

NIGHTFALL

Huachuca Astronomy Club of Southeastern Arizona



HAC MEETING: Friday, October 17, 2008

7 pm, Cochise College, Sierra Vista, Rm. 305A/B

PLUS our monthly Show-N-Tells, upcoming event details, refreshments & NEW Exciting Door Prizes!

Speaker: HAC Members Topic: "How to buy a Telescope!"

STAR PARTY CORNER

Keith Mullen, Star Party Coordinator (520) 366-0049 email: repogazer@msn.com

Participation is the Lifblood of the Club!

The Monsoons are history for 2008 and we are starting to get out and observe. I've been out in RGO several nights in the last week. Our Public Star Party at the Patterson Observatory on Saturday the 20th had a small but inquisitive crowd. Eric, Swanee and Del and myself supplied the optics and Frank ran the 20" in the observatory. Jupiter is at zenith just after sundown and sitting almost on top of Sagittarius so now's the time to get out and get some of that summer sky before it settles into the twilight. I'm happy to report that the monsoons haven't eroded anybody's appetites as we went through more BBQ chicken than a KFC does on a good weekend. If everyone had signed into the event log it would say somewhere near 40 members and guests stopped by RGO for dinner and several hours of good observing. We had a reporter from the base paper, "The Scout", come out for dinner and he took some photos and did a few interviews on what we do at a HAC Star Party. It should be an interesting article when it comes out later next month. The 14" RCOS I put in the observatory was a big letdown, but only because I can't seem to get it collimated correctly, even with John Messina's gifted touch and Swanee in there too it just isn't right yet, but we're getting closer and soon it should be giving crisp and clear views and will be available to members who want to try to do some DSLR imaging. It's here, use it! Doug reported that the DUTS event at U of A South was very successful also with lots of patrons viewing through the observatory scope and the HAC scopes set up in back; it's always a good event with all that food and fun. So now that we are rolling into the fall observing season let's keep the momentum going and make October a stellar month.

October Star Party Schedule

Member's Star Party and Annual HAC Picnic will again be at JBO on Saturday Oct. 25th.

Dave and Cheryl Healy have hosted the Picnic as long as I have been here and always do a bang up job. They have asked me to convey the request that all members contact them at (520) 378-0981 with what dish you are planning to bring; this helps to avoid too much of the same food on the table. Cheryl has always managed to get the most out of your offerings and we all enjoy a variety of different and tasteful items. Remember that this is more than just a picnic; it's a star party so bring that scope along too. It all starts at 5 P.M. so don't be late. A map to JBO can be found in the HAC Web Page.

October Public Star Party will be held at JBO on Friday Oct. 31st. The weather should be great and we always get the best public crowds at the fall events, so let's get over there with a scope and help Dave out a bit. Event starts at 7:00 p.m. with scope set-up at 6:30

STARIZONA
ADVENTURES IN ASTRONOMY & NATURE

Official Donor of the Huachuca Astronomy Club Door Prizes!!!

President's Perspective

It looks like the summer monsoon season is giving us its last gasp for the year. The storm clouds are hanging over the Huachuca Mountains looking ominous. I just got off the phone with Keith making arrangements for the September member star party, which will hopefully have been a success by the time this article sees the newsletter, hearing him say that rain is falling in Palominas. We have been fortunate for the past few days to enjoy some nice clear skies which are the harbinger of the clear skies of fall and I hope that all of you have been able to take advantage of some of them. Of course, the clear skies always seem to occur during the middle of the week, but going out early in the evening is always most enjoyable and is a great way to relax especially after a hectic day. I especially enjoy either pulling out the binoculars or my telescope and just sweeping around the sky with no real agenda other than to see what the sky has to offer that night. The views of the Milky Way have been superb and the evening temperatures have been wonderful.

A case in point was the other night when I was helping Jim McCaw try to get his 25-inch reflector back into action. After we gave up our battle with some recalcitrant encoders we decided just to move the scope around the sky for awhile and see what was available. We saw a few nice nebulae and clusters in the Milky Way and viewed the Andromeda Galaxy with its companions. It was nice to get a photon fix with some familiar objects. Then as a finale we decided to glance at Jupiter. The ball of the planet was filled with its beautiful bands and a couple of the Galilean moons were nearby, but looking more closely we could actually see the shadows of two moons on the surface, an excellent and unusual way to end the night!

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SKY CALENDAR EXCERPT

courtesy of Doug Snyder,
"Palominas Observatory"

October 2008

Highlite: ASTEROID 4 VESTA

- 07 Tu ☽ First Quarter Moon 0204 hrs
Draconid Meteors Pk., 1800 hrs.
- 14 Tu ○ Full Moon 1302hrs
- 17 Fr **HAC Meeting 1900 hrs**
- 20 Mo Orionid Meteors Pk., 2100 hrs.
Favorable at mid-evening
- 20 Tu ☾ Third Quarter Moon 0455 hrs
- 25 Sa **HAC Member StarParty/
Member PICNIC (start 1700hrs)**
- 28 Tu ● **New Moon 1614 hrs.**
- 30 Th **Asteroid 4 Vesta at opposition**
- 31 Fr **Vesta at mag. 6.4 in Cetus**
- 31 Fr **HAC Public Star Party
Local Times shown (MST)**

Club Resources

The Club has iron on HAC Patches available for \$2.00 ea. Contact Bob Kepple at 366-0490/ astro-cards@aol.com or Jeanne Herbert at 366-5690.

Huachuca Astronomy Club P.O. Box 922 Sierra Vista, AZ 85636 <http://hacastronomy.com> email: mrgalaxy@juno.com

Yearly Membership: Individual: \$25; Family: \$35; Military: \$20; Student:\$10 (with restrictions)

President: Wayne Johnson, mrgalaxy@juno.com ; **Vice President:** Keith Mullen, 520.366.0049/ repogazer@msn.com

Treasurer: Bob Kepple: 366-0490/ astrocards@aol.com; **Secretary:** Jeanne Herbert, 366-5690

Star Party Coordinator: Keith Mullen, repogazer@msn.com;

Outreach Events Coordinator: Rich Swanson, 803-7298 or telegeek-64@cox.net

Loaner Scopes: Gary Myers 432-4433; Newsletter Editor: Teresa Mullen, edugazer1@yahoo.com / 366-0049

This issue of Nightfall can also be found on-line at hacastronomy.com. Click 'Newsletter' link. There is much more information about astronomy and our HAC activities on our club web site. *To join the HAC-LIST, send an email to haclist-subscribe@yahoogroups.com .

About the Speaker...

A short power-point presentation will be given by HAC president Wayne Johnson (aka Mr. Galaxy) to explain terms and characteristics used to describe a variety of astronomical telescopes. The slide show will be followed by demonstrations from several of HAC's telescope owners illustrating how they use their telescopes. If the weather cooperates we will do some observing outside through these telescopes.

Wayne (aka Mr. Galaxy) Johnson has been an amateur astronomer for nearly 50 years and has owned a variety of telescopes, some purchased off the shelf, some home-built. In addition, several of our own HAC members have volunteered to explain why they bought the telescopes they did and talk about their scope's characteristics.

Autumn Constellations

Bob Kepple and Glen Sanner

This month we continue our review of the constellations in the autumn sky. One needs to learn the constellations to know your way around the sky and better use your telescope to locate objects in the sky. You should start by first learning the brightest, and most easily recognized constellations such as Cygnus, Scorpius, and Sagittarius in the summer sky and Orion in the winter sky. Once you can recognize the brighter constellations you can use them as a starting point to pick out the fainter constellations. This month we will start with the teapot asterism of Sagittarius and work eastward among the constellations of autumn. The constellations reviewed, located in the southern sky, are obscure but if you learn them you will have the satisfaction of knowing your way around the night sky.

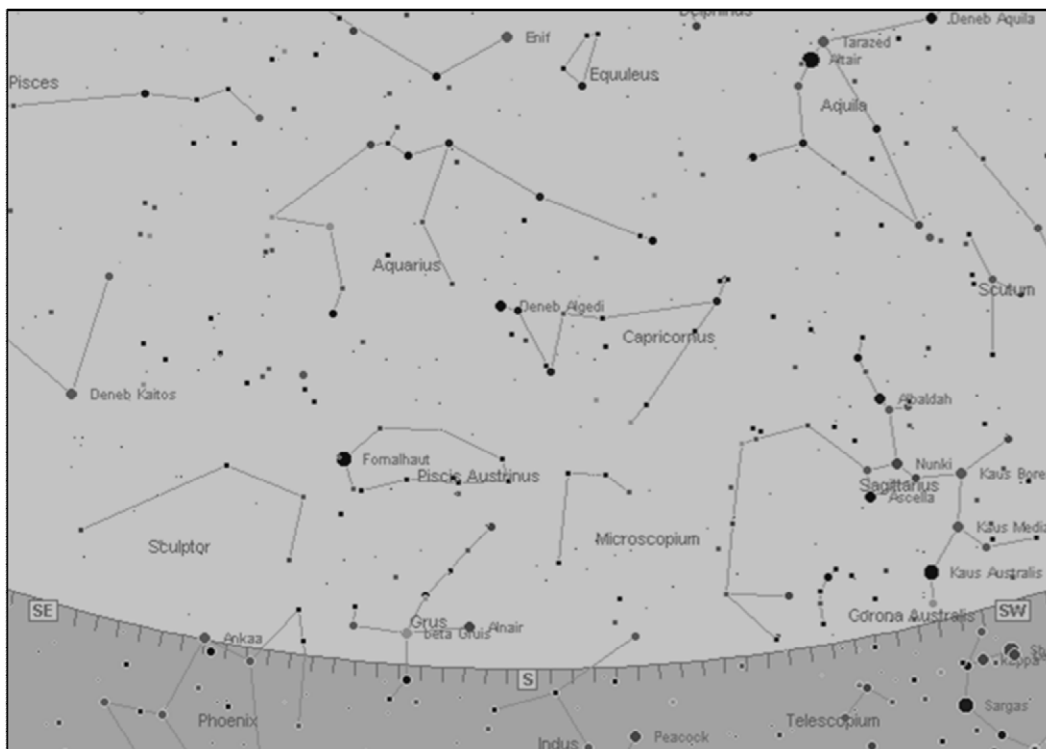
Capricornus – the Horned Sea Goat (KAP-ri-kor-nus)

Genitive: Capricorni (KAP-ri-kor-ni), Abbreviation: Cap, Area: 414 square degrees

Culmination: 9pm Sept. 22nd, Approximate central coordinates: 21 hour, -20 degrees

Capricornus, the 10th sign of the Zodiac, is located N.E. of the teapot outline of Sagittarius. The Greeks and Romans pictured it with the head and front legs of a goat and the hindquarters of a fish. It represents the god Pan who, when chased by the wind monster Typhon, leaped into the Nile to escape and in mid-leap changed into the goat-headed fish. The outline of Capricornus looks like a chevron or bikini. It is sparse in deep-sky ob-

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I am heading out to Yucca Valley, California, for the Starry Nights Festival, which is the Western Region of the Astronomical League's annual get-together, on the weekend of October 3rd, while other members are heading in the other direction for the Enchanted Star Parties and Okie-Texas in New Mexico and Texas. All the fun stuff happens at the same time and it is impossible to get to it all!

Note that our upcoming October General Meeting is the annual "How-To-Buy-A-Telescope" meeting. If you want to bring your telescope to show it off and/or talk about it, please let me know. We'd like to get a variety of scopes and hopefully the weather will cooperate and we will get a chance to view through a few of them. Also, if you know someone who is shopping around for telescopes, please let them know so that we can point them in the right direction. This meeting is always popular and informative, even if you already own a scope, you might learn something new about it. Hope to see you there!

Clear skies,

Wayne (aka Mr. Galaxy)



Annual HAC Picnic...

At JBO On

Saturday, October 25th, 5PM

Please contact Dave & Cheryl

at 378-0981

With your choice of side dish!

Bring a scope, it's a Star Party too!

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jects containing only one bright Messier object, M30, and a few faint galaxies.

Aquarius – the Water Bearer (AK WARE-ee-us)

Genitive: Aquarii (AK-WARE-ee-eye), Abbreviation: Aqr, Area: 980 square degrees

Culmination: 9pm Oct 9th, Approximate central coordinates: 23 hour, -15 degrees

Aquarius begins just north of Capricornus and extends generally eastward. It is the 11th sign of the Zodiac, representing a man pouring water from an urn, a star pattern originating in early Babylonian times. The most prominent star pattern in the constellation is the naked-eye Y-shaped asterism called “The Water Jar.” Aquarius contains three Messier objects, M2, M72, and M73, however, the latter is only a small telescopic Y-shaped asterism. M2 and M72 are fine, bright globular clusters. Other well-known deep-sky objects include the famous “Saturn Nebula”, NGC 7009, and the huge planetary nebula, 7293, “The Helix Nebula.”

Microscopium – the Microscope (Micro-SCOPE-ee-um)

Genitive: Microscopii (Micro-SCOPE-ee-eye), Abbreviation: Mic, Area: 210 square degrees

Culmination: 9pm Sept. 18th, Approximate central coordinates: 21 hour, -35 degrees

Microscopium was created by the French astronomer Nicolas Louis de Lacaille in the 1750s along with 13 other small constellations, many of them commemorating scientific instruments of that time period. Further southwest is Telescopium. Microscopium is a star-poor rectangle of sky with stars no brighter than 4.7 magnitude. It contains only a few small galaxies.

Piscis Austrinus – the Southern Fish (PIE-sis Os-TRY-nus)

Genitive: Piscis Austrini (PIE-sis Os-TRY-ni), Abbreviation: PsA, Area: 245 square degrees

Culmination: 9pm Oct. 9th, Approximate central coordinates: 22 hour, -45 degrees

Piscis Austrinus, the Southern Fish has been depicted as drinking or swimming in the streams falling from the water-jar of Aquarius. The Greeks seem to have inherited this constellation from the Babylonians. Piscis Austrinus has only one bright star, the 1st magnitude Fomalhaut lying in the bowl of an easily recognized dipper-shaped outline with the handle facing west. It has an assortment of both faint and fairly bright galaxies.

Grus – the Crane (GROO-s)

Genitive: Gruis (GROO-is), Abbreviation: Gru, Area: 366 square degrees

Culmination: 9pm Oct. 12th, Approximate central coordinates: 22 hour, -45 degrees

Looking south of the bright star Fomalhaut in Piscis Austrinus you will find a long string of fairly bright stars forming the long neck and body of Grus, the Crane. On older star charts the Crane is depicted in flight with its long neck and beak stretched forward in a streamlined position, its legs directly behind and its huge wings flaring outward. Grus shares the southern skies with other bird constellations: Apus, Pavo, Phoenix, and Tucana, all of them created by Johann Bayer in 1603. Grus has a fine assortment of fine, bright galaxies visible from Arizona if you have a decent view of the southern horizon.

Sculptor – the Sculptor (SKULP-tor)

Genitive: Sculptoris (SKULP-tor-is), Abbreviation: Scl, Area: 475 square degrees

Culmination: 9pm Nov. 10th, Approximate central coordinates: 24 hour, -30 degrees

Sculptor was invented around 1760 by Lacaille but it does not resemble anything in particular. The galactic South Pole located just north of Alpha Sculptoris lies in Sculptor. This is the direction in which our galaxy's axis of rotation points. The other axis is contained in the northern constellation of Coma Berenices. The Sculptor area is a special treat to deep-sky observers with some of the finest and brightest galaxies in the sky located here. NGC 55 and NGC 253 show a wealth of detail in medium-sized telescopes.

Phoenix – the Phoenix (FEE-nicks)

Genitive: Phoenicis (FEE-ni-cis), Abbreviation: Phe, Area: 469 square degrees

Culmination: 9pm Nov. 18th, Approximate central coordinates: 01 hour, -50 degrees

Phoenix was a fabulous mythological bird that was regularly reborn from its own ashes every 500 years. The new bird wrapped the remains of the old Phoenix in myrrh and burned them as an offering to the Sun in Heliopolis (City of the Sun). Johann Bayer introduced this constellation in the year 1603. Phoenix contains an abundance of galaxies but some of the southernmost objects may be below the horizon from your location.

NASA Space Place

Extreme Starburst

by Dr. Tony Phillips

A star is born. A star is born. A star is born.

Repeat that phrase 4000 times and you start to get an idea what life is like in distant galaxy J100054+023436.

Astronomers using NASA's Spitzer Space Telescope and ground-based observatories have found that the galaxy gives birth to as many as 4000 stars a year. For comparison, in the same period of time the Milky Way produces only about 10. This makes J100054+023436 an extreme starburst galaxy.

"We call it the 'Baby Boom galaxy,'" says Peter Capak of NASA's Spitzer Science Center at the California Institute of Technology in Pasadena, CA. "It is undergoing a major baby boom, producing most of its stars all at once. If our human population was produced in a similar boom, then almost all people alive today would be the same age."

Capak is lead author of a paper entitled "Spectroscopic Confirmation of an Extreme Starburst at Redshift 4.547" detailing the discovery in the July 10th issue of *Astrophysical Journal Letters*.

The galaxy appears to be a merger, a "train wreck" of two or more galaxies crashing together. The crash is what produces the baby boom. Clouds of interstellar gas within the two galaxies press against one another and collapse to form stars, dozens to hundreds at a time.

This isn't the first time astronomers have witnessed a galaxy producing so many stars. "There are some other extreme starburst galaxies in the local universe," says Capak. But the Baby Boom galaxy is special because it is not local. It lies about 12.3 billion light years from Earth, which means we are seeing it as it was 12.3 billion years ago. The universe itself is no older than 14 billion years, so this galaxy is just a youngster (Capak likens it to a 6-year-old human) previously thought to be incapable of such rapid-fire star production.

The Baby Boom galaxy poses a challenge to the Hierarchical Model of galaxy evolution favored by many astronomers. According to the Hierarchical Model, galaxies grow by merging; Add two small galaxies together, and you get a bigger galaxy. In the early years of the universe, all galaxies were small, and they produced correspondingly small bursts of star formation when they merged. "Yet in J100054+023436, we see an extreme starburst. The merging galaxies must be pretty large."

Capak and colleagues are busy looking for more Baby Boomers "to see if this is a one-off case or a common occurrence." The theory of evolution of galaxies hangs in the balance.

Meanwhile...

A star is born. A star is born. A star is born.

See more breathtaking Spitzer images at www.spitzer.caltech.edu/Media/mediaimages. Kids can play the new Spitzer "Sign Here!" game at spaceplace.nasa.gov/en/kids/spitzer/signs.

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.



Huachuca Astronomy Club of Southeastern Arizona Inc.

Nominations Committee Slate of Candidates

Annual Club Elections, Nov. 21st 2008

The list of nominees is as follows:

Officers:

- | | |
|---------------|----------------|
| Wayne Johnson | President |
| Doug Snyder | President |
| Keith Mullen | Vice President |
| Bob Gent | Secretary |
| Bob Kepple | Treasurer |

Directors:

- | | | |
|---------------|-----------------------|-----------------|
| Del Gordon | Director | (Two year term) |
| Glen Minuth | Director | (Two year term) |
| Teresa Mullen | Currently in mid term | |
| Rich Swanson | Currently in mid term | |

Any office or Director seat may be contested by a nomination from the floor at the general meeting on Nov. 21st, 2008. The two Director seats in mid term are not able to be challenged.

- Keith Mullen
- V.P. and Nominations Chair





P. O. Box 922
Sierra Vista, AZ 85635

Visit us on the web at hacastronomy.com



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