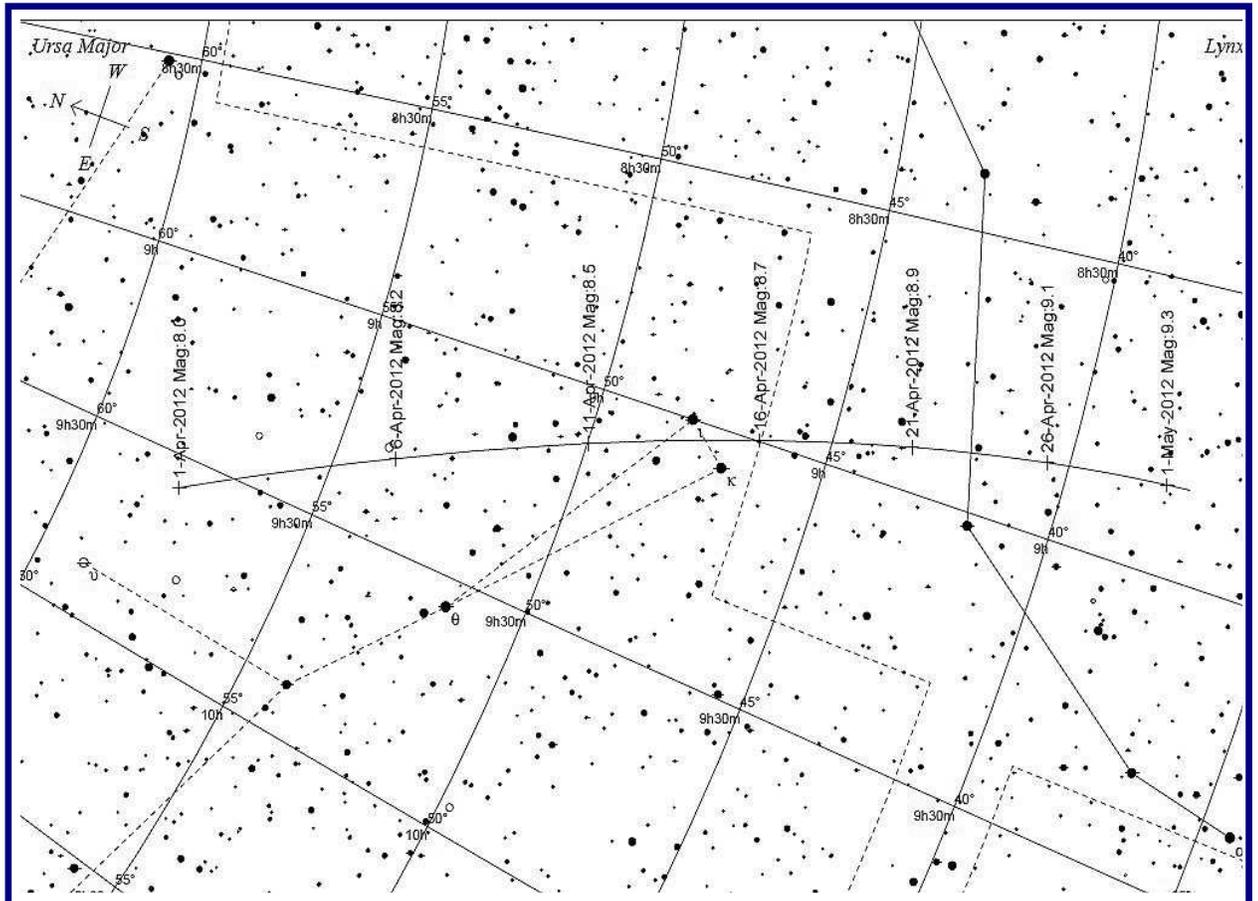
**A Last Look at Comet Garradd**

Comet C/2009 P1 Garradd, moves from Ursa Major into the relatively obscure confines of Lynx this month.

This comet, which seemed to be a fixture in our skies will become unobservable in June.

As the chart shows, it begins this month at around magnitude 8, but will fade beyond magnitude 9 by the end of April.

Time to take a last look at this non-periodic visitor.



### Suggested Deep Sky Objects for April

This table is part of a series of monthly Deep Sky targets compiled by Bob Kepple, co-author of *Night Sky Observer's Guide*. The complete set of tables, one per month, may be found at the AAAP web site : <http://www.3ap.org/> under the S.I.G. link (Special Interest Group) for Deep Sky Observing.

Bob mentions that, "...objects in the ... lists may be observed for about two months before and after the month they are listed... If you have a small telescope see how many objects you can find in the lists for larger scopes and, of course, individuals with larger instruments will have no trouble observing objects listed for smaller instruments...." [PA = Position Angle of second component in relation to primary, with 0° representing North, 90° representing East, etc.]

Objects for Binoculars							
RA	Dec	Number	Mag(s)	Size/Sep.	PA	Const.	Type of Object
09h41.2m	+09°54'	14-Omicron	3.5, 9.5	85.4"	44°	Leo	Double Star
10h08.4m	+11°58'	32-Alpha	1.4, 7.7	176.9"	307°	Leo	Double Star
10h16.7m	+23°25'	36-Zeta	3.5, 5.8	325.9"	340°	Leo	Double Star
11h25.6m	+16°27'	81 Leo	5.6, 9.2	55.7"	351°	Leo	Double Star
12h25m	+26°0'	Mell 111	1.8v	4.6°		Leo	Open Cluster
Objects for Small Telescopes (2-6 inch)							
RA	Dec	Number	Mag(s)	Size/Sep.	PA	Const.	Type of Object
10h55.6m	+24°5.8'	54 Leo	4.5, 6.3	6.5"	110°	Leo	Double Star
11h5.8m	+00°02'	NGC 3521	m9.0v	12.5'x6.5'		Leo	Galaxy
11h18.9m	+13°05'	M65	m9.3v	8.7'x2.2'		Leo	Galaxy
11h31.7m	+14°22'	88 Leo	6.4, 8.4	15.4"	328°	Leo	Double Star
11h20.2m	+12°59'	M66	m8.9v	8.2'x3.9'		Leo	Galaxy
Objects for Medium-Size Telescopes (8-14 inch)							
RA	Dec	Number	Mag(s)	Size/Sep.	PA	Const.	Type of Object
10h20.0m	+19°51'	41-Gamma	2.2, 3.5	4.4	125°	Leo	Double Star
10h20.3m	+13°36'	NGC 3628	m9.5v	14.0'x4.0'		Leo	Galaxy
10h44.0m	+11°42'	M95	m9.7v	7.8'x4.6'		Leo	Galaxy
10h46.8m	+11°49'	M96	m9.2v	6.9'x4.6'		Leo	Galaxy
10h47.7m	+13°59'	NGC 3377	m10.4v	4.1'x2.6'		Leo	Galaxy
10h47.8m	+13°25'	M105	m9.3v	3.9'x3.9'		Leo	Galaxy (with NGC3384 & 3389)
Objects for Larger Telescopes (16-inch & larger) Challenge Objects							
RA	Dec	Number	Mag(s)	Size/Sep.	PA	Const.	Type of Object
09h48.6m	33°25'	NGC 3003	m11.9v	5.2'x1.6'		LMi	Galaxy
10h13.8m	+38°46'	NGC 3158	m11.9v	2.3'x2.2'		LMi	Galaxy (In Group)
10h29.3m	+29°30'	NGC 3254	m11.7v	4.9'x1.4'		LMi	Galaxy
10h49.8m	+32°59'	NGC 3395	m12.1v	1.6'x0.9'		LMi	Galaxy, 3396 attached
10h50.9m	+13°25'	NGC 3412	m10.5v	3.3'x2.0'		Leo	Galaxy
11h16.9m	+18°03'	NGC 3607	m9.9v	4.6'x4.1		Leo	Galaxy,(with 3605, 3608)
11h34.7m	+16°48'	90 Leo	6.0, 7.3, 8.7	AB 3.3 AC 63.1	209° 234°	Leo	Double Star

**May General Meeting Date & Time**

May 11, 2012 20:00 or 8:00pm

Please note that the meeting time for May is a half-hour later than usual. This is due to a prior engagement of the Science Stage at the Carnegie Science Center.

**2012 Star Party Dates****Wagman Obs.****Mingo Obs.**

Apr 27 – 28	Apr 27 – 28
May 25 – 26	<b>May 25 – 26</b>
Jun 22 – 23	Jun 22 – 23
Jul 27 – 28	<b>Jul 6 – 7, 20 - 21</b>
Aug 24 – 25	Aug 10 – 11
Sep 8* – 22	<b>Sep 8 – 22</b>
Oct 6* – 20	Oct 6 – 20

\* Moonrise

**Please note: The Mingo star party dates for May, July and September are corrected dates. The Mingo dates in last month's Guide Star were in error.**

**New Mingo Observatory Directors**

Congratulations to the new management team at Mingo Creek Park Observatory:

Director: Bill Roemer  
 Associate Director: Gene Kulakowski  
 Associate Director: Mike Meteney

**Guide Star Submissions:**

All AAAP members are encouraged to submit items to the club newsletter. Articles, images, observations, notices, ads, book, software and equipment reviews, all are welcome.

The Guide Star is posted online at month's end to both the club web site and the file section of the Yahoo Group AAAPgh.

Please submit items as early as possible for inclusion in the coming issue. Forward submissions or questions to: [gseditor@3ap.org](mailto:gseditor@3ap.org)

**AAAP Welcomes these New Members**

Rosemary E. del Pino  
 Sarah Mondeville  
 Robert Volosky

**Amateur Astronomers Association of Pittsburgh, Inc.****2011-2012 Executive Officers**

President: Anthony Orzechowski  
[president@3ap.org](mailto:president@3ap.org)  
 Vice-President: Eric Fischer  
[vicepresident@3ap.org](mailto:vicepresident@3ap.org)  
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[treasurer@3ap.org](mailto:treasurer@3ap.org)  
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[correspondingsecretary@3ap.org](mailto:correspondingsecretary@3ap.org)  
 Recording Sec: Dennis Derda  
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 Membership Sec: Don Hoecker  
[membershipsecretary@3ap.org](mailto:membershipsecretary@3ap.org)  
 Guide Star Editor: John Cheng  
[gseditor@3ap.org](mailto:gseditor@3ap.org)

**AAAP Membership Information**

AAAP Member Dues: \$ 24.00  
 Student Membership  
 (K-12 & full time  
 college student): \$16.00  
 Family Membership \$ 40.00

**Basic Procedure for Paying Dues:**

1. Make check payable to "AAAP Inc."
2. Send check to: Michael Meteney, Treasurer  
 1070 Sugar Run Road  
 Venetia, PA 15367-1514

Membership Renewal Form can be found at:

[http://www.3ap.org/AAAP\\_Mem\\_RenForm\\_2012.pdf](http://www.3ap.org/AAAP_Mem_RenForm_2012.pdf)