August 1997

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Table of Contents

Departments

• Events
  o Calendar of Events for July 1997
  o Calendar of Events for August 1997
• Lead Story: A Particularly Fine Occultation
• Presidents Update
• The Board Meeting
• Observatory Committee
• June Meeting Recap:
  July Meeting to be an "Extraterrestrial Special"
• Observer's Page
  o August Musings
  o GNTO, June 28, 1997
  o Mars, Saturn, and the Sun
  o TAAS 200
• Deep Sky Waldo
• The Kids' Corner
• Internet Info
• UNM Campus Observatory Report
School Star Party Update
Starman
Classified Ads

Feature Stories

Are the Constellations Up Tonight?
Chaco Canyon Update
Oak Flat Update
Elena Gallegos Recap

Please note: TAAS offers a Safety Escort Service to those attending monthly meetings on the UNM campus. Please contact the President or any board member during social hour after the meeting if you wish assistance, and a club member will happily accompany you to your car.

Upcoming Events

Click here for July 1997 events

Click here for August 1997 events

July 1997

2 Wed * ATM Class, PandA, 7pm
4 Fri * UNM Observing
   New Moon
5 Sat * TAAS Picnic at Oak Flat
9 Wed * ATM Class, PandA, 7pm
10 Thu * GNTO Committee Meeting
   * SFCC Observing
   Mars 1.8 deg. S of Moon
11 Fri * UNM Observing
12 Sat * Oak Flat
   GNTO Stake-Out Party
   First Quarter Moon
14 Mon Asteroid Ceres Stationary
16 Wed * ATM Class, PandA, 7pm
17 Thu * Board Meeting - PandA building
18 Fri * UNM Observing
   * Waldo reports due
   * Girl Scout Camp
19 Sat * TAAS General Meeting - Regener Hall
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<tr>
<th>Date</th>
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<td>Full Moon Neilptune at Opposition</td>
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<td>25 Fri</td>
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<td>26 Sat</td>
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<td>Delta Aquarid Meteor Shower</td>
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<td>29 Tue</td>
<td>Uranus at Opposition</td>
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<td>Moon Occults Aldebaran from 3:16 - 3:57 MDT</td>
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<td>30 Wed</td>
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**August 1997**

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<td>Pluto &amp; Neptune Stationary</td>
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<td>Chaco Observing</td>
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**NOTES:**
* = official TAAS Event


GNTO=General Nathan Twining Observatory. Call Bill Tondreau @263-5949 to confirm.

SFCC=Santa Fe Community College. Call Brock Parker @ 298-2792 to confirm.

UNM=UNM Observatory observing nights. Call Brad Hamlin @ 343-8943 to confirm.
A Particularly Fine Occultation

It is not particularly unusual for our moon to occult (i.e., pass between us and) one of the myriad stars in our night sky. Unfortunately, the vast majority of those stars are so dim that they simply fade from view in the overwhelming glare of the moon, so their occultations are quite impossible to observe. Among the stars that can be occulted by the moon are five that are first magnitude - Aldebaran (alpha Tau), Antares (alpha Sco), Spica (alpha Vir), Pollux (beta Gem), and Regulus (alpha Leo), in order of brightness - but even they can be difficult to observe (and extremely difficult to photograph) in the vicinity of a half or fuller moon. Thus, the wee hours of the morning of July 29 offer a rare observing/photographic opportunity.

During those wee hours of that morning of July 29, the moon will be just over two-and-a-half days past last quarter and less than five days before new. This waning crescent moon will occult Aldebaran (alpha Tau), the brightest of all the night-sky stars that the moon can occult. While even a crescent moon and a first magnitude star represent a significant brightness contrast, this occultation is just about as favorable as such an event can be. (The only way to improve it would be to have a thinner crescent - i.e., closer to new - but this would obviously place it nearer to the sun, so that twilight could become a problem.)

Here in the Albuquerque area, Aldebaran should disappear behind the bright limb on the morning of July 29 at very close to 3:16 AM, and reappear from behind the dark limb at very close to 3:57 AM, both MDT. But note that the event will occur quite low in the eastern sky, beginning at an altitude of only about ten degrees or so, thus requiring a good clear eastern horizon.

So - select your site - set your alarm clock - and think clear skies.

- Barry Gordon

 Presidents Update

Welcome Aboard Robert!

The big news this month is the addition of Robert Williams to the Board of Directors.

As I reported last month, outside commitments forced Steve to step down as Secretary (he remains the BBS sysop). Robert expressed interest in the position and was installed at the June Board of Directors meeting. Robert has become quite a regular at TAAS events (especially school star parties) and I have gotten to know him fairly well. He makes a fine addition to the board and will serve you well.
Read the Fine Print

Notice of undeliverable newsletters due to address change has increased recently (Summer is a popular time to move). One of the topics covered in the fine print on page 14 is the fact that the Sidereal Times is mailed at a nonprofit organization bulk mail rate. As a result, the newsletter will NOT be forwarded to your new address should you move!! If a move is in your near future be sure to let us know. You may contact the database manager directly (see page 13), or give the hotline a call and leave your name and new address on the answering machine.

Mail Bag

As you might expect, TAAS receives a variety of mail during the month. To keep you a little better informed, I thought I would make it a regular point to list some the more important posts we get. Items this month include: Printer invoice, post office receipt, newsletters from other astronomy clubs (Alamogordo; Tucson; Lake County, Il; San Luis Obispo; Pajarito; Orange County, Ca), the bank statement, 7 new/renew membership applications, 6 notices of undeliverable newsletters, and one request for info on the status of an S&T subscription. E-mail this month includes a request for information from an amateur in Japan who will be visiting Albuquerque in July.

Random Acts of Kindness

Our treasurer Ellie Gates, reviewed her records for me and produced a list of TAAS benefactors for the first half of 1997 (from 1/1 to 6/16). A total of $2037 has been donated to TAAS special funds so far this year. A big thank you goes out to all of the following individuals for their generous support. As you know, it is easy to make mistakes when compiling lists. If anyone knows of an omission please drop me a note so we can give proper credit.


Educational Fund  Kenneth Luedeke, Bill Tondreau, Paul Reifsnyder, Robert W. Smith, Wade Douglas. Total donations = $253

Observatory Fund  Ric Thiem, Carl Frisch, Bill Tondreau, Robert W. Smith, Jay D. Miller, III. Total donations = $1335.

TAAS Welcomes New Members

On behalf of the Board of Directors and the general membership I would like to welcome the following new and returning members of TAAS. We hope your membership in TAAS is pleasant. Please contact any board member if you have any suggestions or if you would like to become more involved in Society activities.
Board Meeting

The June 19 Board of Directors meeting was called to order by President Mike Pendley at 7 pm. Present were Kevin McKeown, Carl Frisch, Allan Green, Jay Harden, Kevin Jarigese, Bruce Levin, Robert Ortega, Gordon Pegue, Ruth Pendley and Karina Running Horse. Also attending were Barry Gordon, Jon Pendley, and Robert Williams.

Discussion on the Secretary position: Robert Williams was asked if he was interested in accepting the position of Secretary, then all visitors were asked to leave the room for discussion and voting. Robert Williams was voted into the position and is now the Secretary.

May Minutes: Mike asked the members of the board to read the May Minutes published in the July newsletter. Minutes as published were voted on and accepted into the record.

Treasurer's Report: Elinor Gates provided a financial report to the board. Total funds on deposit were $10,775.72 a decrease of $44.09. Education Funds were $2,553.03 (no change), Observatory Funds on Deposit were $6,216.93 (an increase of $75.00), and the general fund stood at $2005.76 (a decrease of $119.09).

Student Association: The representative of the student association was not able to make the June meeting. A report will be given in July.

Observatory Committee: Gordon Pegue went over the scheduled July 12th GNTO work party. Karina Running Horse volunteered to make lunch for those who show up to help. Gordon Pegue made a motion to have TAAS give Karina Running Horse a budget of $100.00 to buy the food, seconded by Robert Ortega, then voted on and passed. Robert Ortega offered to pick up and deliver the tractor for the work to be done.

Membership Committee: Jay Harden had no formal report; the club has 4 new members this month Total membership is now 331.
**Events Policies and Procedures Committee (EPPC):** Karina Running Horse discussed the happenings and the progress of the newly formed EPPC. The committee hopes to make a formal proposal at the July board meeting.

**Calendar Committee:** Carl Frisch reported the addition of two new school star parties; Lincoln Middle School on October 21 and Susie Reyes Marmon on October 28. Carl also told everyone that SFCC observing will be on July 10 instead of July 3. Barry Gordon asked that the calendar show that on July 29th Aldebaran will be occulted by the crescent moon at about 3:00 am.

**Past Events:** Allan Green reported that everything went great at Starfire, the adaptive optics will soon be working with the 3.5m telescope, they were able to fire the laser and show those present how it works. Carl Frisch reported on Chaco Canyon, things went very well and was appreciated by both the visitors and workers there. Karina Running Horse said that the 120 people who went to Susie Reyes enjoyed the slide show and telescopes as she had many good comments. Carl Frisch reported that despite the low turnout at Oak Flat things did go well and that the officials there would like to do more to get the word out on future events at Oak Flat. Mike Pendley said that the ATM class of 10 people are very enthusiastic and he felt the first class went well. Gordon Pegue and Karina Running Horse reported on the Grand Canyon Star Party, most of the time they were there it rained but it did clear for quite a while on Sunday and they saw some great skies.

**Future Events:** Carl Frisch asked if anyone would be interested in helping him and Lisa Wood to organize the TAAS picnic on July 5th. Kevin Jarigese, Robert Ortega and Robert Williams offered to help. Carl made a motion for $25.00 to help buy charcoal and paper products for the picnic; it was seconded by Kevin Jarigese, voted on and passed. Kevin McKeown reported that he has read more on the requirements for setting up a booth at the State Fair and found that it would require too much money. Carl Frisch motioned to remove the State Fair from Future Events, seconded by Ruth Pendley, voted on and passed. Elinor Gates asked for anyone who has telescopes to go out to Elena Gallegos on June 28.

**Future Meetings:** Kevin McKeown said that Christina Lacey is set for June and that he has some show and tell items to present at the meeting. The July meeting is still open but Kevin does have some ideas on speakers.

**Old Business:** Karina Running Horse said that the Indian Pueblo Cultural Center would like to plan another event with TAAS but we would only know about a month in advance of the date. The board agreed that it would be allowed as long as it did not conflict with another scheduled event.

**New Business:** Mike Pendley said he was invited to a brainstorming session with Explora on Saturday and would report back to the board. Mike Pendley suggested that the complimentary newsletter list was too long and needed to be reviewed. Bruce Levin, Karina Running Horse, Ellie Gates and Mike Pendley agreed to meet and discuss this issue more. Mike Pendley announced that our IDA membership was coming up for renewal. After some discussion Ruth Pendley motioned that we renew our membership, seconded by Bruce Levin, voted on and passed. Other new business included policies for borrowing telescopes, public members list
availability, foreign members postage for newsletter and the Rio Grande Nature Center. All these to be discussed further at a future meeting.

Newsletter assignments were made and the meeting was adjourned at 8:35.

- Robert Williams

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Observatory Committee

No Report this month.

- Gordon "DEEPSKY" Pegue, Observatory Director

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June Meeting Recap

The June 20th TAAS Regular meeting was called to order by Mike Pendley at 7 pm. First, Mike introduced Robert Williams as the new Secretary of the Society. Next, Mike turned the meeting over to Elinor Gates who introduced our special guest speaker, University of New Mexico graduate student Christina Lacey. Her talk dealt with her research at UNM. Christina is an expert on supernovae, and she first described the nature and power of these events. They produce all elements heavier than iron, (such as gold, uranium, tin, etc.), and they generate tremendous amounts of cosmic rays. There are several mechanisms that produce supernovae. "Type I" events occur when a white dwarf star-already a degenerate object-receives fresh hydrogen from a companion. Soon, the fresh hydrogen increases the mass to the point where the white dwarf collapses into a supernova. "Type II" events involve the collapse of an aged star of high mass, whose inert core of iron collapses to a neutron star. Supernova remnants (SNR's) typically have complex structure, and either emit large amounts of radio waves, or light. Only the VLA is sensitive enough to resolve supernova remnants in other galaxies.

Next, Christina presented her work on the galaxy NGC 6946. She chose NGC 6946 because it is nearly face on, has a high supernova rate (there have been 6 this century), is nearby, and all supernova remnants are nearly the same distance from earth. Using the VLA, she obtained detailed radio maps of this galaxy's ionized hydrogen (H II) regions. Since she observed the galaxy in two wavelengths-4.84 and 1.42 gigahertz, she was able to discriminate between supernova remnants from normal star-birthing H II regions, based on the different energy distributions. This is not possible to do with optical methods.
She also obtained excellent optical images, and found that some supernova remnants are predominantly optical sources, emitting little radio energy. She also identified an X-ray supernova remnant using data from Rosat. She next plotted the locations of these different types of remnants, and found that the optical SNR's were located in the low density regions between or on the edges of arms, and the radio noisy SNR's were confined to the gaseously dense regions within the arms of a galaxy! The conclusion was inescapable: Type I and Type II SNR's are associated with different regions of a typical spiral galaxy! That is, the optical, or Type I events come from white dwarfs located in the disk population, whereas the radio noisy Type II events occur in the arms. Amazing! The different densities of the interstellar medium of the arms vs. the disk is responsible for whether a SNR will be optical, or radio noisy. Secondly, she found that the strong radio activity of the Type II SNR's can accelerate electrons to cosmic rays, and these SNR's are exclusively responsible for cosmic rays! She also said that 37 SNR's have been identified in NGC 6946. A good question and answer session followed. Thanks again, Christina, for sharing some remarkable research conclusions, and good luck with future research.

Jon Spargo next updated us on the Enchanted Sky Star Party, and then the Trivia contest drawing was held-Carl Frisch won (for the fifth time!!! Smart aleck.). Anna Whitlow won the Deep Sky Waldo drawing (she received a cool comet poster). The usual social hour wrapped up the meeting.

- Kevin McKeown

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**July Meeting to be an "Extraterrestrial Special"**

The Regular Meeting on Saturday, July 19th, at 7 pm will be at Regener Hall, as usual. We are very fortunate to have, as a special guest speaker Sandia National Laboratories (SNL) Physicist Dave Thomas, who is Vice President of New Mexicans for Science and Reason. Dave is a skeptic (not a "debunker") who specializes in the 1947 Roswell "UFO Crash". He will present a talk titled "A Skeptic's Analysis of the Roswell UFO Crash". This talk will document the developments down through the years of the Roswell UFO "cover-up", and give the latest "thinking" on Roswell by the "experts", pro and con. He'll talk about "MJ 12", and he will also present his research on the alleged piece of UFO debris. Since this July is the 50th anniversary of the Roswell-Corona-Socorro-Pietown-??? crash, I think this is a good way for the Society to celebrate! A Question and Answer session will follow. This meeting will be grounded in reason, and facts, and will not be an out of control, free-for-all debate over the existence of ET's. By the way, Dave was interviewed on National Public Radio last June 27th, and he presented his work at a recent national skeptics convention. It should be a great meeting.

We will have the usual Trivia Contest. The winner will receive a TEKTITE! Tektites are mysterious pieces of apparently meteoric glass, of unclear origin. We will also have an extra surprise-Dr. Q and Coyote Iron Works (296-2132) have donated several official Roswell key chains (made from pewter). The first 40-50 TAAS members to arrive will receive one free.

The usual social hour will follow (don't forget to bring the goodies)
August Musings

For many of you (me included), August observing means Perseid meteors! This year, weather cooperating, we will have a good look at the Perseids once again, but August 11-12, the night of the maximum, sees moonset around 1 am MDT. You'll have about 4 hours of dark sky after moonset. Observe on several nights before and after the maximum, as the Perseid peak is quite broad. To define what you observe, make hourly counts of both sporadics, and Perseids by yourself. **Don't combine your observations with others, as this is useless data!** Perseids are swift, typically yellowish colored meteors, that appear to radiate from near the Double Cluster in Perseus. Focus your gaze on the radiant, or a point above the radiant (if it hasn't risen very high yet), such that the night sky is exclusively in your field of view. Record the times of your observing interval, and the limiting naked eye magnitude. I use a reliable tape recorder with fresh batteries. On the night of August 11-12, you might especially concentrate on the shower between 11 pm MST and about 3 am MST, (even with the moon in the sky) because if there is any remaining strength to the "new max", that is, the peak of enhanced activity associated with the 1992 return of comet Swift-Tuttle (the source of the Perseid meteors), it might occur in this interval. Some very beautiful purplish red to red Perseid fireballs are apparently associated with the new peak. Yes, it has been 4 years already, since my friend Shelby Worley and I ventured to Michigan with the hope of seeing a possible Perseid meteor storm. We saw lots of meteors all right, of the wet variety: Rain. Remember the great Mississippi flood? It turned out that no Perseid storm occurred, rather, a strong shower was seen in Europe.

The Perseid meteor shower also seems to mark the end of deep summer. For by the second week of August, the daytimes are noticeably shorter, after nearly 4 months of long, hot summer days. Take notice of this! After the Perseids, the daylight hours really fall off dramatically, until about November.

**GNTO, June 28, 1997**

Despite so-so weather, a good turnout was had at Twining Observatory this Saturday night. Skies at sunset promised a very clean, cloudless night, but as can happen at times in New Mexico during summer, with sunset came the development of mid level cumulus clouds. The "sucker holes", or areas of clear sky between the clouds, allowed for many deep sky objects to be seen—but only for brief periods of time! Towards midnight, the skies became cloudless. Tonight, we looked at many familiar, and also lesser known globular clusters. These included M 22, M 4 (magnificent in Gordon Pegue's 20 inch!), M 28 (a smallish faint pile of stars in the 20"), M 10, M 12 (starfish shaped!), NGC 6638 (small glob near M 28), the faint pair NGC 6522 and 6528, and M 19 (very rich, and very oval). The Omega or Swan nebula also showed exquisite detail in large scopes, using wide angle eyepieces and nebular filters! The Blinking planetary, NGC 6826 was lovely in Jeff Bender's 18 inch! Mark Nagrodsky seems to have found a 12.5 inch Meade Dob that has an exquisitely figured mirror. Double stars were quite impressive in this scope, with epsilon Bootis being split wide and clear into a bright gold primary, and a bluish companion. The
separation is about 2.5 arc-seconds. Many other lovely objects were seen. We also got into the usual debate on extra-terrestrial life. There were no winners, as usual. Attending were Gordon Pegue, Jeff Bender, Robbin Pimbley, Mark, Kevin McKeown, and seven or so newly joined members.

**Mars, Saturn, and the Sun**

In late June, Mars was still visible, but it was so small that even high magnifications, and large apertures showed little. It has a strong gibbous appearance. In large scopes, no features were seen on June 27th, from UNM.

Mike Pendley got up early recently, and looked at Saturn. He reports that the ring system is really starting to open up again!

Bruce Levin observed a large solar prominence on Sunday, June 22, in his 6 inch refractor equipped with an H alpha solar filter. This prominence showed much detail, and changes could be seen in just several minutes of viewing.

**TAAS 200**

For August, let's get some of the TAAS 200 objects that are far to the south, and on their way out-until next year. Whenever you do a deep sky marathon, I suggest going after the tough, highly seasonal objects ASAP.

First, **NGC 6356** is a globular located just to the northeast of globular M 9. This is a fine, rich, very condensed globular, and very nearly as bright as M 9. In fact, one has to wonder why Messier missed this one! It was chosen for the TAAS 200 because it contrasts so well with M 9 (a much less rich, less condensed glob). NGC 6356 can look star-like in a pair of 10 x 50 binoculars, it is so condensed! By the way, many other fine globs of magnitude 8 to 10 are found in this region-check them out.

**NGC 6231** is Scorpius' finest open cluster. It lies within a larger, coarse association of young O and B stars that might appear as a very large, irregular open cluster as you scan with low power. NGC 6231 is a rich, large, bright open cluster that is noted for its very hot, blue stars-see discussion in Burnham's Celestial Handbook, under Scorpius. On very clean, black nights, it is really wonderful to sweep the region of NGC 6231 with binoculars, as the area abounds with star clouds, dark nebulae, clusters, and gaseous nebula. Unfortunately, atmospheric clarity this close to the horizon is unusual, even in the desert.

**NGC 6388** in Scorpius is an amazing globular located under the tail of the Scorpion. It is a perfectly round, extremely rich, 7th magnitude pile of stardust in my 10 inch, at high power. This is a very rich, massive, intrinsically luminous glob. What aperture will start to show resolution?

NGC 6441 is another remarkable sight in Scorpius. This is a bright, very condensed, rich globular cluster that is very nearly located behind the bright orange star g Scorpius! NGC 6441 is
resolved in medium sized scopes, with magnification. The overall view is stunning. Keep in mind, the globular lies a tremendous distance behind g Scorpius.

**NGC 6445** is a fine planetary nebula in Sagittarius that resembles a small M 27, the Dumbbell. It is full of detail in large scopes. This planetary lies close to the faint globular cluster NGC 6440 (not a TAAS 200 object), and together, they make for an impressive sight. The glob and the planetary have nearly the same magnitudes and sizes—and they roughly look alike in a low power field. However, NGC 6445 is distinctly bluish, whereas the globular shines with a pearly white light. The next TAAS 200 object is

NGC 6520 - a small, bright, somewhat coarse, and poor open cluster in Sagittarius (see Tirion) that you can use to locate another TAAS 200 object, the dark nebula B ("Barnard") 86.

**NGC 6553** is another fine globular in Sagittarius that contrasts nicely with other TAAS 200 globs. It is rich, ovalish, and not too condensed. It requires a 12 inch or larger to resolve. Its brightest stars make a fan shaped pattern. This cluster lies very close to the center of our Milky Way, and it is heavily obscured and reddened by intervening dust. It would be much brighter—maybe 5th to 6th magnitude—were it not for the dust!

**NGC 6522** is a small, bright, condensed globular that lies in the very heart of the great Sagittarius star cloud. This cluster is located just above the tip of the arrow which Sagittarius the centaur seems to be shooting at the Scorpion. In the low power field, the somewhat fainter globular NGC 6528 (not a TAAS 200) is also seen, and together these two globulars make an impressive sight, nestled in the churning unresolved star fuzz of the great star cloud. Years ago, the astronomer Walter Baade studied this area, and found that this part of the Milky Way is relatively free of obscuring dust. He determined that these two little globulars actually lie on the other side of the galaxy, and that many of the stars that make up the Great Cloud of Sagittarius are part of the actual hub of our Milky Way spiral galaxy! This area is called "Baade's Window"! Incredible! NGC 6522 did not show resolution even in Gordon Pegue's 20 inch. Lastly,
NGC 6541 is a large, very bright globular that lies in Corona Australis. Since it lies just to the east of the tail of the Scorpion, it seems like it should be part of Scorpius, but not so. This cluster is an easy binocular target, and the field is memorable. It is well resolved in moderate scopes, and has an intense center.

-Kevin McKeown

Deep Sky Waldo

TAAS offers an OBSERVING CHALLENGE each month. The challenge is in three parts: Deep Sky Waldo, Naked Eye Waldo, and Waldo Jr (ages 5-15). If you meet one or more of these challenges, please call the Hotline (296-0549) or send mail to the editor: Mike Pendley. You will then have your name published in the newsletter, and be eligible for our monthly drawing for the prize awarded at each meeting. You (or mom or dad for Waldo Jr.s) must be present to accept the prize if your name is drawn. Deadline is 9pm the Friday before the general meeting.

Naked Eye Waldo Challenge:

The tiny constellation, Delphinus. Ovid referred to this constellation as Amphitrite, the Goddess of the Sea, and the Hindus knew it as the Porpoise. To the early Hebrews it was sometimes identified with the Great Fish of Jonah. Also called Job's Coffin.

Deep Sky Waldo Challenge:

Let's try Uranus and Neptune again. Both are at opposition in July.

Waldo Jr. April Challenge:

The star Antares. If this star were the size of a hot air balloon, the Sun would be the size of the period at the end of this sentence.

Observers that qualified for the last Waldo drawing were: Carol Baker, Wes Baker, Carl Frisch, Mike Pendley, Steve Pendley, Jon Pendley, Lindsay, Lisa, Barry, Anna Whitlow, Kevin McKeown.

Anna Whitlow was the winner of the July drawing.

-Lisa
The Kids' Corner

by Lindsay

Lindsay is on vacation this month. Filling in for her is special guest columnist, Barry, age 6.

Did you hear about the new restaurant on the moon?
It has great food but no atmosphere!

Why I Like Astronomy

I like astronomy because it talks about stars. I like the stars because they shine and because they look bright. I like learning about planets. My favorite planets are Saturn and Jupiter. I like the rings of Saturn and Jupiter's big storm. I liked seeing Hale-Bopp because it looked like a white fox tail.

Elena Gallegos night was very mucky-it looked like it would be the perfect night until it got dark. Ellie's talk went well, I hear. July 11 is going to be one of our "study nights" at SFCC (9 pm).

Internet Info
By the time the August newsletter is delivered, Pathfinder will have already landed on Mars. Successful or not, there should be a lot of good information on the official NASA Pathfinder Homepage [http://www.mars.ucar.edu/default.html](http://www.mars.ucar.edu/default.html).


Additional links take you to an HST photo of the landing site, real-time simulations of Entry, Descent and Landing (EDL) predictions, playback of actual pathfinder data, live pictures from the mission operations area, frequently asked questions (FAQ), and merchandise (a Pathfinder T-shirt is $12.00 and a coffee mug is $11.00).

More interested in Jupiter? Visit [www.jpl.nasa.gov/galileo/](http://www.jpl.nasa.gov/galileo/), the Galileo home page. This page has cool close-ups of the Red Spot (static and dynamic), images of Io and other satellites, mission details, an FAQ, and lots of other good info.

Io, as seen from Galileo

The government has provided us with wonderful information links on US space missions. I wonder if the government that sponsored the Roswell UFO mission is linked to THE Roswell home page: [http://www.roswell.net/](http://www.roswell.net/)?

- Michael Pendley

### UNM Campus Observatory Report

June saw good weather but the word that TAAS is staffing the observatory during the summer has not gotten out. On most nights, docents outnumbered visitors. But that's OK. TAAS events are as much a social as they are public service / scientific.

| June 6 | Mostly cloudy at sunset with some clearing shortly after. Turnout was low-approximately 5 members of the public. |
June 13
70-80 members of the public turned out. Included in the visitor list was Cub Scout Pack 116 and a bus load of kids from SIPI. Weather was clear with a little bit of wind.

June 20
Skies were mostly clear. Approximately 15 members of the public stopped by.

June 27
Skies were mostly clear. Temperature was warm. Approximately 19 members of the public visited.

UNM docents this month (in random order) were Brad Hamlin, Mike Pendley, Dennis Mitchell, J Rowse, Robbin Pimbley, Brock Parker, Carl Frisch, Gordon Pegue, Jon Pendley, Ruth Pendley, Kevin McKeown, Andy Smith, Ellie Gates, Debbie Pendley, Connie Acosta, Will Vandermolen, and Jay Harden.

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School Star Party Update

Only one school was visited this last month—Susie Reyes Marmon. No report was available at press time. The complete report will be in the September Sidereal Times.

-Karina Running Horse

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Maps to Future School Star Parties

No schools scheduled for this period. Take a break!

-Karina Running Horse

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Are the Constellations Up Tonight?

People sometimes ask goofy questions when they come to a star party for the first time. We TAAS docents ought to write a book. I'll have to admit though, that for every goofy question I've been asked over the past few years, I've handed out at least two or three goofy answers. I wish I could find those poor misinformed people and set them straight. I'm actually very concerned with accuracy when we bring our scopes out to the public and try hard to keep up on my reading so that I can be ready with reasonable answers to even the goofiest of questions.

This is not always possible. My most egregious error was my reply one night at Chaco Canyon (it was really late) to the question (it had been a long day) of how far globular clusters lie from the plane of the galaxy. Where I got the answer 65 million light years away, I'll never know. It took only a moment of reflection to realize that I may have just confused astronomical distances
with the date of the demise of the dinosaurs, but by this time the bewildered couple had vanished into the darkness. I mean, let's face it: the diameter of the entire Milky Way galaxy is only about 100,000 light years across, so my estimate hardly seems reasonable in the light of this fact. Luckily that was a couple of years ago, and I'm much smarter now.

And then there was the little girl who wanted to know why asteroids sometimes hit the earth. I suppose since I had been recently pondering this very question myself in a highly philosophical vein, I gave her a rather esoteric discussion about the cosmic dance of life and death, when I think the better answer would have been "pure chance" or "gravity". Knowing when to quit is a valuable skill for a docent.

Some questions range so far afield from the plane of the expected that it makes the mind reel, and a few minutes of contemplation may be required before one is able to speak. Such as the question my six-year old asked me last week as we were watching the little boy (also named Barry) in Close Encounters of the 3rd Kind, being sucked up by an alien spaceship after climbing out the doggy door of his house. "That's not me, is it?" he asked with some trepidation. Although this did not occur at a star party, I think it's a good example of the kind of question that leaves one temporarily dumbstruck. And there was the red-headed boy who wanted to know, "Why don't they use the BIG moon very often?" Another mental struggle ensues. And at least a couple of kids have asked me, "Have you been to the moon?", usually when I'm wearing my winter jumpsuit that is taken by the typical third grader for regulation NASA issue.

But my most recent unexpected question is the one I received at my telescope just last week. On a crystal clear night I was asked by a college student, "Are the constellations up tonight?" At least this one was easy to answer. And although it gives me a certain amount of discomfort to know there's a married couple out there somewhere who think globular clusters lie ridiculously far from the galaxy, and a little girl who STILL doesn't know why asteroids sometimes strike the earth, serving as a docent has been a joyful experience-one where I often learn as much as I teach. Hopefully I've dispensed enough legitimate answers to evoke some thoughtful moments, if not a few good laughs.

- Lisa

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Chaco Canyon Update

For those of you who are unaware of happenings at Chaco, hold on to your whatever. During the last public star party, May 30, John Sefick, a very generous TAAS member, set up his 25" Dob and did CCD imaging for the public Saturday night. A very, very successful star party ensued. Approximately 100 visitors and around 25 TAAS members were in attendance. Names elude me, but thanks to all who participated. The sky was very good most of the time and periodically I found myself doing lots of naked eye astronomy. In addition to CCD astronomy I tried my 35mm camera "piggyback" on John's 25" with some success. As reported last month Lisa Wood gave planetarium shows and made several comets for the public during the day. Brock Parker
was at Chaco the week before with nightly star parties. So people were primed for the event Saturday.

A mutual agreement was worked out between John, Ranger G. B. Cornucopia, and Chaco to leave the dob on display at the visitor's center at Chaco with TAAS information. By the August 30 event at Chaco there should be pictures and information to accompany the telescope display. This was one of three sessions John and other TAAS members had at Chaco this year and more are planned. Since some of these sessions are planned on the spur of the moment, please feel free to call me if you would like to attend one of our unofficial CCD nights at Chaco.

*The Chaco Canyon folks (see above) continue to get some good pictures. Here is a sample--an image of M 51.*

*And here is another--an image of the Horse Head. We hope to have more info and pictures next month. - ed.*

-Carl Frisch

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**Oak Flat Update**
The star party that was held June 14 had a low to moderate turn out; between thirty and forty people. Thanks to all of you who came up in spite of the iffy weather. Around sunset it did clear off enough for a successful event. Things are in the works to make entry to the viewing field a bit easier: sorry for any inconveniences this may have caused.

This is being written before the TAAS Picnic, so the next newsletter will recap that event. So join in for the last Oak Flat event for the year planned for August 2. The moon is new that weekend so viewing will be optimal. To get to Oak Flat Picnic Ground take 337 (old south 14) south of Tijeras about 9 miles. Turn east at the NFS sign and go about 1 mile. As usual, I'm there about two or three hours before sunset if you wish to come up early for a picnic supper. Since I have the key, we can stay as late as we wish. There is no set starting time, just dusk. The weather can be very unpredictable but the gamble is well worth it if the weather turns out OK.

-Carl Frisch

Elena Gallegos Recap

Bruce Levin, Bill Tondreau, Lisa Wood, Van Sutherland, Kevin Jarigese, Carl Frisch, and Brock Parker (sorry if I have forgotten anyone!) shared their telescopes with about 120 people who attended the Fireside Chat at Elena Gallegos picnic area Saturday June 28th. Elinor Gates started the evening by giving a talk on some of the objects visible in the sky that evening, constellations, and a few myths behind their naming. Observing these objects was the next activity. It clouded over not long after dark but everyone did get to see at least one object through a telescope, as well as admiring Brock's computer controlled telescope and the CCD camera and images that Carl Frisch set up.

-Ellie Gates

Classified Ads

For Sale: Obsession 18" f/4.5. One year old, Galaxy Optics primary and secondary mirrors. A Telrad, light baffle, shroud and mirror fan are included. The telescope is in prime condition with no knicks, scratches or otherwise anywhere on the scope or mirrors. I have priced the telescope at $4300.

Les4moore@aol.com. (970) 223-4560 (Ft. Collins, CO, Northern Colorado Astronomical Society (NCAS) member).

Wanted: Are you tired of your current position? Worried about downsizing? Interested in doubling your current income? So am I! If I had the secrets to those problems I would not be writing this. But now that I have your attention I can tell you how you can gain the admiration of your fellow society members and gain international fame-become a writer or reporter for the
Sidereal Times. Not much time is required and it can be lots of fun. Cover an event or maintain a monthly column. Interested? Contact the Sidereal Times editor at the phone number below.

**For Sale:** Reflector Telescope, Celestron International Cometron CO114. 4.5 inch aperture, f/8.8. Call Lois Brown, 891-0081 (Rio Rancho)

**For Sale:** 1990 Celestron Ultimate 8 PEC. Hard foam case and tripod, heavy duty electronic equatorial mount. 8x50 finder scope. Oculars: (Plossel) 10.5mm, 17mm, 21mm, 30mm (Ortho) 12mm. Set of 6 ocular color filters. Asking $1500. Call Jim Brannon at 792-4337.

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