

DECEMBER
2006
Geminids Meteor Shower
December 13, 14, 15

NIGHTFALL

Huachuca Astronomy Club of Southeastern Arizona



HAC Welcomes New Members John Barkdull and Scott Schneeweis !!

★
★ ++++ HAC MEETING: THIS FRIDAY, DECEMBER 1, 2006 ++++ ★
★ Speaker: Mr. James McGaha, MS, FRAS, Director of Grasslands Observatory ★
★ TOPIC: "Planet X—The Search For An Illusion" ★
★ HAC Members Group Photo for 2006— Let's See You In That Photo! ★
★ 7 pm, Cochise College, Sierra Vista, Rm. 305A/B ★
★ PLUS our monthly Show-N-Tells, upcoming event details, refreshments and Awards ★
★ Be Sure To Bring \$\$ and Checkbook for HAC Renewal Dues and the HAC Raffle ★

Star Party Corner by Keith Mullen, Star Party Coordinator
(520) 366-0049 email: repogazer@wavmax.com
Participation is the Lifeblood of the Club

With the November 3rd club elections now behind us (thanks for the vote of confidence) we began a good run at both Solar and Deep Sky observing, all starting with the transit of Mercury on the 8th, there were as many as seven scopes at one time using an assortment of H-alpha and white light filters for this incredible 5 hour event. Many thanks to new members Paul and Dorothy Dybvig, Tony Maslanka and Bob & Terrie Gent for their assistance; we were also very pleased to see the Bovich's and the Galt's attending this event at the park. President elect Wayne Johnson, and of course, Doug, Tim and Hans were in the middle of everything as wave after wave of students from the Apache middle school walked over to view their first Transit.

The Public Star Party at JBO on the 11th was almost a cloud out, but Doug Snyder insisted that it go forward! Kim Rogalski and several of his students, along with Doug, Dave Healy, Ann Lee and Amber Keene and a couple of interested visitors did get a chance to view a few objects before the evening ended. Doug thanks Dave for opening up!

On the Members Star Party front, we surprised everyone with a double header, the first on Friday the 17th was at Bob and Barb Kepple's with a whole lot more members than Leonid's showing up, the second, here at RGO the following evening was a carbon copy of Bob's, along with an introduction of an electrically powered Bino Chair with the largest set of Fujinons I've ever seen (25x150), and Oh yea, Rich Swanson showed up with his new Meade 14" LX200-R, dazzling everyone in attendance. Three Cheers for Judy, who SOLOED on her Celestron 8 SE. All in all, we saw only a few Meteors, but had a healthy 20 + members at DSO and again at RGO.

"Participation", it sure makes for an interesting and FUN, Star Party!

December Star Party Schedule.

Friday December 8th: Cub Scout & parents observing at the Patterson Observatory on the U of A South campus Doug asks for your assistance and presence at this event to help with the large group of boys! (366-5788)

Saturday December 9th: Public Star Party at JBO, weather permitting, let's all get together at Dave's and do the Clear Sky Dance and hopefully get back on track.

Friday December 22nd: Members Star Party at Glen and Deanna Sanner's **Discovery Observatory West**, lets close out the 2006 observing season on a high note with Every Member attending!

Saturday December 23rd: Christmas Party Pot Luck at the Mullen's, there will be a "White Elephant" gift exchange (\$10.00 limit) and lots of Caroling and Christmas Cheer, Come one, Come all and enjoy a season ending affair with your fellow Huachuca Astronomy Club Members. Please R.S.V.P. to either Keith or Teresa at (520) 366-0049.



Sculptor – the Sculptor Constellation

An Observing Treat For HAC Members—by Bob Kepple

Sculptor was invented around 1760 by the French observer Nicolas Louis de Lacaille. Sculptor's main claim to fame is the south galactic pole located within its boundary, 180 degrees from the north galactic pole in Coma Berenices. Sculptor is a faint constellation which may be located by looking east of the bright 1.17 magnitude stellar beacon, Fomalhaut (Alpha Piscis Austini) and south of the 2.0 magnitude star Beta Ceti. Sculptor has an unusually large assortment of fine galaxies that are large and bright. It also contains a nearby dwarf galaxy only 260,000 light years from the Milky Way but the surface brightness is so low that it is visible only as an extremely faint haze on the best of nights. So let's take this opportunity to observe its fine assortment of galaxies this month as the constellation is on the meridian just as the sky is getting dark. The article is rather long this month. After I started writing the article I found that there were so few faint galaxies that I had to include most of them. This month I have included my rating system which gives five asterisks for showpieces, three for average objects, and one asterisk for objects seen only with averted vision in larger scopes. (Editor's Note: The accompanying Sculptor chart is not the one that Bob sent along, but I had to use one imported from MegaStar and with larger text. For more detailed charts, use Bob and Glen's 'Night Sky Observer's Guide', Volume 1).

*****NGC 7507 E0 Galaxy dia. 3.1'x3.0' mag. 10.6v, SB 12.9 23h12.1m -28°32'**

In 12-inch telescopes this galaxy displays a small bright core with a stellar nucleus surrounded by a fairly bright but small halo. Larger scopes may see a 3' halo.

*****NGC 7513 SBb Galaxy dia. 2.9'x1.7' mag. 11.9v, SB 13.5 23h13.2m -28°22'**

In medium size scopes, 7513 has a moderately faint halo elongated 1.5'x1' ENE-WSW with a bright core.

****IC 5332 SABcd Galaxy dia. 6.0'x5.8' mag. 10.3v, SB 14.0 23h34.5m -36°06'**

Sorry people, this low surface brightness object is for larger telescopes. 12-inch scopes will see a very faint, diffuse 1.5' diameter glow while larger scope may see a 2.5' halo with a faint 1' core and a stellar nucleus.

*****NGC 7713 SBd Galaxy dia. 4.7'x2.0' mag. 11.1v, SB 13.4 23h36.5m -37°56'**

Small scopes will see a faint 3'x1.5' halo elongated N-S with a slightly brighter center.

*****NGC 7755 SBbc Galaxy dia. 3.6'x3.0' mag. 11.4v, SB 13.8 23h47.9m -30°31'**

With 8-inch scopes you will see a very faint 2' halo with a well concentrated core. A 12-inch scope will pick up a bright core containing a stellar nucleus surrounded by a faint 3' halo.

****** 7793 SAd Galaxy dia. 10.5'x6.2' mag. 9.2v, SB 13.6 23h57.8m -32°35'**

Despite its low surface brightness, this galaxy is obvious in small and medium telescopes with a 6.5'x3.5' halo elongated E-W and a small, faint core. 16-inch and larger scopes will see an 8'x4' E-W halo that gradually brightens to a mottled core that contains an indistinct nucleus.

*****Blanco 1 Open Cluster dia. 90' mag. 4.5v, Brightest Star 5.0v 00h04.3m -29°56'**

Sculptor has one lone star cluster and it's a huge one at that and you will need your lowest power to see it all in one field of view. It has 60 irregularly stars irregularly scattered over 1.5 degrees of sky. The brighter members form a loose NW-SE chain across the group's center.

******NGC 24 Sbc Galaxy dia. 6.3'x1.3' mag. 11.3v, SB 13.4 00h09.9m -24°58'**

NGC 24 is a nice but faint galaxy in small and medium scopes. It displays a 4'x0.7' NE-SW streak and a well-concentrated core with a 12th mag. star near its NE tip. (Continued on next page)

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 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; Star Party Coordinator: Keith Mullen repozger@wavmax.com
 Public Events Coordinator: Jeanne Herbert (jeanne_hrbrt@yahoo.com) 366-5690 (early evenings); Loaner Scopes: Gary Myers 432-4433

This issue of NightFall can also be found on-line at <http://r2d2.cochise.edu/astro/index.html>. 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 .

*******NGC 55 SBm Galaxy dia. 30.0'x6.3' mag. 8.1v, SB 13.6 00h14.9m -39°11'**

In small scopes, NGC 55 is a splendid streak elongated 20'x4' ESE-WNW with a large 5'x2.5' core. With 12-inch scopes you may be able to see some mottled texture in the unevenly bright halo. In 16-inch are larger instruments it is a superb sight! The halo is half a degree long and about 5' wide with an oval core. The halo displays an unevenly bright envelope full of patches and knots.

*******NGC 134 SABc Galaxy dia. 8.5'x1.3' mag. 10.4v, SB 13.3 00h30.4m -33°15'**

NGC 134 is a magnificent edge-on galaxy elongated 6'x1' NE-SW with a small oval core as seen in small and medium size scopes. With 16-inch and larger scopes it is a luminous streak extended 7'x1.2' NE-SW with a broad oval core. A dark lane along NW side may be visible with averted vision. 13th mag. stars flank the core on each side with the one to the NW just outside the envelope. Look for its companion NGC 137 lying 9' west.

*****NGC 150 SAB Galaxy dia. 3.4'x1.6' mag. 11.3v, SB 13.0 00h34.3m -27°48'**

Small and medium scopes may detect a faint halo elongated 2.5'x1.5' ESE-WNW with a slightly brighter core. In 16-inch and larger scopes NGC 150 is fairly bright with a 3'x2' halo and a broad, unevenly concentrated core having a stellar nucleus.

*******NGC 253 SABc Galaxy dia. 30.0'x6.9' mag. 7.6v, SB 13.2 00h47.6m -25°17'**

253 is called the Sculptor Galaxy. It is the brightest member of the Sculptor Galaxy Group that lies only 8 million light years away from us. It is a stunning object with an incredibly long halo extended 25'x5' NE-SW in small and medium-size telescopes. Small scopes may even discern its mottled texture. The core is well concentrated and highly extended. 16-inch and larger instruments are needed to see the full extent of its very faint outer tips. Higher powers show a wealth of detail in the halo and a short dark dust lane. I like this galaxy as much, if not more, than M31, the Andromeda Galaxy.

*****NGC 289 SBb Galaxy dia. 3.7'x2.7' mag. 10.6v, SB 12.9 00h52.7m -31°12'**

This is a fairly bright galaxy in small and medium-size telescopes, elongated 2'x1.5' NW-SE with a brighter center. In 16-inch and larger scopes the halo may glow to 3'x2' with a broad central brightening having an inconspicuous stellar nucleus. High powers will bring out a mottled texture.

*******NGC 288 Globular Cluster Class 10 dia. 13.8' mag. 8.1v 00h52.8m -26°35'**

Sculptor has one open cluster (Blanco 1) and now we come to its one and only globular cluster NGC 288. It is a loosely-structured Class 10 globular that resolves quite well in all but the smallest of telescopes. At least three dozen stars may be seen in its core against a background glow. The periphery is very loose and irregular with more outlying stars to the south that is seen in the other sides.

*****NGC 300 SAcD Galaxy dia. 20.0'x13.0' mag. 8.1v, SB 14.0 00h54.9m -37°41'**

NGC 300 is a huge face-on galaxy with a very low surface brightness so larger telescopes are needed to fully appreciate this one, otherwise, it would have a four or five asterisk rating. Small scopes will see the core but not much of the outer halo. 16-inch and larger instruments may discern a faint halo elongated 16'x10' ESE-WNW with a broad central brightening having a mottled texture and a faint stellar nucleus. The galaxy lies partially within a triangle with the core protruding from the narrow dimension of the asterism. To me this looks like an ice cream cone. Oh, well, what can I say – I get hungry after I'm out observing for awhile. However, this time of year, it's usually a hot coffee or hot chocolate break.

*******NGC 613 SABbc Galaxy dia. 5.2'x2.6' mag. 10.0v, SB 12.7 01h34.3m -29°25'**

Our last galaxy is a fairly bright object in small and medium-size telescopes displaying an oval halo extended 4'x2' NW-SE with a bright core. With 16-inch and larger instruments, the halo grows to 5'x2.5' with an unevenly bright core and a nonstellar nucleus. High power will bring out an indistinct spiral structure most noticeable on the SE tip.

DECEMBER—JUST A TON OF METEORS FOR YOU TO OBSERVE: In addition to the major shower named Geminids, there are seven other named meteor showers (mostly minor) that span parts of the month of December. Let's take a brief look:

Chi Orionids: 11/26 > 12/15; Peak 12/02; ZHR (Zenithal Hourly Rate): 3; slow & faint; this year, lost to full moon.

Phoenicids: 11/28 > 12/09; Peak 12/06; ZHR: variable 3 > 100; southern hemisphere shower; slow, moderately bright.

Puppids-Velids: 12/01 > 12/15; Peak 12/07; ZHR: 10; southern hemisphere shower; medium speed, sometimes very bright.

Monocerotids: 11/27 > 12/17; Peak 12/09; ZHR: 3; medium speed (42 km/hr); also ruined by moonlight.

Sigma Hydrids: 12/03 > 12/15; Peak 12/12; ZHR: 2; velocity 58 km/hr;

Coma Berenicids: 12/12 > 01/23; Peak 12/20; ZHR: 5; velocity 65 km/hr; perfect timing to observe.

Ursids: 12/17 > 12/26; Peak 12/22; ZHR: variable 10 > 50+; velocity 33 km/hr; a moon-free Ursid return; radiant near Kochab.

THE HAC INFORMER—CLUB NEWS FROM THE (former) PRESIDENT & NEWSLETTER EDITOR

- **HAC ELECTION RESULTS:** (November 3, 2006): The 2007 HAC Officers are: President: Wayne Johnson; Vice President: Keith Mullen; Secretary: Jeanne Herbert; Treasurer: Tim Doyle. The new HAC Board of Directors are: Hans Clahsen, Del Gordon, Helen Patterson, Judith Sukol. Former HAC President Doug Snyder will serve on the Board as an ex-officio member. These changes take effect on December 1.
- **MEETING NIGHTS TO CHANGE** HAC meetings will fall on a Saturday night for the first half of 2007 (January through June) and on a Friday night for the second half of the year (July through December). One policy that will not change is having the meetings as close to Full Moon as practical. A 2007 HAC Events Calendar is enclosed.
- Congrats to Rich Swanson—He recently brought home a 14", f/10 Meade LX200R! There are now 2 in the club!
- **PLUS:** I encourage EVERY able HAC member to attend this December meeting.....we will be taking our annual group photograph and it won't be complete without your smiling astro face! We'll see you on Friday!

NEAL GALT'S "WHAT'S UP?" DECEMBER 2006

Call it a "Bunching"! In the morning eastern skies between 12/7 - 12/14, Mercury, Mars, and Jupiter bunch up and get very close. The tightest bunch will be on **12/10** when the three can be seen within a 1 degree circle. We won't see a bunch like this for another 25 years!

Venus is the only planet up as the sun sets in December. It can be located very low in the west for less than 30 minutes after sunset as the month begins. By month end, Venus will be up for about 1 1/4 hours after sunset.

Saturn rises about 10 PM at the beginning of the month and by 8 PM by the end of the month. Now is a good time to view Saturn as it appears somewhat 3-dimensional. Saturn is now starting to close it's distance from earth and will start to appear a little larger in telescopes.

Will you see any **Geminids** in December? They are normally bright and medium speed. The last quarter moon will be on 12/12, so only early morning observers will get any moon interference. The 'peak' is to occur on the evening of the 14th, but the shower is active from the 7th to the 17th. A 20% Moon will rise on the 15th is at about 0215.

