

New Braunfels Astronomy Club

April 15th, 2021

Meeting 260, Zoom 13

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 – *Did you participate in International Dark Sky Week?*
 - See **My Observing Pick** below
- Main feature(s)
 - Steve Ellery: **Easy DSLR Astrophotography**
- Open for discussion
- Feedback and close meeting

Coming up: OUR 261st ASTRONOMY CLUB MEETING

May 20th, 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

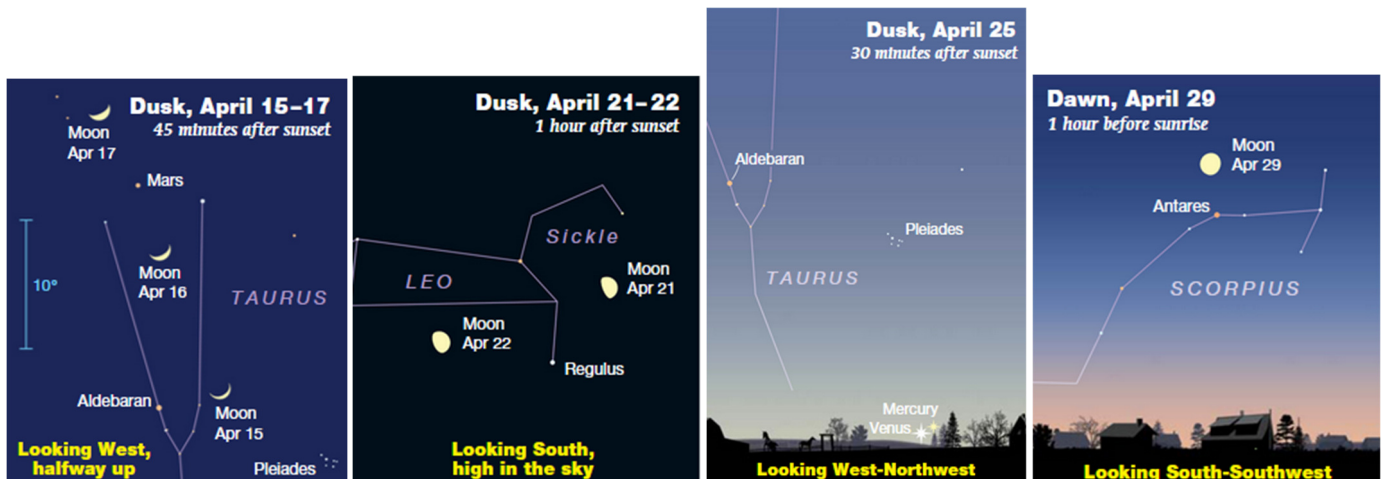
Larry's Celestial Calendar & Newsletter by Eric Erickson

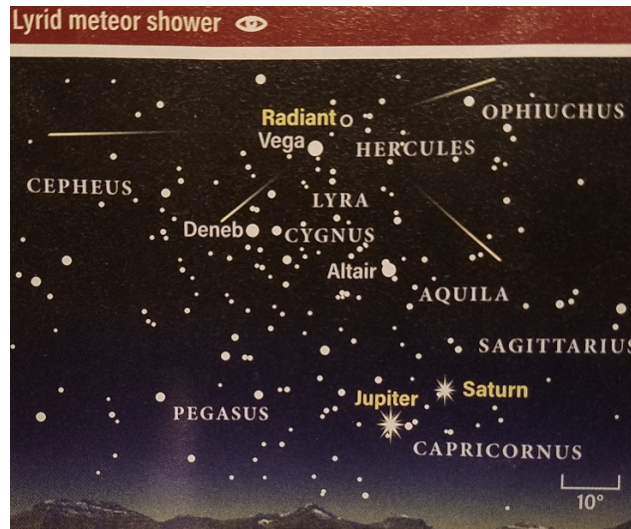
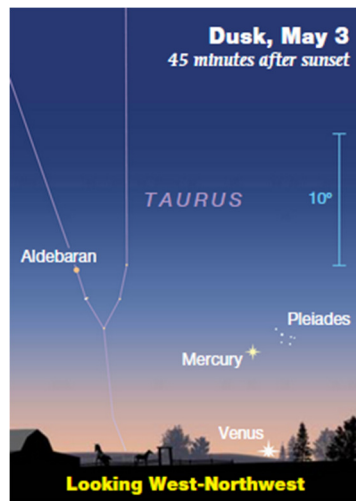
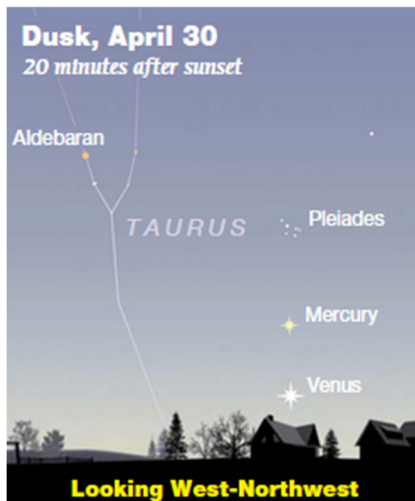
285th Edition

Zodiacal Light
Planets and Moon and Stars
Lyrids Peak with Bright Moon
Bid Adieu to Comet Atlas
Mercury and Venus Return
Discover Your Night

Highlight Calendar for Clear Skies

-From Sky and Telescope Magazine





April 22, 4:30am
East

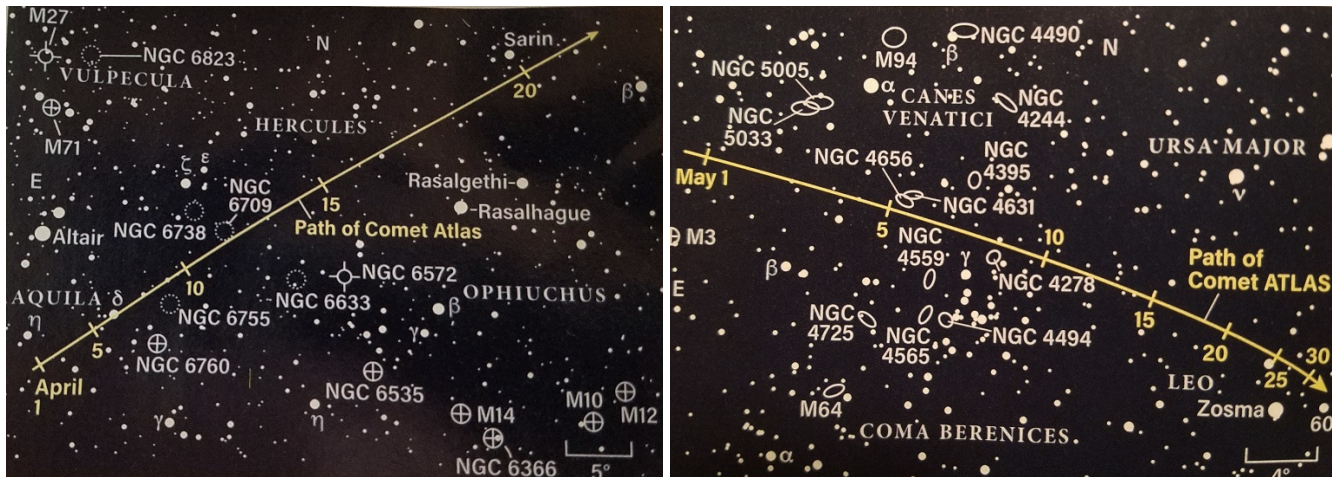
-From Astronomy Magazine

Solar System Observing

- ✚ **Mercury** is emerging as an evening planet, still too low in April for quality observing. May is a different story as it climbs higher than Venus and shines brightly in the west-northwest. It pairs with a crescent Moon on May 13th.
- ✚ **Venus** is in superior conjunction with the Sun, returning to visibility in late April. It starts a climb in May and has a nice pairing with the crescent Moon on May 12th.
- ✚ **Earth** still spins, and we are still here to marvel at the wonders of our universe.
- ✚ **The Moon** joins Mars in mid-April then Mercury and Venus in the May early evening western sky. Check it out in the very early am on April 29 as it poses with Antares.
- ✚ **Mars** is still visible high in the southern sky an hour after sunset. It joins up with the Moon in the very early am on April 29.
- ✚ **Jupiter** rises earlier each morning now getting better for viewing in the pre-dawn sky.
- ✚ **Saturn** rises earlier each morning also and getting better for viewing.

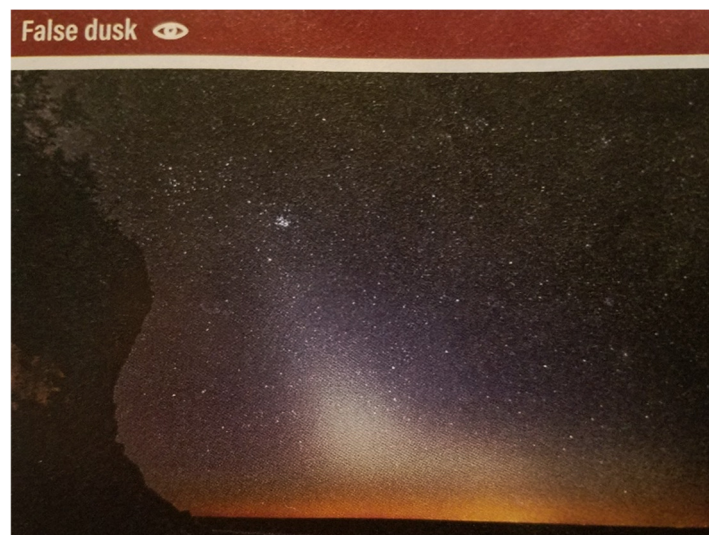
- ✚ **Uranus** is close to its April 30 conjunction with the Sun and not a good target.
- ✚ **Neptune** is in eastern Aquarius, going through superior conjunction with the Sun. It will start rising before dawn in late April but not a good target.
- ✚ **Comet(s)** Kuiper belt object comet C/2020 R4 (ATLAS) is in our late-night-pre-dawn skies. At magnitude 11 it is challenging visually but imagers have opportunities, see below.

-From Astronomy Magazine



- ✚ **Zodiacal Light** is visible in April showing a “false dusk” after sunset’s glow dims. We’re looking at backlit remnant dust and particles from comets and meteors in Earth’s orbital plane. Look west-southwest for a dim cone shaped light appearing from the horizon.

-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
04/20	06:24	SSW	21	NE	Passes just SE of Jupiter
04/22	06:26	SW	88	NE	
05/13	06:06	NW	40	SE	
05/14	05:19	NW	23	ESE	
05/14	21:58	WSW	37	NE	
05/15	06:08	NW	45	SSE	
05/15	21:11	SW	77	NE	
05/16	05:21	NW	84	SE	Passes very close to Jupiter
05/16	22:01	W	13	NNE	Passes very close to Capella
05/17	21:13	W	21	NNE	Passes just south of Cappella

My Observing Pick: *Discover Your Sky*

Following up from the International Dark Sky Week event, here is my challenge to anyone wanting to try it. All you need is a flashlight dimmed with red material or red plastic film and the examples below (print them).

On a decent night, not too cloudy or unusually hazy, go out and find Leo. It will be high in the southern sky. Leo's head looks like an inverted question mark with a bright star at its bottom (Leo's knee or paw). Let your eyes adjust to the darkness for about 10-15 minutes.

With the dimmed flashlight look at the examples below and find the example that best represents how you see Leo at that time. That is, which stars are visible. Your view might not exactly match one of the examples, so your sky is between the examples and that's fine. Note the time and your location and we can discuss everyone's results at the next meeting.

Mag3 – you can't quite make out Leo's head entirely but Regulus and Denebola (hind quarter) are visible.

Mag4- Leo's head is easy to see but the rest is less so.

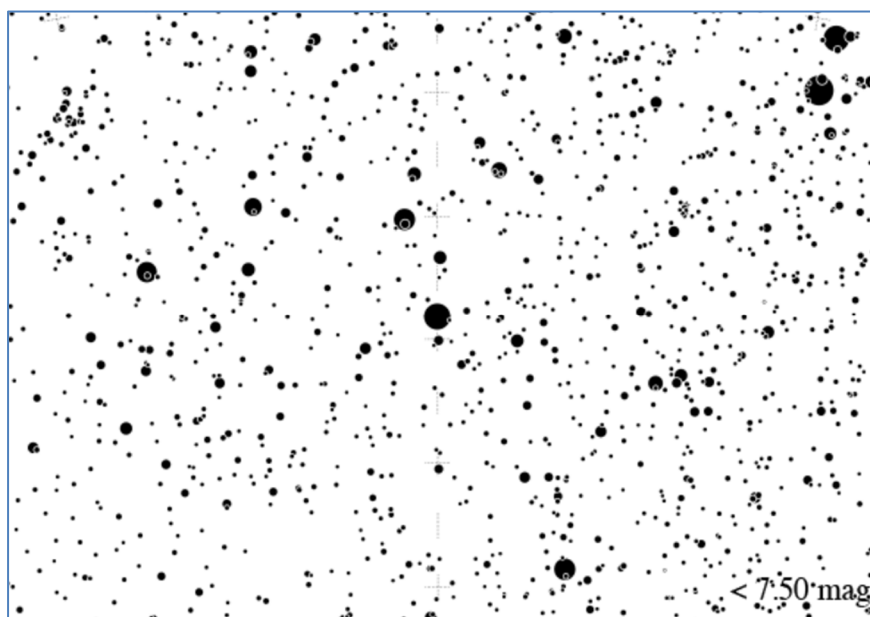
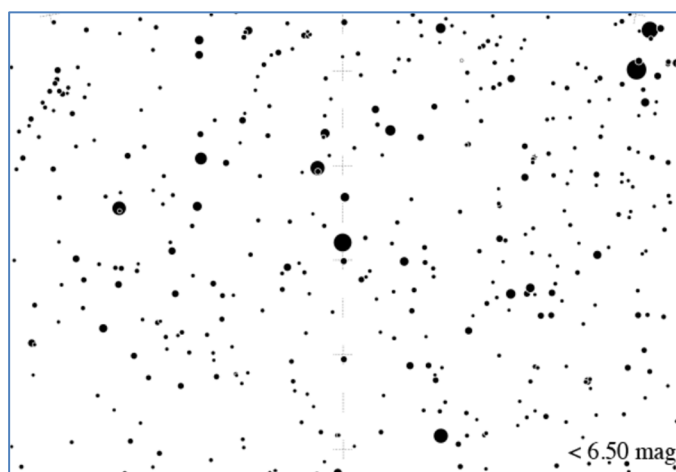
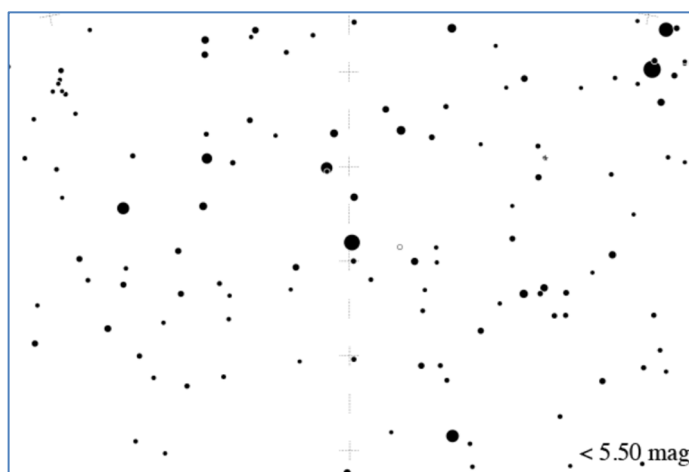
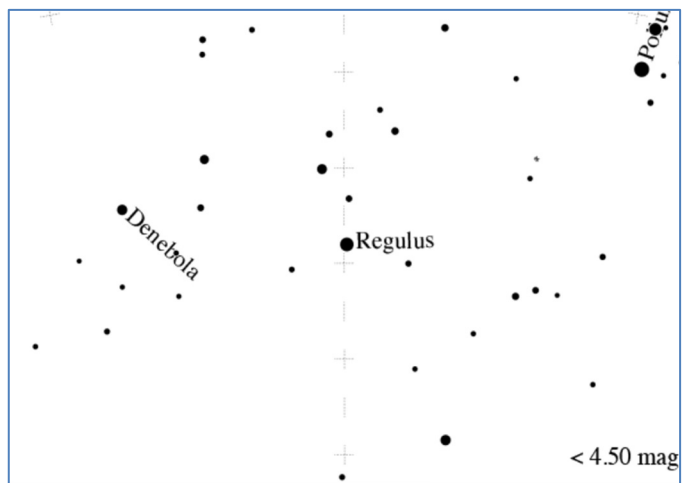
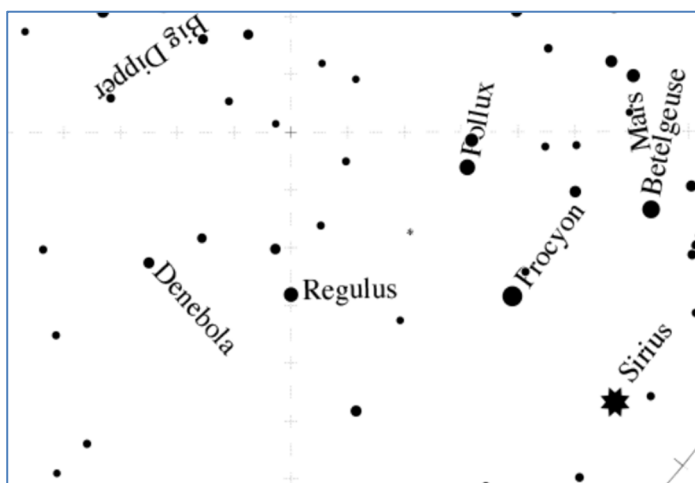
Mag5- Many of Leo's stars are visible.

Mag6- Leo's detail is there.

Mag7- Leo is getting tough to recognize among all the stars.

For example, my sky in Canyon Lake is between Mag4 and Mag5.

If your sky is close to Mag7 you must be in Terlingua!



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

This month we have Steve Ellery's presentation on DSLR astrophotography, along with images! Yes!

Let's Launch Our Own UFO

Unidentified Flying Objects (UFOs) are a fact. I think everyone I know has seen at least one so why deny it?

Of course, the problem with UFO sightings is in the evidence, or lack of it. The best evidence produced so far is no better than the evidence we can see on ghost hunting programs. You know, weird sounds, photos of enigmatic lights and vapors, fuzzy and shaky images. Unrecognizable stuff, not evidence. Just fodder for talk.

Then along came Oumuamua. Remember the interloper from outer space that came whizzing into and out of our solar system? While most investigators have decided it is an asteroid with cometary properties (it apparently exhibits jets of outgassing that caused it to accelerate), at least one has a different take. He even wrote a book, *Extraterrestrial, The first Sign of Intelligent Life Beyond Earth*. That would be Avi Loeb, Harvard University's chair of its Astronomy Department. When someone with credentials like that takes a position you gotta at least listen.

Dr. Loeb hypothesizes that Oumuamua is a spacecraft sent to investigate our solar system. While Dr. Loeb's hypothesis is intriguing, we just do not have enough evidence to support it. By the time it was discovered it was headed to the outer solar system and speeding up. Hmmmm, that does sound interesting.

Well, Dr. Loeb and a team had already been working out the requirements to send a spacecraft to Proxima Centauri when Oumuamua appeared. The net result has been an Apollo-like mission excitement. They call themselves Breakthrough Starshot! Fittingly, this spaceship will be fitted with a sail, a Light Sail. No doubt there are technological challenges, but we are getting closer each month to making it feasible.

Foremost is speed, it needs to get at least to 20% the speed of light to make the trip in the design team's lifetime. At that it will take 20 years. To achieve this the team proposes a super thin reflective material, possibly using graphene as a base substrate. The reflectivity will have to come as a breakthrough as well. To prevent the sail from vaporizing in the 100 gigawatt laser conflagration it will have to reflect 99,999 out of every 100,000 photons that hit it. Can you imagine a telescope mirror with that reflectivity?

Speaking of 100 gigawatts, that requires an array of perfectly phased lasers consuming in a few minutes the amount of energy produced by all US nuclear power plants in a year!

Then there is the payload, called a StarChip. Cameras, sensors, transmitters, power, navigation thrusters... enough to capture and transmit data during its high-speed flyby, but only weighing around 0.3 ounces.

When will we send it? Is there anyone out there to go, OMG I saw a UFO!!...?

Eric Erickson