February 2007

HAC's 25th Anniversary Year!

NIGHTFALL

Huachuca Astronomy Club of Southeastern Arizona

Extra! Extra! New HAC web page http://hacastronomy.com

++++ HAC MEETING: THIS Saturday, February 3, 2007 ++++

***Speaker: Bob Gent, Vice* President, Board of Directors**
International Dark-Sky Association, www.darksky.org
Immediate Past President, Astronomical League

Title: Preserving the Beauty of Our Night Skies

To preserve and protect the nighttime environment and our heritage of dark skies through quality outdoor lighting!

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

PLUS our monthly Show-N-Tells, upcoming event details & refreshments

Star Party Corner

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

Participation is the Lifeblood of the Club

Brrrrrrrrrrrrrrrrrrrrrrrrr, with temperatures in the low teens, clouds and one hard to find comet, January was almost an Astronomical Bust. The Public Star Party at JBO was another cloud out and the Members Star Party was almost called off too, but at the last moment, it cleared and the wind stopped leaving us with several hours of good observing, Only thing was, only the officers and Board Members seemed to show up, Hmmmmm, this is not exactly Participation, let's pick up the pace next months at Bob's.

February Star Party Schedule

Saturday, February 10th - see's us gathering at Bob and Barb Kepple's for the Members Star Party, Barb is becoming known as the Cookie Queen in the Palominas area so lets get out there and soak up some DSO's and maybe some cookies too.

Friday, February 16th - has us at JBO for the Public Star Party, Dave has big Blue fine tuned and ready for some great views of the now high in the night sky Winter Objects, Let's make a point of coming out for this one!

Thursday, February 22nd - will be the first of four outing at the Huachuca Oaks Baptist Camp on Hwy 92 just south of the Hereford Post Office. This is an Outreach event and we could use another scope or two starting at sundown until around 8:30 pm, it's great to be able show some of these city kids the wonders of our sky for the first time. Anyone wishing to volunteer can call either Keith (520) 366-0049 or Jeannie (520) 366-5690 for a more detailed explanation of what we do at these outreach star parties.

Note: We will be having the drawing for the next Quarters Members Star Parties (April, May and June) during the HAC General Meeting on March 3rd, all those wishing to have Their Observatories included in the drawing must announce their availability by that meeting to be included in the drawing.

PRESIDENT'S PERSPECTIVE
Wayne Johnson

Boy, talk about frustrating! Here we live in the land of wonderful, winter weather and what do we get? Snow, clouds, and when it does clear, it's windy, frigid weather! I'm thinking seriously about shuffling back to Buffalo…

Even the comets are avoiding us, though I read on HACList that a few members were able to see the "Great" Comet McNaught. I hope a few others who didn't relate their observations to anyone were able to see it, too. I was able to see the comet a couple days after our January general meeting about 1/2 degree above the horizon on the north side of the Huachuca Mountains from here on post for about 10 minutes as I was rushing from work to evening class. Needless to say I was late for class, and the teacher gently chided me as he handed me the before-the-class quiz, but it was worth it! I tried to see Comet McNaught when it got closer to the sun and higher in the sky, but was not successful. Maybe we'll hear (and maybe see) some more about the "big one that didn't get away" from members at the February General Meeting on Saturday, February 3rd. See you there.

By the time you read this in the newsletter the HAC Board will have held its third meeting. We are trying to firm up dates and arrangements for the HAC's special 25th anniversary celebration that I hope most people can make. We are trying to keep the dinner costs reasonable and make the evening a night to remember. Please help us make it even more special by attending and celebrating the event with us!

Editors Notes…

I would like to give a great BIG **thank-you** to our former Editor, **Doug Snyder**, for his many years of dedication to providing Hac Members with the monthly Nightfall Newsletter and for making a painless transition to the new editor!

Dollar$ & Cent$

by Tim Doyle

The Club Checkbook balance as of (mid January) is $3,167.58

Club T-shirts, we still have XXL & medium sweatshirts available at $10 & $15. (below cost)

We would like to welcome into the membership **Dr. Sanjiiv Gopal & Family**.

We now have 42 membership renewals and I want to remind those of you that have not renewed, Saturday March 1st is the deadline for renewals or we must drop you from our rosters.

Outreach Biz

by Jeanne Herbert

Mark your calendars...

February 22nd, March 1st, April 26th and May 3rd at the Huachuca Oaks Camp Site in Hereford. HAC has been invited to Science Camp to share our love for the night sky with all its wonder and awe. Everyone (from beginner to veteran) is encouraged to participate in these events. The Science Campers are 3rd through 6th grade and will be in groups of 10 for observing and hearing tales about the night sky. These Thursday evening events will usually last about 2-21/2 hours. So bring your scope or bino's and enjoy a thrilling evening sharing your passion with these youngsters. Call 366-5690 or see me at the meeting for more information and sign up!

March 26th at Pueblo del Sol Elementary School in Sierra Vista for a night of viewing with elementary students and their parents . More info in an upcoming newsletter.

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;
Treasurer: Tim Doyle 378-5121; Secretary: Jeanne Herbert, 366-5690
Star Party Coordinator: Keith Mullen, repogazer@wavmax.com ;
Outreach Events Coordinator: Jeanne Herbert, jeanne_hrbrt@yahoo.com / 366-5690 (early evenings);
Loaner Scopes: Gary Myers 432-4433; Newsletter Editor: Teresa Mullen, edugazer@wavmax.com / 366-0049

Lepus, the Hare

by Bob Kepple

The evening winter sky is dominated by the well-know constellation of Orion the Hunter. Orion and his dogs, Canis Major, the Big Dog, and Canis Minor, the Little Dog are in pursuit of Lepus, the Hare, which lies at the feet (south) of the great hunter. This small, relatively faint constellation is often overlooked because of Orion's spectacular deep-sky objects, yet it has many worthwhile offerings. Each object is rated from 1 to 5 asterisks, the more asterisks the brighter or more interesting it is.

****NGC 1744 SBd Galaxy dia. 5.1'x2.5' mag. 11.3v, SB 13.9 05h00.0m -26°01'**
In 12-inch telescopes this galaxy appears faint, elongated 4'x1' N-S with a slightly brighter center while 16-inch and larger scopes show two faint stars superimposed at the center of a large dim halo elongated 5'x2' N-S.

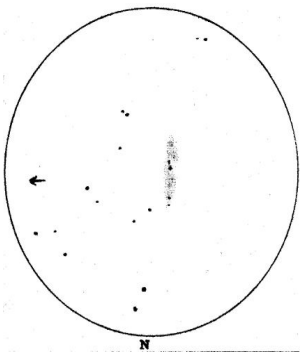
****NGC 1748 SBc Galaxy dia. 4.6'x2.7' mag. 11.7v, SB 14.3 05h05.4m -11°52'**
12-inch telescopes show a rather faint but obvious halo elongated 2.5'x1.5' E-W with an unconcentrated core. 16-inch and larger scopes may detect a mottled core containing a very faint stellar nucleus in a 3'x1.5' diameter halo extending E-W.

*****NGC 1832 SBbc Galaxy dia. 2.1'x1.5' mag. 11.3v, SB 12.4 05h12.1m -15°41'**
Lying half a degree north of 5.5 mag. star 5 Leporis, is a galaxy with a fairly bright halo extending 1.7'x1.2' NNW-SSE with a faint, circular core having a stellar nucleus. In 16-inch and larger scopes the halo grows to 2.7'x1.5' and the core becomes conspicuous. With close attention, a couple bright areas at the NE and SW edges may be seen.

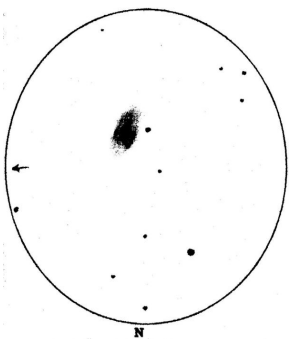
*****NGC 1888 Sb Galaxy dia. 3.0'x1.2' mag. 11.9v, SB 13.2 05h22.6m -11°30'**
Through medium sized instruments, NGC 1888 has a fairly bright halo elongated 2.1'x1' NW-SE with a brighter center. Its companion, NGC 1889, a faint tiny, circular glow, touches the larger galaxy's NE edge.

******NGC 1904 M79 Globular Cluster Class 5 dia. 8.7' mag. 7.8v, 05h24.5m -24°33'**
Lying within a dipper-shaped asterism of 9th to 11th mag. stars, Messier 79 is a fine, bright 5' diameter ball with a large, dense core. It is obvious in small telescopes but a 10 to 12-inch scope is needed to resolve three dozen stars against its glowing background. 16-inch and larger scope will show a 1' core surrounded by outlying stars spanning a diameter of 7'. A 12th mag. star is visible at the north edge. A N-S chain of brighter stars cuts across its face and a second star chain extends 4' south, pointing to a 9th mag. star lying 10' from center.

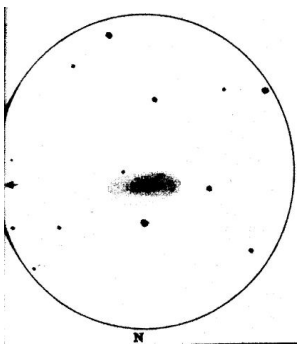
NGC 1744



NGC 1784



NGC 1832



continued on page 6

Backyard Astronomer
by Neal Galt

Comet McNaught seems to have caused some different kind of excitement.... a daylight comet. It's now gone and has become a great comet in the southern skies.

That really bright star-like object over the western horizon at sunset is Venus. It will continue to climb higher in the sky each night and get brighter. Mercury comes in under Venus during the first part of February. The closest point will be on 2/4/2007 when the two planets will be 6 degrees apart. You can find dimmer Mercury to the lower right of Venus on that date. The time period of 2/1 2007 - 2/12/2007 is the best time to view Mercury in a telescope. Check it out! Even with a small scope, see if you can detect the phases.

Saturn reaches opposition on 2/10/2007. That means it is opposite the sun in our skies. So, at sunset, Saturn will rise in the east and will remain in the night sky all night. Saturn reaches magnitude zero this month. It won't do that again for a couple of decades. The rings are tilted 15 degrees from edge on making them a great sight. Saturn is in the constellation Leo, not far from the bright star Regulus.
Mars and Jupiter can be seen in the morning skies in the east well before sunrise and will become prominent objects later in the year.

THE ASTRONOMICAL LEAGUE'S
DOUBLE STAR CLUB
By Dave Healy

Getting my AL certificate and pin for observing double and multiple stars was a most enjoyable observing experience. If you're looking for a most rewarding astronomical program that can be completed at leisure with a small telescope under less-than-perfect skies, I highly recommend pursuing the League's Double Star list.

Mike Benson, the League's Double Star chairman, recommends that you star-hop to the double and multiple stars on the list. If you do so, you will learn a good deal more about the sky than I did. Yours truly took the lazy way out and entered the stars' coordinates into one of those new-fangled "Go-To" machines. It found them all right, and they were just as beautiful as if I had pushed my scope to them myself. However, I'm always going to feel inferior to John Cassella--a gentleman who knows the sky exceeding well, having spent little or no time staring at computer monitors and forgetting the constellations. John star-hopped the entire list and turned in a better report than his club's ALC or representative.

Getting the award ordinarily requires sending your observing report and drawings to Mike Benson. However, if you can somehow manage to figure our which way is north and west in your eyepiece, and if you can draw dots, you're home free. The Double Star Club's home page on the Astronomical League's website is most helpful, offering the list with coordinates posted in order of increasing Right Ascension, a sample log sheet that can be printed out, and many other encouragements. One of these encouragements is Mike's suggestion that the list not be attempted with telescopes smaller than 2.4 inches in aperture!

Only those who have done the AL's list of doubles (in *any* telescope) can appreciate the beauty and diversity of the targets. There are surprises awaiting you—many of the targets are triple or multiple stars, and stunning variations in brightness and color!
It's better than TV, trust me!

A Great Big Wreck

by Dr. Tony Phillips

People worry about asteroids. Being hit by a space rock can really ruin your day. But that's nothing. How would you like to be hit by a whole galaxy?

It could happen. Astronomers have long known that the Andromeda Galaxy is on a collision course with the Milky Way. In about 3 billion years, the two great star systems will crash together. Earth will be in the middle of the biggest wreck in our part of the Universe.

Astronomer John Hibbard isn't worried. "Galaxy collisions aren't so bad," he says. A typical spiral galaxy contains a hundred billion stars, yet when two such behemoths run into each other "very few stars collide. The stars are like pinpricks with lots of space between them. The chance of a direct hit, star vs. star, is very low."

Hibbard knows because he studies colliding galaxies, particularly a nearby pair called the Antennae. "The two galaxies of the Antennae system are about the same size and type as Andromeda and the Milky Way." He believes that the Antennae are giving us a preview of what's going to happen to our own galaxy.

The Antennae get their name from two vast streamers of stars that resemble the feelers on top of an insect's head. These streamers, called "tidal tails," are created by gravitational forces—one galaxy pulling stars from the other. The tails appear to be scenes of incredible violence.

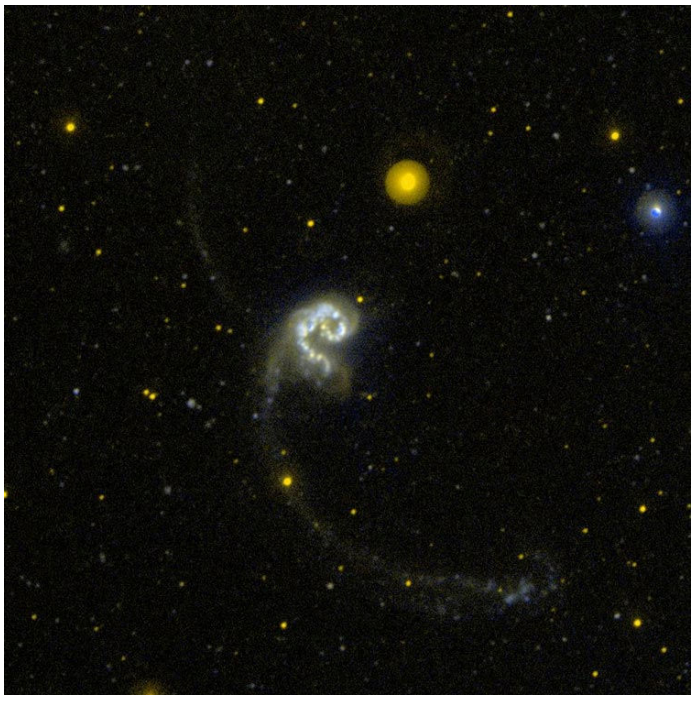
But looks can be deceiving: "Actually, the tails are quiet places," says Hibbard. "They're the peaceful suburbs of the Antennae." He came to this conclusion using data from GALEX, an ultraviolet space telescope launched by NASA in 2003.

The true violence of colliding galaxies is star formation. While individual stars rarely collide, vast interstellar clouds of gas *do* smash together. These clouds collapse. Gravity pulls the infalling gas into denser knots until, finally, new stars are born. Young stars are difficult to be around. They emit intensely unpleasant radiation and tend to "go supernova."

GALEX can pinpoint hot young stars by the UV radiation they emit and, in combination with other data, measure the rate of star birth. "Surprisingly," Hibbard says, "star formation rates are low in the tidal tails, several times lower than what we experience here in the Milky Way." The merging cores of the Antennae, on the other hand, are sizzling with new stars, ready to explode.

So what should you do when *your* galaxy collides? A tip from GALEX: head for the tails.
To see more GALEX images, visit www.galex.caltech.edu. Kids can read about galaxies and how a telescope can be a time machine at spaceplace.nasa.gov/en/educators/galex_puzzles.pdf.

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



Caption:

This GALEX UV image of the colliding Antennae Galaxies shows areas of active star formation, which is not in the tidal tails as one might expect.

Note to editors: This image may be downloaded from http://spaceplace.nasa.gov/news_images/antennae_galaxies.jpg

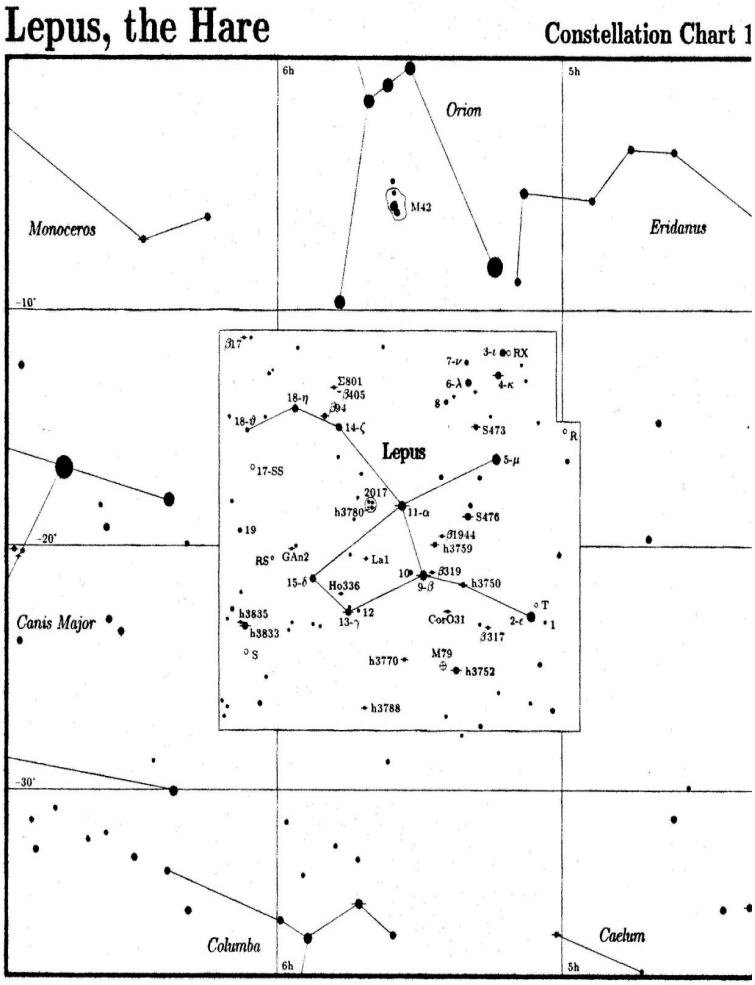
...Continued from page 3

******IC 418 Planetary Nebula Type 4 dia. 12" mag. 9.3v CS 10.2v 0 05h27.5m -12°42'**

IC 418 is a bright but tiny planetary nebula visible in small scopes but needs higher powers for a good view. 10 to 12 inch scopes will show a 10" diameter disk that surrounds a prominent 10th mag. yellow central star. The disk has a nice reddish tint which is most unusual for a planetary nebula as most planetaries appear greenish or bluish. 16-inch and larger scopes with show an oval disk elongated 14'x11' N-S.

******NGC 1964 SAbc Galaxy dia. 5.0'x2.1' mag. 10.7v, SB 13.1 05h33.4m -21°57'**

NGC 1962 lies 1.5' SE of a 10.5 mag. star which is the south apex of a thin 2'x0.5' acute triangle. It is a fairly bright galaxy in medium-sized telescopes with a 3'x1' halo elongated NNE-SSW having a much brighter center and a stellar nucleus. 16-inch and larger scopes may show a granular-textured 4'x1.5' halo with an indistinct spiral structure. Three very faint stars are involved with the halo.



*****NGC 2017 h3780 Open Cluster or Multiple Star 8 stars 05h39.4m -17°51'**

Lying two degrees east of 2.6 mag. star Alpha Leporis is an object that has both and NGC number and a double star designation. There are eight stars in a crescent-shaped formation. The primary, lying at center, has a yellowish color and is a very close pair with a separation of only 0.8" making a total of nine stars. Even with a large scope at very high power the primary is seen only as oblong. The second brightest star, lying west of the primary, is bluish. Another component, lying to the NE of the primary, is orange and is also a close pair with a separation of 1.5'. The other stars show very little color.

*****NGC 2139 SBc Galaxy dia. 3.0'x2.3' mag. 11.4v, SB 13.3 05h22.6m -23°40'**

In 16-inch and larger scopes, NGC 2139 has a fairly bright, well-defined, uniformly luminous disk elongated 2'x1.5 N-S with a faint stellar nucleus. Smaller instruments show only a fairly faint, circular 1.5' diameter halo with a uniform glow.

*****NGC 2196 SAab Galaxy dia. 3.0'x2.5' mag. 11.1v, SB 13.1 06h12.2m -21°48'**

NGC 2196 has a well concentrated oval halo elongated 1.5'x1' NE-SW with a tiny core. 16-inch and larger scopes will show a bright extended core embedded within a 2'x1.5' halo.

Lepus also has a nice assortment of double stars which includes the Alpha, Beta, and Gamma stars. Data on these pairs may be found in *The Night Sky Observer's Guide* or other catalogs of double stars so be sure to check them out.

HAPPY VALENTINE'S DAY EVERYONE!