HAC Web Page: hacastronomy.com August 2008

NIGHTFALL

Huachuca Astronomy Club of Southeastern Arizona

HAC MEETING: Friday, August 15, 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: Father Corbally from the Vatican Observatory

Topic: "The Vatican and Astronomy"

Star Party Corner

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

Participation is the Lifeblood of the Club!

I'm not sure that participation would have been the best thing at the July member star party! After all, how many people can you fit in a pool anyway? The few of us that did participate were treated to an afternoon of frolicking in the pool and consuming large quantities of Rich Swanson's fajita's. When I say that Rich throws a star party, we aren't just talking into the wind, it happens! We didn't even get close to his observatory, just sat around and chatted the afternoon and evening away. Why we initiated the "No More –No go" policy was to get you out to these monthly events regardless of what's going on; it's getting there that counts. At press time we still hadn't had the public star party so I'll fill you in on that next month

August Star Party Schedule

Saturday, August 2nd Bob and Barb Kepple share their Desert Sunset Observatory (DSO)

With us in the middle of the Monsoon season, keep an eye on the weather channel and let's hope this star party will include some observing, Barb's homemade cookies are not to be missed. Bob has the third edition of the Night Sky Observer's Guide- Southern Hemisphere in print so ask him to see a copy. It's a "must have" book that complements the first two volumes.

Friday, August 29th is the scheduled date for the public star party. Presumably we will have it at JBO contingent on how Dave's feeling after his knee surgery. Watch the HAC list for more details.

President's Perspective

Wayne Johnson

As I'm writing this article it is a gloomy afternoon full of summer showers. Perhaps, like many of you, I am suffering from photon deprivation. Sometimes I wish for the old days, when it seemed like the monsoons occurred in the afternoon and the sky would clear by 7pm for some spectacularly clean skies at night. Is it my memory or wishful thinking?!

Those of you who attended the meeting enjoyed the wonderful talk by David Acklam from the Phoenix Marslander project. It was one of our better-attended meetings in awhile and we had a number of guest visitors which helped swell the ranks. I noticed all the cookies and drinks were gone by the time I had a chance to think about getting a snack!

I want to extend hearty congratulations to a couple of our club members who managed some wonderful achievements this month. Two of them go to our treasurer, Bob Kepple, who completed his 12th Astronomical League (AL) observing certificate and, perhaps more significantly, finally published the third book in his (and earlier, Glen Sanner, who I collectively call the Deep Sky Guys for their always informative talks at the meetings) series of astronomical handbooks called the Night Sky Observer's Guide (NSOG). He offered a member discount and autographed copies at the meeting. I hope you get your own copy of NSOG South. I also understand that the first two books are being redone as second editions and should be out sometime "soon".

Del Gordon, as you heard me mention at the meeting, won first prize from the AL for the best website in the 12,000 member or-

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"AUGUST 2008 SKY CALENDAR EXCERPT

courtesy of Doug Snyder, Palominas Observatory"

August '08

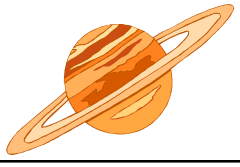
01 Fr ● New Moon 0312 hrs.
Solar Eclipse—NOT IN AZ!
02 Sa HAC Member Star Party
05 Tu Dbl Shadow Tr.J. 0204hrs
08 Fr ☽ First Quarter Moon 1320 hrs
12 Tu Perseid Meteors Pk 0400hr
15 Fr HAC Meeting 1900 hrs
16 Sa ○ Full Moon 1414hrs
23 Sa ☾ Third Quarter Moon 1649hrs
28 Th Zodiacal Lt. in E. for 2 wks.
29 Fr HAC Public Star Party

Club Resources

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

Dollar$ & Cent$ by Bob Kepple

The Club has a checkbook balance (mid July) of $4,198.23, including petty cash.



Huachuca Astronomy Club P.O. Box 922 Sierra Vista, AZ 85636 **http://hacastronomy.com** email: mrgalxy@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 blakstar64@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…

"The Vatican and Astronomy: From a Calendar to the Cosmos"

People are often surprised to find that the Vatican has been deeply involved in astronomical research for over 400 years. By touching on highlights of this history and on the contemporary activities of the Vatican Observatory we shall try to fathom why the Church is so concerned about science.

Bio:

Father Christopher J. Corbally, S.J., is a Vice Director of the Vatican Observatory. As such, he oversees the Observatory' s research group in Tucson, while maintaining contact and occasional visits to the Observatory' s headquarters at Castel Gandolfo, Italy. He is an Adjunct Associate Professor at the department of Astronomy, University of Arizona.

Father Corbally was born in England and entered the British Province of the Society of Jesus (Jesuits) in 1963. His training included a Licentiate in Philosophy from Heythrop College, Oxon., a B.D. in Theology

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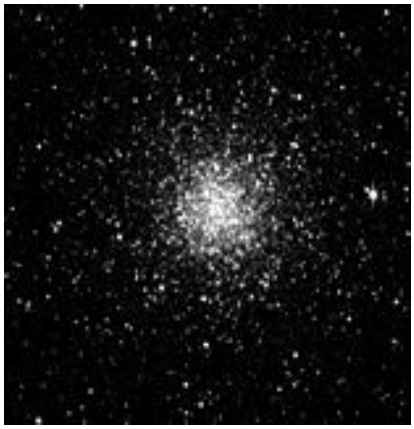
Travels on the Celestial Sphere

Summer Objects

By Glen Sanner & Bob Kepple

M27 The Dumbbell Nebula

Our list for August is especially enjoyable for beginners and small telescope users. Most of these objects are quite well-known to experienced observers but some may not be if you are new to the hobby. The majority of these objects lie within or near the Summer Milky Way and the "Summer Triangle," formed by the stars; Vega in Lyra, Altair in Aquila, and Deneb in Cygnus. The triangle is directly overhead as astronomical twilight ends in August and September. We know the "Monsoon" may interfere with telescopic viewing during the summer months but these objects are still viewable in September and even early October.



M56 in Lyra

Messier 57, NGC 6720, Planetary Nebula, Type 4+3, "The Ring Nebula", Lyra
Diameter 71", magnitude 8.8v, Central Star 15.3v, RA 18h 53.6m, Dec +33° 02'

This well-known planetary in Lyra is a fine object in any size telescope and responds well to aperture. Its bright 70" x 50" oval disk is beautiful and looks like a donut or smoke ring. You may see the central star by using averted vision (move the eye back and forth rather that looking at it directly). Let us know what size telescope you were able to detect the central star.

Messier 56, NGC 6779, Globular Cluster, Class 10, Lyra
Diameter 7.1', magnitude 8.3v, RA 19h 16.6m, Dec +30° 11'

M56 is a bright 7' diameter globular cluster easily resolved with a broad core. It is a fine example of a loose class 10 globular and can be easily found at the approximate center of a line drawn between Gamma Lyrae and Beta Cygni (Alberio).

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Collinder 399, Open Cluster 40 stars, "Brocchi's Cluster", Vulpecula
Diameter 60', magnitude 3.6v, Br * 5.2v, RA 19h 25.4m Dec +20° 11'

This open cluster is also known as "The Coathanger," and is easily recognizable as such. It covers over a degree of sky and is best seen in binoculars or very low power. All of its stars are between 5th and 7th magnitude. Look for open cluster NGC 6802 lying at the east end of the Coathanger. It has 40 stars concentrated in a 5'x2.5 N-S area.

Beta Cygni, Double Star, Spec. K3 & B8, "Alberio" Cygnus
Magnitudes 3.1, 5.1, Separation 34.0", P.A. 54°, RA 19h 30.7m Dec +27° 58'

This star marks the head of Cygnus "the Swan" or the base of the "northern cross." This is a spectacular double formed by a golden-yellow 3rd magnitude star and a blue 5th magnitude star. The pair is separated by 34 minutes of arc, an easy "split" in the smallest of telescopes.

Barnard 142 & Barnard 143, Dark Nebulae, Aquila
Diameters B142: 40', B143: 60'x40', Opacity 6, RA 19h 41.0m, Dec +10° 31'

These two dark nebulae appear as two extremely dark dust clouds suspended in front of the Milky Way background. They are sometimes known as the "E-nebula," or "double dark nebula." B143 is the northern most with B142 on the south forming three prongs easily seen in moderately powered binoculars. They lie 1.25 degrees west of Gamma Aquilae.

Messier 71, NGC 6838, Globular Cluster, Class 10, Sagitta
Diameter 7.2', magnitude 8.0v, RA 19h 53.8m Dec +18° 47'

This globular cluster appears as a dense open cluster or a since it is so loose. It spans over 7' and is easily resolved entirely across its center. It appears triangular-shaped to most observers - see what you think! Nearby is Harvard 20 a loose cluster of bright stars contrasting nicely with the smaller M71.

Messier 27, NGC 6853, Planetary Nebula, Type 3+2, Vulpecula
Diameter 348", magnitude 7.3v, Central Star 13.8v, RA 19h 59.6m Dec +22° 43'

Messier 27, "The Dumbbell Nebula" is, perhaps, the finest planetary nebula in the northern hemisphere. This hourglass-shaped object has two triangular lobes extending NNE-SSW with a central pinch. It also reminds one of an apple that a kid has taken a bite out of both sides. With an O-III or UHC filter the pinch almost disappears but the contrast is greatly enhanced. There are over 15 stars embedded within the nebulosity but you need high power without a filter to see them. Can you pick out the true central star?

Barnard 145, Dark Nebula, Cygnus
Diameter 35' x 6', Opacity 4, RA 20h 02.8m Dec +37° 40'

This dark nebula may be a challenge to you but it is worth the effort. Use a low power eyepiece to get a wide field of view. It is a thin, dark, triangular patch elongated 35' x 6' beautifully placed in a rich Milky Way field. This dust cloud has a sprinkling of faint stars showing through it. You might also be able to see it with a pair of binoculars.

NGC 6888, Emission Nebula, "The Crescent Nebula", Cygnus
Diameter 18' x 13', RA 20h 12.0m Dec +38° 21'

This is another challenge object especially for small or medium size telescope users. NGC 6888 is a large, faint emission nebula appearing as a concave arc of nebulosity elongated 20' x 10' NE-SW. It is nearly invisible without the use of a UHC or an O-III filter but responds well to aperture. With larger instruments it has the outline of an oblong potato rather than a crescent.

We hope you enjoy this month's mix of objects. Try locating these objects sometime this summer or fall and let us know what you see and if you enjoyed them. Happy viewing.

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ganization! Unfortunately, I couldn't find the award to give it to him at the July meeting, but, yes, Del, I did find your certificate in my pile of mail at home and will give it to you at the August meeting. Again, many congratulations to Del for winning this prestigious award!

Teresa Mullen, our hard-working newsletter editor, has made a proposal by email, and Del will make a presentation at our August meeting, about going from a mailed hard-copy of our newsletter to one that could be emailed to individual members or posted as a pdf file on the website. The money that we would save, on the order of $500 per year, could be used for a scholarship or grant for some deserving student. I think it is a good idea whose time has come. Postal rates keep going up and most (but not all, we realize) people have some access to the Internet, if not at home, at least from the library, or maybe even work. Let members of the Board know what you think of the idea; more information is to follow, but the idea is to phase out the surface mailed copies of the newsletter by the end of the year.

Clear skies to all, Wayne (aka Mr. Galaxy), your resident president

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from London University, and a Ph.D. in Astronomy from the University of Toronto.

His scientific research centers around the technique of classifying stars by their spectra. This leads him into problems of the structure and history of the Milky Way Galaxy, especially those in our Solar neighborhood, into the formation and dynamics of systems of multiple stars, and into many aspects of the characteristics and evolution of stars. He was the Project Scientist for the first of the Observatory' s telescopes to be built outside of Vatican City State, the Vatican Advanced Technology Telescope on Mount Graham, Arizona.

In August 2006 he was chairperson for the Resolutions Committee of the International Astronomical Union. It was this committee which presented to the astronomers of the XXVIth General Assembly in Prague the resolution defining Pluto as a 'dwarf planet', now known as Plutoids.

HAC Website Update:

Did You Know?

Article written by: Denise McConnell

Did you know that the HAC website has an Amazon Link that benefits the club? If you are Web-savvy, and even if you are not, give it a try! Amazon is a great online service to order books, software, electronics, astronomy equipment, and many other items that you may have never even thought were available to order online. HAC is now an Amazon Affiliate and every time you order something using the link to Amazon through the HAC website, the club receives a percentage of the total amount of your order. Don't worry, there is absolutely no extra charge to you, and this is a completely legitimate service provided by Amazon for both commercial and charitable organizations and all the proceeds are issued directly to the Huachuca Astronomy Club in the form of a check, so only the club Treasurer could ever cash it. The holidays are fast approaching, too, so give it a try. The Amazon link always appears at the bottom of the left sidebar, as well as interspersed throughout various pages. Sometimes the Amazon links are just an image of a book cover. If you currently purchase from Amazon, then use the links provided on the website as the first entry point to Amazon before you start to search or decide to buy something. Make your dollars count for the Huachuca Astronomy Club!

Celesrtron's Coming to RGO

Our three friends from Celestron went and reported to their bosses what a great time they had at our C-Row Star B.Q. held on June 7th at RGO. So the Boss asked Teresa and me to come to Torrance and take a tour of the Celestron facility and to explain what this C-Row was all about.

We arrived at Celestron early Monday morning and when we entered the lobby we were thrilled to find a sign welcoming both myself and Teresa to Celestron as VIP's. Kevin Kawai, the new Community Relations Director greeted us and then took us on a two hour tour of the facility, meeting all the department heads as we toured each of the different departments responsible with building assembling and testing and packing each Celestron product.

When we had finished the tour Kevin took us up to the marketing office where Vicki Croucier, the marketing manager, and Michelle Meskill, the Assistant manager, were waiting to hear from us. Teresa had helped me prepare a power point presentation of the goings on at HAC and some of the places that their donations had landed. Included in the presentation were pictures of Steve and Jeanne Herbert and the TWO donated scopes they have won over the past few years and of course the hottest family in HAC this year the Taylor's, featuring Rachel and Katie who both won a Celestron telescope in the essay competition last month. Teresa's power point presentation almost had them in tears as we slid from shot to shot of the C-Row Star B.Q. and our plans of its continuation. Finally after drying off the eyes we all came to the conclusion that C-Row Star B.Q. was something we both wanted. Joe Lupica, Celestron's CEO who had been in a meeting with the Synta owners (Celestron's new owners) interrupted the meeting and had us ushered into his office for a first hand update on the C-Row affair. By the time we had left Joe's office C-Row had been acknowledged as something that was to be placed on the corporate calendar and had Celestron's full backing.

What had been discussed and agreed upon was: There is now a working relationship between Celestron and HAC to co-sponsor an annual event called Celestrons C-Row Star B.Q., held at RGO once a year. Next year's event, with a limit of 150 attendees, will be for two days, Friday and Saturday, June 19 & 20, 2009, with Friday being the hard core observing night and Saturday being the actual Star B.Q. To promote this event Celestron has promised to furnish a contingent of its employees, door prizes to help entice more attendees and a large aperture scope for the raffle.

I have mentioned this event on a couple of Yahoo groups and have received positive responses from Celestron owners and users all over the country. I think that there are already a dozen from Oregon, Texas, Colorado, California and Illinois who have committed to attending. Members, mark your calendars for June 19 & 20, 2009, and plan on camping two nights or just coming out for one of the two days. This will be way to much fun to miss.

Keith Mullen

NASA Space Place

Death of a Supergiant

By all outward appearances, the red supergiant appeared normal. But below the surface, hidden from probing eyes, its core had already collapsed into an ultra-dense neutron star, sending a shock wave racing outward from the star's center at around 50 million kilometers per hour.

The shock wave superheated the plasma in its path to almost a million degrees Kelvin, causing the star to emit high-energy ultraviolet (UV) radiation. About six hours later, the shock wave reached the star's surface, causing it to explode in a Type IIP supernova named SNLS-04D2dc.

Long before the explosion's visible light was detected by telescopes on Earth, NASA's Galaxy Evolution Explorer (GALEX) space telescope captured the earlier pulse of UV light — scientists' first glimpse of a star entering its death throes.

"This UV light has traveled through the star at the moment of its death but before it was blown apart," explains Kevin Schawinski, the University of Oxford astrophysicist who led the observation. "So this light encodes some information about the state of the star the moment it died."

And that's exactly why astronomers are so excited. Observing the beautiful nebula left behind by a supernova doesn't reveal much about what the star was like before it exploded; most of the evidence has been obliterated. Information encoded in these UV "pre-flashes" could offer scientists an unprecedented window into the innards of stars on the verge of exploding.

In this case, Schawinski and his colleagues calculated that just before its death, the star was 500 to 1000 times larger in diameter than our sun, confirming that the star was in fact a red supergiant. "We've been able to tell you the size of a star that died in a galaxy several billion light-years away," Schawinski marvels.

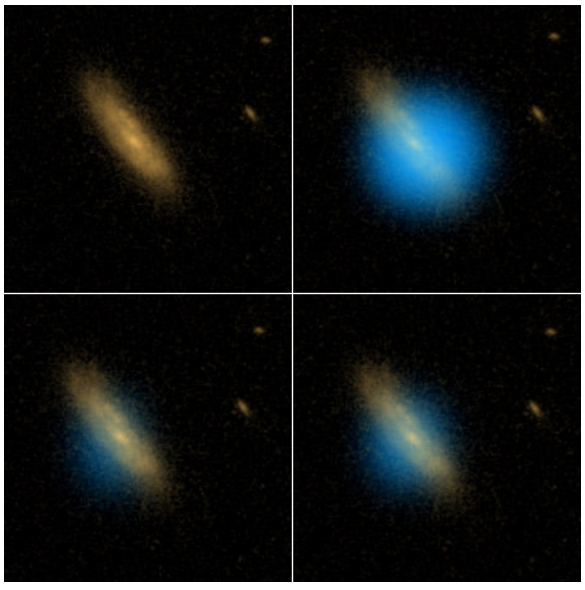
"GALEX has played a very important role in actually seeing this for a few reasons," Schawinski says. First, GALEX is a space telescope, so it can see far-UV light that's blocked by Earth's atmosphere.

Also, GALEX is designed to take a broad view of the sky. Its relatively small 20-inch primary mirror gives it a wide, 1.2-degree field of view, making it more likely to catch the UV flash preceding a supernova.

With these advantages, GALEX is uniquely equipped to catch a supernova before it explodes. "Just when we like to see it," Schawinski says.

For more information, visit www.galex.caltech.edu, "Ultraviolet Gives View Inside Real 'Death Star'." Kids can check out how to make a mobile of glittering galaxies at spaceplace.nasa.gov/en/kids/galex_make1.shtml .

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



Caption:

Sequence of images shows supernova start to finish. The top left image shows the galaxy before the supernova. At top right, the bright UV flash called the shock breakout indicates a red supergiant has collapsed. At bottom left, moments later, the flash is mostly gone. As the debris expands, it heats up again and becomes brighter (bottom right). The supernova became 10 times the size of the original over the following few days, thus becoming visible to supernova hunters.

Note to editors:

This image may be downloaded from space-place.nasa.gov/news_images/supernova_uv.jpg .

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Visit us on the web at hacastronomy.com

+++ HELP CELEBRATE IYA2009 WITH THIS EARLY ASTRONOMY CHALLENGE AND NEW WEBSITE BY DOUG SNYDER +++

HAC member Doug Snyder is pleased to announce the activation of his new web-site devoted to the upcoming International Year of Astronomy (IYA). This World Wide Web website starts an early celebration of IYA2009 by premiering an astronomical challenge to amateur astronomers worldwide, including members of HAC - observe a 'slice' of Infinity, earn a unique and colorful lapel pin designed by Doug, have an opportunity to win $1000, and build onto an astronomer's Outreach Kit with additional resources. The challenge began on July 1, 2008 and continues through most of the year 2009, again in celebration of IYA, the 400th anniversary of the invention of the telescope.

Since it will be concentrating on astronomy outreach (very 'far out' outreach), he has decided to inaugurate his site at this early stage to allow planning, exploration and object research. Please visit the website at www.astronomyyear2009.com and join in with this challenge while assisting him to promote this activity throughout the amateur astronomy world. All of the necessary information is explained on the web site and you can also contact Doug from the site if there are questions. It doesn't cost you a dime!