

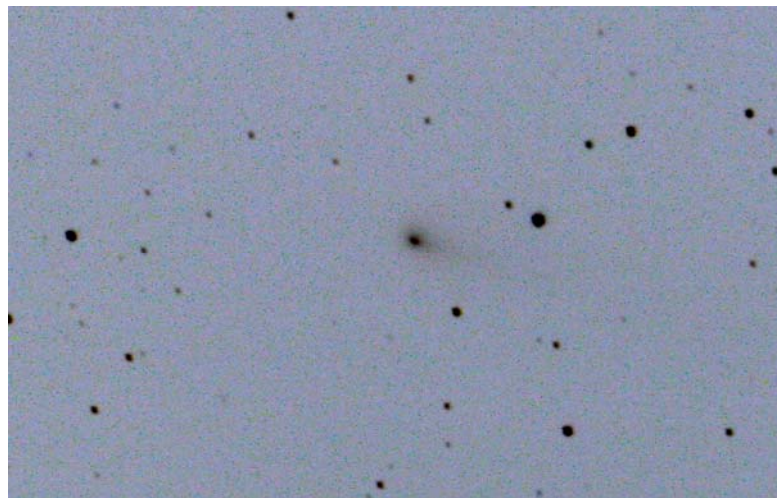


# Desert Skies

Tucson Amateur Astronomy Associa-

Volume LII, Number 10

October, 2006



Comet 4P/Faye

## Inside this issue

- ◆ Learn about Optical Telescope Design at the monthly meeting
- ◆ School and TAAA star parties
- ◆ Beginner's and Astro Imaging SIGs
- ◆ Object of the Month
- ◆ Constellation of the month

**Cover Photo:** Comet 4P/Faye. Imaged by Alfredo Garcia Jr. at prime focus through a 120mm f/5 Orion ShortTube Refractor piggybacked on 10" f/6.3 Meade LX200 SCT

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

TAAA Phone Number: (520) 792-6414

Office/Position	Name	Phone	E-mail Address
President	Bill Lofquist	297-6653	president@tucsonastronomy.org
Vice President	Ken Shaver	762-5094	vice-president@tucsonastronomy.org
Secretary	Steve Marten	307-5237	secretary@tucsonastronomy.org
Treasurer	Terri Lappin	977-1290	treasurer@tucsonastronomy.org
Member-at-Large	George Barber	822-2392	mal1@tucsonastronomy.org
Member-at-Large	JD Metzger	760-8248	mal2@tucsonastronomy.org
Member-at-Large	Teresa Plymate	883-9113	mal3@tucsonastronomy.org
Chief Observer	Wayne Johnson	586-2244	chief-observer@tucsonastronomy.org
AL Correspondent (ALCor)	Nick de Mesa	797-6614	alcor@tucsonastronomy.org
Astro-Imaging SIG	Steve Peterson	762-8211	astro-photo@tucsonastronomy.org
Computers in Astronomy SIG	Roger Tanner	574-3876	astro-comp@tucsonastronomy.org
Beginners SIG	Bill Lofquist	297-6653	novice@tucsonastronomy.org
Newsletter Editor	George Barber	822-2392	taaa-newsletter@tucsonastronomy.org
School Star Party Scheduling Coordinator	Paul Moss	722-2704	School-star-party@tucsonastronomy.org
School Star Party Volunteer Coordinator	Claude Plymate	883-9113	school-sp-volunteers@tucsonastronomy.org
Webmaster	Loretta McKibben		taaa-webmaster@tucsonastronomy.org
Club Sales	Ann Scott	749-4867	taaa-sales@tucsonastronomy.org
TIMPA Gate Card controller	Ray Toscano	529-3074	Ray_toscano@earthlink.net
Equipment Loan Coordinator	Richard Dougall	245-5441	elc@tucsonastronomy.org
Librarians	Claude Plymate	883-9113	librarian@tucsonastronomy.org
	Teresa Plymate		
Grand Canyon Star Party Coordinator	Dean Ketelsen	293-2855	gcsp@tucsonastronomy.org
General Information	Thom Peck	327-7825	Taaa-info@tucsonastronomy.org
	Terri Lappin	977-1290	
TAAA Board Of Directors	All Board Members		taaaobod@tucsonastronomy.org

### Membership in the TAAA

#### Annual Fees

Individual membership ..... \$25.00  
 Family (includes two adults plus minor children)..... \$30.00  
 Youth under 18 years must join as a family upon parental or guardian acknowledgement of participation in TAAA events. Ask the Treasurer for the required form.

#### Discounts (one discount allowed, subtract from above rates)

Seniors (over 60 years) ..... \$2.00  
 College Students, Teachers (K - 12)..... \$8.00  
 Youth under 18 yrs (form required, contact the treasurer)  
 ..... \$13.00

#### Options (add to above membership rates)

Tucson society of the Astronomical League (TAL) fees\$ 5.00  
 Sky & Telescope Magazine 1 year (12 issues)..... \$32.95  
 Astronomy Magazine 1 year (12 issues)..... \$34.00  
 2 years (24 issues)..... \$60.00  
 Postage for New Member Pack ..... \$ 4.05

**Donations** are accepted for the following funds: SA-IDA/Light Pollution, TIMPA, Education, 30" Telescope & Land, and General/Undesignated.

#### Renewal Information

- Your membership expires as indicated on your mailing label.
- TAAA members may join the Tucson society of the Astronomical League (TAL) at the time they join or renew.
- Discounted Sky & Telescope or Astronomy magazine subscriptions are available to members and can be started or renewed at anytime. Rates are given above. Allow 3 months for processing. Subscriptions must be sent through the TAAA. *Do not send money directly to the magazines.* To

change an individual subscription to the group rate, pay the subscription amount to the TAAA treasurer. Include your magazine renewal notice.

- Please include a note explaining what you are paying for. Credit cards are not accepted. Write one check or money order for fees plus any options or donations. Make it payable to TAAA and send to:

Tucson Amateur Astronomy Association  
 PO BOX 41254 Tucson, AZ 85717

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

**TAAA Mission Statement** - The mission of the Tucson Amateur Astronomy Association is to provide opportunities for members and the public to share the joy and excitement of astronomy through observing, education and fun.

**Desert Skies Publishing Guidelines** - All articles, announcements, news, etc. must be submitted by the newsletter deadline. Materials received after that date will appear in the next issue. The editor retains all submissions unless prior arrangements are made. Submissions should be submitted in Word compatible files via e-mail or on a recordable media.. All material copyright Tucson Amateur Astronomy Association or specific author. No reproduction without permission, all rights reserved. We will not publish slanderous or libelous material! Send submissions to:

George Barber  
 TAAA/Desert Skies Editor  
 15940 W Ridgemoor Ave Tucson AZ 85736

Desert Skies is published monthly by the  
 Tucson Amateur Astronomy Association, Post Office Box 41254, Tucson AZ 85717.

### President's Message

With the very positive reports of good observing experiences, it appears that we are back into our post-monsoon routines. We are getting more descriptions of members' observing sessions on the Forum. They are very interesting, so we hope you will continue to let us know how they are going.

The November general meeting will be Members' Night, so please be planning what you would like to share with the membership. We usually get some beautiful images as well as interesting reports on what people are doing. Let me or any of the Board members know that you will want to reserve some time on the agenda.

We have appointed Loretta McKibben to be the TAAA Web Master. Brian Harris will assist her. They have begun to work on the redesign of the TAAA web site and we should be seeing some results soon. Loretta is interested in getting member feedback as the web site takes shape. We appreciate the commitment that Loretta and Brian have shown to help us develop an outstanding site that builds

on what we already have and is worthy of an active astronomy club like ours.

At the time of the last red LED lamp workshop that Andrew Cooper led for us in August, there were several members who could not make that one who have indicated an interest in attending the next one. Andrew has volunteered to do another one before the holiday break toward the end of the year. If you would like to participate in the next one, let me know by a telephone call or an email message. We will be setting a date for it soon. I will also say something about it at the October general meeting.

Here's hoping we have some good observing nights in the weeks ahead and through the winter.

Bill Lofquist

### Meeting Information and Calendar of Events

**TAAA MEETING DATE:** Friday, Oct. 6, at the Steward Observatory Auditorium - Room N210

**ASTRONOMY ESSENTIALS:** 6:30 pm  
Title: Quarterly Objects in the Sky  
Speaker: Dr. Mary Turner

As we start the final quarter of the year 2006, it is time again to consider some of the objects that will be coming into view in our night sky. We will consider 10 objects, coming from among the constellations, planets, nebulae, galaxies, clusters, double stars, variable stars or any of the other remarkable sights available to us. Included will be information on how to find the object as well as some information that I hope will be of interest to TAAA members in their observations as well as to members of the community we meet during a Star Party.

**GENERAL MEETING:** 7:30 pm  
Title: An overview on the optical design of a telescope  
Speaker: Dr. Mary Turner

During previous Astronomy Essentials lectures, we have looked at several reflecting and catadioptric telescopes with a very general discussion of the imaging quality of these designs, especially related to aberrations. Tonight we will look more carefully at one particular telescope, the Bouwers-Maksutov. We will use this design to discuss the most common aberrations found in optical systems in general and look at the factors which contribute to these

aberrations as well as some methods for correcting aberrations. We will also consider the effects of aperture diffraction on the performance of the telescope. Lastly, there will be a brief discussion on the whys, hows and wherefores of baffles in the telescope.

**BOARD OF DIRECTORS MEETING:** Wednesday, Oct. 4. The meeting is held at Steward Observatory Conference Room N305.

**STAR PARTIES AND EVENTS:**  
07 Oct - S. Az. Families with Children from China Star Party  
14 Oct - TAAA and BSIG Star Party at TIMPA  
20 Oct - Donaldson ES Star Party  
21 Oct - TAAA Star Party at Las Cienegas

**NEWSLETTER SCHEDULE:** Deadline for articles: Sat, Oct. 21. Printing: Mon, Oct. 23. Folding Party: Tues, Oct. 24. Mailing: Wed, Oct. 25. The newsletter is mailed at least one week prior to the following month's General Meeting.

## Club News

### Member News

We welcome these members who have recently joined the TAAA: The Cluff Family (Kathleen, Jerry, Shannon, and Georgia), Scott Gibb, Melanie Heins, Ray Ihly, Jeff Richey, and Gary Skinner. Glad to have all of you join! New members can pick up a members pack at a meeting if they didn't request it by mail. Hope you'll make it to our star parties or meetings so we can all get to know you. (Updated membership lists are available online at either YahooGroups email list website under Files, or at most meetings.)

### Upcoming Lecture Schedule

Below is our upcoming lecture schedule.

Nov 3	<i>Members Night</i> begins at 6:30pm - No AE Lecture	
Dec 1	<i>Astronomy Essentials</i>	OPEN
	<i>Invited Lecture</i>	Dr Fulvio Melia

### Member's Night Next Month

Member's Night is next month. A sheet will be on the back table in the lecture hall so presenters can sign up for a time slot. We like to let the membership know what will be presented at Member's Nights so if you plan to present, let us know now. Astrophotos are great, as well as any astronomy related project you may be up to. You don't need a well-polished PowerPoint presentation. If needed, you can use the digital overhead projector, the lecture room PC (thumb drive or CDs), or you can connect your own laptop to the projection system. (Mac users must bring their own adaptor.)

### 2007 Calendars

Calendars for 2007 will be available for purchase at regular meetings this fall. You'll find them at the same table where you purchase TAAA apparel. This year you have your choice of either the Sky Publishing "Celestial Wonders" or the Astronomy magazine "Deep Space Mysteries" calendars...or get both. The cost for a calendar is \$10 each (~\$3 off the regular selling price), or \$9 each for more than one. These calendars have information about astronomical events and room for your own important dates.

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

### Astro-Imaging SIG Meeting

Monday, Oct. 9, 7pm

China Rose, NE corner Speedway/Rosemont

Our presentations feature CCD images, planetary webcams, and film. Come see some of the state of the imaging art over some Chinese food. Just show up and enjoy the show! For more information, contact Steve Peterson.

### October BSIG

The BSIG dates for October will be 10/11 for dinner at the China Rose Restaurant (6pm, the northeast corner of Speedway and Rosemont) and 10/14 (the following Saturday) for observing out at TIMPA. We will have our usual discussion of objects suitable for observing in October, as well as informal discussions of our own observing projects and progress.

In the September meeting Lou Faix gave us a talk on planetary observing and sketching, and on tracking the retrograde motions of naked eye planets. We also had a presentation on carbon stars and double stars from JD Metzger and an observing list for September presented by Mary Turner. The efforts of those who stepped up to help us last month are greatly appreciated.

We still have space in the October meeting for presentations of interest to beginning observers. We are looking for members who are willing to share their experience with such matters as caring for optics (cleaning eyepieces and mirrors), making planetary and solar observations, sketching techniques, demonstrations of astronomy related software, or any other topic you think might be of use to beginners. If you have an idea and are willing to share your knowledge, contact a BSIG committee member or send us an email at: [novice@tucsonastronomy.org](mailto:novice@tucsonastronomy.org).

Hope to see some of you in October!

The BSIG Committee

### TAAA Apparel

Looking for a special gift, or a way to make that fashion statement? Try on something from our fine line of club apparel. We've got hats, T-shirts, denim shirts, and patches. We take cash and checks.

Club apparel will be sold at the October meeting. We have sweatshirts, denim shirts and knit caps. Sky and Telescope and Astronomy Calendars will also be sold at the apparel table. I will be taking special orders for briefcases, jackets and gym bags (samples will be on display at the meeting.) Please make sure to place any special orders at the meeting or send me an email at [taaa-sales@tucsonastronomy.org](mailto:taaa-sales@tucsonastronomy.org). I need the orders no later than Sunday, October 8th.

### Club News (cont.)

#### **In-City Public Star Parties:**

Jim & Karen Telewski

Well, as most of you already know, the "in city public Star Party" for October 28th, has been shelved and further activity on in city public star parties is tabled until after January 1st., 2007. This information is already recorded in the minutes of the board meeting of September 6th. Simply put, we ran into a few snags getting access to the Library system for the day in question. None of the libraries are open past 5:00 pm on Saturdays. They are open late during the week from Monday thru Thursday. But this conflicts with school.

We are in contact with the El Rio Community Center about the possibility of holding star parties at that location on Friday evenings. El Rio is open Monday thru Friday to 9:00 PM. But we will need to see if we can dovetail with their events.

We are also in contact with the Pima County Parks Department via Rob Yaksich the park dept.'s education director, about the possibility of getting access to part of Rillito Raceway and another park to be announced later for future in city star parties. The main issues are having access to restrooms, a facility that is open at least to 9:00 PM and that is on or close to a Sun Tran route for easy transit access. Once these kinks have been worked out we will be able to proceed.

We were also asked to check and see if the Zoo was going to do anything with astronomy for Halloween this year. They told us that they tried last fall. That although they did have a telescope at the event, it didn't work out for them - too much other activity. They were still considering the possibility of coordinating some astronomy related event with their holiday lights display for December. We will keep an ear on this and bring further news when and if available. Thanks for your patience. We'll keep you informed.

#### **THANK YOU!**

Imagine the club's surprise that Thom and Twila Peck had virtually nothing to say when they were presented with a card and gift at the September 2006 TAAA meeting. We bet you wouldn't expect us to be so speechless! We are quite humbled by the club's generosity. It was also an honor and delight to have David Levy do the presentation. Our thanks to him for his kind words (and even his illustration!) and to Liz and John Kalas, Terri Lappin, Wendee Levy, and Loretta McKibben for their efforts in preparing the recognition activities. The cakes were delicious!

We wish to thank everyone in the club for supporting us through Thom's years as Vice President and President. It was truly a pleasure to work with such a talented, hard-working group of people. We want you all to know that we will not leave Tucson in spirit, just body. We plan on being back from time to time for visits and the occasional meeting. Again, thank you from us for being our Tucson astronomical family. Keep in touch.

Thom and Twila Peck

#### **Basha's Thanks A Million Program**

The TAAA is participating in Basha's Thanks a Million for Friends and Neighbors program. This is a no-brainer fundraising campaign. At your next run to Basha's, give the cashier our ID #23178. It's that easy! Just do it once. The TAAA could receive a donation from Basha's of 1% of all purchases, up to \$2500. The program runs until March 31st. If you participated last year, you still need to re-connect your Thank You card this year. Thanks to everyone who participates.



## Our Sponsors

**STARIZONA**  
ADVENTURES IN ASTRONOMY AND NATURE

5757 N. Oracle Rd.      www.starizona.com  
Tucson, AZ 85704      292-5010

*SINCE 1986*

**Stellar-Vision Astronomy Shop**

1835 S. Alvernon #206

Tucson, AZ 85711

(520) 571-0877

Credit Cards accepted.



## Club News (cont.)

### Halloween Astronomy Fun

By Terri Lappin

Halloween is a great time to get your scope out for the neighborhood kids. We'll have a 10-day old moon (between 1st quarter and full), so that's probably the best object to set up on. You might want to try using a neutral density filter to cut down on the intensity, or use higher power and zoom in on an interesting part of the terminator. The impact crater Copernicus will be well placed for observing. This crater is about 60 miles across and the walls are just over 11,000 feet tall. There are three central mountains that are about 3900 feet tall.

For your convenience, here are some moon facts: The moon is about 1/4 the diameter of the Earth (large by comparison to other planet/satellite ratios). The moon is about 1/100th the Earth's mass. On the moon, you would weigh 1/17th your Earth weight. On Halloween this year, the moon will be about 230,000 miles away.

Some lunar websites:

<http://tinyurl.com/zq97h>: Virtual Moon Atlas (freeware program) on the astrosurf.com website

<http://tinyurl.com/mde6w>: Origin of the Moon on the Planetary Science Institute website

<http://tinyurl.com/z5uek>: Many additional lunar websites on the Shallowsky website

Uranus and Neptune are also up this Halloween. Uranus will be about 4 degrees NE of the moon. Neptune will be found above Capricorn. Both can be seen with binoculars but to locate them you should use a finder chart such as that found at <http://tinyurl.com/qezbz> (on the Sky Publishing website). Neither of these planets show much detail but Uranus will appear greenish and Neptune bluish. Uranus is unique in that its pole is tipped 98-degrees to the ecliptic, so it almost "rolls" along its orbital path. Why this is so isn't understood. William Herschel discovered Uranus in 1781. In 1846, after John Couch Adams and Urbain Jean Joseph Le Verrier independently calculated where Neptune would be, the planet was first wittingly observed by Johann Gottfried Galle and Heinrich Louis d'Arrest. Both Adams and Le Verrier based their calculations on observations of Jupiter, Saturn and Uranus.

Here are a few guidelines to help make your Halloween a success. Set up your telescope near the sidewalk with a jack-o-lantern or similar attention getting, but dim, light source nearby. Spooky music gets attention too! Make sure power cords don't become trip hazards. Leave your patio lights off to draw kids away from your front door and towards you and the telescope. Be sure to have a stepladder handy for the little ones. The tendency is for people to support themselves by leaning against the telescope so politely warn them not to touch your telescope, explaining that it's carefully balanced and will not support their weight. It's best to use an eyepiece with some eye relief as they are more comfortable to use; however I also recommend using an eyepiece you didn't

pay too much for. Many kids wear makeup, and that stuff can get all over your eyepiece! I put an eyecup on my eyepiece, which takes the brunt of the makeup. If you need to clean your eyepiece after the night is over there is information about doing this in the TAAA member's pack, or you can request that information from me.

Have fun and be sure to tell me your experiences. If you enjoy this kind of informal observing you might want to give a school star party a try.

### AZ School Tax Credits in Support of Science

Arizona law provides a credit against state income taxes for donations to Arizona schools. Married couples can deduct up to \$400 against taxes for donations to support extra-curricular activities at public schools, and single individuals can deduct up to half that amount. Qualifying activities include Science Olympiad and science clubs, for example, and your contributions can be designated for specific schools and activities. Additional tax credits are available for donations to private schools through qualifying school tuition organizations. A donation made during calendar year 2006 reduces your state income tax liability dollar for dollar (up to the stated limits) when you file your return for 2006. Additional information on the credits can be found at

<http://www.azdor.gov/brochure/707.pdf>.

With many TAAA members participating in Project Astro, and some of the Project Astro teachers now club members, we are organizing information on how TAAA members can use the school tax credit provisions, if they wish, to support science education. School teachers (or their astronomers) are invited to submit information on how donations would be used at their schools, how to designate the donation for those uses, and who to contact to obtain the donation form for their district. The information we receive will be distributed to TAAA members in an information packet. Please contact Robert Crawford at 520-546-1490 or at [rincon-ranch@earthlink.net](mailto:rincon-ranch@earthlink.net) to submit information about your school or to have your name put on the distribution list for the information packet.

<b>Items of Interest</b>
--------------------------

**Websites: Trips On The Internet Super-Skyway**

By Rik Hill

## Plumbing the Depths....

Modern webcams and CCD cameras have given the amateur astronomer unprecedented ability to record things not even seen by the professional astronomers only a couple decades ago. Recently, with Uranus at opposition, this planet has been the favored target challenge for amateur planetary imagers. Of course, the fact that no other brighter planets are easily available in the evening sky helps too.

The first thing the amateur might try is imaging the moons of Uranus like John Sussenbach in the Netherlands has done:

<http://home.hccnet.nl/j.sussenbach/C11planet.htm>

Unfortunately his images are several years old but they are still impressive. He also imaged Neptune, a much more difficult feat. All this was done with a C11, ToUCam and AstroStack. Well done!

Also a little out of date but still a good discussion on the topic of image Uranus is Christophe Pellier's page at:

<http://www.astrosurf.com/pellier/planeturanus>

If you want to explore this website and it's links further than this page, you'd better read French!

Richard Bosman, also in the Netherlands, uses a 280 mm SCT to image Uranus and gets the kind of results that I would expect:

<http://www.astrofotografie.nl/Celestron%2011%20%20Planeten%201.htm>

While you are there take a few moments to check out his lunar images too!

Daniele Gasparri has done some interesting work. He seems to show the south polar cap using a 23cm telescope. Unfortunately he does not detail the processing or the optical configuration of the telescope:

[http://www.danielegasparri.com/amateur\\_astronomy/articles/webcam\\_imaging\\_remoter\\_planets.htm](http://www.danielegasparri.com/amateur_astronomy/articles/webcam_imaging_remoter_planets.htm)

Several amateurs have taken these kinds of images and done some more extreme forms of contrast processing to get very interesting results. One of them is Rolando Chavez of Powder Springs, GA, who has done just this and gotten results that allow him to compare his images to HST images taken at nearly the same time.

[http://www.anacortestelescope.com/gallery/view\\_photo.asp?pid=9961&c=15842](http://www.anacortestelescope.com/gallery/view_photo.asp?pid=9961&c=15842)

Give it your best shot if you have one of these webcams. I certainly have been trying. But if you don't have one, take a look at it through your telescope and see if you can spot the moons. There's a good diagram on p. 53 of the Sept. Sky and Telescope that can help you identify them until

Oct. 1. After that you could go to something like these web pages.

Uranus Moon Tracker 2.1:

[http://pds-rings.seti.org/tools/tracker2\\_ura.html](http://pds-rings.seti.org/tools/tracker2_ura.html)

or Uranus Ephemeris Generator 2.2:

[http://pds-rings.seti.org/tools/ephem2\\_ura.html](http://pds-rings.seti.org/tools/ephem2_ura.html)

JPL Solar System Simulator

<http://space.jpl.nasa.gov/>

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

**OBSERVING TECHNICIAN/GUIDE**

Kitt Peak National Observatory is looking for enthusiastic individuals, to help conduct its Night Stargazing Programs (beginning and advanced). The position requires knowledge of astronomy, skill in the area of public speaking and proficiency with computers and amateur telescopes. Knowledge in the area of CCD imagery is highly desirable.

This is a part-time position with flexible evening hours. . Transportation is available via employee-driven vehicles from our Tucson Headquarters. Meals and lodging are provided. Excellent benefits. <http://www.noao.edu>. Send resume electronically (preferred), mail or fax and reference Observing Technician/Guide, Job #813.

NOAO Human Resources Department

P.O. Box 26732

Tucson, AZ 85726-6732

Email to hrnoao@noao.edu

FAX: 520-318-8494

Preference will be given to qualified Native Americans living on or near the Tohono O'odham reservation. AA/EEO

**Member's Events**

**TAAA and Beginner's SIG Star Party at TIMPA**  
 Saturday, Oct. 14

Come on out and enjoy the autumn skies! TIMPA star parties are great for both beginners and experienced observers. Our novice members can get help with observing issues or equipment problems, as there are many experienced members there who would be happy to help. If you don't own a telescope, come anyway, because there are lots of telescopes set up and everyone is invited to look through them. This is a great way to check out different telescope designs before you make that all-important decision to buy. There is no scheduled talk for this activity, just come out and enjoy. We'll do our best to get you the answers you need. If you have friends or relatives who are curious about amateur astronomy, feel free to bring them along. The TIMPA site features a large parking area, and full restroom facilities. Be prepared for cold temperatures after sunset. Directions to the TIMPA site are located on the outside flap of this newsletter.

**TAAA Star Party at Las Cienegas (Empire Ranch)**  
 Saturday, Oct. 21

Las Cienegas (formerly Empire Ranch) has been our normal dark-sky observing site for quite a number of years. Please 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 astro-images. 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. And, there are now restroom facilities at the site.. Las Cienegas is at 4000 feet, and fall is here, so be prepared for cold temperatures after sunset. 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 back up and turn on your bright white backup lights. See the directions to Las Cienegas on the outside flap of this newsletter.

**Dark Skies for October 2006**

**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**

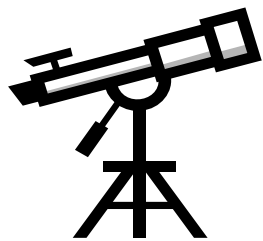
Sa/Su 30/ 1	23:51 - 4:56	Tu/We 10/11	19:18 - 20:32	Sa/Su 21/22	19:06 - 5:11
Su/Mo 1/ 2	1:00 - 4:57	We/Th 11/12	19:17 - 21:27	Su/Mo 22/23	19:05 - 5:11
Mo/Tu 2/ 3	2:11 - 4:58	Th/Fr 12/13	19:16 - 22:27	Mo/Tu 23/24	19:04 - 5:12
Tu/We 3/ 4	3:22 - 4:59	Fr/Sa 13/14	19:15 - 23:28	Tu/We 24/25	19:03 - 5:13
We/Th 4/ 5	4:34 - 4:59	Sa/Su 14/15	19:14 - 0:30	We/Th 25/26	19:48 - 5:14
Th/Fr 5/ 6	- - -	Su/Mo 15/16	19:13 - 1:29	Th/Fr 26/27	20:41 - 5:14
Fr/Sa 6/ 7	Full Moon	Mo/Tu 16/17	19:12 - 2:26	Fr/Sa 27/28	21:42 - 5:15
Sa/Su 7/ 8	- - -	Tu/We 17/18	19:10 - 3:21	Sa/Su 28/29	22:47 - 5:16
Su/Mo 8/ 9	- - -	We/Th 18/19	19:09 - 4:15	Su/Mo 29/30	23:56 - 5:16
Mo/Tu 9/10	19:20 - 19:43	Th/Fr 19/20	19:08 - 5:09	Mo/Tu 30/31	1:04 - 5:17
Fr/Sa 20/21	19:07 - 5:10				

Weekend	Sun	Sun	Mercury	Venus	Mars	Jupiter	Saturn	
Sa/Su	Set	Rise	Set Vi	Rise Vi	Set Vi	Set Vi	Rise Vi	Vi=Visibility
30/ 1	18:08	6:16	18:59 6	5:44 6	18:28 -	20:08 0	2:36 1	-3 brilliant
7/ 8	17:59	6:21	18:56 6	5:58 8	18:13 -	19:45 0	2:12 1	0 conspicuous
14/15	17:51	6:26	18:51 5	6:11 -	17:59 -	19:22 1	1:47 1	3 moderate
21/22	17:43	6:31	18:43 5	6:25 -	17:44 -	18:59 2	1:23 1	6 naked eye limit
28/29	17:35	6:36	18:26 7	6:38 -	17:30 -	18:37 4	0:57 1	9 binoculars limit

By Erich Karkoschka



**Telescopes for Borrowing**



Free service



Only for Members

Don't own a telescope?  
Our Loaner Program is your answer!

These telescopes are in the program

- Sears 60mmf/15 on equatorial mount
- Unitron 62mmf/14.5 on equatorial mount
- Meade 90mm ETX
- Coulter Odyssey8 8-inch f/4.5 Dobson
- Meade 8-inch f/4 Schmidt-Newtonian LXD-55
- Meade 10-inch f/4.5 on equatorial mount
- Meade 10" LX200 GPS (requires training session)

Beginners, here's your chance to learn and observe the sky before buying any equipment. The Loaner Program is available to any current member after meeting requirements detailed in the TAAA Loan Policy. Contact the Equipment Loan Coordinator (see page 2) for details about these telescopes.

**Public Star Parties and Community Events**

All members of are asked to support the TAAA School Star Party program and other community events listed below. TAAA either sponsors or co-sponsors these events. These are great opportunities for beginners as you may only need to know a few objects in the sky. Even without a telescope, you can be valuable in other capacities. Sign up sheets for many events can be found at the meeting or contact a TAAA officer.

**S. Az. Families with Children from China Star Party**

Saturday, 10/7/2006

**Central**

No. of Scopes: 2

Southern Arizona Families with Children from China will be celebrating Mid-Autumn Moon Festival at 2900 N. Craycroft. From Speedway and Craycroft. Go north on Craycroft to Ft. Lowell Park (just north of Glenn). You can enter the park from Glenn or from Craycroft. Viewing will be on the basketball court. Contact person Anna Spitz can be reached at 621-9379 or email [aspitz@as.arizona.edu](mailto:aspitz@as.arizona.edu). Set-Up Time: 6:00pm. Observing will be from 6:30 pm to 8:00pm. Sunset: 6:01pm Dark Sky: 6:54pm Moon Phase: Full Moon.

**Donaldson ES Star Party**

Friday, 10/20/2006

**Northwest**

No. of Scopes: 5

Donaldson ES will be preparing Exploring the Night Sky at 240 W Omar Drive. Take La Cholla Blvd North from River Road. Go right (east) on Omar Drive (Omar is the next traffic light north of Orange Grove Road). The school is on the North side of the street, immediately after turning onto Omar. To enter the playground, turn into the last parking lot entrance (someone will be there to direct you to the exact observing position). Contact person Samuel Cox can be reached at 794-1663 or email [samuel@coxfamilyhome.net](mailto:samuel@coxfamilyhome.net). Set-Up Time: 6:00pm. Observing will be from 6:30 pm to 8:30 pm. Sunset: 5:46pm Dark Sky: 6:39pm Moon Phase: (no moon during viewing).

**Desert Skies Classified**

For Sale	Meade ETX-70AT w/883 heavy duty tripod, 495 Autostar handbox; PL4, PL6, MA9, MA25, 124-2X Barlow lenses, LPR filter, 670 dewshield, 827-8 x 25mm right angle view finder, 07379-T mount for Olympus OM 35mm camera, 2 flexible shutter release cables, extra battery pack. OM Olympus camera, 9 vdc adapter mounted on 883 tripod frame w/ 100 ft 3-wire outdoor power cord (to substitute for use of a battery pack, where 110 V power is available), (used 3 evenings) - valued over \$1500, asking \$750. Harland Beckman, 520-722-5070. [02/07]
For Sale	TeleVue TV-102 4" APO Refractor and optional accessories. Excellent condition, reasonable price. Email J.D. Metzger at <a href="mailto:jayhawk68@cox.net">jayhawk68@cox.net</a> for details. [02/07]
For Sale	Orion Astroview 120 ST EQ, with Dual Axis Drive Controller [not go-to] and polar alignment scope. \$300. E-mail Jim Charboneau at <a href="mailto:stellarobservatory@starband.net">stellarobservatory@starband.net</a> [11/06]
For Sale	3 year young Meade ETX 70 scope that has been used maybe 5 times. It has two eyepieces (9mm and 25mm), field tripod, hand-held remote, software, and carrying case (soft-pack). Like new. Asking \$275.00. Jim can be reached at 480-947-9904 (Scottsdale) [10/06]

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 or e-mail the newsletter editor.

### Object of the Month by Alfredo Garcia

Howdy, fellow stargazers! Sorry I was not able to submit an OTM for Sep 2006, but I was busy moving my family to the LA area. I will be leaving Tucson for LA myself in the Oct 2006 timeframe. So this is likely my last OTM input unless my move gets delayed into Nov 06. I will miss Tucson and TAAA for sure and I do plan to revisit from time to time. I have enjoyed composing these articles and I hope you have enjoyed reading them as well. Anyway, here we are at Oct 2006 already! I was reading the Oct 2006 issue of Astronomy Magazine and found an article on an object that sounded interesting. This month, the OTM is a periodic visitor to our solar system. The ancient Greeks referred to such visitors as "aster kometes" or longhaired stars. These longhaired stars are referring to the class of objects we know as comets.

Without any further introduction, I present to you the Oct 2006 OTM, the periodic comet known as 4P/Faye. The French astronomer Hervé Auguste Étienne Albans Faye (3 [Oct 1814](#) - 4 [July 1902](#)) of the Royal Observatory in Paris discovered this comet on 23 Nov 1843. His discovery of "Faye's comet" earned him world-wide notoriety and won him the [Lalande Prize](#) (an award for the main astronomical performance of each year) and a membership in the [Academy of Sciences](#). The image at Figure I is a portrait of Faye.



Figure I

He found the comet in the constellation of Orion near the star Gamma Orionis. The comet was about a day before its closest point to Earth (0.79 AU) and by the end of Nov 1843 it was visible to the naked eye. The comet was kept under observation in the month's that followed its discovery. By Jan 1844, British astronomers January T. Henderson and John R. Hind realized this comet was moving in a short-period orbit. Although the initial orbital period was computed at 6.58 years, additional observations allowed these astronomers to independently revise the orbit to 7.43 years. According to the latest modern computations (Epoch 6 Mar 2006), the comet has a period of 7.545 years which is quite in agreement with the 1844 figure. Faye's comet has as such been given the designation of Comet 4P/Faye indicating that this was the fourth periodic comet to be discovered. The honor of the first goes to Comet 1P/Halley.

Like all comets, 4P/Faye loops around the Sun. As comets approach the Sun, gas and dust will burn off at an increasing rate. Sunlight reflecting from this material will make the comet's coma (nebulous envelope around the nucleus) grow brighter. The resulting gas and dust will be pushed away by charged particles known as the solar wind, forming comet tails.

Dust particles form a yellowish tail known as a dust tail while ionized gases generate a bluish colored tail known as an ion tail. The diagram at Figure II shows these various phenomena and features. Faye's Comet will reach perihelion or its closest approach to the Sun on 15 Nov 2006 at a distance of 1.667 AU. Perigee or its closest point to Earth will be on 30 Oct 2006 at a distance of 0.68 AU. As a point of interest, this distance from Earth will be closer than the perigee at the time of discovery which was 0.79 AU.

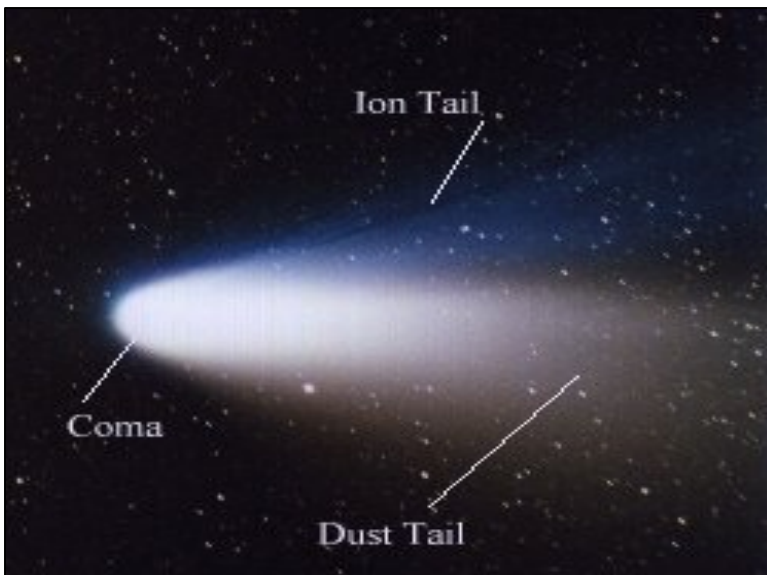


Figure II

Comet 4P/Faye will be well placed for observation during this month. On 1 Oct it will be located in the constellation of Aries (The Ram) and shine at magnitude 10.44. As it moves southeasterly across the sky, it will pass through Aries into the constellation of Cetus (the Whale) where it will be till the end of the month and beyond. As mentioned above, the comet will reach perigee on 30 Oct 06 and perihelion on 15 Nov 06 and as a result current brightness predictions state that it should brighten to about magnitude 9.0 by month's end. On 1 Oct, it rises about 7:00 pm MST from here in Tucson and remains visible the rest of the night. As the month goes on, its position in the early evening improves with the comet getting higher and higher at sunset. The chart at Figure III contains the comet's positions in 5-day increments throughout the month as seen from here in Tucson at 10:00 pm MST. For more detailed information you can go to the NASA Ephemeris Generator on the Internet at:

<http://ssd.jpl.nasa.gov/horizons.cgi>.

It is easy to use and provides you with a wealth of data on the comet to include positions, brightness estimates, etc. Give it a try!

**Object of the Month by Alfredo Garcia (cont.)**

DATE	TIME	RA	DEC	AZ	ALT	MAG
2006-Oct-01	22:00 MST	02 05 56.17	+12 40 01.2	96.9193	34.7168	10.44
2006-Oct-05	22:00 MST	02 07 12.74	+11 56 57.1	99.9394	37.3786	10.34
2006-Oct-10	22:00 MST	02 08 18.84	+10 57 16.5	104.1691	40.6944	10.23
2006-Oct-15	22:00 MST	02 08 55.96	+09 52 27.2	108.9694	43.9536	10.14
2006-Oct-20	22:00 MST	02 09 10.64	+08 44 26.1	114.4052	47.0946	10.06
2006-Oct-25	22:00 MST	02 09 11.71	+07 35 35.1	120.5249	50.0433	10.01
2006-Oct-31	22:00 MST	02 09 09.25	+06 15 27.0	128.7972	53.2155	9.98

Figure III.

As an added treat during the month, 4P/Faye will rendezvous with an NGC object as it moves through the constellation of Aries. On the night of 10 Oct 06, the comet will pass very close to NGC821, a 10.7 magnitude galaxy (See Figure IV). According to my PLUTO GUIDE astronomical software, the closest approach of 1.8 arc minutes occurs at about 5:00 pm MST on the 10th, but by 10:00 pm when the comet is high in the sky, the galaxy and comet will be about 2.8 arc minutes apart. Unfortunately, if you wait much past 8:30 pm here in Tucson, the 79% lit rising Moon will interfere with your viewing. At this time of Moonrise, the comet will be about 25 degrees above the horizon and should still present a fairly good visual and imaging opportunity. Compare the visual views in a telescope of the two objects. You can note the two objects and compare them, but at the same time realize that the comet is about 67.2 million miles from Earth on this date and the galaxy is 75,000,000 million light-years distant. This is what makes astronomy interesting! Wouldn't you agree?

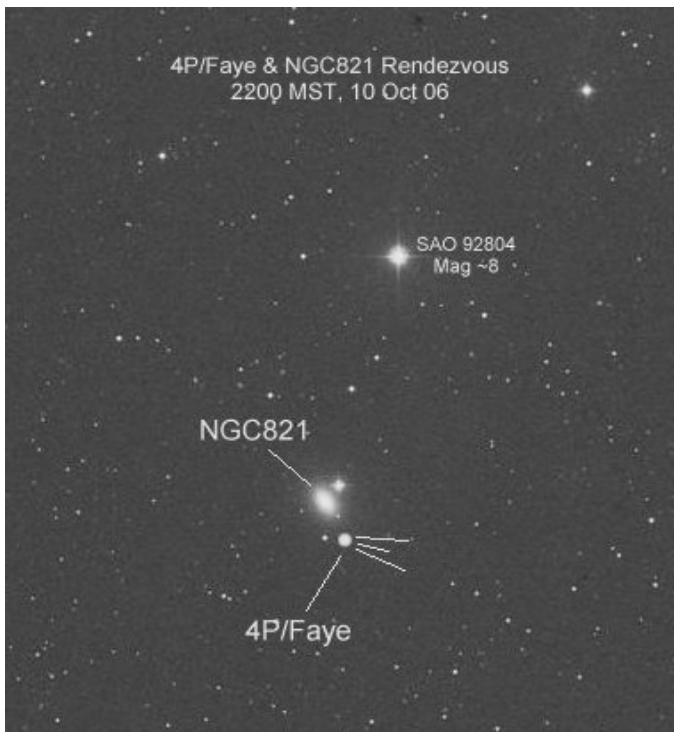


Figure IV

brighten and likely become larger in apparent size. So if you have the equipment, do get out and image this piece of astronomical history for yourself. I think it will be very exciting! Good luck and success in your own observing and imaging endeavors of the fourth periodic comet to be discovered!

Comet 4P/Faye will be at best only a good view in a telescope throughout the month. To improve this view, the comet is best observed from a moonless dark sky location and when it is high above the horizon. Imaging the comet may be a better option if you have the equipment to do so. Even if you don't have an astronomical CCD imaging camera like SBIG, Starlight Xpress, etc., you can shoot a nice image with a digital SLR camera. I have a Canon EOS Digital Rebel XT SLR (love the camera by the way!!) and on 17 Sep 06 when we had a nice break in the monsoon for us here in Arizona, I was able to image 4P/Faye in about 5 minutes from the front yard of my house on the south-east side of town. I took the image at prime focus through a 120mm f/5 Orion ShortTube Refractor piggybacked on my 10" f/6.3 Meade LX200 SCT. Figure V (located on the front cover) is the comet image in both positive and negative views. At the time of the imaging, the comet was 79.9 million miles from Earth and at about magnitude 10.9. The apparent size was about 2.7 arc minutes. The imaging opportunities for Oct 2006 will be much better as it will

**SAIDA NEEDS MORE HELP FROM MORE TAAA MEMBERS. AFTER ALL, WE WILL ALL BENEFIT FROM DARK SKIES IN OUR AREA !!!**

For more information, go to: [www.sa-ida.org](http://www.sa-ida.org)

Or feel free to contact:

John Polachek  
 President of SAIDA  
 E-mail: [jpolach@dakotacom.net](mailto:jpolach@dakotacom.net)  
 Telephone: 743-1362

SAIDA meets on the second Wednesday of each month from 5:30 to 7:30 PM in the IDA office located at 3225 N. First Ave, just North of Ft. Lowell. And.....

**WE USUALLY HAVE PIZZA !!!**

**TAAA Board of Directors Meeting - September 6, 2006**

Attending: TAAA Board Members present: Bill Lofquist, presiding, Ken Shaver, Steve Marten, Terri Lappin, George Barber, Teresa Plymate and JD Metzger. Members present: Claude Plymate, Robert Crawford and Ray Toscano. President's Call to Order: 6:37PM

**August Minutes.** Accepted. Unanimous.

**Member Feedback**

All-Arizona Star Party coming up next month and will be featured in October Newsletter.

Continued interest in purchasing land for TAAA observing site. *The Board is committed to formally addressing this issue in the near future. The current priority is TIMPA Observatory.*

**Announcements**

None

**Arizona School Tax Credits in Support of Science - Robert Crawford**

Robert explained the provisions of school tax credits from individual taxpayers to schools, in support of their school science programs. A taxpayer can make a contribution to a school of choice and receive a dollar-for-dollar tax credit on their Arizona tax return. Before contributing members could learn how their dollars could be applied to classroom projects of interest. The President directed that a tax advisor review details to ensure this program would be beneficial to TAAA members and schools. Robert has prepared a tax credit newsletter article for the October edition.

**Website Redesign** - Bill Lofquist and Terri Lappin

Loretta McKibben, well versed in web design, will be invited to join the Website Redesign Committee along with Brian Harris and Terri Lappin, as Dean Salman has tendered his resignation as webmaster.

**Star Party Update** - Jim and Karen Telewski

Jim discussed details involving public star party events at public libraries and the limited time slots that have been offered. Public libraries in town may not be suitable for public star parties for this and other reasons. Jim and Karen have contacted El Rio Community Center to offer observing on their movie nights and Jim will check feasibility of offering star party events at the zoo. The President thanked them for their work thus far.

**TIMPA Observatory** - Bill Lofquist

Steve Ratts and John Harris of SMR Construction met with TIMPA President Mike Cummins regarding feasibility and costs of moving the observatory site to satisfy FEMA requirements. The TIMPA Observatory Committee will meet with several Board members 9.11.06 to discuss feasibility and cost data to expedite completion of the Observatory.

**Las Cienegas Renovation Plan** - Ken Shaver

Ken described details of renovation planned by Bureau of Land Management (BLM) including a camping section (where TAAA events will be held), ample parking, and ATV and equestrian trails. Also planned are small event trailheads, picnic tables, and structures for shade and information kiosks. Parts of airstrip will be landscaped to reclaim land to natural habitat. To reduce dust, gravel surface is planned for roads and parking lots. Lavatories (one constructed, another in progress) will not include running water. Ken will relay permit costs when known. Star party dates should be supplied to BLM a year in advance.

**Tax Advisor** - Terri Lappin

Terri recommended Keith Schlottman, CPA and TAAA member for completing and filing our tax returns and related paperwork each year. Keith has offered his services as a contribution to TAAA.

**Master Schedule** - Steve Marten

Steve reviewed past TAAA Master Schedule procedures and proposed that the Secretary assemble the annual Master and updates, obtain Board approval for each and post on Tucson Astronomy E-List. Steve was directed by the President to begin work on the 2007 Master Schedule and La Cienegas dates for the 2008 Master Schedule. As BLM will request star party scheduling a year in advance it will be necessary to maintain the Master for the next year and for Las Cienegas the year after.

Adjourned at 9:18 p.m.

Respectfully Submitted,  
Steve Marten, Secretary

Constellation Report by Chris Lancaster

# Piscis Austrinus

The Southern Fish

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

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

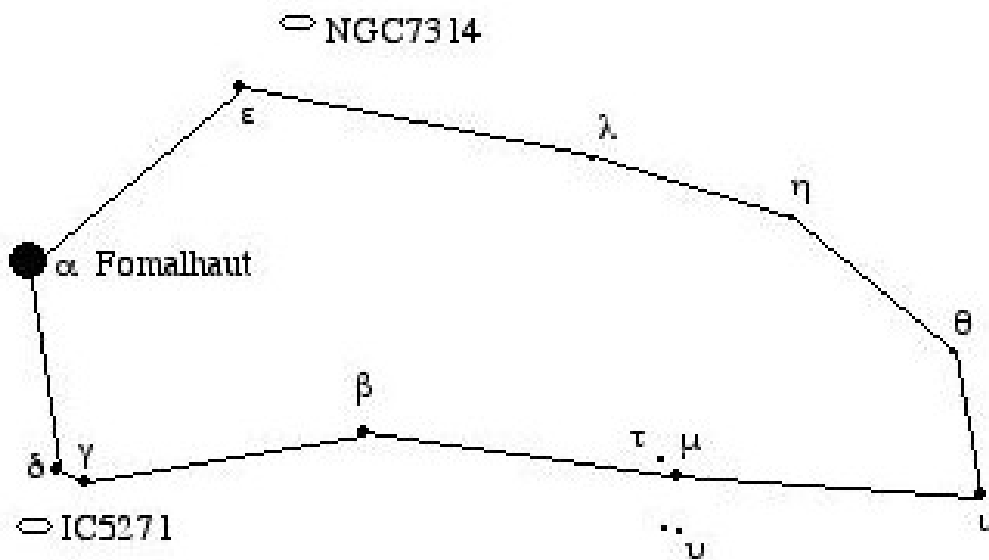
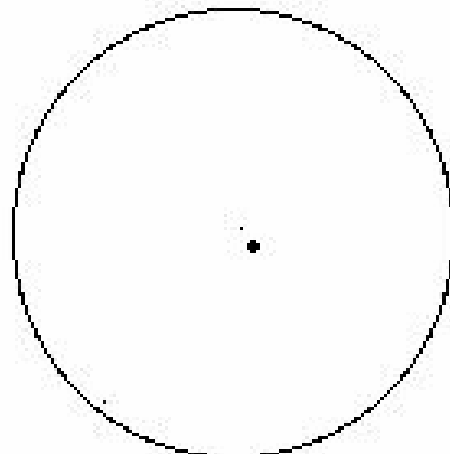
Oddly, early astronomers have described Fomalhaut as a red star. We've seen the same error made with Sirius, the brightest star in the constellation Canis Major (which is also the star with the brightest apparent magnitude in the sky.) These two stars are both at low declinations, so are frequently seen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

Like all bright stars, Fomalhaut has held individual importance in many ancient civilizations. The Syrians saw it as a symbol

of Dagon, their god of the sea. In ancient Persia, Fomalhaut, along with only three other stars (Regulus, Antares, and Aldebaran), was considered a "royal star" of heaven.

Piscis Austrinus has its fair share of galaxies, but they are all very faint and difficult for small telescopes. However, there are a couple we could hunt down. The brightest galaxy is NGC7314 (also known as ARP14), an 11.7 magnitude spiral at RA 22h 35.8m Dec -26d 03', or 1.5 degrees northwest of Epsilon Piscis Austrini. Its faint light is spread across 4.5'x 2.0'. IC5271, 1.3 degrees south southeast of Delta Pisces Austrini, is a sharp-edged, 2.6'x 0.8' galaxy of magnitude 12.6, RA 22h 58m Dec -33d 44.5'. If at first you don't see it, try all the tricks for dim object observing--shielding your eyes from stray light with a hood or your hands, averted vision, or tapping the scope gently to induce a wobble in the image. Sometimes a moving object will snap into view.

An easier object is Beta Picis Austrini, a double star with a wide separation suitable for very low magnifications. Beta has a spectral type of A0, making it almost identical to Fomalhaut in color. Easy to find southwest of the bright star, Beta is widely separated with 30 arc seconds between the 4.4 magnitude primary and the 7.9 magnitude secondary. The graphic shows this easy double at 91x magnification.



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

NONPROFIT ORG.  
U.S. POSTAGE  
PAID  
TUCSON AZ  
PERMIT NO 1488

Address Service Requested

Please consider renewing your membership on time. Renewal month and dollar amount appears on your address label. Magazine subscriptions are not included. TAL fee is included if participating in TAL. See details on page 2.

### Directions to TIMPA and Empire Ranch

#### Directions to TIMPA Site

GPS coordinates: 32 deg 15.868' N, 111 deg 16.390' W

##### **From the North:**

1. Take Ina Rd. west about three miles past I-10.
2. Turn left (south) on Wade Rd.. Wade Rd. becomes Picture Rocks Rd. when the Rd. bends to the right (west).
3. Take Picture Rocks Rd. west to Sandario Rd..
4. Turn left (south) on Sandario Rd. to Manville Rd..
5. Turn right (west) on Manville Rd. to Reservation Rd..
6. Turn left (south) on Reservation Rd. (dirt Rd.) and go about two miles. The TIMPA entrance is on the left.

##### **From the East:**

1. Take Speedway Blvd. west and it turns into Gates Pass Rd..
2. Go over Gates Pass and continue west to Kinney Rd..
3. Turn right (north) on Kinney Rd. and continue past the Desert Museum.
4. Kinney Rd. bends left at the entrance to Saguaro National Park West and becomes Mile Wide Rd..
5. Take Mile Wide Rd. west about five miles to Reservation Rd.. Mile Wide Rd. ends at Reservation Rd. and you must turn right (north) onto Reservation Rd..
6. Take Reservation Rd. north about one mile. The entrance to TIMPA will be on the right.

#### **NOTE**

A gate card is required for TIMPA access. Please **DO NOT** ask the caretakers for entry to the TIMPA SITE. Contact a board member or the TIMPA Gate Card Controller to arrange access to TIMPA. For scheduled TIMPA star parties, a designated TAAA representative will provide access to the site.

#### Directions to Las Cienegas (Empire Ranch)

GPS coordinates: 31 deg 47.356' N, 110 deg 37.913' W

Take I-10 East from Tucson. Take Exit 281 (Route 83 Sonoita-Patagonia Highway South). Travel south on Route 83 for about 19 miles, watch for green and white milepost 40 sign on the right side of the road. Approximately ¼ mile past milepost 40, turn left into Las Cienegas. The road is dirt and is "washboarded" so go carefully. At about 2.9 miles, there is a fork in the road. Stay to the right. When the road ends in a "T", take a left. Cross over a concrete section of the road down in a wash. Just up the hill from the wash (about .2 mile), turn left. 0.1 mile ahead will be the end of an abandoned airstrip with a covered ramada. The club members have been setting up several tenths of a mile down the runway. If you arrive after dark, as a courtesy to other members, use only your parking lights to approach the set-up location.