OCTOBER
2006
HAC PICNIC—Sat.
October 21st

NIGHTFALL
Huachuca Astronomy Club of Southeastern Arizona

HAC'S WEB SITE HAS CHANGED ITS INTERNET ADDRESS! OUR WEB HOST, COCHISE COLLEGE, IS SCHEDULED TO REMOVE THE SERVER NAMED 'C3PO' AND MOVE THE HAC WEB SITE TO A SERVER NAMED 'R2D2'. BOOKMARK THIS NEW ADDRESS!!

http://r2d2.cochise.edu/astro

HAC 's MONTHLY MEETING: FRIDAY, OCTOBER 6, 2006

Topic: ***HOW TO CHOOSE & BUY A TELESCOPE, 2006***

Presented by Veteran HAC members; demonstration telescopes will be on-hand

7 pm, Cochise College, Sierra Vista, Rm. 305

PLUS our monthly Show-N-Tells, a POP Quiz , upcoming event details, and a neat Door Prize

Star Party Corner by Keith Mullen, Star Party Coordinator

(520) 366-0049 email: repogazer@wavmax.com

October's Star Party Schedule -WE ENJOY & REQUEST YOUR PARTICIPATION!

Friday, Oct. 13th Public/Members Star Party at JBO; bring out your scope and enjoy the fall Observing at its best

Thursday, Oct. 19th: Huachuca Mountain School on St. Andrew Drive in Sierra Vista. Volunteers with scopes are needed to help with this event, but all members are invited to assist, have fun and learn! Lots of great kids & parents, but event doesn't run late. Contact Keith, Doug, or Jeanne Herbert for more information. Don't leave us stranded!

Saturday Oct. 21st finds us again at Dave's for the Annual HAC FAMILY PICNIC and Members Star Party at JBO; you don't want to miss this one. The picnic gets underway at 5 pm (lots of great eating by the pool) and the star party begins at Twilight Time. You are granted NO excuses for missing out on this HAC event.

September saw the end of the Monsoon and brought us clear skies by month's middle with some clear and much cooler evenings. We started off with the 'Dine Under the Stars' at the U.of A. Campus where Keith, Rich, Dave and Doug set up the scopes for the public's viewing pleasure.
The monthly Public/Members Star Party was held At Bob and Barb Kepple's instead of the usual JBO, where Bob and Glen, Doug, Gary and Keith, John, Jim and even Emil and Neal braved the cool autumn night for a first night out in months. The following weekend Doug hosted the monthly Star Party at Palominas Observatory (and I missed it)……according to Doug, the night sky was great, but only 9 members showed up after much preparation and forethought by Doug & Jean. With this low degree of turnout at a well publicized member star party, a greatly disappointed Doug has decided not to host any more star parties at his Palominas Observatory. MANY thanks to those few who did attend. (Evidently, our outgoing President expresses more of his views on the last page of this newsletter.)

The Planet Report for October from the Backyard Astronomer—Neal Galt

Jupiter remains King for the evening sky, but is beginning to get very low in the south-southwest. By month end it will set only 50 minutes after sunset. Too low for good telescopic viewing. Mercury is an evening sky object for October, but the elusive planet remains lower than Jupiter at all times. Your best chance to see it will be just after mid-month, for about a week. **VIEW THE ORIONIDS METEOR SHOWER AT THE HAC PICNIC (SATURDAY, OCT. 21)**
Saturn rises in the east around 3 AM at the beginning of the month and still after mid-night by the end of the month.
We'll give up on Mars and Venus for October, as both are lost in the solar glare. Mars is heading towards the morning sky, while Venus will emerge in the evening sky in November. Keep looking up....don't be surprised!

OCTOBER'S OBSERVING OPPORTUNITY—BY BOB KEPPLE

Delphinus – The Dolphin
(Much more information, data, charts and photos about the sky can be found in 'The Night Sky Observer's Guide' authored by Bob Kepple and Glen Sanner)

Last month we looked at objects in Vulpecula, so let's continue our survey of small constellations for the October issue by reviewing objects in Delphinus which lies overhead this time of the year. This constellation actually looks like a Dolphin, with six stars forming the outline of the fish (actually Dolphins are mammals). Despite being small, it is easy to locate lying at the SE edge of the summer Milky Way south of Cygnus, the Swan , and just NE of Altair, the brightest star in Aquila, the Eagle. The nose of the Dolphin is marked by Gamma Delphini, a beautiful double star.

Gamma (g = 12) Delphini, Double Star, mags. 4.3, 5.1, Sep. 9.6", P.A. 268°, 20h46.7m +16°07'
Gamma Delphini has a yellow primary with a green companion, the latter a rather rare stellar color. Some observers see the companion as bluish, but I always see green. What color do you see? This binary system lies about 100 light years away and its stars have luminosities 16 and 8 times greater that that of our Sun. Struve 2725, a close, fainter double, lies in the same field of view 15' south of Gamma.

Kappa (k = 7) Delphini, Triple Star, mags. AB: 5.1, 11.7, Sep. 28.8", P.A. 286°, 20h39.1m +10°05'
Kappa is a pretty triple lying SE of the Epsilon Delphini, the star marking the tail of the Dolphin. Its closer components appear yellow and the more distant member is a 9th magnitude reddish star.

NGC 6891, PK54-12.1, Planetary Nebula, dia. 14", mag. 10.5v, CS 12.4v, 20h15.2m +12°41'
Viewed through small telescopes from 4 to 8 inches, 6891 is a nice planetary nebula with a bright bluish-green 10" disk surrounding a bright 12th magnitude central star. 12-inch telescopes will show a 15" disk with well-defined edges and a uniform surface brightness. There are three very faint stars surrounding the edges.

NGC 6905, PK61-9.1, Planetary Nebula, dia. 39", mag. 11.1v, CS 15.5v, 20h22.4m +20°05'
6905, known as the Blue Flash Nebula, protrudes from the west side of a small keystone-shaped asterism made up of 11th and 12th magnitude stars. In 8-inch scopes its 35" diameter disk is bright and has a fine blue glow that grows brighter toward center. In 12-inch and larger scopes the disk appears elongated 40" x 35" N-S and the central star may be seen intermittently.

NGC 6928, Galaxy, Type SB(s)ab, dia. 2.0' x 0.6', mag. 12.2v, SB 12.3v, 20h32.8m +09°56'
NGC 6930, Galaxy, Type SB(s)ab, dia. 1.1' x 0.5', mag. 12.2v, SB 12.3v, 20h32.8m +09°56'
These two faint galaxies form a 4' pair in 12-inch telescopes. 6928, the northern galaxy, has a faint 1.2' x 0.5' ESE-WNW halo containing a poorly concentrated oval core. 6930, the southern galaxy of the pair, is a faint, diffuse, thin streak elongated 1' x 0.2'. Its southern tip almost touches the NNW corner of a thin isosceles triangle of 12th magnitude stars. 3' WSW of 6928 is a third galaxy, 6927, a very faint, tiny glow slightly elongated N-S.

NGC 6935, Globular Cluster, Class 8, dia. 5.9', mag. 8.7v, 20h34.2m +07°24'
6935 is located a little less that four degrees south of Epsilon Delphini and half a degree NNW of two 6th magnitude stars. In 4 to 6-inch scopes it appears fairly bright, small, and round with a concentrated center. 8-inch scopes with a show a granular texture in a 3' diameter halo and some stars just resolved in periods with steady air currents. 12-inch and larger scopes show a bright 4' diameter halo with a well-concentrated core and a few dozen stars resolved against a mottled background. Three 9.5 magnitude field stars lie west of the cluster, the closest only 2' away, the other two 8' and 10' distant. (Continued on Page 3 along with finder charts)

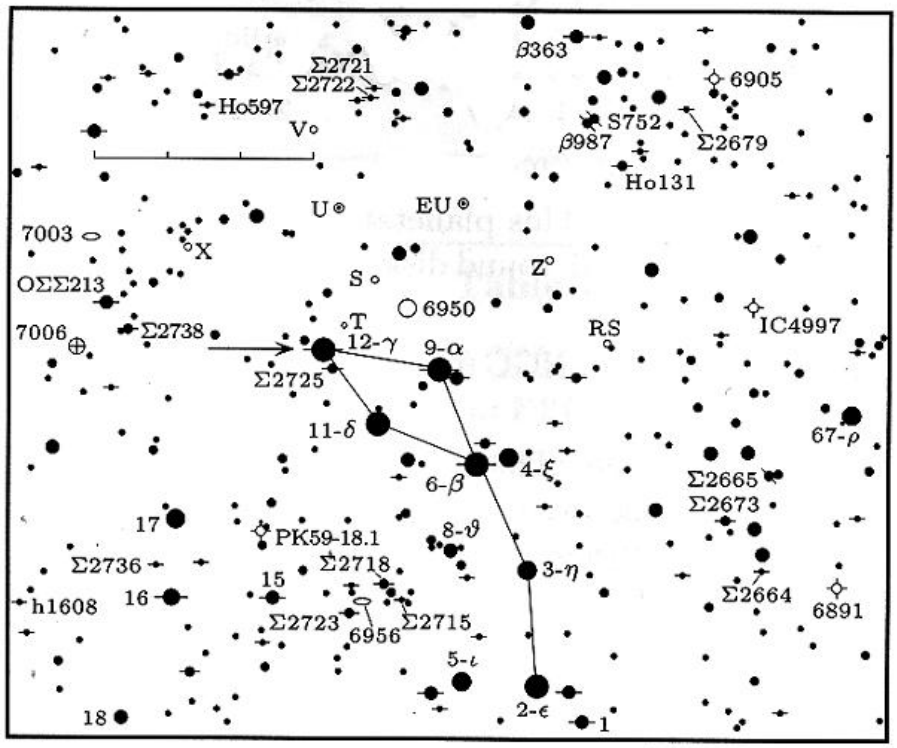
Huachuca Astronomy Club P.O. Box 922 Sierra Vista, AZ 85636 **http://r2d2.cochise.edu/astro; email** hac@palominas.com
Yearly Membership: Individual: $25; Family: $35; Military: $20; student:$10 (with restrictions)
President: Doug Snyder (520) 366-5788 (starhaven@palominas.com); Vice President: Wayne Johnson; Treasurer: Tim Doyle 378-5121;
Secretary: Jeanne Herbert; Star Party Coordinator: Keith Mullen 366-0049; repogazer@wavmax.com
Public Events Coordinator: Jeanne Herbert (jeanne_hrbrt@yahoo.com) 366-5690 (early evenings)

This issue of NightFall can also be found on-line at http://r2d2.cochise.edu/astro. Click on the '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 .***

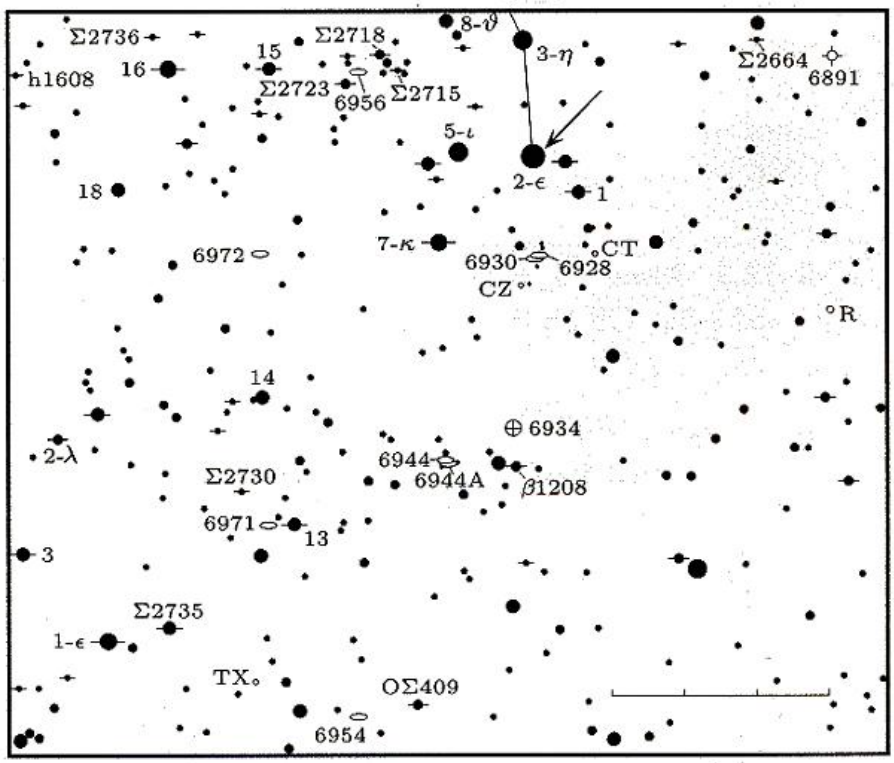
OBSERVING OPPORTUNITIES CONTINUED

NGC 6956, Galaxy, Type SBb, dia. 1.6' x 1.5', mag. 12.3v, SB 13.1v, 20h44.0m +12°31'
6956 needs a 12-inch or larger scope for a good view since it is so small, however, smaller scopes will reveal a tiny smudge. It lies in a field of fairly bright stars just west of an 11th magnitude star that touches its halo. It has fairly bright, circular 1' diameter halo containing a stellar nucleus. 200x reveals a faint core elongated N-S.

PK59-18.1 Abell 72, Planetary Nebula, dia. 130", mag. 13.8v, CS 15.0v, 20h50.1m +13°33' (Use Chart 43-3)
Abell 72 is a very faint planetary nebula requiring 12-inch or larger instruments. It lies just ENE of an 8th magnitude star and 4' SSW of a 9th magnitude star, the glare from the two stars makes viewing that much more difficult. Its 2' diameter disk is diffuse and ill-defined but seems elongated somewhat N-S. Even though an O-III filters the disk remains dim and transparent. Seven stars are superimposed upon the disk but to see the stars you need to view it without filters.



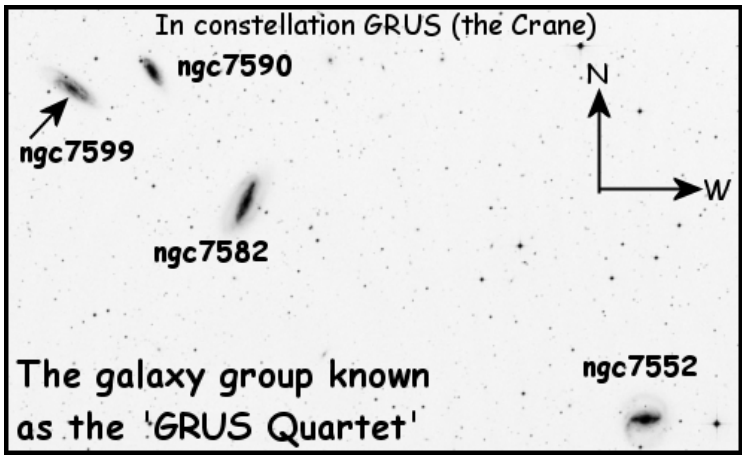
Finder Chart 43-3. 12–γ Del: $20^h46.7^m$ +16°07′



Finder Chart 43-4. 2–ϵ Del: $20^h33.2^m$ +11°18′

NGC 7006, Globular Cluster, Class 1, dia. 2.8', mag. 10.5v, 21h01.5m +16°11' (Use Chart 43-3)
7006 is one of the more distant globular clusters associated with our Milky Way Galaxy, located perhaps 185,000 light years from the Earth and 150,000 light years from the galactic center. 4 to 6-inch scopes will show a faint, small, unresolved disk with a uniform glow looking more like a planetary nebula than a globular cluster. 8 to 10-inch scopes show a round 1.5' diameter halo containing a broad central brightening. 12-inch and larger scopes reveal a fairly bright 2' halo with a granular texture but still no resolution. The core is well-concentrated but not as bright as is typical of most globulars.

Travels on the Celestial Sphere
by Glen Sanner



Several times this late summer I have viewed a group of four galaxies in the constellation Grus (the Crane). They collectively are known as the Grus Quartet. These are about as close to our local horizon that one would want to view galaxies. You are down in the murk doing this but it is still worthwhile for galaxy hunters. NGC 7599, a barred spiral, is the eastern most galaxy at RA 23h19m20.8s and DEC -42deg 15.5m. It is at magnitude 12 and is elongated 4.4' x 1.4' at PA 57 (Position Angle) and appears as a fairly bright, evenly illuminated oval. A dust lane could be seen on its southern side with Gary Myers 30" at DCO. NGC 7590 is next at RA 23h18m54.6s & DEC -42deg 14'. This is a 12th magnitude Sbc galaxy elongated 2.6' x 1' at PA 36. It is a smaller thin oval evenly illuminated with a brighter center. NGC 7582 is next at RA 23h18m23.5s & DEC -42deg 22'. It is an 11th magnitude galaxy elongated 5' x 2.3' in PA 157. This galaxy is bright and evenly illuminated with a concentrated core. There is much detail in this galaxy which responds to aperture. NGC 7552 is western most, being 28' west of 7582, and appears as a large circular galaxy spanning perhaps 3.5'. It too is a barred spiral (SBab). It is at magnitude 11.3 and at RA 23h16m10.6s & DEC -42deg 35'. All of these galaxies are easily seen in any size telescope and provide a welcome refresher to viewing after our monsoon season. You will find many other galaxies in the region including NGC 7632 and PGCs' 71043 and 71042. Thanks to Gary Myers and Bob Kepple for additional views in their scopes.

(HAC member Glen Sanner can be contacted via email at longeyes1@msn.com)

Getting to Know My New Telescope or The Continuing Adventures of the Neophyte Amateur Astronomer…
By Judy Sukol

Well, I finally unpacked the scope, and took it to Palominas where Keith and Doug helped set it up for me. My attempts at centering objects in the finderscope and eyepiece were less than "stellar." At the end of the evening, Keith warned me that I probably wasn't ready to fly solo. (He might have also muttered something to the effect that I had picked the wrong hobby, but maybe I just imagined that).

Undaunted, I took the scope into my backyard the first clear day in August. I had the tripod all set up, the scope securely fastened to the base, so I powered it up and started the Sky Align process. I touched the direction arrow and the scope slewed around at warp speed. I took my finger off the arrow button, and it didn't even slow down! Yikes! It's alive! I struggled to get it under control, but instead it gyrated wildly from one direction to another. Finally, it unplugged itself by wrapping the power cord around its base, in apparent disgust at being handled by such a rank amateur. I untangled the cord, plugged the scope back in and changed the slew rate, but after aligning on the first star, it kept reinitializing itself and asking me if I wanted to start the Sky Align process! It was like déjà vu all over again! Finally, I called in an expert. Doug made an emergency house call, but even he couldn't figure out the odd behavior of my new Celestron. We finally decided to consult a Celestron expert—i.e. Keith Mullen. He quickly isolated the problem—an power connection problem. It turns out that the power adapter I had used with the scope was not the correct one, but no damage was done and it was a lesson learned.

Still slightly discouraged, and a little more daunted than I was originally, I took the scope out a couple of more times. So far, aligning a star through the finderscope is not as easy as it might appear, and the scope doesn't put searched objects in the eyepiece (although it usually manages to point itself in the general direction of the object). After discussing "backlash" problems with various experts, I'm still not sure whether or not my scope is defective. These "Go To" scopes are definitely not for the faint of heart, the easily discouraged, or liberal arts majors. But I will endeavor to persevere….

Is Pluto a planet or not...

Contributed by Bob Hebert (written by Scott Westerfeld)

Of course, it is not. Even the Pluto-sympathetic IAU, which is meeting this month (well, in August) to discuss such matters, will probably politely demote it to "dwarf planet," "ice dwarf," or some other humiliating category. But in his slavish devotion to schoolchild memorization exercises, Scalzi will not give up the fight. Now he's even impressed his charming daughter into the doomed struggle.

Watch in awe as Cthulhu eats me, Scott Westerfeld, in effigy. <http://www.scalzi.com/whatever/004405.html>

Okay, I've avoided the subject on this blog, because it's Last Days Month, after all. But enough is enough! Because when in the course of human events it becomes necessary for one heavenly body to dissolve the astronomical bands which have connected it with another and to assume among the powers of the solar system the separate and superior station of "planet" to which the Laws of Nature entitle them, and to demote the other to the station of "ice dwarf," a decent respect to the opinions of humankind requires that the inhabitants should declare the causes which impel them to the separation. So . . .

WHY PLUTO IS NOT A PLANET

Position, Eccentricity, Angle to the Ecliptic, Size, Composition, Dominance, and many more...
Hey, look! One of these things is not like the others. That's right, the purple one. It's all over the place: inside Neptune's orbit one decade and then outside the next; topsy-turvy and crooked. Or as an astronomer might say, "Several orders of magnitude more elliptic and eccentric than the eight real planets."

By the way, that red splodge in the middle is the four terrestrial planets: Mercury, Venus, Earth, and Mars.
And see how neat the eight real planets are? Why are they all in a plane like that? Because they all formed from the same disk of material (known as "the accretion disk") and are therefore all cousins. They are related.
Pluto is just a crappy piece of leftover, non-accretion-disk ice. Which brings us to . . .

Composition

Pluto's exact composition is not known, but a third to a half of the dwarf is almost certainly composed of ice. That's right, it's almost equal parts rocks and water, and we have a name for rock + water objects in space: comets. Pluto is compositionally a comet. And that's why its orbit is incredibly eccentric. A little more eccentric, and it would be lighting up our skies as it melted away, and would be called "Tombaugh's Comet" or something like that.

History

Now here's where the Plutophants always get nostalgic. They think that the millions of plastic Denny's placemats printed over the last 70 years that call Pluto a planet somehow legitimate the term. Pluto should be "grandfathered" in, or maybe we should make a special name like "minor planets" for Pluto and its numerous Kuiper Belt pals. But here's the problem with that, Pluto-phants: we've been down this road before. And your side LOST!

In 1801, Guiseppe Piazzi discovered a new "planet" called Ceres Ferdinandea. The lame last name was soon dropped, but otherwise everyone was thrilled and excited. Then a second "planet" was spotted in Ceres' orbit, called Pallas. Then two more: Juno and Vesta.

Now, some folks immediately suggested downgrading Ceres and its buddies to non-planets, and suggested the term "asteroids." But the Ceres-lovers refused, because planets are wonderful and pretty and Denny's had already printed up some lovely placemats!

In 1828, a book called First Steps to Astronomy and Geography listed the planets as, "Eleven: Mercury, Venus, the Earth, Mars, Vesta, Juno, Ceres, Pallas, Jupiter, Saturn, and Herschel." (Herschel is the old name for Uranus, changed to facilitate the snickering of generations of schoolkids.) That's right, we had eleven planets, and that was before Neptune or Pluto hit the scene.

From 1845 to 1851, 11 more "planets" were discovered in Ceres' orbit. It was pretty clear to everyone that things had gotten out of hand. But the always optimistic planet-o-philes didn't want to outright demote anyone, because that would be mean.

So they came up with the lame idea of "minor planets."
(Continued on next page)

Pluto—continued from page 5

In 1866, the Paris Observatory first used the description "petites planets" to describe the ever-more-numerous asteroids. Tellingly, Ceres, Pallas, Juno, and Vesta were "grandfathered" into the ranks of full planets at first. (I didn't know they had Denny's in Paris back then.)

The U.S. Naval Observatory went psycho for a few decades, using the word "asteroids" until 1868, then switching to "small planets," then back to "asteroid" in 1892, then to "minor planets" in 1900, and at long last to "asteroids" in 1929, only a year before Pluto was discovered. Phew. Close call there.

Other organizations used various wordings, but by the beginning of the twentieth century, the Denny's-eating, planet-loving lobby had been largely defeated.

This, my friends, is exactly what will happen to Pluto. Yes, the IAU may come up with "minor planet" or "dwarf planet" or some such drivel, but as new discoveries mount, and the list of "planets" get longer and longer and more and more embarrassing, we'll slowly stop using that word. And by the way, we're not talking about mere dozens of planets here; some estimates put the number of significant Kuiper Belt objects in the tens of thousands. But long before we find that many, we'll be calling Pluto what it is:

The King of the Kuiper Belt!

Which brings me to my final point . . .

Common Decency

Why would Pluto want to be a planet?
As a planet, it's a tiny little, out-of-whack runt! As a Kuiper Belt Object, it's a rocking big heavyweight bruiser. Okay, not quite as big as UB313, but it's got more moons!

So as a matter of common decency, we should realize that Pluto would rather rule in the icy reaches of the Kuiper Belt than be subject to mockery in the warm glowing warmth of the inner solar system. It's named after the god of the underworld, after all.

For even more detail on the "minor planets" of the nineteenth century, written by people who (unlike Scalzi and me) actually know things, check here. http://scottwesterfeld.com/blog/?p=161 or http://news.bbc.co.uk/2/hi/in_depth/5282440.stm

HAC Notes From the President: OK, lots to jot down and not much space….1)Venting: I'm very disappointed with member turnout for all of our star parties and outreach events. A lot of effort is expended by less than a handful of members for scheduling, doing the prep work and bringing the event off at someone's home and/or observatory and sometimes at a school. Yet turnout is almost always less than 10%. That's horrific, I say! :) I realize there are members who physically can't attend or live quite a distance from events. But most members live in or around Sierra Vista, yet they never participate in any HAC function and we've never even seen them in person. Please stop coming up with excuses for missing HAC functions and get involved—this applies to members, Board members and club officers….I would really love to see you at our events this month (and every month) and especially at the HAC Picnic on Saturday, Oct.21. —

The Sherwood family (Ward, Debbie, Jennifer, Jonathon and Matthew) have served as the club's Refreshment Committee for meetings ever since I've been a member (1999) and we all REALLY owe them a debt of gratitude for their involvement in that endeavor (and others as well!) over the years. But it is time that some other members step forward to carry on this meeting refreshment tradition. The Sherwood's will carry on through the December meeting, so if you are willing to help starting in January 2007, please contact HAC's Treasurer, Tim Doyle at 378-5121. This is really appreciated! ____Clear Skies to All—Doug

BREAKING NEWS FROM KEITH MULLEN—
I have received from Stellarvue Telescopes a Kit form 80 mm Refractor that was donated to HAC to aid us in forming a **Junior Astronomers division.** This scope needs to be assembled and it's the wish of the manufacturer that we have some of the club's junior members assemble it. SO, any of you with juniors let me know if they/you would like to assemble it here at RGO on **Saturday November 4th** and I'll schedule a Workshop for that day, this scope will be available for loan out to any member who has children who wish to use it.—Keith (A note to members from Doug: If you have a relationship with HAC kids, JUST DO THIS ! - don't rationalize why you can't do it)