

JUNE  
2006

We welcome the  
Kelly Family to HAC!

# NIGHTFALL

Huachuca Astronomy Club of Southeastern Arizona



HAC MONTHLY MEETING: FRIDAY, JUNE 9, 2006

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

Guest Speaker: Mr. Adam Block, formerly of the Kitt Peak Advanced Observing Program

Topic: The Digital Observer

PLUS our monthly Show-N-Tells, a neat 'astro' item raffle + a door prize surprise!

**Star Party Corner—Keith Mullen, Star Party Coordinator (520)366-0049**

(additional editorial contribution by d. s.)

May opened with the last of four Star Parties at the Huachuca Oaks Baptist camp where Doug Snyder, Dave Healy, Jeanne and Andrew Herbert, Hans Claesen, Rich Swanson and I took on 40 something 3rd to 5th graders from Phoenix. We had the usual objects lined up for this time of year, Saturn, Jupiter along with the Moon and M-13, still the Oooh's and Ah's were audible from anywhere in the camp. Now on Friday the 6<sup>th</sup>, we met at JBO for the Public Star Party, we did have some new members sign up and they even brought their own scope; this was along with Glen's Dob, my binos and Dave's Big Blue in the Observatory and Bob Malone with his 8". We did okay, but still could have used a few more scopes and maybe a dozen more members. Participation picked up a little at Gary Myers on Saturday the 20<sup>th</sup> for the Monthly Member Star Party, only thing was, so did the clouds. We waited until around 8:30 before we spotted a break and from then on we were able to observe through sucker holes until early in the AM, not the best weather, but a great Star Party, thanks Gary!

The public star party at Patterson Observatory on May 26<sup>th</sup> held in conjunction with Sierra Vista's 50th anniversary celebration was a large success and hosted by Frank Zizza operating the 20" R-C in the dome. We had close to 50 attendees during the evening and they really enjoyed the views under a clear and warm May night. Thanks to Hans Claesen, Bob Malone, the Herbert family, and Glen Sanner for coming out to the observatory and helping out. There were several HAC members who attended the RTMC Astronomy Expo at Big Bear this Memorial Day weekend and we should have some juicy reports on the happenings there; stay tuned for a report at the June meeting.

### June Star Party Schedule

**Friday June 2<sup>nd</sup>: Public/Member Star Party** at JBO; starts at dusk (around 8 pm); 43% Moon sets at midnight. **Participate !!** That means come on out and bring a scope if you can. We love to see telescopes! If not, that's fine too....just show up and enjoy! More often than not, we see more folks from the public attend than we do members and I hear some pretty lame excuses (IMHO) about why many don't attend. I understand there are times and circumstances when members can't, but event after event and month after month if you're physically able? Why belong to an 'astronomy club' if (1) you are not going to do astronomy at a slightly higher level than you are at now, and (2) be a part of this club in which you participate, socialize, pass on knowledge or absorb knowledge, and enjoy yourselves at our events, whether you are a novice wanting to become familiar with part of the night sky and telescopes or a seasoned observer sharing your knowledge of this fascinating Universe. It's not like you have to stay all night !

**Saturday June 10<sup>th</sup>:** The Full Moon Telescope Workshop is back this month and Doug Snyder is hosting this one at Palominas Star Haven Observatory, the topic will be " Telescopes and Accessories" where Doug (and others) will demonstrate the use and function of various accessories like cameras and focal reducers, He will also be helping us get re-acquainted with our scopes by discussing focal lengths and calculating magnifications of eyepieces, it should be very informative, hope to see several of the newer members there, this is for you guys! Starts at 4 pm

**Friday June 23<sup>rd</sup>: Member Star Party.** This month's Star Party finds us back at Palominas Star Haven Observatory with Doug and Jean Snyder hosting. Doug will be pretty upset if there is a poor turnout. There is plenty of space for extra scopes outback at Doug's so there's no reason not to bring one; as always Jean will have munchies, weather should be warm and CLEAR. For directions to Doug's observatory, look in the HAC Web or call him.



**Doug's Notes:** The following is a description of just one of the many Astronomical League's programs for observers. If you are interested in pursuing this program, contact member David Healy. HAC will reimburse you for the cost of the manual. For additional observing programs, visit <http://www.astroleague.org/observing.html>

## THE ASTRONOMICAL LEAGUE'S "UNIVERSE SAMPLER" OBSERVING PROGRAM

### Introduction.

The Universe Sampler Observing Program is a unique observing program designed specifically for the beginning observer. It is designed to expose the beginner to a sample of the many different types of objects that the Universe has to offer for our observing enjoyment. It is designed to help the new observer learn his or her way around the sky and to teach some of the basics of astronomy. It offers an alternate naked-eye list of deep sky objects for those who are interested in astronomy but shy away because they do not have a telescope or binoculars.

The Universe Sampler will take you on an exciting journey through the heavens. You will meet many of the brightest stars, learn their names and the constellations in which they are found. You will visit our moon and some of the planets that share our solar system. You will greet at least one of the comets that leave the outer reaches of the solar system to visit the neighborhood of the sun. You will become acquainted with double stars, variable stars, star clusters, nebulae and galaxies.

One you have completed the Universe Sampler observing program, you should be well acquainted with the night sky and be able to find your way among the stars with no problem. You should be in a position to know what type of objects interest you most and be ready to continue your observing with one or more of the Astronomical League's other observing programs, e.g., the Messier List, the Double Star Program, the Lunar Programs, etc.

The titles of the lessons are:

Basic Sky Movement, How to Find North in the Sky, Star Charts and Constellation Patterns, Angular Measures and Distance, Stating the Location of Objects in the Sky, Star-Hopping, Eyepiece Field Orientation, Recording Your Observations, The Art of Seeing, The Moon, Variable Stars, The Sun.

### The Universe Sampler Club.

The Astronomical League offers special recognition in the form of a Universe Sampler Club Certificate for those that have completed either the "naked eye" or the "telescope" path. You may complete both programs and get two certificates. To obtain an award you must observe the following rules:

- You must be a member of the Astronomical League either through an affiliated club or as Member at Large.
- Use of setting circles, computer driven telescopes (except for tracking purposes only) or any electronic device used to locate objects is NOT allowed. The purpose of the Universe Sampler program is to help the beginner learn his or her way around the sky. Use of the devices mentioned above would defeat the purpose of the program. Instead, use the star-hop method to locate objects. Refer to the lesson on star-hopping.
- You must complete Object List I as naked-eye observations. You must complete either Object List II as telescopic/binocular observations or Object List III as naked-eye observations.
- You must keep a log of your observations stating the object number or name, date/time and location, seeing conditions, size of instrument and magnification (or naked-eye observation) and your description of the object.
- You may copy the log sheets in the back of the manual for your use.

Upon completion of the program, submit your log sheets to an officer or appointed person from your club for verification. A letter from that person should be sent to the address above requesting your certificate and pin. Members at Large should submit copies of log sheets to the address above since originals will not be returned unless you supply a postage paid return envelope.

The Universe Sampler is designed specifically as a teaching aid for the beginning observer. Due to the program's design and purpose, the object lists are not available separate from the manual. You can order the manual from Astronomical League Sales.

<p><b>Huachuca Astronomy Club</b> P.O. Box 922 Sierra Vista, AZ 85636 <a href="http://c3po.cochise.edu/astro">http://c3po.cochise.edu/astro</a>; email <a href="mailto:hac@palominas.com">hac@palominas.com</a> Yearly Membership: Individual: \$25; Family: \$35; Military: \$20; student:\$10 (with conditions) President: Doug Snyder (520) 366-5788 (<a href="mailto:starhaven@palominas.com">starhaven@palominas.com</a>); Vice President: Wayne Johnson; Treasurer: Tim Doyle 378-5121; Secretary: Jeanne Herbert; Star Party Coordinator: Keith Mullen 366-0049; Public Events Coordinator: Jeanne Herbert (<a href="mailto:jeanne_hrbt@yahoo.com">jeanne_hrbt@yahoo.com</a>) 366-5690 (early evenings)</p>
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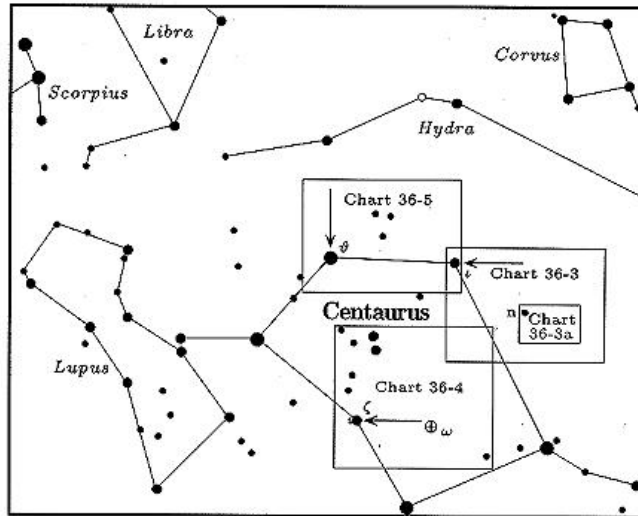
This issue of NightFall can also be found on-line at <http://c3po.cochise.edu/astro>. Click on the 'Newsletter' link. There is much more information about astronomy and our HAC activities on our club web site. \*To join the HAC-LIST, send an email to [haclist-subscribe@yahoogroups.com](mailto:haclist-subscribe@yahoogroups.com).

## June Deep-Sky Objects

By Bob Kepple

Centaurus is well placed in the early June skies this month, so take the opportunity to observe some objects in this constellation. For **small scopes**, let's start with two very well known objects. NGC 5139, known as **Omega Centauri** (R.A. 13h26.8m, Dec -47 29') is the largest globular cluster in the entire sky with a diameter of 36'. It glows at magnitude 3.5 and has a fairly loose class VIII structure but its low declination does not allow the best resolution so try different eyepieces until you get the best view. If you sweep upward about five degrees you can usually bump into the large 31' x 23' diameter galaxy NGC 5128, also known as **Centaurus A** (13h25.5m -43 01'). It is one of the strongest emitters of radio signals in the sky. It shines at magnitude 6.7 and has broad dark band, the most conspicuous of any galaxy.

The **Centaurus Galaxy Cluster** is an interesting area. Start by finding the bright star **Iota Centauri**, the westernmost bright star at the top of the constellation then look about 7.5 degrees SW where you will find the 4.3 magnitude star, **N Centauri**. Laying another 1.5 degrees SSW of this star is **NGC 4696**, the brightest and largest object in the Centaurus Galaxy Cluster. It has a fairly bright circular 3' halo with a faint stellar nucleus in a 12.5-inch telescope. Also in the same low or medium field of view, lying 12' ENE, is **NGC 4706** visible as a faint 1' x 0.5 oval with a moderately concentrated core. Lying 15' ESE of NGC 4696 is **NGC 4709**, a fairly bright, circular 2' disk with a stellar nucleus. The surrounding area is full of galaxies so see how many more galaxies you can. Starhoppers will find the accompanying charts helpful. Those who have a GOTO scopes or use digital setting circles may have to resort to the charts to identify each galaxy. Happy observing.

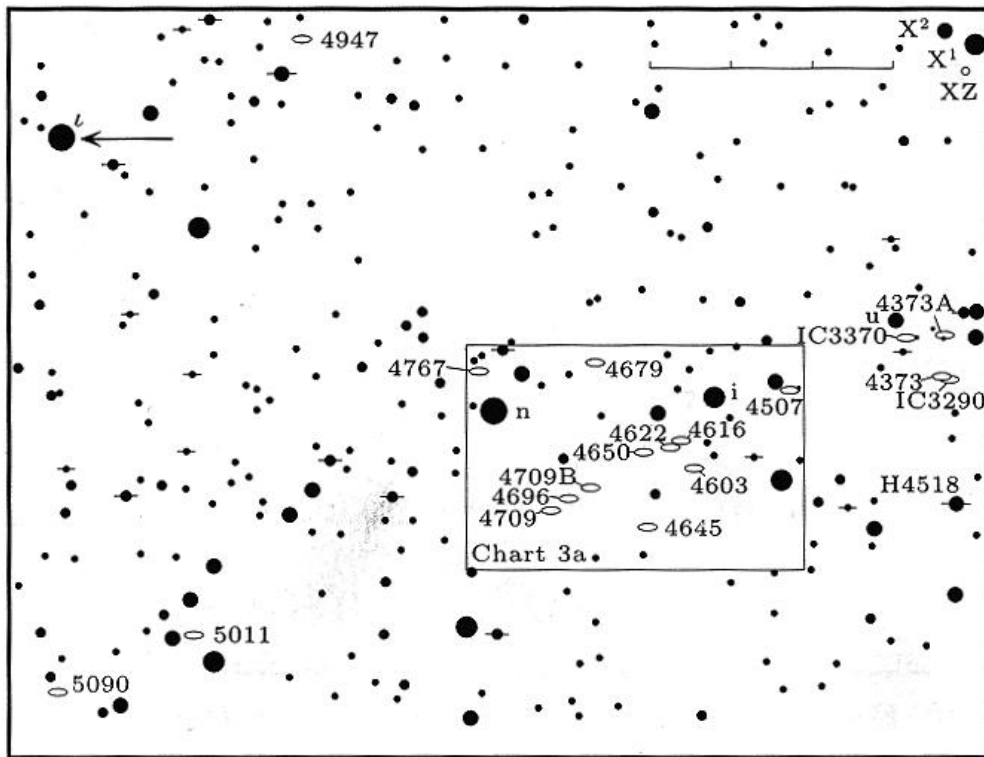


(Left) Master Finder Chart 36-2. Centaurus Chart Areas. Guide stars indicated by arrows. (All charts scanned from The Night Sky Observer's Guide, Vol. 2 with permission from the authors.)

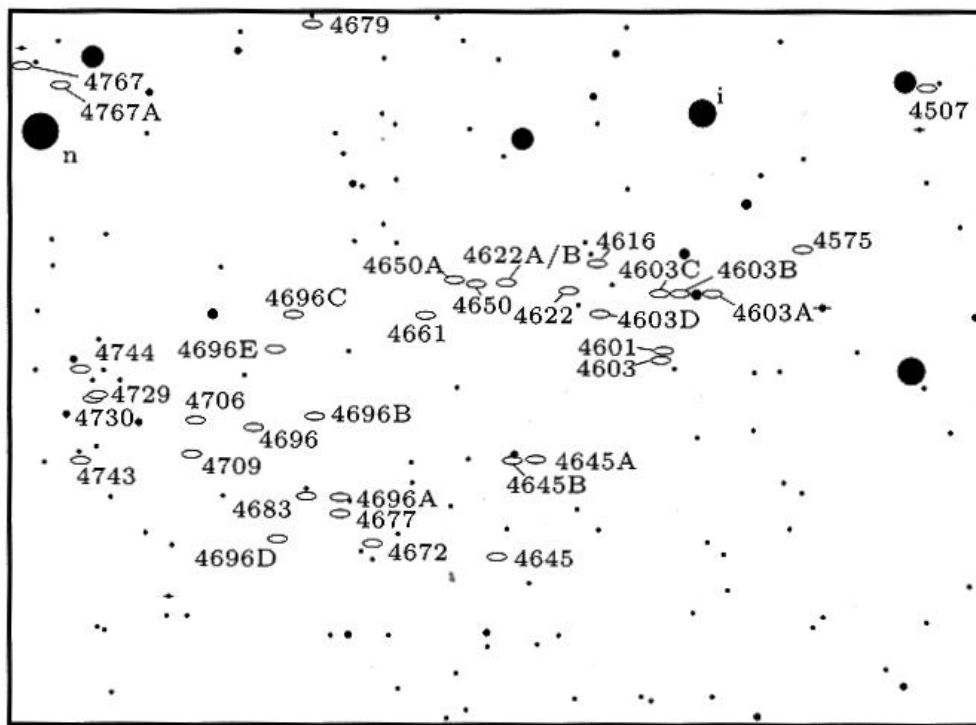
### CENTAURUS GALAXY CLUSTER MEMBERS

Object	Size	Mag	Sur Br	P.A.	Hr	Min	Deg	Min
4575	2.0 x 1.3	12.6	13.5	106	12h	37.8	-40	32
4603A	1.9 x 0.6	13.3	13.3	90		39.6	-40	27
4603B	1.4 x 0.3	14.3	13.2	37		40.4	-41	4
4603C	1.8 x 0.4	13.1	12.6	160		40.7	-40	46
4601	1.8 x 0.5	13.4	13.2	16		40.8	-40	54
4603	3.4 x 2.5	11.4	13.5	27		40.9	-40	59
4603D	1.5 x 1.1	13.2	13.6	74		42.1	-40	49
4616	0.9 x 0.9	13.4	13.1	-		42.3	-40	39
4622	1.7 x 1.6	12.4	13.4	173		42.6	-40	45
4645A	3.0 x 0.8	13.7	13	33		43.1	-41	22
4645B	1.9 x 0.7	12.1	12.3	40		43.5	-41	22
4622A	0.6 x 0.6	13.6	12.4	-		43.8	-40	43
4645	2.2 x 1.4	11.8	12.9	52		44.2	-41	45
4650	3.2 x 2.8	11.6	13.9	164		44.3	-40	44
4650A	1.6 x 0.8	13.3	13.4	158		44.8	-40	43
4661	1.1 x 0.4	13.5	12.5	121		45.2	-40	49
4672	2.0 x 0.6	13.1	13.1	47		46.3	-41	43
4696A	1.4 x 0.5	13.7	13.2	174		46.9	-41	30
4677	1.7 x 0.7	12.8	12.9	167		47	-41	35
4696B	1.3 x 0.7	12.7	12.4	40		47.5	-41	14
4679	2.3 x 0.9	12.6	13.2	4		47.5	-39	34
4683	1.4 x 0.8	12.7	12.7	130		47.7	-41	32
4696C	1.9 x 0.3	13.7	12.9	139		48	-40	49
4696D	1.9 x 0.4	12.8	12.4	132		48.3	-41	43
4696	4.5 x 3.2	10.4	13.5	107		48.8	-41	19
4696E	1.8 x 0.7	13.6	13.7	0		48.4	-40	56
4706	1.4 x 0.6	12.9	12.6	24		49.9	-41	17
4709	2.4 x 2.0	10.9	12.6	112		50.1	-41	23
4729	1.6 x 1.6	12.3	13.4	-		51.8	-41	8
4730	1.0 x 1.0	12	12.7	-		52	-41	9
4743	1.3 x 0.5	12.9	12.3	176		52.3	-41	23
4744	2.1 x 1.0	12.6	13.3	125		52.4	-41	4
4767A	0.8 x 0.3	15.2	13.5	115		53	-39	50
47672.7	x 1.4	11.6	12.9	123		53.9	-39	43

**Notes:** Object—the NGC number; Size—in minutes of arc; Mag.—Visual; Sur. Br.—Surface Brightness in Magnitudes per square arc-second; P.A.—Position Angle of the galaxy; Hr—Right Ascension hour (for this table, all galaxies fall within a R. A. of 12 hours); Min.—Right Ascension minutes (example: NGC 4601 has a R. A. of 12h 40.8m); Deg.—Declination in degrees; Min.—Declination minutes (example: NGC 4601 has a Declination of -40° 54m)



Finder Chart 36-3.  $\iota$  Cen:  $13^{\text{h}}20.6^{\text{m}} - 36^{\circ}42'$



Finder Chart 36-3a. Centaurus Galaxy Cluster.

n Cen:  $12^{\text{h}}53.5^{\text{m}} - 40^{\circ}11'$