NORTH CENTRAL REGION

NORTHERN LIGHTS

Published quarterly in September, December, March and June

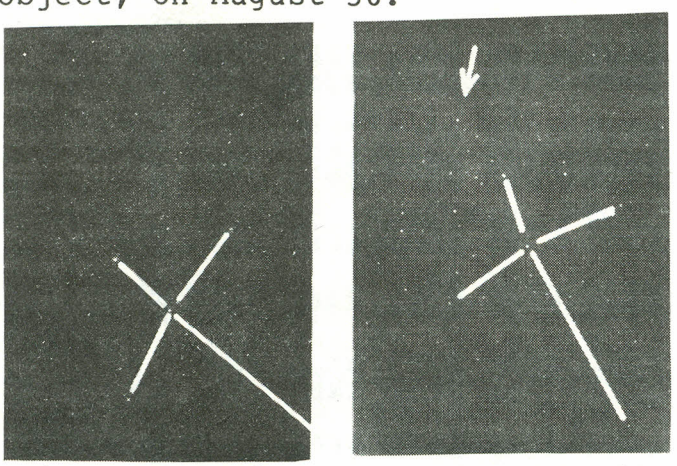
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Volume V | September 1975 | Number 1

NOVA CYGNI 1975

During the last week of August a nova exploded in the constellation Cygnus. Coordinates 21h09.9m, +47° 57 , place the "new star" about 5° north and a little east of alpha Cygni, Deneb. Members of the 3M Club Astronomical Society first learned of the nova via the club s telephone "hot line" from Roger Lange, first club member to see the object, on August 30.



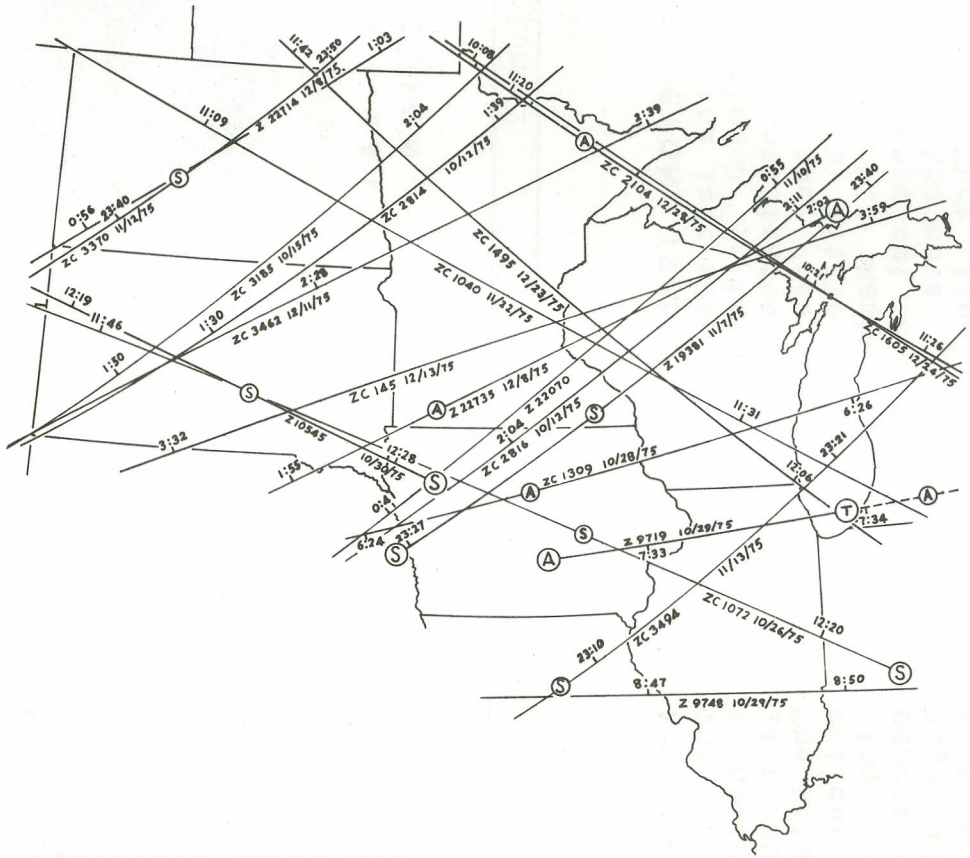
Prior to flaring the star was fainter than magnitude 20 since no star could be located on the Palomar Sky Survey prints at the position of the nova. The maximum brightness indicates a magnitude excursion of at least 19 magnitudes which suggests the star is a possible supernova. However, the various spectra obtained so far are more typical of a nova than a supernova. Violet shifted absorption lines indicated that on August 30 the nova was expanding at 1500-2000 km/sec.
(cont. p. 3)

NATIONAL CONVENTION

The national convention of the Astronomical League was held August 14 through 16 in Atlanta, Georgia. The Atlanta host society did an excellent job to provide a smooth running convention. While the amateur papers were generally excellent,the highlights were provided by the invited papers given by professional astronomers.

As often happens, the business meetings and Council sessions included lively and heated debate. Proposed By-Laws revisions were thoroughly discussed as were League financial problems and election procedures. A resolution of no confidence in the Executive Secretary was defeated. Officers elected for the coming year are: President - R.P. VanZandt; Vice President - R.P. Maag; Secretary - E.M. Robson; Treasurer - F. D. Cecil.

A League Sales Office has been created to handle the sale of any item bearing the League symbol. Chairman of this office is L.B. Abbey, 3204 La Vista Rd., Decatur, GA 30033. Mr. Abbey is currently offering T-shirts @ $3.95 each; posters with peel off adhesive back @ $2.; postcards @ 25¢ each. All items display the League emblem. Watch for announcements of other items in the Reflector.



REGIONAL GRAZE MAP

FOURTH 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 possible information on an expedition already in your area, or order predictions ($1.50 per set; give star number, date, and approximate longitude of proposed observation) from Berton Stevens, 4032 N. Ashland Ave., Chicago, IL 60613. To receive predictions on a regular basis, as well as other advantages, including Occultation Newsletter, send your annual $7.00 dues to Mr. Stevens. Please make all checks and money orders payable to IOTA.

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
10/12	ZC 2814	5.0	50%+	28,20	-12,-21	10S,10S	2"	A
10/12	ZC 2816	6.8	50%+	25,17	-25,-31	12S,11S	3"	B,1,2
10/15	ZC 3185	5.3	78%+	34,32	-17,-26	11S,11S	3"	C
10/26	ZC 1072	6.2	65%-	63,58	-19,+1	6S,10S	4"	D,3,4
10/28	ZC 1309	5.7	45%-	5,12	-61,-58	3N,2N	2"	E,5
10/29	Z 9719	7.8	34%-	7,12	-55,-51	0.7N,-0.1N	4"	5
10/29	Z 9748	8.5	33%-	22,26	-43,-40	2S,3S	6"	6,7
10/30	Z 10545	8.2	22%-	33,41	-13,-5	8S,9S	5"	
11/7	Z 19381	7.3	23%+	26,18	-3,-13	9S,9S	3"	1
11/10	Z 22070	7.8	43%+	33,25	-17,-25	10S,10S	6"	1,2
11/12	ZC 3370	6.2	71%+	29,31	-2,-9	6S,7S	4"	F
11/13	ZC 3494	4.6	79%+	33,35	-4,-9	7S,8S	60 mm	4,5,7
11/22	ZC 1040	6.2	87%-	55,45	-31,-14	4S,6S	6"	H,1,8
12/8	Z 22714	8.0	26%+	27,21	-17,-23	7S,6S	5"	
12/8	Z 22735	8.5	26%+	19,10	-32,-40	7S,5S	6"	1
12/11	ZC 3462	7.5	54%+	45,33	-31,-44	8S,5S	6"	
12/13	ZC 145	6.7	73%+	52,39	-47,-60	4S,0.4S	6"	J,1
12/23	ZC 1495	5.9	73%-	44,43	-26,-13	4S,4S	4"	K,1,5,8
12/24	ZC 1605	6.2	63%-	39,45	-39,-31	4S,5S	3"	L
12/28	ZC 2104	7.5	19%-	10,17	-28,-21	3S,4S	4"	

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.

NOTES:

A. 43 Sagittarii
B. Double: 6.8 & 9.5; 39".7 at 159°.0
C. 46 Capricorni
D. 110 B. Geminorum
E. 45 A^1 Cancri. Double: 6.4 & 6.4; sep 0".05
F. 6 G. Piscium
G. Lambda Piscium
H. 74 B. Geminorum. Double: 6.8 & 7.0; 1".5 at about 240° or 250°
J. 180 B. Piscium
K. 19 Sextantis
L. 62 Leonis

1. Possible Fox (Twin Cities of Minnesota) expedition
2. Possible Harvey (Omaha, Nebraska) expedition
3. Possible Olsen (Cedar Rapids, Iowa) expedition
4. Possible Benjamin (Peoria, Illinois) expedition
5. Possible Northeastern Illinois expedition
6. Possible Wilds (Topeka, Kansas) expedition
7. Possible Sandy (Kansas City, Missouri) expedition
8. Possible Milwaukee, Wisconsin expedition

SLIDES FROM B/W NEGATIVES

by Berton Stevens, Jr.

In deep-sky astrophotography, the main villain is reciprocity failure. This insidious evil eats away at the latent image on your film as it attempts to capture the few photons coming from a faint galaxy.

Only a few methods will defeat the villian. Treating the film with ammonia, baking it for hours in an oven, and other methods of hypersensitization are chancey at best for the amateur. The cold camera seems to work fairly well, if you can construct one, and then get the dry ice or liquid nitrogen to run it. The final method is the use of spectroscopic films.

These films are designed to stop reciprocity failure before it gets in the front element of your camera. The only problems with the film are its cost and its limit to a B&W negative format.

If you are willing to accept the expense and the B&W part, you will still want to show your precious photos (after an hour of guiding, you better believe they are precious). The easiest method of showing your photo to a large group is via slides. Passing around a print is bound to get finger prints all over it, at the very least. Photographic paper has a very narrow latitude, and the delicate wisp of interstellar gas may be lost among the light pollution.

How can a negative on spectroscopic film be made into a slide which will not only be projectable, but will have a wide latitude and higher contrast? Compared to a negative, a slide is extremely high contrast. The logical choice for a film to use for reversing the negative is High Contrast Copy. The improved version produces extremely high density exposed areas, and the base is completely transparent.

This procedure assumes you have an enlarger and a camera with through-the-lens meter. Set up the camera under the enlarger so that you can focus the enlarger onto the film plane of the camera. (A slide duplicator can also be used if the negative is first mounted in a 2x2 frame - ed.)

Since most enlargers will not focus for a 1x copy, try taking off the enlarger lens and using a macro-lens to focus the image. An alternative is to place a close up attachment on either lens and remove the other. Finally, try putting an extender on the enlarger lens.

Once you get a focus, load the camera with High Contrast Copy (HCC). Set the light meter at 32 ASA. Now make a series of exposures from zero to +1 f-stop in 1/4 stop intervals and from +1 to +3 in 1/2 stop intervals. You can do any number of negatives on the same roll.

Process the HCC in D-19 (the same developer as used with the spectroscopic film) as recommended in the instructions packed with the film. After the film has dried, examine it and pick the slide with the best detail, and the darkest background. Remember that the background must stop the light from a brilliant projection bulb. Mount the best frame and there you have it. Sit back and enjoy your own intergalactic slide show!!

NOVA (cont.)

Prediscovery photographs place the nova at magnitude 16 on August 12, magnitude 7.5 on August 29. The following magnitude estimates were provided by various members of the 3M Club A.S. and the Twin City Astronomy Club: Aug. 30, 1.3-1.6; Aug. 31, 1.5; Sept. 1, 2.5-3.0; Sept. 3, 4.5-5.0; Sept. 5, 5.5-6.5.

I.O.T.A. FORMED

International Occultation Timing Association is a dues supported organization which observers will have to join to receive occultation predictions on a regular basis. Privileges include a subscription to Occultation Newsletter, predictions for special events an special papers when published (eg,zodiacal double stars). Annual dues are $7 for residents of USA, Canada and Mexico; $9 for others.

At the organization meeting in Highland Park, Illinois, on July 26th, formal incorporation was decided against for now. The following officers were established: President and Scientific Director, David W. Dunham; Vice-President and Publications Chairman, John D. Phelps,Jr.; Secretary, Berton L. Stevens, Jr.; Treasurer and Occultation Newsletter Editor, Homer F. DaBoll. All correspondence and requests for information should be directed to Mr. Stevens, 4032 N. Ashland Av., Chicago, IL 60613.

There continues to be no charge for occultation services provided by organizations other than IOTA. Detailed total occultation predictions will still be computed by US Naval Observatory and Royal Greenwich Observatory.

Occultation Newsletter is also available on a subscription basis to non-members of IOTA. This quarterly publication provides hints to observers, recounts successful observations and lists newly discovered zodiacal double stars. It deal with all aspects of occultation observing. Interested persons should contact H.F. DaBoll,6N106 White Oak Ln., St. Charles, IL 60174, for current subscription prices.

APOLLO - SOYUZ

After several years of ho-hum attitude toward manned spaceflight, public interest revived during the Apollo-Soyuz Test Project (ASTP). John D. Phelps, Jr., (Argonne A.C.) provided ballpark ephemerides to amateurs in Chicago, Milwaukee, St. Paul and Cincinnati. In addition, many local newspapers obtained visibility predictions from NASA.

On July 18th nearly 300 persons observed the docked spacecraft rise in the northeastern sky during the first annual DuPage County Forest Preserve District Astronomy Nights. These sessions are hosted by Frank Klicar, a forest ranger who is also an amateur astronomer (Argonne AC). After the ASTP passage the guests were shown a variety of astronomical objects through telescopes provided by members of Argonne and Naperville societies.

In Minnesota, James Fox (Twin City A.C.) observed ASTP while on a live telephone hook-up with a local radio station. Other observers in Moorehead, Minnesota, and LaCrosse, Wisconsin, were also tied in to the broadcast as the spacecraft was tracked across the state.

Members of the public were seen watching the spacecraft from backyards, parks and roofs of their houses. Not since the days of Sputnik and Echo has public interest in a spacecraft been expressed so intently. ASTP marked the end of the U.S. manned spaceflight program in Apollo-class spacecraft. No further manned flights are planned until the space shuttle becomes operational later this decade.

NOVEMBER 25 IS DEADLINE FOR DECEMBER ISSUE