



EPHEMERIS

The official newsletter of the Prescott Astronomy Club (PAC)
e-phem-er-is: a time-based listing of future positions of solar system objects

APRIL 2021

UPCOMING EVENTS



Wednesday, April 7 - Regular PAC meeting @ 6:30 PM. The meeting will be conducted virtually on Zoom hosted by Jeff Stillman. Invitations will be sent to all members. Guests can register on our webpage. To participate in the meeting, one must register by e-mail.

Wednesday, April 14 - METASIG @ 5:00 PM at local restaurant. At this time, no Zoom events will be conducted for METASIG. Anyone wishing to organize a meeting should coordinate with Russell Chappell.

Thursday, April 15 - Third Thursday Presentation @ 6:00 PM via Zoom from the Prescott Public Library. Ms. Vanessa Gressieux of the Univ. of Arizona's Steward Observatory will present an overview of the Richard F. Caris Mirror Lab facility, discussing the facility and how the mirrors are uniquely fabricated for the major observatories around the world.

WATCH THE LION: CELESTIAL WONDERS IN LEO

David Prosper

Leo is a prominent sight for stargazers in April. Its famous sickle, punctuated by the bright star Regulus, draws many a beginning stargazer's eyes, inviting deeper looks into some of Leo's celestial delights, including a great double star and a famous galactic trio.



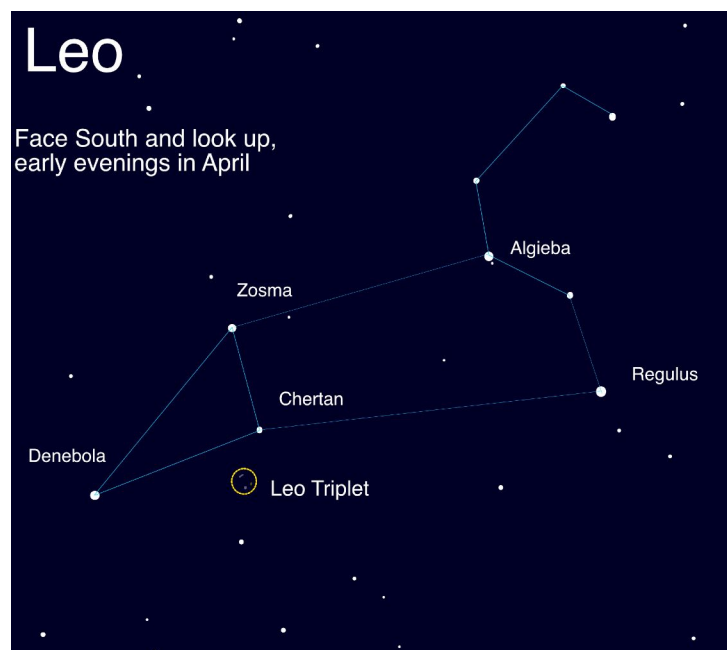
Leo's distinctive forward sickle, or "reverse question mark," is easy to spot as it climbs the skies in the southeast after sunset. If you are having a difficult time spotting the sickle, look for bright Sirius and Procyon - featured in last month's article - and complete a triangle by drawing two lines to the east, joining at the bright star Regulus, the "period" in the reverse question mark. Trailing them is a trio of bright stars forming an isosceles triangle, the brightest star in that

formation named Denebola. Connecting these two patterns together forms the constellation of Leo the Lion, with the forward-facing sickle being the lion's head and mane, and the rear triangle its hindquarters. Can you see this mighty feline? It might help to imagine Leo proudly sitting up and staring straight ahead, like a celestial Sphinx.

If you peer deeper into Leo with a small telescope or binoculars, you'll find a notable double star! Look in the sickle of Leo for its second-brightest star, Algieba - also called Gamma Leonis. This star splits into two bright yellow stars with even a small magnification - you can make this "split" with binoculars, but it's more apparent with a telescope. Compare the color and intensity of these two stars - do you notice any differences? There are other multiple star systems in Leo - spend a few minutes scanning with your instrument of choice, and see what you discover.

One of the most famous sights in Leo is the "Leo Triplet": three galaxies that appear to be close together. They are indeed gravitationally bound to one another, around 30 million light years away! You'll need a telescope to spot them, and use an eyepiece with a wide field of view to see all three galaxies at once! Look below the star Chertan to find these galaxies. Compare and contrast the appearance of each galaxy - while they are all spiral galaxies, each one is tilted at different angles to our point of view! Do they all look like spiral galaxies to you?

April is Citizen Science Month, and there are some fun Leo-related activities you can participate in! If you enjoy comparing the Triplets, the "Galaxy Zoo" project (galaxyzoo.org) could use your eyes to help classify different galaxies from sky survey data! Looking at Leo itself can even help measure light pollution: the Globe at Night project (globeatnight.org) uses Leo as their target constellation for sky quality observations from the Northern Hemisphere for their April campaign, running from April 3-12.



The stars of Leo: note that you may see more or less stars, depending on your sky quality. The brightness of the Leo Triplet has been exaggerated for the purposes of the illustration - you can't see them with your unaided eye.



Your view of the three galaxies in the Leo Triplet won't look as amazing as this image taken by the VLT Survey Telescope, unless you have a telescope with a mirror 8 feet or more in diameter! Still, even a small telescope will help your eyes pick up these three galaxies as "faint fuzzies": objects that seem blurry against a background of pinpoint stars. Let your eyes relax and experiment with observing these galaxies by looking slightly away from them, instead of looking directly at them; this is called averted vision, a handy technique that can help you see details in fainter, more nebulous objects.

Image Credit: ESO, INAF-VST, OmegaCAM; Acknowledgement: OmegaCen, Astro-WISE, Kapteyn I.

VOLUNTEERS NEEDED FOR PAC BOARD

Volunteers are needed to fill two positions on the PAC board: Secretary and Vice President. The Secretary position is the most critical. Please consider helping the club with its mission.

WHAT'S HAPPENING IN APRIL 2021

This calendar from In-The-Sky.org shows the objects and events visible during April 2021.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1 M104 is well placed	2	3
4 Moon at Last Quarter M94 is well placed Asteroid 9 Metis at opposition	5 NGC 4755 is well placed	6 Conjunction of the Moon and Saturn Close approach of the Moon and Saturn	7 Conjunction of the Moon and Jupiter Close approach of the Moon and Jupiter 1 Ceres at solar conjunction	8	9 The Moon at perihelion	10
11 New Moon	12	13 NGC 5128 is well placed Omega-Cen is well placed 136199 Eris at solar conjunction	14 The Moon at apogee M51 is well placed	15	16 M83 is well placed	17 Conjunction of the Moon and Mars Close approach of the Moon and Mars Lunar occultation of Mars M3 is well placed 136108 Haumea at opposition
18 Mercury at superior solar conjunction	19	20 Moon at First Quarter	21	22 Lyrid meteor shower 2021 M101 is well placed	23 C/2020 R4 (ATLAS) at perigee π -Puppis meteor shower 2021	24
25	26 Mercury at perihelion Full Moon	27 The Moon at perigee	28 Conjunction of Ceres and Eris The Moon at aphelion	29	30 Uranus at solar conjunction	

For additional information and details, see: <https://in-the-sky.org/newscal.php> and www.telescopius.com . Observing lists of monthly ‘Binocular’ and ‘Telescope’ Showpieces can be found on the club website.

NEED TO KNOW - ASK A MEMBER

A new 15-minute segment is being added to the regular general meetings where members can have their ‘burning’ questions answered by other knowledgeable members. If you have an astronomy related question you would like explained, submit the question to John Carter (jrcpvaz@icloud.com). You can also bring up the question at the meeting.

FOR SALE

Please visit the Classified Ads section of the club website to view the items posted there for sale:

<http://prescottastronomyclub.org/classified-ads/>

New items are added now and then, so don’t miss out on something that you would like to get for yourself...or a friend.



PAC MENTORS

If you need advice on the purchase of astronomy equipment, setting up equipment, astrophotography, etc., contact a PAC mentor.

Jeff Stillman - Astrophotography - (928) 379-7088

David Viscio - General - (928) 775-2918

Greg Lutes - Visual Observing - (928) 445-4430

Joel Cohen - Beginner’s Astronomy: Selecting & Using a Telescope - (856) 889-6496

John Carter - Video Observing - (928) 458-0570



OBSERVING LISTS

Observing lists are available in PDF format on the PAC website to provide guidance and goals for visual and astrophotography programs.



Astroleague Lunar 100	Binocular Showpieces
Bright Nebulae	Caldwell
Dunlop 100	Face-On Spiral Galaxies
Globular Clusters	Herschel 400
Herschel II	Hidden Treasures
Messier	Open Clusters
Planet Maps	Planetary Nebulae
Royal Astronomical Society of Canada Finest NGC	
Saguaro Astronomy Club Best NGC	S&T Lunar 100
Telescope Showpieces	The Secret Deep

PAC WEBSITE & YAHOO GROUPS

Website: <http://www.prescottastronomyclub.org>

E-mail: pacinfo@prescottastronomyclub.org

Astrophotography special interest group:

<https://groups.yahoo.com/neo/groups/pacastrophotography/info>



BOARD OF DIRECTORS

President: Jeff Stillman

Vice President: Open

Secretary: Open

Treasurer: Art Arnold-Roksandich

At Large: Jason Hoover

At Large: Dave Covey

At Large: Doug Tilley

At Large: Pat Bledsoe



PAC COORDINATORS



Astronomical League Coordinator: John Carter

Facebook: Adam England

Highland Center Coordinator: David Viscio

Membership: Art Arnold-Roksandich

METASIG: Russell Chappell

Newsletter: David Viscio

Night Sky Network: John Carter

PAC Affiliate Partner w/ NAU Space Grant Program – Cory Shaw

PAC Store Sales - John Verderame

Property Records: Open

Public Relations: Adam England

Refreshments: Open

Schools & Camps Outreach: Don Beaman & Joel Cohen

Starry Nights Coordinator: Don Beaman & Joel Cohen

Third Thursday Coordinator: Dave Covey, Marilyn Unruh

Webmaster: Russell Chappell

M42 IN ORION
Image Credit: Doug Tilley



MallinCam CMOS camera with a L-Enhance filter, 2-minute exposure with the gain cranked way down