New

Larry's Celestial Calendar & Newsletter

Brounfels

Astronomy

CIUB BECAUSE IT'S DUIT THEFE

311th Edition

Volume 26, Number 6

June 15th to July 20th, 2023

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New **B**raunfels **A**stronomy CIUb BECAUSE IT'S OUT THERE

June 15th, 2023 Meeting 285 Agenda

- > Open meeting and introduce new members (get names, email).
- > Interesting observations, experiences.
- Show and tell.
- > Current news and what's in our sky this month: *Member input, Newsletter.*
- > Events, Outreach, Planning.
 - Should we prep for an outreach event on October 14th for the Annular Eclipse?
 - April 8, 2024 total solar eclipse planning
- Business
- Main Event

Coming up: OUR 285th ASTRONOMY CLUB MEETING

July 20th, 2023, from 6 - 8 pm

TJ's on Loop 337

astronomynbtx.org Email: info@astronomynbtx.org

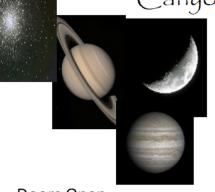
Astronomy Friends New Braunfels...... facebook.com/groups/354953995432792/

Comal County Friends of the Night Sky..... facebook.com/groups/166098014710276/

comaldarksky.org/ Email: info@comaldarksky.org

Astronomy Night at Tye Preston Memorial Library









Date	Doors Open	Note	
1/21/2023	7:00 PM		
2/18/2023	7:30 PM		
3/25/2023	8:30 PM		
4/22/2023	8:30 PM		
5/20/2023	2:00 PM	Sun Party - wear sunscreen and sunglasses!	
9/16/2023	8:00 PM		
10/14/2023	8:00 PM		
10/21/2023	7:30 PM	International Observe the Moon Night	
11/18/2023	6:30 PM	Crescent Moon	
12/9/2023	6:30 PM		

Tye Preston Memorial Library

tpml.org

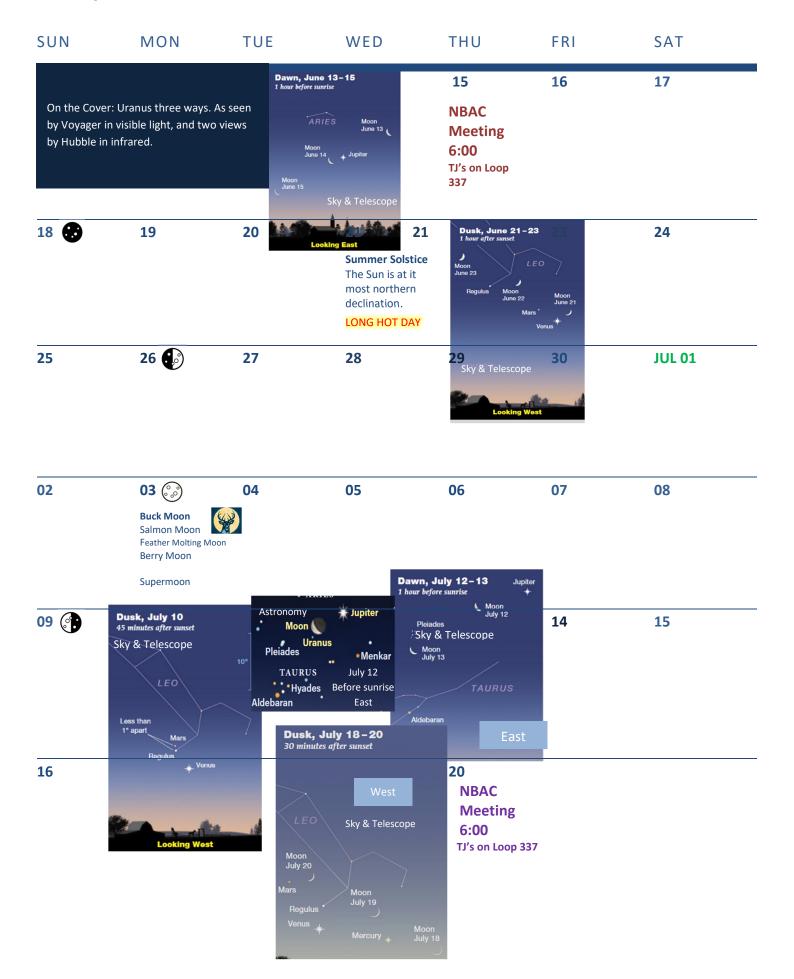
New Braunfels Astronomy Club

There will be surprise giveaways at some evnts so join us!!

Comal County Friends of the Night Sky supports and encourages Astronomy Night



JUNE/JULY 2023



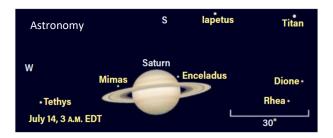
Solar System Happenings

- ♣ Mercury is heading for an early July superior conjunction with the Sun and getting lower as the month progresses. After conjunction, in later July, it joins Venus in the evening and on July 18-20 is joined by a waxing crescent Moon.
- ➡ Venus is the brilliant object in our western sky, just a bit northwest of Mars. On June 21st and again on July 18-20 it is joined by a waxing crescent Moon, for a pretty post-sunset sight.
- **↓** Earth still spins, and we are still here to marvel at it all.

 Best ISS viewing for Canyon Lake/New Braunfels From Heavens Above

Date	Start Time	Start Loc	Max Alt °	End Loc	Note
06/21	05:33:21	SSW	53	NE	Exits shadow for start time. Gets close to Saturn.
06/22	04:46:14	SE	25	ENE	Exits shadow for start time. Gets close to Jupiter.
07/10	06:04	NW	32	ESE	Gets close to Aldebaran
07/10	21:05	S	18	ENE	
07/11	21:52	SW	55	NE	
07/12	06:02	NW	68	SE	
07/12	21:02	SW	65	NE	
07/13	05:11	NW	52	SE	Gets close to Jupiter
07/13	21:51	WSW	19	NNE	Goes between Venus and Mars – close to Regulus (Leo)
07/14	20:59	WSW	34	NE	Gets close to Mars
07/16	20:57	W	13	NNE	Hugs the horizon – close to Mercury

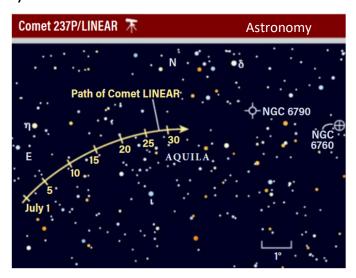
- ♣ The Moon dances with planets and stars.
- Mars is continuing its slow march toward a conjunction with the Sun in November and getting dimmer.
- ♣ Jupiter is rising earlier but still a morning planet in June. It teams up with a waning crescent Moon, Uranus, the Pleiades, the Hyades, and Aldebaran on July 12th, before SUNRISE.
- ♣ Saturn is rising earlier, and by June 30th is well above the eastern horizon by midnight.
 By later July it rises a couple of hours earlier.



- Uranus rises a couple of hours before dawn and a challenging target in Aries.
- Neptune is in southern Pisces.
- Comets:

O Comet 237P/LINEAR is a short period comet (6.6 years) with an orbit controlled by Jupiter. It reaches just beyond Jupiter's orbit before swinging back toward the Sun. At magnitude 13 it requires some aperture to see well. 8" barely catches it. A 10" or larger scope is needed for any detail.



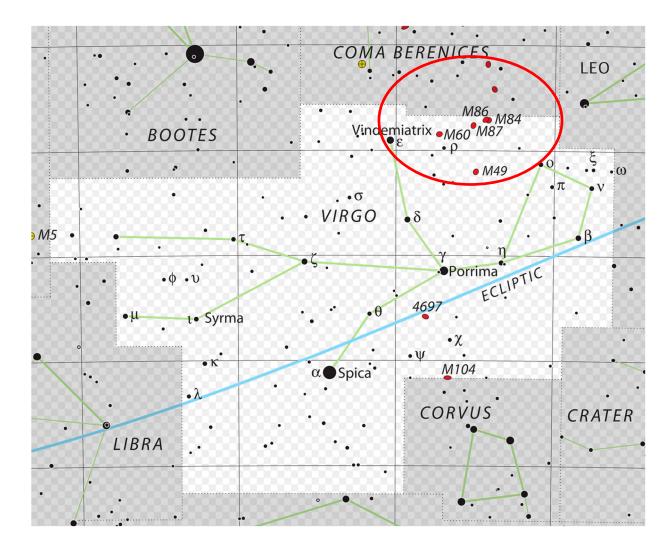


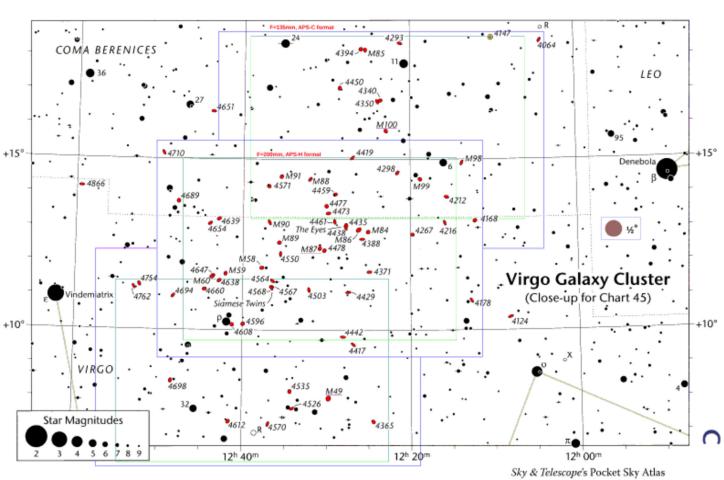
My Celestial Pick: The Galaxies of Virgo

Virgo is an old girl. The Babylonians (1,000 BCE) referred to her as Shala with her ear of grain. The early Greeks associated Shala with their goddess of wheat and agriculture, Demeter. It all pointed to fertility. Later Greek mythology identified Virgo as Erigone, daughter of Icarius. She kills herself after Icarius's shepherds kill him, mistakenly thinking he had poisoned them. Soap Opera stuff. Virgo comes from Latin, meaning maiden.

Virgo is chock-full of galaxies, the Virgo cluster, though some of them spill into Coma Berenices. There are at least 1,300 galaxies in this cluster, and what we see in Virgo is the heart of the larger Virgo Supercluster. Our local group (including our Milky Way, M31 in Andromeda, and M33 in Triangulum) is part of the Virgo Supercluster. A mix of spiral and elliptical galaxies, the Virgo Cluster is a showstopper in telescopes. Interestingly, the spiral galaxies are confined in an oblong, prolate filament shape, kind of like a rugby ball. The elliptical galaxies are more centrally concentrated.

The view is intriguing, spell binding, even in small telescopes, and it can be overwhelming in large scopes and giant binoculars. It's full of galaxies!





Cover Story> Uranus: A Bore or Cool?

Sure, it's bland in the eyepiece and most photos. A gray-greenish-blueish disk. Whoop-de-doo, eh?

I suppose it takes some imagination to get excited, think of its distance from us. It is way out there, near the edge of our solar system's planetary domain. Its distance from Saturn is about the same as Saturn is from the Sun. But there's more.

Think about this next time you see Uranus in the eyepiece – it's spinning on its side! That's right, OK, many of you know this, but why would it have a rotation nearly perpendicular (97.8°) to its orbit? We don't know for sure, but most astronomers speculate it's due to a collision with an Earth-sized planet a few billion years ago. That would have been a spectacular sight! This extreme axial tilt means a very different seasonal climate. Uranus's near pole regions get more sunlight than its equator over the course of its year (84 Earth years). Yet, the equator is still warmer.

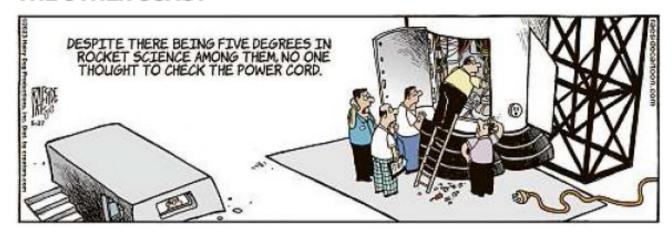
Uranus and Neptune are both termed Ice Giants, vs Gas Giants like Jupiter and Saturn. They each have a ring system just like the gas giants too. The difference seems a matter of not making the threshold of mass, to continue growing. So, Uranus and Neptune didn't get all puffed up like their big brothers. Its density is 1.27 g/cm³, the second least dense planet after Saturn.

Uranus has a layered atmosphere, with a hydrogen/helium/methane outer atmosphere, a lower atmosphere of mixed hydrocarbons, and ammonium hydrosulfide. Its mantle of ammonia ices, water ices, and methane ices, is under such pressure those "ices" are viscous fluids. Like all the giants, due to tremendous pressures, Uranus is believed to produce diamonds withing its mantle...that rain down! "Up in Xanadu, diamonds fell like rain, Citizen Kane was King, poor Citizen Kane". The concept of diamonds falling like rain was, in this song's context, a metaphor for a rich man's empty spirit. On Uranus, diamonds falling like rain (more like hail) is the result of good old mother nature. We do not know the density of Uranus's core, but it is believed to be composed of silicate-iron-nickel rock.

That greenish-blue-gray appearance is due to its atmospheric methane absorbing warmer visible wavelength colors, just like Neptune. OK, Uranus isn't super-cool but it's worth a look, and a thought. Exic Exickson

Lagniappe

THE OTHER COAST



MACANUDO



THE BRILLIANT MIND OF EDISON LEE



ARCTIC CIRCLE







CARPE DIEM



CARPE DIEM



CARPE DIEM

