New Braunfels Astronomy Club

Because it's Out There

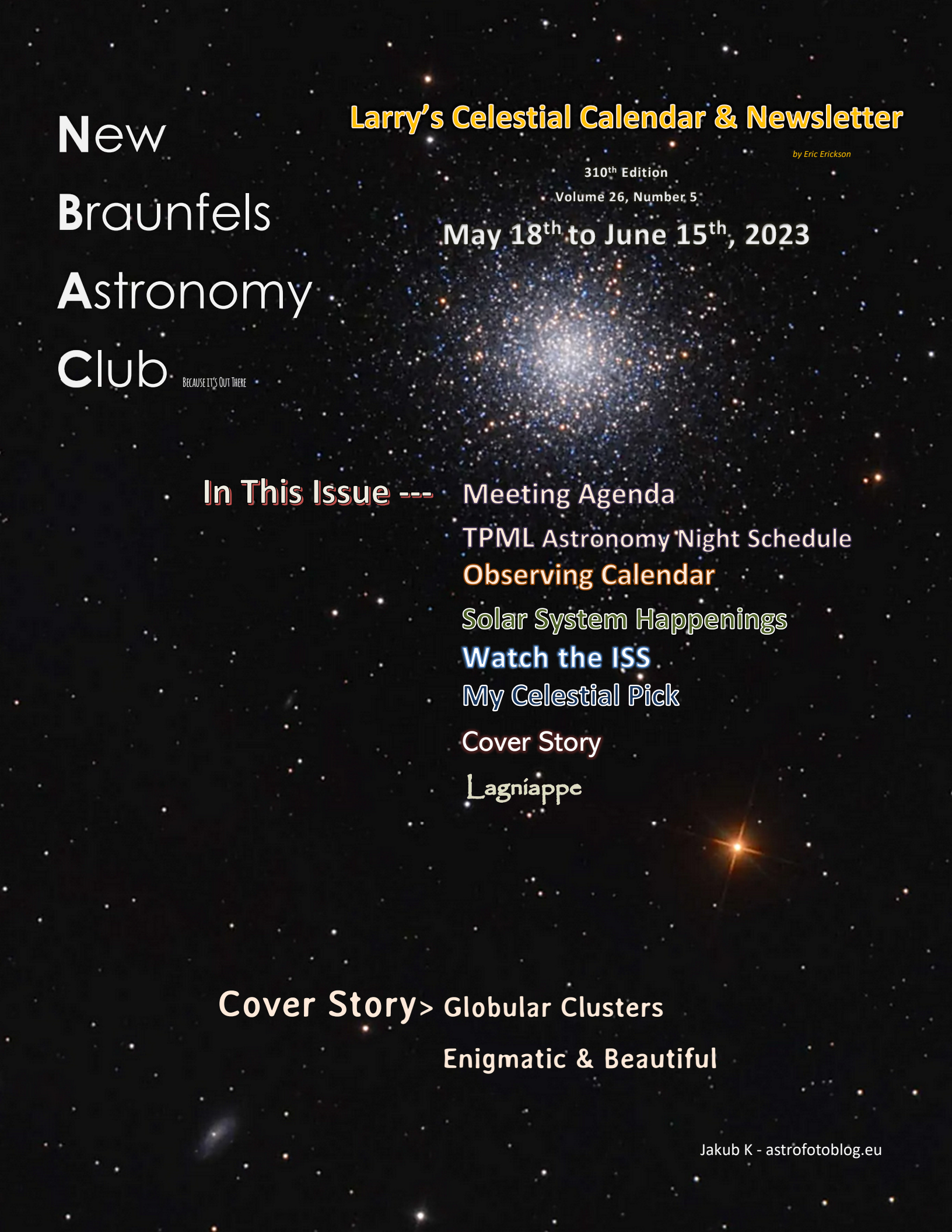
Larry's Celestial Calendar & Newsletter

by Eric Erickson

310th Edition

Volume 26, Number 5

May 18th to June 15th, 2023



In This Issue ---

Cover Story> Globular Clusters

Enigmatic & Beautiful

Jakub K - astrofotoblog.eu

New
Braunfels
Astronomy
Club Because It's Out There

May 18th, 2023
Meeting 284
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.*
  - Saturn now has 145 satellites! Jupiter still at 95.
- Events, Outreach, Planning.
  - Sun Party at TPML – 05/20 at 2:00pm
    - Larry Wells offered to have a presentation ready – similar with last year.
  - Land and Sky fundraiser event at Dot's – 05/20 beginning at 5pm
  - Should we prep for an outreach event on October 14th for the Annular Eclipse?
- Business
- Main Event

Coming up: OUR 285th ASTRONOMY CLUB MEETING

June 15th, 2023, from 6 - 8 pm **TJ's on Loop 337**

astronomynbtx.org Email: info@astronomynbtx.org

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

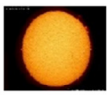
Comal County Friends of the Night Sky..... facebook.com/groups/166098014710276/

comaldarksky.org/ Email: info@comaldarksky.org

Astronomy Night at Tye Preston Memorial Library

Canyon Lake, TX

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 *astronomynbtx.org* *Astronomy Friends New Braunfels*

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

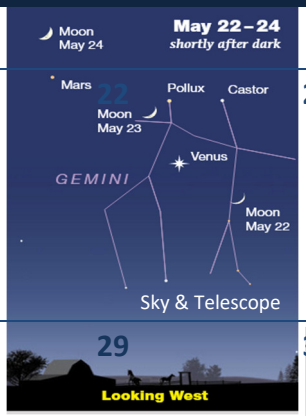
Comal County Friends of the Night Sky supports and encourages Astronomy Night

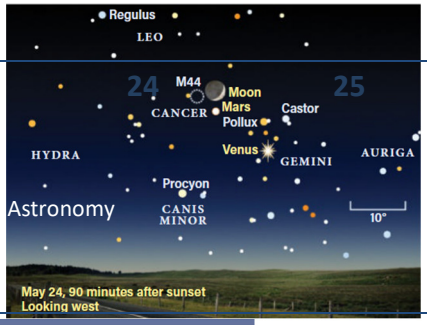
Website: comaldarksky.org Email: info@comaldarksky.org

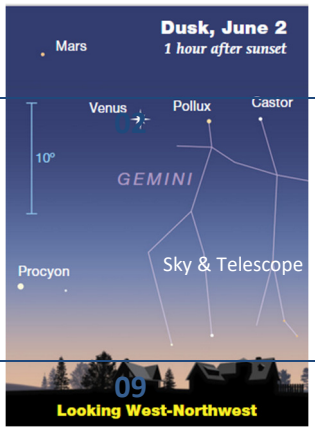
Comal County Friends of the Night Sky Group

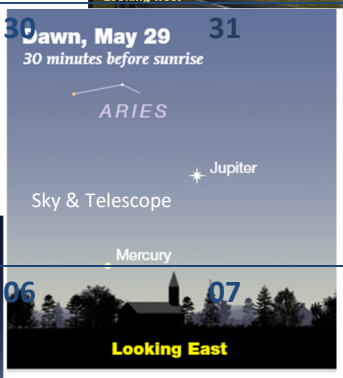
MAY/JUNE 2023

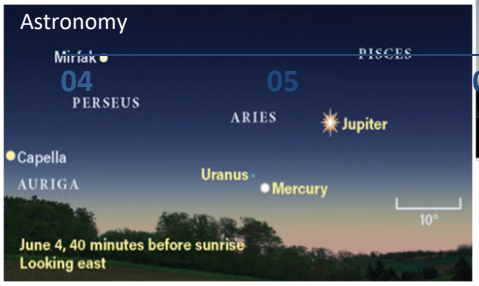
SUN	MON	TUE	WED	THU	FRI	SAT
On the Cover: M13 - Globular Clusters are beautiful to observe and photograph. They are found in most galaxies. We don't know how they formed or how they are at the periphery of spiral galaxies.				18 **NBAC Meeting 6:00** TJ's on Loop 337	19	20 Sun Party 2:00 pm TPML Land & Sky Celebration at Dot's 5:00 pm
21	22	23	24	25	26	27
28	29	30	31	01 JUN	02	03 Strawberry Moon (Algonquian, Ojibwe, Dakota, Lakota) Berries Ripen Moon (Haida) Blooming Moon, Green Corn Moon…
04	05	06	07	08	09	10
11	12	13	14	15 **NBAC Meeting 6:00** TJ's on Loop 337		

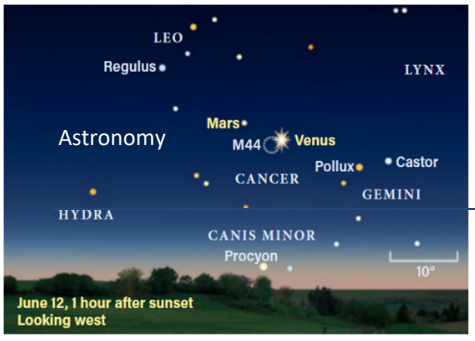


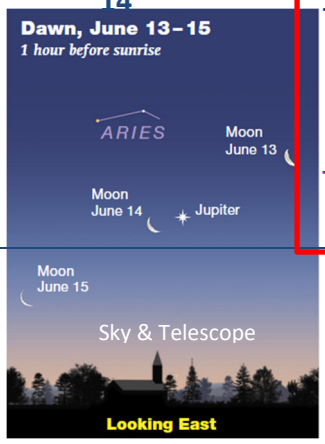












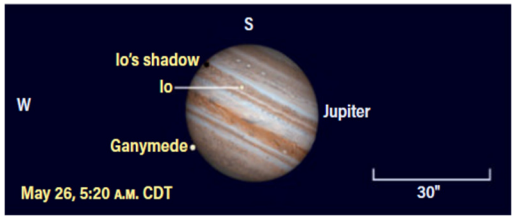
Solar System Happenings

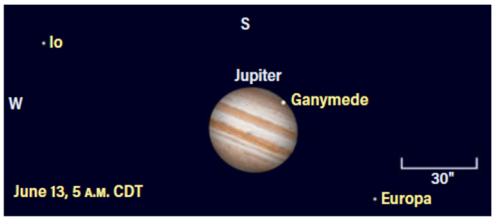
- Mercury is a morning planet and dim until May 23rd when it reaches 1st magnitude. It reaches greatest western elongation on May 29th but continues to be low in the sky.
- Venus is an evening planet, shining brilliantly, but slowly shrinking in apparent size from 60+% to 50% by the end of May. Nevertheless, Venus grows in brightness to magnitude -4.4. On June 12th, Venus is just north of M44 in Cancer (the beehive or Praesepe/Manger) with Mars joining the group.
- Earth still spins, and we are still here to marvel at it all.

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

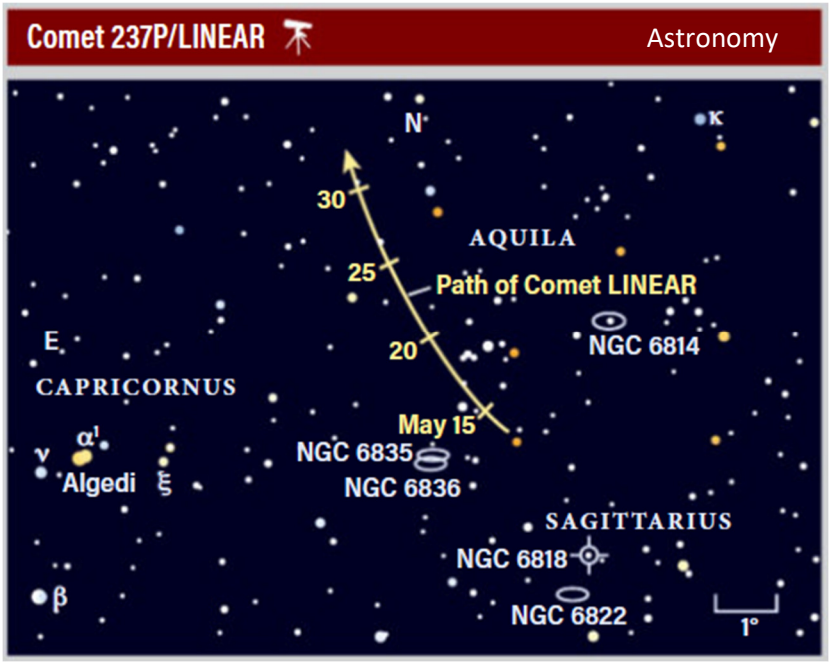
Date	Start Time	Start Loc	Max Alt °	End Loc	Note
05/30	21:54	NNW	26	ENE	Gets close to Vega (Lyra) before entering Earth's shadow
05/31	21:05	NNW	15	E	Gets VERY close to Vega before entering Earth's shadow
05/31	22:41	NW	28	WNW	Very short duration. Splits Castor & Pollux, close to Venus & Mars, then enters Earth's shadow.
06/04	21:01	NW	47	SSE	Close to Castor & Pollux, then close to Venus and Mars
06/06	21:01	WNW	13	S	Hugs the horizon

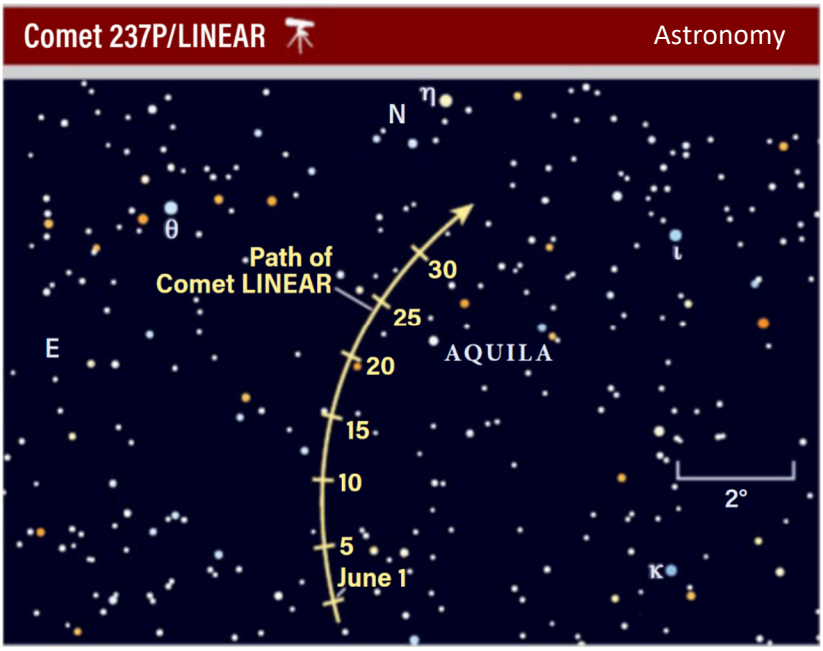
- The Moon dances with planets and stars.
- Mars is up in the west as the night progresses. On May 24th it forms a group with a waxing crescent Moon, M44 and Venus. Then on June 2nd it floats in front of M44.
- Jupiter is a morning planet, rising about an hour before sunrise. Transits of Jupiter's disk are always a treat.





- Saturn is a morning planet, rising after 1am CDT.
- Uranus in conjunction with the Sun.
- Neptune rises around 4:30am CDT and is in Pisces.
- Comets:
  - 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 so a 10" or larger scope is better.





My Celestial Pick: Two Challenge Globulars

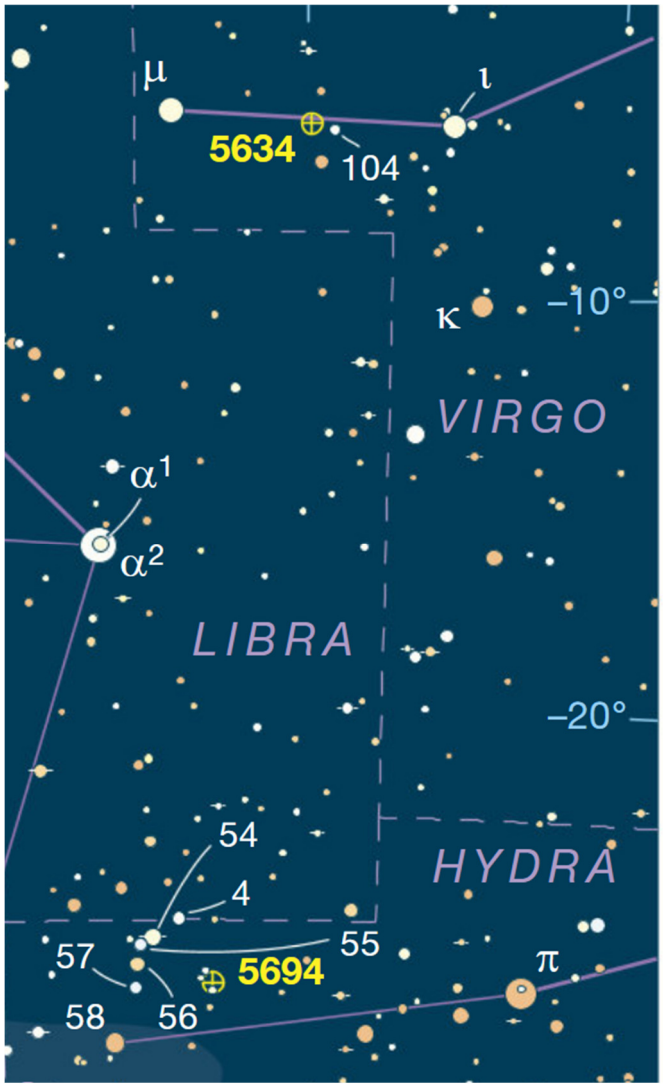
My cover story is about those beautifully symmetrical and mysterious globular clusters surrounding our Milky Way and most other galaxies.

My Celestial Picks are distant globular clusters, NGC 5634, (82,200 light years) in Virgo, and NGC 5694 (114,000 light years) in Hydra. Both are challenging in their own way.

With an apparent magnitude of 10ish, both are within reach of 70mm binoculars, but that view just serves to make you want more. 4” and larger instruments will progressively bring out details. Larger will be better!

NGC 5634 has a bright (8th magnitude) orange star HD 127119 that lies just 1.3 arcminutes away providing a challenging brightness dynamic. NGC 5634 appears to have been associated with the Sagittarius Dwarf Spheroidal Galaxy and became a Milky Way object after the dwarf galaxy was disassociated by the Milky Way.

NGC 5694/Caldwell 66 also seems to have been an extragalactic cluster, captured by the Milky Way.



Imagining Imaging: Imaging Articles Needed!

Cover Story> Glorious Globulars

They are cool to observe, cooler to photograph, coolest to think about!

I never tire of looking at globular clusters in binoculars or a telescope. Their spherical shape, grainy texture, and tight structure are all amenable to jacking up the power. They just keep getting better, more detailed. The only qualifier, aperture. To get the better, more detailed views one needs to jack up the aperture too. My 4" refractor presents globulars as a mysterious grainy glow. My 8" SCT starts to show that the grain is composed of innumerable stars. I once saw Omega Centauri in a 16" and, well, now we're getting somewhere! A 16" scope can begin to show a globular cluster's real assets. Aperture!

Globular clusters orbit our Milky Way galaxy, like a bunch of StarLink satellites around the Earth. Why?

Globular clusters are mostly very old, nearly as old as the universe itself. Why?

How did they form, and did they form as globulars to begin with? We don't know, and maybe… oh, we don't know. It's thought globular clusters form at once within a massive molecular cloud. While globular clusters are thought to form all at once, they tend to have several star age populations, with the majority being older, low-metal stars. It's not known if the young star population came from new star formation, stellar mergers, or capture.

Early astronomers, especially those without optical aid, called Omega Centauri a nebula. Once optical magnification became available, well, they were still called nebulae, until Charles Messier resolved individual stars in M4. Did he say hmmm, that's interesting? William Herschel came along with his better (bigger) equipment, resolved them as star clusters, and coined the term "globular cluster". There we are.

Globular clusters range from 5,500 light years (M4) to 114,000 light years distant (NGC 5694) from Earth, mostly depending on their position with respect to our galaxy. Earth is not at the center of the galaxy so there will be significant distance variation.

Globular cluster stars are gravitationally bound, unlike open clusters, and their significant star density results in interactions that sometimes send a star out of the cluster. Due to their relative density globular clusters are not considered ideal for producing planetary orbits within habitable zones. Try to imagine living on a planet within a globular cluster. Would it be like living on a planet toward the center of our galaxy?

Go out and look at a globular cluster and wonder how it came to be.

Eric Erickson

Lagniappe

JUMP START

JUMP START

CRANKSHAFT

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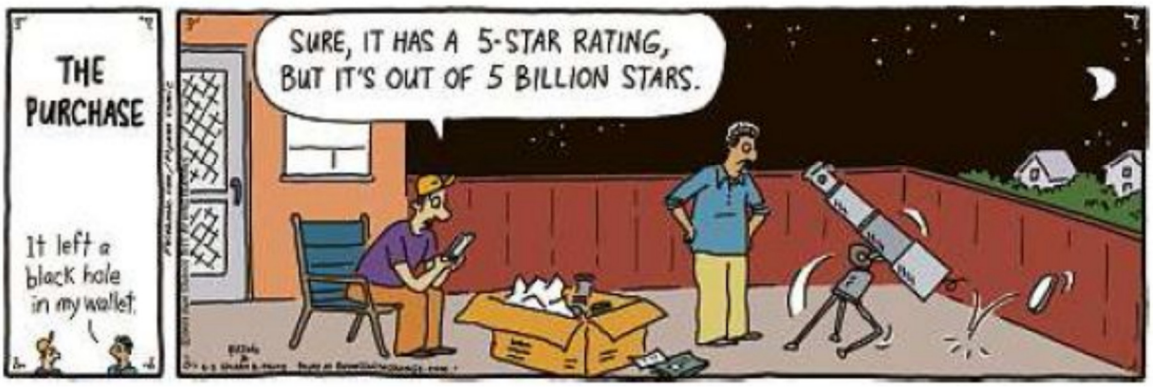
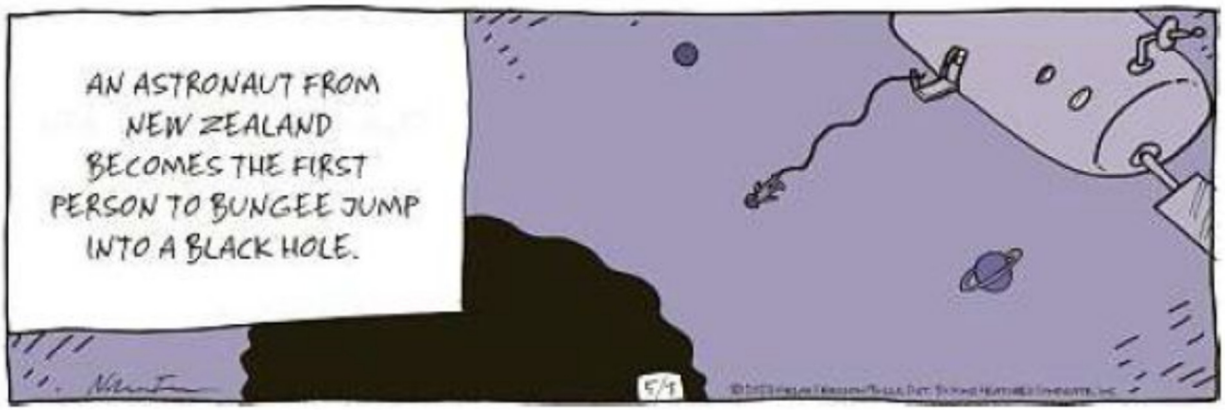
RHYMES WITH ORANGE



THE BRILLIANT MIND OF EDISON LEE

CARPE DIEM

CARPE DIEM



MALLARD FILLMORE

BY BRUCE TINSLEY