Saguaro Astronomy Club

Sacnews

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Inside this issue:

Profiles

Mary Keller

Ed Note: This Month I'm pleased to Profile one of SAC youngest members; Mary Keller. Mary is Jennifer Keller's daughter and shares her mom's love of the sky. I think it is great to see intelligent young people like Mary involved in Astronomy. They are indeed the future.
Photo courtesy Jennifer Keller. Background by Chuck Akers.

Hometown: Laveen, Arizona
Weapons of choice: My Mom's 10" Dob, it has a Telrad!--When I finish writing and drawing the Treasures from Nightwatch we are going to get my own scope or make a stand for a little telescope we already have--very soon because I am almost halfway through the list.
Interests in Astronomy: Constellations and stuff that is in the sky before 9, so far I like the Whirlpool the best I think. AJ showed it to me one time. I'd like to do the Messier Marathon by the next time-- 50 things would be easy I think.
Interests outside of Astronomy: Reading chapter books, the Phoenix Symphony, NSync, Britney Spears, our pets, hiking, swimming, writing, art.
What we do when it's cloudy: Read about clouds and weather, my Mom calls them Cloudulas. I drew a Sun Halo I saw the other day and my Mom taped it into my notebook with my other astronomy stuff! She said it was amazing! Sometimes when it's cloudy we still go observing anyway and wish away the clouds enough for a little astronomy and go on night hikes and listen to crickets and in the morning hike some more and learn the flowers and birds and eat breakfast at a truckstop with a giftshop.
The following people put up with my obsession: What does obsession mean? Oh. That would be my sisters, Ruby and Bug. My mom is the oldest and she likes astronomy a lot so it works out pretty good for me.
Quotes to live by: "Be yourself", "If it bothers someone--stop it", and "Ruby started it!"

Why Not Start With A Pair of Binoculars?

By Steve Willis

I didn't. I should have. I'm recommending that you do--what? Start your eye-assisted sky viewing with a pair of binoculars. What do I mean?

Well, first, start just with your eyes. Learn parts of the sky, the planets, the constellations, particular stars and any of the so-called M-objects you can see with the eye alone. I didn't do that. I wish I had. I'm still learning. When one gets familiar with the sky in this way, he can find his way around the sky better when he starts to use magnification to assist his viewing.

When one thinks of assisting his eyes with some type of viewing object, the first thing some people consider is a telescope. Many have had a "department store" refractor telescope as their first telescope, whether as a gift or a purchase done by themselves. That's what I did when I bought my first telescope. I bought one of these from a TV-shopping channel when I lived in Florida. The problem--or rather problems? As a beginner, I didn't KNOW the problems that I've found out later. Cheap eyepieces are one. As much as I tried the ones with more magnification, the more I found that I might as well leave them alone and use the one that was the lowest power. Another problem was the glass use for the lenses was also cheap, allowing color problems to show up. A third problem was that the whole thing was shaky.

The author's Baush & Lomb Legacy 7x50 binoculars.

If someone had advised me, get a good pair of binoculars first; I probably wouldn't have believed them. That's my advice today. That's also the advice of comet-discoverer, David H. Levy (Comet Shoemaker-Levy 9 slammed into Jupiter in 1994). In his book, Sharing the Sky (1997), in a section on Telescopes for Children, Levy had a section, before describing telescopes, asking, "Why not start with a good pair of binoculars? With their ability to magnify the heavens to a small degree binoculars can show the sky favorably. A pair of binoculars is really a combination of two low-powered telescopes joined together so that you can use both eyes instead of just one. Binoculars will show you craters on the Moon, the moons of Jupiter, and more than five times as many stars as you can see with the naked eye." And they are very portable and can be used for non-astronomical viewing. NOTE: Never look at the sun with any viewing device unless you have proper filtering; one can have permanent eye damage.

Just as there are cheap telescopes, Levy advises that there are cheap "department store" binoculars, as they may be misaligned. "At first you won't notice this because your eyes will try to correct the problem. However, you will quickly find that viewing becomes uncomfortable as your eyes strain to merge the two images, and you might get a headache."

The answer is to spend a little extra and get a good pair of binoculars. Levy advises a couple sizes: "The way binoculars work depends on two things, the diameter of their objective lenses [at the larger end--SPW] as well as the magnification of their eyepieces. The different combinations result in many possibilities. For ideal night viewing, we recommend using 7 x 50 binoculars. The 7 refers to the magnification, and the 50 is the diameter of each of the objective lenses in millimeters (mm). The preferred shipboard size in the past, these 'Navy night glasses' use wide objectives to gather large amounts of light. However, they can be expensive, $200 [US dollars--SPW; less if discounted] or more. A well-made pair of binoculars with 20- or 30- lenses would do well for children, for example, an 8 x 30 pair." I have seen these sizes, among others, advertised in an Astronomy magazine: 9 x 63, 11 x 70, 15 x 70, 20 x 70, and even 25 x 100 (over $1000 US).

Binoculars have the same problem I encountered with my first telescope; they can be shaky. Holding them up, over your head, can cause fatigue in your arms and soon your arms will shake or give out. A variety of telescope holding methods have been devised. A clever one was to buy a small boat, a dingy or canoe, and to lay in it with your elbows on top edges. Unless you want the boat for other purposes, that gets costly. Better binoculars come with a screw-socket so you can mount them on a stand. Once I saw a picture of a super-large set of binoculars, on a stand connected to a chair that would swivel both the chair and the binoculars up, down and around. That may be sturdy, but it's not very portable.

Last summer, I attended a star party, and there I was lucky enough to win a pair of binoculars. It was the 7 x

(Continued on page 12)

NY Moves To Regulate Illumination

Turning Out the Lights

By Pradnya Joshi

August 27, 2001-ALBANY BUREAU

Albany - They say the neon lights are bright on Broadway. But with apologies to lyricists Mike Stoller and Jerry Lieber, if anti-light pollution advocates have their way, all of New York State will be singing a different tune.

For those unfamiliar with the issue, light may not seem as serious a contaminant as a toxic-waste dump. However, a growing number of advocates in New York and around the country are making politicians take notice of how misdirected street lights, fixtures on homes and light poles in parking lots waste energy, harm animals and ruin views of the night sky.

For Susan Harder, light pollution has become an everyday annoyance after she and her husband bought an East Hampton home with all glass walls.

The retired art dealer took up the fight to bring community awareness and to push for legislation after her neighbors a few years ago installed a 500-watt bulb that shines into her yard, disrupting her stargazing.

"It looked like a train was coming into my house," said Harder, who has a similar problem with lights from St. Mark's Church shining into her sixth-floor walk-up in the East Village. "Until there's a law, you have the inertia of people who simply don't want to change."

But now, under a bill overwhelmingly passed by both houses of the Legislature in June and awaiting the governor's signature, New York would become the seventh state to enact legislation to regulate outdoor lighting in parks, streets and residential and business areas.

Several dozen municipalities in the state, including seven on Long Island, have some form of light regulations. Tomorrow, the Suffolk County Legislature will hold public hearings on a light pollution proposal that is even stricter than the pending state bill.

"It's going to make everybody aware of the costs of excess ambient light," said Sen. Mike Balboni (R-East Williston), who sponsored the Senate bill.

The legislation, also sponsored by Assemb. Pete Grannis (D-Manhattan), would require state agencies to install street lights that focus their illumination downward as replacements are needed, require the state Department of Environmental Conservation to designate "dark areas" to protect astronomy and ecological habitats and outlaw "light trespass" where outdoor lighting from one site intrudes on another's property.

The Legislature has not delivered the bill to the governor's office because the sponsors said they are waiting for input from state agencies that would be affected.

Officials at the Department of Transportation said that, in principle, the law would be a great energy-conservation measure, but they wanted to examine the details more closely. A representative of the Department of Environmental Conservation said the agency does not plan to take a position on the issue. Joe Conway, a spokesman for Gov. George Pataki, said his office is "still reviewing the details of the legislation" before taking a position.

If the bill is signed into law, local governments would be given model guidelines to adopt and still would be allowed to set stricter rules, as in the case of Suffolk.

The Suffolk measure, sponsored by Legis. Jon Cooper (D-Lloyd Harbor), would regulate the direction, height and intensity of public and private outdoor lights. It would also control illuminated advertising signs outdoors, set curfews for lighting recreational fields and outlaw laser light shows or advertising spotlights.

Cooper said that regulating lighting would decrease energy use and reduce car accidents caused by glare. Darker streets would not necessarily be more dangerous, he said.

Government leaders in Suffolk and other parts of the country said part of the reason for the new momentum is that this summer's energy crunch is still fresh in people's minds. Environmentalists also say that stray lights throw off the ecosystem of everything from bird migration patterns to the birthing of sea turtles.

"It is known that night light has an impact on wildlife," said Jeff Jones, a spokesman for the Albany-based lobbying group Environmental Advocates.

One study that has recently captured the public's awareness has been the "First World Atlas of Artificial

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Fuzzy Spot, Piscis Austrinus

By Ken Reeves

Piscis Austrinus, the Southern Fish, is a small constellation in the southern skies. The Greeks inherited this constellation from the Babylonians, who knew it simply as the fish. It was sacred to the Mesopotamian god of the Fresh Waters and of Wisdom.

Other than its alpha star, Fomalhaut (which means the "Mouth of the Fish"), the constellation is poor in bright stars. It likewise is poor in deep sky objects, containing no Messier, SAC's 110 Best of the NGC, or Herschel 400 objects. What is here is a handful of small, faint galaxies. All of these observations were made in my 10" F4.5 scope.

NGC 7130 (21h48.3 -34 57): Our first galaxy was seen at 100X as pretty faint, pretty small and brighter in the middle. There is a possible elongation N/S, use averted vision to see this. The galaxy is so faint; I was unable to really see anything else.
NGC 7135 (21h49.8 -34 53): This galaxy was seen at 100X as very faint, pretty small, and slightly brighter in the middle with no nucleus. I had to use a hood to see it as barely visible with direct vision. Due to its faintness, I couldn't tell if there was any elongation. It is situated in the side of a triangle of stars.
NGC 7172, 7173, 7174, 7176 (22h02.1 -31 59, for 7176): This is an interesting but faint group of galaxies. 7173 and 7174/76 are close together between 2 stars. There is a very sharp nucleus on both, faint halos on both, and no elongation noted on either. They are situated E/W of each other. 7172 is W of a star, and is pretty faint and pretty small, elongated NNW/SSE. These galaxies are not that much individually, but are nice as a group and sit in a nice star pattern.
NGC 7214 (22h09.1 -27 49): Here we have a somewhat faint galaxy, small, and with 2 stars involved. Using averted vision helps a little, possibly showing some elongation NE/SW and some more stars involved.
NGC 7221 (22h11.3 -30 37): This galaxy is probably the faintest in this column. At 100X, I saw it as extremely faint and pretty small. When using the hood it is barely visible with direct vision, using averted vision helps. It is was too faint to see any detail.
NGC 7267 (22h24.3 -33 41): This object is very faint, pretty small, and with averted vision shows a little brightening in the middle. I was unable to tell if there was any elongation. There is a nice trio of stars to W.
NGC 7314 (22h35.8 -26 03): The final object of this month is the brightest object I've seen so far in Piscis Austrinus. I described this galaxy as bright, somewhat small, and containing a brighter middle. It is very elongated N/S. To the SW is NGC 7314, which I did not see.

Here are some other objects not covered that may be worth observing. These all have a rating of 3 stars in The Night Sky Observer's Guide by George Robert Kepple and Glen W. Sanner: NGC 7201, NGC 7204, NGC 7229, NGC 7361, IC 5156, IC 5269, and IC 5271.

Fuzzy Spot, Triangulum

By Ken Reeves

Triangulum is a small constellation near Pegasus and Andromeda. The constellation dates back to about 270 BC from the classical astronomical work, the Phainomena of Aratos. The original triangle was more of an equilateral, consisting of Alpha, Beta, and 12, rather than the current elongated triangle consisting of Alpha, Beta, and Gamma. Sitting out of the Milky Way, this constellation contains mostly galaxies, although there is an open cluster here. The showpiece object is M-33, the Pinwheel Galaxy.

NGC 598 (01h33.9 +30 40): This is M-33. At 35X, I saw it in the 10" scope as very very large, taking up at least 1/2 the field of view, elongated NE/SW, very bright, and containing a large bright nucleus. No spiral structure was seen, but the emission nebula, NGC 604 was seen on the end. The galaxy sits in the middle of a triangle of very bright stars. Using the UHC filter did not bring out any more detail.

NGC 670 (01h47.4 +27 52): In the 20" scope, this galaxy was seen at somewhat small, pretty bright, containing a much brighter middle with a slightly brighter non-stellar nucleus. It is elongated about 4:1 WNW/ESE. There are no stars involved, but the star field around the galaxy is nice.

NGC 672 (01h47.9 +27 25): I observed this galaxy in the 20" scope as pretty small, a little faint, brightening slightly to the middle but with no nucleus. It is elongated about 4:1 ENE/WSW. There seems to be some mottling on the middle/halo border. There are stars on either end of the halo, and possibly a faint star is involved.

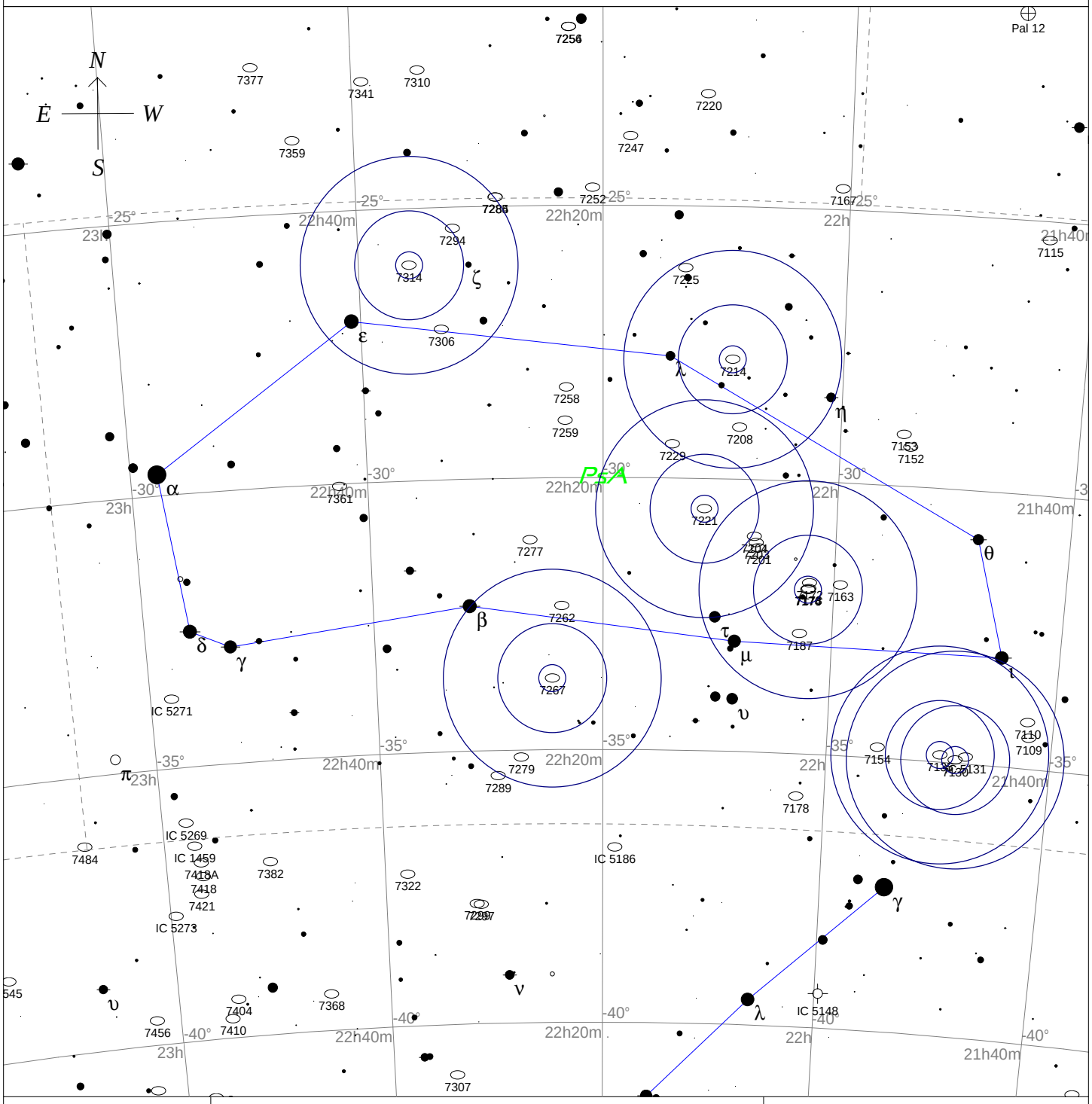
NGC 684 (01h50.2 +27 38): This galaxy is somewhat bright in the 20" scope, pretty small, and elongated 3:1 E/W. The middle brightens up nicely and has a stellar core. To the E of the galaxy is a nice arc of stars.

NGC 777 (02h00.2 +31 25) and 778 (02h00.2 +31 17): In the 10" scope, I only saw 777. It was observed as very faint, elongation uncertain, containing a pretty bright middle and a halo that comes and goes. In the 20" scope, it was pretty bright, somewhat small, round, and gradually brighter to the middle with a suddenly much brighter non-stellar nucleus. It forms an almost equilateral triangle with 2 bright stars. To the SW is 778. It was seen as pretty faint, somewhat small, and elongated E/W about 3:1. It contains a slightly brighter middle but no nucleus.

NGC 890 (02h22.0 +33 16): From a very early observation of this galaxy in the 10" scope, I described it as extremely faint, seems elongated with averted vision, and contains a possible stellar center.

Cr-21 (01h50.1 +27 15): This is the open cluster of the constellation. In the 20" scope, I saw it as very bright, pretty small, poor and loose. There are 3 levels of stars with 15 stars counted plus several threshold stars. The main pattern forms a nice arc opening to the E. On the W side there is a nice double. This nice cluster is well detached from the background stars.

Fuzzy Spot
Piscis Austrinus



STARS

<3	>8
4	
5	
6	
7	

SYMBOLS

Multiple star	Dark nebula	Radio source
Variable star	Globular cluster	X-ray source
Comet	Open cluster	Other object
Galaxy	Planetary nebula	
Bright nebula	Quasar	

Herchel 400 Objects: None
SAC 110 Best Beyond the NGC Objects: None

Local Time: 17:13:45 15-Sep-2001 UTC: 00:13:45 16-Sep-2001 Sidereal Time: 16:22:32
Location: 33° 39' 56" N 112° 49' 10" W RA: 22h24m56s Dec: -31° 21' Field: 20.0° Julian Day: 2452168.5095

Fuzzy Spot, Fornax

By Ken Reeves

With the exception of Orion and Ursa Major, I've covered constellations this year that have few or no bright deep sky objects. This month's constellation, Fornax, is no exception. With one planetary nebula and a plethora of faint galaxies, there isn't too much for a small telescope user. Don't let this discourage you, as these faint fuzzies do a good job on honing your observing skills, and searching out such objects will help you see more detail in the showpieces.

Fornax was originally named Fornax Chemica, the Chemical Furnace, by Nicolas Louis de Lacaille in 1752. He dedicated his new constellation to the famous French chemist Antoine Laurant Lavoisier, the father of modern chemistry.

I only have three written observations from Fornax, plus two from memory. So I've added some from The Night Sky Observer's Guide by George Robert Kepple and Glen W. Sanner, a guide I strongly recommend getting (this is referred to as the Observers Guide in the text below).

The Fornax System (02h39.7 -34 17): This galaxy is a dwarf galaxy and a member of our local galaxy group. Although it has a large overall magnitude (8.12), it is spread over an area of 10'x12', making it very difficult to detect. I have searched many times for this galaxy in both my 10" and my 20" scope to no avail. On the other hand, Brian Workman has been able to detect it in his 6" scope. Within the galaxy are 5 visible globular cluster (none of which I've search for), with NGC 1049 being the brightest. I will continue to search for this elusive galaxy and its globular clusters.
NGC 1097 (02h46.5 -30 17): From the Observers Guide, "12/14 inch scopes- 125x: In Medium-size telescopes no spiral structure, only the galaxy's bright 4.5' x 1.5' NW-SE bar, can be seen. At the center of the bar is a small oval core. NGC 1097A lies 4' north."
NGC 1360 (03h33.3 -25 51): In the 10" scope, this planetary nebula was seen as very large, pretty bright, and containing a very bright central star, which I believe is the true central star. The nebula is elongated 2:1 NE/SW. Using the UHC filter really brings this elongation out. The nebula brightens slightly towards middle. A real nice large planetary.
NGC 1365 (03h33.7 -36 08): This galaxy lies near the Fornax I Galaxy Cluster, and is believed to be a foreground galaxy. In the 20" scope, it is very large, somewhat bright, contains a very bright middle with much mottling. The bar is fainter and is elongated 3:1 ENE/WSW. The spiral arms are obvious, especially the W arm. Very Very nice!!
NGC 1398 (03h38.9 -26 20): This galaxy was seen in the 10" scope as somewhat large, pretty bright, very much brighter middle, containing a non-stellar nucleus and a faint halo that is round. Using averted vision doesn't help much.
NGC 1406 (03h39.5 -31 18): From the Observers Guide, "12/14 inch Scopes - 125x: NGC 1406, 6.5' east of a 9th magnitude star, is a nice but faint edge-on galaxy elongated 3' x 0.5' NNE-SSW, its bright center fading to tapered ends.

The Fornax Galaxy Cluster is a fantastic group of galaxies. This is the type of object (or objects) that really requires a good deal of time to observe, which is why I've never taken any notes or drawings of it. Short views of this area totally overwhelms me, I remember seeing 5 or so galaxies in the 10" scope and at least 15 in the 20" scope. Burnham's Celestial Handbook, by Robert Burnham Jr, lists 18 bright galaxies in this cluster.

Presidents Message

It takes a spectacular event like the Leonids this year to get people talking about Astronomy and considering it as a new hobby. I have talked to so many more people than usual who are new to Astronomy and it is a joy to get them started in the right direction with the Club, and make sure they get proper guidance in how to go about deciding on their first telescope purchase. I remember this is exactly how I started out myself: Astronomy brought into my consciousness by a Big Event.

The Big Event for me, for which I had waited my whole life, was the return of Halley's comet. I had been an amateur astronomer in high school, but dropped it soon after that in the following years, only to have my interest reborn in 1986 with the excitement over Halley's return. The Saguaro Astronomy Club, I learned from a friend, was having a gathering to see the comet out at a place called Buckeye Hills Recreation Area. What a long drive that was for me, I remember thinking, but well worth it to see the small city that had been erected there complete with generators and electrical cords going everywhere, and many, many different kinds of telescopes and setups. The comet didn't look too bad either through some of them, although small and dim, unlike our high expectations. But a Big Event it was for me, even if not as much a fireworks show like the Leonids display we have just witnessed. If I hadn't heard about the Club at that time, I may not have had my interest in Astronomy revived.

This is why it is so important that we make sure we maintain a supply of our brochures in the Astronomy stores, keep our website current, and continue our good works at bringing astronomy to youth and adults through both our School and our Public Star Parties.

The Cub Scout Meeting Star Party we held recently at Liberty Elementary School was an absolute joy to bring a telescope to; the young Scouts were excited, curious, attentive, and impressed with objects the Club members showed them. I'm sure that because we alerted them, many of those kids and their parents witnessed the Leonid Meteor Storm November 18 and are now on they're way in this excellent hobby.

Surprisingly, most people who made the effort to go out to a dark site or even to the backyard to see the Leonids were quite happy with the weather, and we must count ourselves fortunate the way it turned out. It was beautifully clear before, during, and after peak activity at almost all sites, and I didn't hear of anyone being shut out, at least in this state. I had calls from people all over the country who came to Arizona just for the event or others who had just moved here, gotten established, and wanted to know the best place to view. It was quite an iffy weather situation this year, and a lot of nail chewing went on until we just decided to accept our fate. It turned out great, thankfully - usually, the Leonids are guaranteed clear weather and we don't need to sweat so much. The visitors may have done just as well to stay at home and view it from their own sites, and were quite lucky not to have gone back home empty-handed! But on the average, the Southwest is the greatest place for stargazing and I wouldn't want to trade for anywhere else.

I want to thank everyone who helped out this year to make the Club go and grow. Let's have a greater 2002 and a lot clearer skies. See you at the next Star Party!

Jack

December 2001

SUN	MON	TUE	WED	THU	FRI	SAT
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

Schedule of Events for December 2001

Dec. 3rd	Saturn at opposition at 1413
Dec. 4th	Mercury at Superior Conjuntion
Dec. 7th	Moon at last quarter at 1951
Dec. 8th	SAC Star Party at Flat Iron Mountain site Sunset 1723, End Ast. Twilight 1852, Moonrise 0151
Dec. 13th	Geminind Meteor Shower peaks.
Dec .14th	New moon at 2047
Dec. 14th	Partial Solar Eclipse: Local Circumstances: Begins 1321, Maximum eclipse at 1427, Magnitude 21.2% Ends 1527
Dec. 21st	Winter Solstice at 1921
Dec. 22nd	Moon at first quarter at 2056
Dec. 29th	SAC Holiday Party at A.J. Crayon House (see page 10 for details)
Dec. 30th	Penumbral Lunar eclipse: P1: 0125 Maximum eclipse: 0329, Magnitude: .919 P4: 0533

Future Planning

March 8-9, 2002	Sentinel Schwaar Star-Gaze, Sentinel
April 14-15, 2002	2002 All Arizona Messier Marathon, Arizona City

(Continued from page 3)
Night Sky Brightness," prepared earlier this summer by two astronomers from the University of Padua in Italy and one scientist from the National Oceanic and Atmospheric Administration. That report showed that one in five people on the planet cannot see the Milky Way at night because of artificial light sources. But activists are pointing to dozens of other reasons for regulating light, ranging from electricity-saving measures to the beneficial health effects brought on by better sleeping conditions.

"The same things that help astronomy have many other societal benefits," said Elizabeth Alvarez, associate director of the Tucson, Ariz., based International Dark-Sky Association, which boasts 7,500 members in more than 70 countries and was started in 1988.

Some critics say the law would create unneeded bureaucracy. Others worry that local governments will get bogged down in neighborhood disputes over the definition of light trespass.

"The bill has a laudable intent but is probably unenforceable," said Assemb. Steve Levy (D-Holbrook) who voted against the measure. He adds that the bill "goes a bit too far" in terms of discouraging lighting on roadways and highways where safety issues are concerned and worries that state and local regulators will have to make arbitrary decisions as to what is and isn't excessive illumination.

"Light brings light into the night," Levy said. "Lighting is important for safety reasons."

(In Suffolk County, a hearing is set for 2:30 p.m. tomorrow at the William H. Rogers Building in Hauppauge on the light-pollution issue.)

Staff writer Michael Rothfeld contributed to this story.

(Ed Note: I received the above article from my wife who was browsing our old homestead's local paper. It is good to see that we are making progress in the war against stray light.)

(Continued from page 2)
50 Legacy model made by Bausch & Lomb by Bushnell. It comes with multi-coated lenses, protective rubber armoring, and a lifetime limited warranty. I began using these, and soon put them on a camera stand. Wow! I've finally started doing what I'm now recommending to you: Why not start with a pair of binoculars? Since then, I've found that I'm looking up a bit more than I might have through the winter because I don't have to lug around my newer telescope with it's bigger, (hopefully) sturdier stand. And, by learning a bit more of the sky using the binoculars, it helps one to use the club's or one's own personal telescopes better.

There's an old saying, "Learn from the mistakes of others, you don't have time enough to make them all yourself." So learn from my mistake, start eye-assisted viewing by getting a good pair of binoculars. I expect that you'll be glad you did.

NOTE: Please don't take this to be an ad for Bausch & Lomb. You can find many brand names on good binoculars: Canon, Celestron, Fujinon, Nikon, Orion, Pentax, Steiner, Zeiss and more. Do a little reading and a little viewing before making your selection.

Reprinted with permission of the author, from the Spring 2001, "Aurora", Medicine Hat Astronomical Society Newsletter.

A Story Over Your Heads

The Pleiades

By Mark Klosinski

One of my all-time favorite planetarium shows has got to be "The Cowboy Astronomer." Baxter Black, who narrates the programs, is my all time favorite cowboy poet. If you haven't seen this show buckaroo's, saddle up those ponies and head on down to the planetarium. This show is bound to be a classic. I had the opportunity to meet Carolyn Collins Petersen from Sky & Telescope at the American Astronomical Society in Atlanta this past month. She is one of the producers of this show. She said they are still getting requests for this planetarium program, and are currently producing six more copies.

There is a scene in "Cowboy Astronomer" about a bear that chases seven maidens. To escape the bear, the maidens climb a mountain and then jump into the sky to become the Pleiades. I ran across a story similar to this in Doreus Miller's book, Stars of the First People. This story comes from the Arikara Indian tribe. The Arikara Indians lived along the Missouri River somewhere in North Dakota. The story goes like this:

One day several children were playing, pretending to be a bear. One of the girls playing the game got upset when the others told her it was her turn to pretend to be the bear. She refused to play the part of the bear, but when the others kept on insisting, she agreed. But she warned them that something very terrible was going to happen. Before she took her turn as the bear, she warned her younger sister to go hide.

To prepare for her role as a bear, the girl went behind some bushes. When she came out from behind the bushes, she had turned into a real bear. She immediately attacked and killed all the children in sight. She then turned towards the village where she killed all the villagers including her mother, father, sister, grandmother, and brother.

The bear returned to the spot where the game had begun. She called out for her younger sister to help her. The younger girl appeared and the two went off to find a place for them both to stay.

During the early morning hours, the younger girl would sneak out and visit the village, looking for the return of her four older brothers that had been off to war. When the brothers finally returned, the young girl told them of the awful thing that had happened. After listening very intently to their young sister's story, they told her to return to the bear and discover where the bear's weak spot was.

The young girl returned the following day to report to her brothers that the bear's weak point was either one of the bear's small toes. But if a drop of blood was spilt, the bear would soon return to life.

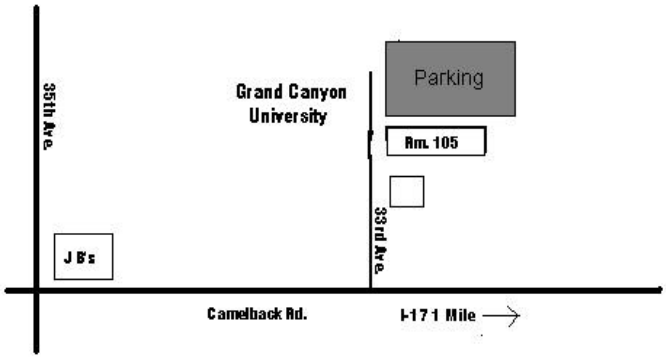
One night outside the bear's den, the brothers threw needles from a cactus and thorns from a bush on the ground. They then yelled to awaken the bear. The bear came running out of the cave. He stepped on the thorns and immediately started to bleed. The bear came back to life again. The brothers ran, and then stopped to throw some more thorns. The bear stepped on a thorn. The bear bleed again and came back to life. Running till they were almost exhausted, one of the boy's picked up a stone and beseeched the stone to help them. The stone grew and grew with the brothers and the young sister on top of the stone. As the bear arrived, she clawed at the stone in order to topple it over. The bear clawed and clawed trying to get the tall stone to fall. The stone would not topple, and as the bear clawed at the rock, it left grooves in the rock. The brothers and young sister eventually became the group of stars we know as the Pleiades. The rock is now known as the "Devil's Tower."

Reference:
Stars of the First People: Native American Star Myths and Constellations by Dorcas S. Miller.

SAC Meeting and Observing Sites

General Meetings

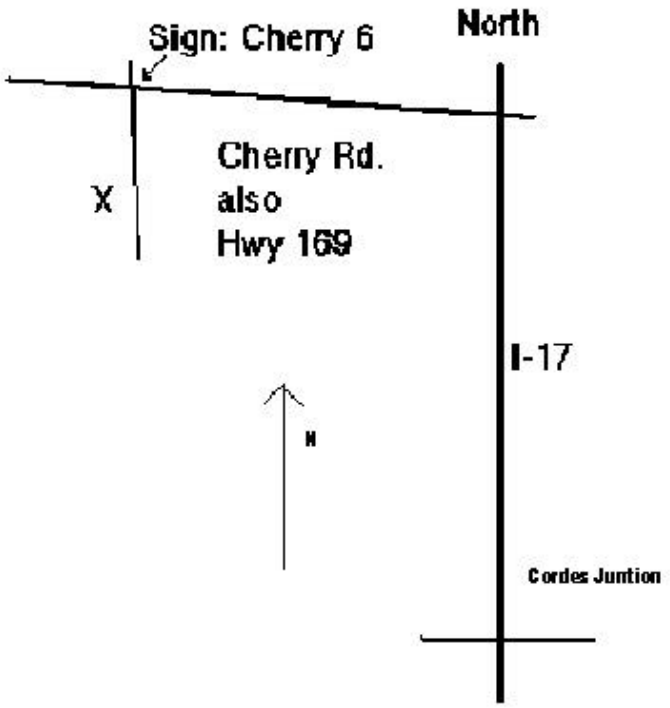
7:30 p.m. at Grand Canyon University, Fleming Building, Room 105: 1 mile west of I-17 on Camelback Rd., North on 33rd Ave., Second building on the right.



Flatiron Star Parties

Head west on I10 to the 339th Ave exit (exit 103). Turn North (right) and go two miles to Indian School Rd. Turn West (left) on Indian School and go 1 mile to 355th Ave. Turn North (right). This will turn into Wickenburg Rd. Follow this road for about 12 miles. Just after mile marker 12 you will go through Jackrabbit wash and pass a cattle guard sign. There is a dirt road just after the sign, marked by white painted rocks. Turn on to this road and follow it about .9 miles. Just after you pass through a wash, you'll see the field on your left. If you hit the cattle guard, or the dirt road your on is next to a fence, you've missed the correct road. Go back and look for the white rocks. (see detail map above).

Cherry Rd. Star Parties



Take I17 north to the Cherry Rd Exit, Hgwy. 169. Turn Left (west) onto 169 and go approximately 5 miles. You'll see a sign that says Cheery 6. Turn Left (opposite what the arrow on the sign says) onto a dirt road. Follow the dirt road about 1/2 mile. The site is through a gate on the right. Please keep the gate closed at all times.

SAC Membership Services

Membership

Memberships are for the following calendar year and are pro-rated for new members as follows:
Jan.-Mar. 100%, Apr.-Jun. 75%; Jul.-Sep. 50%, Oct.- Dec, 25%

$ 28.00	Individual Membership
$ 42.00	Family Membership (one newsletter)
$100.00	Business Membership (includes advertising)
$ 14.00	Newsletter only
$ 6.00	Nametag for Members

Subscription Services

The following magazines are available to members. Subscribe or renew by paying the club treasurer. You will receive the discounted club rate only by allowing the club treasure

$ 30.00/yr Sky & Telescope

r to renew your subscription.

$ 29.00/yr Astronomy

Please Print

Name:_____

Address:_____

_____

Phone;_____

Make Checks Payable to SAC

Mail Completed form to:

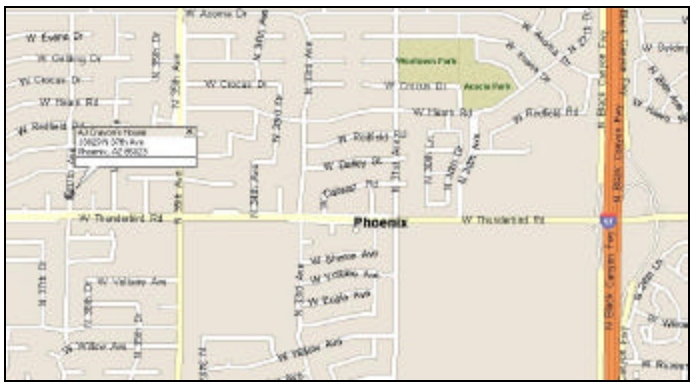
Peggy Kain
SAC Treasurer
P.O Box 30424
Phoenix AZ 85046-0424

E-mail (newsletter will be sent to this address):_____

SAC Holiday Party

Once again it is time to celebrate the holidays and time for SAC to hold it's annual suaree. This year AJ and Pat Crayon have graciously invited all SAC members to celebrate at their house on Saturday Dec 29th. Time is 1900 and like last year it is a pot luck.

A map to A.J.'s house is at right. Hope to see you there.



SAGUARO ASTRONOMY CLUB

Fourth Quarter 2001

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SAC Schedule of Events 2002

SAC Meetings

Jan. 25th, 2002	July 26th 2002
Feb. 22nd 2002	Aug. 23rd 2002
Mar. 29th 2002	Sep. 20th 2002
Apr. 26th 2002	Oct. 18th 2002
May 24th 2002	Nov. 15th 2002
June 21st 2002	Dec. 20th 2002 (Holiday Party)

Deep Sky Group Meetings

Feb. 28th 2002	Aug. 29th 2002
May 2nd, 2002	Oct. 24th 2002
June 27th, 2002	Dec. 26th 2002

SAC Star Parties

Date	Sunset	Astronomical Twilight Ends	Moonrise
Jan 5th	1737	1906	0049
Feb 2nd	1803	1929	2346
Mar 2nd	1829	1951	2238
Apr 6th	1856	2021	0355
May 4th	1917	2050	0230
June 1st	1937	2118	0102
July 6th	1945	2127	0258
Aug 3rd	1930	2104	0132
Aug 31st	1858	2024	0009
Sep 28th	1820	1942	2250
Oct 26th	1745	1909	2136
Nov 30th	1723	1851	0410
Dec 28th	1731	1900	0305