



the Skyscraper

vol. 47 no. 06
June 2020

AMATEUR ASTRONOMICAL SOCIETY OF RHODE ISLAND * 47 PEEPTOAD ROAD * NORTH SCITUATE, RHODE ISLAND 02857 * WWW.THESKYSCRAPERS.ORG

In This Issue:

- 2 President's Message
- 2 Join the
Astronomical League
- 3 Inferior Conjunction of Venus
- 4 Create a Constellation
- 5 NASA Night Sky Notes:
Summer Triangle Corner: Vega
- 6 Lenticular Galaxy
in Boötes: NGC 5689
- 7 The Sun, Moon &
Planets in June
- 8 April/May Reports
- 10 Astrophoto Gallery

Asteroids: Friends or Foes?

by Kelly Beatty, Senior Editor of Sky & Telescope magazine

Saturday, June 6 @ 7:00 PM via Zoom

Contact Steve Hubbard (cstahhs@gmail.com) for Zoom Meeting link and information.

Since spotting the first "minor planet" in 1801, astronomers have discovered more than 750,000 small rocky bodies orbiting between Mars and Jupiter. Spacecraft have seen 15 of them at close range, most recently NASA and Japanese spacecraft designed to land on their targets and return samples to waiting scientists. Meanwhile, tons of "space rocks" fall as meteorites onto Earth every year. Yet we really know little about asteroids — how they formed, what they're like, and when one of them might strike Earth with enough force to create widespread damage. This presentation will explore the science and science fiction of these rocky bodies.

Kelly Beatty has been explaining the science and wonder of astronomy to the public since 1974. An award-winning writer and communicator, he is a Senior Editor for Cambridge-based *Sky & Telescope* magazine. Beatty enjoys sharing his passion for astronomy with a wide spectrum of audiences, from children to professional astronomers, and you'll occasionally hear his interviews and guest commentaries on National Public Radio and The Weather Channel. He served for a decade on the Board of Directors for the International Dark-Sky Association.

Phases of the Moon

Full Strawberry Moon
June 5 19:12

Last Quarter Moon
June 13 06:24

New Moon
June 21 06:41

First Quarter Moon
June 28 08:16

Upcoming Presentations

July
TBA

Saturday, August 1

Ana Bonaca from Harvard-Smithsonian Center for Astrophysics: Dark Matter in the Milky Way

Saturday, September 5

David Eicher, Editor of Astronomy Magazine: Galaxies

Iceland Trip Update

The Iceland trip has been rescheduled to **October 2-8, 2021**. For details and to register, see www.theskyscrapers.org/iceland-2021

Seagrave Observatory is closed until further notice.

Due to the outbreak of coronavirus, Seagrave Memorial Observatory will remain closed to the public until further notice.

President's Message

by Steve Siok

Hello fellow Skyscrapers,

I am happy to report that during this unusual time in our history, Skyscrapers has been creative in offering our members and friends a new way to enjoy our monthly meetings. I want to thank everyone who helped make our first Zoom meeting a success. People attended from all over the world! I hope that you were part of that group as Stella Kafka of the AAVSO talked about Betelgeuse and its recent variability. If you missed her talk we plan post it on the Skyscraper website so you can enjoy it on your own.

Our next virtual Monthly meeting will be held on June 6, featuring J. Kelly Beatty

from *Sky & Telescope* magazine. He will be discussing near earth asteroids. This meeting will be at our normal time, 7:00PM. You will get an e-mail with the Zoom password before the meeting. Stayed turned for future meetings as Steve Hubbard, our first VP, has assembled a fine list of speakers for the upcoming year!!

I also want to bring to your attention to the Night Sky Network. Skyscrapers has been a member society for several years but now you will be able to take advantage of more of its features and find out about more events. NSN is administered by NASA and provides information about astronomy activities around the world. There is a link to it on our website, so you can visit anytime. Now, we will be migrating some of our club records onto NSN and each of you will be getting a personal login onto the network. This will allow you to attend more virtual events from all over the world. I have

watched several webinars as well as virtual observing sessions. If you are interested in doing some real research I recommend you read David Prosper's article that is on our website. Perhaps you can do some of the exciting things that he recommends.

You can also become part of the Astronomical League (AL). Jeff Padell is our representative and has been working to get more members involved in the League's observing programs. He has won several awards from the AL. Please contact Jeff (jeffpadell@gmail.com) to learn how to get involved!

Finally, I would like to offer my hope that we will be able to return to Seagrave soon. As of now we will continue our meetings remotely. I know that many of you continue to observe from your homes and I remind you to send us your photos or news to share.

Stay safe everyone and keep looking up.

Join the Astronomical League

By Jeff Padell, ALCor

To the members of the Skyscrapers,

I would like to remind you during this time of social distancing that the Astronomical League (AL) offers lots of programs in astronomy from identifying constellations to lunar observations (naked eye, binocular, and telescope) to radio astronomy. Each program offers recognition's including certificates and pins for complet-

ing the programs. You also will learn a lot about the program you are working on. Some programs are very simple and aimed at beginners, although anyone can participate, to programs that are way above my level.

You need to be a member of the AL but it is only \$7.50 a year through the Skyscrapers club membership. We currently have 12 members who are in the AL and some are working on programs others just like getting the AL mag-

azine *The Reflector*. AL membership begins July 1st for the 2020-21 year and are paid by sending a check to me made out to "The Skyscrapers". Current AL members will need to send me a check as above the beginning of June.

If you are interested in joining, getting more info, or starting a program even before you join feel free to contact me and we can chat via email or Zoom.



The Skyscraper is published monthly by Skyscrapers, Inc. Meetings are held monthly, usually on the first or second Friday or Saturday of the month. Seagrave Memorial Observatory is open every Saturday night, weather permitting.

Directions

Directions to Seagrave Memorial Observatory are located on the back page of this newsletter.

Submissions

Submissions to *The Skyscraper* are always welcome. Please submit items for the newsletter no later than **June 15** to Jim Hendrickson, 1 Sunflower Circle, North Providence, RI 02911 or e-mail to jim@distantgalaxy.com.

E-mail subscriptions

To receive *The Skyscraper* by e-mail, send e-mail with your name and address to jim@distantgalaxy.com. Note that you will no longer receive the newsletter by postal mail.

President

Steve Siok ssiok@cox.net

1st Vice President

Steve Hubbard cstahs@gmail.com

2nd Vice President

Ian Dell'Antonio ian_dell'antonio@brown.edu

Secretary

Sue Hubbard susannemhubbard@gmail.com

Treasurer

Kathy Siok kathys5@cox.net

Members at Large

Francine Jackson Francine_Jackson@verizon.net

Laura Landen laura.landen@hotmail.com

Matt Ouellette matt80844@yahoo.com

Trustees

Jim Crawford jrcrawford@cox.net

Bob Janus janus68@cox.net

Outreach Chairperson

Linda Bergemann lbergemann@aol.com

Observatory Committee Chairperson

Jim Crawford jrcrawford@cox.net

New Member Steward

Tracy Prell tracy.prell@gmail.com

Librarian

Dave Huestis dhuestis@aol.com

Assistant Librarian

Weston Ambrose

Historian

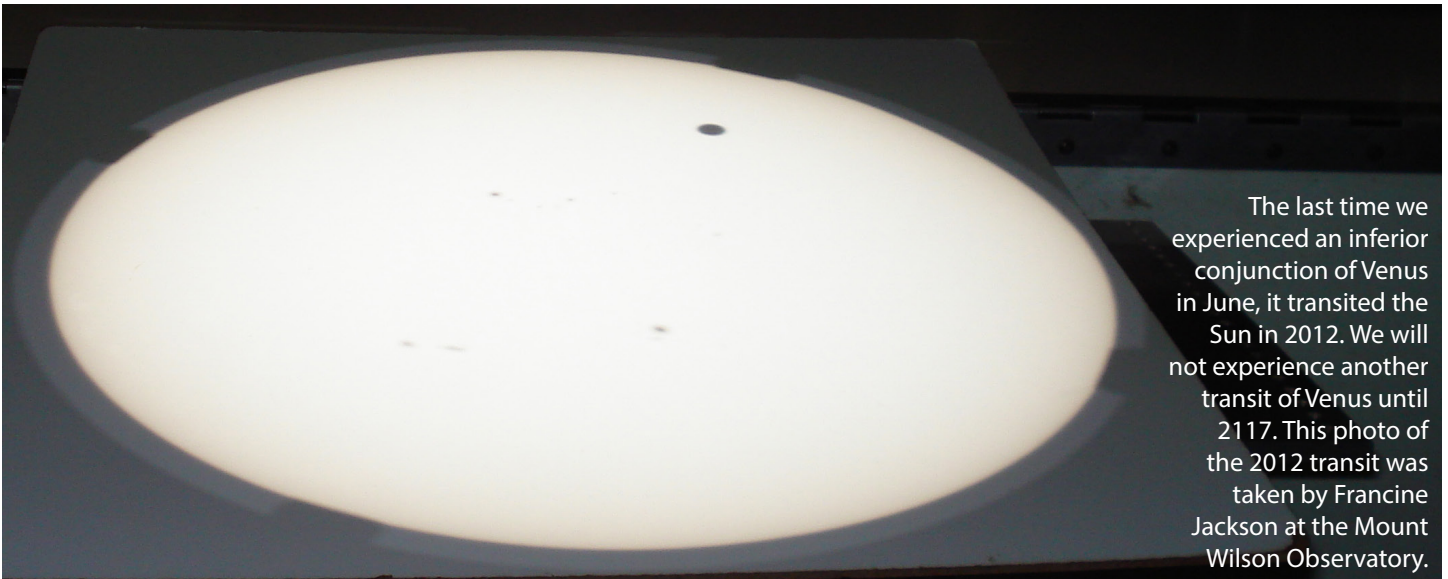
Dave Huestis dhuestis@aol.com

Editor

Jim Hendrickson hendrickson.jim@gmail.com

Astronomical League Correspondent (ALCor)

Jeff Padell jeffpadell@gmail.com



The last time we experienced an inferior conjunction of Venus in June, it transited the Sun in 2012. We will not experience another transit of Venus until 2117. This photo of the 2012 transit was taken by Francine Jackson at the Mount Wilson Observatory.

Inferior Conjunction of Venus

by Francine Jackson

It's amazing how time is passing; it's been almost three years since the last US total solar eclipse, and eight years since the last transit of Venus. And, even though a planet passing in front of the Sun isn't as spectacular looking as our Moon doing so, a transit is a bit different, and quite spectacular to some of us, as it happens so much less often.

We did have a Mercury transit in 2019, which we were able to observe much of it from here, and we will be able to watch another one in 2039. Mercury transits occur about a dozen times each century, but what we can see of the planet is quite small; Venus, on the other hand, with a diameter over twice that of Mercury, and a distance about twice as close to us, forms a nice, easily seen ball. Of course, their occurrences are one of the more unusual cycles in all of science.

Venus transits ignored the entire 20th century, waiting for 2004 to come back. This, in some ways, doesn't really seem very logical as the planet's orbit is quite close to a circle, and it just seems as if it should pass in front of – transit – the Sun every time it reaches its closest to us, its inferior conjunction. And, yet..

Venus transits the Sun four times in 243 years. Its previous times were in 1874 and 1882. From there, it waited until June, 2004 and June, 2012. We now have to set our calendars to December, 2117 and December, 2125.

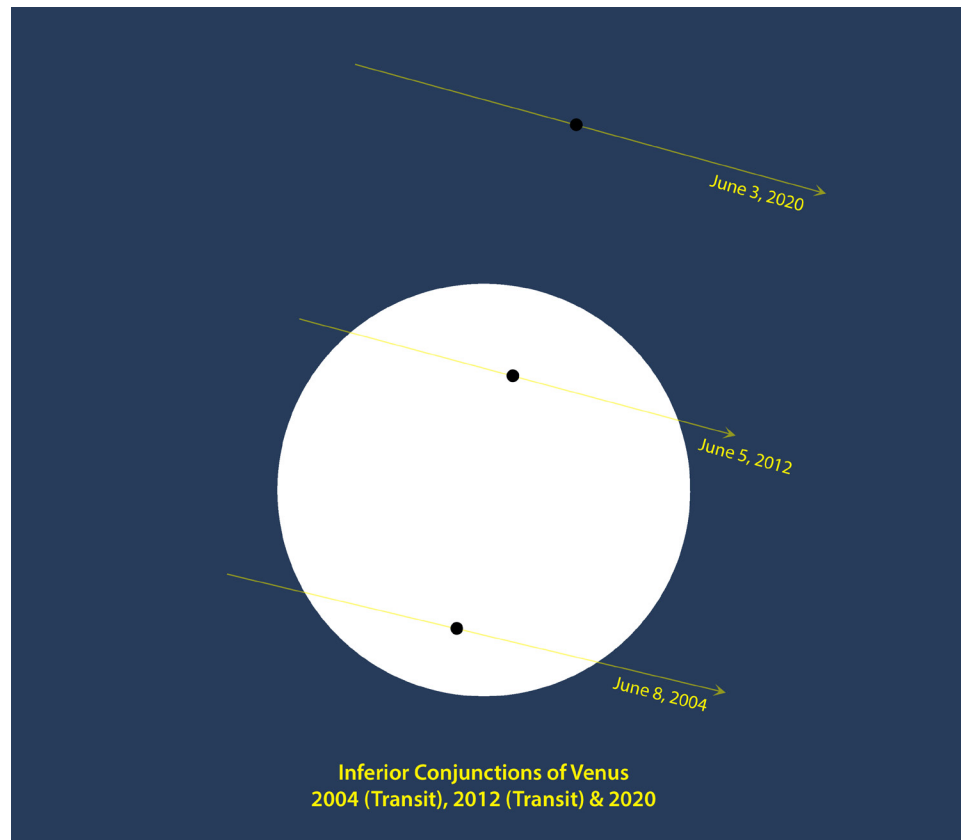
It's now been eight years since the last Venus transit, and the position of Venus

at its nearest to us, June 3rd, is rather close to the Sun, just about .2 of a degree above it. From there, though, we must bid Venus a farewell as the beautiful "evening star" it has been the past several months; in fact, this was the best evening apparition since the 2012 pre-transit time. But, it is now on its way to a very good morning apparition time, when all of you early risers will have the chance to enjoy our brightest planet for

the rest of the year.



Francine Jackson is a NASA Solar System Ambassador, writes the weekly newsletter for Ladd Observatory and teaches astronomy at the Community College of Rhode Island. See more at <http://theskyscrapers.org/francine-jackson>



Create a Constellation

by Dave Huestis

My columns are written at least a month or so in advance of a specific month due to a variety of publication deadlines. At the time of this writing in mid-April, New York City may have flattened the curve in the corona virus pandemic. Unfortunately other regions of our country could still experience a rise in cases and deaths. The Rhode Island stay-at-home order remains in effect, and I believe it will be quite some time before any of the local observatories will be open for public observing. It's simply impossible to adhere to social distancing guidelines in a dome.

I hope you have been able to at least get outside and scan the heavens when the weather has been clear. Other than the June Solstice, which occurs on June 22 at 5:44 p.m. EDT, June is a relatively quiet month for exciting astronomical events. (You may have noticed I did not say Summer Solstice. Why? The naming of the seasons has always been northern hemisphere biased. When it is summer for us in the northern hemisphere, it is winter in the southern hemisphere. And vice-versa. However, in the last decade or so when mentioning a solstice or equinox, the protocol is to say which hemisphere one is referring to.)

I wanted to do something different for this June column. While relaxing one afternoon the idea hit me like Newton's proverbial apple. Conduct a "Create a Constellation" contest.

When we look at the night sky we all see the same stars. However, unless you are well-versed in sky lore no one perceives the same star pattern. Though each star is just an apparently random diamond set in the blackness of space, the human mind tends to connect the dots into familiar patterns that can be recognized again and again. Our ancient ancestors played "connect the dots" with the stars, and the constellations were born.

However, what if you know absolutely nothing about what a star pattern is supposed to represent? How would you connect the dots to form a stellar pictogram? A star pattern will then merely depend upon the knowledge and experience of the viewer.

Therefore, that is the challenge I am proposing. Think of this project as your interpretation of a stellar Rorschach inkblot test. This contest is open to children

ages six to sixteen. While today's youth are usually more tech savvy than many adults, I ask parents to help facilitate your child's participation.

Accompanying this column is an actual constellation whose identifying lines have been removed. The brighter of the star pattern's stars have been included. (You may download the constellation template from the Skyscrapers website: <http://www.theskyscrapers.org/constellation-creation-template>). Some of you may recognize the constellation, but I don't want you to be influenced by that knowledge. Kids, I want you to create a new representation for these stars. In addition, I would also encourage you to invent some mythology that would explain why your constellation was placed in the sky for all to see. You can even provide names for some of the brighter stars.

Be creative. You may orient this constellation template any way you desire. Use any art form you wish to create your constellation. When you have completed your work, please have it scanned and sent to this email

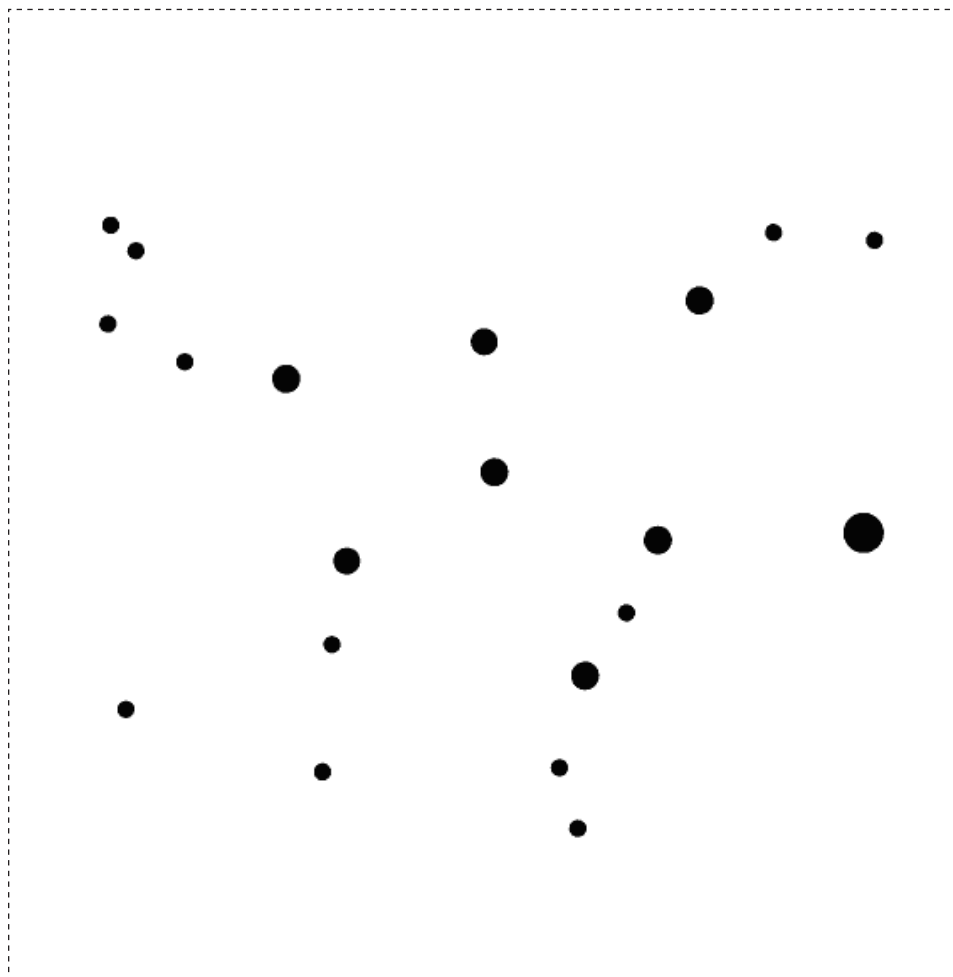
address: astronomygolocal@gmail.com. Deadline for submissions is July 15, 2020. Parents, please provide contestant's name and age. Include name of constellation, bright star names, and a brief mythology. (By submitting you consent to having your child's constellation project published at a later date.) All entries will be judged. The contest winner will receive a family membership donated by yours truly in Skyscrapers, Inc., the Amateur Astronomical Society of Rhode Island, owners and operators of Seagrave Memorial Observatory in North Scituate.

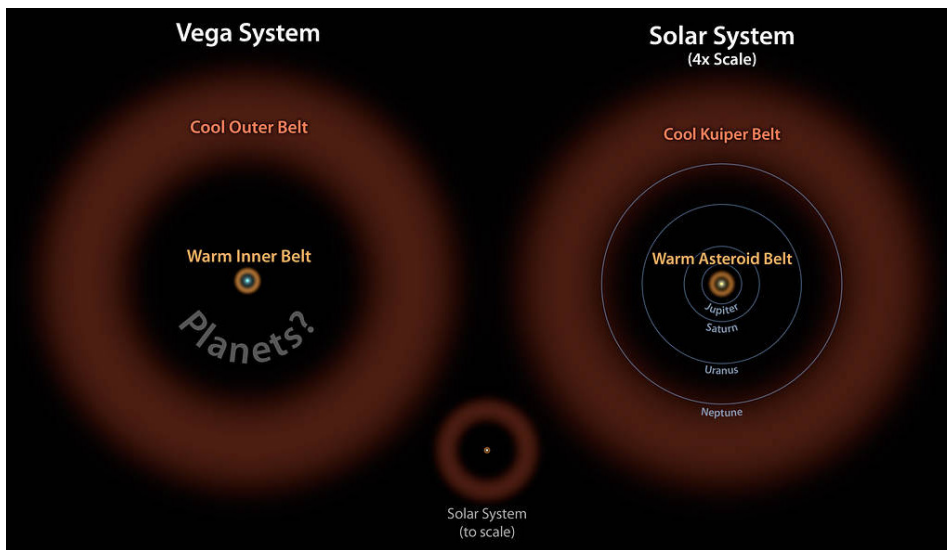
I look forward to receiving your new constellation creations and learning about their unique sky lore.

Keep your eyes to the skies!



Dave Huestis is Skyscrapers Historian and has been contributing monthly columns to local newspapers for nearly 40 years. See more at <http://theskyscrapers.org/dave-huestis>





Vega possesses two debris fields, similar to our own solar system's asteroid and Kuiper belts. Astronomers continue to hunt for planets orbiting Vega, but as of May 2020 none have been confirmed. More info: bit.ly/VegaSystem Credit: NASA/JPL-Caltech

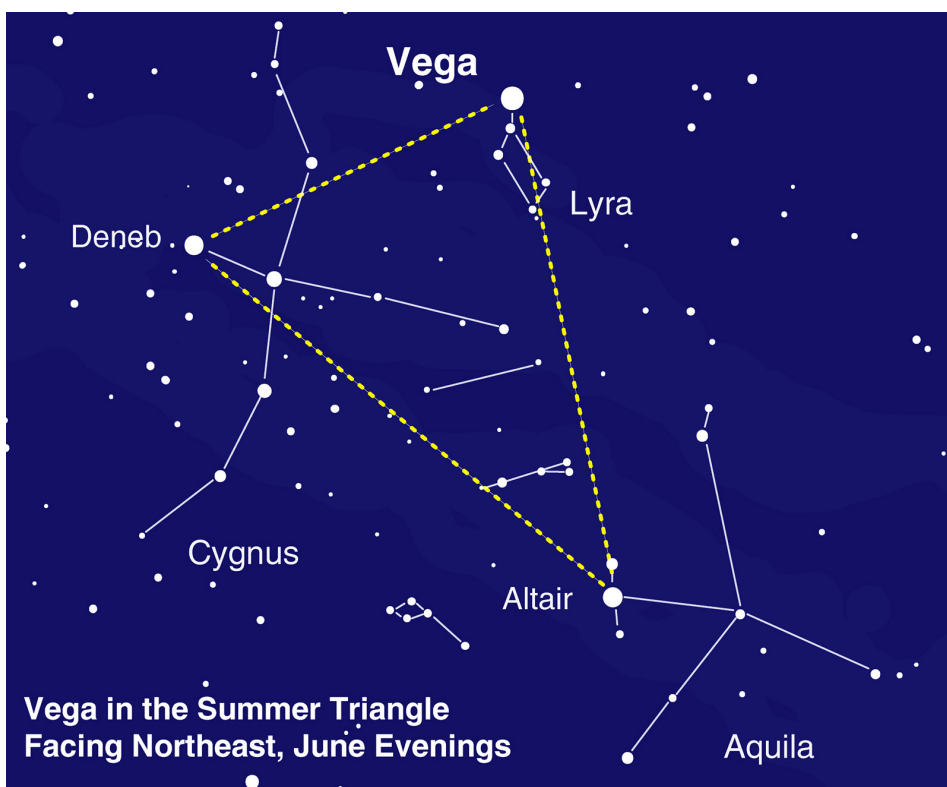
NASA Night Sky Notes: Summer Triangle Corner: Vega

By David Prosper and Vivian White

If you live in the Northern Hemisphere and look up during June evenings, you'll see the brilliant star Vega shining overhead. Did you know that Vega is one of the most studied stars in our skies? As one of the brightest summer stars, Vega has fascinated astronomers for thousands of years.

Vega is the brightest star in the small Greek constellation of Lyra, the harp. It's also one of the three points of the large "Summer Triangle" asterism, making Vega

one of the easiest stars to find for novice stargazers. Ancient humans from 14,000 years ago likely knew Vega for another reason: it was the Earth's northern pole star! Compare Vega's current position with that of the current north star, Polaris, and you can see how much the direction of Earth's axis changes over thousands of years. This slow movement of axial rotation is called **precession**, and in 12,000 years Vega will return to the northern pole star position.



Bright Vega has been observed closely since the beginning of modern astronomy and even helped to set the standard for the current magnitude scale used to categorize the brightness of stars. Polaris and Vega have something else in common, besides being once and future pole stars: their brightness varies over time, making them **variable stars**. Variable stars' light can change for many different reasons. Dust, smaller stars, or even planets may block the light we see from the star. Or the star itself might be unstable with active sunspots, expansions, or eruptions changing its brightness. Most stars are so far away that we only record the change in light, and can't see their surface.

NASA's TESS satellite has ultra-sensitive light sensors primed to look for the tiny dimming of starlight caused by transits of extrasolar planets. Their sensitivity also allowed TESS to observe much smaller pulsations in a certain type of variable star's light than previously observed. These observations of **Delta Scuti** variable stars will help astronomers model their complex interiors and make sense of their distinct, seemingly chaotic, pulsations. This is a major contribution towards the field of asteroseismology: the study of stellar interiors via observations of how sound waves "sing" as they travel through stars. The findings may help settle the debate over what kind of variable star Vega is. Find more details on this research, including a sonification demo that lets you "hear" the heartbeat of one of these stars, at: bit.ly/DeltaScutiTESS

Interested in learning more about variable stars? Want to observe their changing brightness? Check out the website for the American Association of Variable Star Observers (AAVSO) at aavso.org. You can also find the latest news about Vega and other fascinating stars at nasa.gov.



This article is distributed by NASA Night Sky Network. The Night Sky Network program supports astronomy clubs across the USA dedicated to astronomy outreach. Visit nightsky.jpl.nasa.gov to find local clubs, events, and more!

Can you spot Vega? You may need to look straight up to find it, especially if observing after midnight.

Lenticular Galaxy in Boötes: NGC 5689

by Glenn Chaple for LVAS
Mag: 11.9 Size: 3.3' X 1.0'

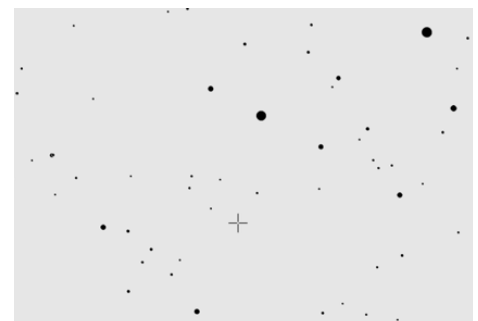
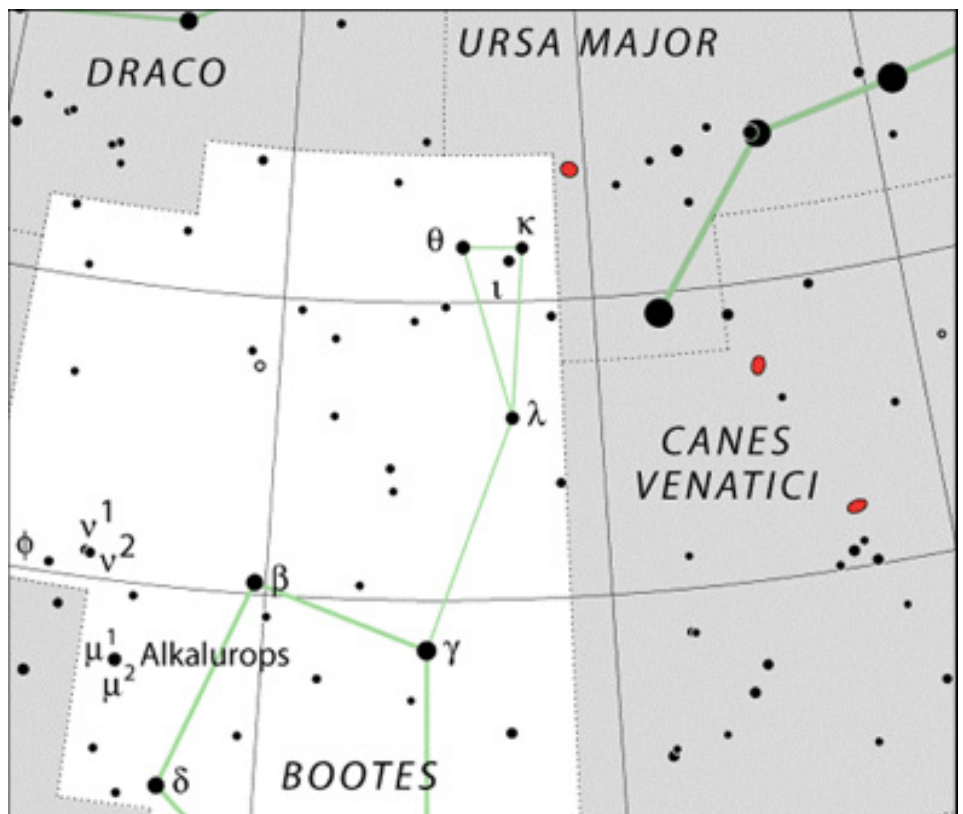
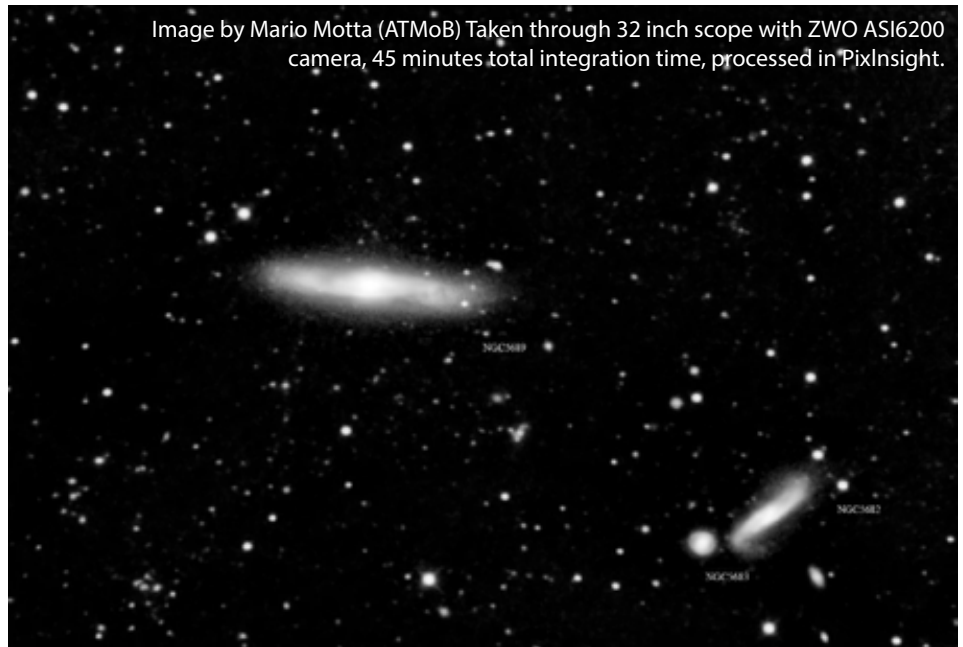
June is a difficult month for backyard astronomers here in the northern hemisphere. We battle fatigue (June sunsets are the latest of the year), haze and humidity, and – mosquitos. While yawning, sweating, and swatting, you'll be struggling to glimpse this month's Observer's Challenge, the 12th magnitude lenticular galaxy NGC 5689.

I went after NGC 5689 with a 10-inch f/5 reflector on a clear, moonless evening under typical suburban skies (limiting magnitude 5). To find the galaxy, I star-hopped, beginning from a triangle made up of the stars kappa (κ), iota (ι), and theta (θ), Boötis, located in the upper northwest corner of Boötes and east of the handle of the Big Dipper. From there, I traced a path to the 6th magnitude stars 24 Boötis and SAO45121. At 139X and using averted vision, I could barely make out a ghostly glow less than a degree south and slightly east of the latter star. The glimpses were so fleeting that I was unable to capture any detail. If I were to tackle NGC 5689 again, I would observe from a much darker site.

If you're limited to a small-aperture scope and/or skies compromised by artificial lighting, I encourage you to check out a trio of nearby double stars shown in Finder Chart B. Kappa (κ) Boötis is a charming magnitude 4.5 and 6.6 pair separated by 13.7 arcseconds. Less than a degree southeast is iota (ι) Boötis whose magnitude 4.8 and 7.4 components are a roomy 38.9" apart. Both pairs are easily split at 30X. You'll need a boost in magnification (100x or more) to split 39 Boötis. In 2019, this magnitude 6.3 and 6.7 duo was separated by a mere 2.5". Both are mid F-class main sequence stars. Are you able to detect a subtle off-yellow hue?

NGC 5689 was discovered by William Herschel in 1787. Sources place its distance as somewhere between 100 and 120 million light years. In either case, the photons striking your retina left when dinosaurs ruled the Earth.

The purpose of the Observer's Challenge is to encourage the pursuit of visual observing. It is open to everyone who is interested. If you'd like to contribute notes, drawings, or photographs, we'll be happy to include them in our monthly summary. Submit your observing notes, sketches, and/or images to Roger Ivester (rogerivester@me.com). To find out more about the Observer's Challenge or access past reports, log on to rogerivester.com/



Finder charts for NGC 5689; A: constellation-guide.com (from IAU and Sky and Telescope); B: theskylive.com; C: From AAVSO Variable Star Plotter. Stars plotted to magnitude 11. North is up in this 2° by 3° field. Bright star at upper right is 24 Boötis. Bright star above center is SAO 45121. category/observers-challenge-reports.

The Sun, Moon & Planets in June

This table contains the ephemeris of the objects in the Solar System for each Saturday night in June 2020. Times in Eastern Daylight Time (UTC-4). Ephemeris times are for Seagrave Observatory (41.845N, 71.590W).

Object	Date	RA	Dec	Const	Mag	Size	Elong	Phase(%)	Dist(S)	Dist(E)	Rise	Transit	Set
Sun	6	4 58.1	22 40.4	Tau	-26.8	1891.4	-	-	-	1.01	05:11	12:45	20:19
	13	5 27.1	23 13.2	Tau	-26.8	1889.8	-	-	-	1.02	05:10	12:46	20:22
	20	5 56.2	23 25.9	Tau	-26.8	1888.6	-	-	-	1.02	05:11	12:48	20:25
	27	6 25.3	23 18.4	Gem	-26.8	1887.9	-	-	-	1.02	05:13	12:49	20:25
Moon	6	17 13.1	-22 38.3	Oph	-12.7	1939.2	177° W	100	-	-	20:23	01:09	05:50
	13	23 30.5	-9 25.6	Aqr	-11.8	1763.1	93° W	53	-	-	01:26	07:07	12:56
	20	4 49.0	20 23.9	Tau	-8.2	1822.3	15° W	2	-	-	04:36	12:17	20:03
	27	11 22.6	8 56.3	Leo	-11.6	1955.6	72° E	35	-	-	12:00	18:33	00:55
Mercury	6	6 40.7	24 27.3	Gem	0.6	8.5	24° E	34	0.43	0.80	06:48	14:27	22:05
	13	6 59.6	22 40.7	Gem	1.3	9.9	21° E	21	0.45	0.68	06:47	14:17	21:46
	20	7 02.7	20 45.2	Gem	2.2	11.2	16° E	10	0.47	0.60	06:30	13:50	21:10
	27	6 51.4	19 11.7	Gem	3.4	12.0	7° E	2	0.46	0.56	05:57	13:10	20:24
Venus	6	4 42.8	22 11.7	Tau	-4.1	58.5	4° W	0	0.73	0.29	04:58	12:25	19:51
	13	4 27.2	20 04.6	Tau	-4.3	56.1	14° W	3	0.73	0.30	04:25	11:42	18:59
	20	4 18.1	18 26.0	Tau	-4.4	51.7	23° W	8	0.73	0.33	03:55	11:06	18:17
	27	4 16.7	17 29.2	Tau	-4.5	46.6	31° W	15	0.73	0.36	03:30	10:38	17:46
Mars	6	23 12.4	-7 49.8	Aqr	-0.1	9.6	90° W	85	1.41	0.98	01:24	06:58	12:33
	13	23 29.5	-6 12.5	Aqr	-0.2	10.1	92° W	84	1.40	0.93	01:07	06:48	12:29
	20	23 46.2	-4 36.4	Aqr	-0.3	10.6	94° W	84	1.40	0.89	00:50	06:37	12:23
	27	0 02.4	-3 02.6	Psc	-0.5	11.1	96° W	84	1.39	0.84	00:33	06:25	12:18
1 Ceres	6	23 03.0	-17 02.1	Aqr	8.9	0.5	95° W	97	2.97	2.70	01:49	06:48	11:47
	13	23 07.7	-17 05.9	Aqr	8.8	0.5	101° W	97	2.97	2.61	01:26	06:25	11:24
	20	23 11.6	-17 16.1	Aqr	8.7	0.5	107° W	97	2.97	2.52	01:03	06:01	10:59
	27	23 14.5	-17 33.2	Aqr	8.6	0.5	113° W	97	2.97	2.43	00:40	05:37	10:33
Jupiter	6	19 54.1	-21 04.9	Sgr	-2.5	45.1	139° W	100	5.17	4.36	22:57	03:39	08:21
	13	19 51.8	-21 12.2	Sgr	-2.5	45.9	147° W	100	5.17	4.29	22:28	03:09	07:51
	20	19 49.0	-21 20.6	Sgr	-2.5	46.5	154° W	100	5.16	4.23	21:58	02:39	07:20
	27	19 45.8	-21 30.0	Sgr	-2.6	47.0	161° W	100	5.16	4.19	21:28	02:08	06:48
Saturn	6	20 14.8	-19 59.8	Cap	0.4	17.8	134° W	100	10.02	9.28	23:13	04:00	08:46
	13	20 13.5	-20 04.6	Cap	0.3	18.0	141° W	100	10.02	9.20	22:45	03:31	08:17
	20	20 12.0	-20 10.1	Cap	0.3	18.1	148° W	100	10.01	9.14	22:16	03:02	07:48
	27	20 10.3	-20 16.2	Cap	0.2	18.2	155° W	100	10.01	9.08	21:47	02:33	07:18
Uranus	6	2 26.3	14 00.6	Ari	5.9	3.4	37° W	100	19.80	20.60	03:17	10:10	17:04
	13	2 27.6	14 06.8	Ari	5.9	3.4	43° W	100	19.80	20.52	02:50	09:44	16:38
	20	2 28.8	14 12.6	Ari	5.8	3.4	50° W	100	19.80	20.44	02:23	09:18	16:12
	27	2 29.8	14 17.8	Ari	5.8	3.5	56° W	100	19.80	20.35	01:57	08:51	15:46
Neptune	6	23 28.2	-4 35.3	Aqr	7.9	2.3	85° W	100	29.93	30.00	01:27	07:13	12:58
	13	23 28.4	-4 34.4	Aqr	7.9	2.3	92° W	100	29.93	29.89	01:00	06:45	12:31
	20	23 28.5	-4 34.1	Aqr	7.9	2.3	98° W	100	29.93	29.77	00:32	06:18	12:04
	27	23 28.5	-4 34.4	Aqr	7.9	2.3	105° W	100	29.93	29.65	00:05	05:50	11:36
Pluto	6	19 46.8	-22 07.0	Sgr	14.3	0.2	141° W	100	34.05	33.26	22:55	03:32	08:09
	13	19 46.3	-22 09.2	Sgr	14.3	0.2	148° W	100	34.06	33.19	22:27	03:04	07:41
	20	19 45.7	-22 11.4	Sgr	14.3	0.2	155° W	100	34.06	33.14	21:59	02:36	07:13
	27	19 45.0	-22 13.8	Sgr	14.3	0.2	162° W	100	34.07	33.10	21:31	02:08	06:44

April/May Reports

Executive Committee Meeting via Zoom

Tuesday April 28th, 2020 7:30PM

Called to Order: At 7:30 PM by President Steve Siok

Present: Steve S. Kathy S. Steve H. Sue H. Linda B. Jim H. Francine J., Ian D. Jim C. Laura L. Tracy P. Bob H. Bob J. Matt O.

- May 2- Saturday (our usual club meeting day), speaker Dr. Stella Kafka is available to speak to Skyscrapers. (since our Zoom call, Dr. Kafka has confirmed that she will speak via Zoom at 3PM on May 2.) There was also some discussion about getting a UTube acct for Skyscrapers to record future speakers (with their permission)

- Upcoming Meetings: Per 1st VP Steve H. a speaker has been lined up for August. We need speakers June and July. Speaker Meredith Hughes from Wesleyan University was mentioned. Zoom calls might be our platform and Laura L has offered to host future calls as her account allows for more than 40 minutes. Steve H and Ian D. are on the Ad hoc speaker committee.

- Jim C. will cancel delivery of the porto-potty to Seagrave for the month of May.

- Night Sky Network (NSN)-Membership List: Ad hoc committee:Linda B.Sue H. Jim H. Linda is working on syncing the NSN and Skyscraper calendars so members can take advantage of upcoming events. Linda and Jim are currently following the NSN site. Sue H and Linda will work toward putting the membership list on NSN so that everyone will have access to this website and events taking place. Linda has already added the executive committee to the site (each one should have a password emailed to them). Our focus is to ensure that ALL Skyscraper members are aware of NSN events.

- Dues: Treasurer Kathy Siok will be sending out a personal email to those folks who haven't paid their dues. Mail is still be delivered to the Peepoad Road address and picked up by the treasurer.

- Other Events: EBoard will meet once a month (Zoom or in person as determined)

- Bob Janus suggested that a directory be assembled mentioning each members' expertise. This would serve a resource tool for members.

- Trustees are continuing work to provide a link to the Meade telescopes from the meeting hall.

- In light of possible reduced revenues this year, a Budget Ad hoc Committee (Kathy S. Steve S. Matt O) will make recommendations to modify the 2020-1 budget to discuss at the next EBoard meeting.

- Next EBoard meeting: Tuesday May 19 at 7:30 PM. May be via Zoom?? TBD. Agenda items to be emailed to Steve S prior to the May meeting.

- We had a moment of silence for long-time Skyscraper member Frank Dubeau who passed away last week. An obituary will be in the next newsletter.

Meeting adjourned at 8:45PM

Respectfully submitted,

Sue Hubbard

Secretary, April 30, 2020

Executive Committee Meeting via Zoom

Tuesday May 26, 2020 4PM

Called to Order: At 4:10 by President Steve Siok

Present: Steve Siok, Kathy Siok, Steve Hubbard, Sue Hubbard, Linda Bergemann, Jim Hendrickson, Francine Jackson, Ian Dell'Antonio, Laura Landen, Tracy Prell, Bob Horton, Jim Crawford, Matt Ouellette, Bob Janus, Jeff Padell Total-15

- Steve Siok has been in touch with Scott McNeil of the Frosty Drew Observatory in Charlestown, RI. He inquired as to what are they doing regarding the opening process for summer tourist influx. Steve plans to examine the state's guidelines for reopening a facility and report to the group on the necessary steps, as Scott suggested.

- Kathy Siok gave a Dues Update. As of this meeting, 61 members have paid to date. We have 100 members. Kathy will be making phone calls to remind those who have not yet paid 2020 dues.

- Proposed Budget for 2019-2020 was emailed to the executive board members for review. There was some discussion. We will vote on the budget via the Zoom June Membership meeting.

- Update from Linda B. on Night Sky Network (NSN)-

We have been discussing moving the Skyscraper membership list over to NSN. (This is a FREE site sponsored by NASA.) Linda proposed that we let membership know about this action and that members can go in and edit their profile, as many are concerned about privacy. It was suggested

New Members Welcome to Skyscrapers

Amanda Anderson
Griffin Haisman
Julius Lundy
John Malzone
Abdelmaniem Moustafa
Eileen Myers
Fred Sammartino

that a simple email go out to the membership advising them that we are migrating from the Skyscraper website to NSN. Linda will compose this.

- Monthly Meetings Update: Meetings will continue to be held on the 1st Saturday of the month at 7PM EXCEPT Saturday July 4th (holiday) will be moved to July 11th at 7PM. June and August speakers have been arranged and others are in process. With respect to Zoom meetings: there was some discussion about whether we should subscribe to a higher level account with more features. Ian will do some research.

- Astro Assembly 2020- There was a general discussion about holding a virtual AstroAssembly and how we might raise some funds with this platform, as this is an annual moneymaker for the club. Discussion will continue.

There being no other business, the meeting was adjourned at 5:30 PM.

The next Executive Board meeting will be held via Zoom on Tuesday June 23, 2020 at 7PM.

Respectfully submitted,

Sue Hubbard

Secretary, June 3, 2020

Skyscrapers Inc. Fiscal Year 2019-2020 Budget & YTD Totals

							Edited 5/2020
Category	Budget		YTD Totals		Delta		Draft 20-21
INCOME		DETAIL				DETAIL	
AstroAssembly	\$4,000		\$3,934		-\$66		\$0
Dues	\$3,100		\$3,350		\$250		\$3,300
AL Membership	\$90		\$90		\$0		\$90
Donations	\$1,300		\$7,598		\$6,298		\$1,000
For Cap Improvements		\$3,015					
Misc Donations		\$3,013					
Tracy Prell Bday FR		\$1,570					
Sale of Equipment	\$100		\$140		\$40		\$100
Star Party Donations	\$300		\$150		-\$150		\$100
Transfer from Savings/CD	\$2,035		\$0		-\$2,035		\$1,652
TOTAL INCOME	\$10,925		\$15,262		\$4,337		\$6,242
EXPENSES							
Astro Assem Exp	\$1,450		\$1,234		\$216		\$0
AL Membership Exp	\$100		\$100		\$0		\$100
Contingency	\$258		\$35		\$223		\$0
Corporation, State Fee	\$22		\$22		\$0		\$22
Domain Name	\$20		\$156		-\$136		\$0
Donation	\$50		\$0		\$50		\$0
PayPal Fees	\$50		\$69		-\$19		\$70
Outreach	\$300		\$298		\$2		\$100
Postage and Delivery	\$75		\$65		\$10		\$0
Property Insurance	\$2,500		\$2,594		-\$94		\$2,600
Refreshment Expense	\$200		\$77		\$123		\$50
Trustee Expense	\$3,500		\$7,635		-\$4,135		\$1,500
Cap Equip		\$1,500				\$0	
Prop Maint		\$6,100				\$1,500	
Utilities	\$2,400		\$2,668		-\$268		\$1,800
Electric		\$435				\$435	
Internet		\$960				\$960	
Port a John		\$880				\$300	
Propane		\$400				\$100	
TOTAL EXPENSES	\$10,925		\$14,953		-\$4,028		\$6,242
OVERALL TOTAL	\$0		\$309				\$0

A detailed astronomical photograph showing the Alnitak, Horsehead, and Flame Nebulae. The image features a dark, silhouetted shape on the left, likely the Horsehead Nebula, set against a vibrant, reddish-orange nebula. Numerous bright stars are scattered across the field, with a prominent bright star in the upper right. The overall scene is a rich, multi-colored display of interstellar dust and gas.

Astraphoto Gallery

Alnitak, Horsehead
and Flame Nebulae:
43 10-minute images,
152mm f/5.9 refractor,
STF-8300C camera,
by Lloyd Merrill

Supernova 2020jfo in M61 from May 13.
14" F8 SCT, ZWO ASI294 MC cooled.
2 minutes exposure at a gain
of 300, by Steve Hubbard

Supernova in M 61 May 13 2020



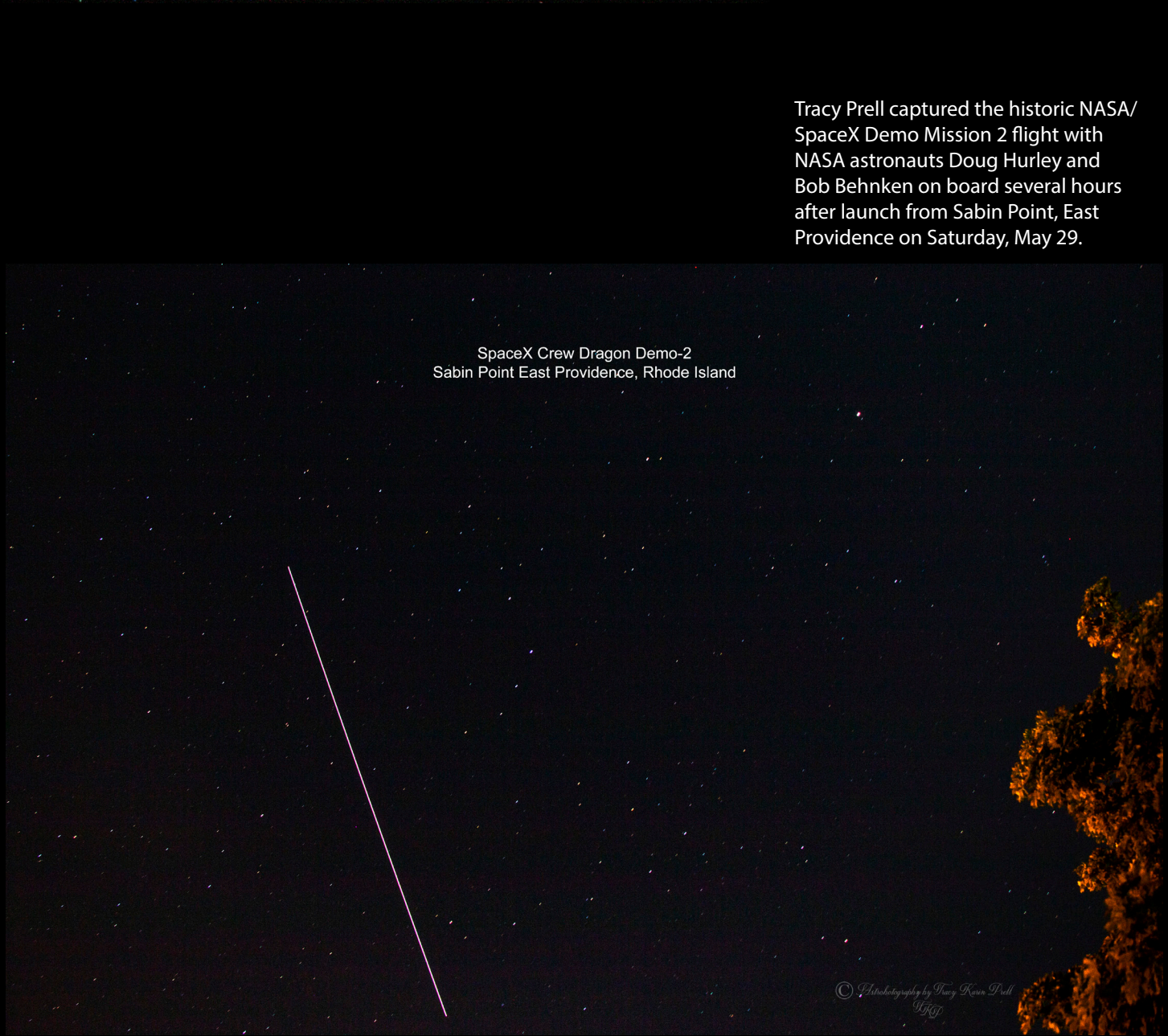
Wild Duck Cluster --Messier 11
6,197 light years from Earth

M11, the Wild.Duck Cluster
in Scutum by Tracy Prell

© Astrophotography by Tracy Kevin Prell
2007



Tim Thibault was able to get out to take some images while up in NH on 5/22. Attached is a shot taken of M13 with my Canon T3i though a C6 SCT, 1 minute exposure at 3200 ISO, not the best but not bad for being taken on a wood deck.



SpaceX Crew Dragon Demo-2
Sabin Point East Providence, Rhode Island

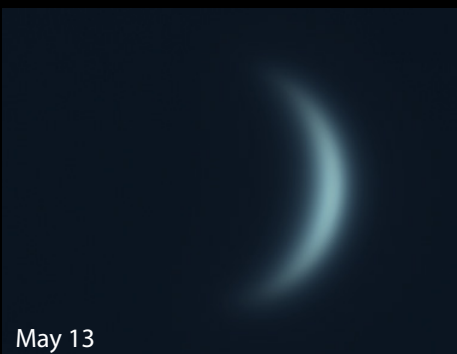
Tracy Prell captured the historic NASA/SpaceX Demo Mission 2 flight with NASA astronauts Doug Hurley and Bob Behnken on board several hours after launch from Sabin Point, East Providence on Saturday, May 29.

Here are images of Venus from the end of March through May 28 showing the phases and size changes. I think this might be my last attempt as it is getting too close to the Sun now for comfort. Inferior conjunction is just a few days away on June 3. Images by Steve Hubbard

March 27



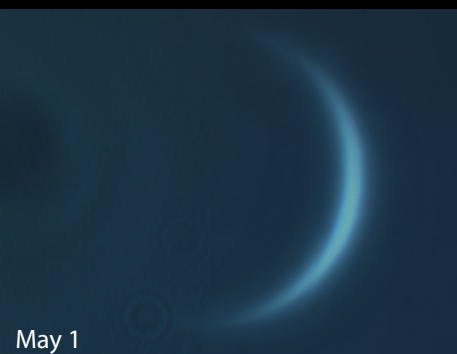
May 3



May 13

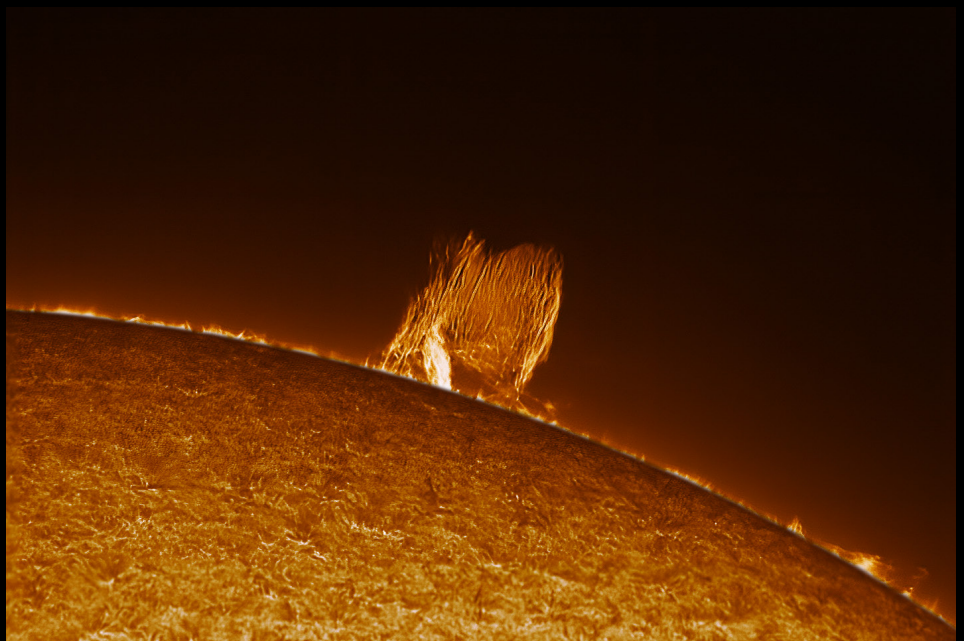
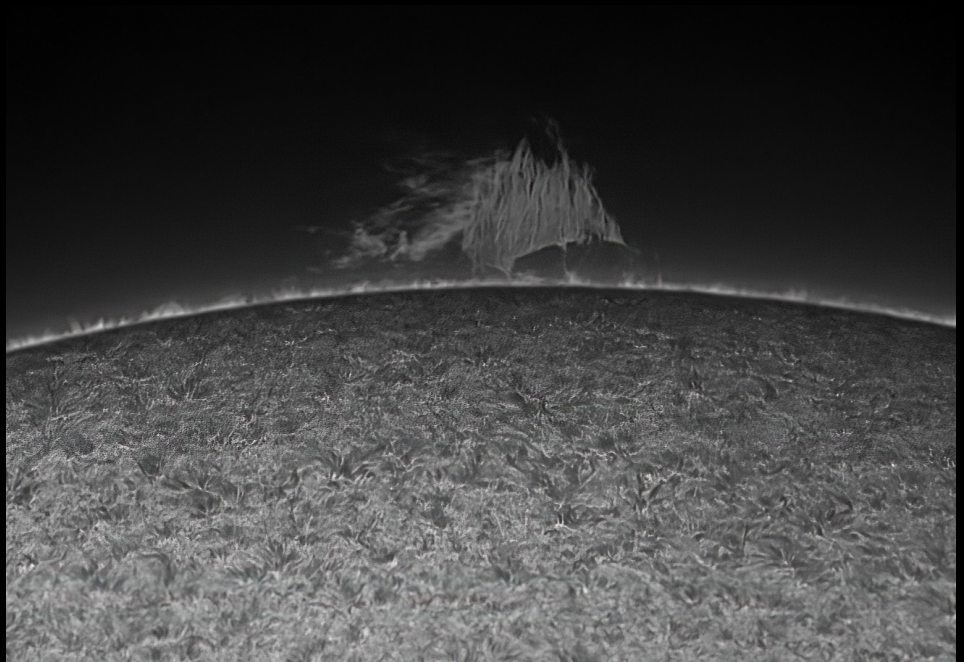


May 21



May 1

Solar prominence on May 31 & June 1 taken by Jeff Padell with new Skywatcher Evostar ED120 with Quark prominence filter and ZWO ASI174mm-cool.





Galaxy images by Steve Hubbard using a 14" F8 SCT, ZWO ASI294MC cooled. Sharpcap live stacking with 15 to 30 second exposures totally 4 to 6 minutes and then screen captured.

M58 in Virgo

NGC 4567, NGC 4568, NGC 4564 in Virgo

M109 in Ursa Major

NGC 4535 in Virgo

For Sale

Contact Jeff Padell: jeffpadell@gmail.com

Celestron Omni XLT 120 with dual speed GSO Crayford focuser \$200

Skywatcher Evostar ED 100 f/9 refractor with 2 focusers, original Skywatcher and GSO linear bearing focuser. Comes in original aluminum carrying case, right angle 50mm finder and 2 inch Skywatcher Diagonal Was \$650... NOW \$450.



Directions to Seagrave Memorial Observatory

From the Providence area:

Take Rt. 6 West to Interstate 295 in Johnston and proceed west on Rt. 6 to Scituate. In Scituate bear right off Rt. 6 onto Rt. 101. Turn right onto Rt. 116 North. Peeptoad Road is the first left off Rt. 116.

From Coventry/West Warwick area:

Take Rt. 116 North. Peeptoad Road is the first left after crossing Rt. 101.

From Southern Rhode Island:

Take Interstate 95 North. Exit onto Interstate 295 North in Warwick (left exit.) Exit to Rt. 6 West in Johnston. Bear right off Rt. 6 onto Rt. 101. Turn right on Rt. 116. Peeptoad Road is the first left off Rt. 116.

From Northern Rhode Island:

Take Rt. 116 South. Follow Rt. 116 thru Greenville. Turn left at Knight's Farm intersection (Rt. 116 turns left) and follow Rt. 116. Watch for Peeptoad Road on the right.

From Connecticut:

- Take Rt. 44 East to Greenville and turn right on Rt. 116 South. Turn left at Knight's Farm intersection (Rt. 116 turn left) and follow Rt. 116. Watch for Peeptoad Road on the right.
- or • Take Rt. 6 East toward Rhode Island; bear left on Rt. 101 East and continue to intersection with Rt. 116. Turn left; Peeptoad Road is the first left off Rt. 116.

From Massachusetts:

Take Interstate 295 South (off Interstate 95 in Attleboro). Exit onto Rt. 6 West in Johnston. Bear right off Rt. 6 onto Rt. 101. Turn right on Rt. 116. Peeptoad Road is the first left off Rt. 116.



47 Peeptoad Road
North Scituate, Rhode Island 02857