

TUCSON AMATEUR ASTRONOMY ASSOCIATION

Observing Our
MONTHLY EVENTS BULLETIN
Since



Desert Skies

1954

WWW.TUCSONASTRONOMY.ORG

August 2023

www.tucsonastronomy.org

Membership Meeting

August 4 @ 6:30 pm - 9:00 pm

TAAA's next general member meeting will be held on **Friday, August 4, 2023**. 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 online at the TAAA [Facebook](#) page.

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Main Presentation at 6:30PM AZT

Title: Light Pollution and Dark Skies in Southern Arizona and Beyond

Presentation: The world at night is lighting up at an alarming rate. A host of ecological and social consequences comes with this rapid environmental change, but solving this problem is simple and cost effective. In this talk John will review what we know (and don't know) about light pollution, how it affects us, and which mitigation strategies are most effective. From there he will describe an effort to revitalize the Southern Arizona chapter of DarkSky International (DarkSky International was formerly known as the International Dark-Sky Association) and the plans for regional advocacy and action in coming years.

Biography: John Barentine is the Principal Consultant at Dark Sky Consulting, LLC, and was formerly the Director of Public Policy for the International Dark-Sky Association. He earned a Ph.D. in astronomy from the University of Texas at Austin, and previously held staff positions at the National Solar Observatory, Apache Point Observatory, and the Sloan Digital Sky Survey.

Throughout his career, he has been involved in educating the public about science. He is a member of the American Astronomical Society and the International Astronomical Union, and is a Fellow of the Royal Astronomical Society. The asteroid (14505) Barentine is named in his honor. His interests outside of astronomy and light pollution research include history, art and architecture, politics, law and current events.



TAAA Desert Skies Bulletin

[David Rossetter](#) – Editor

Ken Bertschy - Graphics

Terri Lappin & Jim Knoll - Proofreading

Greg Ruppel -Image Editor

Notes From The President

July 2023

We are busily progressing into a new TAAA year!!! Communication is always important and, I have it on the agenda to be a reoccurring theme for review, this year with one focus being how can we improve our communications with leaders and members. Any suggestions or thoughts you have regarding TAAA communications, please contact me.

As you may recall, members of the Executive Committee of the 2023-24 TAAA BOD include:

President: Mae Smith
president@tucsonastronomy.org

Vice-President: Ed Foley
vice-president@tucsonastronomy.org

Secretary: Bob Reynolds
secretary@tucsonastronomy.org

Treasurer: Barbara Whitehead
treasurer@tucsonastronomy.org

And our three BOD Members-At-Large for the 2023-24 Board year include:

Suzanne Bailey, mal1@tucsonastronomy.org
David Rossetter, mal2@tucsonastronomy.org
John Kalas, mal3@tucsonastronomy.org

The entire TAAA Board address is
taaabod@tucsonastronomy.org

Individual Board Members are normally quite active in the Club so you may well already have easy opportunities to talk with them. However, whenever you have a question or wish to discuss something please feel free to contact any of us. If you live out of Tucson, or have less access, or if we often see you at meetings (either way), we certainly are delighted to assist and respond to your emails. Communications are important in all organizations and particularly in TAAA since our leaders operate so many complementary but different interest groups and activities. This creates a complexity that creates some challenges as well as some great strengths and advantages, but, in any case, can be confusing. With 766 members (as of last week), communication is even more challenging.

by Mae Smith

If you are a new TAAA member, you may wish to contact Susan O'Connor who is our TAAA Welcome Coordinator and works with new members to assist them in locating resources in the club. Susan's email is welcome-coordinator@tucsonastronomy.org. To find your place in an organization with lots of choices and many different activities sometimes requires some additional energy to explore and reach out and develop a sense of where you feel most comfortable.

There are NUMEROUS TAAA meetings occurring each month with people actively working on special projects or particular interests. Your best single resource to learn more about the club and find your way to current activities is the monthly *TAAA Desert Skies Bulletin*. This is our official resource collection of current activities/opportunities for the particular month. The Bulletin is emailed each month to each member. If you have not received an email link to it by the last day of the month, you should contact [David Rossetter](#), the TAAA Bulletin Editor. This is a great place to gain perspective on many, many opportunities/interests/ways to serve in TAAA's mission of "sharing the sky."

Also, as members, you each should receive the monthly email about TAAA's First Friday of the Month meeting. This meeting typically provides one or two guest speakers/presentations that vary each month. You may attend this activity via zoom, in person or via social media. Recordings are also posted later. Additionally, this can be an opportunity to meet people in the club after the meeting and for you to ask questions about activities or how something works.

Please note that the above covers a basic list of ideas about how, as a new or continuing TAAA member, to learn more about what is going on, about opportunities in TAAA, and to connect with others. You will learn in these activities about committees and task forces in TAAA that are working on projects and, if you are interested, you may arrange to attend and participate in such activities. Numerous, small groups of members in TAAA work on on-going or on absolutely temporary short-term projects and welcome participation, ideas, and help. Tremendous amounts of foundational work is shared with and results managed by the TAAA Board each month.

The TAAA Board accomplishes a tremendous amount of work and addresses many, many complexities each month. However, the actual once-a-month TAAA official Board Meeting is completed in two to three hours each month. While TAAA Board meetings are open to members who request attendance, they are not open to participation of TAAA members unless the member has been invited to speak because of the member's specialized knowledge relevant to the Board decision to be made. The meetings are designed to try to efficiently use time and decision-making to be based on as much prior preparation by Board members as possible so that knowledgeable, educated and responsibly developed results occur. Any member who wishes to attend a monthly Board meeting should contact Mae Smith by 5:00pm, the Monday prior to the Board meeting. The official Board meeting is at 6:30pm the second Wednesday of the month. The President will send the link to the meeting directly to the member requesting it by the deadline. MEMBERS approved for attendance by the President do so with the complete understanding that they are not allowed to speak in the meeting unless previously scheduled to do so because of their specialized knowledge. They are approved to observe only.

Input to Board members about any topic on the agenda should be totally made PRIOR to and outside the meeting. Two hours is a very small time for the Board to have the opportunity to address the list of "this month" issues and such issues have been vetted sometimes several times prior to actually reaching the floor of the Board meeting. A member sitting in the meeting is typically unaware of the many information searches and the thoughtful approaches already taken and explored by Board members prior to the meeting to solve many issues and the amount of time already spent on moving to a resolution on them and beyond them. We also ask that any member attending a meeting refrain from emailing Board members during the meeting as it interferes with effective active Board discussion. It is not at all that member input is not important. It is. But the timing for member input is prior to the Board meeting, not during the only two hours a month the Board is officially interacting in the monthly meeting.

Some Results of the July 12, 2023, TAAA BOD meeting include:

Grand Canyon Star Party 2023 volunteers were thanked. The event went very well and the official GCSP 2023 Report from Ranger Rader Lane and thank you's from TAAA Grand Canyon Star Party

Coordinator, Jim Knoll have been sent out. The event had mostly good weather, 49 telescopes per night, and a total of almost 79,000 contacts with the public. Our TAAA leaders, such as Jim Knoll and the rest of the TAAA team, did excellent work not only in running the activity but in making significant developmental changes. The 2024 GCSP is scheduled for June 1-8, 2024. A motion was approved to move the June 2024 first Friday TAAA meeting from June 7th to June 14th. (That meeting may well be limited to Zoom only.)

One new TAAA Leader was appointed this month: Bob Rose has been appointed as Assistant Director of CAC.

The TAAA Treasurer's Financial Report indicates that TAAA starts the official year with net assets of \$1.34 million. TAAA ended the year with slightly more money in accounts than expected due to star parties and donations. A TAAA budget for 2023-24 was approved.

Review of old business included efforts to collect information on Volunteer Contributions and increasing training in the TAAA webpage search function to assist members in easier access to Minor Policy forms.

A motion by the Board for changes in term limits was proposed and passed by the Board for forwarding to NVRC for member approval.

Sublease information and follow-up for TIMPA and interaction with the City of Tucson on this matter is being managed by John Mead.

32" DFM Telescope Project: slides were reviewed of progress so far. Many pictures of disassembly of the telescope and storage in AZ and of the 15.5 foot dome were presented. A developmental plan possibility and options for the scope was presented and was approved by the BOD.

A marketing option for the lease (of course, following TAAA regulations for Member Observatories) of a Member Observatory at CAC was approved by the Board.

Thank you all for your involvement in and support of TAAA.

Please contact me if I can be of assistance.

President [Mae Smith](#)

CHIRICAHUA ASTRONOMY COMPLEX (CAC) *by Jim Knoll*



We have a lot of activity and planned events for CAC in the next few months. Below is a quick update. I hope you will support and enjoy your world-class complex.

Tractor Funding Update. We continue to move toward our fundraising goal. Thanks to generous members, we have raised some additional funding and are up to \$10,500 of our \$38,000 goal or about ¼ of



the way. We would certainly appreciate any additional help. We would like to reach our goal by early 2024 since the site has significantly expanded and we need this additional capability. Thank you!!

Here is a rundown of estimated costs:

Tractor: \$25,000

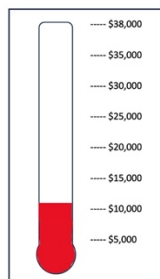
Box Blade: \$2,000

Sprayer: \$2,000

Container: \$9,000

Total: \$38,000

Raised so far: \$10,500



-- For an IRA Direct Rollover, email the Treasurer for any procedures at [treasurer\[at\]tucsonastronomy.org](mailto:treasurer[at]tucsonastronomy.org).

-- To donate by check. Mail to Tucson Amateur Astronomy Association, PO Box 41254, Tucson, AZ 85717. Indicate "Tractor" in the memo line.

-- To donate online: Go to the TAAA [Website](#), select the donate button, and the CAC Tractor Fund.

We appreciate your consideration to help us fulfill this extremely important project!! For any questions, email Jim Knoll at cac-director@tucsonastronomy.org.



The 10 sleeping rooms in the Foley INNstitute (7 rooms) and Mooney Night Sky Learning Center (3 rooms) are open and available for members to reserve for a nominal fee. Some rooms have one set of bunk beds and some have a bunk bed plus platform bed. We will be laying carpet and continuing to install other amenities over the summer and hope to have that all completed by September. The classroom equipment will also be

installed over Monsoon and we will begin planning to invite youth groups and other organizations/schools to CAC for any astronomy education.

We will need members to help plan those education activities. The RV sites will also be expanded from four to seven over the coming months. **We can always use additional help with projects and maintenance at CAC.** Please let me know if you can assist and I will add you to the list (no commitment—will just let you know when we need help and you can volunteer if available).



You can reserve sleeping rooms and RV spots up to two months in advance. Although we don't have a caretaker on site 24/7, we hope that as more members use the site, they will be spread out throughout the month to provide member coverage. Members can be trained to open and close the site (after attending at least one hosted member weekend) and can then use the site at their convenience. We typically have a host on site during the Member Weekend so you do not need to be trained to open/close the site during that timeframe. The list of upcoming CAC

Member weekends (to include those in 2024) are posted on the CAC webpage.

Construction continues on the five leased member observatories and one large Dob Pad. Some will be remotely controlled by the lessee and others will be used locally at CAC. Sizes range from 10 x 10 to 16 x 16. A 12 x 12 Observatory is available to lease. If interested, let us know. These will be adjacent to the RV spots.



MARK YOUR CALENDAR. We are planning to have an **Open House** at CAC Saturday November 11, 2023 (Veterans Day) to celebrate the new buildings, sidewalks, member observatories, and other projects happening at CAC. We plan to have a bus available (for a nominal fee to cover expenses) for members to take to CAC if they don't want to drive. More information will be forthcoming in the next few months. Our next Evening Under the Stars (CAC Outreach to neighbors,

Southern AZ residents, and members) is scheduled for Saturday October 7, 2023 from 7-9 pm. Reservations required.

32-Inch Telescope is at CAC (or almost). As many of you have heard, we had a 32-Inch Cassegrain telescope donated to TAAA. A team went to Longmont, Colorado to disassemble the telescope and move it to CAC. Portions of the scope are stored on one of our member's property close to CAC and at CAC. Ed Foley and Bob Reynolds are leading this effort and expect to hear more about this project over the coming months.





Telescopes available to use at CAC. Not only do we have a world-class dark sky site, but we have lots of great telescopes members can be trained to use. Currently you can be trained to use the 14-inch Celestron in the Wally Rogers Observatory and the 18-Inch Obsession (in the

process of being installed on the Stinger Telescope Pad). Soon to be available (also on the Stinger Pad) are the 9.25 and 11-inch Celestron, and a 12 inch Meade. These telescopes will be available to be reserved and used by trained and certified TAAA members.

Reservation forms will be accessible when the scopes are ready for use on CAC Reservations



[Page](#). We also need trained and certified operators for our two premier telescopes, the 40-Inch Big Boy and the 9-Inch Folded Refractor. Although these are not available for routine member use and observing, they are used during most CAC member weekend Saturday evenings and outreach events at CAC. Training classes are offered throughout the year for the telescopes. Please email me to be scheduled for one of the classes and I will put you in contact with Joe Jakoby, our Training Coordinator.

Our internet speed is sufficient to allow remote operations and streaming both on and off site. This opens a lot of potential, not only for the Member Observatory Lessees and remote operations, but streaming outreach events and imaging within CAC and offsite to classrooms and other locations.

A special thanks to the members that coordinated all these projects at CAC. In particular, Ed Foley for the two new buildings, John Kalas for the Member Observatories, Mike McDowell for building the Stinger Pad enclosures and Ed Foley helping to install the scopes, Michael Turner for coordinating a mast build/installation for a new camera, Bob Rose for upgrading and expanding our internet, and Bob Reynolds, Ed Foley, and Doug Summers for leading the 32-Inch Telescope project. Many members have also put in a lot of sweat into expanding and improving CAC, in particular Susan Knoll for staying on top of the weeds and making CAC look like the world-class site it is. I think we have one of the top amateur sites in the country if not the world. **If you have not been to CAC recently, come check it out!**

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 [Mae Smith](#) to receive a Zoom link for that meeting. Please send your email to Mae 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.

School/Public Star Party Requests

by Bernie Stinger

There are no School/Public Star Parties for August. See you after the monsoon!

Book Of the Month **By Douglas Smith (TAAA Librarian)**

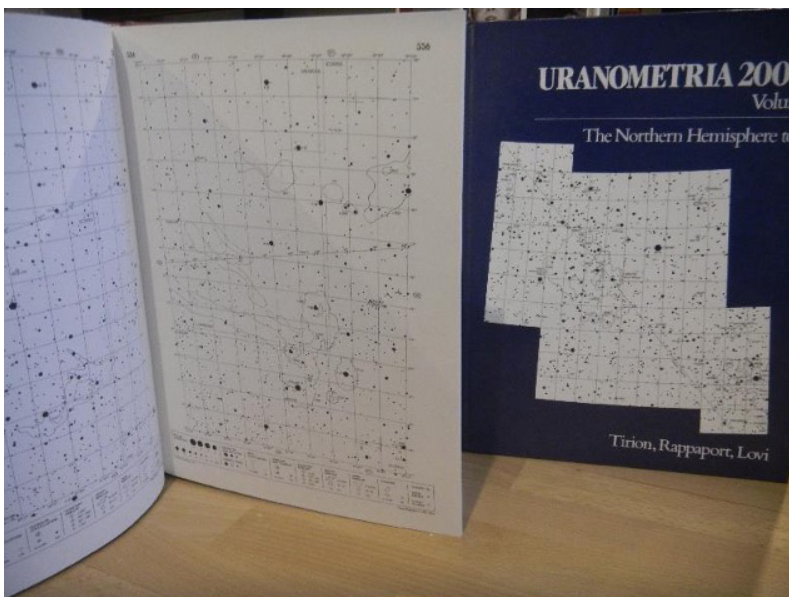
Book: Uranometria 2000.0 (Volumes I and II)

The authors are Will Tirion, Barry Rappaport, and Will Remaklus.

This set of books make up a very good star atlas. Volume I covers +90 degrees to -6 degrees declination while Volume II covers +6 to -90 degrees declination. The scale of the star charts is an impressive 3/4 inch per degree. The only star atlas with a larger scale is the Millenium Star Atlas.

In the front portion of volume I there is an interesting discussion of the origins and history of these works. Volume I is around 260 pages and volume II is around 240 pages. The charts show most deep sky objects and stars down to at least magnitude 9. My only complaint would be the charts are just B&W, no colors. I like the colors used in Sky Atlas 2000 and Pocket Star Atlas.

The set of Volume I and volume II goes for around \$90 on e-bay. There is a 3rd volume – Deep Sky Field Guide that accompanies Volume I and II.



This star atlas is not for the novice. This is a more advanced star atlas. I would also recommend purchase of the Deep Sky Field Guide to go with this set. The complete set of all 3 volumes goes for around \$200 on e-bay. I would recommend this star atlas for anyone owning an 8 inch telescope or larger.

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 restaurant for fellowship and conversation. This month's meeting is:

Thursday, August 17th, 6:30pm

Bazil's

4777 E Sunrise (NE corner of Sunrise and Swan)

Preview the menu at: www.bazilstucson.com

RSVP [Susan](#) - 520-780-0136

Upcoming Workshops Open for Pre-enrollment

Several workshops are being planned for the fall 2023/winter 2024 time frame.

- The Star Hopping workshop that was offered earlier this year will be repeated.
- A Sketching/Logging workshop will be offered.
- A Constellation identification/locating workshop will be offered.

Dates/Times are still TBD. Dates/Times will be announced in the bulletin as soon as they are set.

If you are interested in enrolling in any of these workshops or would like additional information contact the TAAA Astronomical League Correspondent (ALCOR) at the information listed below.

TAAA ALCOR – Douglas Smith

Phone: 520-396-3233

e-mail: alcor@tucsonastronomy.org



The Nomination and Volunteer Resource Committee is looking for a fourth member. This is a two-year term.

Are you looking for a great way to serve your club and get to know your fellow members? Contact the committee at nvrcchair@tucsonastronomy.org for more details.

32" Telescope Project

Ed Foley

In May, TAAA was given the generous gift of a 32-inch research grade DFM Engineering Cassegrain telescope, with the proviso we retrieve it from the donor in Colorado before the end of June. The company was moving to a new location and could not take this telescope with them. They had purchased the telescope in 2019. It had not been permanently installed and was unused except for a few demonstrations they had staged. A team of 11 TAAA volunteers, Daniel Chin, Ed Foley, Warren Hensey, Joe Jakoby, Jim Knoll, Susan Knoll, John Kalas, Mike McDowell, Bob Reynolds, Bob Rose, Doug Summers, at their own expense, worked to receive the telescope from the donor in Longmont, CO, disassemble the telescope, load over 3000 lbs. into trucks, drive it to Cochise County AZ, unload it and place it into safe storage in a member's barn.

After analysis of the donation with respect to our members and how we might use it serving the community, it has been decided to move forward with the telescope installation. The first step will be to reassemble the telescope in a newly constructed roll-off roof observatory east of the Mooney Classroom building at TAAA's CAC dark site.

An initial TAAA team headed by Bob Reynolds and Ed Foley has been formed to complete the design and attend to the details necessary to complete observatory construction and telescope installation. The team will be drawing on the talent and enthusiasm of TAAA to make that happen. A panel will be convened this summer to consider ideas for long term possibilities for this special telescope.

We have already had many members step up to donate their time to retrieve the telescope and offer assistance in defining its use for TAAA. We will be reaching out to others in the association who can give of their time or financial support to move the project forward.

The TAAA telescope loading team with the donor and telescope in Colorado



The DFM 32-inch telescope safely arrived in storage at Cochise County



The DFM 32-inch on a trolley pulled from storage in Colorado

Special Interests Groups



Starry Messengers Special Interest Group

Opening Minds to the Universe

The Starry Messengers group is taking a break from monthly meetings over the summer.

The summer lull in toolkit activity requests allows SMSIG members to brush up on how to use our outreach toolkits. TAAA members can borrow a toolkit for a month at a time to learn these activities on their own time.

If you have questions about the Starry Messengers SIG, contact [Terri Lappin](#) or call 520-977-1290.

Astronomy Fundamentals SIG

Come join us for a presentation from 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 meeting is on **Thursday, August 10th at 6:30 pm - 8:00 pm**. Topics to be determined.

Contact [Connor Justice](#) for Zoom link and more information.

Access videos of previous meetings in the TAAA's [YouTube Channel](#).

[AFSIG on the Web](#)

Astro-Imaging SIG

by Gregg Ruppel

The next AISIG meeting is **Monday, August 21st @ 7:00 pm** via ZOOM.

**Topics: A PixInsight workflow with bells, whistles, and fundamentals - Alex Woronow
Image Sharing, Q/A, General Discussion**

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, check out the [TAAA Forum](#). Look for previous AISIG meetings on the [TAAA YouTube Channel](#).

Highlights from the Astro-Imaging SIG

AISIG held their 2nd annual "Monsoon Challenge" this spring and summer. The targets were M92 and M27; some folks shot just one and others imaged both. Here are the results.



Allen Force
M92

[Astrobin](#)

David Stearn - M92

200 30 second subs unguided.

[Astrobin](#)



John Tsantes
M92



Jeff Rothstein - M92; 35 subframes at 240s each, taken May 28, UV-IR Cut filter, Moon at 61%. Processed entirely in Pixinsight.

Gregg Ruppel

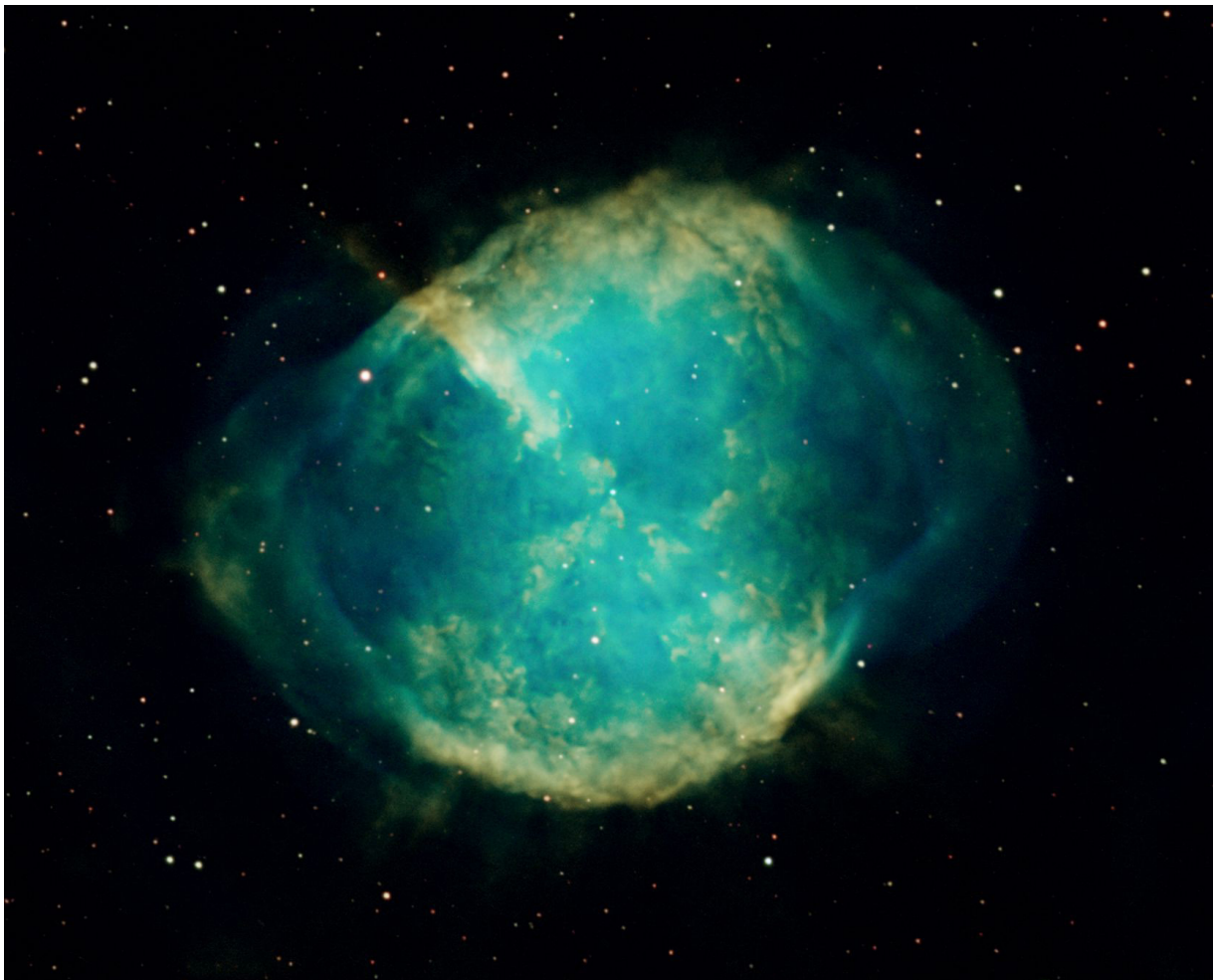
M92; Luminance only, 11.75 hours, ASA 10N Astrograph f/3.75, STL11000M w/AstroDon filters



M27

Ha only, 12.8 hours
ASA 10N
Astrograph f/3.75
STL1100M
w/AstroDon filters





Ladd Lindsay
M27

SHO
20 3-minute
exposures
in H & O,
12 3-minute
exposures in S.



Randy Smith
M 27

5/30/23 Skywatcher 8"
Newtonian, .75 Starizona
Corrector/Reducer @ F3,
2600 MC One Shot Color,
Optolong L-Extreme filter 240x60



Jeff Rothstein - M27 ; 68 x 240s subframes, taken May 29-30, IDAS NBZ filter, processed in PI, normal palette.

From The Editor - David Rossetter

Summer in Tucson is when astronomy activities and news calms down due to the monsoon rains and clouds. But, as you can see, there is still lots of information to convey through the Desert Skies Bulletin. It is very gratifying how much the members of the TAAA value this publication and how hard our leaders and contributors work to bring you all the news of the Association.

It has been a challenge for me to get this month's issue out to you on time. I just got back from nine days in the northeast attending the 19th annual *David and Wendee Levy Adirondack Astronomy Retreat*. I've been attending this event since 2008 (with a couple of years' break during COVID). Of the six nights, we had five observable and three which were exquisite. The skies are dark in northern New York State. Temperatures ranged from the low 50s to the low 80s. Nice change from our cloudy and hot Tucson. Unlike a large star party (with hundreds of your best friends), this retreat is capped at thirty attendees. There are rustic cabins with uncomfortable spring beds, a lodge with great food, and basic shower facilities. Kind of like summer camp when you were thirteen. There are lots of hiking trails nearby (along with ticks). But the best part is the people. I got to observe with friends I've known for fifteen years. And I enjoyed getting to know some new folks as well. We provide the afternoon lectures ourselves. David Levy gave three talks during the week. It was a very special experience.

So, while I am cramming to get this bulletin out on time, it was worth it!

Observing Sites

TIMPA

by TIMPA Planning Group

TIMPA (Tucson International Modelplex Park Association), dark sky site west of the Tucson Mountains.

TIMPA Star Party Dates this month: **Monsoon Season - No dates set**

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

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 gopher 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.

Member Reservations should be sent to jmead@SIU.edu. Make sure to clearly include your name and contact information and date and time you plan to be on site.

Chiricahua Astronomy Complex

by Jim Knoll

CAC Weekend Dates coming up (Friday/Saturday): **August 18-19 (New Moon 16)**

During Monsoon, members should be qualified to open/close the site if they want to observe as there may NOT be any hosts on-site. Pre-Coordinate with the Reservations Manager for current status. We will also be installing room carpet and other amenities in the new buildings that weekend.

Chiricahua Astronomy Complex (CAC) is the club's dark sky observing site, located in Cochise County approximately 100 miles southeast of the center of Tucson. If you would like to attend, you must make a reservation on the CAC Web page at [CAC Reservations](#). The reservations page has been enhanced with cancellation links.

This allows members to more easily cancel a previous space or telescope reservation.

Unless you are qualified to open and close the site, dates will be limited to those around the New Moon and are listed on the CAC web page. Hosted personnel are generally on site a few days before and after these dates.

CAC Director: [Jim Knoll](#) [CAC on the Web](#)



Observing Sites Star Party Dates 2023

TIMPA

No Monsoon dates set

CAC

August 18-19 (New Moon 16) Monsoon
September 15-16 (New Moon 14) Monsoon

What's Up list for August 2023 – September 2023

Fellow amateur astronomers. Many of the Astronomical League observing programs can be done from our backyards. The following is a list of objects visible during August and September for the more common observing programs.

Constellation Hunter Program – Northern Skies

The following constellations are well placed for observing for August and September: Aquila, Cygnus, Delphinus, Equuleus, Hercules, Lyra, Sagitta, Serpens Caput, Serpens Cauda, Vulpecula.

Messier Observing Program

The following Messier Objects are well placed for observation during August and September (in ascending RA): Sagittarius is in prime location! M62, M19, M92, M9, M14, M6, M7, M23, M20, M8, M21, M24, M16, M18, M17, M28, M69, M25, M22, M70, M26, M11, M57, M54, M56, M55, M71, M27.

Lunar and Binocular Observing Program

The following is a list of the dates for the lunar phase when observations should be made during August and September:

New Moon: August 16, September 15
40 Hours waxing: August 18, September 17
72 hours waxing: August 19, September 18
4 days old: August 20, September 19
7 days old: August 24, September 22
10 days old: August 26, September 25
Full (14 days old): August 1, August 31, September 29
Gibbous: August 8, September 6
72 hours waning: August 13, September 12
40 hours waning: August 14, September 13

Solar System Observing Program

The following list describes the various solar system objects and their visibility during August and September:

Mercury is an evening object during August and a morning object during September.

Venus is an early morning object during the last two weeks of August and September. It reaches greatest brightness on September 19.

Mars sets during evening twilight.

Jupiter is rising earlier each night. It rises around 11 PM on August 1, and around 7:30 PM by the end of September.

Saturn is now well placed for late evening observation. It transits around 2:30 AM on August 1, and transits around 9:30 PM at the end of September. It reaches opposition on August 28.

Uranus is right behind Jupiter, rising about 15 minutes after Jupiter.

Neptune is a late evening/early morning object. It rises around 3:15 AM on August 1 and around 11 PM at the end of September.

Urban Observing Program

The following deep sky objects are well placed for observing during August and September: M62, M92, M6, IC 4665, M7, NGC 6520, M8, M17, NGC 6633, M22, IC 4756, M11, NGC 6709, M57, Cr 399, NGC 6818, NGC 6826, M27.

The following **Double Stars** are well placed for observation during July and August: Epsilon Lyra, Beta Cygnus.



Astronomy Job Opportunity

Have you got operations and management experience? Looking for a retirement opportunity in astronomy? NOIRLab is looking for a **Kitt Peak Visitor Center Operations Manager**. Check out the job description and get all the information [here](#).



LPL Evening Lecture Series

[September 13, 2023](#)

Dr. Tom Zega

Kuiper Space Sciences, Room 308 and Zoom

Relics of a Time Long Past: Deciphering the Origins of Our Planetary System Through Analysis of Returned Samples

[October 18, 2023](#)

Dr. Veronica Bray

Kuiper Space Sciences, Room 308 and Zoom

The What If? Real-time Effects of a Bennu-Sized Asteroid Impact on Tucson

November 15, 2023

Dr. Daniella DellaGiustina

Kuiper Space Sciences, Room 308 and Zoom

Exploring Hazardous Asteroids with the OSIRIS Spacecraft

Skyward

By Dr. David H. Levy
August 2023

NGC 663

One of the first astronomy books I ever read was John Benson Sidgwick's *Introducing Astronomy*. The book was published in 1959, a year after his death. In it was a large section in which each constellation was introduced, along with interesting things to see in each one. I particularly recall Cassiopeia, in which, between the two fainter stars Delta and Epsilon Cassiopeia, lies the open cluster NGC 663. I first saw that cluster during the late summer of 1962. All Sidgwick had to say about it was that it can be spotted through binoculars. It didn't look like much, but I did spot it and then promptly forgot about it for more than sixty years. The other night, while conducting my search for comets, I encountered this star cluster again. This time it was one of the loveliest things I have ever seen. It moved me to tears.

I have since learned that NGC 663 is a grouping of about four hundred mostly big, bright, bluish suns. On a really dark night it might even be visible with the naked eye. An unusual feature is that the cluster happens to be positioned directly in front of a molecular cloud, which somehow blocks the background stars and allows the cluster to be even more beautiful. In a field of view already rich with stars in the Milky Way, the cluster stands out like a heavenly flower filled with diamonds.

I do have more to say about Sidgwick. In my youth I considered him a famous astronomer, but he is known mostly for the few books he wrote, especially *Introducing Astronomy*. Sidgwick enjoyed wide interests. He loved to hitchhike across the United States and Canada, and he edited a book of Walter Savage Landor's shorter poems. Landor, Sidgwick's subject, had an unusual life, getting expelled both from Rugby School and from Oxford, where he allegedly shot a gun in his dormitory room. Reading about him led me to his delightful poem "The Evening Star:"

Thy star O Venus! often changes
Its radiant seat above,
The chilling pole-star never ranges—
'Tis thus with Hate and Love.

And 'tis thus I return to NGC 663, a cluster of stars that warms my heart. Where have I been for the last sixty years, religiously watching the sky, searching successfully for comets, enjoying many far-off stars and galaxies, but largely ignoring one of Nature's most wondrous splendors?

NGC 663 - Dominique and Gerald MacKenzie



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

TAAA Astronomy Equipment For Sale

TAAA has an assortment of astronomy related equipment for sale at this time. This equipment is available for members only at this time. The following list is just a sample of what is available.



Celestron tripod

This is a standard Celestron tripod. Looks like it's for an 8 or 11 inch scope. In the image it is just the tripod, not the two black bags.

TAAA Member Price: \$185



6 Inch Newtonian Optical Tube Assembly;
6 inch f 8.0 primary mirror.
Comes with an 8x50 finder.
TAAA Member Price: \$100



Beyers Drive Gear Set

Large unused Beyers drive gear with matching worm gear and stepper motor. The main drive gear is 14.5 inches in diameter and has a 4 7/8 diameter central hole. Motor has been tested and works fine. Note worm gear and motor not shown.

TAAA Member Price: \$900

Note that these prices are exclusive for TAAA members and after 45 days these items will be offered to the general public at a higher price. We also have an assortment of other items available at this time including: Finder rings, focusers, telescope rings of various sizes, mirror blanks of many sizes, a 6 inch Newtonian mirror set mounted in cells, several large mirrors and more.

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

TAAA Equipment Loaner Program

The following inventory represents the current list of instruments contained in the Tucson Amateur Astronomy Association Equipment Loan Program as of September 04, 2022. A photograph of each item is included with the description. This equipment is for TAAA members to checkout and use. Email [Ralph Means](mailto:Ralph.Means@taaa.org) for information or to schedule time for pick up.



Celestron 11" CPC series
Alt-Az fork mounted, with tripod and
GOTO. We have 2 of these telescopes.



Orion SkyWatcher 12" Collapsible
Dobsonian with 8x50 finder



Orion SkyWatcher 10" Dobsonian
with Telrad



Orion SkyQuest 10" Dobsonian with Telrad
and 8x50 finder.



Meade LX200 10" SCT, Fork Mount, GOTO, with 8x50 finder, in case.
With tripod. Training required for this telescope.



TAAA Equipment Loaner Program (Continued)



**Orion 10" Dobsonian black tube
8x50 finder**

NOTE from the Equipment Loan Coordinator:

I am looking for eyepieces for the loaner program. We do not have enough for an eyepiece kit for each telescope. If you have any sitting around that you are not using. Would you consider making a donation to the Club and the loaner program.

Thank you, [Ralph Means](#)



**Celestron 6" SCT, single fork mount, GOTO
with tripod.**



**Meade 4" SCT in case, with tripod,
battery pack, diagonal, and 2
eyepieces**



**Celestron 8" SCT, Single Fork
mount, GOTO**



**Orion SkyQuest XT-10 clas-
sic 10" Dobsonian, f 5.0, 1.25
focuser, 8x50 finder, push-to.**



Celestron Nexstar 6" SCT, diagonal, and eyepiece



Stellar Vue 85mm Refractor

TAAA Equipment Loaner Program (Continued)



Eyepiece Case #1: Black Orion Case
5 1.25-inch Celestron Multi Coated X-Cell LX eyepieces: 25mm, 18mm, 12mm, 9mm, 7mm focal lengths. 6x30 finder and diagonal.



Eyepiece case No. 2
Black Orion Case contains a 2" Hyperion-Aspheric 72-degree 36mm and 1.25" Hyperion eyepieces: 8mm, 13mm, 17mm, 21mm, and 24mm.



Eye Piece Case #3
1.25" AstroTech Paradigm in 8mm, 12mm, 15mm, and 25mm



Eyepiece Case #4:
Black Case. 5 Celestron X-Cell 1.35" eyepieces. Focal Lengths: 25mm, 18mm, 12mm, 9mm, 7mm



Eyepiece Case #5: Black case
Eyepieces: : 2" Celestron E-Lux 40mm, Meade 2" QX 26mm, 1.25" VLW 13mm, VLW 17mm, Orion 9mm Plossl, Orion 6mm Kellner, Unknown 32mm, Unknown 25mm, Ortho, 20mm Kellner 20mm, Unknown crosshair, 1.25", Kellner .965",
Other: 2" Extension Tube, 1.25" extension tube, 2" Nebula filter, 3x Barlow, 1.25" Orion diagonal dielectric mirror



Eyepiece Case #6. Small Silver case
8 Meade Super Plossl 1.25" eyepieces.
Focal Length: 40mm, 32mm, 26mm, 20mm, 15mm, 12mm, 9.7mm, 6.4mm,
12mm Illuminated reticle, 1.25" eyepiece
1.25" diagnol.



Case #7. Silver Case.
Misc. A couple of eyepieces and numerous filters. Will get this sorted and inventoried shortly