

San Diego Astronomy Association

Celebrating Over 40 Years of Astronomical Outreach



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A Non-Profit Educational Association
P.O. Box 23215, San Diego, CA 92193-3215

News and Notes

July/August 2004

SDAA Business Meeting

Next Meeting will be held at:

SKF Condition Monitoring
5271 Viewridge Court
San Diego, CA 92123
August 10th at 7:00pm

Work Parties Forming

The SDAA has grand plans for cleaning and maintenance at Tierra del Sol. We have rented a 40-foot debris dumpster and will be having several large work/cleaning parties in the coming months. Watch the newsletter for further details — and volunteer!

Program Meetings

August 18

Ken VanLew

Julie and Jake Ruckner—Science Fair Winners

September 15

Universe—The Cosmology Quest, Part II

October 20

Rich Strobel, SDAA Star Party Chair

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Published Monthly by the
San Diego Astronomy Association
75¢/\$8.00 year
Incorporated in California in 1963

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Gala Double Issue!

You hold in your hands the SDAA's first ever *Gala Double Issue!* This issue covers both July and August 2004.

In reality, the reason for this double issue is to be sure we cover all the happenings in the SDAA while we in transition between editors/publishers. Julie Quinn, our last regular editor, has moved to Michigan with her family to seek more mosquito-ridden skies — actually, Julie, Mike and the kids sought a simpler life after Mike's retirement. While she has offered to step in and help, and while we truly appreciate her commitment, it's better for us to find a more permanent solution now and for the future. Chriss Hoffmann, who offered to take over, did so just before his life kicked into high

gear. Chriss works at OPT, and if you've ever been in there, you know it's non-stop chaotically busy all the time. On top of that, he has a very aggressive photography life, and of course a family who wants to see him once in a blue moon. So for the first time in many years, the SDAA was left with no solid publishing group.

In steps Doug Searles, who has graciously volunteered to take over editor duties for the SDAA. But rather than thrust an emergency publication on him, I opted to do this *Gala Double Issue* (having done the newsletter for seven years myself), and let Doug ease on into the job.

So there you have it, the rhyme and reason for this issue. Enjoy and clear skies!

A Great Year for the Perseids

Summer is a great time for meteor watching, in part because of the warm weather and in part because of some great clouds of dust the Earth passes through this time of year. This year could be a great year for the Perseids.

During this time of year, we always seem to see a few more

than the usual number of “shooting stars” at the site, but on the nights of August 12-13 (or 11-12, depending on your source), the Perseids can produce fifty, seventy-five or even one hundred or more fast bright meteors per hour.

What will make it an especially excellent year to watch the Perseids

continued on page 4



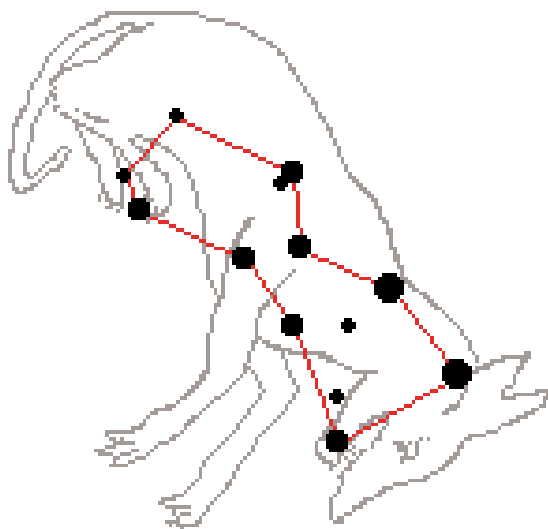
San Diego Astronomy Association

Astronomy 101

by Scott Baker

Macabre, to say the least!

This month's constellation is Lupus the Wolf. The origins of this constellation are a little fuzzy, with many civilizations seeing an animal of sacrifice in the stars here. The Greeks called this constellation "Therion," that is "wild animal," while the Romans gave it the name of "Bestia." Most felt



that it was a wolf, speared by Centaurus as an offering to the Gods to be presented at an altar, the constellation Ara, close by. But another Greek story is macabre, a story about a King with fifty sons, who believed in human sacrifices.

King Lycaon ruled the land of Arcadia. He had fifty sons and believed that anything a human

could do was OK. Robbery, debauchery, murder, all crimes were allowed. The good people of Arcadia feared their king and prayed to the gods to deliver them from this barbarian. Zeus, hearing the prayers from Earth, decided to see for himself, this barbaric king of Arcadia. Disguising himself as a human, he walked to the castle of King Lycaon and asked for a meal. The custom of the gods was that any visiting stranger would be granted a meal and be welcomed into any household. King

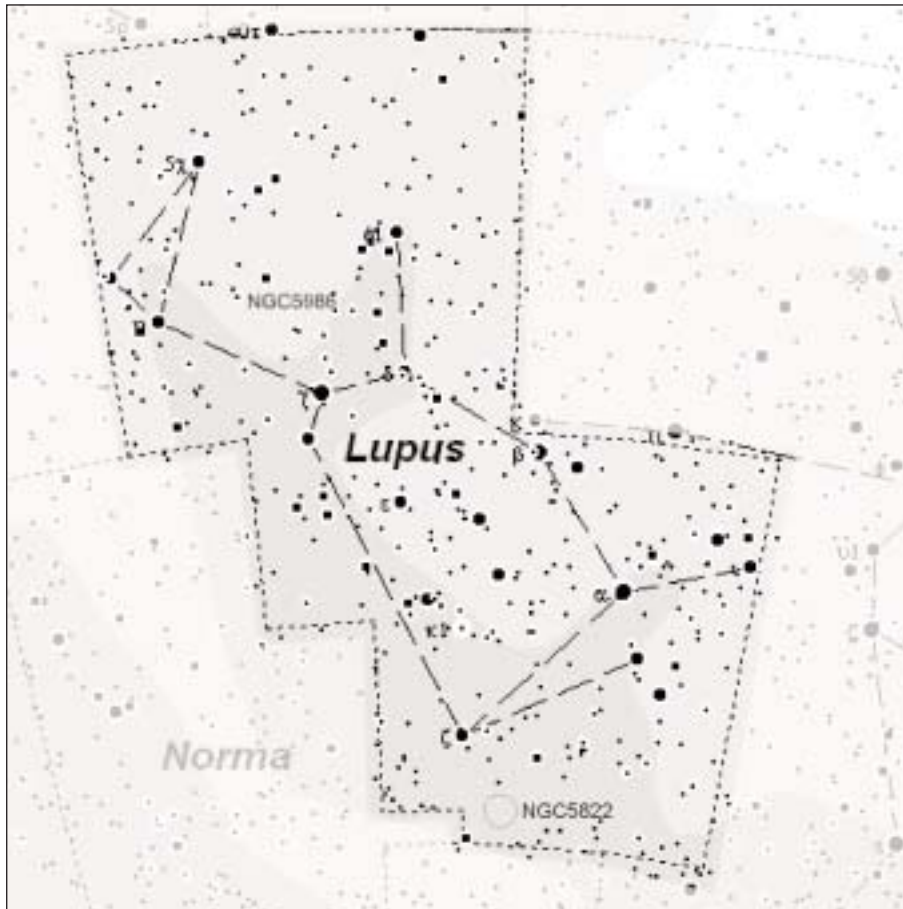
Lycaon's servants, following this same custom, allowed the disguised Zeus in and presented him to the king. The king summoned one of his servants and ordered him to bring a hot meal to the stranger. The meal was prepared and served to Zeus. Zeus looking at the platter before him immediately recognized human body parts, those of Nyctimus, a son of Lycaon. At seeing this, Zeus flew into a rage, and with lightning bolts from his eyes, killed all in the castle. All except King Lycaon, who he turned into a wolf, his teeth dripping blood, his clothes becoming bristly fur, and threw up into the heavens, as a warning to others.

The constellation Lupus is not very obvious, and in fact is fairly

difficult to separate from its closest neighbor Centaurus. Lupus is packed tightly between Centaurus and Hydra to the west, Scorpius and Norma to the east. Although small, and since it lays in the Milky Way, it contains many interesting items, especially double stars. Lupus is low in the South, just after dark in the sky, in July, so make it one of your first stops.

For the double star observer, Gamma Lupi is a very close binary with a nearly edge-on orbit whose period is 147 years. Currently the companion is at the greatest distance with a separation of 0.68". Eta Lupi, another binary with a separation of 15", can be a challenge, despite its wide separation, due to the brightness contrast between the pair. The primary is bright blue 3rd magnitude star and the secondary a yellowish 8th magnitude. It should be resolvable with large binoculars and small scopes with steady skies. Another challenge is Epsilon Lupi, a close binary: 3.4, 5.5; with a separation of 0.6". Other doubles to check out are Kappa1 and kappa2, Mu Lupi and Xi1 and xi2 Lupi, this double is the most attractive binary in Lupus.

For the deepsky enthusiast, Lupus has little to offer, unless you have a light bucket. Although the summer Milky Way dips down into Lupus, making it a nice constellation



Treasurer's Report

by Michael Finch

With the addition of our new members we now have a total of 621 SDAA members. We have several new members last month. Please welcome John Aydelotte, Michael Breaux, Mike Davis, Edward Hayes, Alan Jenkins, Jashua A. Johnson, Robert and Rebecca Larys, Barbara Lounsbury, Leo Montoya, Kevin Robinson, Daniel Robrecht, Purushothama Sarva, Derek Szymanski, Christine and Gordon Van Such, and Marc Weyl. Welcome to SDAA and may you enjoy clear dark skies!

Effective May 1, 2004 membership dues have changed. The new rates are as follows:

- Contributing Member
\$50.00
- Basic/Senior Member
\$30.00
- Family Member
\$ 5.00

Reminder to our private pad owners: the renewal date for your pad lease coincides with your membership renewal. Please ensure you pad fee is paid when paying your membership renewal.

Do we have your correct address? If you note an error on your newsletter address label, please let me know so I can update our records.

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to scan with binoculars, it lacks the wealth of bright deepsky objects the other Summer Milky Way constellations contain. Of note is NGC 5822, a very large open cluster of about a hundred stars. The cluster is about 6000 light years away, and is located 3° SW of zeta Lupi. Also, NGC 5986 is a globular cluster about 45,000 light years distant, with a visual magnitude of 7.5. It is 2.5° WNW of Eta Lupi. If you own a light bucket, and are up to the challenge, then give some of these a shot. NGC5873 is a 13th magnitude planetary nebula. PLN 327+10.1 and PLN

319+15.1 are two other planetaries of 10.5 and 10.6 magnitudes. For the faint fuzzy galaxy lover, check out the western quadrant of Lupus, you'll find many 12th magnitude, and fainter, galaxies to test that large, shiny, piece of glass.

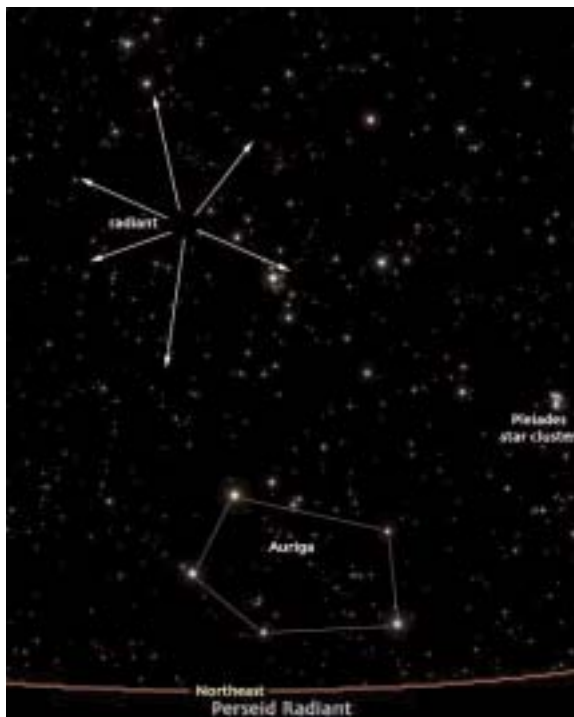
Clear Skies!



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is that we will be close to New Moon during peak times, something we haven't enjoyed over the last several years. Without moonlight to wash out the sky, and predictions of a heavier concentration of meteoric debris, leading to better than normal meteor activity.



To find the radiant, or central point, from which most meteors emanate, look northeast after midnight towards the constellation of Perseus.

For those unfamiliar with the Perseids (or any other meteor shower), meteors are bits of debris – typically no larger than sand grains but sometimes up to pea size – left behind during repeated passes of comet Swift-Tuttle. The comet crosses the inner solar system once every 128 years as part of its elongated orbit around the Sun.

Forerunners of the Perseid shower began to appear around July 17.

Try watching for them after the Moon has left the sky, leaving the predawn hours dark. You may only see only a few per hour, but numbers and duration will increase during the second week of August. At its height, you might spot one to two per minute, and sometimes even more meteors can be seen during brief bursts. The last Perseid stragglers can be spotted as late as August 24.

The only equipment you will need are your eyes and a bit of patience. Find a location away from bright lights with a wide view of the sky, particularly towards the northeast. TDS is good, or if you don't want to drive that far, try Inspiration Point or another pullout along Sunrise Highway on Mount Laguna. Bring a blanket or lounge chair so you can relax while looking up.

Early morning hours generally provide the best viewing, typically offering up twice as many meteors as in the evening. Why? In the predawn, you're standing like a hood ornament on the side of Earth facing the oncoming traffic; as compared to the evening hours when you're on the trailing edge of the planet's orbital plunge through around the Sun. Evening meteors much catch up with Earth by having an orbital velocity greater than the planet. After midnight, however, any particle in the

planet's path is scooped up in the atmosphere, slamming into the air at speeds of 7 to 45 miles per second (11-72 kps). Their energy of motion rapidly dissipates in the form of heat, light, and ionization, creating short-lived streaks of light.

So make arrangements now to attend a meteor party – or host one of your own. Between no Moon, warm weather, and clear skies on Mount Laguna or TDS, this year's Perseids should put on quite a show!

Treasurer's Report
continued from page 3

A reminder to our members renewing magazine subscriptions: Please make payment to San Diego Astronomy Association—not to the publisher. Our members receive group rates if the renewal is processed and paid by the SDAA. Additionally, there is no need to send a check for membership renewal and a second check for the magazine renewal. One check will do (and cuts down on my work a bit). Thank you.

Second Site Fund balance:
\$3,992.79



San Diego Astronomy Association

SkyWatch

by John Mood

[Times PDT]

[* = 1 star = EZ] [** = 2 stars = Moderate] [*** = 3 stars = Difficult]

Sat., 31 July — FULL MOON, 11:05 a.m.; NOT a “blue moon,” which term properly refers to a literally blue moon, caused by atmospheric particles.

Sat., 7 Aug. — PUBLIC STAR PARTY @ Tierra del Sol.

Thurs., 12 Aug. — PERSEID METEOR SHOWER peaks this morning.

Sat., 14 Aug. — MEMBERS STAR PARTY @ Tierra del Sol.

Sun., 15 Aug. — NEW MOON, 6:24 p.m.

Sat., 21 Aug. — PUBLIC STAR PARTY @ Tierra del Sol; explore the Moon’s “terminator” (where dark turns to light) for spectacular views of mountains, craters & rills.

Sun., 29 Aug. — FULL MOON, 7:22 p.m.

Tues., 31 Aug. & Wed., 1 Sept. — VENUS & SATURN are within 1.9 degrees of each other these mornings [see below].

Sat., 4 Sept. — PUBLIC STAR PARTY @ Tierra del Sol.

EVENING PLANETS:

There are 3 planets in Leo the Lion, but even at the start of the month, they are so low as to preclude telescopic viewing. JUPITER [*] is the brightest & highest. MARS [*1/2] & MERCURY [*1/2] are so low on the horizon that you’ll need binocs to spot them before all 3 disappear in a couple of weeks. NEPTUNE [**] in Capricornus the Goat & URANUS [* 1/2] in Aquarius the Water Carrier are now visible fairly high in the sky well before midnight.

MORNING PLANETS:

VENUS [*] moves from Taurus the Bull across the legs of Gemini the Twins & is the brightest object in the sky other than the Sun & the Moon. It passes very close to SATURN [*] which is also in Gemini [see above], but the ringed planet is too low early in the month for really good telescopic viewing; by the end of the month, it’s higher in the sky. { N.B. Because of the recent discovery of 2 relatively large trans-Neptunian objects, many professional astronomers no longer consider Pluto a planet. I’ll go along w/ ‘em! }

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FOR ALL OBSERVERS, BEGINNING & EXPERIENCED

That bright stream of light overhead split by dark lanes of dust is the Summer Milky Way, our home galaxy. Summer provides us with the finest view we humans will ever have of an edge-on spiral galaxy. It’s not precisely edge-on as is 9.6 mag NGC-4565 in Coma Berenices, Berenice’s Hair, & not tilted quite as much as 7th mag NGC-253 in Sculptor; more like 10th mag NGC-4216 in Virgo, the Virgin. & that’s part of my point. Not even Palomar Observatory can get as good a view of an edge-on spiral galaxy as your naked eyes can at this time of year. Of course, we’re seeing only the nucleus & one ansa (arm) of the galaxy. One has to be in the Southern Hemisphere to see the entire galaxy, with the bulge of the nucleus & both ansae. But it’s still breathtaking, especially when you ponder what your eyes are viewing.

TIERRA DEL SOL

LAT = 32° 36' 48" N (±0.1"), LONG = 116° 19' 55" W (±0.1"), ELEV = 3710' (±5'), at the bathroom, as determined from USGS 7.5 min 1/24000 map.

Send comments & questions to me by phone (619/225-9639), USPS (4538 Long Branch Av., San Diego, CA 92107) or my e-mail address (happyalien@cox.net).

¡HAPPY VIEWING!



San Diego Astronomy Association

Private Pad Reminder

by Brian McFarland

Over a year ago the pad usage rules were updated to increase the use requirement to four times per year. The official count has traditionally occurred in October of each year, and since we are traditionalists, this year will be no different. So, if you have not used your pad four times since October 2003, the club will take possession of the pad and issue it to the next person on the pad waiting list.

Any notices you may receive from the club regarding your membership renewal may also say “Reminder to our private pad owners: the renewal date for your pad lease coincides with your membership renewal. Please ensure you pad fee is paid when paying your membership renewal.”

However, not all the pad dues are synched up with their respective membership dues. If your pad dues and membership due dates do not coincide, please pro-rate your next pad dues to bring your due dates in synch with each other. If you don't know how to do this, please contact the Board.

Program Meetings

by Scott Baker

The July program meeting saw over 50 members enjoy a presentation by Jay Lavine, Solar System Ambassador for NASA/JPL and SDAA member, who's topic “Saturn, Lord of the Rings” covered all

aspects of the Cassini spacecraft and its mission at Saturn. Jay's talk was informative and fun — we'll have to have him back in the future.

The August Program Meeting, on the 18th will feature Ken VanLew, an astronomy professor who will give one of his college lectures. We will also have Julie and Jake Rucker who will present their award winning science fair projects.

The September Program meeting will find us enjoying the second half of the DVD, *Universe – The Cosmology Quest*. This DVD turned out to be a surprise in that the information provided was very interesting and well presented. Don't miss the second half!

The October meeting will feature our own Rich Strobel, who will speak and show a presentation on our School and Star Party Outreach Program.

You have no reason to miss these great meetings. They are held the third Wednesday of each month at the Mission Trails Regional Park Visitor Center Theater. The doors open at 6:30 and the meeting starts promptly at 7:00. Directions to the visitor center can be found at the MTRP web page at www.mtrp.org.

The Bilingual Astronomer

By Rick Tejera

Saguaro Astronomy Club

I grew up in a bilingual household. My mother, Grandmother and sister spoke fluent Spanish. Then there were the Tejera men. My dad, although also of Puerto Rican ancestry, grew up in boarding schools and thus didn't have the opportunity to

learn Spanish the way my sister did. As for me, I just don't quite have the lingual ear of my sister. The woman can hear a language for a month and speak it conversationally, give her six months and it may as well be the mother tongue. Given my lack of language skills (there are those who say English would apply here as well), I never really thought I would have the NEED to learn a new language. Then came astronomy.

OK, I know you're wondering where I'm going with this, so let me explain. Like most newcomers to the hobby, my first quest was to observe the Messier catalogue. As I got close to completing the catalogue, I realized, one September while compiling my observing list, that the only Messier objects left were the spring galaxies. Oh well, may as well start the SAC 110 Best NGCs. It quickly dawned on me that while there were no end of references with pictures and drawing of the Messiers, no such aids existed much beyond that. It proved difficult at first to try to get a mental picture of what my quarry would look like. I guess I went right over or past many NGCs before I realized help was at hand. While not technically a language, the shorthand system derived by J.L.E. Dreyer to describe the objects in the NGC offers a good way to get that mental idea of what you are looking for. The first time I looked at one of the descriptions, I had no real idea what it said. After all does

Cl,pS,Ri,lC,st9...13

make sense to the English speaker?



San Diego Astronomy Association

!	remarkable object	!!	very remarkable object
am	among	n	north
att	attached	N	nucleus
bet	between	neb	nebula, nebulosity
B	bright	P w	paired with
b	brighter	p	pretty (before F,B,L,S)
C	compressed	p	preceding
c	considerably	P	poor
Cl	cluster	R	round
D	double	Ri	rich
def	defined	r	not well resolved
deg	degrees	rr	partially resolved
diam	diameter	rrr	well resolved
dif	diffuse	S	small
E	elongated	s	suddenly
e	extremely	s	south
er	easily resolved	sc	scattered
F	faint	susp	suspected
f	following	st	star or stellar
g	gradually	v	very
iF	irregular figure	var	variable
inv	involved	nf	north following
irr	irregular	np	north preceding
L	large	sf	south following
l	little	sp	south preceding
mag	magnitude	11m	11th magnitude
M	middle	8...	8th mag and fainter
m	much	9...13	9th to 13th magnitude

Figure 1: The Dreyer Designations

After a few frustrating observing sessions, I made it a point to, as I put it, learn Dreyerese. Once you look at the key to his shorthand the descriptions will make sense, sort of. There are several symbols that can have multiple meaning, to decipher the correct meaning takes a bit of practice in reading the context of the description, but it comes rather quickly.

To illustrate, lets take the example above, which is NGC 6520, an open cluster in Sagittarius. First we need the Dreyerese alphabet (see fig. 1).

OK, most of the symbols make sense, at least when you look at them individually. It's

when they are strung together that they can get confusing. Not unlike the King's English (which I'm told we DO NOT speak) a symbol can have more than one meaning. Thus one needs to be able to determine context in order to decipher the proper meaning. Also note that oft time the case of the symbol is indicative of the proper translation. For example **p**. **p** by itself in lower case indicates position, in

this case, "preceding" or west of. Take the same **p** and add it immediately in front of **F**, **B**, **L** or **S** and it becomes an adjective meaning pretty as in pretty Faint, pretty Bright, pretty Large or pretty Small. Starting to make some sense? Capitalize it and now it means "poor" so if you saw **p pF** **pS** you might want to skip this object, as it is poor, pretty faint and pretty small. Similarly, **s** can mean either "south" or "suddenly" the adjoining symbols will determine which meaning it has. Note that some symbols can't be combined and make sense, a clue as to the true meaning of what you are reading. Example, **s** by itself as previously noted means either "south" or "suddenly", **c** means

"considerably". **sc** however means "scattered". Note that south considerably or suddenly considerably don't make sense, so the meaning has to "scattered". So to decipher the description of NGC 6520 we get:

Cluster (**Cl**), pretty small (**pS**), rich (**Ri**), little compressed (**lC**), stars 9th to 13th magnitude (**st9...13**)

If you've observed this object, that pretty well describes it. The language is a pretty good representation of what you will see visually.

The easiest way to become fluent in Dreyerese is to practice by reading it one symbol at a time. Don't try to take in the whole description in one shot. Go for it in bits and pieces. Work at it bit by bit and you'll be speaking Dreyerese before you know it. Now when your looking for objects, you'll be able to get an idea of what to expect in the eyepiece. Don't be shy about having the Dreyer key with you at the eyepiece for reference and don't forget to combine your newfound skill with other resources as well. The SAC database has a wealth of info on over 10,000 objects including size, brightness, etc. (along with the Dreyer descriptions). You can easily have this info available at the eyepiece using the freeware program Astrobyte.

Now, start practicing your Dreyerese—there will be a test.

The Back Page

Watch for ads here...

Coming Soon...

The SDAA Board of Directors has decided to allow advertising of a commercial nature to be placed in the SDAA newsletter. Watch for ads in future newsletters from your favorite vendors and suppliers.

...and here!

MEMBERSHIP INFORMATION

Send dues and renewals to SDAA, P.O. Box 23215, San Diego, CA 92193. Include any renewal cards from *Sky & Telescope*, *Astronomy*, or *Odyssey* magazine in which you wish to continue your subscription. The expiration date shown on your newsletter mailing label is the only notice that your membership in SDAA will expire. Dues are \$50/year for Contributing Memberships; \$30/year for Senior (Basic) Membership; \$5/year for each Family membership. Private Pad leases are \$35/year, have use requirements, and have limited availability. In addition to the club dues the annual rates for magazines available at the club discount are: *Sky & Telescope* \$32.95; *Astronomy* \$29; *Odyssey* \$25.46; *Sky Watch* \$5.99. Make checks payable to San Diego Astronomy Association. PLEASE DO NOT send renewals directly to Sky Publishing. They return them to us for processing.

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VOL. XL • ISSUE 7/8 • JULY/AUGUST 2004
PUBLISHED MONTHLY BY THE SAN DIEGO ASTRONOMY ASSOCIATION

SUBSCRIPTION \$8.00/YEAR • SINGLE ISSUE 75¢

NON-PROFIT ORG.
U.S. POSTAGE
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