

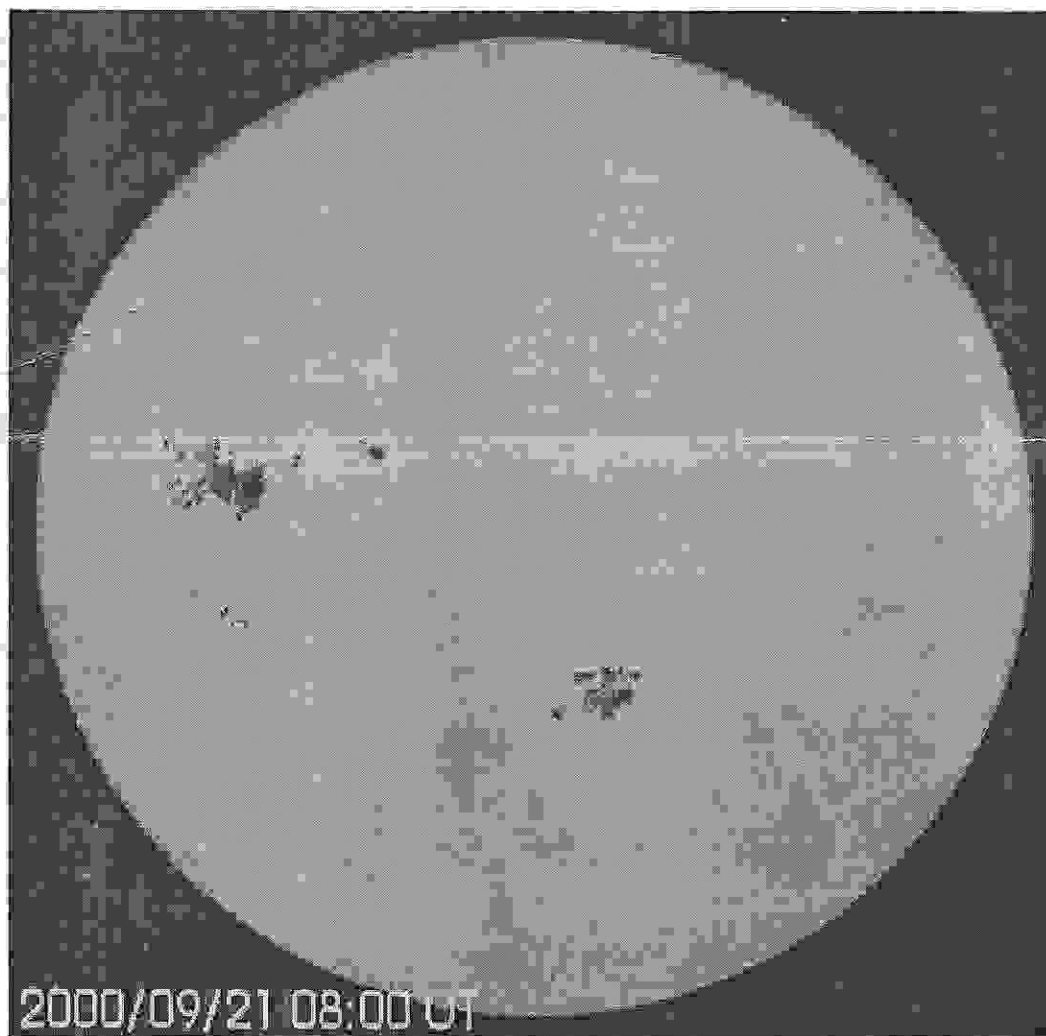


# *Desert Skies*

*Tucson Amateur Astronomy Association*

Volume XLVI, Number 10

October, 2000



## **SUNSPOT!**

THIS MAMMOTH SUNSPOT (ON THE LEFT) COVERS AN AREA EQUIVALENT TO ELEVEN ENTIRE SURFACES OF THE PLANET EARTH. IT IS THE LARGEST SUNSPOT IN NINE YEARS. SCIENTISTS ARE WATCHING THIS REGION CLOSELY FOR MAJOR FLARE ACTIVITY. THIS SUNSPOT COINCIDES WITH OTHER INCREASED ACTIVITY ASSOCIATED WITH THE SOLAR MAXIMUM. PHOTO WAS DOWNLOADED FROM THE WEBSITE <[WWW.SPACEWEATHER.COM](http://WWW.SPACEWEATHER.COM)>

## Calendar of Events

**BEGINNERS LECTURE:** Oct. 6, 6:30 pm at the Steward Observatory Auditorium - Room N210. This month's talk will be "Time and Calendars From Moses to Hubble" by TAAA Member John Polacheck.

**GENERAL MEETING:** Oct. 6, 7:30 pm at the Steward Observatory Auditorium - Room N210. The evening is a Members Night dedicated to member presentations.

**BOARD OF DIRECTORS MEETING:** *NEW DAY!* Monday, October 9, 7:00 pm at Steward Observatory Conference Room N305.

### STAR PARTIES AND EVENTS:

- Oct. 04 - Erickson E.S. Star Party
- Oct. 05 - Astrophotography SIG
- Oct. 17 - Desert View H.S. Star Party
- Oct. 21 - TAAA Members Star Party at Kitt Peak
- Oct. 21 - TAAA Star Party at TIMPA
- Oct. 24 - Marana H.S. Star Party
- Oct. 26 - Laguna E.S. Star Party
- Oct. 28 - TAAA Empire Ranch Star Party
- Oct. 28 - Whipple Observatory Public Star Party
- Nov. 4 - Desert Museum Public Star Party

**NEWSLETTER SCHEDULE:** Deadline for articles: Sunday, Oct. 15. Printing: Monday, Oct. 23. Folding Party: Tuesday, Oct. 24. Mailing: Wednesday, Oct. 25. The newsletter is scheduled to be in the mail at least one week prior to the following month's General Meeting.

### COVER:

TAAA Web Page: <http://www.tucsonastronomy.org>

TAAA Phone Number: (520) 882-1950

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President	John Kalas	620-6502	jckalas@aol.com
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Newsletter Editor	George Barber	822-2392	barbergj@flash.net
Star Party Coordinators	Maggie & Jeff Buzek	760-4578	jeffbuzek@aol.com

### 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 solar system and beyond. 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.

### Annual Membership in the TAAA:

Regular membership	\$ 23
Senior membership (over 60)	\$ 21
Student membership	\$ 15
Add for Family membership	\$ 5
Add for Astronomical League (optional)	\$ 3
Add for contribution to Southern Arizona Section of I.D.A. (optional)	\$ 3 (recommended minimum)
Add for Sky & Telescope Magazine Subscription	\$ 29.95
Add for Astronomy Magazine Subscription	\$ 29

Rates for membership are given above. Family Membership includes two adults plus minor children. Members may subscribe to *Sky & Telescope* or *Astronomy* magazine (or both) at the time of membership renewal, saving substantially over the regular subscription rates. To assure we understand what you are paying for, please identify which class of membership and what options you want. Send one check made payable to TAAA to cover membership dues, magazine subscription(s) and any contributions to:

Tucson Amateur Astronomy Association  
P.O. BOX 41254  
Tucson, AZ 85717

### Four Easy Steps to Membership Renewal:

1. Pay your dues 2-3 months early. Your month of membership expiration is listed on your newsletter mailing label.
2. Find your membership class and its rate. Add the Family Membership rate to this, if applicable.
3. If you desire membership in the Astronomical League or magazine subscription (s) or wish to make a donation, add the appropriate amounts to your membership rate. If a magazine subscription renewal is desired, include the magazine renewal notice, if possible. Be sure to identify which options you are paying for. Write one check, payable to TAAA, and send it to the address given above.
4. Call the Treasurer if you have any problems.  
Send address changes to the above address.

### 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. All submissions are retained by the editor unless prior arrangements are made. Partial page article submissions should be submitted in Word compatible files via e-mail or on a floppy disk. Full page articles, artwork, and photos should be camera ready. We will not publish slanderous or libelous material! Send articles, announcements, etc. to:

TAAA - Desert Skies  
c/o George Barber  
15940 W. Ridgemoor Ave  
Tucson, AZ 85736  
or e-mail: [barbergj@flash.net](mailto:barbergj@flash.net)

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### President's Message

The Main Lecture portion of the October monthly meeting on 10/6 will be a Members Night. Every three to four months the club dedicates a meeting to the members for presentation of short topics related to astronomy. This is a great opportunity for members to show the rest of the club what they have been working on or an astronomy-related interest. See the lineup so far in the **Meeting Information** section of this newsletter.

The activity levels are picking up on several fronts at TIMPA. Sub-committee meetings for Site Prep and the 16" Telescope are proceeding. The TIMPA Organization is in the final design stage for the permanent bathrooms to be built just north of the parking lot, about midway between TIMPA's Ramada and the TAAA's Observatory location. The TAAA will split the cost of the bathrooms with the TIMPA Organization. TAAA Member support will be required for the bathroom project because joint "sweat equity" and solicitation of donations are the ways that the cost will be kept manageable. The club is also looking for

some skills, such as masons, concrete workers, electricians, equipment operators, and carpenters for the construction of the observatory. We also need to borrow a trailer to transport our observatory support building from Kitt Peak to TIMPA. Please see the details in the articles under the **TIMPA Site News** section of this newsletter.

The school star party season is upon us. There are four school star parties scheduled for October. The Erickson Elementary School event on 10/4 occurs before the 10/6 meeting, so if you are interested in helping, please call Terri Lappin at 579-0185. Sign-up sheets will be at the October meeting for the others. We also have a "members only" Star-b-cue" and star party at Kitt Peak on Saturday, 10/21. There will be a sign-up sheet for that activity at the meeting. See the article under the **Club News** section of this newsletter.

John Kalas

### Meeting Information

#### Beginner's Lecture

"TIME AND CALENDARS: FROM MOSES TO HUBBLE"

By: Dr. John Polachek

Attention will be paid to astronomical determinants. If time permits, he will discuss how to set an atomic clock.

#### Main Lecture

"Members Night"

Here's your chance to be a "star", on stage, under the bright lights, and with a microphone. Bring those projects that you have been working on and share them with the club. The topics must be astronomy related (no ventriloquist or magic acts, please) and limited to about 15 minutes. This is a great way to learn about the neat things

that other members get involved with. During the past year or so, the TAAA has scheduled Members Nights approximately every fourth monthly meeting.

So far, the following members have requested to present:

1. Bill Lofquist - Reach for the Stars
2. Andy Keefer - Velikovsky
3. David Watson - Nebulas and Star Formation
4. Steve Ratts - Bartelizing a Telescope
5. Roger Ceragioli - 8" f/15 Folded Refractor

There is room for more presentations, so give John Kalas a call at 620-6502, if you are interested.

### Club News

#### Member News

We welcome the most recent members who have joined the TAAA: Tracey and Bryan Crane, David Croft, Nicanor P Demesa III, Tim Freese, Herb and Terry Hoffman, Stephen and Maria Marten, Steve McMurry, David BRosenthal, Jim and Patricia Small, Bill C Tyndall. Glad to have you join! If you haven't already, be sure to pick up a new members pack at a meeting. Hope you'll make it to our star parties or meetings so we can all get to know you.

#### Donations to TAAA

Would you like to make small monthly donations to the TAAA to help with the TIMPA project? It's easy to do. Each month, the TAAA will automatically transfer an amount you specify from your designated checking account. It shows on your bank statement as an EFT. There's a form that you need to be filled out to authorize the TAAA to do this and we need a voided check. See the treasurer about how to start it up. Money can be donated

to the TIMPA Project, the Light Pollution Fund (which gets turned over to the SA-IDA), the 30" Land and Telescope Fund, Education Fund, or the General Fund. Monthly donations need to be at least \$5/month. The transfers can be stopped at any time with proper notification. Forms will be available at the next meeting.

#### School Star Party Volunteers Wanted

by John Kalas

As the club enters this year's school/non-profit organization star party season, we would like to invite everyone who might be interested in supporting this satisfying project to step forward and sign up. Last year, we sort of overextended our volunteers by scheduling up to ten school star parties in a busy month. This year we are implementing a monthly limit of six. One of the club's major missions is to promote public astronomy education and there is no better way to achieve that objective than

### Club News (cont.)

through school star parties. We also need volunteers who would be able to be Star Party Leaders. There will be a sign-up sheet at the October meeting for those who would like to volunteer. Come join us for a great, rewarding time.

#### **Astrophotography Special Interest Group**

5 October, 7pm

China Rose

The Astrophotography SIG met for the first time on 31 August at the Mirror Lab. We had about 8 in total attendance. Most there agreed that the day before the main meeting was a good meeting time. We also agreed that while beginner's lectures and occasional presentations at the Members Nights were good places to educate members about astronomical imaging, a regular meeting to show recent work was invaluable. To that end, we will try a dinner meeting at China Rose restaurant, at the NE corner of Speedway and Rosemont on Thursday, 5 October, at 7pm. The Astronomy Room at that locale is a great place to meet, especially for an imaging group with all the

photos and paintings on the walls. Bring any recent images you might have taken - I'll bring a projector for those with slides. It should be a great place to show what we've been up to. I hope to see you there!

Dean Ketelsen - ketelsen@as.arizona.edu

#### **2001 Calendars**

The new 2001 Astronomy Calendars are here! The same company that produces Astronomy Magazine publishes these calendars. We sold about half our supply of these calendars at the August meeting, so if you want one get one soon before we run out. The cost is \$10 each (~\$3 off the regular selling price), or \$9 each for more than one. This calendar, which features a full-color astronomical photo each month, has daily information about astronomical events, both historical and observational plus space for adding important events you need to remember. This year's photos are stunning! From Hubble and NASA images to a beautiful Tony and Daphne Hallas print of the Orion Nebula, this is the calendar to have!

### Star Parties & Events

#### **Erickson Elementary School Star Party East**

Oct 4, (Wednesday) No. of Scopes: 8

The school is located at 6750 E. Stella Road. Take Kolb Road south to Stella and turn right. Go about 0.5 mile west to Mann. The school is located on the SE corner of Stella and Mann. Enter through a gate on the west side of the school (just south of Stella) and drive across the playground to the NE corner and set up on one of the concrete pads. Set-up is at 6:30 pm with observing from 7:00 pm to about 9:00 pm. Terri Lappin (home - 579-0185) is the star party leader for this event.

#### **Desert View High School Star Party South-Central**

Oct 17, (Tuesday) No. of Scopes: 3

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 6:30 pm in the faculty parking lot's southeast corner. Observing will run from 7:00 pm to about 9:00 pm. A Star Party Leader is needed for this event. A sign up sheet will be available at the October meeting.

#### **KITT PEAK COOKOUT and STAR PARTY**

Saturday October 21, 2000, 4pm-11pm

KPNO Picnic Grounds and Ramada

By: Laurel Dunlap ALCor TAL/TAAA

The Fall Kitt Peak Cookout and Star Party has been scheduled for Saturday the 21st of October during LQM. Moonrise is expected to be ~00:23 hrs. Sunset is at ~17:51 with twilight extending to ~19:08 (source: KPNO Ephemeris 2000). Please plan to be through the gates before

sundown as lights driving up the mountain after dark, are not permitted. As in the past, we will be limiting attendance to 50 people total, without exception. Sign up will begin at the October 6th general meeting. As I stated in last month's article, we are expecting a heavy turnout, so first preference will be given to members, and their families.

Some things you might need to know before the event.... The elevation reaches nearly 7,000 ft. at the summit of Kitt Peak. Cool fall night temperatures, and breezes are to be expected. It's best to bring something warm to wear after sundown. A sign marks the entrance to the picnic grounds just left of the main Mountain road (SR386), prior to reaching the Observatory entrance. Follow that road to the left, past the Radio dish (visible on the right), and park near the Ramada. If you plan to visit the observatory, or visitor center earlier, proceed with your vehicle to the picnic grounds at 4pm. **YOU WILL NOT BE ALLOWED TO VENTURE ABOVE THE PICNIC GROUNDS AFTER 4 PM.** We will prepare to leave the mountain by 11pm, and should be heading down the mountain road no later than 11:30pm.

We can thank KPNO/NOAO for their generous offer to share the Mountain with us, by respecting the NIGHT VISITATION RULES; demonstrating consideration for the ongoing Research conducted on the Mountain. Members are always responsible for their own behavior, as well as the behavior of their guests. Failure to follow the rules can result in the TAL/TAAA losing any/all future ability to hold these events. KPNO/NOAO reserves the right to ask everyone to leave the Mountain, at any time, for breach of any one of the night visitation rules.

All attendees will be asked to comply with the following



### Star Parties & Events (cont.)

rules:

- Arrive before sundown (see above). Lights driving up the mountain after dark are not permitted.
- Park vehicles at the Picnic Grounds.
- Do not venture above the Picnic Grounds after 4pm.
- Cooking Fires need to be extinguished by sundown, and must be contained within the Ramada cooking area.
- Waste should be disposed of properly in provided containers.
- Radio Transmissions including CELLULAR PHONE use is STRICTLY PROHIBITED.
- Loud music is not permitted.
- Alcoholic beverages are not permitted on the KPNO/NOAO grounds.
- Lights after Sunset are to be kept to a minimum. (Similar to other Dark Sky Star Parties)
- Attendees will prepare to head down the mountain by 11pm.
- All attendees assume full responsibility for their own health, safety, and security. If you have difficulty with activity at higher elevations because of health reasons, or if you have difficulty with night vision, you should take these factors into consideration, prior to signing up.

Having said all this... the Fall cookout at Kitt Peak has been a club favorite for many years, and I have found that most everyone has been more than willing to respect the rules, so as not to jeopardize future events. So... if you want to plan a LQM observing session, combined with an informal cookout, and meet new club members, the Kitt Peak Cookout is the place to be. Coals will be started at ~4pm. Members should bring their own "something to grill" as well as any necessities for their own meals, and... a dish or item to share with the group.

This year's event will have the added attraction of an informal Astrophotography SIG intro level activity: Kitt Peak is an excellent place to start your astrophoto hobby. For those so inclined, bring along a camera with manual, "B", or "T" setting capability, for timed exposures. Provide your own film, see recommendations given by Dean Ketelsen at:

<http://www.tucsonastronomy.org/aphotohints.html>

Kodak's Elite 200 Ektachrome is a good all around choice. Bring your own nearly normal, or wide field lenses, and you might think about bringing a small note pad as well

as a stopwatch. The barndoor mount, and Camtrak, will be there, along with their expert owner aka Dean Ketelsen, to provide some intro level "guidance" for novice astrophotographers, or anyone who just wants to learn.

I will have a sign-up sheet at the October 6th meeting. If you will not be at the October meeting, phone-in / e-mail sign up will not begin until Saturday the 7th of October, and will be on a first come first serve basis. All persons signing up for the Kitt Peak Cookout must provide a working phone# or working e-mail address at registration, for required communication purposes. Those who do not, will be removed from the official list. Your name must appear on the official attendance list to be allowed to attend the Fall KPNO event. For those who do not make it on the list for this Fall event, we are expecting to plan a similar activity at Kitt Peak, in the Spring. For additional information or questions call: Laurel Dunlap 544-7780 or e-mail

<taloftaaa@earthlink.net>

#### **TAAA Star Party at TIMPA**

October 21 (Saturday)

This activity falls on the same night as our Kitt Peak Star Party. Because the Kitt Peak event is limited to 50 people, the club will have the TIMPA observing site open for those who do not go to Kitt Peak. Attendance may be smaller than usual due to the Kitt Peak activity but everyone is welcome.

#### **Marana High School Party**

Oct 24, (Tuesday)

**Northwest**

No. of Scopes: 10

The school is located at 12000 W. Emigh Road. This is a whole school event so we will need lots of help. At least 10 scopes will be needed. Set up will be at 6:30 on the football field and observing will start at 7:00. To get to the school: take I-10 to the Avra Valley Rd exit. Go west on Avra Valley Rd to Sandario Rd and turn left (south). Go about 2 miles on Sandario to Emigh Rd and turn right (west). Proceed past the school on the right side of the road to the entrance for the west parking lot. Turn right into the parking lot and go through a gate at the northeast corner of the parking lot. Proceed down a driveway alongside of the school, through two more gates, and onto the football field. A Star Party Leader will be needed. If you cannot attend the October meeting but would like to volunteer for this star party, please call Maggie or Jeff Buzek at 760- 4578. Note: Pizza and refreshments will be provided to all TAAA volunteers!!

#### **Laguna Elem. School Star Party**

Oct 26, (Thursday)

**Northwest**

No. of Scopes: 5-7

The school is located at 5001 N. Shannon Road. Take I-10 to Ruthrauff and go east. Proceed to Davis Road (first light east of the railroad tracks) and go north. Go 1 block to Diamond (stop sign) and turn left. Proceed to next stop sign (Shannon Road). The school will be on the northwest corner of this intersection. Turn right on

### Star Parties & Events (cont.)

Shannon and proceed to the north side of the school and look for a large parking lot. Look for the large gate at the end of the parking lot and access a large playground area. Set-up will be at 6:30 pm at this large playground on the west side of the school. Observing will run from 7:00 pm to about 8:30 pm. A star Party leader is needed for this event. A sign up sheet will be available at the October meeting.

#### TAAA Empire Ranch Star Party

October 28 (Saturday)

The Empire Ranch has been our normal dark-sky observing site for quite a number of years. Empire Ranch is about 4000 feet in elevation, so be prepared for cool temperatures and try to arrive before sunset. Stay as long as you like, but let everyone know when you are ready to leave; someone may be taking astrophotos. Bring a telescope if you have one, but you don't need one to attend. Any member would be glad to let you look through their telescope. There are no restroom facilities at the site, so be prepared. Bring insect repellent, just in case. Attendees should park their vehicles either perpendicular to the airstrip facing toward the center of the strip or parallel to

the airstrip along either side facing west. That way, when you are ready to leave, you will not have to backup and turn on your bright white backup lights. One nice advantage of belonging to the TAAA is the opportunity to observe among friends. Help in finding an object or the sharing of equipment always goes on at our star parties. If you haven't attended a star party yet, you're missing the best part of belonging to the TAAA. See the directions to Empire Ranch on the outside flap of this newsletter.

## TAAA Kitt Peak Cookout & Star Party

### Saturday, October 21<sup>st</sup>

### Limited to 50 People

### Sign up at October Meeting

### Dark Skies for October 2000

**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, set for evening object

Sa/Su 30/ 1 20:22 - 4:57

Su/Mo 1/ 2 21:00 - 4:57

Mo/Tu 2/ 3 21:40 - 4:58

Tu/We 3/ 4 22:24 - 4:59

We/Th 4/ 5 23:11 - 4:59

Th/Fr 5/ 6 0:01 - 5:00

Fr/Sa 6/ 7 0:54 - 5:01

Sa/Su 7/ 8 1:48 - 5:01

Su/Mo 8/ 9 2:44 - 5:02

Mo/Tu 9/10 3:40 - 5:03

Tu/We 10/11 4:38 - 5:04

We/Th 11/12 - - -

Th/Fr 12/13 FULL MOON

Fr/Sa 13/14 - - -

Sa/Su 14/15 - - -

Su/Mo 15/16 19:12 - 19:50

Mo/Tu 16/17 19:11 - 20:35

Tu/We 17/18 19:10 - 21:26

We/Th 18/19 19:09 - 22:23

Th/Fr 19/20 19:08 - 23:25

Fr/Sa 20/21 19:07 - 0:30

Sa/Su 21/22 19:06 - 1:36

Su/Mo 22/23 19:05 - 2:41

Mo/Tu 23/24 19:04 - 3:45

Tu/We 24/25 19:03 - 4:48

We/Th 25/26 19:02 - 5:14

Th/Fr 26/27 19:01 - 5:15

Fr/Sa 27/28 19:00 - 5:15

Sa/Su 28/29 18:59 - 5:16

Su/Mo 29/30 19:34 - 5:17

Mo/Tu 30/31 20:17 - 5:17

Weekend	Sun	Sun	Mercury	Venus	Mars	Jupiter	Saturn	
Sa/Su	Set	Rise	Set Vi	Set Vi	Rise Vi	Rise Vi	Rise Vi	Vi=Visibility
30/ 1	18:07	6:16	19:06 5	19:29 -1	3:58 3	21:21 -3	20:47 0	-3 brilliant
7/ 8	17:59	6:21	18:58 5	19:27 -1	3:51 3	20:53 -3	20:19 0	0 conspicuous
14/15	17:50	6:26	18:44 6	19:26 -1	3:44 3	20:24 -3	19:50 0	3 moderate
21/22	17:42	6:31	18:18 -	19:28 -2	3:37 2	19:55 -3	19:21 0	6 naked eye limit
28/29	17:35	6:37	17:37 -	19:31 -2	3:30 2	19:25 -3	18:52 0	9 binoculars limit

By Erich Karkoschka

## Items of Interest

### Websites: Trips on the Internet Super-Skyway

by Rik Hill

It's that time of year, the monsoons are over, the temperatures are beginning to moderate and the evening sky is dominated in the east by Pegasus and Andromeda. Any one at a reasonably dark site can't resist a few autumnal peeks at the dim glow that passes over head and is the Andromeda Galaxy, or M31. Not so long ago it was called the Great Andromeda Nebula when it was thought to be a swirling mass of gas, a proto solar system. But since the 100" Hooker telescope resolved it into stars we have come to learn that it is a splendid pinwheel galaxy of stars, clusters and nebulae (and undoubtedly planets) very similar to the Milky Way in which we reside. This galaxy, number 31 in Messier's catalog and NGC 224 is the closest spiral type galaxy to ours and is called an "early type" being a Hubble type of Sb. Because of it's proximity (765 Kiloparsecs or 2.5 million light years) it is a wonderful place for us to study spiral galaxies, their parameters and evolution. So it is surprising that it was nearly 60 years after this resolution that someone finally got the great idea of making a detailed atlas of this galaxy. This idea came to Dr. Paul Hodge who has authored a number of books and articles on galaxies and galactic structure. His book GALAXIES (Harvard Univ. Press, 1986) is a must read for the avid deep sky observer. But it was his work ATLAS OF THE ANDROMEDA GALAXY (University of Washington Press, 1981) funded by the National Geographic Society, that was groundbreaking. This was the first detailed atlas of any galaxy. The ATLAS consists of 41 charts made from plates taken with the Palomar Mountain 1.2-meter Schmidt and the 4-Meter Mayall telescope on Kitt Peak. The 4-Meter plates were taken in October 1974 on plates filtered for blue light and have a plate scale of 19 arc sec. per mm. The Schmidt plates are 67 arc sec. per mm. This makes it a handy atlas for the amateur with a good sized aperture (10" or more). On these charts are identified: globular clusters, open clusters, stellar associations, and dust clouds. I have spent many evenings at the eyepiece of various telescopes from my C11 to a 24" looking for star clusters in this neighbor galaxy. It is possible to see some of these with the C11 and probably a 10" as well. But I always wished that the atlas were digitized. Recently, that has been done and the whole atlas is now available at:

[http://nedwww.ipac.caltech.edu/level5/ANDROMEDA\\_Atlas/Hodge\\_contents.html](http://nedwww.ipac.caltech.edu/level5/ANDROMEDA_Atlas/Hodge_contents.html)

The authors complain that the reproduction loses some magnitude in the original printing and again another incremental loss with the digitizing and posting on the web. But still, what is shown is more than you will see in most amateur telescopes. One of my favorite objects are the brighter globular clusters. There are 355 globular clusters and nearly 400 open clusters plotted and listed in the tables. I'll bet there are few amateurs that have seen that many of those objects in our own galaxy! So get your favorite music, let the telescope cool down in the sunset glow, and go out to spend a few hours in the cool, refreshing night air, prowling the depths of this close

neighbor to the Milky Way!

As always, if you know of a particularly good website you would like mentioned here, drop me a line at [rhill@lpl.arizona.edu](mailto:rhill@lpl.arizona.edu) or visit my website at: <http://www.lpl.arizona.edu/~rhill>

### Starry Nights Festival

Oct 20-22

By Bob Gent

All WRAL [Western Region of the Astronomical League] clubs and IDA sections are invited to our next Starry Nights Festival. The 2000 SNF will be held this October 20-22. As in previous years, it will be held in Yucca Valley, California, and most events will be at the community center.

David Levy and Carolyn Shoemaker will be the main guest speakers. In addition to other speakers and events, there will be a meeting of the Western Region of the Astronomical League on Saturday, an IDA session on dark skies on Friday afternoon, and dark sky observing programs both Friday and Saturday nights. For additional information, those interested in attending should contact Frank Sheckler or Rae Packard in Yucca Valley at (760) 369-7212.

FYI, I am departing on Tuesday for two weeks vacation and will be unable to check e-mail or phone messages until my return. Looking forward to another exciting Starry Nights Festival. We hope to see all WRAL clubs there.

### All Arizona Star Party

October 27-28

By Andrew Cooper

It's time for the 2000 All-Arizona Star Party, sponsored by East Valley Astronomy Club! Once again, this year's star party will be held at a site south of Arizona City on October 27-28. This site offers the right combination of dark skies, good seeing and not-too-cold nights that will encourage you to stay up well past your bedtime! As always, there is no registration fee...in fact, there's no registration--just show up! More information at <http://www.eastvalleyastronomy.org/aasp.html>

The site is somewhat remote, but still relatively easy to find. Take I-10 south from Phoenix to Exit 200, Sunland Gin Road. Turn right (south) after exiting the freeway. After about 15 miles, the pavement ends and about two miles further, the road turns sharply to the west. After another four miles, the road will turn south just after the "Silverbell Estates" signs. Three miles past the signs, the road will veer off to the west. Continue on the main road for another five miles, where it passes through a gate. Take an immediate left after the gate and continue for 0.7 mile. Take the next right onto a road that leads into an abandoned field. We will post signs along the road, so follow the EVAC signs.

### Items of Interest (cont.)

#### APC Photo Show

28 October 9am-4pm

by: Dean Ketelsen

The Arizona Photographic Collectors are again holding their twice a year show, which is really a photo equipment swap meet and sale. It is a great place to get some equipment bargains, especially those manual cameras and fast lenses to get you into astrophotography (nudge, nudge). Anyway, this is at a new location at the Holiday Inn at Palo Verde Rd and I-10 and lasts most of the day. A lot of the old timers tend to show up early to snag those best deals.

#### Open House and Star Party

Saturday, October 28

Fred Lawrence Whipple Observatory Visitors Center

Free and open to the public.

3 p.m. Visitors Center opens

5:30 p.m. Informal lecture on astronomy by Observatory staff

6:30 p.m. Observing begins (in parking area next to Visitors Center)

On view: Venus, and later, Saturn and Jupiter, star clusters, galaxies and more. Se habla Espanol. Telescopes provided by the Tucson Amateur Astronomy Association and the Sonora Astronomical Society.

Dress for cool evening temperatures. Small flashlights and binoculars are useful to bring. Please cooperate with

staff directing parking when you arrive. The parking spaces nearest the building are reserved for TAAA and 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 5 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 4 p.m. on the 28th for information about star party cancellation.

The Fred Lawrence Whipple Observatory, Tucson Amateur Astronomy Association, and Sonora Astronomical Society present this opportunity to see the stars under dark Southern Arizona skies. (See website <http://linmax.sao.arizona.edu/help/FLWO/whipple.html> for location and background information.)

How to reach the Whipple Observatory Offices and Visitors Center From Tucson:

Take Interstate 19 south, past Green Valley to exit 56 (Canoa). At the bottom of the exit ramp, turn left and drive east to the eastside frontage road. Turn right on the frontage road and drive 3 miles to Elephant Head Road. Turn left and drive east, crossing the bridge. One mile past the railroad tracks, turn right on Mount Hopkins Road. Drive southeast about 7 miles to the Administrative offices and Visitors Center.

### TIMPA Site News

#### TIMPA Update

by John Kalas

WOW!! What a treat! On Sunday afternoon, 9/10, Gary Rosenbaum, Duane Neihaus, Dean Ketelsen, and I went out to the TIMPA barn and assembled the club's 16" telescope. This is the first time that it has been put together since it was removed from the Vega-Bray Observatory several years ago and placed into storage. The scope was assembled in order to take a few critical measurements to design some improvements. It was assembled horizontally on a heavy-duty table and pointed out a new side door that has recently been installed in the barn. The weather was not the most accommodating. A squall blew through with heavy rain and high winds but after it settled down, we were able to get the information that we needed. The improvements planned for the telescope include: making the top section that holds the focuser rotatable, reducing the size of the secondary mirror, and adding a tangent arm assembly for precise declination control. With these improvements, the telescope will be very "user-friendly" and optimized for both visual and CCD camera use.

#### Construction Skills Needed

by John Kalas

As the club proceeds forward with the activities at TIMPA, we need to identify TAAA Members who have some skills required for the tasks and who would be willing to volunteer. The near-term projects include construction of the permanent bathrooms, preparing the observatory site for the dome and support building, and modifying the telescope. The skills or services that will be required include:

1. Concrete worker
2. Mason (cement block layer)
3. Electrician
4. Carpenter
5. Backhoe equipment & operator
6. Telephone pole drill & operator
7. Machine shop services
8. Truck/trailer equipment & operator
9. Donated or discounted construction materials

There will be a sign-up sheet at the October meeting for those members who are willing to volunteer their services to support these exciting club projects. Please come and sign up or call John Kalas at 620-6502 to volunteer.



### TIMPA Site News (cont.)

#### Procedures for Use of the TIMPA Site

The TIMPA Site Committee and the TAAA Board of Directors have developed procedures for the use of the TIMPA Site by members at times other than scheduled club activities. The procedures are as follows:

##### TIMPA Site Use Procedure

September 24, 2000

**Purpose:** This procedure describes the requirements for astronomical observing use of the TIMPA site for times other than scheduled TAAA club star party activities.

1. TIMPA gate keys will be available from certain persons (Key Keepers). At this time, the Key Keepers are as follows:
  - \* John Kalas (620-6502)
1. Keys may be reserved for access to TIMPA for specific nights; not open ended periods.
2. A key must be signed out by the borrower. Information about the reservation will be noted on the Key Keeper's Log.
3. It is the responsibility of the Key Keeper to notify the caretakers at TIMPA of the scheduled use of the facility. The caretakers are Gus and Barbara Drews and can be reached at 616-7073.
4. Keys are not transferable to other people and must be returned to the Key Keeper within 2 days of the last day of site use.
5. A late return fee of \$5.00 per day, or part thereof, will be imposed on the borrower who does not return the key within two days of the last day of site use.
6. There will be a \$3.00 per person per night or \$6.00 per carload per night user fee that will be prepaid to the Key Keeper at the time of key pickup.
7. Overnight stays are permitted when acknowledged at the time of reservation.
8. Reservations for groups of ten or more people require special approval from John Polacheck (Home Phone: 743-1362).
9. Persons borrowing a key take full responsibility for the safety and well-being of their party and the appropriate use of the site, i.e. courtesy, security, cleanliness, damage, etc.
10. A \$50.00 fine will be imposed if a key is not returned.
11. The club reserves the right to deny future site use privileges to a person who does not return a key or who does not follow the rules of use.
12. An annual pass for site use, starting from the date of donation, may be obtained for a donation of \$50.00. Call John Polacheck at 743-1362.

##### TIMPA Site - Rules of Use

1. Unlock the main gate and close the gate behind you when entering. Drape the locking chain around the closed gate but, for safety reasons, do not lock the gate while you are inside the site. Upon leaving, close the gate and secure it by locking the TAAA padlock to the TIMPA padlock, hasp to hasp.

2. No alcoholic beverages are allowed.
3. Do not litter. Anyone using the site is responsible to clean up after themselves. Use the refuse containers provided.
4. No fires.
5. Use the portable bathrooms.
6. Be aware of hazards, i.e. tripping risks in the dark and the possibility of rattlesnakes. **Do not** kill any snakes. If a rattlesnake continues to be a hazard and will not leave, call 911 from the telephone in the cabinet at the TIMPA ramada. The fire department should be able to remove the snake.
7. Neither the TAAA nor TIMPA is responsible for items lost or stolen at the site.
8. Until further site improvements are completed, telescopes are to be set up on the parking lot area. **Do not** set up telescopes in the TIMPA ramada area, north of the chain link fence.

#### What is TIMPA, Anyway?

We forget that not all TAAA members know about the TIMPA project. For our new members, this explanation will appear occasionally in future newsletters.

TIMPA stands for, Tucson International Modelplex Park Association. It is a parcel of land (approx. 160 acres) located about seven miles west of the Saguaro National Park West. The property is leased from the City of Tucson by the TIMPA organization and is to be developed as a specialty park. The TIMPA organization flies radio-controlled model airplanes at the site. The Southern Arizona Rocketry Association (SARA) also uses the site to launch model rockets.

Back in 1996, TAAA member, John Polacheck, heard about the site and inquired if the TIMPA organization would be interested in acquiring another partner, the TAAA. The TIMPA group was very interested because the relationship would be non-competing. TIMPA and SARA use the site during the day and the TAAA would utilize the facility at night. The TAAA had used the site, by permission, for about a year for scheduled star parties, such as Beginners Star Parties. On July 14<sup>th</sup>, 1999, the TAAA and the TIMPA organization signed a letter of agreement allowing the TAAA unlimited use of the site for scheduled star parties as well as member use at other times. The TAAA pays TIMPA a monthly maintenance fee of \$100. Ultimately, the TAAA intends to develop an observing area on the site that will include an observatory for the club's 16" reflector telescope. Currently, there is one general committee overseeing the TIMPA Site project and three sub-committees developing plans for the site; Site Prep, Long Range Planning, and 16" Telescope Improvements. Many club and joint benefit projects will be undertaken to improve the facilities at the site:

1. Run electricity and telephone line to our observing area and on to TIMPA's ramada. Also, run a water line to our site. (Completed - 10/9)
2. Construct a secure storage cage in the TIMPA Barn.

### TIMPA Site News (cont.)

- (Completed - 12/11)
3. Move the TAAA property from the mini-storage unit to the new security cage in the TIMPA Barn. (Completed 12/12)
  4. Construct permanent bathroom facilities. (Schedule: 4<sup>th</sup> quarter 2000)
  5. Construct observatory to house club's 16" telescope. (Schedule: 4<sup>th</sup> quarter 2000)
  6. Upgrade club's 16" telescope. (Schedule: 4<sup>th</sup> quarter 2000)
  7. Construct additional site improvements. (Schedule to be determined)
- Watch the newsletter for announcements about TIMPA projects and how you can help.

### TAAA Board of Directors Meeting - September 11, 2000

Location: Steward Observatory Conference Room N305 University of Arizona

Call to Order: 7:10pm

Board Members Present: John Kalas, Andrew Cooper, Terri Lappin, Jane Tongate, Robert Callanan, Steve Peterson, Bill Lofquist

Members Present: John Polacheck

Guests Present: Mike Cummins, President of TIMPA Organization

1. Changes to the agenda; add discussion for "Reach for the Star", bulk mail permit, and corporation application.
2. Events scheduled through October were presented by John Kalas. May 19, 2001 and October 20, 2001 have been confirmed for the Desert Museum Public Star Parties.
3. TIMPA bathroom project update - Mike Cummins, President of TIMPA presented the preliminary plans for the bathrooms. There will be a Men's, Women's and Unisex Handicap bathroom. Standard low flow toilets will be installed. The goal is to keep costs down without compromising quality.
4. Treasurer's report - Terri Lappin distributed copies of the monthly financial statement for review. There were no major expenses for during the month. Terri also reported that we have 12 new members and 5 have been dropped from the membership.
5. TIMPA site update - The telescope committee met at the TIMPA site to assemble the tube to get the focal length measurement.
6. TAAA holiday party - a location for this event is still needed. Preferred date is 12/9, backup date is 12/2.
7. TAAA E-mail Exploder - Andrew Cooper did not have anything new to report.
8. Reach for the Stars - Bill Lofquist reported two successful events, one each for the Arizona Children's Assoc. and Big Brothers/Big Sisters (Bigs). The Bigs event was held at Bill's home; 11 Bigs attended and seven telescopes were available for use. Bill is looking into expanding the program to other youth groups and will need the support of the membership to serve as mentors.
9. Bulk mail permit - a motion was passed by the Board to not include inserts in the monthly newsletter that are not covered under the bulk mail permit. The organization requesting the insert must have a local bulk mail permit.
10. Corporation application - the Board reviewed the renewal for the TAAA corporation. John Kalas and Jane E. Tongate signed the application for the club.

The meeting was adjourned at 8:53 pm.

Respectfully submitted,  
Jane Tongate, Secretary

### Desert Skies Classified

**FOR SALE:** Celestron 7x50 Binoculars with case. Asking \$100-\$75. Call Duane Niehaus at 290-1722. (11/00)

**FOR SALE:** Celestron 11" Starhopper Dobsonian telescope with JM 2" Crayford focuser and Telrad base. Also has handles and eyepiece tray. Mint condition with excellent optics. \$750.00. Great scope but it keeps aggravating my back. Will consider a trade for a 6" Mak or 4" to 5" refractor. Contact Frank Cathell at 520-825-5540 or <Fcathell@aol.com>. (1/01)

**FOR SALE:** ISIS 1600 CCD Camera for Sale. Like New - Bought for Client that never paid. Comes complete with Maxim DL/CCD Software. Can be controlled from either lap Top or Desktop PC. Built-in six position filter wheel. KAF 1602E sensor (1536 x 1024 - 9 micron pixels). All serious offers will be considered. Contact Dave Harvey (520) 360-2078 or dharvey@comsoft-telescope.com. (2/01)

**SERVICE:** Custom machine shop work - design and manufacture of telescopes and mountings. Fabrication of small parts or repair of existing hardware. For consultation and price quotes, call Duane Niehaus at 290-1722.

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 John Kalas at 620-6502 or e-mail at jckalas@aol.com.

## Constellation Report by Chris Lancaster

# Lacerta

## The Lizard

This group of stars was largely neglected by the ancients since only dim stars comprise its indiscriminate shape. It wasn't until late in the 17th century that astronomers began concocting names for this scattering of stars. One of the original ones comes from the French astronomer Augustin Royer, who proposed the ponderous name of "Scepter and the Hand of Justice" in honor of Louis XIV. Johann Bode of Germany suggested the name "Frederici Honores" after the reign of Frederick the Great of Prussia. However, it was Johannes Hevelius, also German, who is given credit for the name Lacerta, which has endured to the present day and left the other names to be forgotten over time.

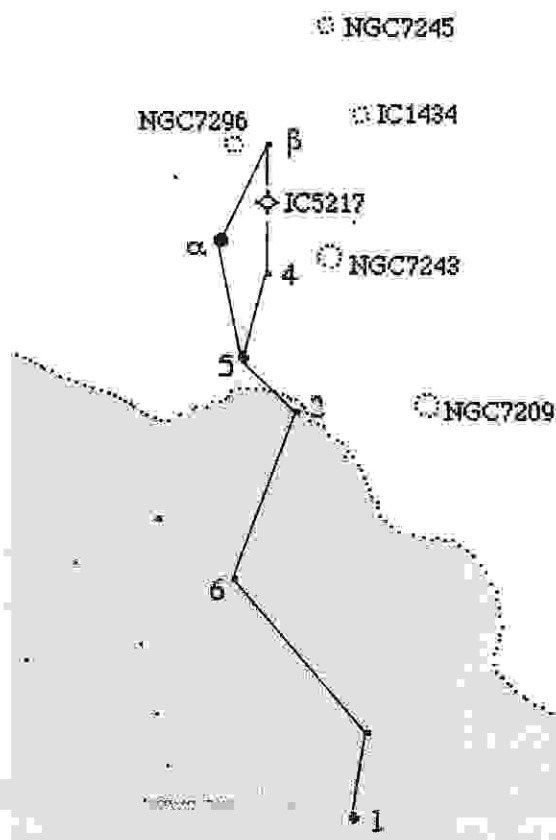
Lacerta has a northerly spot in the sky, sitting between Cygnus and Andromeda beneath the feet of Pegasus. Look east of Deneb, the brightest star of Cygnus, and you will see the zig-zag of stars between magnitudes 3.5 to 4.5 which form the body of Lacerta straddling the meridian just after 9 pm in the middle of October.

This constellation would be especially uninteresting if it didn't hold the position it does in the sky—just on the edge of the northern summer Milky Way. What this means is that Lacerta is full of distant galactic, also called open, star clusters.

The two largest ones are near the border of Cygnus. NGC7209 is a bright magnitude 6.7 cluster spread across 25' of the sky. You'll find it 16' in RA west of 4.5 magnitude 2 Lacertae. It holds about 50 stars ranging in magnitude 9 to 12. A bit farther north is NGC7243. Being about the same size (21') and brightness (mag. 6.4) makes it a near twin to NGC7209. However, not quite as many stars populate this cluster. Look closely and you'll see  $\Sigma 2890$ , a double star, within this group. They are a pair of hot A0 type stars separated by 9" and each shining at magnitude 8.5.

Floating near the lizard's head like insects in danger of being devoured are three modest clusters which are all small and dim but, nevertheless, worth your time if you haven't observed them before. NGC7296 near Lacerta's snout is a mist of stars 4m 40s in RA east of the 4.4 magnitude star Beta ( $\beta$ ) Lacertae. This cluster measures a meager 4.0' in diameter, but is fairly rich. IC1434 is another rich cluster, 8.0' in size, and of magnitude 9.0. It shows a branched structure by its stars of 12-15 magnitude. The stars of the Milky Way collect into the tight knot of NGC7245, which rounds out the trio of our featured star clusters. This one sits near the northwest edge of the constellation 4.5 degrees due north of NGC7243.

Object	Mag	Size	Location	
NGC7209	6.7	25.0'	RA 22h 5.2'	D +46° 30'
NGC7243	6.4	21.0'	RA 22h 15.3'	D +49° 53'
NGC7296	10	4.0'	RA 22h 28.2'	D +52° 17'
IC1434	9	8.0'	RA 22h 10.5'	D +52° 50'
NGC7245	9.2	5.0'	RA 22h 15.3'	D +54° 20'
IC5217	13	6.0"	RA 22h 23.9'	D +50° 58'



Lacerta's real challenge comes in the form of planetary nebula IC5217, which is situated on a line almost midway between Beta ( $\beta$ ) and 4 Lacertae (or RA 22h 23.9' Dec +50° 58.2'). Almost stellar in appearance, IC5217 only reveals its 6" disk at high magnification. It glows faintly at magnitude 13. The image below shows the star field surrounding the nebula. The brightest star at the top is the 7.4 magnitude star SAO34397. Field of view is 30'.

