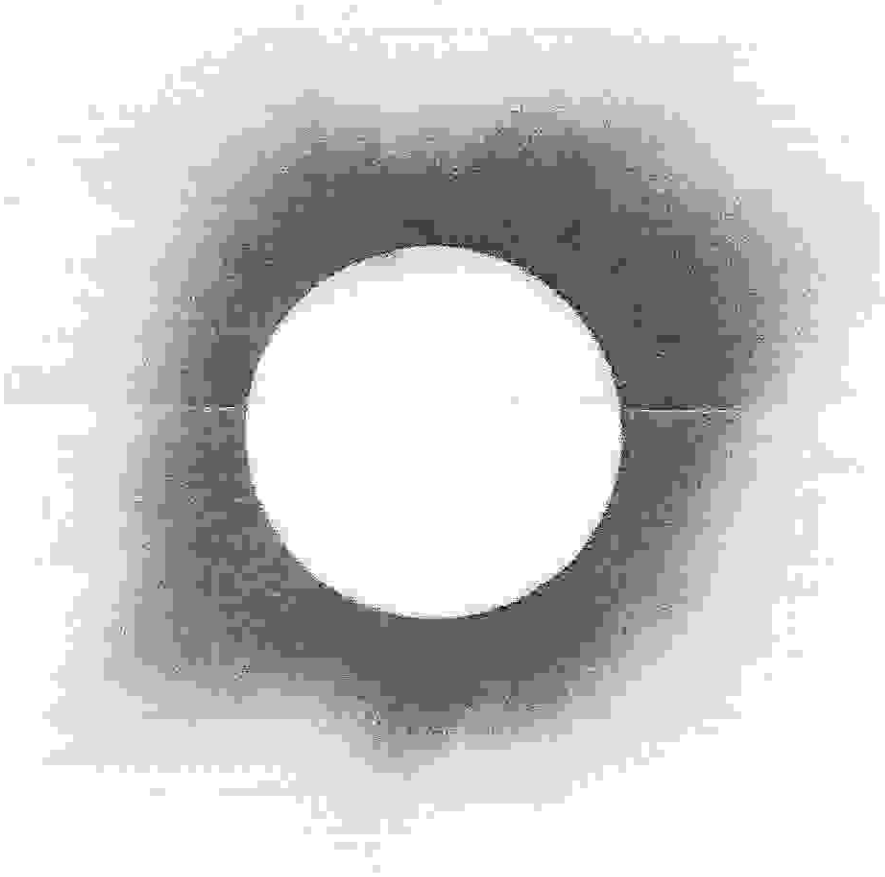
Desert Skies

Tucson Amateur Astronomy Association

Volume XLV, Number 9 September, 1999



ECLIPSE!

Calendar of Events

BEGINNERS LECTURE: Friday, September 3, 6:30 pm at the Steward Observatory Auditorium - Room N210. This month's topic is ***A Stellar Evolution Video*** by Todd Henry.

GENERAL MEETING: Friday, September 3, 7:30 pm at the Steward Observatory Auditorium - Room N210. Topic is ***Members Night***.

BOARD OF DIRECTORS MEETING: Thursday, September 9, 7:00 pm at Steward Observatory Conference Room N305.

STAR PARTIES & EVENTS:

- September 1 - TIMPA Site Committee Meeting
- September 4 – TAAA Empire Ranch Star Party
- September 11 – TAAA Beginners Star Party at TIMPA
- September 17 – Metropolitan Tucson Convention & Visitors Bureau Star Party at Ventana Canyon (Paid)

Newsletter Schedule: Deadline for articles: Monday, Sept. 13. Printing: Tuesday, Sept. 21. Folding Party: Wednesday, Sept. 22. Mailing: Thursday, Sept. 23. The newsletter is scheduled to be in the mail at least one week prior to the following month's General Meeting.

Cover: ECLIPSE! Reverse image of a photo of the total solar eclipse of July 11, 1991 from Baja, California. Photo was taken by TAAA Member, Paul Lorenz. Hopefully, some of our members took pictures of the August 11, 1999 eclipse and will show them at the Sept. 3rd meeting.

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

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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.

Membership in the TAAA:

Regular membership	$ 23
Senior (over 60) membership	$ 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	$ 29.95 (NEW)
Add for Astronomy Magazine	$ 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

4 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.
4. Write one check, payable to *TAAA*, and send it to the address given above.

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 John Kalas
3470 W. Red Bird Court
Tucson, AZ 85745

or e-mail: jckalas@aol.com

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President's Message

The weather was a big factor again in August. Although the skies were reasonably clear for the 8/7 Empire Ranch Star Party, only about four telescopes showed up. A week later, the Beginners Star Party at TIMPA was "done in" by a severe thunder storm system completely surrounding the site at 7:00 pm. Several board members went to TIMPA that night to review the storage barn. There were spectacular lightening displays all around TIMPA.

Activities relating to the development of the TIMPA Site are being scheduled in the coming months. The trenching party for running electricity to our observing area will be held on Saturday, 10/2. Andrew Cooper is heading up the effort to build a security cage in the TIMPA Barn so that the club can transfer its property from a costly mini-storage shed into the barn. Improving the user-friendliness of the club's 16" reflector telescope will be starting in the near future. Permanent bathrooms will be built in the spring of 2000. Lots of activities that will require lots of member support.

This month's Observing Report by Jeff Brydges will be the last one for a few months. Jeff is taking a hiatus to concentrate his efforts on preparing to publish a book of his articles. We wish Jeff success and thank him for his great contributions to our newsletter. We will still have the terrific constellation articles by Chris Lancaster. The club newsletter is so much improved by Jeff's and Chris' efforts. Thanks, guys.

There is a new feature in the newsletter this month. Although he is not able to do it very often, TAAA member Alex Gibbs, took the challenge from last month's newsletter and submitted an article about a few neat websites. Thanks, Alex.

This month's meeting is a Members Night, so break out those photos, slides ,or activity reports Hopefully, some of our members had success capturing the recent solar eclipse. Let's have a fun evening.

John Kalas

Meeting Information

Beginners Lecture

This month's Beginners lecture will be a lecture by Todd Henry, video taped during a presentation to an Astronomy 100 level course in March 1991. It's titled "The Star Party", but is about stellar classes, what makes stars work, and their ultimate fate.

Main Meeting

Members Night

This month's meeting is dedicated to TAAA members and gives them an opportunity to present their astronomy-related projects or interests. Unfortunately, this event was not publicized in last month's newsletter, so the notice may be a little short for some of you. But there must be members who have an interesting project or activity that they would like to share with others. Call John Kalas at 620-6502 to reserve a spot on the agenda.

Club News

Member News

We welcome the most recent members who have joined the TAAA: Earl Armstrong, George Barber, Barry Feldman, Robert and Florence Fujita, Donna Gifford, former long-time member Gary Hall, Ward Hans, Rose Manchon, Tom & Kristie Rolfsmeyer, and William Walker. Glad to have you join! Hope you'll make to a star party or a meeting so we can all get to know you.

We also extend a warm welcome to TAAA members Kenneth and Rosemarie Reiser who recently moved to Arizona from the Chicago area. They have a great place west of Benson and are looking forward to some dark skies as soon as the monsoon rains end! As former members of the Calumet Cloudy Sky Observers, they are getting a great dose of clouds to observe.

Y2K Astronomy Calendars

Solve your personal Y2K problem with a 2000 Astronomy Calendar from the publishers of Astronomy Magazine. We continue our annual sale of calendars at the September meeting. The cost is $10 each ($2 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. Pick one up at the September 3rd meeting.

Club News (cont.)

Holiday Party

Saturday, December 11th

This year's Holiday Party will be held at 7pm on Saturday, December 11th at El Parador restaurant near Broadway and Tucson Blvd. Dinner, non-alcoholic drink, tax and gratuity are all included in the $15/person price. The buffet we've selected includes; Chicken Breasts with Marsala sauce, Carne Seca Chimichangas, and Chicken Chimichangas. In addition to the fine Mexican buffet, we will have a non-Mexican dish available.

As always, this promises to be an exciting evening of good food and good friends. Dress is casual. We are looking for a speaker or two and hope to have some door prizes. Reservations will be taken at the September through December meetings. Reservations by mail can be made now. Send a check, made payable to TAAA, to PO Box 41254, Tucson, AZ 85717. We are limited to 80 people, so make your reservations early.

The Editor's New Toy

Your editor has recently purchased a scanner and now has the ability to scan photos and slides for incorporation into the newsletter. With this new resource, he would like to place more photos in the newsletters and on the TAAA webpage. For those astrophotographers out there who have not moved to CCD imaging, this is your chance to get your pictures published. The editor is always looking for a cover photo and would appreciate any contributions that members could make.

What is TIMPA, Anyway?

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

About three years ago, 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 has used the site, by permission, for about a year for scheduled star parties, such as Beginners Star Parties. On July 14th, the TAAA and the TIMPA organization signed a letter of agreement allowing the TAAA unlimited use the site for scheduled star parties as well as member use at other times. Ultimately, the TAAA intends to develop an observing area on the site that will include an observatory for the club's 16" reflector telescope. Many joint benefit activities will be undertaken in the next several months to improve the facilities at the site, i.e. electricity to our observing area and to TIMPA's ramada, a telephone line to our area, and permanent bathrooms.

Watch the newsletter for announcements about TIMPA activities and how you can help.

TIMPA Update

At the August 12th TAAA Board of Directors Meeting, President, John Kalas, appointed John Polacheck to sit on the TIMPA organization Board of Directors as a representative of the TAAA. Congratulations, John P.

There will be a TIMPA Site Committee Meeting on Wednesday, Sept. 1st, at 7:00 pm in the Steward Observatory Conference Room N305. One of the discussions for this meeting will be establishment of the procedure for the use of the TIMPA site by TAAA members at times other than scheduled club star parties.

Trenching Party: Saturday, 10/2. Get those shovels and work gloves out and volunteer to support this activity. A mechanized trenching machine will be rented and operated by the TIMPA organization to open the trench necessary to lay the electrical cable from the barn to our observing area and then on to the TIMPA ramada. Our shovels will be needed to put the dirt back into the trench after the cable has been installed. Please consider helping. There will be a sign-up sheet at the September meeting.

Andrew Cooper has offered to coordinate the construction of a security cage in the TIMPA Barn. We are awaiting a decision from the TIMPA organization to finalize the location of the cage inside the barn. Once that technicality has been resolved, the design and construction will begin. This security cage will allow the club to transfer its stored property from a mini-storage shed to the barn. The $81 per month savings will be applied against the $100. per month maintenance fee charged by the TIMPA organization. Anyone who might be interested in helping on this project, please call Andrew at 795-3585. There will be a sign-up sheet at the September meeting.

Club News (cont.)

WANTED: Beginners Lecturers

We would like to involve more members of the TAAA in the Beginner's series of lectures presented before each monthly main meeting. There's got to be a topic that you could share with the club. We're looking for the basics. Even if you don't have previous knowledge of a topic, you could do a little research and present your findings. Please consider this enjoyable and rewarding activity. Contact Terri Lappin at 579-0185 or John Kalas at 620-6502 if you would be interested.

Dark Skies for September 1999

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

Tu/We	31/ 1	20:14 - 22:14	Sa/Su	11/12	20:00 - 4:43	Tu/We	21/22	3:15 - 4:50
We/Th	1/ 2	20:13 - 22:58				We/Th	22/23	4:15 - 4:51
Th/Fr	2/ 3	20:11 - 23:46	Su/Mo	12/13	20:33 - 4:43	Th/Fr	23/24	- - -
Fr/Sa	3/ 4	20:10 - 0:39	Mo/Tu	13/14	21:07 - 4:44	Fr/Sa	24/25	FULL MOON
Sa/Su	4/ 5	20:08 - 1:36	Tu/We	14/15	21:42 - 4:45	Sa/Su	25/26	- - -
			We/Th	15/16	22:19 - 4:46			
Su/Mo	5/ 6	20:07 - 2:37	Th/Fr	16/17	22:59 - 4:46	Su/Mo	26/27	- - -
Mo/Tu	6/ 7	20:06 - 3:40	Fr/Sa	17/18	23:43 - 4:47	Mo/Tu	27/28	19:36 - 20:12
Tu/We	7/ 8	20:04 - 4:40	Sa/Su	18/19	0:30 - 4:48	Tu/We	28/29	19:34 - 20:55
We/Th	8/ 9	20:03 - 4:40				We/Th	29/30	19:33 - 21:43
Th/Fr	9/10	20:01 - 4:41	Su/Mo	19/20	1:22 - 4:49	Th/Fr	30/ 1	19:31 - 22:35
Fr/Sa	10/11	20:00 - 4:42	Mo/Tu	20/21	2:17 - 4:49	Fr/Sa	1/ 2	19:30 - 23:31

Weekend	Sun	Sun	Mercury	Venus	Mars	Jupiter	Saturn	
Sa/Su	Set	Rise	Set Vi	Rise Vi	Set Vi	Rise Vi	Rise Vi	Vi=Visibility
4/ 5	18:43	5:59	18:36 -	4:20 -2	22:26 1	21:06 -3	21:48 0	-3 brilliant
11/12	18:34	6:04	18:46 -	3:49 -3	22:15 1	20:38 -3	21:20 0	0 conspicuous
18/19	18:24	6:08	18:50 -	3:26 -4	22:05 1	20:09 -3	20:52 0	3 moderate
25/26	18:15	6:13	18:50 8	3:10 -4	21:56 1	19:39 -3	20:24 0	6 naked eye limit
2/ 3	18:06	6:17	18:50 7	3:01 -4	21:48 1	19:10 -3	19:55 0	9 binoculars limit

By Erich Karkoschka

Items of Interest

Websites: The Earth, Moon, and More

by Alex Gibbs

Much of Europe was overcast during the August solar eclipse, but satellites had a good view of the Moon's shadow crossing the Earth. *EUMETSAT* has a nice web page dedicated to the eclipse (http://www.eumetsat.de/en/area3/metenews/eclipse_eur.html). You can select individual satellite images of Europe at various times during the eclipse and view the "Eclipse Animation from 11 August". Though large, it is worth seeing the Moon's shadow sweep across Europe. *NOAA* also has a few still images and two .avi videos available in a plain directory (http://www.osei.noaa.gov/Events/Unique/Eclipse/). There is a choice of very large or small images. International boundaries are shown, which is useful with all the clouds, but the shadow is not as dramatic as in the *EUMETSAT* images. As of this writing there aren't many images of totality, but *NASA* has some movies (http://eclipse99.nasa.gov/pages/MediaGal.html).

Do you want to find out the latitude and longitude of a particular address or of some location in the desert? Then try *MapBlast!* (http://www.mapblast.com/). At first glance this appears to be just another map server, but it has some extra features like sun & moon set & rise times. Click on the latitude and longitude under the map to see.

Now that you know where, you might want to know when by going to the *USNO Master Clock* (http://tycho.usno.navy.mil/). Click on "What Time Is It?" for a variety of ways of displaying the time. From there you can use your longitude to "Compute Local Apparent Sidereal Time". Back at the first page, clicking on "Sunrise/Set/Moon Phase" will lead you *to USNO's Astronomical Applications Department* (http://aa.usno.navy.mil/AA/data/). Here you can

Items of Interest (cont.)

Websites: The Earth, Moon, and More (cont.)

create tables of the positions of many objects and the times of events, tailored to your latitude and longitude when appropriate. As you might expect, there is too much to describe in detail.

TerraServer (http://terraserver.microsoft.com/) provides satellite images of many parts of the U.S. and some other countries. You can see your house from space, provided it is as old as the images (early 90s or later). Although *TerraServer* won't find a location by address, it will take a latitude and longitude, which you can get from *MapBlast* above.

Lastly, there is a really fun site called the *Earth and Moon Viewer* (http://www.fourmilab.to/earthview/). As the name implies, you can view the surfaces of the Earth and Moon in various forms and from any angle or altitude. This includes topography, real-time global weather, and night and day shading. You can choose specific satellites as your vantage point. There is too much to describe. As with all these websites, you just have to try it!

(EDITOR'S NOTE: The above article is a nifty addition to our newsletter. Unfortunately, Alex is unable to continue with the article. If anyone would be interested in taking over the article, please contact John Kalas at 620-6502. If members recommended the websites, it would make it easier for the author to research them and write up a brief description. Two or three website reviews per monthly newsletter is all that we would need.)

FIGHT LIGHT POLLUTION!

PLEASE ATTEND THE MEETINGS OF THE SOUTHERN ARIZONA SECTION OF THE INTERNATIONAL DARK-SKY ASSOCIATION (SA-IDA). Protect your rights for dark skies. Attend and participate (you do not need to be a member of the IDA to attend).

SA-IDA meets on the second Wednesday of each month, at 5:30 p.m. at the offices of the IDA, 3225 N. First Ave. This is just south of the Map and Flag store on North First Ave. Close to the northwest corner of North First and Fort Lowell. Park behind the complex by entering from Fort Lowell behind the lighting fixture store. Ed Vega

Job Opportunity

NEEDED: Amateur astronomer to assist other amateurs and teach basic observational astronomy to beginners at the Vega-Bray Observatory near Benson. Astronomy sessions are 4 to 5 hours long and begin around sunset at the observatory. Must be easily available some weekdays and weekends and have own reliable transportation. Reasonable compensation. Call Ed Vega at 615-3886.

Star Parties & Events

TIMPA Site Committee Meeting
Wednesday, September 1

The next meeting of the TIMPA Site Committee will be held on Wednesday, 9/1, in the Steward Observatory Conference Room N305. Topics to be discussed are: 1) access procedure for members use of the facility on dates other than scheduled club star parties, 2) construction of a security cage within the TIMPA Barn, 3) preparations for the trenching party scheduled for October 2nd, 4) construction of other facilities, i.e. observing pads, 5) observatory building: Where do we go from here? Members are welcome to attend.

TAAA Empire Ranch Star Party
September 4 (Saturday)

The Empire Ranch has been our normal observing site for quite a number of years. Empire Ranch is about 4000 feet in elevation, so be prepared for cooler temperatures and try to arrive before sunset. There may be mosquitoes to contend with, so be sure to bring along some insect repellent. 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. 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 Beginner's Star Party at TIMPA
September 11 (Saturday)

Now every month the TAAA invites all members out to the TIMPA site for an "extra" star party to enjoy a night of observing. What makes this event special is that our novice members can get help with observing

Star Parties & Events

TAAA Beginner's Star Party at TIMPA (cont.)

issues or equipment problems. There will be experienced members present who would be more than happy to help. If you don't own a telescope, don't worry. There will be lots of scopes set up and everyone is invited to look through them. This is a great way to check out the different telescope designs before you make that all-important decision to buy. There is no scheduled talk for this activity. Just come out with lots of questions and we'll do our best to get you the answers you need. Arrive at about 6:00 pm for a group question and answer session. It should be dark enough to observe by 7:00 pm. Of course, a 2 day old moon will be available earlier. If you have friends who might be interested in amateur astronomy, bring them along. With the warmer weather, be prepared for mosquitoes and bring insect repellent. Last year they were somewhat bothersome. Directions to the TIMPA site are located on the outside flap of this newsletter.

Metropolitan Tucson Convention & Visitors Bureau Star Party (Paid)

September 17 (Friday)

The TAAA has been requested to provide a paid observing session for an MTC&VB event to be held at Loews Ventana Canyon Resort. Approximately 35 convention executives from around the world together with about 15 students from Copper Creek Elementary School will attend the activity. Six telescopes will be needed. Set-up will be at 7:30 pm with observing starting at 8:00 pm. The location will be the Flying "V" Terrace at the resort. Loews Ventana Canyon Resort is located on Sunrise Drive just east of Kolb Road. The entrance to the resort is on the left (north) side of Sunrise Dr. Follow the signs to the resort. A star party leader is needed for this event. There will be a signup sheet at the September meeting.

TAAA Board of Directors Meeting - August 12, 1999

EDITOR'S NOTE: The minutes of the August 12[th] Board of Directors meeting were not available for inclusion in this newsletter. Complete minutes will be available for review at the September monthly meeting.

Desert Skies Classified

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

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September 3rd Monthly Meeting

MEMBERS NIGHT

Observing Report by Jeff Brydges

THE SWAN'S BEAK

High overhead during late summer spans the distant soft glow of millions of stars in our Milky Way Galaxy. Embeded in this Great Cygnus starcloud lies the most attractive double star in the entire heavens. Albireo, Beta (β) Cygni is a rather discrete 3rd magnitude star lying near the center of the asterism called the "Summer Triangle". Albireo, pronounced (al-BURR-ee-oh) represents the Swan's beak. It is the finest double star available to amateur astronomers with small telescopes. Why is this so? Because Albireo is fairly bright and easy to locate, shows off a beautiful color contrast, and only needs little optical power to be appreciated.

Albireo was first noted in the mid-1700's. Later in the 1770's Christian Mayer observed this pairing on 102 occasions. Albireo consists of a magnitude 3.1 bright yellow giant star, and a 5.1 magnitude companion. Together they span some 34".5 of sky. The companion can be found northeast of the primary at a P.A. of 54°. Some older astronomical sources point to this duo as being an optical pairing rather than a true physical binary system. More recent datum collected by the HIPPARCOS satellite verifies Albireo is an actual binary system. At a distance of 385 light years the projected separation is some 400 billion miles. Fifty of our Solar System's would fill this gap if stacked end to end. This binary system must take about 100,000 years to complete an orbit.

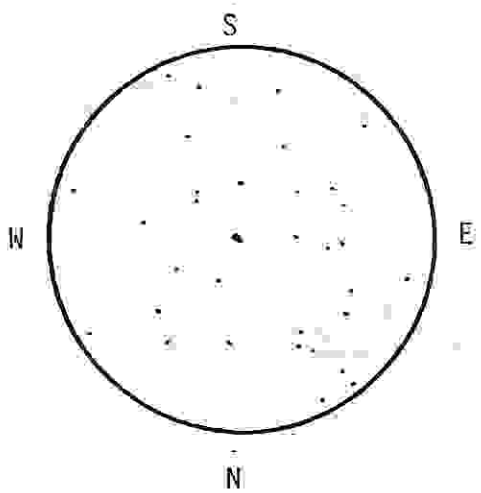
The yellow giant primary is also a very close binary system with a 5.5 magnitude companion star about 0".4 away at a P.A. of 142° (1995). It was first detected by H.A. McAlister on June 6, 1977 using a speckle interferometer with the 158" reflector on Kitt Peak. It was later spied by C.E. Worley using the 26" refractor at the U.S. Naval Observatory in 1979. Since its discovery it has decreased in separation 0".04 and 50° in P.A. The companion known as β Cygni Aa is a main sequence star with a spectrum of B0V.

β Cygni A has a luminosity of 1000 suns, and a spectrum of K3II. It's diameter is about 80 times greater than our Sun. The companion β Cygni B is a blue main sequence star with a spectrum of B9.5V. It has a diameter of about 1½ times the Sun, and a luminosity of 95 suns. The blue companion has a temperature three times greater than its cooler giant neighbor so that this pair displays an excellent color contrast.

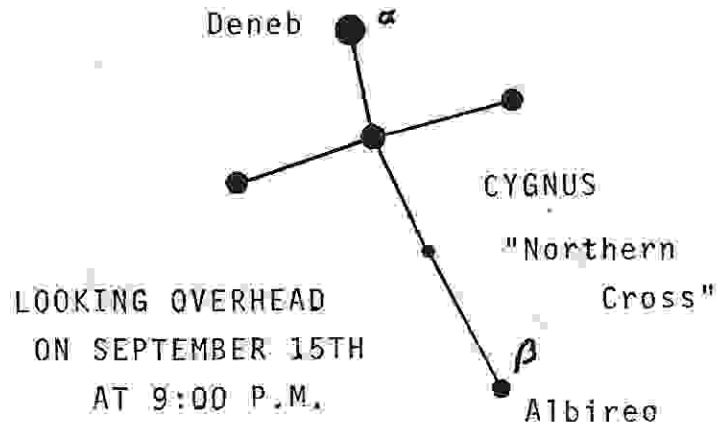
In my 3" telescope at 21x, with a 2° field of view, I see Albireo's components nearly in contact, with colors of topaz and sapphire appearing to be suspended in 3D against the numerous background stars of the Milky Way - what a magnificent sight!

To enjoy this grand double star, start at Deneb, Alpha (α) Cygni and move southwestward down the length of the "Northern Cross" some 25° until you find a 3rd magnitude star at its base. Or use these coordinates R.A. 19h 30m 43.1s, Dec. +27° 57' 35". Put in a low power eyepiece and savor this wonder of our Universe.

by Jeff Brydges



Albireo in a 3" telescope at 21x.



Constellation Report by Chris Lancaster

Pegasus

the winged horse

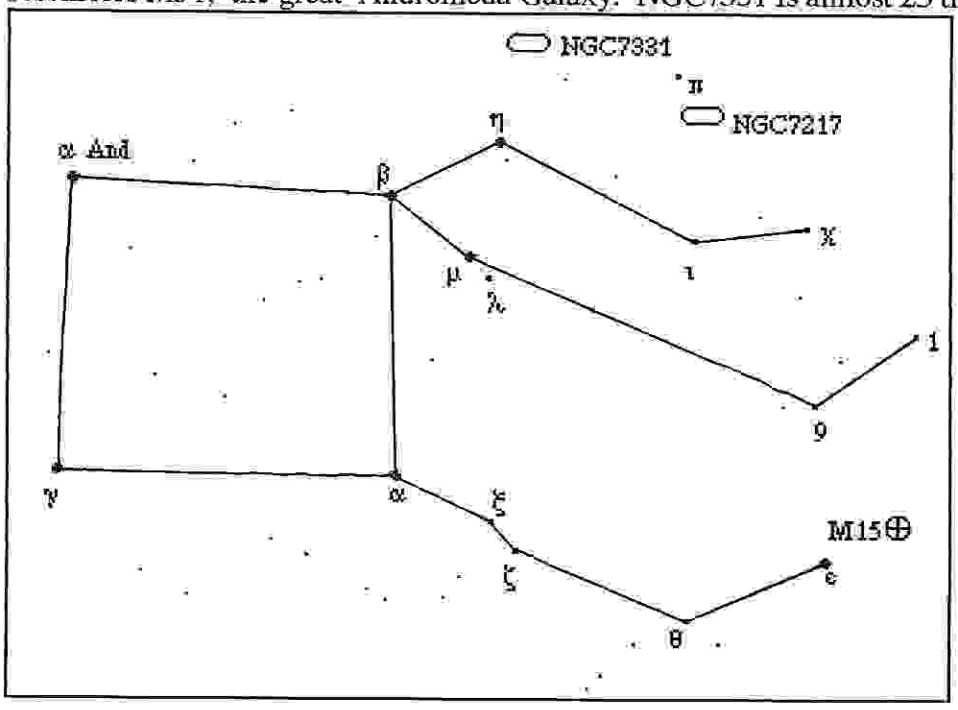
Mythology tells us that the exotic creature called Pegasus was born from the events related to the battle that Perseus had with Medusa, a Gorgon whose appearance was so ugly that any mortal who gazed upon her would turn to stone. To avoid gazing directly upon her, Perseus used the reflections in his shield to locate Medusa, and beheaded her with his sword. He carried her head with him to the seashore, and as drops of Medusa's blood fell into the breaking waves, Pegasus took shape from the mixture and soared skyward. The winged horse is always depicted as white, the same color as the sea foam from which he emerged.

As a very much admired horse, he was captured by Athena, who took him to Mount Helicon where he kicked the ground and started the sacred spring of Hippocrene. In other times, he was the companion of Bellerophon, a youth who, with Pegasus' help, destroyed Chimera, a greatly feared monster that breathed fire and was part lion, part goat, and part dragon. To honor the beloved horse, the gods gave him an eternal place in the sky, very near the zenith at 1 am on September 1st (10 pm at the end of the month.) The most recognizable feature of the constellation is the pattern of four prominent stars forming the "Great Square" of Pegasus (if we borrow the Alpha star from Andromeda) southwest of Cassiopeia and north of Aquarius.

The Arabic names given to many of the stars in Pegasus describe his body parts or are a tribute to the reverence shown toward the horse. Markab [Alpha (α) Pegasi] may mean "horse's shoulder" or "saddle"; Scheat [Beta (β)] translates to "shin" or "foreleg"; Algenib [Gamma (γ)] is the "side"; Enif [Epsilon (ε)] marks the "nose"; Homam [Zeta (ζ)] is thought to mean "hero"; and Sadalbari [Mu (μ)] most likely translates to "excelling one."

One of the sky's best globular clusters is located at RA 21h 30.0m Dec +12° 10' or about 4 degrees northwest of Enif, Pegasus' nose. This is M15 which glows at magnitude 6.5. The most striking feature of this cluster is the bright, compact core which blazes with an almost stellar brilliance. Overall, the size of this cluster, which can be seen as either a fuzzy circle in binoculars or a sprinkling of hundreds of stars in large telescopes, is about 10' in diameter. Another uniqueness of this cluster is the presence of k648, a small planetary nebula which seems to be a true member of the cluster and not a foreground object. Don't be disappointed when you don't see it, however. Its magnitude is 13.8 and it measures only 1" across--not surprising for an object such as this from 35,000 light years away.

NGC7331 is an easy NGC object to spot near the northern boundary of Pegasus. It shines at magnitude 10.4 and measures 10' x 2.5' and lies at RA 22h 37.1' Dec +34° 26', conveniently aligned with Mu (μ) and Eta (η) Pegasi when drawing a line northward. The best description of NGC7331 would be to say that it very closely resembles M31, the great Andromeda Galaxy. NGC7331 is almost 25 times more distant, so it appears about 25 times smaller. Through a telescope it shows its oval structure that is tilted only about 20 degrees from edge-on.



Not too far away, at RA 22h 08' Dec 31° 21.5', is another spiral galaxy of magnitude 11.3. In contrast to NGC7331, this galaxy is turned nearly face-on. It measures a small 2.5' in diameter, but it has fairly bright and tightly wound spiral arms which makes an overall structure that increases in brightness gradually from its outskirts to the nucleus. If you find NGC4217 by starting at the nearby star Pi (π) Pegasi, simply move 2 degrees south and 2' in RA west.

The "Great Square" of Pegasus is easy to find and one of the hallmarks of the fall sky. The full extent of the constellation gives us several appealing objects to study.

Chris Lancaster