New Braunfels Astronomy Club

May 21st, 2021 Meeting 261, Zoom 14

Agenda

- Open meeting and introduce new members.
- Interesting observations, experiences.
- Show and tell.
- What's in our sky this month?
  - Newsletter highlights
  - News from members
- What's going on
  - Events, outreach
  -
- Main feature(s)
  -
- Open for discussion
- Feedback and close meeting

Coming up: OUR 262nd ASTRONOMY CLUB MEETING

June 17th, 2021, from 7 – 9:00 pm ZOOM meeting

New Braunfels Astronomy Club astronomynbtx.org

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

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

Website comalcountyfriendsofthenightsky.org/

Mick Homer-First Contact mhomer2012@yahoo.com

New Braunfels Astronomy Club

Larry's Celestial Calendar & Newsletter

by Eric Erickson

286th Edition

Total Lunar Eclipse…Blood Supermoon…Booo!

Zodiacal Light

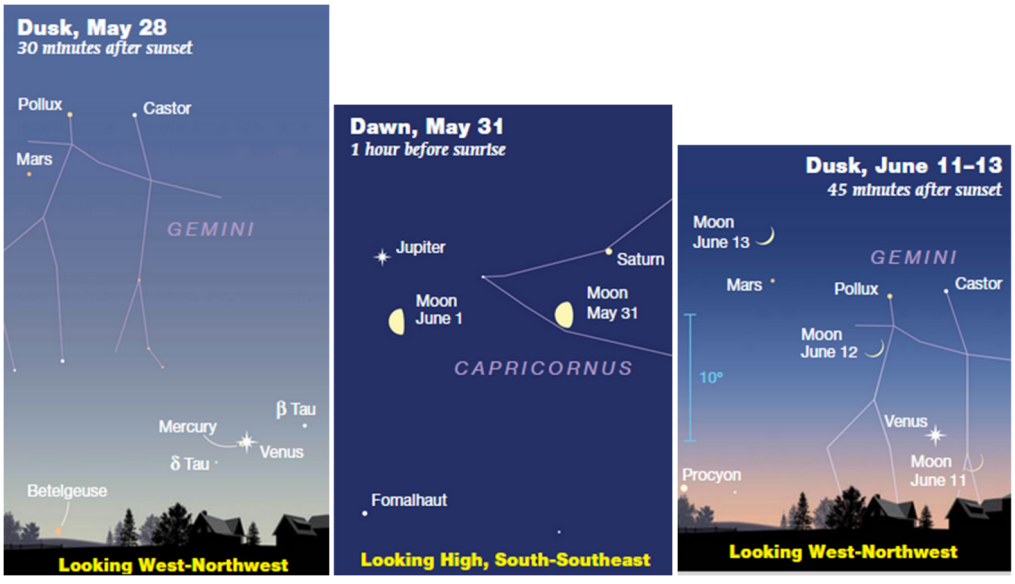
Mercury & Venus Together in the Evening

Jupiter and Saturn in the Morning

The Moon and Celestial Mates

Highlight Calendar for Clear Skies

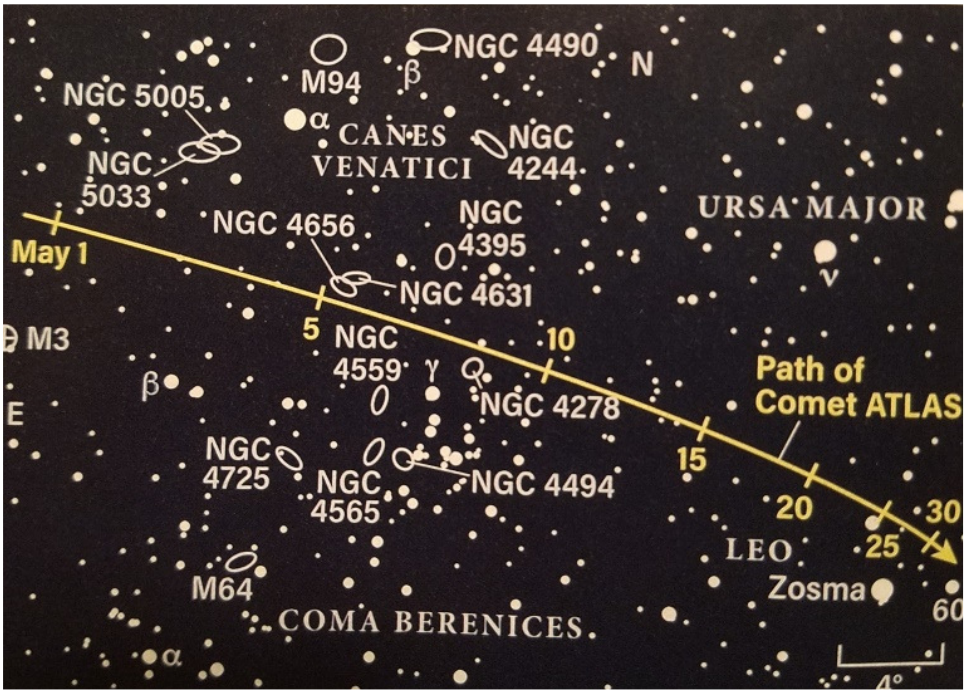
-From Sky and Telescope Magazine

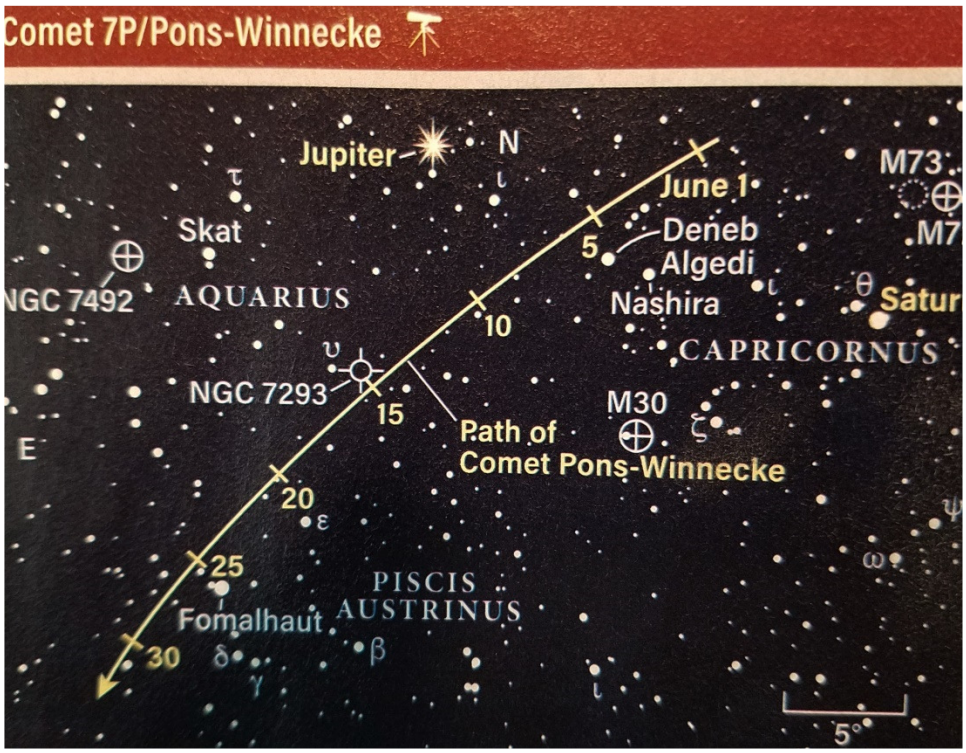


Solar System Observing

- Mercury is quickly rising in the sky and May is Mercury's month to shine. It gets close to Venus after sunset on the 28th of May but much dimmer at magnitude 2.3 and is no match. Check it out with your telescope and see a crescent phase Mercury and nearly full Venus.
- Venus has climbed out of conjunction with the Sun and is a marvelous evening site in the western sky. It pairs up with Mercury on May 28th. On June 21st it makes a nice picture with Mars, Castor, and Pollux after sunset.
- Earth still spins, and we are still here to marvel at the wonders of our universe.
- The Moon will be "super" and "blood" this month. On May 26th it enters Earth's shadow for a super-blood Moon total eclipse. Details below.
    - On May 31st to June1st it pairs up with Saturn first, then Jupiter in the pre-dawn sky.
    - On June 11-13 it pairs up with Venus, Mars, Castor and Pollux. And on the 13th Cancer's M44 open cluster is to its left. You should be able to just get the Moon, and M44 in the same binocular field.
- Mars is still visible in the western sky after sunset. Look for it to pair up with a waxing crescent Moon on June 13, with Castor and Pollux in Gemini to their lower right.
- Jupiter rises earlier each morning now getting better for viewing in the pre-dawn sky. On June 10, Io transits Jupiter along with a shadow transit. Start looking at 3 am CDT.
- Saturn rises earlier each morning also and getting better for viewing.
- Uranus is in Aries, low in the pre-dawn sky and a tough catch.
- Neptune is in northeastern Aquarius, a late-night riser by May 31st.
- Comet(s)
    - Kuiper belt object comet C/2020 R4 (ATLAS) is in our late-night-pre-dawn skies. At magnitude 11 it is challenging visually but imagers have opportunities, see below. As it fades away we bit it adieu, it'll be back in 1000 years.
    - Short-period comet 7P/Pons-Winnecke is coming into view, late-night and pre-dawn, with a close approach of 0.44 AU on June 12th. Don't get excited, it is expected to brighten to magnitude 11.5, so it's dim. It will be travelling southeast through Capricornus, Aquarius, and Piscis Austrinus . It becomes available for a photo-op on June 15th as it comes close, just south of NGC 7293, the Helix Nebula. Unfortunately, this happens just before dawn so planning is a must.

-From Astronomy Magazine





ISS viewing for New Braunfels (works for Canyon Lake too).

-From Heavens Above

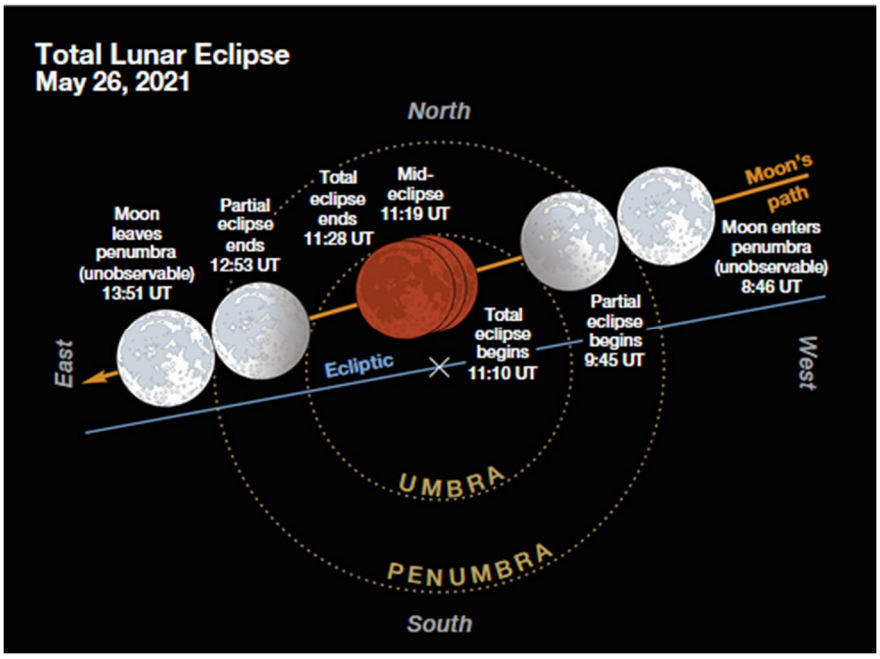
Date	Start Time	Start Loc	Max Alt °	End Loc	Note
06/02	21:32	NNW	22	E	Comes close to Vega. Enters Earth's shadow at 21:37:22
06/06	21:35	NW	23	S	Starts very close to Jupiter near the NW horizon. Enters Earth's shadow at 21:41:29

My Observing Pick: A Total Lunar Eclipse

This month we are treated to the first total lunar eclipse since 2018, ye-haw! One challenge is timing. The Moon will be in totality just before sunrise so it might not be as impressive as it could be. Then again, it might be more impressive! We'll see.

Penumbral Phase Start: 03:46 CDT
Partial Phase Start: 04:45 CDT
Totality Start: 06:10 CDT
Moonset: Approximately 06:28 CDT, as the Moon is coming out of totality.

-From Sky and Telescope Magazine



Imagining Imaging: Platform for club imagers…images and imagers needed!

Loss of the Night

A while back I used the fictitious city of *Trantor* in Isaac Asimov's Foundation Trilogy to describe the concept of no night. Trantor was not just a city, it was the entire planet, made into one obscene ball of light, with no night. Sure, you could darken your room, but the outside world was still awash in artificial light. Sure, you "go outside" on top of a mile high building to see the city, but you sure could not see the night.

Or we could be living on a planet within a globular cluster (if planets can even form there due to stellar gravitational dynamics). Now, that would be amazing! Amazingly bright all the time that is. Fortunately, Earth is in the outer third of our galaxy, the Milky Way. On the best and darkest nights around 4500 stars are visible, tops. We can see a smattering of bright stars, but most are not bright, bright enough to see but not brilliant like Sirius, Arcturus, Betelgeuse, etc.

If we were situated similarly within a globular cluster, we would be looking at a minimum of 10,000 stars at night, many would be very bright, and some way brighter than Venus. A few would be bright enough to be easily seen in daytime. Then, looking toward the cluster's core at night, well, it would take our breath away. It would be a massive, glowing, fuzzy ball of stars. And the color! Most stars in a globular cluster are older than our Sun, many yellow and red giants. Throw in a sprinkling of young blue giants and the night sky would be a carnival! But no night to see, just bright lights.

That is the ultimate nightmare of night sky defenders…loss of the night.

The good news, Trantor is fictitious and of course we do not live on a planet in a globular cluster, whew! We on Earth are in a beautiful spot, with stunning night sky views, and the Milky Way around us. OK, I qualify this statement with – <u>If you are in an area not spoiled by light pollution</u>.

I have harped about light pollution down here but now we are threatened by light pollution from above too. Yes, from above. Researchers from the European Space Agency and Royal Astronomical Society are concerned about the number, size, and reflectivity of the latest batch of artificial satellites. There are several private and government projects worldwide that expect to launch as many as 100,000 new satellites in the next few years. Most are small, low orbit devices aimed at providing internet and communications availability everywhere.

The risk to astronomy? All the additional reflected light will negatively affect night sky darkness, <u>no matter where you are!</u>

Eric Erickson