

THE Prairie Astronomer

galaxy and an interesting open star cluster. NGC 6946 is a faint spiral galaxy located about 1.5 degrees west and 1.5 degrees south of Eta Cephei, and is visible in a six inch as a moderate sized faint fuzzy area. A ten inch begins to reveal some patchy detail in the outer haze, p73 as well as the slightly brighter nuclear region, while a twelve inch shows a broken spiral structure similar to the view of M33 in an eight inch. Nearby is the "SEACREST" cluster, NGC 6939, visible about 1.25 degrees south and just under two degrees west of Eta Cephei. It is a moderate to small group of faint stars which is triangular in shape, with several neat rows of stars which look like a set of stadium lights.

A Horrorscope For Planetarians

Part Two

Cancer The stars warrent you selling all your earthly possessions and donating the money to the Hyde Observatory.

Leo Your organ donation will be greatly appreciated this month.

Virgo Who cares about Virgos? No help from me; you're on your own.

SOLAR ECLIPSES IN THE 1990s

DATE	TOTAL or ANNULAR	UT OF MAXIMUM	MAXIMUM DURATION	DEGREES ALTITUDE	WHERE VISIBLE
01/26/90	annular	18:51:54	2:04	18	Antartica, S. Atlantic
07/22/90	total	02:36:45	2:36	40	N. Europe, N. Asia
01/15/91	annular	23:43:30	7:49	74	Australia, New Zealand
07/11/91	total	19:06:08	6:58	89	Hawaii, Mex, C./S. Ame
01/04/92	annular	23:14:43	11:36	66	Pacific Ocean
06/30/92	total	12:23:23	5:26	41	South Atlantic
05/10/94	annular	17:19:51	6:09	66	North America
11/03/94	total	13:47:08	4:28	69	S. America, S. Atlantic
04/29/95	annular	17:23:15	6:31	70	S. Pacific, S. America
10/24/95	total	04:22:31	2:15	69	S. Asia, W. Pacific
03/09/97	total	01:53:38	2:54	23	Siberia
02/26/98	total	17:35:38	4:13	76	C./S. America, Caribbe
08/22/98	annular	02:14:03	3:08	75	Indonesia, Malaysia
02/16/99	annular	06:20:23	1:16	62	Indian Ocean, Australia
08/11/99	total	10:51:14	2:27	59	Central Europe, Asia

(source: Astronomy Magazine, February, 1989)

The Prairie Astronomer

c/o The Prairie Astronomy Club, Inc.

P.O. Box 80553

Lincoln, NE 68501

First Class Mail

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Next Meeting August 28, 1990

SKY & TELESCOPE NEWS

AUGUST 17, 1990

NEW JUPITER ACTIVITY

Early risers should take a good look at Jupiter right now. On August 14th, Isao Miyazaki in Japan found that the north part of Jupiter's South Equatorial Belt has darkened and widened, while the north edge of the Red Spot has faded. ALPO Jupiter observers Don Parker and Steve O'Meara confirm the darkening, but they hesitate to call this the "long-awaited disturbance" that is expected to revive the entire belt. Stay tuned for an update next week.

COMET LEVY ACTS UP

Comet Levy could have experienced a series of outbursts, which may make the comet a better spectacle in the coming nights. On August 14th Massachusetts amateur Tom McPherson noticed a sunward fan that disappeared in three hours. By the 16th, Bill Smith of Ukiah, California, saw a hint of a broad, sunward pointing jet. But the comet's intense starlike nucleus appears to have faded. Comet Levy is now 4th magnitude and sports a faint 4-degree-long tail. You'll find it high in the evening sky well after twilight.

HUBBLE CULPRIT FOUND?

Investigators have conclusively identified the sole cause of the Hubble Space Telescope's fuzzy images. The spacing between a mirror and a lens in a test device, which was used in 1981 to test the primary mirror's shape, was made about 1.3 millimeters too large. As a result, tests performed with this so-called null corrector showed that the HST mirror was perfect -- when in fact it had been given the wrong shape. The 1.3-mm error completely accounts for the spherical aberration the orbiting telescope now suffers. How the problem arose was still a mystery, but a likely culprit is a tiny washer, 1.27-mm thick, used to adjust the spacings in the null corrector.

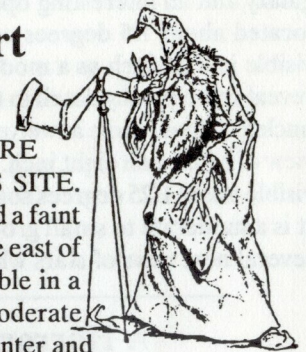
A Note From Lee:

All those members who subscribe to *Astronomy*, *Deep Sky*, or *Telescope Making* magazines must get their renewal money to Lee by the Tuesday night meeting. If you can't make it to the meeting, drop Lee a check in the mail.

The *Prairie Astronomer* is published monthly by the Prairie Astronomy Club, Inc., and is free to all club members. Membership status and expiration date are listed on the mailing label. Membership dues are: Junior Members and Newsletter Only Subscribers...\$10/yr; Regular Members...\$24/yr; Family Memberships...\$27/yr; Address all new memberships, renewals, or questions to THE PRAIRIE ASTRONOMY CLUB, INC., P.O. BOX 80553, LINCOLN, NE 68501. For other club information contact one of the following officers: Ron Debus (Pres)435-5688, Dave Knisely (V.Pres)223-3968, Kim Ellen Owen (Sec)423-7440, Lee Thomas(Tres)483-5639, Jack Dunn (2nd V. Pres)475-3013. All newsletter comments and articles should be sent to Newsletter Editor JOHN LORTZ, 12023 PARKER PLZ #105, OMAHA, NE 68154 no later than 7 days before monthly club meetings. Club meetings are held the last Tuesday of each month at Hyde Observatory in Lincoln, NE.

Observing Chairman's Report

by Dave Knisely



THE NEXT SCHEDULED START PARTIES ARE SEPTEMBER 14TH AND 21ST AT THE ATLAS SITE. Start your early fall viewing with a planetary nebula and a faint galaxy. Look about three degrees north and 1/3 degree east of 55 Sagittarii for the bright planetary NGC 6818. Visible in a four inch, this object appears as a small bluish disk in moderate sized apertures. Nebular filters seem to darken the center and make the nebula more definite. Nearby is Barnard's Galaxy, NGC 6822, located about 1.4 degrees north and 0.7 degrees east of 55 Sagittarii. It is fairly large, but has an extremely low surface brightness, making it difficult to spot except at very low power. A six inch RFT will show it as a very faint bar-shaped patch of light, while an eight or ten inch under good conditions may reveal some additional detail. M30, a faint but interesting globular cluster, can be found about half a degree west and slightly north of 41 Capricorni. It appears as a small faint fuzzy ball in a 2.4 inch refractor, with a six inch showing only a few of its component stars. An eight resolves most of the cluster, and a ten inch will show three star chains coming out of the rich core.

For you binocular users, Brocchi's Cluster in southern Vulpecula is an interesting target. This open cluster does look a bit like the outline of a coathanger when viewed in wide field instruments, and is over a degree in length. On the east edge of this cluster is another cluster, NGC 6802. It is small and faint, appearing as a fuzzy cigar in a six inch at low power. An eight inch at high magnification resolves it into an elongated cluster of very faint stars arranged into several discreet sub-groups.

Moving northward into Cygnus, the patient observer will see several interesting nebulae. One of the more prominent is the Veil nebula, NGC 6960 and NGC 6992. The west part of this supernova remnant runs through the star 52 Cygni, and has been seen with an Astroscan 4 inch RFT equipped with the Lumicon OIII filter. Without filters, the nebula is visible in a six inch as a dim streak of light with a faint broadening towards one end. With filters, the nebula becomes a ghostly spiderweb of detail, with a ten inch and the OIII filter revealing long wispy filaments running through and beyond 52 Cygni. The east half of the nebula is two degrees east and a bit north of 52, and can sometimes be seen in 10x50 binoculars as a small faint arc of light. In telescopes, the nebula is a curving arc of light with some hints of detail. With nebular filters, this object becomes a network of fine faint filaments rivaling the detail shown in photographs.

Also in Cygnus is an interesting planetary nebula for moderate-sized apertures, NGC 6826. It is located about half a degree east and a bit south of 16 Cygni and appears star-like at low power in small instruments. An eight inch shows it as a small bright bluish-green disk with a patchy two-shell structure visible at high power. A ten inch will also show a faint central star. On the Cygnus-Cepheus border are a

A Note From The Editor:

Lee and I missed connections this month, but felt it was important to get you this renewal information, thus, this newsletter supplement.

As long as I've got a bit of space, I wanted to remind everyone that the Prairie Astronomer is published *each month* and that I *love it* when members send interesting stories, articles, etc. for publication. In fact, the more articles that arrive in my mailbox, *the larger the newsletter!*

The Horrorscope For Planetarians feature that I've run the past two months was kindly sent by Jack Dunn (thanks Jack!). Anyway, please send all submissions to John Lortz, 12023 Parker Plz. #105, Omaha, NE 68154, by the Wednesday before each month's meeting.

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SPECIAL NOTICE

AUG-SEP

Special Newsletter Supplement

90

Attention: Astronomy, Deep Sky, Telescope Making Subscribers!

A Message from your Treasurer

Your renewals for 1990 are due by **September 15, 1990!** We cannot accept renewals after that date. The same goes for any club members planning to subscribe to these magazines through the club plan for 1991.

All subscriptions run for the calendar year. Club rates are:

ASTRONOMY Magazine	\$14.00
DEEP SKY	\$ 8.00
TELESCOPE MAKING	\$ 8.00

Your payment must reach the club post office box **no later than September 15.** Send your money to:

The Prairie Astronomy Club
P.O. Box 80553
Lincoln, NE 68501

The following are club members whose names Kalmbach Publishing lists as subscribers to the magazines (A=Astronomy, D=Deep Sky, T=Telescope Making):

Delmar Motycka (A)
Francis L. Gowin (AT)
Roger Grant (A)
L.L. Thomas (AD)
Mark Fairchild (ADT)
John B. Lortz (ADT)
Ronald B. Veys (AT)
Daniel Neville (AT)
David Knisely (AD)
Donald R. Grant (A)
Richard P. Johnson (AD)
Dennis Dunn (A)
Brendelyn Hartwing (A)

continued next page...

Mark Urwiller (DT)
John W. Johnson (T)
Clint Harness (T)

If you subscribe to any of these magazines through the club, and are *not listed above*, you should enclose your renewal notice with your payment. Otherwise, for those members listed above, simply send your renewal money and discard all renewal notices from Kalmbach Publishing.

This is the only renewal notice you will receive. No new or renewal subscriptions can be accepted after September 15, 1990!

Star Party/Comet Report

by Lee Thomas

Our star picnic/star party was excellent this year, made more exciting by the appearance of Comet Levy. About 30 people showed up for the picnic, at varying times (most were uncertain whether it was a 6:00, 6:30, or 7:00 p.m.). Departure for Atlas Site was at 7:30, with a caravan weaving its way cross country, while suspiciously eyeing clouds forming on the horizon.

Sure enough, the usual thunderstorms developed. (What would star parties be like without lightning on the horizon?) But, a stalled cold front remained precisely 20 miles northwest of Lincoln all night, spinning a few stray clouds our way and providing a fireworks display, but never completely obliterating the sky.

Comet Levy was a healthy, bright naked eye magnitude 4.0 or so, just passing near M15. The Perseids were in evidence, but not spectacular. Mosquitoes were hungry, but Deet was plentiful, as were soft drinks, lawn chairs, and telescopes. It was nearly a perfect night, and I believe, it renewed everyone's appreciation of the quality seeing we have at Atlas Site.

A Horrorscope For Planetarians

Part Three

- Libra** Beware of Scorpios this month. If one begins a fight don't resist!
- Scorpio** Find the nearest Libra and beat them to a pulp. I promise they won't fight back.
- Sagittarius** Unbeknownst to you, you're a hidden agent of the KGB. One spoken keyword lapses you into a maniacal killing trance. This month you are going to be called into active duty. Don't answer the phone.
- Capricorn** Send \$5 to all persons with zodiacal sign at top of this list. Add your sign to the bottom of the list and send it to ten friends.
- Aquarius** This space available.
- Pisces** Seek professional help immediately. You actually believe the stars and planets affect your life!!!

(Written by Robert Reed of the Astronomical Society of East Texas)