NORTHERN LIGHTS

NORTH CENTRAL REGION

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ROAMING THE REGION

A warm welcome is extended to the Fox Valley Sky Watchers, the newest League affiliate from our Region. The 18 member club is located in Elgin, Illinois, and the correspondent is: Russell J. Maxwell, 518 Ryan Ct., W. Dundee, IL 60118.

Andy Fraser (3M Club A.S.) has been awarded an honorary Messier Certificate for successfully observing all 106 objects on Messier's list. Having accomplished his observations with 3" and 8" telescopes, Andy has set the NGC list as his next goal. So far this avid deep sky observer has identified over 700 NGC objects, not including the 106 Messier objects. Perhaps another endorsement should be added to the Messier Certificates.

On July 23rd, the Peoria Astronomical Society will celebrate the 20th anniversary of the dedication of their Northmoor Observatory. A public celebration is planned at the observatory, probably on July 18th 19th.

ATLANTA CONVENTION

AUGUST 13-16

WILMA - SEE P. 4

Jim

1975 REGIONAL MEETING

The Rockford Amateur Astronomers, Inc., are to be congratulated on the excellent convention held May 3rd in Rockton, Illinois. More than 180 amateur astronomers from 20 of our 23 societies were present. It was generally agreed that this turnout was of near record proportions. Those who stayed home missed a real treat.

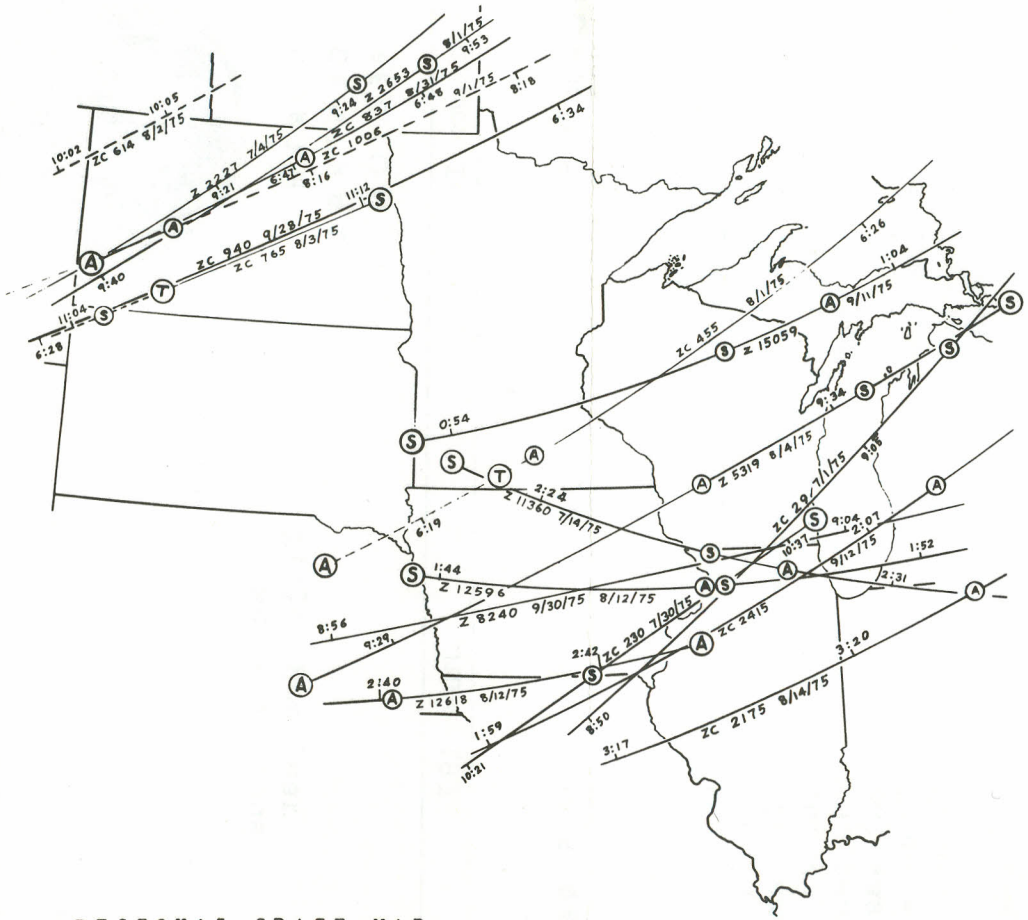
Following the banquet, the Regional Award was presented to Dr. Sherman W. Schultz, Jr., of St. Paul, "for outstanding service to amateur astronomy." Dr. Schultz has never hesitated to assist amateurs with their programs. He is well known as astrophotographer, instrument builder and occasional contributor to Sky and Telescope.

Brief abstracts of many of the papers are included elsewhere in the issue. The minutes of the business meeting follow:

The business meeting was called to order by chairman James H. Fox at 3:10 P.M.

The roll call of societies was taken. There were 20 societies present -- out of a possible 23.

The secretary's and treasurer's reports were read and accepted.
(cont. p. 4)



REGIONAL GRAZE MAP

THIRD QUARTER 1975

Map scale precludes its use to set up expeditions. If interested in a particular graze, contact H. F. DaBoll, 6 N 106 White Oak Lane, St. Charles, IL 60174 (phone 312/584-1162) for detailed predictions or information on an expedition already in your area. Include star number, date, and approximate longitude of proposed observation. Also mention whether you have experience planning graze expeditions. To receive predictions on a regular basis, join IOTA (International Occultation Timing Association); contact David W. Dunham, Cincinnati Observatory, Observatory Place, Cincinnati, OH 45208 (phone 513/321-5186).

If an encircled A or S (moon or sun altitude, respectively) is shown within a limit, increasingly larger telescopes are needed from there to the same symbol ending the limit, while "IMBSW" (it might be seen with) refers to the better part, on the other side of the intra-limit symbol. Time ticks on the south side of a limit indicate a northern limit graze, and vice versa. A dashed limit indicates central graze at the bright limb; an encircled T means just at the cusp.

1975 DATE	STAR NUMBER	MAG	MOON	MOON ALT	SUN ALT	CUSP ANGLE	IMBSW	NOTES
7/1	ZC 29	7.2	53%-	38,42	-16,-6	5N,6N	4"	1,2,3
7/4	Z 2227	7.9	24%-	17,21	-14,-10	1.3N,1.5N	4"	4
7/14	Z 11360	8.2	30%+	21,15	-4,-10	1.6S,2.9S	6"	5
7/30	ZC 230	7.4	59%-	60,59	-7,-1	6N,5N	6"	A,1,6,7
8/1	ZC 455	6.1	41%-	5,13	-29,-25	-0.2N,+0.5N	2"	B,8
8/1	Z 2653	8.5	39%-	35,39	-17,-11	2.7N,2.5N	6"	4
8/2	ZC 614	5.7	30%-	31,32	-13,-11	-1.2S,-1.2S	2"	C,4
8/3	ZC 765	5.3	20%-	33,39	-7,0	-0.2S,+0.4S	2"	D
8/4	Z 5319	8.5	12%-	12,19	-18,-11	1.5S,1.8S	6"	9,10
8/12	Z 12596	7.9	28%+	19,12	-3,-10	5S,7S	4"	5,11
8/12	Z 12618	7.2	28%+	8,6	-15,-17	8S,8S	3"	12
8/14	ZC 2175	6.0	50%+	13,10	-23,-24	9S,9S	60 mm	E,1,5,13
8/31	ZC 837	6.1	36%-	4,9	-35,-32	0.3N,0.3N	2"	F,4
9/1	ZC 1006	6.9	25%-	8,14	-32,-28	-0.2N,-0.4N	3"	G,4
9/11	Z 15059	7.8	34%+	20,12	-2,-11	7S,9S	4"	5,8
9/12	ZC 2415	7.6	45%+	19,15	-19,-22	10S,10S	4"	1,5,6
9/28	ZC 940	5.7	52%-	12,20	-46,-43	2N,2N	2"	H
9/30	Z 8240	7.6	29%-	21,28	-37,-30	0.6S,1.7S	4"	1,2,5,11

Universal times and dates are used. Moon altitude, sun altitude, and cusp angle, in degrees, are given for the western and eastern intersection of each limit with the boundary of the North Central Region, and for the end of any limit which falls within the region. Cusp angle is the separation of central graze from the northern or southern cusp, with negative values indicating central graze on the bright limb. Under MOON, + means waxing, - means waning.

Until the preceding issue, we had not included Michigan's Upper Peninsula within the boundaries of our NCR map for purposes of determining entry and exit values. Henceforth, the U.P. will be included; the L.P. will not.

NOTES:

A. 100 Piscium
B. 53 Arietis
C. 43 Tauri
D. 106 Tauri
E. 25 Librae
F. 372 B. Tauri
G. 22 Geminorum
H. 68 Orionis

1. Possible Sandy (Kansas City, Missouri) expedition
2. Possible Murn (Milwaukee, Wisconsin) expedition
3. NCR exit point taken as Drummond Island, Michigan
4. Possible Shinn (Winnipeg, Manitoba) expedition
5. Possible Northeastern Illinois expedition
6. Possible Wilds (Topeka, Kansas) expedition
7. Double. Sec 1.1 mag fainter than pri. Not clear if 7.4 is pri or comb mag. If the former, final R of sec might be seen with an 8-inch, otherwise with a 10-inch. Sec immersed about 4 seconds deeper than pri.
8. Possible Fox (twin cities of Minnesota) expedition
9. Possible Parmentier (Green Bay, Wisconsin) expedition
10. NCR exit point taken as west side of Lake Michigan
11. Possible Olsen (Cedar Rapids, Iowa) expedition
12. Possible Harvey (Omaha, Nebraska) expedition
13. Possible Clark (St. Louis, Missouri) expedition

CONVENTION PAPERS

Roland Christen (Rockford) described an automatic guiding system for astrophotography. The system utilizes two prisms to split the image of the guide star. Each resulting image is focused on a blue-enhanced silicon diode detector coupled to an operational amplifier which activates motor drives on both axes.

Udo Schlegel (Rockford) presented plans for construction of a variable frequency drive corrector. While showing slides taken during operation of the corrector, he commented that Fujichrome appears to have a low reciprocity failure compared to other color film.

Thomas Renner (Milwaukee) discussed the design and construction of a photoelectric photometer for a newtonian instrument.

Harold Stelzer (Chicago) urged amateurs to participate in solar observing programs. He particularly recommended the use of "Solarscreen" material for full aperture, direct viewing.

Rollin Van Zandt (Peoria) talked about past and future pole stars as he described and demonstrated precession. He pointed out the seldom recognized fact that NGC-4623 lies at the north pole of the precessional circle, while the Large Magellanic Cloud is near the south pole.

Daniel Joyce (Chicago) showed several slides taken during a trip to the University of Arizona Optical Sciences Center. He also described some of the testing methods used on large telescope mirrors.

Joseph Kis (Racine) described the construction of a large, analemmic sundial. His discussion, which included descriptions of the various types of sundials, was interspersed with bits of original poetry.

Edward Halbach (Milwaukee) reviewed the eclipsing binary program of the AAVSO and illustrated the efforts of Milwaukee observers in that program. All observations are visual and, with training, an observer can follow several stars during a night and observe minima for them all.

Carol Beaman (Rockford) discussed the Rockford society's efforts at community service. Besides sponsoring an astronomy Explorer Post for the Boy Socuts, the club is actively involved in fund raising for a community planetarium. While planning for a large planetarium, society members serve almost 1000 visitors a month in a small planetarium which seats only 20 at a time!

Roger Kolman (Chicago) proposed a new method for measuring the maxima of partial solar exclipses.By measuring the chord subtended by the arc of the occulting lunar disc,the observer will find that the chord will reach a maximum length when the sun is at maximum coverage.

James Kloeppel (Sioux City) detailed the construction of a meteor observing station. The plywood station allows Jim to observe meteors in comfort, even on cold winter nights.

Berton Stevens, Jr., (Chicago) gave several tips on astrophotography. His recommendations were illustrated by various slides taken by him.
(cont. p. 4)

MEETING (cont.)

Chairman Fox explained the Astronomical League dues had been increased from 25¢ to 50¢ per member.

It was decided not to accept the region's rebate from the Astronomical League for this year.

Roger Kolman moved that we accept Madison Astronomical Society's invitation to hold the 1976 Regional Convention in their city. It was seconded by Barry Beaman and approved.

Sioux City, Iowa gave a tentative invitation for the 1977 convention.

Homer DaBoll presented the nominating committee's slate of officers for 1975-1976. They are:
Chairman: William Du Vall, Racine Astronomical Society
Vice Chairman: Sigmond Kaye, Palos Observatory Astronomy Society
Secretary Treasurer: Ronald Jones Racine Astronomical Society
A unanimous ballot was cast individually for each officer.

NOTE

James Fox stated Northern Lights would not be sent to individual members because of cost.

Bill Du Vall explained that the improvement in the "Reflector" was part of the reason for the Astronomical League's dues increase.

Roger Kolman suggested that the national committee should lobby to obtain funds from the National Science Foundation for scientific projects. This was discussed at length and no conclusion was reached.

Barry Beaman moved we adjourn. It was seconded and carried.

The meeting was adjourned at 3:35 P.M.

Respectfully submitted,
Ron Jones, Secretary

PAPERS (cont.)

Dr. Sherman Schultz, Jr. (St. Paul) presented a movie "The 1973 Eclipse as Seen from the Canberra." Besides the eclipse itself, the movie provided a glimpse of life aboard a cruise ship (luxurious!) and some interesting sidelights at the ports of call. True "movies" were effectively combined with "stills" to give a complete picture of a unique experience.

The banquet speaker was Dr. J. Allen Hynek, Chairman of the astroomy department at Northwestern University. Dr. Hynek's topic, "A Fight for Photons," described the pioneering work at Northwestern in developing the image orthicon tube in conjunction with a telescope.

The image tube concept combines the integrated response of a photographic plate with the low-light sensitivity of a photo multiplier. Acting as a very sophisticated television camera, the image tube transfers the telescopic image electronically to a TV monitor where it can be examined visually or, more often, photographed. Although the scan lines of the TV screen tend to limit resolution of detail, the system is unexcelled at detecting faint sources. Comparison slides shown by Dr. Hynek illustrated that a 16" telescope equiped with an image orthicon system could record in a few second's integration what large telescopes reveal over an hour's photographic exposure!

The rising costs of publishing this newsletter require that the subscription price be increased. Effective with the next (September) issue, vol. 5, no. 1, individual subscriptions will be $1.50 per year. Group subscriptions to organized astronomy clubs are still available at substantial savings. Interested societies are invited to contact the editor at the address listed in the masthead.

AUGUST 25 IS DEADLINE FOR SEPTEMBER ISSUE