

Saguaro Astronomy Club



Sacnews

Issue 285

December 2000

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Astronomy 101 Looking Back

By Rick Tejera

Well, I've been your newsletter editor for a little over a year now and it's time for me to say thanks. I've consider myself luck to have as an appreciative a readership as I do. In a way you have all helped me make SACnews a publication I'm proud to publish. I haven't had a month were I was trying to fill space, due in no small part to many SAC members who contributed articles, news items and photos. Over the past year, I've continually strove to make improvements in the format and content. Your suggestions have helped. I will continue to tweak the newsletter as we move forward. If anyone has any ideas of things they'd like to see (or things you could do without), please let me know.

You'll notice one major change, beginning with the January 2001 issue. As of that date I will no longer number issues sequentially as we do now. I will change to a volume and issue standard, starting at Volume 24, issue one. Why? Believe it or not, I can't count. At least three times an issue I have to go back and check to see that I've changed the number to the next

issue. Knowing what month it is will save me the embarrassment of screwing up something that simple. My main goal for the new Millennium is to get SACnews on-line. Steve Coe, Joe Macke and I will be getting together after the new-year to figure out the best way to do this. I'm looking forward to getting this done.

Well time now to say thanks to everyone who helped out with SACnews over the past 14 months: Don Maccholz, who brought us the column Comet Comments until early last year. His column provided lots of good information to those of us taken by big dirty snowballs. I hope he is doing well. Ken Reeves, author of Fuzzy Spot. I know that this is the first place most of us turn when we get our newsletter. I can't count how many people I've seen at the eyepiece with Ken's column in one hand, red flashlight in the other. Thad Robosson, author of Seeing Double. Thad is one of more enthusiastic members of our club and he's always been very easy to get articles out of. Have to keep

(Continued on page 8)

Images from the First SAC ATM Subgroup Meeting Taken By Paul Dickson



Jack Jones checking out the equipment.



"Hey! This pipe looks like a hammer!"



(l to R) Steve Dodder, Steve Coe, Thad Robosson and Jerry Belcher.



*" P u t
D o w n
t h a t
F o r k !"*



Looking at all the pieces (top and bottom)



Tubes, Tubes and Still More Tubes. And the occasional Guitar.

The newly formed SAC Amateur Telescope making Subgroup recently held it's first meeting at Thad Robboson's Guitar Shop. They catalogued the items we've received recently though a few generous donations. and bequests.

The items will be used to help introduce SAC member's to the fine art of telescope making. The details of how to do this are still being discussed. If you'd like to get involved, contact Thad Robboson @ Tmrob@primenet.com.

Paul Dickson took all the photo's >

Fuzzy Spot, Perseus

By Ken Reeves

Perseus is one of the heroes in the sky, who rescued the chained up Andromeda from the great sea monster, Cetus. He did this by showing Medusa's head to Cetus and turning him to stone. It is interesting to note that Perseus avoided being turned to stone by looking at Medusa's reflection in his shield. Apparently the particles emitted by Medusa's eyes (stonetons?) do not reflect! Medusa's eye is represented by the eclipsing binary star Algol.

Being a large autumn constellation sitting in the Milky Way, it is rich in open clusters and nebula, but since we are facing away from the center of the galaxy, there are no globular clusters. Surprisingly, there are quite a few galaxies, including the Perseus I (Abell 426) cluster of galaxies.

NGC 650/651 (01h42.3 +51 34): M-76, the little dumbbell nebula, has two NGC designations as each "half" is identified separately. I found that using a UHC filter really helps brings the object out. I saw it as pretty small, somewhat bright, and very elongated NE/SW with the 2 patches being obvious. I found this object to appear much more as a dumbbell shape than M-27.

NGC 869 (02h19.0 +57 09): This is the western half of the double cluster. The object is very bright, pretty large, very rich, and somewhat condensed. There are 2 bright stars in the middle, which are on the red side, a dark spot to W of a rich spot, a lane following out W, and a bright start to the S with a nice arc of 5 stars leading E. There are 5 levels of stars, possibly some haze, with a star count of 70 plus more popping out with averted vision.

NGC 884 (02h22.4 +57 07): Moving E from 869, one comes to the other half of the double cluster. This half is pretty bright, pretty large, but not quite as rich as 869. There is 1 predominant bright star; with some condensation on the SW and dark area to E. There are 4 levels of stars with a count of about 75 stars. To the E of the central group is a wide red/blue star pair.

NGC 1023 (02h40.5 +39 03): This galaxy is sur-

prisingly bright for being in the Milky Way. I described it as pretty bright, pretty big, very elongated E/W with a much brighter middle. A non-stellar nucleus was suspected, but no other detail was seen.

NGC 1039 (02h42.0 +42 47): M-34 is a nice large open cluster best viewed at low powers. I observed it at 35X and described it as very, very large, bright, fairly rich, but not very condensed. There are 3 layers of stars with about 70 stars counted. A nice grouping of stars was seen in the middle with another layer outlining the central group. This object is bright enough and large enough that it even shows up quite well from in town.

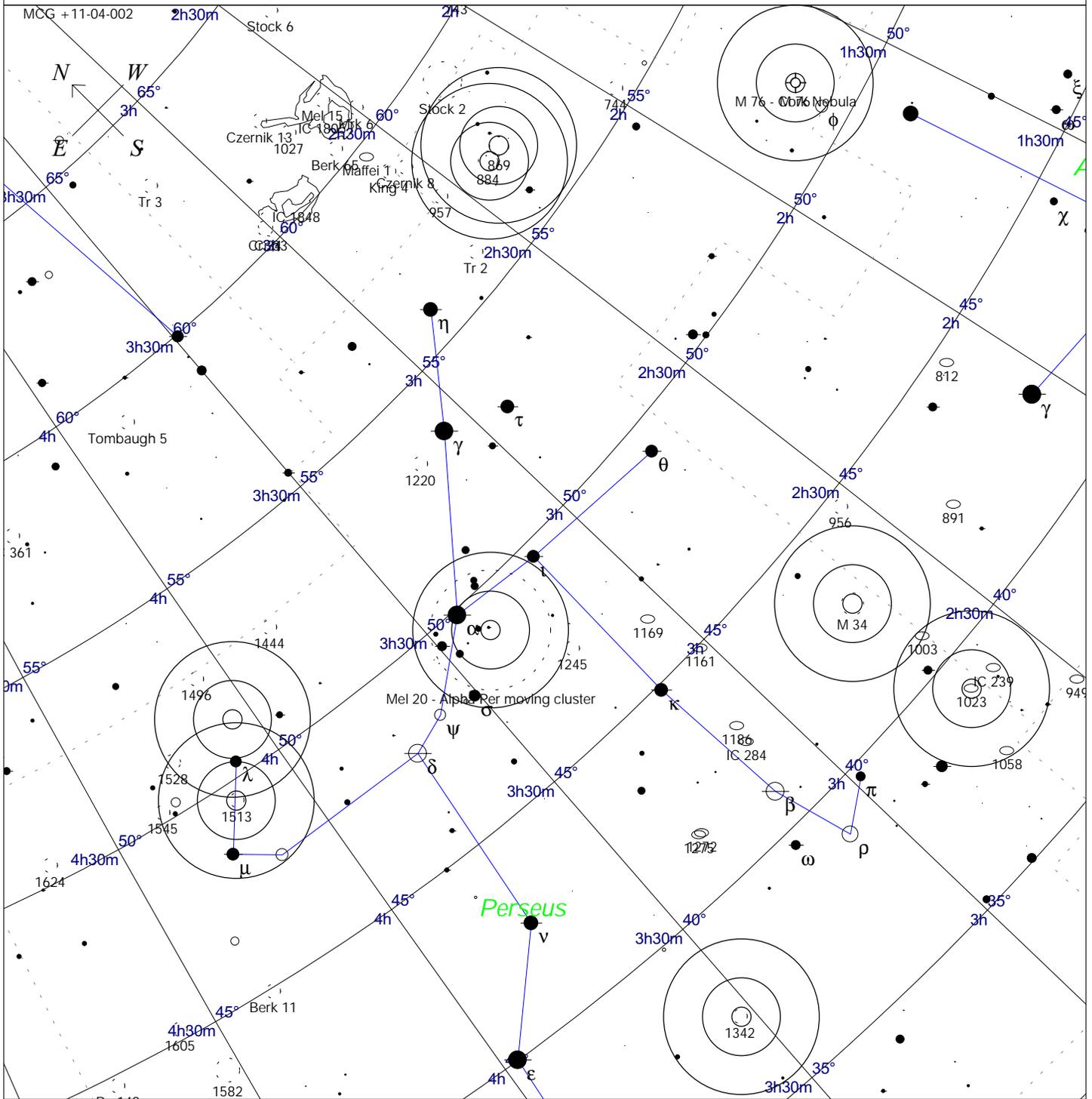
NGC 1342 (03h31.6 +37 20): I dubbed this cluster the Arrow due to the brightest stars forming a crooked arrow pointing W. The object is large and pretty bright with 4 levels of stars and a possible background haze. I counted 48 stars plus a few more with averted vision. The cluster was visible in my 9X50 finder scope.

NGC 1491 (04h03.3 +51 18): This nice nebula was seen as fanning SW from a bright star. It is somewhat small and not too bright, with no color seen. There is a little brightening around the star. The nebula does respond to UHC filter.

NGC 1513 (04h10.0 +49 31): This unusual cluster is horseshoe shaped opening to the NE. It is somewhat small and somewhat faint with 2 bright stars on the N end, and a circlet of 5 stars on the E end. I counted about 20 stars, and using averted vision made a few more stars pop out.

Mel 20 (03h22.0 +49 00): The final object of the month is the Alpha Perseus association. It is seen naked eye as a haziness around Alpha Perseus, and in 10X50 Binoculars it is a nice sprinkling of stars. I counted about 20 stars in addition to Alpha. A group of 8-9 stars on S side forms a nice saxophone shape as pointed out to me by Ron Schmidli.

Fuzzy Spot Perseus



STARS

- <3
- 3.5
- 4
- 4.5
- 5
- 5.5
- 6
- >6.5

SYMBOLS

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

Herchel 400 Objects:

650/651,869,884,1023,1245,1342,1444,1511

Sac's 110 Best of the NGC Objects:

869,884,1023,1491

Local Time: 10:27:47 29-Oct-2000

UTC: 17:27:47 29-Oct-2000

Sidereal Time: 12:29:53

Location: 33° 39' 56" N 112° 49' 10" W RA: 3h07m24s Dec: +49° 29' Field: 28.0°

Julian Day: 2451847.2276

Seeing Double

By Thad Robboson

After making an alt/az mount with tripod for my little ETX, I can now say that I enjoy that little telescope. It's only 90mm of aperture, but as I learned one recent Friday night, that 90mm can do some wonderful things. All day, the sky was a beautiful shade of "Promise Blue", nearly horizon to horizon. I was anxious to get home, set up my observing gear, and do some serious star splitting on the back porch. The sky, and the little ETX, did not disappoint me. Here is what I observed that night....

Gamma And. (02h 03m 54s, +42 19' 47") Sep10", PA 63°, m. 2.5/5: A very pretty, unequal colored pair. Primary shows a slightly yellow/gold tint, and comp. is bluish/greenish. Colors are not very strong, but easy. Very easy split at 63x. I estimated the PA at 60°.

59 And. (02h10m52s, +39 02' 22") Sep16.6", PA35°, m. 6.5/7: An easy split at 39x. The westernmost comp. appeared to be the primary, so I originally estimated the PA at 20°, later refined to approx. 30°. Both stars being equal, they appear to swap colors, blue and white.

Struve 245. (02h18m 39s, +40 16'50") Sep11", PA293°, m.7.2/8.3: A faint pair, but easily spotted at 39x. Est. PA at 285°. No color noted except for maybe a slight blue in the comp. At 83x, the pair is even more obvious, and the comp. is now a dull steel color. This is a nearly equal pair.

Struve 249. (02h 21m 36s, +44 36') Sep 2.2", PA196°, m.7/9: After confirming with my atlas, I finally knew that I had the pair in the field. It was not suspected at 39x. 83x showed some elongation in the direction of 180°, but not cleanly split. At 125x, I finally cracked it open.

Fleeting glimpses when using averted. Too faint for any colors to be noted. An almost equal pair.

Struve 3050. (23h 59m 29s, +33 43'28") Sep 1.8", PA288°, m. 6/6: A challenging star hop, this pair was one of the brighter ones in the field. At 39x, I suspect elongation, and note the white color. At 83x, it is definitely a double, with dark between the 2. I est. the PA at 315°, with a white color to both comp. A nice set of "Jawa Eyes" (as seen from very far away...).

Alvin Clark 1. (00h 20m 54s, +32 58'40") Sep 1.7", PA288°, m. 7/7.5: At 39x, this pair was not suspected. 125x gave up some elongation, with an est. PA of 280°. 250x didn't do much except to elongate it enough to say it was surely a double. No dark between, and nearly equal components.

Now, I would like to bring up a couple of points. First, all these observations were made with only 90mm of telescope, not a whole lot given the magnitudes I was observing. This proves that dragging a large 'scope out isn't necessary. And secondly, that it isn't necessary to be in dark skies. Double stars are very forgiving subjects of observation, even in town with a dinky little 'scope. (Remember this the next time it's a clear, steady weeknight.) If you would like to discuss these observations, or share your own, you can email me at....

Tmrob@primenet.com

December 2000

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 2000

- Dec. 3rd** Moon at First Quarter, 0855 mst
- Dec. 7th** G.P Kupier born in 1095,
- Dec. 9th** **SAC Holiday party, Held at the Crayon's house, Details on page XX**
- Dec. 11th** Full Moon at 0203 mst
- Dec. 11th** Annie Jump Cannon Born in 1863, One of America's outstanding women astronomers. Worked on classification of stellar spectra at Harvard College Observatory.
- Dec. 11th** Apollo 17 lands on the moon in Taurus Littrow in 1972. Eugene Cernan and Harrison Schmidt are the last men to set foot on the moon.
- Dec. 13th** Geminid Meteor Shower peaks
- Dec. 16th** **SAC Star Party at Flat Iron Mountain site. Sunset 1725, Ast twilight ends 1854, Moonrise at 2336.**
- Dec. 16th** Edward Emerson Barnard Born in 1857. Specialized in studies of dark nebulae.
- Dec. 17th** Moon at Last Quarter, 1741 mst
- Dec. 21st** Winter Solstice at 0637 mst
- Dec. 25th** New Moon at 1022 MST, Partial Solar Eclipse visible from the Phoenix area. Sir Isaac Newton born in 1642. Merry Christmas.
- Dec. 31st** Last day of the 2nd Millenium.

President's Message

By Jack Jones

Congratulations! We accomplished many of the goals we set out to do in 2000 and we should be proud. This is in spite of the cloudy and wet oddball weather we have had to put up with for so many months that managed to cloud out both the Messier Marathon and the All Arizona Party, as well as the Inter-Club Picnic and many of our Club Star Parties and dark-of-the-moon trips.

Some of the goals we accomplished in 2000:

1. We got into the Arizona Science Center and had a SAC meeting this year in the Planetarium. We put their state-of-the-art projector through its paces and had a live demonstration by the planetarium director, as well as had our scheduled speaker, Dr. Jeff Hester, talk and our show-and-tell on the dome!
2. We held a Light Pollution Symposium at the Arizona Science Center. We inaugurated the Greater Phoenix Section of the International Dark Sky Association and set up an information web site for it. The Board also voted to have our Club join the IDA.
3. We had good Club representation this year at the Grand Canyon Star Party. David Levy, calling it the



Accidental Star Party, recently profiled Dean Ketelsen, the organizer in Sky & Telescope because most of those visiting the Canyon didn't know they'd be attending a Star Party that night!

Things that we should try again in 2001:

1. We wanted to take a field trip to Mt. Graham to see the Vatican telescope and the new Large Binocular Telescope under construction, but we got snowed out. It was a strange and wet year, not just for us - the last four weeks of their season were snowed out. We can reschedule next year, maybe go twice!
2. We didn't get a chance to visit the Mirror Lab at the University of Arizona and meet Roger Angel this year. We can reschedule that too.

More fun times are coming, so stay tuned; let us see you at our meetings (and board meetings!), and most important: make sure we have YOUR input!

Have a merry Christmas and be safe!
Clear skies to us all,
Jack Jones

Elections are Coming

At the October meeting, nominations for club officers for the year 2001 were held. Per our constitution nominations are to be held in October and November followed by the general election. Officers may serve two consecutive terms, as such we have a few lame ducks.

Here are the current nominees as of the October meeting:

President: Jack Jones (incumbent)
Vice President: Diane Hope
Secretary: A.J. Crayon
Treasurer: Dr. Peggy Kain (incumbent)
Properties: Adam Sunshine (incumbent)

If you would like to run for office, let someone know so you can be nominated. Remember, you

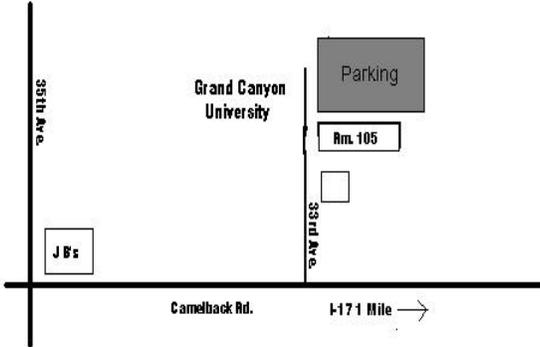
get out the club what you put in.

If no further nominations are received at the November meeting, the above slate will be accepted as shown. Should there be any other nominations, an election will follow immediately after the close of nominations.

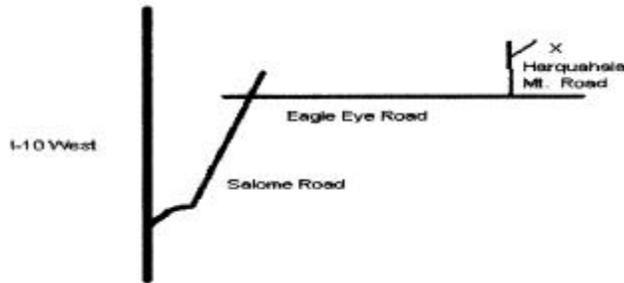
As usual, let's remember to thank the outgoing officers for their service. Steve Coe as Vice President has brought us many interesting speakers. Jennifer Keller has helped spearhead local awareness regarding light pollution (by a shirt, they make good Christmas gifts). She has also help forge a relationship with the Arizona Science Center, giving us an opportunity to bring astronomy to the general public. Their work and enthusiasm deserves our thanks.

SAC Meeting and Observing Sites

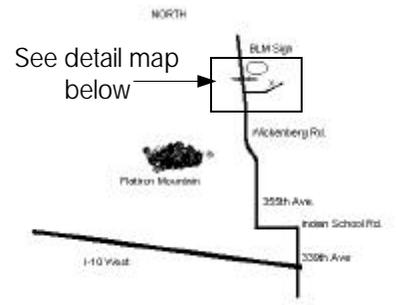
7:30 p.m. at Grand Canyon University, Fleming Building, Room 105: 1 mile west of I-17 on Camelback Rd., North on 33rd Ave., Second building on the right.



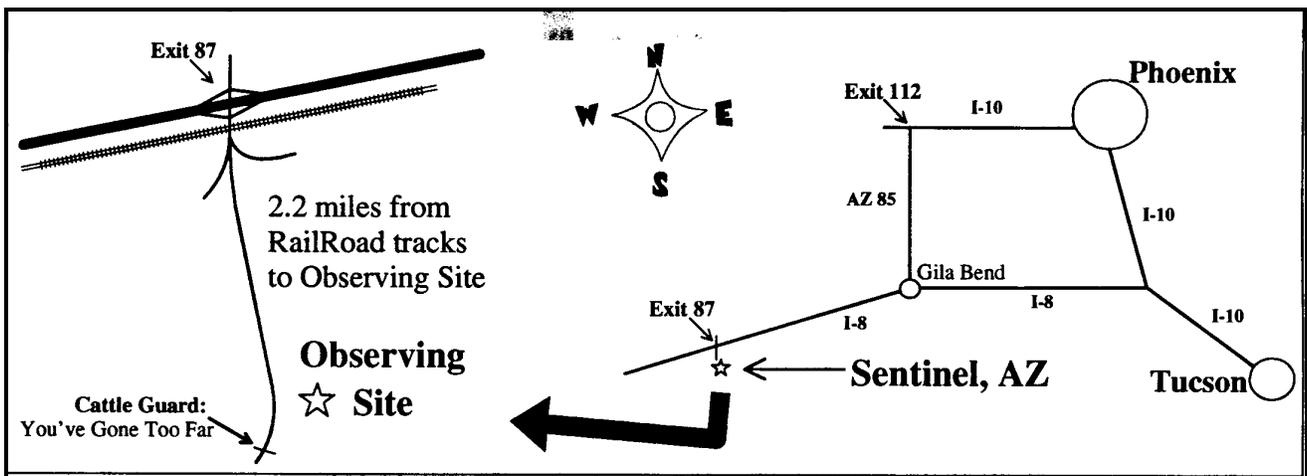
Eagle Eye Star Parties



Flatiron Star Parties



Sentinel Star Parties



SAC Membership Services Membership

Memberships are for the following calendar year and are pro-rated for new members only 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
\$ 4.00	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 treasurer to renew your subscription.

\$ 30.00/yr	Sky & Telescope
\$ 29.00/yr	Astronomy

Please Print

Name: _____

Address: _____

Phone: _____

E-mail: _____

Make Checks Payable to SAC

Mail Completed form to:

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

(Continued from page 8)

Pierre Schwaar, our dear friend. You couldn't be around him and not catch his enthusiasm and passion for astronomy. He inspired me to want to try my hand at telescope making, something I thought previously beyond my capability. His legacy has left its mark on what the Saguaro Astronomy Club is today. May he rest in peace.

Finally, I need to thank the people in my life who mean everything to me. My wife Susan and daughter Lindsay. With out them astron-

omy would be nothing. I thank them for putting up with me disappearing into the computer room for a few days each month, for having stray copies of the newsletter all over the house. Mostly, though for letting me have the night sky.

Happy Holidays. I'll see you in the new Millennium.
Rick

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Videmus Stellae

[www. Saguaroastro.org](http://www.Saguaroastro.org)

SAC Schedule of Events for 2001

SAC Meetings

January 12, 2001	July 6, 2001
Feb 9, 2001	August 3, 2001
March 9, 2001	September 28, 2001
April 6, 2001	October 26, 2001
May 4, 2001	November 30, 2000
Jun 8, 2001	December: TBA (Holiday Party)

Deep Sky Group Meetings

February 15th	August 9th
April 12th	November 11th
June 14th	

SAC Star Parties

Date	Sunset	Astronomical Twilight Ends	Moonrise
1/20	1751	1918	0525
2/17	1818	1941	0431
3/17	1841	2004	0258
4/14	1902	2029	0139
5/19	1928	2106	0410
6/16	1944	2127	0239
7/14	1943	2123	0109
8/11	1922	2053	2341
9/15	1837	2001	0513
10/13	1800	1933	0401
11/10	1731	1857	0254
12/8	1723	1852	0151