TAAA Desert Skies Bulletin

Observing Our Desert Skies Since 1954

September 2025

www.tucsonastronomy.org

Membership Meeting

Friday, September 5, 2025 6:30PM

TAAA's next general member meeting will be held on **Friday, September 5, 2025**. The Main Presentation will start at 6:30 PM. This will be a hybrid meeting (both in person and on social media). TAAA members will receive a Zoom link should they wish to attend remotely. The public may attend in person at the **Steward Observatory Lecture Hall (Rm N210), 933 N Cherry Ave, Tucson,** or stream from the TAAA YouTube page.

Inside this issue:

Main Presentation at 6:30PM AZT

Title: The Barnard Objects – a Colorful Look at Dark Nebulae

Presentation: E.E. Barnard's observations of dark nebulae have fascinated professional and amateur astronomers for over one hundred years. Barnard's catalog of these objects is the first and the best-known catalog of dark nebular regions in the Milky Way. Barnard's seminal work, the Atlas of Selected Regions of the Milky Way, was published posthumously in 1927. Many of the objects he imaged on black-and-white photographic glass plates are now being captured daily in thousands of digital color images.

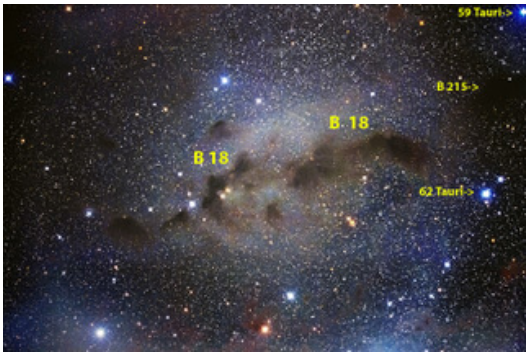
In this presentation, Tim Hunter will give an overview of dark nebulae, and how astronomical imaging has advanced from Barnard's early plates to today's digital imaging. He will also review Barnard's life and career, emphasizing his role as one of astronomy's greatest visual observers and his seminal work in introducing photography into professional astronomy. Some important Barnard Objects will be illustrated in both black and white and color. Modern research of dark nebulae and their importance in star formation will be summarized.

As Tim Hunter explains, "In 2015, I started a project to image all the approximately 380 Barnard Objects in color. That project, completed in 2023, resulted in the publication of *The Barnard Objects – Then and Now* (Springer, 2023). An overview of this book will be presented, and at the end of the talk, five copies of the book will be raffled off to TAAA members."

Biography: Tim Hunter has been an amateur astronomer since 1950, a TAAA member since 1975, and is the owner of two observatories, the 3towers Observatory and the Grasslands Observatory (http://www.3towers.com). Tim has served as President of the Tucson Amateur Astronomy Association (TAAA) and is the immediate past Chair of the Board of Trustees of the Planetary Science Institute (PSI). Since 1986, Tim has been interested in the growing problem of light pollution. In 1987, he and Dr. David Crawford founded the International Dark-Sky Association, Inc. (IDA). IDA (now DarkSky) is a nonprofit corporation devoted to promoting quality outdoor lighting and combatting the effects of light pollution. Since 2007, Tim has written the weekly "Sky Spy" column for the Caliente Section of the Arizona Daily Star. His latest book is The Barnard Objects—Then and Now. Asteroid 6398 is named Timhunter.

Barnard 18

Credit: Tim Hunter



Notes From The President

September 2025

by Ed Foley

Many astronomy clubs have selected or arranged use of a location for their members to congregate under dark skies. We are very fortunate that TAAA had the foresight to acquire the two sites we enjoy today. We have a dark site just over the Tucson Mountains to the west of the city of Tucson we call TIMPA (Tucson International Modelplex Park Association) and one 90 miles southeast of Tucson we call CAC (the Chiricahua Astronomy Complex).

These dark sites are different and provide our members with experiences unique to their locations. On the west side, TAAA entered into an agreement with TIMPA, a radio controlled aircraft club, 30 years ago after they leased this property from the City of Tucson. This arrangement has served both organizations well, allowing for joint projects to improve and maintain the property. They enjoy the site during the day, and TAAA uses it at night. This works quite well. This location to the west of the mountains provides some protection from the city lights and remains relatively dark to this day while only a short drive from the center of town. Although not owning the land has limited our development of the site, we do have a gated location hosting concrete pads with power for members to use while observing, plenty of parking, a restroom, a barn and container for storage, and two permanently mounted telescopes. We have both a 14 inch and a 16 inch Meade SCT. These telescopes are each available to any member who becomes certified to use them. TIMPA is relatively close to Tucson and convenient for observing. This combination is also a good location for TAAA members to meet other members for observing and to host classes under a dark sky. The sky is dark enough to hold classes such as "Constellation Locating", "Sketching", and "Star Hopping" that would be much more difficult from most locations in and around the city. With the advances in imaging over the past few years, TIMPA is also a good imaging site.

Having a dark location to safely meet with like-minded members is one of the wonderful benefits of being a TAAA member. I'll share some background on our other dark site, CAC, next month. I hope to see you out under the dark skies at one of our sites in the coming season.

Ed Foley

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president@tucsonastronomy.org

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vice-president@tucsonastronomy.org

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secretary@tucsonastronomy.org

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Immediate Past President: Mae Smith
past-president@tucsonastronomy.org

TAAA Board: taaabod@tucsonastronomy.org

The TAAA Board of Directors meets the second Wednesday of every month at 6:30pm. Members are welcome to attend Board meetings. If you would like to attend, you may email Ed Foley to receive a Zoom link for that meeting. Please send your email to Ed the Monday prior to the meeting (by 5:00pm) and you will receive an email with the link on either Tuesday evening or Wednesday. ALL MEMBERS ARE WELCOME.

Desert Skies Bulletin
Contributions to Editor: David Rossetter by the 24th.
Astro-Images to our Image Editor: Gregg Ruppel
Proofreaders: Terri Lappin, Jeff Rothstein, Jim Knoll

TAAA Fiscal Year-End Financials

by Barbara Whitehead - Treasurer (retired)
Mike McDowell - Treasurer (current)

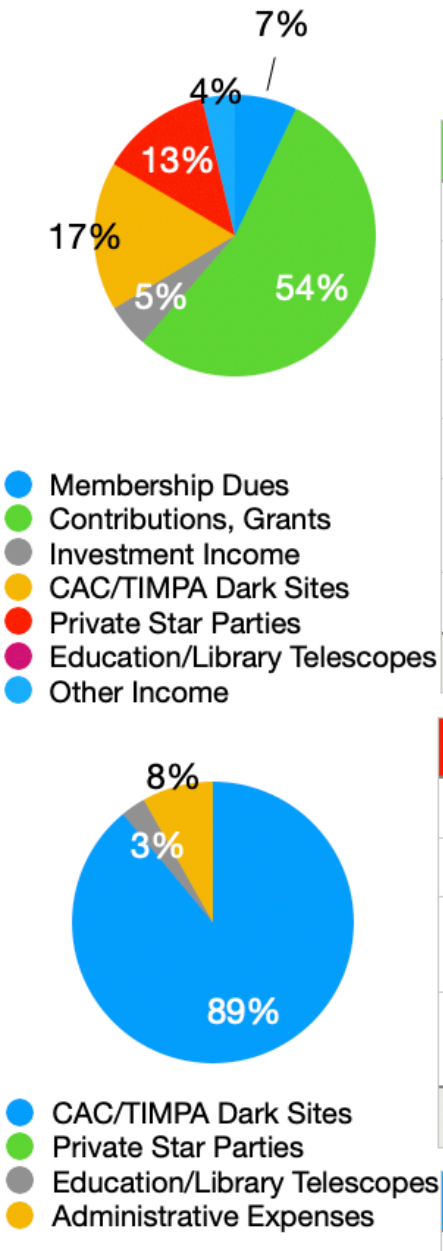
Statement of Financial Position

as of 6/30/2025

Assets	
Cash	$11,442
Savings	$213,997
Fixed Assets	$1,430,057
Endowment	$16,802
Other Assets	$3,458
Total Assets	**$1,675,756**

Liabilities	
Deferred Revenue	$150,836
Other Liabilities	$0
Total Liabilities	**$150,836**

Net Assets	
Unrestricted	$1,422,236
Permanently Restricted - Quasi Endowment	$14,344
Temporarily Restricted	$88,341
Total Net Assets	**$1,524,920**



Statement of Activity

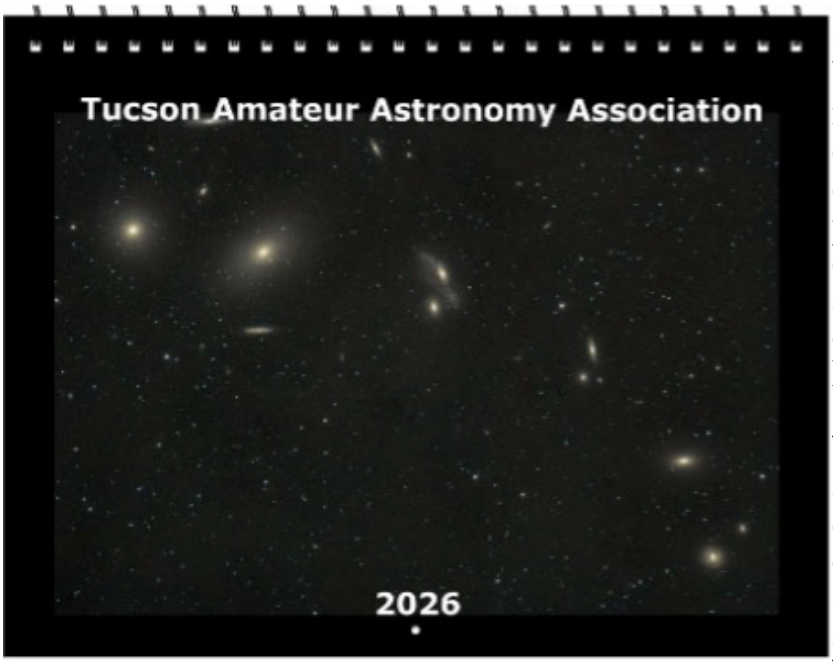
Fiscal YTD as of 6/30/2025

Income	
Membership Dues	$15,355
Contributions, Grants	$116,274
Investment Income	$10,707
CAC/TIMPA Dark Sites	$36,745
Private Star Parties	$27,360
Education/Library Telescopes	$0
Other Income	$8,073
Total income	**$214,514**

Expenses	
CAC/TIMPA Dark Sites	$89,514
Private Star Parties	$0
Education/Library Telescopes	$2,857
Administrative Expenses	$8,232
Total expenses	**$100,603**

Net Income	
Income minus expenses	$113,911

TAAA Calendar Available Starting in October



They are finally here!! The 2026 TAAA Calendar will be available to members beginning in October. It will be packed full of information about TAAA, our events, and significant astronomy events throughout the year. The picture portion of the calendar will be formatted differently to emphasize TAAA events as well as astro-images and to more easily find significant astronomy events happening during the month.

You can order on the website or get them at the Friday General Meeting. They can be mailed for an additional fee or delivered free within Southern Arizona. So, help support our association and get a useful calendar to use throughout 2026! Your support and donation is deeply appreciated!!

The Calendar Team

TAAA Ladies' Night Out

by Susan O'Connor

Ladies' Night Out is a social interest group for women members of the club. The group meets once a month at a local restaurant for fellowship and conversation.

Thursday, September 18, 6:30 pm

Wildflower

7037 N Oracle Rd
(Casas Adobe Shopping Center,
SE corner of Oracle and Ina)

Preview the menu

RSVP Susan 520-780-0136

Book Of The Month Review -

by Douglas Smith (TAAA Librarian)

Book: "Radio Astronomy"
Author: John Kraus

This book is a very important work from the historical aspect. It was written in 1966 when radio astronomy was still a new and budding science. The book is complete in its coverage of the subject and does an excellent job covering the mathematics required. While parts of the book are no doubt dated (such as electrical diagrams), most would still be relevant today to anyone interested in diving deep into Radio Astronomy. It covers a wide range of topics such as radio sources, antenna design, and several sections on fundamentals. For anyone who wants to explore radio astronomy, I recommend reading this book and perhaps owning a copy.

This book is long since out of print. But you might be able to find it used on eBay or Amazon.

Astronomy Classes (Free!)

by Doug Smith

Astronomical League Workshop

Open for enrollment

Place: Woods Memorial Library, 3455 N. First Ave. Tucson
Date: Saturday September 6, 2025; **Time:** 10 AM until 1 PM

Synopsis: This workshop is designed for anyone who may be interested in pursuing one of the Astronomical League observing programs for the first time or anyone interested in learning about these observing programs. The workshop will cover how the various observing programs work, program requirements, selection of an appropriate program, recommended equipment, resources, logging requirements, and much more.

If interested, you can email or call the TAAA Astronomical League Correspondent (ALCOR) Doug Smith 520-396-3233 or sign up using the signup page on the website.

Constellation Locating and Identification Workshop

Open for enrollment

Place: TIMPA; **Date:** Thursday, October 16, 2025; **Time:** 6:00 PM until completed

Synopsis: This is another workshop in the practical astronomy workshop series. Students will be taught how to locate and identify the constellations without having to memorize the night sky. Each student will use the supplied equipment to locate several constellations. Students will learn how to use a planisphere and star atlas. This program provides the methodology for the observing requirements of the Astronomical League's Constellation Observing Program (Northern and Southern).

PLEASE NOTE: due to equipment limitations there is a strict limit of 20 students for this workshop.

If interested, you can email or call the instructor: Doug Smith 520-396-3233

Learn how to Record Observations and Sketch Objects Workshop

Open For Enrollment

Place: TIMPA; **Date:** Thursday, October 2, 2025; **Time:** 6:00 PM until completed

Synopsis: This is another workshop in the practical astronomy workshop series. Students will learn how to record observations and how to sketch objects. The students will be taught proper recording techniques, what information to record, what sort of forms to use, etc. In addition, students will be taught techniques for sketching objects. The students will view, using a telescope, several different types of objects and perform recording activities and sketch different objects.

If interested, you can email or call the instructor: Doug Smith 520-396-3233

Star Hopping Workshop

Open for enrollment

Place: TIMPA; **Date:** Thursday, September 25, 2025 **Time:** 6 PM until completed

Synopsis: This is another workshop in the practical astronomy workshop series. It will teach Star Hopping. The students will be taught the proper star hopping technique and equipment usage. Each student will use the supplied equipment to locate at least two targets (maybe more if time permits). By the end of the workshop the student will know what equipment to use and how to use it in order to locate targets using star hopping.

PLEASE NOTE: due to equipment limitations there is a strict limit of 20 students for this workshop.

If interested, you can email or call the instructor: Doug Smith 520-396-3233

Fundamentals of Astronomy Class

Open for enrollment

Place: Armory Park Center, 220 S. 5th Ave, Tucson
Date: 3 consecutive Saturdays: January 11, January 18, January 25, 2026 **Time:** 9 AM until 4 PM

Synopsis: This course is designed for anyone interested in learning the basic concepts in Amateur Astronomy. Topics covered (but not limited to) include the solar system, deep sky objects, stars, telescopes, eyepieces, mounts, star hopping, observation techniques, plus much more. This course is highly recommended for novice amateur astronomers and for anyone who may have just purchased a telescope for the first time. Taking this class will also aid the student in understanding the more advanced lectures often given during general membership meetings.

Enrollment is strictly limited to 20 students and is on a first-come basis.

If interested, you can email or call the instructor: Doug Smith 520-396-3233. Or sign up using the signup sheet at General Member Meetings starting September 2025 through January 2026.

BRAND NEW WORKSHOPS!!!

Space Weather Workshop

Open for enrollment

Place: Woods Memorial Library, 3455 N. First Ave. Tucson
Date: Saturday September 20, 2025; **Time:** 10 AM until 1 PM

Synopsis: This workshop will teach the student how to construct a simple magnetometer out of commonly available household materials that will be used to monitor solar activity and how it affects the Earth's magnetic field. The Astronomical League's Space Weather Observing Program will be discussed. The student can use the magnetometer to complete the required observations for this program.

PLEASE NOTE: due to equipment limitations there is a strict limit of 15 students for this workshop.

If interested, you can email or call the instructor: Doug Smith 520-396-3233

Analemma/Jupiter Workshop

Open for enrollment

Place: Woods Memorial Library, 3455 N. First Ave. Tucson
Date: Saturday October 11, 2025 **Time:** 10 AM until 1 PM

Synopsis: This workshop will teach the student how to prepare for either the Astronomical League's (AL) Analemma Observing Program (OP) its AL's Jupiter Observing Program. The student will receive suggestions and tips on how to construct the device for the Analemma OP. The student will also receive detailed instructions on how to meet the requirements for both OPs.

PLEASE NOTE: due to space limitations there is a limit of 15 students for this workshop.

If interested, you can email or call the instructor: Doug Smith 520-396-3233

So, I Bought a SeeStar!
Basic Skills for the ZWO SeeStar S30 and S50

Open for Enrollment

Place: TIMPA **Date:** Thursday, October 23, 2025 **Time:** 6:30 until completed

Synopsis: ZWO SeeStars are a hot item for amateur astronomers both new and experienced. They combine good optics, a lot of automation, and a user-friendly interface with entry level prices. This workshop will cover the basic use of both the SeeStar S50 and the SeeStar S30. It is open to both current SeeStar owners and those who are considering buying a SeeStar. If you have a SeeStar of either design, please bring it with you, fully charged. The instructor will walk you through basic procedures for using your equipment. Don't forget to bring your phone or the tablet that you use to control it!

PLEASE NOTE: Limited to 10 people.

If you are interested, you can email or call the instructor: Stephen Ferris 520-661-5355

If you are interested in a workshop for another type of smartscope, please contact Stephen.

Outreach and Volunteers -by Ed Foley

The August General Meeting was all about TAAA volunteers in the community doing outreach. The organization is very active sharing the skies with the public, seeking to inspire future generations to learn about and protect our skies. We have had volunteers participate at schools, parks, the Tucson Festival of Books, and our own Tucson Astronomy Festival event at Brandy Fenton Park. These events cover the state from Tubac to the Grand Canyon.

Three of our outreach group leaders, Bernie Stinger, Jim Knoll, and Terri Lappin, shared tips about participating at these events in hopes more members will pick up the mantle of teaching others. In 2024 these volunteers supported more than 200 events with more than 1653 volunteer hours reaching in excess of 12,100 individuals. (These figures do not include the TAAA volunteer efforts to host the Grand Canyon Star Party.)

Following these presentations, Doug Smith, our Astronomical League Coordinator, presented AL Outreach Awards which had been earned by 35 members, 13 of whom were at the meeting to accept their awards. These awards are earned by members who meet the requirements of number of events needed to participate in combination with the number of hours they gave to outreach in 2023 and 2024.

Astronomical League Outreach Award Recipients: Gary Copeland, Larry Stepp, Pete Hermes, Bob Rose, Vannessa Gressieux, Jeff Johnston, Vanessa Thomas, Jim Long, Ken Hochberg, John Dwyer, Joe Jakoby, Gary Wells, Ed Foley.

Happenings At TIMPA, Meade Issues

Summer 2025 has been relatively quiet at TIMPA, and we are looking forward to a busy fall season starting in September.

Over summer, we discovered that the mother board **for the fork mount** on the TIMPA 14" Gila Monster telescope may be approaching the end of its life. The original plan had been to send the telescope back to Meade Instruments for a replacement, but given that Meade no longer exists, that will now be impossible.

TAAA has multiple, large, Meade Telescopes on fork mounts at both TIMPA and CAC that will eventually need to be de-forked and remounted as their mounts fail. Of these, the TIMPA 14" Gila Monster is the oldest, but TAAA will need several replacement mounts over the next few years.

The optics on these telescopes are still in excellent condition, so we would very much like to keep their optical tubes available, as they will outlast their fork mounts by years or even decades. The TIMPA Gila Monster 14", for example, uses a Meade 14" RCF/ACF optical design, and still has outstanding optical characteristics.

The Club is therefore looking for several large-sized German Equatorial mounts that can carry the weight of these telescopes. The weight of the 14" tube assembly is about 55lbs, so it will need an equatorial mount able to carry more than that weight.

The mount must have a go-to system and preferably would be able to interface with modern technology, including ASIAIR, a laptop and/or Raspberry Pi. A Celestron CGE-X, Sky Watcher EQ-8R, or Losmandy G-11GT would be excellent matches for these scopes. Other German equatorial mounts of a similar weight class would be welcome as well.

Ideally, we would love it if these mounts were donated to the club, but we will also consider reasonable offers for sale of used equipment.

If you have such equipment, or would consider donating a mount in the future, please contact the TIMPA director, Stephen Ferris.

Member Activities

Gary Steffens at CAC showing his radio telescope.
Photo by Phil Yehle.

Observing Sites

TIMPA

by TIMPA Planning Group

TIMPA (Tucson International Modelplex Park Association) is TAAA's dark sky site west of the Tucson Mountains.

Location: The TIMPA observing site is located a few miles beyond the Desert Museum (3250 N. Reservation Road, Tucson, AZ 85743).

TIMPA Star Party Dates this month (Friday - Saturday)

September 19-20

The TIMPA Planning Group will be offering assistance with telescope usage and observing during the monthly TIMPA Star Parties. You are invited to bring your equipment and questions to TIMPA on Star Party dates for assistance. Be sure to register using the link below.

The TIMPA site is only partially improved. There are no inside buildings provided other than restrooms. TAAA provides very limited seating (members are welcome to bring folding chairs). Please note that members visiting the TIMPA site may encounter things commonly found in partially improved desert areas such as desert creatures and/or their remnants (such as rodent holes or ant hills), uneven terrain, weeds, and desert pollens. Members using the site are encouraged to bring red lights and to move cautiously taking appropriate safety measures. The site does not have potable water, so bring your own non-alcoholic drinks.

Reservations for the TIMPA Site are made on the TAAA website at TIMPA DARK SITE RESERVATIONS. Please fill out the form completely and be sure to indicate the date you desire to visit TIMPA.

Questions? Contact the TIMPA Director: Stephen Ferris

Chiricahua Astronomy Complex

by Jim Knoll

Upcoming CAC Weekend Dates (Thursday - Sunday)

September 18-21 (New Moon September 21)

There has been lots of activity at CAC. We now have all seven RV parking areas open. The DFM 32-inch telescope will be re-assembled the first week of October. We hope to have an Open House/Ribbon Cutting during the November CAC Weekend (November 22nd) for the 32 inch and other projects at CAC. More info to follow next month. If you have family/friends coming in for the holiday's we offer an observing session at CAC December 27th for only $50/adult or $25/youth under 15. Details at CAC Holiday Observing.

Chiricahua Astronomy Complex (CAC) is the club's eastern dark sky observing site, located in Cochise County approximately 100 miles southeast of the center of Tucson. We have many large telescopes ranging from 40-Inch, 25-Inch and 18-Inch Dobsonians, a 9-Inch folded refractor, a soon-to-be completed 32-inch Cassegrain, and quite a few Schmidt-Cassegrain Telescopes (SCTs) of various sizes. The telescopes are configured for either visual observing or imaging.

You can be trained to operate most of these telescopes from a dark Bortle 2 site only two hours from Tucson. To request training, please complete the request form here. We also have ten sleeping rooms with heat and air conditioning, a Learning Center/Classroom, seven RV sites with electricity, and a large tent camping area.

TAAA members are welcome to attend our monthly Planning and Operations Zoom meeting, normally on the first Monday of the month at 6:30 pm. Email for the link.

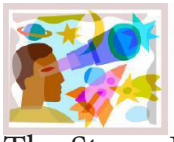
If you would like to observe, you must make a reservation on the CAC Web page at CAC Reservations.

If it is your first visit to CAC, you need to attend on a CAC weekend when other members are present. Unless you are qualified to open and close the site, dates will be limited to those around the New Moon and are listed below and on the CAC web page. Hosted personnel are generally on site a few days before and after these dates. Those qualified to open & close the site can use it anytime but still need to reserve through the CAC Reservations process.

CAC Director: Jim Knoll CAC on the Web

Observing Sites' 2025 Star Parties Dates

TIMPA	New Moon	CAC September 13 – *Evening Under the Stars – Public Event*
September 19-20	September 21	September 18–21
October 17-18		
October 24-25	October 21	October 16-19
November 14-15		
November 21-22	November 19	November 20-23
December 12-13		
December 19-20	December 19	December 18-21



Starry Messengers Special Interest Group

Opening Minds to the Universe

The Starry Messengers group contributes to the TAAA outreach program by providing age-appropriate hands-on activities at school star parties and other community events including the Tucson Festival of Books and the Tucson Astronomy Festival. We also provide support for the Library Telescope Program through libraries in Pima and Cochise counties. And, we encourage future scientists with the TAAA Astronomy Achievement Awards at the local science fair. We differ from the TAAA Star Party outreach program in that most of our activities can be performed indoors and do not require telescopes or clear skies.

We hold meetings on the second Monday of the month during the academic year. We will meet by **Zoom on Monday, September 8th at 7pm**. A link will be emailed to all TAAA members. If you enjoy broadening the public's understanding of astronomy, we look forward to seeing you at this meeting.

We're receiving requests for our hands-on toolkit activities. To learn about these toolkits and the activities they contain, check out the Night Sky Network website.

Here's a list of upcoming requests and the requested toolkits (substitutions can be made). Events that need volunteers are in red. If you want to become involved in this type of outreach, sign up for an event that already has a volunteer so you can see how the activities are presented. Use this link to sign up for these events. Signing up for an event does not mean you need to attend our monthly meetings.

- 10/22/25 6pm – 7:30pm Highland Free School (Broadway/Campbell), Space Rocks Toolkit, 40 expected. Volunteer: Tom Sarko
- 10/23/25 6:30pm – 8pm Wakefield Middle School (44th St and 6th Ave), Light Pollution Toolkit, 300 expected. Volunteer: OPEN
- 10/28/2025 6pm – 8pm, Wright Elem (Pima/Columbus), PlanetQuest Toolkit, 100 expected. Volunteer: OPEN

Questions about Starry Messengers SIG can be directed to Terri Lappin email or 520-977-1290.

Astronomy Fundamentals SIG

by Connor Justice

Come join us for a presentation on the fundamentals of amateur astronomy. Learn your way around the night sky to add to your observing enjoyment. Meetings are on the second Thursday of each month.

The next AFSIG meeting is **Thursday, September 11, 6:30pm to 8:30pm.**
Topics to be determined.

Contact Connor Justice for Zoom link and more information.
Access videos of previous meetings in the TAAA YouTube Channel AFSIG on the Web

Radio Astronomy SIG (RASIG)

by Sandy Nichols

The next RASIG meeting will be Wednesday, September 17th at 7:00 pm via ZOOM.

Topics: Member radio telescope

William Weiss will be giving a presentation on his spectracyber 2 radio telescope. He will be covering some of the fundamentals of its operation and components needed. He will briefly cover some of his future projects, costs and availability of the spectracyber system.

Email Sandy Nichols for the ZOOM link or any other information about the new SIG.

Astro-Imaging SIG

by Gregg Ruppel

The next AISIG meeting will be **Monday, September 15 at 7:00 pm** via ZOOM.

Topics:

Astronomical League Observing Programs - Imaging Options Q/A
Doug Smith and Gregg Ruppel

Email Gregg Ruppel for the ZOOM link or any other information. Gregg and the AISIG folks are very active on the TAAA groups.io forum. Check out all the helpful advice and amazing images there. For more information or instructions on how to join the forum, click here.

View previous AISIG meetings on the TAAA YouTube Channel.

Also, we now offer a mentoring program. For details, see the AISIG Web Pages.

Astronomical League

by Doug Smith

Observing Programs - What's Up List for September and October 2025

Many of the Astronomical League observing programs can be done from our backyards. These objects are visible in September and October for the more common observing programs.

Constellation Hunter Program – The following constellations are well placed in the Northern sky for September and October: Aquarius, Aquila, Cepheus, Cygnus, Delphinus, Equuleus, Lacerta, Lyra, Pegasus, Sagitta, Vulpecula.

Messier Observing Program - The following Messier Objects are well placed for observation during September and October (listed in ascending RA): M56, M55, M71, M27, M75, M29, M72, M73, M15, M2, M39, M30.

Urban Observing Program

The following **deep sky objects** are good for observing in September and October: Cr 399, NGC 6818, NGC 6826, M27, NGC 6910, NGC 6934, NGC 6940, NGC 7009, M15, M2, M39, NGC 7160

The following **double stars** are well placed for observing during September and October: Beta Cygnus, Gamma Delphinus

Lunar and Binocular Observing Program

The following is a list of dates for lunar phases in September and October:

New Moon: September 21, October 21
40 Hours waxing: September 24, October 23
72 hours waxing: September 25, October 24
4 days old: September 26, October 26
7 days old: September 29, October 29
10 days old: September 3, October 2
Full (14 days old): September 7, October 7
Gibbous: September 14, October 13
72 hours waning: September 18, October 18
40 hours waning: September 19, October 19

Solar System Observing Program

The following is a list of planets that can be observed during September and October:

Mercury is an early morning object during the first two weeks of September. Then it moves into the evening sky for the rest of September and October, reaching greatest elongation around October 28.

Venus is an early morning object during September and October.

Mars is an early evening object during September and October. On September 1 it sets about 1.5 hours after sunset. On October 31 it sets around 1 hour after sunset.

Jupiter is a late evening object. On September 1 it rises around 1:30 AM and on October 31 it rises around 10 PM.

Saturn is well placed for evening observation. On September 1 it transits around 1:30 AM and on October 31 it transits around 9 PM.

Uranus is a late evening object during September and October. On September 1 it rises around 10 PM. On October 31 it rises around 6 PM

Neptune is well placed for observation during September and October. It transits around 1 AM on September 1 and around 9:30 PM on October 31.

SPECIAL EVENTS: During the remainder of 2025 it is still possible to observe Saturn's moons involved in mutual events (occultations and eclipses). These events won't occur again until the next ring plane crossing in 2038.

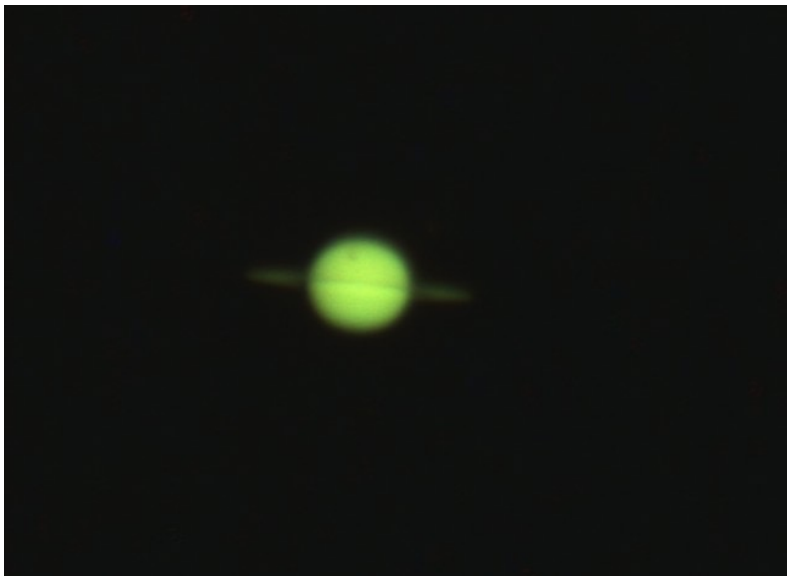
Mutual Saturn satellite events:

There are no mutual satellite events until November and December.

Also, during September two transits of Saturn's moon Titan occur. During these events Titan may be difficult to see if it is in front of Saturn. Note: these are the last two Titan transits until 2038! The dates and times listed below are for the transit of Titan's shadow:

September 4, 2025. Start 5:25 UT, End: 8:51 UT
September 20, 2025. Start: 5:09 UT, End: 7:36 UT

The following image was recorded during the August 3 Titan transit at 09:30 UT. This image was made using a Celestron planetary camera on an 8" f 10 SCT. The exposure of each frame was 1/16 second and I stacked 100 frames for this image.

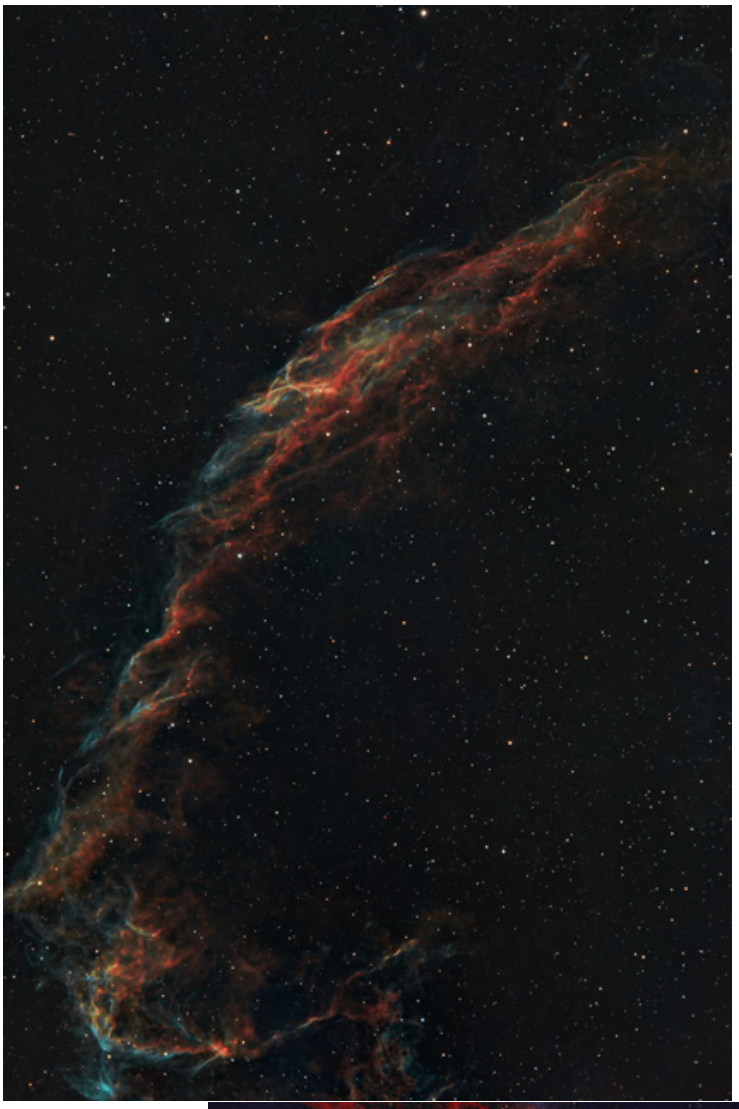


Member Astro-Images

NGC 6357 Astrobin

Alex Woronow

NGC 4039 and 4038 Astrobin



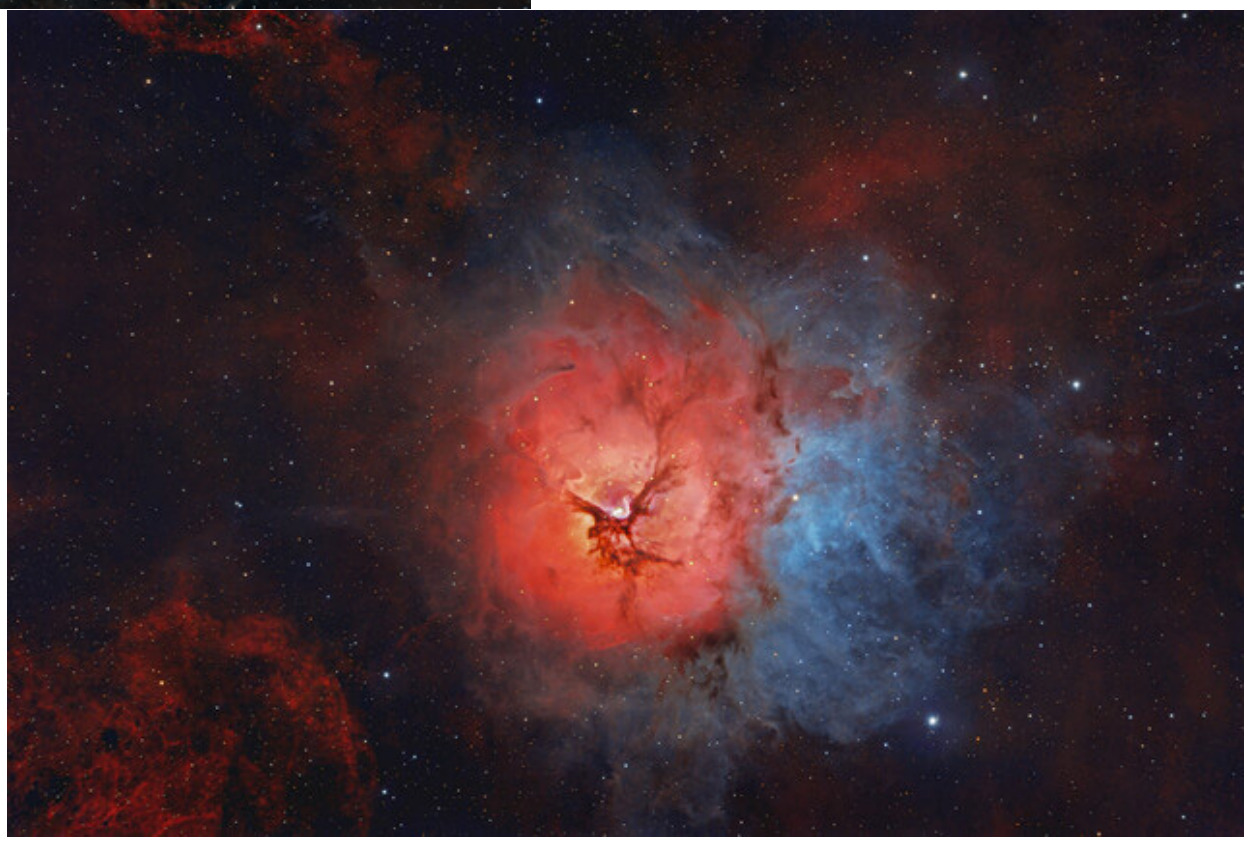
NGC 6990 Veil Nebula West

Seestar S50 in EQ mode. 401 20s images. This was only a little over 2 hours of integration time.

David Stearn

M20

1450mm f/7 with the C8. 2600MC Pro, Antlia Triband RGB Ultra FIlter. Total integration time was 20 hours.



Bernie Stinger

Venus-Jupiter Conjunction - Early morning of August 12

Richard Spitzer

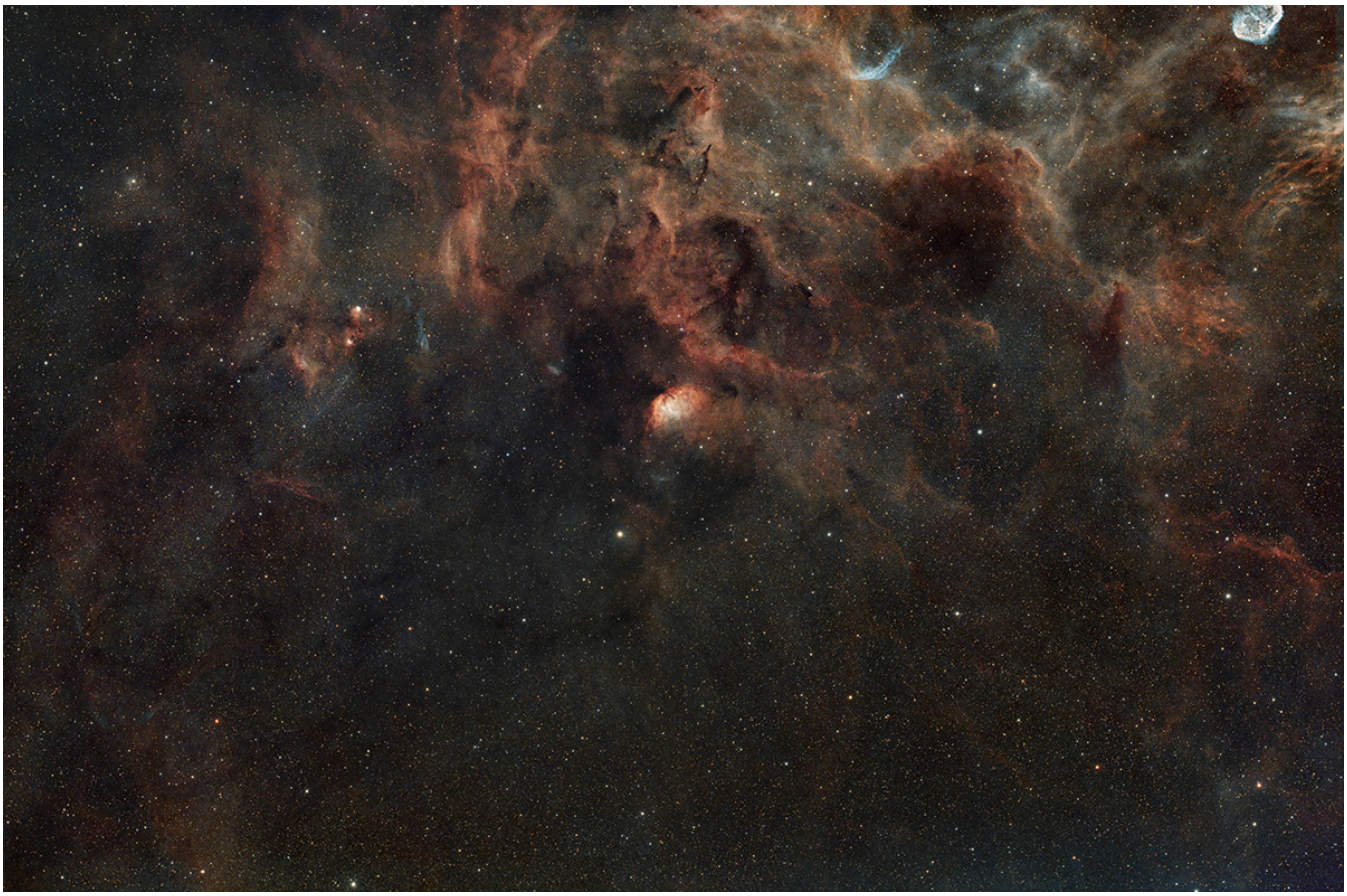
Arp 178

RASA 8” f/2 400mm fl / AP 900 GTO CP4 mount + APCC / ZWO 585MC Pro / PHD2

Tom Eby

NGC 6384

RC 6" @ f/6.7 1034mm fl / asi 2600mc pro / CEM70ec mount, PHD2 bump guided with ZWO 60mm scope (420mm fl) + asi 585MC Pro guidecam / no filters / 4 hrs exposure.

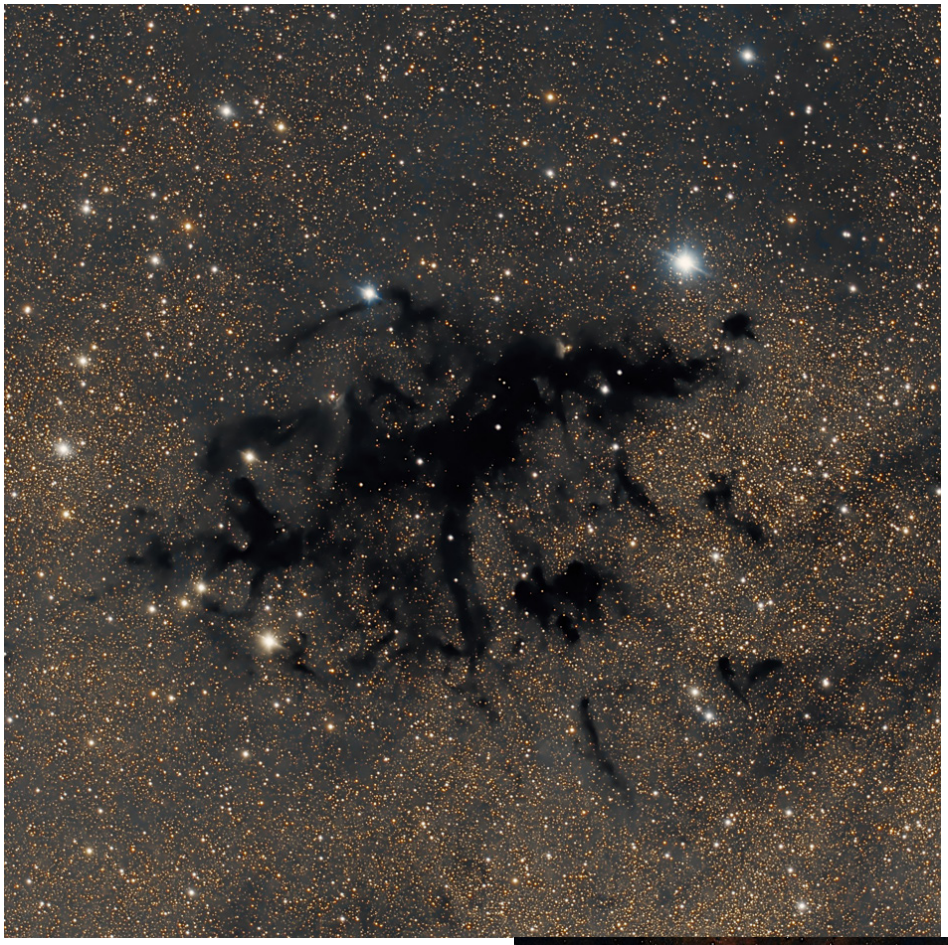


Barnard 144 Wide Field
6 hours of integration.

John Tsantes

FMA180 Pro telescope and
the ZWO 2600 MC Pro

Crescent Region
7 hours of integration.

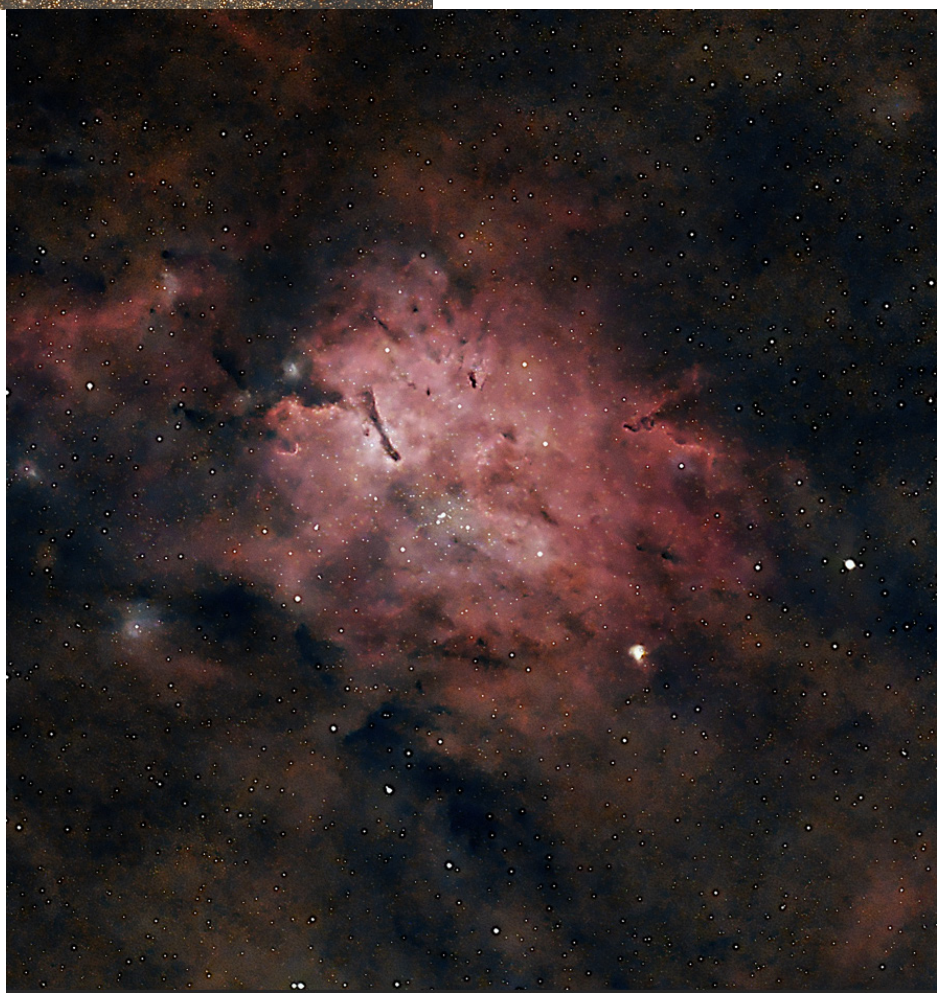


LDN 673x

3.5 hours integration

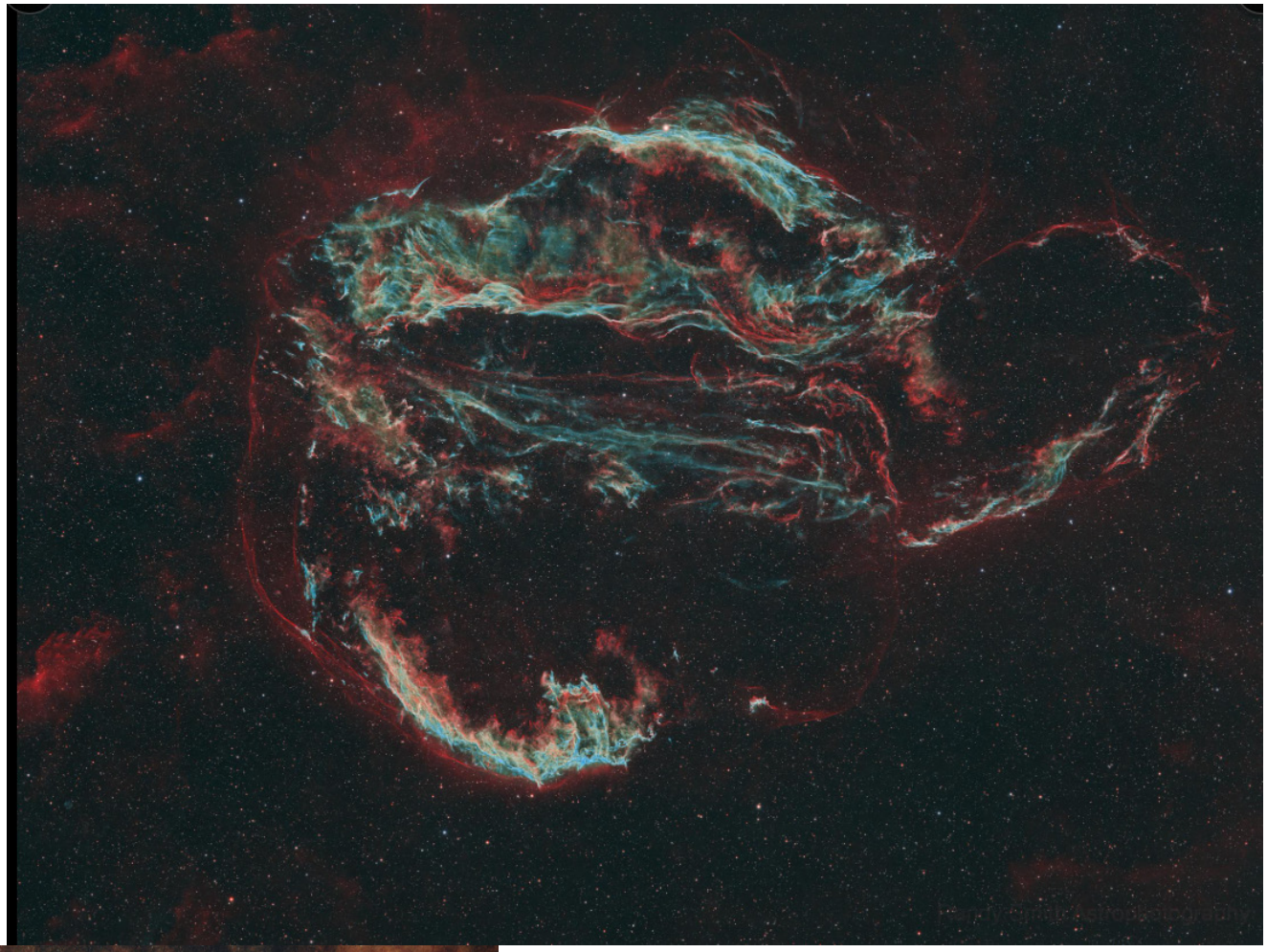
David Gale

C8 Hyperstar, UV/IR cut filter, 533MC Pro. ASIAir.



NGC 6823

3.5 hours integration



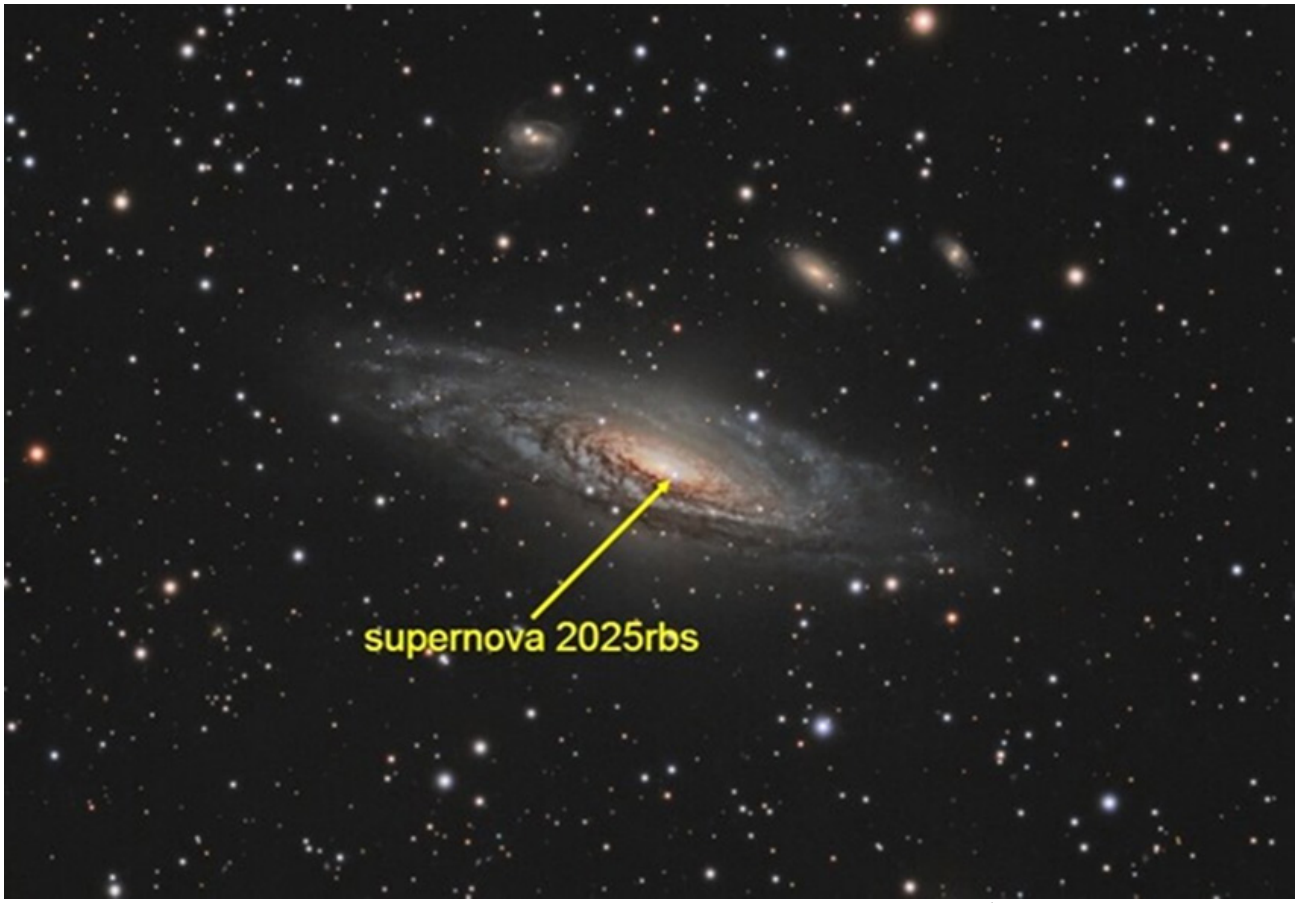
Veil Nebula

Telescope: Askar FMA180, ZWO ASI2600MM Pro, Sky-Watcher CQ350 Pro, Antlia 3nm Narrowband H-alpha 2”, Antlia 3nm Narrowband Oxygen III 2”
Astrobin

Randy Smith

Milky Way Mosaic

Telescope: Askar FMA180, ZWO ASI2600MC Pro, ZOMEi M5, Optolong L-Pro 2”
5h 15m.
Astrobin

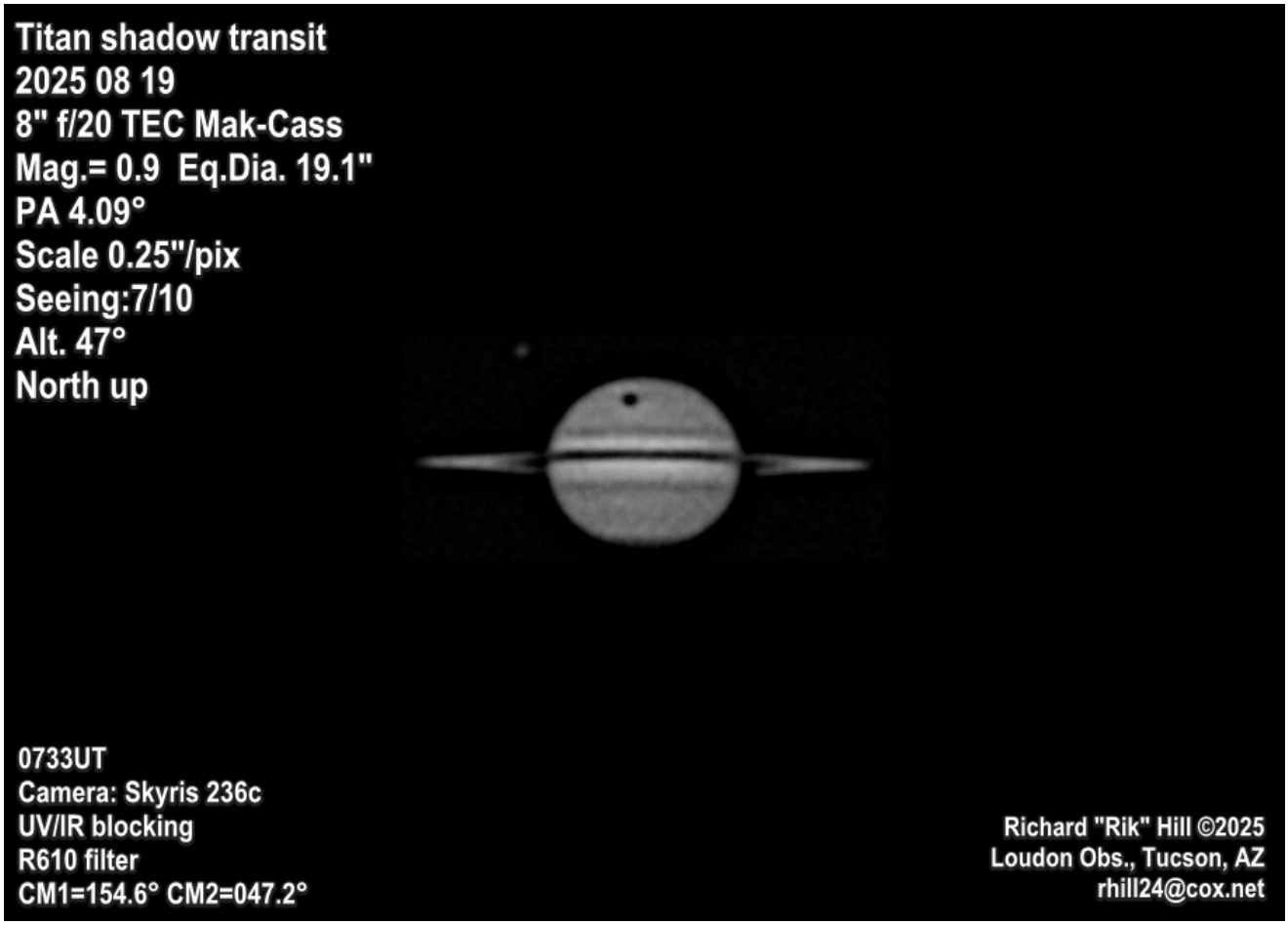


Supernova 2025rbs in NGC 733

Jeff Rothstein

Titan Shadow Transit

Rik Hill



TAAA Astronomy Equipment For Sale

TAAA has an assortment of astronomy related equipment for sale. This equipment is available for members only at this time.

Celestron 8" CPC
(No Photo)

Dual fork arm mount, 9x50 finder, 2 eyepieces, Telrad, finder rings, hand controller, user manual, tripod, diagonal. Basically new in original box. **$1600**

Celestron 6 NexStar
3 of these.
Some are black tube, some are orange. All come with Tripod, eyepieces, finder. All are single fork rail mount, NexStar (tested), 1.25" visual back, 1.25 diagonal, 2 1.25" eyepieces. One comes with 6x30 crosshair finder, one comes with a telrad and one comes with a red dot finder. **$600**

Celestron 8
Single Fork Arm rail mount, NexStar, Tripod, 1.25" visual back, 1.25" diagonal, 1.25" eyepiece (25mm), crosshair finder, carrying case for optical tube. **$1000**

Homemade 8 inch Newtonian telescope. Sturdy GEQ mount. Solid tripod. 2-inch focuser (with 1.25" adapter), 6x30 crosshair finder. **$100**

12" Dobsonian
Another great deal!
Very large, Homemade.
Crosshair finder. **$500**

12-inch Skywatcher Collapsible Dobsonian scope.
2" focuser, large 8x50 finder, and 2 eyepieces. **$900**

16 inch Meade Lightbridge Truss Tube Dobsonian. 2" focuser (with 1.25" adapter), crosshair finder, mirror cooling fan, shroud, dust cover. A steal at **$1100!**

TAAA Astronomy Equipment For Sale (continued)

Celestron 5" Omni XLT Tripod, Celestron CG4 GEQ mount, 6x30 finder, diagonal, 1 eyepiece, user's manual. **$500**

We have numerous **tripods**. Celestron, Meade and others. Heavy duty, light duty, etc. If interested please inquire.

Small camera tripods - $10

Several full aperture **white light solar filters**. Most are 'film type'. We have one 'glass type'. Various sizes. All checked out okay. If interested please inquire for available sizes and prices.

EYEPIECE CLEARANCE SALE!!!
50+ eyepieces and filters for sale at rock bottom prices! Mostly 1.25". Inquire for availability and pricing

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We also have an assortment of other items available at this time including: Finders (various sizes), Finder rings, focusers, some eyepieces, some eyepiece filters, telescope rings of various sizes, mirror blanks of many sizes, a 6-inch Newtonian mirror set mounted in mirror cells, several large mirrors and much more.

To make inquiries about what is available or to express a desire to purchase one of the items please contact: Douglas Smith; 520-396-3233

Member Equipment for Sale

The TAAA Board of Directors recently approved member equipment advertisements in the Desert Skies Bulletin. We are accepting such ads beginning with this issue.

The following are the rules and guidelines of the advertisements:

- All advertisements are for member-owned equipment. Members may not place ads for non-members.
- Advertisements are for one month. If you would like to run the ad for a longer period you must resubmit the ad each month.
- There is no way to show the item sold until the following month's issue. If you would like to show the item as sold in a following issue, you must send the sold notice to the editor.
- Each member may submit up to two ads per month (this may be modified in the future).
- There are no formal ad restrictions. Please keep them relatively brief. A small photo or two may be submitted. Please include contact information (we can hide the email behind a link).
- The editor has total discretion as to the formatting of the ads.
- These guidelines may change going forward.
- There may be more formal guidelines/rules in the future.
- This is an experiment! The editors will do the best they can to make it work. We do take input on how the ad publishing might be done better.

Buyers:

The TAAA does not assume responsibility for the products sold or offered. It is the responsibility of individuals who posted the ad to reply to your message and confirm the legitimacy. There are risks which you assume when dealing with people who might be acting under false pretenses; all these risks are borne by you. The TAAA does not control the products offered by and to members. But please, let's all be honest with each other!

FOR SALE **Lunt Solar Systems SOLAR TELESCOPE.** Model No LS50T H Alpha. B600 Hydrogen Alpha filter. Like new, used twice. Includes manual. $400

FOR SALE **Celestron Orange tube 8" SCT**, 70's vintage. Includes original manual and accessories, tripod. Clock drive works. Refurbished. $150

Contact mikest4f@gmail.com or 520-330-8862. Michael

I'm selling my **Dynamax 6**, with original cast aluminum fork, original cast aluminum tripod with brass legs, finder scope, and a diagonal and 40mm Celestron eyepiece. I bought it as a work project but don't have the time. The optics are clean and provide a fairly sharp image. The motors work, but I'm still trying to get it to track. I think it has a problem with the clutch. I just don't have the time to work on it anymore. I'm selling it for **$250**. I live in Oro Valley.

I have a **SkyAtlas 2000 Laminated Field Edition** map and a **SkyAtlas 2000.0 Deluxe Version Second Edition** map, both by Will Tirion. Selling both for **$120**.

Contact Steve Thornton Email 951-704-5334

by Bernie Stinger

September 2025 Star Party Volunteer List

Thank you for volunteering your time and talents for our extremely important outreach mission. **Below is the current status of the Public/School Star Party list for September, 2025.**

Please let me know by email if you are interested in volunteering for any of the events listed below. First come – first served. I will let you know in return if you are on it or that it was already filled. Some events go fast!

If you are new to Star Party outreach, let me know and we'll be sure to help you get started. *It is important you sign up for star parties if you plan to attend*, whether you bring a scope or help in other ways, so I can manage who from TAAA will be on-site and for you to be included in any reminder or weather emails.

The PUBLIC Astronomy Events are also listed on the TAAA (tucsonastronomy.org) and Night Sky Network (NSN) (nightsky.jpl.nasa.gov) calendars. Also, all PUBLIC star parties will be listed on the TAAA Facebook events page and will be updated based on weather, etc. in real-time. You can follow any of these events and get a notification when I update each event but this is only for PUBLIC star parties listed on Facebook.

The requests have been updated as of August 25th. **The first section, in RED, is a list of events where we still need volunteers.** If you can help out please contact me at:

astronomy-events@tucsonastronomy.org

Thank you, Bernie Stinger

September Event still in need of Volunteers

Thursday – September 25 – – Mt. Lemmon
Ventana Vista Elementary @ Whispering
Pines Girl Scout Camp, on
E Organization Ridge Rd, Mt. Lemmon
Age/Grade Level: 5th Grade
Participants: 100 There will be five groups of 20 @ ½ hour each.
1 Additional Scope Needed
Setup Time: 6:30 pm
Start Time (tentative): 7:00 pm.
End Time: 9:00 pm. (approx.)

September Events Filled—No Volunteers Needed

Friday – September 12 -- NE TUCSON
Pima County Natural Resources Parks & Recreation (NRPR) @ Agua Caliente Park
Agua Caliente Park is at 12325 E Roger Rd.
Age Group: All Ages
Estimated # Participants: 75 – 100
0 Scopes needed
Setup Time: 6:30–7:00 pm
Start Time: 7:30 pm End Time: 9:30 pm

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Saturday – September 20 — ORACLE AZ
Oracle State Park
3820 E Wildlife Dr, Oracle AZ
Age/Grade Level: All Ages
Participants: 125 – 150
0 Scopes needed
Setup Time: 6:30 pm.
Start Time: 7:00 pm. End Time: 9:00 pm.

Friday – September 19 -- TUMACACORI AZ
Tumacacori National Historical Park
1891 E Frontage Rd, Tumacacori, AZ
Age/Grade Level: All Ages.
0 Scopes Needed
Setup Time: 6:15–6:30 pm.
Start Time: 7:15 pm. End Time: 9:15 pm.

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Friday – September 26 -- EAST TUCSON
Saguaro National Park – EAST
Saguaro EAST is located at 3693 S Old Spanish Trail.
Age Group: All Ages
Estimated # Participants: 100+
0 Scopes needed
Setup Time: 6–6:30pm
Start Time: 7:00 pm. End Time: 9:00 pm.

Public Astronomy Events

COLLEGE OF SCIENCE
LUNAR & PLANETARY LABORATORY

LPL Evening Lecture Series 2025

All Lectures are at Kuiper 308 on the U of A Campus or Zoom

Wednesday, Sept. 17, 7-8PM
Mars on Earth: Testing Tomorrow's Mars Missions in Iceland
Dr. Christopher Hamilton
Associate Professor, Lunar and Planetary Laboratory
Register for Zoom

Wednesday, October 22, 7-8PM
Studying Earth's Glaciers to Unlock Martian Mysteries
Dr. Jack Holt
Professor, Lunar and Planetary Laboratory
Register for Zoom

November 19, 7-8PM
From Lava to Life: Microbial Colonization in Volcanic Environments
Dr. Solange Duhamel
Associate Professor, Molecular and Cellular Biology, University of Arizona
Register for Zoom

DEPARTMENT OF ASTRONOMY
AND STEWARD OBSERVATORY

Public Evening Lecture Series
Fall 2025

Monday, September 15
From Stardust to Supermassive Black Holes:
Tracing Galaxy and Black Hole Co-evolution with JWST
Dr. Jianwei Lyu, Steward Observatory

Monday, September 29
JWST's Discoveries at the Break of Cosmic Dawn
Dr. Kevin Hainline, Steward Observatory

Monday, October 13
The Remarkable Death of a Massive Star
Dr. Carl Fields, Steward Observatory

Monday, October 27
The Martians
Mr. David Baron, Independent Journalist
BOOKSIGNING EVENT AFTER THE LECTURE

Monday, November 10
The Modern Search for Potential Habitats of Extraterrestrial Life in the Solar System and Beyond
Dr. Daniel Apai, Steward Observatory

Monday, November 24
Dead Planets Around Dead Stars
Dr. Laura Rogers, National Optical/IR Lab

Monday, December 8
Latest News from the Vera Rubin Observatory
Dr. Charles Claver, Vera Rubin Observatory

Lectures are in-person or Watch via ZOOM.
Location: Steward Observatory N210
Open at 7:00 pm, Lectures begin at 7:30 pm

Parking 2nd Street or Cherry Ave Garage
Telescope viewing 8:30PM Weather Permitting

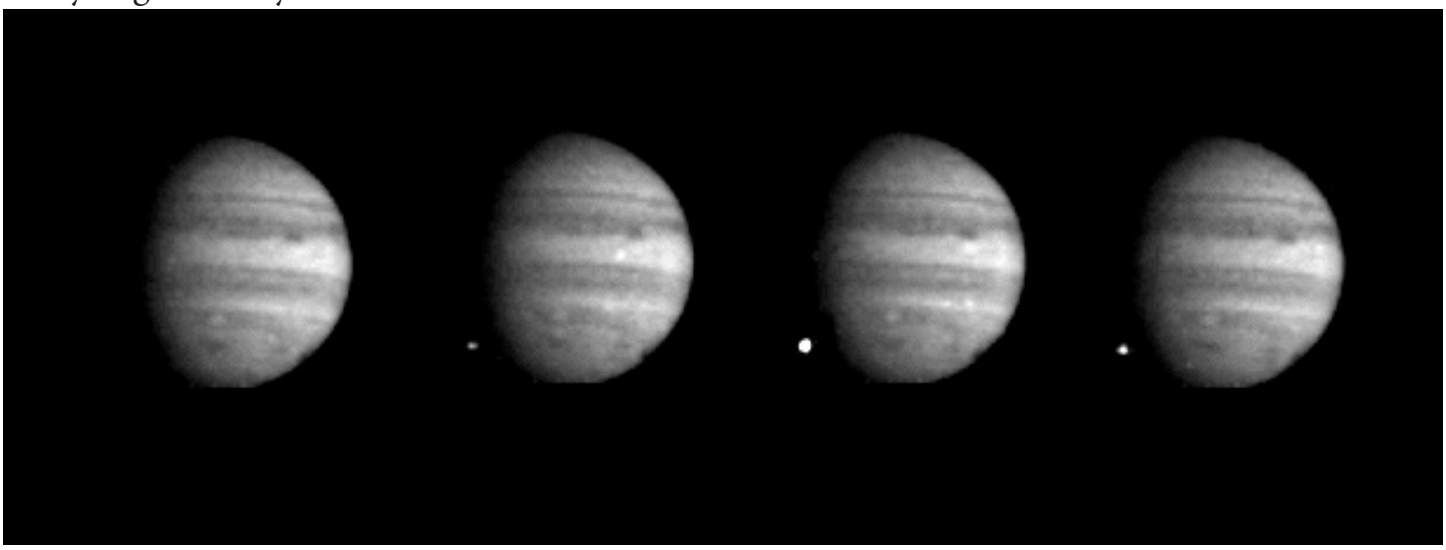
More Information

Skyward

By Dr. David H. Levy

September 2025

Thirty-two years ago, Carolyn and Gene Shoemaker and I discovered a comet that was eventually named Shoemaker-Levy 9. It was the ninth periodic comet that we found together, although there were a few other nonperiodic comets that we also located, plus the nine other comets I found on my own since I began my comet search in the fall of 1965. The discovery of this particular comet and its subsequent collision with Jupiter, coincidentally my favorite planet, were the most important parts of my professional life, second only to my meeting Wendee. Sixteen months after our discovery, the 21 pieces of this shattered comet collided with Jupiter, in one of the most decisive science stories of the twentieth century. I may not have been aware of how significant this was until, at this year's Adirondack Astronomy Retreat, I watched the July 16, 1994 press conference during which Gene, Carolyn, and I tried to express the significance of this event. I remembered how much smarter I might have been back then, being able to speak in complete sentences, compared to my waning personality now. What I was not aware of back then is that what we were witnessing might have been an example not only for our own lifetimes but for the vastly larger history of the Earth we live on.



Sixty-six million years ago, the Cretaceous period of Earth's geologic history ended rather abruptly with the mass extinction of about three quarters of all the species of life on Earth. The theory proposed by Luis Alvarez and his son Walter was based on the large amount of iridium that was found at exposed rock sites all over the world. The discovery in the early 1990s of the 200-mile-wide impact crater whose center was near the coastal town of Chicxulub Pueblo, in present-day Mexico, began a long stretch of evidence that leads most scientists to conclude that the impact of an asteroid (or less likely a comet) had a lot to do with the Cretaceous-Paleogene mass extinction.

More recently, some evidence has emerged that the impact in the Gulf of Mexico was not the only one that occurred at that time. The 15-mile wide Boltysh crater in Ukraine, and the 12-mile wide Silverpit crater in the North Sea, not far from Great Britain, might have been formed at about the same time. These structures, and others that have been found or speculated, are all between North latitude 20 and 70 degrees.

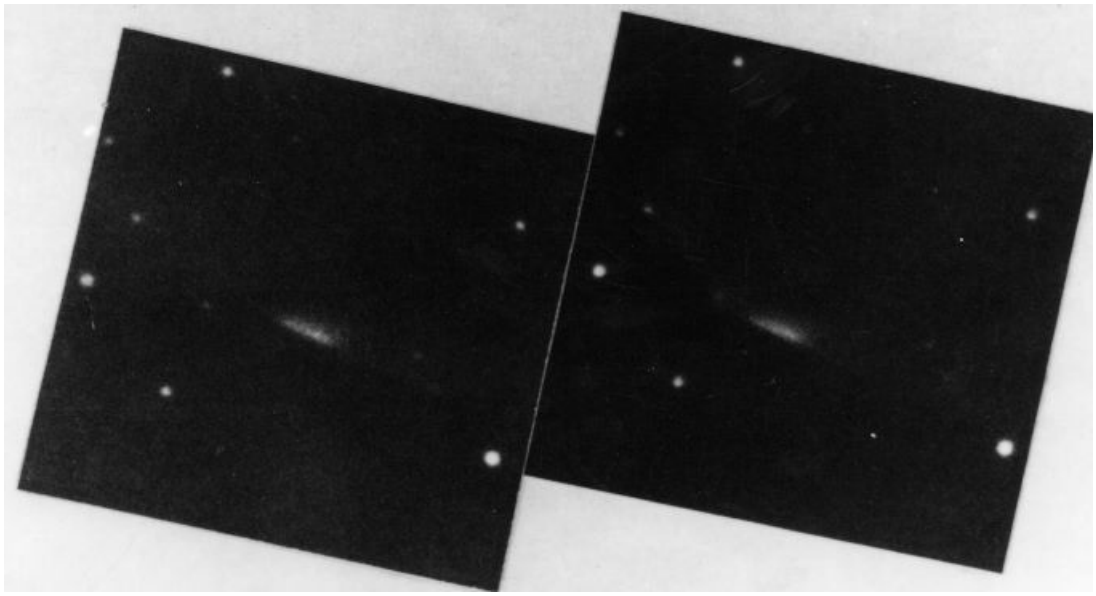
Could these structures be impact craters, and if they are, could they have formed in connection with the Cretaceous–Paleogene extinction? This suggests the possibility of near-simultaneous

multiple impacts. But the operative word has to be "suggests". The evidence is there, but it is speculative and not strong, that the Chicxulub impactor might have been just one of a series of impacts. According to a paper by Krisopher Dekan of the University of Gothenburg, "To conclude that a mass extinction of this sort is not associated with immense extraterrestrial impact is to break the rules of a respected scientist. There is too much evidence in favor of a least two large impacts and no other factor can explain the (Iridium) anomaly that is globally widespread in both sides of the paleomagnetism of that time, being normal and reverse near the K/Pg boundary."

We will never know what upended the Earth's biosphere 66 million years ago, because we were not there. But at this juncture I would like, not to ignore the methods of modern science, but to take science out for a walk in the desert. We will never know, but what if a Shoemaker-Levy 9-style multiple impact is what caused the elimination of most of the species of life on Earth?

What if? I think it is fun to speculate on this question. From my own perspective, as I take that fictitious walk in the desert, my decision to begin hunting for comets when I was a teenager in 1965 might have led to a personal communion with a major event on the planet that has given me so much pain, and so much more joy.

Comet Shoemaker-Levy discovery films March 23 1993



Dr. David H. Levy is a long-time member and former President of the TAAA. He is a well-known astronomy writer and discoverer of comets. He writes this monthly "Skyward" column for the Vail Voice and generously allows us to publish it here.