

# New Braunfels Astronomy Club

Texas, USA

January 17<sup>th</sup>, 2019

235<sup>th</sup> Meeting

Larry's

## Celestial Calendar & Newsletter

January 17<sup>th</sup> to February 21<sup>st</sup>, 2019 259<sup>th</sup> Edition

**Total Lunar Eclipse Jan 20**  
**(It will it be super, but will it be blood?)**  
**Early Morning Planetary and Lunar Dances**  
**Zodiacal Light**  
**46P Still Out There**

### Observer's Highlight Calendar for Clear Skies

Month Date Time/Direction Event

Month	Date	Time/Direction	Event
Jan	20	9:10 pm CST for first penumbral contact	Total Lunar Eclipse. Totality starts at 10:41 pm. This full moon is near perigee and therefore a supermoon.
Jan	22	Pre-dawn; SSE	Venus and Jupiter make a brilliant sight before sunrise. Antares is to their west.
Jan	27	3:10 pm CST	Last Quarter Moon
Jan	30,31	Pre-dawn; SSE	Saturn near the horizon, Venus, Jupiter, and a waning crescent Moon team up for a dazzling sight
Feb	1,2	Pre-dawn; SSE	See above
Feb	4	3:04 pm CST	New Moon
Feb	10	Around 7 pm CST; SW	A waxing Crescent Moon and Mars are together in Pisces
Feb	12	4:26 pm CST	First Quarter Moon
Feb	17	Evening; high in the SE	Waxing gibbous Moon is near M44 (Beehive cluster) in Cancer
Feb	18	Pre-dawn; SE	Saturn, Venus, and Jupiter share the sky
Feb	21+	Evening; W	Zodiacal Light. Find a dark site and look for the telltale glow rising from the horizon of sunlight reflecting off solar system dust.

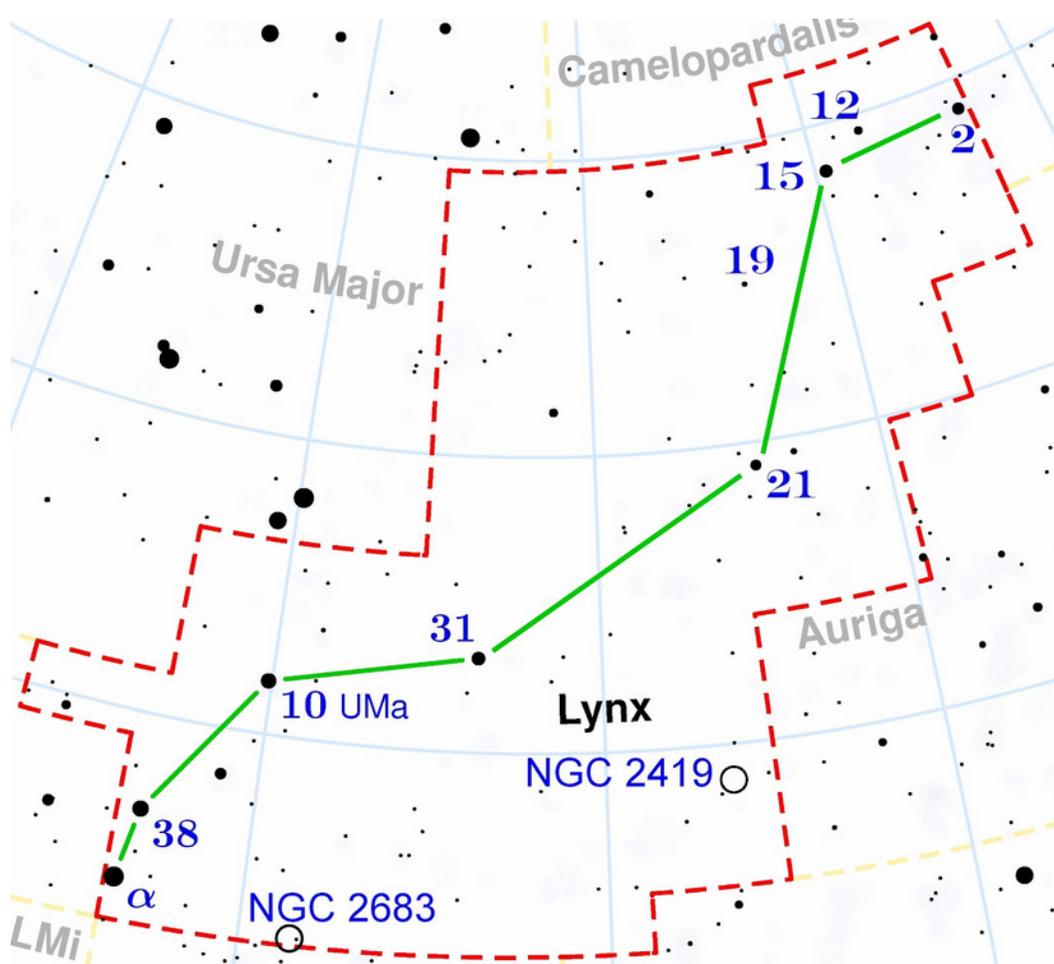
# Solar System Roundup

- ✚ **Mercury** hovers just above the eastern horizon in the pre-dawn hours and is in the Sun's glare, heading for superior conjunction on January 29<sup>th</sup>. It will not be well placed until February 12<sup>th</sup> becoming an early evening "star" in the west. It will continue to rise higher as February progresses.
- ✚ **Venus** is a morning "star", rising earlier each day and brilliant of course. It shares the early morning sky with Jupiter, Saturn and the Moon
- ✚ **Earth** still spins, and we are still here to marvel at the wonders of our universe
- ✚ **The Moon** is eclipsed by Earth on the 20<sup>th</sup>. It pairs up with Jupiter, Venus, Mars, and M44 (the Beehive cluster)
- ✚ **Mars** is still bright but fading in the southwest as it heads away from Earth
- ✚ **Asteroid(s)**
  - 532 Herculina is traveling through Leo, heading toward Leo Minor and Lynx
- ✚ **Jupiter** is visible in pre-dawn hours, climbing higher in the southeast and can be seen with Venus and Saturn
- ✚ **Saturn** is now a morning traveler, visible in the southeast, with Jupiter and Venus
- ✚ **Uranus** is magnitude 5.7, and is in eastern Pisces
- ✚ **Neptune** is mag 7.8, in Aquarius
- ✚ **Comet(s)**
  - 46P/Wirtanen is in Ursa Major, heading east, then southerly by February 1. It is still visible in binoculars and a good target for telescopes
- ✚ **ISS Viewing for New Braunfels (works for Canyon Lake too). After 5 am and before midnight.**

Date	Start Time	Start Loc	Max Alt °	Travel
01/20	18:37	SSW	35	ENE - low
01/21	19:21:35	WSW	28	NE - low
01/22	18:29:25	SW	64	NE
01/24	18:22:22	WSW	22	NNE - low
02/09	19:03:37	NW	36	SE
02/10	19:47:57	NW	27	S
02/11	18:55:37	NW	68	SE
02/13	18:47:55	NW	21	S - low

# My Observing Pick: Lynx

Lynx is a relatively modern constellation, assembled by Johannes Hevelius in 1687 and named by Jordanus Fluvius. While it bears no resemblance to the animal (for me), its name is meant to imply only those with acute vision (as a Lynx) will be able to spot it. After all, its brightest star  $\alpha$  Lyncis is a mere magnitude 3.14.



Name	Object Type	Mag	Location	Description
NGC 2419	Globular Cluster	9.1	See map	Also called the "Intergalactic Wanderer"
NGC 2683	Spiral Galaxy	10.6	See map	Nicknamed the "UFO Galaxy"
38 Lyncis	Binary Star		See map	Mag 3.9/6.1 blue white; 2.7" separation
12 Lyncis	Multiple Star		See map	Mag 5.4/6/7.3 yellow; 1.8 & 8.7" sep.
19 Lyncis	Binary Star		See map	Mag 5.8/6.9 blue white; 15" separation

## Oumuamua: Rock or Spacecraft?

A scout or messenger, that what we called it. Oumuamua is Hawaiian for scout or messenger and it was named that because it came into our solar system from an unexpected direction. It came from deep space outside our solar system, so it was a “scout/messenger” from deep space. It came in and was nearly missed as it receded toward the outer planets. Now, it seems, there is some speculation about its origin and whether it has a purpose, was sent here.

Looking at the scenario, it came in from an angle totally unexpected, and certainly not from within our solar system. It came in fast and receded faster, as if under power. We did not get a good look at it. So, what is the concern?

The acceleration of Oumuamua is odd. Comets are known to do this as they spew gas and debris but Oumuamua isn't doing this. The only thing we have with which to compare is called a light sail, a lightweight foil sail that can be accelerated by sunlight pressure. We have tested this concept and it works.

Avi Loeb, chair of Harvard's astronomy department has proposed the possibility that Oumuamua might not simply be an asteroid. Though it is tumbling it is also accelerating. Loeb conjectures that an extraterrestrial civilization sending a probe and looking for other life, possibly intelligent life, would try to hide the probe's identity. Make it appear like a normal galactic object. The path of Oumuamua suggests it comes from Vega and its trajectory is different than expected if it were controlled by the Sun's gravity. If it were a comet, we would detect material outgassing from it and subsequent changes in rotation/tumbling. This has not been observed. Its rotation/tumbling has been stable as it slowly accelerates out of our solar system.

Is Oumuamua a probe or just an asteroid with unexplained acceleration? Another explanation has been proposed. Roman Rafikov, an astrophysicist at the University of Cambridge has proposed a different scenario. He has suggested Oumuamua is the result of normal stellar evolution, like what formed the Ring Nebula (M57) in the constellation Lyra, home of Vega. This will happen to our Sun in about 5 billion years. As the star goes through gyrations at its end of stellar life, its closer planets can be disrupted and torn apart by gravitational and pressure fluctuations. Rafikov suggests that Oumuamua is a tiny piece of planetary remains, blasted out of its solar system and shooting through ours some millions of years later.

Well, I am a believer in simple explanations, and I admit this is a challenge. Using Occam's Razor philosophy, I lean toward Oumuamua being an asteroid from another solar system vs a probe. What do you think?

## Coming up: OUR 236<sup>th</sup> ASTRONOMY CLUB MEETING

Thursday, **February 21<sup>st</sup>**, 2019, from 7 – 9:00 p.m., held in the conference room of TJ's restaurant on Loop Road (337). Have dinner, snack, dessert, and/or a beverage if you like. The New Braunfels Astronomy Club can be reached at [www.astronomyntx.org](http://www.astronomyntx.org) Eric Erickson [ewandnl@yahoo.com](mailto:ewandnl@yahoo.com)