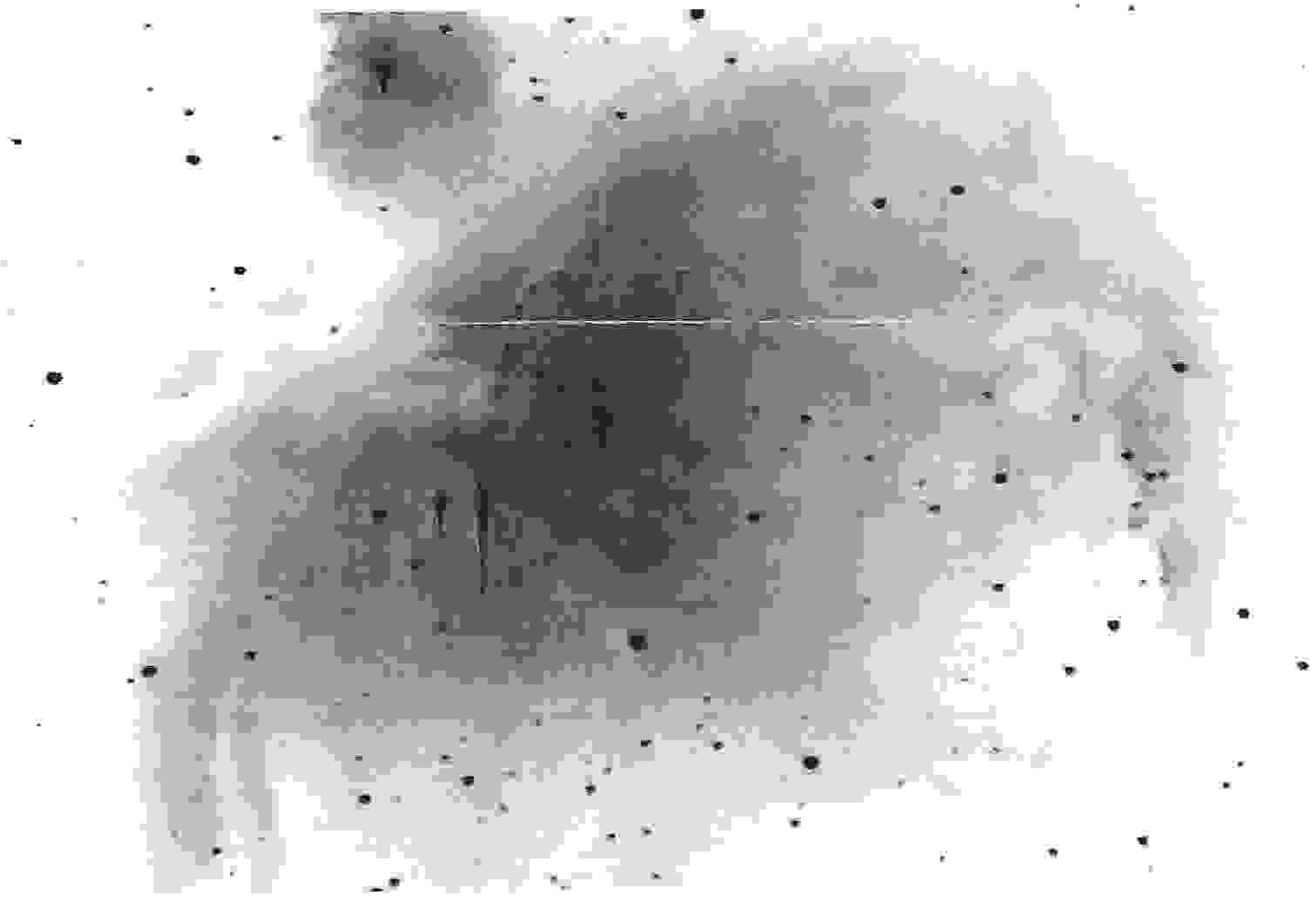
Desert Skies

Tucson Amateur Astronomy Association

Volume XLVII, Number 10 October, 2001



M42—A CCD Image

Calendar of Events

BEGINNERS LECTURE: Oct 5, 6:30 pm at the Steward Observatory Auditorium – Room N210. This month's topic is *Piggyback Astrophorography with a 4.5" Newtonian* by Ed Finney.
GENERAL MEETING: Oct 5, 7:30 pm at the Steward Observatory Auditorium – Room N210. Tonight is Members Night, with topics given by various TAAA members.
BOARD OF DIRECTORS MEETING: Tuesday, Oct 9, 7:00 pm at Steward Observatory Conference room N305.
STAR PARTIES AND EVENTS:

Oct 4- Astro-Photo Special Interest Dinner
Oct 8 - Immaculate Heart Middle School
Oct 9 - Immaculate Heart Middle School
Oct 11-Desert View High School
Oct 11-Christ Presbyterian Church
Oct 13- TAAA Fall Star-B-Cue at Kitt Peak
Oct 19-Donaldson Elementary School
Oct 20-Desert Museum Star Party
Oct 23 - Desert Springs Academy
Oct 27-National Optical Astronomy
Nov 10-Whipple Observatory Visitors Center

Newsletter Schedule: Deadline for articles: Mon, Oct 15. Printing: Mon, Oct 22. Folding Party: Tues, Oct. 23. Mailing: Wed, Oct. 24. The newsletter is mailed at least one week prior to the following month's General Meeting.
Cover: M42, five one minute exposures stacked taken with a 10" SCT from the TIMPA site on August 22nd, 2001, by Andrew Cooper.

TAAA Web Page: http://www.tucsonastronomy.org **TAAA Phone Number: (520) 882-1950**

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Membership in the TAAA

Annual Dues

Individual membership	$ 23
Family	$ 28
Senior (over 60) membership	$ 21
Senior Family (at least one over 60)	$ 26
Student membership (over 18 years old)	$ 15

Family Membership includes two adults plus minor children. Persons under 18 may join at a special Reduced Family Membership rate ($15/yr) upon parental or guardian acknowledgement of participation in TAAA activities. Call the Treasurer to request the required form.

Options (add to above membership rates)

Tucson society of the Astronomical League (TAL) dues	$ 3.50
Sky & Telescope Magazine	$ 29.95
Astronomy Magazine	$ 29.00
Postage for New Member Pack	$ 3.50

Donations are accepted for any of the TAAA funds: SA-IDA/Light Pollution, TIMPA, Education, 30" Telescope & Land, or General Fund.

Renewal Information

- Membership expires the last day of the month indicated on your mailing label. You will receive a renewal notice when they are due.
- TAAA members may join the Tucson society of the Astronomical League (TAL). TAL expiration will match your TAAA expiration.
- Discounted Sky & Telescope or Astronomy magazine subscriptions are available to members and can be started or renewed at anytime. Only single year subscriptions are accepted. Allow at least 3 months for processing. Subscriptions must be sent through the TAAA. *Do not send money directly to the magazines.* To change an individual subscription to the group rate, send the above subscription amounts and your magazine renewal notice to the TAAA treasurer.
- To ensure proper credit to your account, please include a note explaining what you are paying for. Credit cards are not accepted. Write one check or money order for dues plus any options or donations. Make it payable to TAAA and send to:

Tucson Amateur Astronomy Association
PO BOX 41254 Tucson, AZ 85717

Mailing Address or Email Changes - Send changes to the above address or email the treasurer.

TAAA Mission Statement - We are a resource for anyone interested in astronomy. It is our mission to nurture a person's natural curiosity about the night sky. By giving people a knowledge and understanding of astronomy, we enhance their enjoyment of the sun, moon, and stars. Through our public activities and school evening observing sessions, we bring astronomy to persons of all ages. Our regular meetings and observing sessions offer members a forum to meet others with similar interests and experiences and to learn from one another.

Desert Skies Publishing Guidelines - All articles, announcements, news, etc. must be submitted by the newsletter deadline noted above. Materials received after that date will appear in the next issue. The editor retains all submissions unless prior arrangements are made. Partial page submissions should be submitted in Word compatible files via e-mail or on a floppy disk. Full-page articles, artwork, and photos can be submitted camera ready. We will not publish slanderous or libelous material! Send submissions to:

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President's Message

I am writing this under a sky dark with stars, the moon has set and the real work of the evening can begin. The CCD and mount are aligned and focused, ready to go. Fortunately, the process is automated once on target and I can spend time just watching the sky or enjoying good company.

Waiting for the computer does give one time to think of the recent events and the immensity of space. The events of the last week have shaken us all. So what do we do from here? We do what we always do... live our lives. But hopefully, with a little more appreciation for what we have.

In order to help in that appreciation, we have again arranged for the use of the renowned Kitt Peak skies for a star party/barbeque this month. I hope you can join us for a little camaraderie, renewing friendships and doing what counts in life. We are also planning an outing for the Leonids next month, in conjunction with our monthly TIMPA star party.

I hope everyone can join us for our semi-annual public event at the Desert Museum on the 20th, all scopes are needed as this event has grown each year. This is our chance to share with our community an appreciation for the universe around us and the beauty of the skies that drives us to build ever larger telescopes to explore the heavens.

For the first time in months, we have a full school star party schedule, events all across town that give all members another chance to give something back to our community. Show a child and their families the stars! I realize that school star parties are so often one of the events that give a little sanity to my life. Every time I see a child's eyes light up with the view in the eyepiece, a little light is added to my own heart.

Faced with the vastness of the universe, the hatreds that caused so much tragedy seem so petty and insignificant. Maybe we can show a few of our fellow citizens something that restores a little of that childlike wonder that so expresses the best of humanity.

Andrew

Meeting Information

Beginner's Lecture

Title: "Piggyback Astrophotography with a 4.5" Newtonian"
Speaker: Ed Finney

In the second of two Beginner's lectures on piggyback photography, Ed Finney will discuss modifications made to his 4.5-inch reflector to improve its optical quality and mechanical stability and to permit it to carry a 35mm camera for time-lapse photography. He will also reveal some of the "lessons learned" in the first 3 rolls of film.

Regular Lecture

Member's Night

Again we give everyone a shot at the limelight. Dust off those photos, bring in your latest projects, and show them off! As usual any member can sign up for their 15 minutes of fame. Contact Andrew Cooper at taaa@seds.org or 235-3283 to sign up; first come first in front of the audience.

Club News

Astro-Photo Special Interest Dinner

4 October, 7pm
China Rose, NW corner Rosemont/Speedway

As is our standard, the Astro-Photo SIG will be meeting the evening before the October TAAA meeting. The monsoons have passed and there have been some good opportunities for getting some new astro-photos. I know there were some good crowds at Empire a couple weeks ago, and I've been having fun with my home-built 10" and Lumicon Off-Axis Guider for a few nights. So join us at the China Rose to see what is new image-wise and make some plans to go out now that we have good weather again. I know we have a Kitt Peak outing in a couple weeks, the All-Arizona Star Party and my annual fall trip to the Chiricahuas, all good opportunities for taking some great new images. See you there!
Dean Ketelsen, 293-2855

Star Party Volunteers

By: Robert Wilson

If you are on the star-party volunteer list, or if you would like to be, please submit current information to the volunteer coordinator. The list I have is old and not as effective as it should be when I have to recruit members to cover some of our events, and it is important that we be able to provide the required number of volunteers for school star parties. Please send your name, email address, a phone number, and the area in which you live relative to central Tucson (e.g., NW, C, SE, etc.) to rasjwilson@alo.com or call me at 744-0263. Thanks, and I'll be in touch.

Club News (cont.)

Calendars for 2002

We are now selling calendars for 2002. Kalmbach Publishing who publishes Astronomy Magazine produces these stunning calendars each year. Ann Scott will sell them at our meetings until our supply runs out. The cost is $10 each (~$2 off the regular selling price), or $9 each for more than one. They make great gifts. This calendar, which features a full-color astronomical photo, image, or painting each month, has daily information about astronomical events, both historical and observational...plus space for adding important events you need to remember. This year there are a number of European Southern Observatory images and a super Hubble image of the area near Eta Carina.

Proceeds from the sale of these calendars will be used appropriately as decided by the board. Thank you to all who support the TAAA through the purchase of the yearly calendars.

Solar Weekend in Tucson

A three-day solar program will be held in Tucson October 5th through 7th at the Sheraton Tucson Hotel located at 5151 East Grant Rd. The first day (Friday) is for teachers and the second day (Saturday) is geared towards amateur astronomers. Attendance for both these events is limited and there is a small attendance fee. Sunday there will be solar observing at Ft Lowell Park, which will be open to the general public, so even if you don't attend the Saturday or Sunday event, you can still drop by the park and see what the sun is up to.

Saturday's event is a series of lectures and panel discussions with speakers Jack Newton (world renowned astro imager and author), Dr. Antonio Sanchez Ibarra (Solar physicist from the University of Sonora), David Lunt (optics designer and founder of Coronado Instruments), Rick Fienberg (editor in chief Sky & Telescope), and David Levy (world famous comet finder). There is a $25 fee for Saturday's event ($45 for both Saturday and Sunday).

Additional information can be learned at www.coronadofilters.com, by calling Coronado Instruments at 520-740-1561, or by e-mail at info@coronadofilters.com. Checks, payable to Coronado, can be mailed to Coronado, 9121 East Tanque Verde Rd. Ste 105, PMB 320, Tucson, AZ 85749.

TAAA Fall Star-B-Cue at Kitt Peak October 13 (Saturday)

By: John Kalas

The TAAA has scheduled a star party and barbecue at the picnic grounds up on Kitt Peak on Saturday, 10/13, starting at 4:00 pm. A maximum of 60 TAAA Members and families will be allowed to participate. The ramada gas-fired barbecue grill will be fired up starting at 4:30 pm and members are invited to cook their dinners between 4:30 and 6:30 pm. Bring a dish to share with other members. The grill will be turned off at 6:30 pm. Telescope observing will commence after sundown and will be concluded by 11:30 pm. All members must be heading down the mountain by midnight. Be prepared for cold temperatures.

There will be a sign-up sheet at the October 5th meeting. Because of the popularity of this event, attendance will be initially limited to TAAA Members and their immediate family members only. If, after all TAAA Members have had an opportunity to sign up, there are any openings or cancellations, the attendance of guests will be considered. If you are unable to attend the October meeting, phone and e-mail reservation requests will be taken on a first come, first serve basis after 9:00 am Saturday, 10/6. Contact John Kalas at 620-6502 or via e-mail at <jckalas@aol.com>.

It is very important for all attendees to abide by the rules established by Kitt Peak and respect the facility. Adherence to the rules will help to continue TAAA activities on Kitt Peak in the future.

1. No vehicles are allowed above the picnic grounds after 4:00 pm.
2. Only the ramada gas-fired barbecue grill is permitted for cooking food at the picnic grounds. No open fires or use of the personal barbecue grills is permitted.
3. All trash must be placed in the garbage receptacles.
4. Use of cellular phones and radio walkie-talkies is prohibited.
5. No alcoholic beverages are permitted.

When leaving the picnic grounds after dark, if possible, use your parking lights until you have reached the main road and are headed downhill after exiting the picnic area.

A Halloween Star Party!

By Terri Lappin

Halloween...little ghosts, goblins, and space aliens abound! What better time to treat these creatures to a peak through your telescope? This year we have a full moon, so faint stuff is out, but Mars will be in the west and Saturn will be rising in the east. The best part is spending the evening out in the October night air. It's far more pleasant than being indoors with the doorbell ringing every few minutes! Several TAAA members have participated in this event and I've heard from plenty of members about how much they enjoyed themselves, not to mention the kids and the parents. Here are a few guidelines to help make your Halloween a success.

Set up your telescope near the sidewalk with a jack-o-lantern or similar attention getting, but dim, light source nearby. Spooky music gets attention too! Make sure power cords don't become trip hazards. Leave your patio lights off to draw kids away from your front door and towards you and your telescope. Be sure to have a steplad-

Club News (cont.)

der handy for the little ones. The tendency is for people to support themselves by leaning against the telescope so politely warn them not to touch the telescope. It's best to use an eyepiece with some eye relief. These are easiest for the public to use. While most masks have large openings for eyes, kids may see better if they remove their masks. I also recommend using an eyepiece you didn't pay too much for since it will most likely be smeared with make-up or sticky fingers.

If you live in a neighborhood with bad lighting, use this casual observing session to make your neighbors aware of light pollution and how it affects our ability to see the night sky. Don't make it a lecture, but just make them aware of the problem.

I am interested in hearing your Halloween observing experiences. Tell me how many kids/adults look through your telescope and what objects you showed them. I hope that TAAA members can make every Halloween into a successful neighborhood star party.

TAAA 2001 Holiday Party

Tentative plans have been made to hold this year's Holiday Party in the Rillito Room at the Tucson Racquet and Fitness Club on Friday night December 14th. There will be more details (time and expense) available at the October 5th meeting. Menu offering will be announced in the November newsletter. Reservations may be made starting at the October meeting.

Beginners Lecture Speakers Needed

Note: The phone number and e-mail for Ray Wallace was incorrect in last month's newsletter. The corrected information appears below:

Have you ever considered giving the Beginner's lecture? It's not as hard as you might think. The club is always looking for someone who is willing to share the benefit of their experience. And, if you can't come up with a topic, Ray has a number of topics, which would greatly benefit those who are new to astronomy, as well as the seasoned astronomer. This gives you a chance to learn something new, as well as help others. So, step up to the spotlight! Give Ray a call at 294-1197, or e-mail at raywallace@altavista.com.

Newsletter Cover Photos Needed

Perhaps you've noticed that every month, the cover of the newsletter prominently displays a photograph either documenting a club activity, or which ties in with the main lecture for the month. We have our usual contributors, but sometimes no one has an appropriate photo and we have to scramble. I would like to build a library of photos, which could be used in our newsletter whenever we needed a specific subject. If you would like to contribute, please send your photo to the newsletter editor. Be sure to include your name, so we can credit you, as well as details on how you obtained the photograph.

Items of Interest

WEBSITES: TRIPS ON THE INTERNET SUPER-SKYWAY

By Rik Hill

Time and Tide

Recently, on television, a multipart docudrama called LONGITUDE was aired. It is based on the historical book of the same name by Dava Sobel (author of GALILEO'S DAUGHTER) and is an excellent work, I highly recommend it. It details the efforts of astronomers and horologists to help sailors determine their positions at sea with accuracy and precision. Most particularly it centers on the life and work of John Harrison, a master horologist who finally solved the problem by making the most accurate clocks ever seen at that time.

Finding longitude at sea was one of the biggest problems in astronomy for the late 17th and first half of the 18th centuries. It required that a clock at sea be very accurate and keep Greenwich time so that the difference between that and local time of the ship underway, determined by star observations or solar measurements, could be used to then determine position. A prize was established by the British government and standards set for the attainment of that prize.

I read the book on the plane to Madeira island where we attempted to observe the occultation of Titania mentioned in this column last month. On the way back I stopped for a few days in London and seeing these clocks was very high on my list. Currently they are on exhibit at the Royal Observatory Greenwich (RGO), an outstanding British astronomical museum that should be on the list of every astronomical traveler to England.

But, not many are likely to be traveling those distances for a while. Here's where the internet can take you on the tour! The RGO, in conjunction with the National Maritime Museum (also a must see and just down the hill from RGO) have put together a wonderful website about the Harrison clocks and how they led to the accurate determination of longitude at sea. The URL is:

http://www.rog.nmm.ac.uk/museum/harrison/

All four of the clocks that Harrison built to meet these standards are shown on the website along with an abridged history. One could wish that they had little MPEG animations of them in action but just to see them is pretty good. They are works of art not only in their movement

Items of Interest (cont.)

but also in their presentation. The polished brass and steel, the deep rich color of the oak gears is a wonder. The more you learn about these the more you will marvel at the mind of Harrison and intricacies of these chronometers.

The book by Sobel and the video/DVD of LONGITUDE are available from a number of sources like Amazon.Com, and barnesandnoble.com as well as your local bookstores like Barnes & Noble or Borders. A review of the docudrama can be found at:
http://news.bbc.co.uk/hi/english/sci/tech/newsid_241000/241228.stm

The RGO also has a nice 45 min. video about Harrison and his clocks available, along with their own little concise history of Harrison. They can be ordered online at:

http://www.nmm.org.uk/system/index.html

Take a few minutes to check this out. I think you find it well worth your.....time!

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As always, if you know of a particularly good website you would like mentioned here, drop me a line at
rhill@lpl.arizona.edu

All Arizona Star Party

October ~~19th~~ 12 & ~~20th~~ 13

Join amateurs from all across Arizona at the 2001 All Arizona Star Party. Put together by our freinds from the Saguaro Astronomy Club we will again use the Arizona City site for two nights of stargazing. For more information and directions see our website's Calendar page or contact Andrew at taaa@seds.org. Further details will be posted on our page when we get them.

Name a Space Telescope

By: Andrew Cooper

The upcoming SIRTF (Space Infra-Red Telescope Facility) is looking for a name. This is the latest in the NASA Great Observatories series. The previous telescopes in this series have been named for recent astronomers; Hubble Space Telescope, Compton Gamma Ray Observatory, Chandra X-Ray Telescope. Submissions must be submitted on-line and accompanied by a short essay (250 words or less). A few name selection rules... (1) The Observatory name must be simple and easily pronounced. (2) The Observatory does not have to be named after a person. However, if a personal name is proposed, that person must be deceased, in accordance with NASA's long-standing practice. (3) The Observatory cannot use a name already adopted by any previous, present, or future astronomical observatory (domestic or international). (4) The Observatory name cannot include terms reserved for ongoing NASA flight programs (e.g., Explorer, Discovery, Navigator). Submit your idea at http://ipac.jpl.nasa.gov/naming/name_contest_guidelines.html

White Sands Star Party

By: George Barber

The white sand dunes of pure gypsum were the setting for the third annual White Sands Star Party. This was certainly the most unique place I have ever observed. Imagine pitching your tent and setting up your telescope in a place that looks like Nome, Alaska but isn't freezing cold!

Sponsored by the Alamogordo astronomy club, the Alamogordo Space Museum, Apache Point, National Orbital Debris, and National Solar Observatories, and in cooperation with the White Sands National Monument, the star party was a public event designed to raise awareness of Project ASTRO. About 100 astronomers and family members participated in the three-day event, lasting from September 21 through 23. These astronomers journeyed from New Mexico, Colorado, Kentucky, Texas, and Arizona.

Friday and Saturday evenings started with a keynote speaker, followed by a constellation talk. Friday's speaker was John Briggs, from the National Solar Observatory. His presentation was "George Ellery Hale and his Magnificent Solar Telescopes". The Saturday evening presentation was "Working in a Professional Observatory", by Jack Dembicky of the Apache Point Observatory.

After the talks, the telescopes were open for public viewing until 11:00 pm. We had around 100 people each night who entered the telescope area and enjoyed the various objects we showed them.

Numerous activities were scheduled for Friday, Saturday, and Sunday. There were project ASTRO activities for the kids, IMAX films, free admission to the Space Museum, and tours of the above observatories. The Alamogordo club also provided a Saturday evening pizza party for all of the astronomers!

The skies over the national monument are normally quite dark, but the state of alert at nearby Holloman Air Force Base generated a light dome in the east. Friday's skies started clear, then became cloudy at about 11:30 pm. Saturday's skies were very challenging at first, with only the tiniest "sucker holes" available. But those who were persistent were rewarded, because by 10:30 pm the skies cleared and were rather steady. Both evenings, thunderstorms over the distant mountains provided a stroboscopic backdrop to our viewing. A few meteors also streaked the skies.

In the darkness of Saturday morning, a mysterious monolith, 1 foot x 4 feet x 9 feet, appeared atop one of the sand dunes. As the sun rose, the theme from "2001 -

Star Parties & Events

A Space Odyssey" awoke all of the campers! I'm still waiting for the 1000x increase in my I.Q. , or at least a moment of enlightenment.

All in all, I enjoyed the opportunity to attend the White Sands Star Party, and hope to do so again in the future.

Star Parties & Events

Immaculate Heart Middle School North
October 8 (Monday) and October 9 (Tuesday)
No. of Scopes: 3, each night

Rather than one large event, this star party is being split into two groups and will be held on two, successive evenings. We will be supporting the 6th and 7th grade science classes of Karen Fisher. The star parties are actually going to be located at the Iris Dewhirst Trail parking lot which is located at the east end of Magee Road. Take Oracle Road to Magee Road (1 mile north of Ina Road) and turn right (east). Proceed east for approximately 1.5 miles to the end of the road. The parking lot will be on your right. The set-up area will be located near the center of this parking lot. Set-up is at 6:15pm with observing from 6:45pm to 8:30pm. Note: this parking lot closes at 9:00pm so be sure to allow adequate time to pack up your equipment. Jeff Buzek will be the star party leader for both evenings. A sign up sheet will be available at the October meeting.

Desert View High School Star Party South-Central
October 11, (Thursday) No. of Scopes: 3

This star party is to support Jim Treat's science class. The school is located at 4101 E. Valencia Road (on the north side of Valencia, east of Alvernon and West of I-10). Set-up will be at 6:00 pm in the faculty parking lot's southeast corner. Observing will run from 6:30pm to 8:30 pm. A star party leader is needed for this event and a sign up sheet will be available at the October meeting.

TAAA Fall Star-B-Cue at Kitt Peak
October 13 (Saturday)

See article in the ***Club News*** section.

Christ Presbyterian Church Star Party Northeast
October 17, (Wednesday) No. of Scopes: 4

This star party is to be held at the St. John on the Desert Presbyterian Church located at 2695 N. Houghton Road. Take Tanque Verde Road east to Houghton and go north for approximately 1 mile. The church is on the west side of the street. The set up area will be at a designated area of the parking lot. Set-up is around 5:45pm with viewing running from 6:15pm to 8:30pm. A star party leader is needed for the event, and a sign up sheet will be available at the October meeting.

Donaldson Elementary School Northwest
October 19, (Friday) No. of Scopes: 8

This is to be a large event and a strong showing on our part is needed. The school is located at 2040 W. Omar Drive. Take Ina Road west from Oracle Road to la Cholla Blvd. Turn left (south) and proceed for ½ mile. You will see a gate to the school entrance on the left side of La Cholla. Proceed through the gate and look for an open area on the north side of the school buildings. This is the set up area. Set up is at 5:30pm with observing from 6:00pm to approximately 8:30pm. A star party leader is needed for this event and a sign up sheet will be available at the October meeting. Note: a $100.00 donation will be provided to the TAAA and free pizza and soft drinks will be provided to all TAAA volunteers!

Desert Museum Public Star Party
October 20, 2001 (Saturday)

The Desert Museum is hosting its annual Fall star party. This is always a very popular and fun event, with hundreds of people attending. We need as many TAAA members as possible to make a good showing.

Plan to start setting up at 5:45 pm in the Museum's lower parking lot. Viewing begins with the crescent moon (which sets at 9 pm) and continues until 11:00 pm. Remember that the museum will be closed at this time. The event will be canceled if there is thick cloud-cover or rain. Be sure to prepare for quickly falling temperatures after sundown. Refreshments will be on sale.

The Desert Museum is on the far west side of town. Take either Gate's Pass or I-19/Ajo, and follow the signs.

Desert Springs Academy Star Party Southeast
October 23, 2001, (Tuesday) No. of Scopes: 3-4

The academy will be holding this event at Pantano Christian Church at 10355 E. 29th Street. Take Speedway Blvd east to Houghton Rd and turn right (south). Continue south until you reach 29th and look for the church on your left. The set-up area is on a parking lot that is located on the southeast side of the church. Set-up is at 5:45pm with viewing from 6:15pm to 8:00pm. A star party leader is needed for this event and a sign up sheet will be available at the October meeting.

Star Parties & Events (cont.)

Nat'l Optical Astronomy Observatory Kitt Peak
October 27, 2001, (Saturday) No. of Scopes: 5-7

Take Ajo Way (Route 86) west from I-19 about 56 miles. Go past Pan Tak on the Tohono O'odham reservation and look for the 386 junction and the sign for Kitt Peak. Turn left and proceed 12 miles. The Visitor Center parking lot will be on the left where the road ends, and the Visitor Center will be straight ahead. Members should check in at the Visitor Center for directions to the set-up area, which will be at the 36" just opposite the WIYN telescope . Members may drive to the set-up area to unload and then return their cars to the visitor lot Members should understand that there will be testing at the 36", so it is imperative that we follow all observing protocols, especially when returning with cars to pick up equipment at the end of the evening. Set-up is at 5:00pm. For anyone interested in doing solar observing, set-up is at 3:00pm. The event will last until 9:30pm. Robert Wilson will be the star party leader. A sign up sheet will be available at the October meeting.

Whipple Observatory Visitors Center Star Party
November 10 (Saturday)

Observing will begin after 6:15 p.m. courtesy of telescopes provided by the Tucson Amateur Astronomy Association and Sonora Astronomical Society.
3 p.m. Visitors Center opens.
5 p.m. Informal lecture on astronomy by Whipple Observatory staff.
6:15 p.m. Observing begins (next to Visitors Center)

Binoculars and small flashlights are useful to bring. Please cooperate with staff directing parking when you arrive. The parking spaces nearest the building are reserved for TAAA/SAS members and their telescopes. Visitors should park along the driveway or in the parking area outside the gate or along the road as directed. (Please note: Visitors will be allowed to park cars next to the building in the space usually reserved for telescopes until 4 p.m. At that time, visitors will have to move their cars to other parking spaces so that telescopes may be set up.) For more information call 670-5707. In case of threatening weather, call 670-5707 after 3 p.m. on the 10th for information about star party cancellation. Se habla Espanol. See website http://cfa-www.harvard.edu/cfa/ep/starparty.html for location and background information.

TIMPA Site News

TIMPA Work Party
27 October

Keep up the progress! We again go to the TIMPA site and continue the progress we have made all summer. We will be working on the observing pads to ready this area of the site for use. Contact Andrew Cooper at taaa@seds.org if you would like to join in the effort.

Dark Skies for October 2001

DARK SKIES (no twilight, no moonlight) for Tucson in 24-hour MST: 18=6pm,20=8pm, 22=10pm, 0=12am
RISE, SET, VISIBILITY for sun and bright planets: rise for morning object, s=et for evening object

Su/Mo	30/ 1	- - -	Th/Fr	11/12	19:17 - 1:36	Su/Mo	21/22	21:47 - 5:11
Mo/Tu	1/ 2	FULL MOON	Fr/Sa	12/13	19:16 - 2:45	Mo/Tu	22/23	22:40 - 5:12
Tu/We	2/ 3	- - -	Sa/Su	13/14	19:15 - 3:55	Tu/We	23/24	23:35 - 5:12
We/Th	3/ 4	- - -				We/Th	24/25	0:30 - 5:13
Th/Fr	4/ 5	19:26 - 19:38	Su/Mo	14/15	19:14 - 5:04	Th/Fr	25/26	1:26 - 5:14
Fr/Sa	5/ 6	19:24 - 20:12	Mo/Tu	15/16	19:12 - 5:07	Fr/Sa	26/27	2:20 - 5:14
Sa/Su	6/ 7	19:23 - 20:51	Tu/We	16/17	19:11 - 5:07	Sa/Su	27/28	3:15 - 5:15
			We/Th	17/18	19:10 - 5:08			
Su/Mo	7/ 8	19:22 - 21:35	Th/Fr	18/19	19:28 - 5:09	Su/Mo	28/29	4:09 - 5:16
Mo/Tu	8/ 9	19:21 - 22:26	Fr/Sa	19/20	20:11 - 5:10	Mo/Tu	29/30	5:05 - 5:17
Tu/We	9/10	19:19 - 23:24	Sa/Su	20/21	20:57 - 5:10	Tu/We	30/31	- - -
We/Th	10/11	19:18 - 0:28				We/Th	31/ 1	FULL MOON

Weekend	Sun	Sun	Mercury	Venus	Mars	Jupiter	Saturn	
Sa/Su	Set	Rise	Set Vi	Rise Vi	Set Vi	Rise Vi	Rise Vi	Vi=Visibility
29/30	18:09	6:15	18:56 7	4:14 -2	23:32 0	23:43 -2	21:43 0	-3 brilliant
6/ 7	18:00	6:20	18:25 -	4:27 -2	23:25 0	23:18 -2	21:16 0	0 conspicuous
13/14	17:51	6:25	Rise -	4:40 -2	23:20 0	22:53 -2	20:47 0	3 moderate
20/21	17:43	6:30	5:26 7	4:53 -1	23:15 0	22:27 -2	20:19 0	6 naked eye limit
27/28	17:36	6:36	5:09 3	5:06 -1	23:11 0	22:00 -2	19:50 0	9 binoculars limit

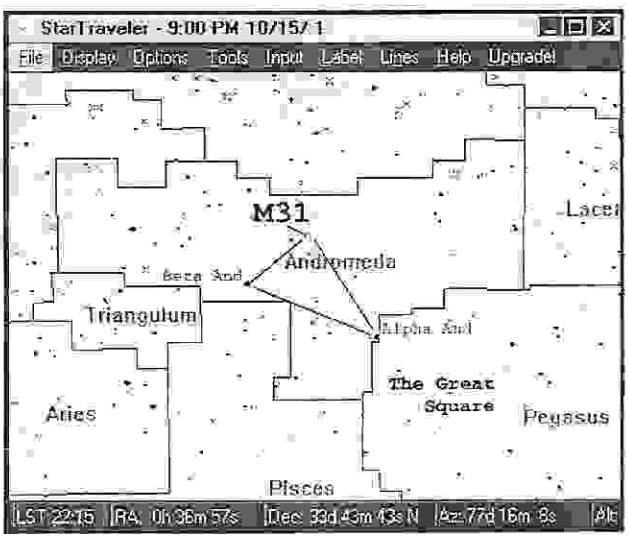
By Erich Karkoschka

Object of the Month by Alfredo Garcia, Jr.

This month, the Object of the Month (OTM) is a fantastic site in just about any size telescope (or pair of binoculars) and is visible to the unaided eye. A myriad of data exists on this object, so I will cover only some of the highlights.

This object belongs to one of the most wondrous class of objects we have to observe in the sky, galaxies and in particular spiral galaxies. Spiral galaxies, like our Milky Way Galaxy, abound in the universe. The best of these awe inspiring objects is found in a constellation named after a Greek Princess, the daughter of the Queen Cassiopeia and rescued from her demise by the hero Perseus on the winged horse, Pegasus. This princess is of course none other than the beautiful Andromeda and within her within her boundaries she harbors the celestial jewel that is the Great Andromeda Galaxy (or Messier 31), our OTM. And great and beautiful like the princess this galaxy is indeed!

The Great Andromeda Galaxy is our nearest, large neighboring galaxy forming part of the Local Group of Galaxies, which includes our own Milky Way. M31 was in recorded observations by Persian astronomers as early as 905 AD. Charles Messier cataloged it as number 31 in his list of diffuse objects on August 4, 1764, making the comment: "a beautiful nebula of the belt of Andromeda, shaped like a spindle...".



M31 is a naked eye object and easy to find. If you go out observing (from the Tucson area) around mid-October at about 9:00 PM Local Time and look to the northeast sky, you will find M31 at an altitude of about 65 degrees above the horizon, placing it high in the sky for observation. It forms a good triangle with the stars Alpha and Beta Andromedae (see map). You will observe it as a "fuzzy patch" almost 3 x 1 degrees in size! This makes it six times as long and twice the width of the size of the Full Moon. M31 has a visual magnitude of 3.5 making it bright as well. For those with setting circles or automated go-to scopes, it is located at RA 0h 42m 48s and at DEC +41d 16m 34s.

Andromeda Galaxy is even more spectacular in a wide field astrophotograph or CCD image, as shown here.

The accepted distance to the Andromeda Galaxy is 2.3 million light-years. Some mass and disk diameter estimates place M31 at about four times as massive as the Milky Way and about the same size of 100,000 light-years across. French astronomer Robert Jonckhere in 1952-53 placed M31 at a distance of 2.9 million light-years and with a disk diameter of 200,000 and mass less than that of our galaxy. It has a substantially large population of globular clusters (about 600). Our own Milky Way only has about 250. The overall star formation rate in M31 is remarkably low compared to other spiral galaxies. Andromeda has two bright companions, cataloged by Charles Messier as M32 and M110. These two of a total of 10 known companions. M32 and M110 are visible in the small telescopes and binoculars. They belong to another class of galaxies known as elliptical galaxies.

The Hubble Space Telescope took an image of M31's nucleus and found it to contain what may be a double nucleus. Astronomers believe that it either actually has two bright nuclei or only one that is obscured by dark material. In the first case, the second nucleus may be a remainder of another galaxy (from the Local Group) that Andromeda "consumed" during the early development history of the Local Group. Or in the second case, the duplicity of Andromeda's nucleus is an illusion caused by a dark dust cloud obstructing parts of a single nucleus in the center of M31.

Only one supernova has ever been observed and recorded among Andromeda's stars. This was Supernova 1885, also designated S Andromedae. It was the first supernova discovered beyond our Milky Way Galaxy. The credit for its discovery on August 20, 1885, went to Ernst Hartwig (1851-1923) at Dorpat Observatory in Estonia. The supernova reached a maximum magnitude of 6 between August 17 and 20 and was independently found by several observers. However, only Hartwig realized its significance as an extra-galactic event. It faded to magnitude 16 in February 1890.

October holds some of the best observing skies for us here in Tucson, so go out and find this wondrous galaxy we call M31 and ponder at her majestic beauty and place in the universe. And ask yourself what our own Milky Way Galaxy must look like from her skies. Or better yet, ask yourself if any one is looking back at you wondering the same thing!

TAAA Board of Directors Meeting - September 11, 2001

Location: Steward Observatory Conference Room N305 University of Arizona
Call to Order: 7:10 pm
Board Members Present: Andrew Cooper, Thom Peck, Terri Lappin, Jane Tongate, Bill Lofquist.
Board Members Absent: Steve Peterson, Robert Callanan
Other Members Present: Past President John Kalas, Liz Kalas

1. Changes to the agenda: Item 9 was added to the agenda.
2. Events: Andrew Cooper read and reported briefly on the events through October 27.
3. Treasurer's report: Terri Lappin handed out the monthly balance sheet, no activity to report. Terri has received the Kinko credit cards. Terri and Roger Tanner will use them as needed for newsletter copying.
4. Insurance: A decision needs to be made regarding who will handle this, Terri or Robert Crawford. Terri stated that the City of Tucson needs to be added to our policy as well as property insurance. John Kalas will answer Mr. Crawford's inquiries and concerns than send an email out to the Board. Mr. Crawford in welcome to join us at our next meeting. Tabled until next meeting.
5. Kitt Peak Star B Que: John will check on date for October. John briefly mentioned that PR needed to be started for the Desert Museum star party.
6. Mt. Graham Trip: Andrew has begun talks about a club outing. There may be a vehicle restriction, may be limited to 25 people or $15/erson through the Discovery Center in Safford with a limit of 12 people plus Center staff. Looking at late spring.
7. TIMPA: Two items, work party needed to assemble 6' dome and schedule other miscellaneous tasks. Discussion ensued regarding whether we are ready to organize a work party to bring down the second dome. John expressed that it may take several trips. Andrew feels that it must be taken down completely then the next trip take it off the mountain. Terri felt that permits and drawings should be in hand before the move. There was concern about having the dome lay in pieces at TIMPA. This will be discussed at a later meeting. Andrew will organize a work party for October 27.
8. Club Calendar for 2002: This will remain as published in the September newsletter with the addition of the Holiday Party in December.
9. Holiday Party: Liz reported that all weekends in December were taken at the locations called. China Rose is still a consideration for December 15. The Board discussed renting a hall. Liz will try a few more places then report back. The Board would like to keep the dinner at $15/person.
10. Other Business: Andrew mentioned that the upcoming Leonid will be a two peak event, one in the western US on November 17/18 at 400/hr. He will work up something for the newsletter. John read a letter from the Tucson Radio Controlled Club (TRCC). TRCC has a site near Valencia and Houghton and they are extending an invitation for the club to use the site at night as long as a TRCC member is present. Seems a TAAA member belongs to TRC also. Sky Works gave the letter to John. The Board will need to discuss how to publicize. John has the TAAA/TRC member's name and phone number.

Meeting adjourned at 8:45 pm.
Respectfully submitted,
Jane Tongate, Secretary

Desert Skies Classified

FOR SALE:	Meade 8" LX-10 Schmidt-Cassegrain, with dec, motor, 8x50 finder, Meade field tripod, 9mm, 26mm x 32mm Plossl eyepieces, moon filter, variable tele-extender camera mount and Pentax adaptor, red LED maplight, books and other accessories. Contact king_mcp@hotmail.com, or call direct to 602-909-1039 (leave a message if there is no answer). Asking $1000 firm for all of the above, the scope is in Mesa. (11/1)
FOR SALE:	Orion Skyview Deluxe 6" Reflector telescope on a Skyview Deluxe equatorial mount. Two years old, perfect condition, signed by Thomas Bopp. Includes: Orion 25mm and 9mm eyepieces, finder scope and moon filter. Asking $350. Contact Martin Koenig at 219-3895 or e-mail at <robmartkoe@aol.com> after August 11. (11/1)
FOR SALE:	Elysium telescope mount made by Gary Rosenbaum. Includes Meade 12" f/10 Schmidt Cassegrain Telescope, 14" Mathis RA gear (micro lapped), ball bearing worm (6.5 arc sec periodic error), custom dovetail mounting bracket w/Losmandy plates on OTA, DEC tangent arm w/ 12VDC motor, 11.4" RA & DEC setting circles, 2 counterweights, NGF-S 2" motorized Crayford focuser w/digital readout, 8x50 finder scope, 2" Tele Vue star diagonal, two drive correctors, 12mm Kellner illuminated guiding eyepiece, counterweight bar with 3 weights for OTA. Everything in new condition. Asking $4000. Call Gary (520) 579-0185 or email garyr90@earthlink.net for info. Scope is in the San Diego area. (10/01)
FOR SALE:	One like new C11 tube assembly. Bought new May 17, used for the Southern Skies Star Party (since we didn't finish the scope we were building to take down there). Gives nice straight ronche lines on star test, good images on CCD camera. Has typical focus shift when reversing focus. Comes with 1.25" diagonal, 26 mm Plossle eyepiece, Celestron dovetail plate on bottom, 50 mm finder. Has David Levy signature on side. Asking $1450. Roger Tanner 574-3876 H or 621-1218 W. (10/01)
FOR SALE:	Canon AE-1 body with lenses listed below, with flash, 2X, and bag. 50mm 1:1.4; 50mm 1:1.8; 2 Close Focusing Zooms 1:3.5 and 1:3.8; Macro 1:2.8. All for $200. Pat Heimann, 882-5997(10/01)
FOR SALE:	Televue Genesis (the original) with Televue everbright diagonal, Telerad and Losmandy plate. The Genesis tube has some scratch from years of use, but no dents. The optics are in good condition. Asking for $1100. Please contact Ted Wu @ 806-3808 or CTGWC@AOL.COM. (12/01)
FOR SALE:	Like-New Orion Skyquest 8-inch Newtonian telescope on Dobson mount. Eddie Bauer Edition. Includes TelRad base, Finder scope, Lens Holder and 25mm Plossl eyepiece. FOB price at Skyworks is $601. Sacrifice to you for $444. Call Jeanpaul Sosville at 290-6017. (12/01)
FOR SALE:	REDUCED! Celestron C102-HD OTA on a CG-5 mount. New, 6x30 finder, 1 1/4" adapter, 90 degree diagonal, 20mm Plossl. $425 or $200 w/o mount. 615-2127 rogerbrubaker@earthlink.net (1/02)
FOR SALE:	Large shipping case for 10-14" SCTs. Tough rotationally molded ABS plastics with gaskets, in perfect condition. Outside dimensions are 24"L x 26"W x 36"H, subtract two in each dimension for inside dims. The high density foam inside is cut for a Meade 10" OTA. New this would be about $500, asking $200 for it. Contact Andrew Cooper at taaa@seds.org or 795-3585. (12/01)
WANTED:	Dome observatory. Minimum size 8' diameter, can be mobile or not. Please call anytime 822-5143 or email. sonskies@azstarnet.com (1/02)

Your ad will run for 4 months unless specified. Month and year of last appearance is last item of ad. For additions or changes to this list, call George Barber at 822-2392or e-mail at barbergj@flash.net.

Constellation Report by Chris Lancaster

Piscis Austrinus

The Southern Fish

This constellation is one of the more ancient ones, known to the Greeks and Romans as a single fish drinking from the water poured out of the jar held by Aquarius, which stands to the north.

The easy way to find Piscis Austrinus this time of the year is to look to the south near the meridian between 9pm and 10pm. About 1/3 the distance between the horizon and zenith is an area of the sky which is quite featureless to the naked eye. The exception to the blandness of this region is Fomalhaut, the constellation's only 1st magnitude star and the only star of this brightness within the immediate area. The closest star of similar stature is Altair, lying 77 degrees to the northwest and glowing at magnitude 0.8. Fomalhaut, the name of which is taken from the Arabic *Fum al Hut* which means "mouth of the fish", is an A3 type star only 22 light years away. Sometimes called the "Solitary One", Fomalhaut, when seen in mid-evening, signals the approach of cool autumn temperatures.

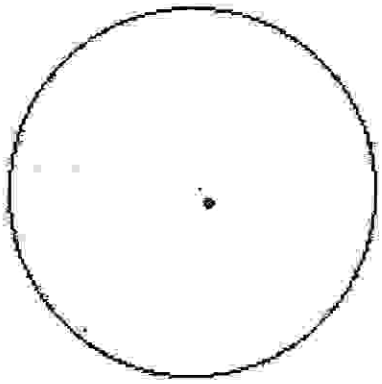
Oddly, Fomalhaut has been described by early astronomers as a red star. We've seen the same error made with Sirius, the brightest star in the constellation Canis Major (which is also the star with the brightest apparent magnitude in the sky.) These two stars are both at low declinations, so are frequently seen close to the horizon. It's probably this fact that makes the light from these stars refract through the Earth's atmosphere in such a way that makes them sparkle with prismatic colors.

Like all bright stars, Fomalhaut has held individual importance in many ancient civilizations. The Syrians saw it as a symbol of Dagon, their god of the sea. In ancient Persia, Fomalhaut, along with only three other stars (Regulus, Antares, and Aldebaran), was considered a "royal star" of heaven.

Piscis Austrinus has its fair share of galaxies, but they are all very faint and difficult for small telescopes. However, there are a couple we could hunt down. The brightest galaxy is NGC7314 (also known as ARP14), an 11.7 magnitude spiral at RA 22h 35.8m Dec -26° 03', or 1.5 degrees northwest of Epsilon (ε) Piscis Austrini. Its faint light is spread across 4.5'x 2.0'.

IC5271, 1.3 degrees south south-east of Delta (δ) Pisces Austrini, is a sharp-edged, 2.6'x 0.8' galaxy of magnitude 12.6, RA 22h 58m Dec -33° 44.5'. If at first you don't see it, try all the tricks for dim object observing—shielding your eyes from stray light with a hood or your hands, averted vision, or tapping the scope gently to induce a wobble in the image. Sometimes a moving object will snap into view.

An easier object is Beta (β) Picsis Austrini, a double star with a wide separation suitable for very low magnifications. Beta has a spectral type of A0, making it almost identical to Fomalhaut in color. Easy to find southwest of the bright star, Beta is widely separated with 30 arc seconds between the 4.4 magnitude primary and the 7.9 magnitude secondary.



Beta (β) PsA at 91x magnification