

Saguaro Astronomy Club

Metro Phoenix, Arizona

SACNEWS



April 1993 — Issue #195

Theft of the Night

by David L Crawford

This is the text of a December 1989 NAS OP-Ed Press Release that appeared in numerous newspapers throughout the United States, in late December 1989 and in early January 1990. It is also Info Sheet Number 18 of the International Dark-Sky Association (IDA) and is reprinted here with permission.

A priceless part of our human heritage is fading into the night sky.

Most Americans are growing up unable to see the stars their grandparents knew so well. They see the night sky only in pictures or at planetariums. This is true not only in cities, but in many suburbs where street lamps and other sources of "light pollution" have obscured our view of constellations, meteor showers, and planets.

Indeed, many youngsters may now say, after viewing the night sky in a rural area for the first time, that "it looks just like the planetarium."

Light pollution is not a matter of life and death. Yet it is important nonetheless, profoundly so. We human beings lose something of ourselves when we can no longer look up and see our place in the universe. It is like never again hearing the laughter of children; we give up part of what we are.

Such a loss might be acceptable if light pollution were the inevitable price of progress, but it's not. Most sky glow, as scientists call it, is unnecessary. The light that obscures our view of the night sky comes mainly from inefficient lighting sources that do little to increase nighttime safety, utility, or security. It produces only glare and clutter, costing more than \$1 billion annually in wasted energy in the United States alone.

For science, the impact has been even more tangible and adverse. Astronomers require observations of extremely faint objects that can be made only with large telescopes at sites free of air pollution and urban sky glow. For example, scientists interested in how the universe was

Quick Calendar

SAC Meeting
7:30, Friday, April 2

SAC Star Party
Sentinel, Arizona
Saturday, April 17

Public Star Party
Thunderbird Park
North of Union Hills on 59th Ave.
Saturday, May 1

SAC Meeting
7:30, Friday, May 7

formed may study the light of galaxies and quasars at incredibly vast distances from Earth. These images offer information about faraway corners of the universe, helping us understand how our own world was formed. Yet, after traveling countless light years, the light from these objects can be lost at the end of its journey in the glare of our own sky.

Space-based telescopes, such as the Hubble Space Telescope scheduled to be launched from the shuttle in March 1990, offer one way around the problem. However, large telescopes on Earth will always be used, if only because they are accessible, cost much less than orbiting devices, and can do many jobs more cheaply.

In fact, our experience over the past two decades has shown that space-based astronomy, far from reducing the need for ground-based observations, actually increases the demand for these facilities. New telescopes

SAC Officers

President	Bob Dahl	582-5526
Vice President	Tom Polakis	966-2625
Treasurer	Carol Lee	946-9206
Secretary	Susan Morse	934-7496
Properties	Rich Walker	997-0711
SACNEWS Editor	Paul Dickson	841-7044
Public Events	Piet Burggraaf	995-1964

now planned or under construction on Earth will complement the knowledge we gain from telescopes in space — but only if they are not compromised by encroaching light pollution, as has occurred at Mount Wilson, near Los Angeles, and several other older observatories.

Reducing light pollution is not difficult, but it does require that public officials and ordinary citizens be aware of the problem and act to counter it. Low-pressure sodium light, for example, can replace existing fixtures for most streets, parking lots, and other locations. They reduce glare and save money.

Another fairly painless way to reduce light pollution is with outdoor light control ordinances, over 50 of which have been enacted throughout Arizona and in several key

cities and counties in California and Hawaii. These measures typically require communities to prohibit inefficient, low-quality lighting. Not only do they help preserve dark skies, but they also enhance energy efficiency. An outdoor light system recently installed at a prison in Arizona, for example, improved security and reduced light pollution while cutting energy costs by 50 percent. There is no reason that all communities should not have such efficient lighting.

On an individual level, people can help reduce sky glow by using night lighting only when necessary, choosing well shielded fixtures and turning off lights when they are not needed.

Curing light pollution saves money while reducing

Comet Comments

by Don Machholz

(916) 346-8963

March 7, 1993

No new comets have been found lately, but Periodic Comet Schaumasse is performing well in our northern evening sky. This month I'm re-introducing my "Seeking Comets" feature. We will, as space and time permits, discuss visual comet discoveries since 1975.

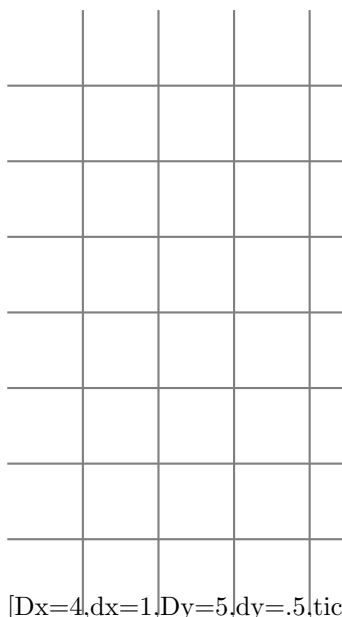
Periodic	Comet	Schaumasse	(1992x)		
Date	RA-2000-Dec	Elong	Sky	Mag	
03-24	07h08.2m	+47°17'	98°	E	8.6
03-29	07h38.3m	+46°35'	99°	E	8.8
04-03	08h07.7m	+45°23'	100°	E	9.0
04-08	08h35.7m	+43°42'	101°	E	9.3
04-13	09h01.8m	+41°39'	101°	E	9.6
04-18	09h25.9m	+39°17'	102°	E	10.0
04-23	09h47.9m	+36°35'	103°	E	10.4
04-28	10h07.9m	+34°03'	103°	E	10.8
05-03	10h26.1m	+31°18'	103°	E	11.2
05-08	10h42.8m	+28°34'	103°	E	11.6

Seeking Comets

by Don Machholz

At what altitude in the observer's sky are comets discovered? We often imagine that comet hunters live where the horizons are low. Many do. But this is not necessary for discovering comets, as we see by looking at visual discoveries from 1975 through 1992.

To the right I plot the altitude of the comet at discovery along the left, and the number of comets found at that altitude interval along the bottom. The morning sky covers 46 discoveries of 36 comets, the evening sky represents 38 discoveries of 27 comets. The average for morning sky is 23.3 (+/- 10) degrees with the median being 21 degrees. The evening sky average is 26.7 (+/- 13) degrees, with the median being 24 degrees.



[Dx=4,dx=1,Dy=5,dy=.5,tickstyle=top,gridlabels=7pt]-(0,0)(4.5,8)

Morn

Number of C

glare. Unlike other issues involving pollution, it represents us with a rare case where we should strive to be kept in the dark. The stars above us are a priceless heritage—not only for scientific knowledge, but also for our identity as human beings.

More of our children—and their children—should be able to look up at the night and see that the Milky Way isn't only a candy bar.

About the Author:

David L. Crawford, an astronomer at the Kitt Peak National Observatory in Tucson, is executive director of the International Dark-Sky Association.

E-Mail Roster

Here is a list of E-mail addresses of SAC members and friends. BIX now has E-mail access to the Internet. The Compuserve addresses are given in the Internet format: `nnnnn.nnn@compuserve.com` are really in the format `nnnnn,nnn` within Compuserve. GENIE addresses aren't currently addressable from the outside world (the Internet), but their addresses are given as `@genie` to specify which host. All other hosts are directly accessible from the Internet.

Bob Bryant	Bob_Bryant@ poncho.phx.sectel.mot.com
Steve Coe	74040.2071@compuserve.com
A J Crayon	a.crayon@az05.bull.com
Paul Dickson	p.dickson@az05.bull.com pdickson@bix.com
Dean Ketelsen	ketelsen@as.arizona.edu
Carol Lee	71361.3541@compuserve.com
Tim Lee	71361.3541@compuserve.com
Paul Lind	plind@sedona.intel.com
Pete Manly	petemanly@bix.com
Paul Maxson	maxson@gc.maricopa.edu 72117.1372@compuserve.com
Tom McGrath	mcgrath@phyast.la.asu.edu
Tom Polakis	70413.1543@compuserve.com
Chris Schur	72070.2612@compuserve.com
Brian Skiff	bas@lowell.edu
Steve Strazdus	sstrazdu@sedona.intel.com
Alex Vrenios	71024.3024@compuserve.com
Diane Vrenios	71024.3024@compuserve.com
Dan Ward	72040.3357@compuserve.com
Mike Willmoth	76170.1037@compuserve.com mwillmoth@bix.com m.willmoth@genie

Directions to SAC Events

SAC General Meetings 7:30 PM at Grand Canyon University, Fleming Building, Room 105 — 1 mile west of Interstate 17 on Camelback Rd., north on 33rd Ave., second building on the right.

Bits and Pieces

Coming Events

Two public star parties are planned for this spring. The first will be on March 27 at Reach 11. The second is scheduled for May 1 (National Astronomy Day) at Thunderbird Park. There will be more info in next month's newsletter.

The 3rd Annual **Grand Canyon Star Party** is scheduled for June 12–19. Final arrangements are still being made and more info will hopefully be included elsewhere in this issue of the newsletter.

Deep Sky Meeting

The Deep Sky Group is made up of people that like to observe celestial bodies out past the far reaches of our Solar System. These bodies include stars, nebula and galaxies. If you are interested in sharing your observations, or knowing what they look like in telescopes — then by all means come join us at the next meeting. We will discuss Deep Sky objects in Corvus, Crater, Hydra, and Sextans. The meeting will be held at John McGrath's house; directions are here in the newsletter.

You don't need to RSVP, we don't extend special invitations to anyone — ourselves included. If you are interested show up, we'd love to have you.

The Deep Sky meeting will take place on Thursday, May 13 at 7:30pm.

Newsletter Deadline

Mail items at least two weeks before the end of the month. Items arriving too late for an issue will be included in the next newsletter.

Minutes of the March Meeting

The meeting opened at 7:30pm with President Bob Dahl welcoming new members and visitors, asking them to sign the guest book to receive the newsletter. He had gotten a call from *Sunset* magazine; they were writing an article about star parties, so look for some information in the upcoming months—possibly the May issue. Bob reminded everyone about the public star parties— March 27 at Reach 11 and May 1 at Thunderbird.

Carol Lee then presented the Treasurer's report—we now have 116 full members. Piet Burggraaf reported that the educational star parties at the schools were a success, and he appreciated the help from the members. He asked for volunteers for the April 16 date in Scottsdale. A.J. Crayon mentioned that the Deep Sky group would meet March 11 at the McGrath's house and the constellation studied would be Leo. Directions are in the newsletter. Also, please plan to attend the Messier Marathon on March 20–21. Paul Dickson asked all members to submit articles to him for the newsletter. Tom Polakis told members that there was a packet on the table with suggestions

Sentinel Star Party

April 17, 1993

The second annual Sentinel Star Party is taking place at the Sentinel Site on April 17, 1993. Sunset is at 7:04 PM MST and moonrise is at 3:59 AM MST. This is not a public star party, please leave small children and pets at home. Allow 2 hours travel time from Phoenix; no facilities at site. Remember to bring warm clothing and insect repellent.

for the Messier Marathon. David Burstein would be the April speaker, and Tom wanted suggestions from members for short presentations for the May meeting. For a possible field trip, Tom had talked to Brian Skiff about a tour of the Lowell Observatory—tentatively set for August. Steve Coe brought up the Sentinel Star Party on April 17. No one had anything to share for “Show ’n Tell.”

After the break, Bob Dahl mentioned that Gene Lucas’s mother had passed away, and the club sent their condolences. The main speaker was Dr. David Crawford from the University of Arizona. As head of the International Dark Sky Association, he gave a presentation on light pollution and the efforts of his group to work with cities and private businesses to contain, change, and eliminate light polluting fixtures. —*Susan V. Morse, SAC Secretary*

SAC and SAC Meetings

Saguaro Astronomy Club (SAC) was formed in 1977 to promote fellowship and the exchange of scientific information among its members — amateur astronomers. SAC meets monthly for both general meetings and star parties, and regularly conducts and supports public programs on astronomy.

SAC meetings are usually held on the Friday nearest the full moon. This means that over the course of the year, meetings are not held on same week of the month. The same is true of the club’s star parties. Star parties at Buckeye Hills are mostly held on the Saturday of the third quarter moon.

1993 SAC Meetings

Jan. 8
Feb. 5
Mar. 5
Apr. 2
May 7
Jun. 4
Jul. 2
Aug. 27
Sep. 24
Oct. 29
Nov. 19
Dec. 18 Party

1993 SAC Star Parties

Date	Sunset	Moonrise
Jan. 16	5:46pm	3:11am
Feb. 13	6:12pm	2:05am
Mar. 20	6:41pm	5:24am
Apr. 17	7:01pm	3:55am
May 15	7:22pm	2:25am
Jun. 12	7:38pm	12:55am
Jul. 17	7:38pm	4:44am
Aug. 14	7:15pm	3:39am
Sep. 11	6:40pm	2:15am
Oct. 9	6:03pm	1:04am
Nov. 6	5:33pm	11:57pm
Dec. 11	5:22pm	6:35am

April 1993

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				Venus at inferior conjunction 1	SAC Meeting 2	3
4	Jupiter 7°N of Moon 5	Full Moon 2:46 a.m. MST 6	EVAC Meeting Directions: Joe Murray 482-2918 7	8	9	10
		Last Quarter Moon 12:39 p.m. MST 13	14	15	Mercury 8°S of Venus 16	SAC Star Party Sentinel (members & guests) 17
18	Lunar Occultation with Venus See January newsletter for more details. (8:10 a.m.) 19	Mars on a straight line with Castor and Pollux 20	New Moon 4:49 p.m. MST Lyrid meteor shower 21	PAS Meeting Directions: Jerry Belcher 938-2932 22	23	24
25	26	27	Mars 6°N of Moon 28	First Quarter Moon 5:40 a.m. MST 29	30	

Calendar graphics reprinted with permission from Sky Calendar. Subscriptions to the complete monthly Sky Calendar are available at \$6 per year from Abrams Planetarium, Michigan State University, East Lansing, MI 48824.

Magazines & Discounts

Club members may subscribe to astronomical magazines at reduced rates through the club Treasurer. See the Member Services Form on the back page of this newsletter. Furthermore, club members are encouraged to align their subscriptions with the Jan.–Dec. calendar year. This eases the burden both on the Treasurer and the Publisher by permitting a single Group Renewal to be placed in the autumn for the upcoming calendar year.

Those members who experience problems with their subscriptions to *Astronomy* magazine may call Kalmbach Publishing Customer Service at (800) 446-5489.

Those members who experience problems with their subscriptions to *Sky & Telescope* magazine may call Sky

Publishing at (800) 253-0245.

Besides the club discount on *Sky & Telescope* magazine, Sky Publishing offers club members a 10% discount on all other Sky publications. This means books, star atlases, observing aids, Spotlight prints, videos, globes, computer software, and more.

Club members who subscribe to *Sky & Telescope* through the Club Discount Plan may order Sky publications directly, at the above toll-free number, without going through the club Treasurer. Simply mention the Club Discount Plan and give the Saguario Astronomy Club name to receive the discount. Sky Publishing will check their records to verify that you are eligible to receive the discount.

Saguaro Astronomy Club Member Services Form

Membership

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

- \$20.....Individual Membership
- \$30.....Family Membership (one newsletter)
- \$100.....Business Membership (includes advertising)
- \$4.....Nametag for members
- \$10.....Newsletter Only

Subscriptions

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 treasurer to renew your subscription.

- Sky & Telescope.....\$20.00 for one year
- Astronomy.....\$16.00 for one year

Write your name, address, and phone number in the space below.

Make checks payable to SAC.
Mail the completed form to:
Carol Lee
SAC Treasurer
3314 N 68th Street, #205-W
Scottsdale AZ 85251



SACNEWS

c/o Paul Dickson
7714 N 36th Avenue
Phoenix AZ 85051

Stamp

First Class Mail