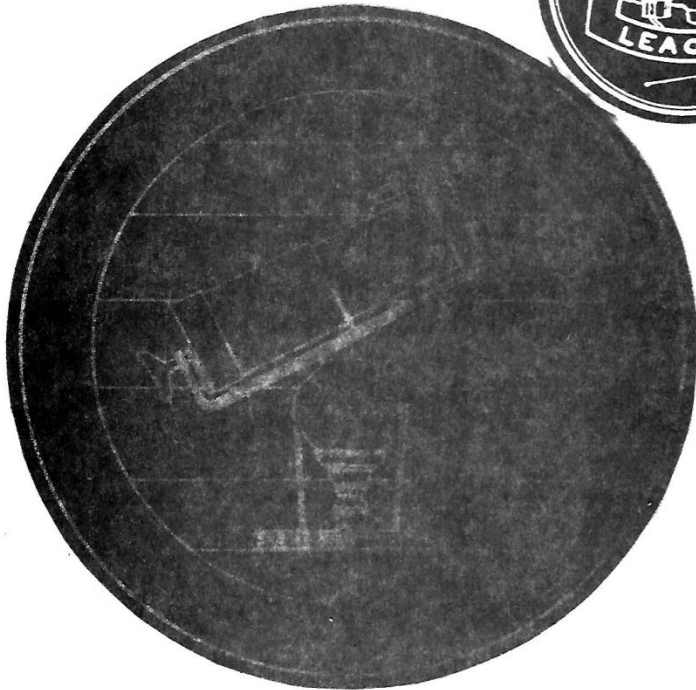


march

Lhr



WASP

1974  
S M T W T F S  
3 10 17 24  
4 11 18 25  
5 12 19 26  
6 13 20 27  
7 14 21 28  
8 15 22  
9 16 23

# MARCH 1974

1974  
S M T W T F S  
1 8 15 22 29  
2 9 16 23 30  
3 10 17 24  
4 11 18 25  
5 12 19 26  
6 13 20 27

SUNDAY MONDAY TUESDAY WEDNESDAY THURSDAY FRIDAY SATURDAY

GOOD  
LUCK  
KENT  
KELLY

IN  
LOS  
CRABES

NEW  
MEXICO!

1 Kalamazoo  
Astro Society  
meeting  
8:00 P.M.  
D.A.S. meeting  
FIRST QUARTER

2 OCCULTATION  
Saturn  
0.00

3  
4  
5  
6  
7 Mission  
Club  
8:00 P.M.  
791-8752  
INFO.

8 D.A.S.  
776-9720  
FULL MOON  
INFO.

10  
11  
12  
13  
14 ASTRO.  
PHOTO  
MEETINGS  
8:00 P.M.  
776-9720

15 D.A.S.

16

17  
18  
19  
20  
21 D.A.S.  
General  
meeting  
8:00 P.M.  
791-8752

22 D.A.S.  
GRAND  
RAPIDS  
MEETINGS

23  
NEW MOON

24  
25 The  
26 Tanager  
27 Astroinformatics  
28 Society  
29 Calendar  
30  
31  
FIRST QUARTER

THE SCULPT STUDIOS  
ANNAPOLIS VA

## A LETTER FROM THE EDITOR

I have been a member of the Warren Astronomical Society for almost five years now. In all of those years, I can't remember a time when the W.A.S. was more active than it is now. Attendance at the general meetings is always over 30 and the January meeting had more than 50 in attendance. We will be the co-host of this year's national Astronomical League convention. And, we are currently in the process of improving the facilities at Stargate Observatory.

After Stargate W.A.S. completed in 1970, very little else was done to the observatory. But, in the last year, a den of eager beavers has taken up activities at Stargate. These beavers (Pete Kwentus, Louis Faix and others) have installed a new oscillator for the clock drive; added a slow-motion to the declination axis of the 12½"; re-aluminized the mirror; added a 3" guide scope; constructed an eyepiece case; and reorganized the group demonstration program. Much more is planned. For example, a floor is going to be put in soon. If you want to help in improving our observatory, YOUR observatory, contact Pete or Louis or any W.A.S. officer.

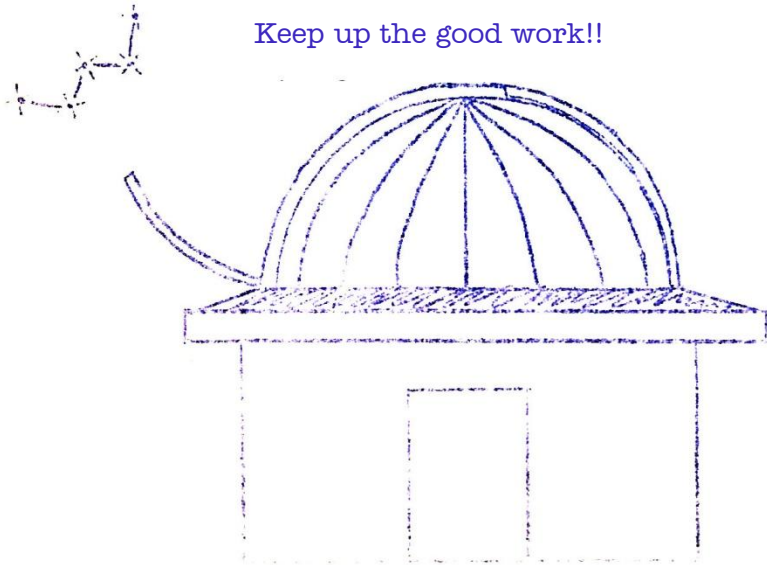
The interesting fact about the activity in our club, Stargate and everything else, is that not just one individual is responsible for this activity. We have a core group of several members, instead of just one, that keep the W.A.S. alive and active. And, interestingly enough, most of these members are relatively new ones. In the long run, I think that this can only be for the best; The W.A.S. will not be dependent on any one person for its continued success.

Keep up the good work!!

Clear skies and good observing.



Ken Wilson, co-editor-W.A.S.P.



# OBSERVATIONAL ASTRONOMY

BY

Frank McCullough

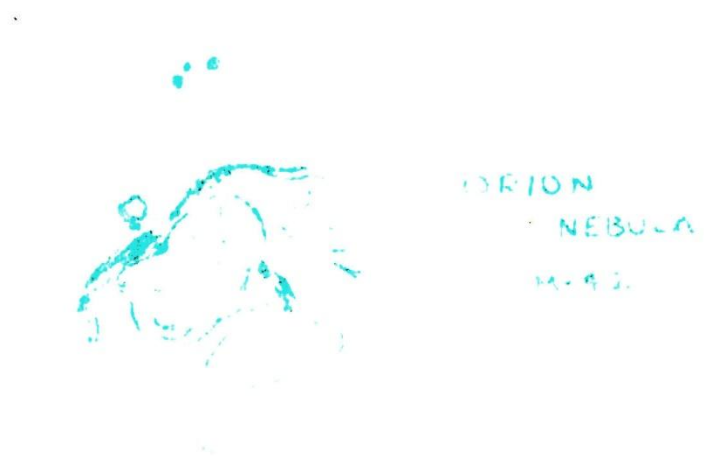
## The Orion Nebula (M42)

Even though this is one of my earliest findings, this object never quits amazing me with its quiet but fury looking appearance. How can one overlook this object each winter as it makes its way across the cold night sky?

Pete Kwentus and myself have been working diligently taking pictures of the Messier objects with the Schmidt camera, one of these objects happens to be M-42. To the eye it appears as a greenish swirling gas cloud speckled with stars of various brightness and of course the star group known as the Trapezium found in the center of the gas. On film the nebula takes on a reddish appearance, strikingly different from the green the eyes have recorded.

One of Pete's and my best shots was taken with a 300m.m. f4 objective. We used Fujichrome 100 film, with an exposure time of 15 minutes.

M42 is the brightest of the galactic nebula and according to modern theory, nebula of this type are the birthplace of stars, and it seems to be very well established that fresh stars are being produced in the nebula at this very moment, yet the process is a very slow one by our standards.



## Stargate Observatory Committee

Mr. Bloom- Camp Rotary

### Lecturers:

Pete Kwentus – Chairman	7713283*
Frank McCullough:	7918752*
Dave Harrington	7551857*
Louis Faix:	7813338
Larry Kalinowski:	7769720
Roger Civic:	7756634
Don Mission:	7760424

### Assistant Lecturers:

Tony – Angie Bommarito	8840528
Bill – Linda Snyder	3322083
John Okra	4636020
Bev Bock	7815286
Doug Bock	7815286
Mark Taylor	4653880
Steve Smith	4683509

Contact \* names for keys to use at Stargate Observatory.

---

### FOR SALE

6" f8 REFLECTING TELESCOPE

EDMOND MOUNT \*\* CLOCK DRIVE

WIDE FIELD ILLUMINATED RETICULE \*\*\* CHART LIGHT

INFO: CALL FRANK 791-8752

\*\*\*\*\*

### For 10" Telescope

Wanted

Sturdy mount with drive.

Contact Lou: 781-3338



WARREN ASTRONOMICAL SOCIETY  
CLUB ROSTER

<u>NAME</u>	<u>ADDRESS</u>	<u>CITY</u>	<u>ZIP</u>	<u>TELEPHONE NUMBER</u>	<u>RENEWAL DATE</u>
Alyea, Gerald	4419 Sudbury	Warren,	48092	751-4115	1-74
Baldwin, Jean	4041 Hillcrest	Warren,	48093	CO4-4082	6-74
Bishel, Richard	16773 Sprenger E.	Detroit	48021	777-8322	5-74
Bock, Beverly & Doug	58180 Romeo Plank Rd.	Washington	48094	781-5286	5-74
Bommarito, Tony & Angie	5117 Chatsworth	Det.,	48224	884-0528	7-74
Bryant, Steve	3112 Ferncliff	Royal Oak,	48073		8-74
Butley, Martin	30205 Lund	Warren,	48092	758-6755	
Civic, Roger	26335 Beaconsfield	Roseville		775-6634	11-74
Cottrell, Janice	5114 Lyons Circle	Warren,	48092	264-2064	
DiMaria, Donald & Frances	15821 Parkgrove	Det.	48205	371-2441	9-74
Edsall, Chris	24412 Curie	Warren,	48091	755-9683	
Faix, Louis	6088 Robin Hill Rd.	Washington	48094	781-3338	10-74
Francis, Gene	11115 Gerald	Warren,	48092	754-2805	
Grence, Donald	14096 LaChene	Warren,	48093		9-74
Harrington, David	26612 Karen,	Warren		755-1857	
Helfenstein, Paul	11562 Meadowbrook	Warren,	48093	755-9218	3-74
Jozwik, Dennis	11330 Ford	Warren		754-2037	
Kalinowski, Larry	15674 Flanagan	Roseville,	48066	776-9720	12-73
Kelly, Ken	1410 S. Espina Apt. 6	Las Cruces	N. Mexico 88001		
Kwentus, Pete & Ron	22107 Melrose Ct E.	Det.	48021	771-3283	4-74
McCullough, Frank & Diane	34136 Clinton Plaza Dr.	Fraser,	48026	791-8752	8-74
Merritt, Jack	7 Oxford Rd Gr. Pte.,		48236	886-8297	4-74

Miller, Mark	13660 Penrose Ct. Warren, 48093	771-7454	11-73
Misson, Donald	23072 Beechwood E. Det., 48021	776-0424	3-75
Morin, Gary	29219 Roycroft Livonia, 48154	421-8310	6-74
O'Dell, Robert	34203 Garfield Cr. Fraser, 48026	294-1178	12-73
Ollila, Todd	4105 Dawson Warren, 48092	264-3378	7-74
Okroy, John	233 Euclid Mt. Clemens, 48043	463-6020	5-74
Persha, Jerry	1912 W. 12 Mile Rd. Royal Oak 48073	LI4-1571	6-74
Polus, Richard	11432 Meadowbrook Warren, 48093	755-4884	
Prebeck, Wayne	38105 Reimold Mt. Clemens, 48043	468-5260	9-74
Potter, Mike	3050 Beatrice Middleville, 49333	1-616- 795-7279	2-74
Rea, Ralph	35078 Quinton Mt. Clemens, 48043	791-6417	3-73
Roudebush, Walter	11228 Fairway Ster. Hts., 48077	264-0644	11-73
Rudrik, Dorothy	20825 Walton St. Clair Sh., 48081	773-0488	11-74
Salusky, Tim	14105 Melva Warren, 48093	773-3354	12-73
Schultz, William Jr.	2400 Buckingham Birmingham, 48008	644-7146	12-73
Skonieczny, Tim	28819 Gilbert Warren, 48093	751-2649	
Smith, Steven	18776 Monica Dr Mt Clemens, 48043	468-3509	
Snyder, Bill & Lynda	77 E. Sheffield Pontiac, 48055	332-2083	11-74
Strong, Paul	20054 15 Mile Rd Mt. Clemens, 48043	791-2323	2-74
Taylor, Mark	19851 Thousand Oaks Mt. Clemens, 48043	465-3880	12-73
Ther, David	14758 Shirley Warren, 48089	777-1857	
Thomas, Kay	24019 Harvard Shores St Clair Sh. 48082		11-73
Thompson, Robert	19100 Filmore Southfield	354-8500	3-74
Valka, Frank	50 Fontana Grosse Pte. Sh.	TU4-9523	10-73

Wilson, Kenneth	1157 Grenada Ster. Hts., 48077	268-9337 School 1-764-0623	11-73
Winters, Bill	1046 Bristol Ct. Northville, 48167	349-3892	8-74
Whitney, William	3034 Marais Royal Oak, 48073	588-1781	11-74



## Warren Astronomical Society Award Certificates

The following certificates are designed to encourage and recognize efforts on the part of our members to: improve their observing skills, improve their knowledge of astronomy (general and amateur), and increase their participation in our club. They are intended only for those interested in obtaining them. No one should feel obligated to participate.

Listed below are the guidelines for the awarding of these certificates. Exceptions, additions and final decisions will be made by the two judges: Pete Kwentus and Dave Harrington (currently the Vice Presidents of the W.A.S.). Where point values are bracketed, the judges will decide the awarded value based on quality and effort. Any proposals for new Certificates or point categories will be considered by the judges. Cumulative point totals will be published in the W.A.S.P. except for those not wishing theirs published. Observations, photographs and optical constructions made before the initiation of this program will be accepted with sufficient documentation. Any questions may be directed at the two judges.

I.) STARGAZER MINOR- Accumulate 15 points from the list below.

II.) STARGAZER MAJOR- Accumulate 50 points from the list below.

1.) From memory, know and be able to identify by name constellations.

(1 point each)

2.) From memory, know and be able to identify by name stars. (1 pt. each)

III.) OBSERVER 3RD CLASS: Pass Stargazer Major and accumulate 20 points from the list below.

IV.) OBSERVER 2ND CLASS: Pass Stargazer Major and accumulate 100 points from the list below.

V.) OBSERVER 1ST CLASS: Pass Stargazer Major and accumulate 230 points from the list below.

VI.) ADVANCED OBSERVER: Pass Stargazer Major and accumulate 360 points from the list below.

1.) Observe and draw, through a telescope, the following: the moon, Saturn, Jupiter, Mars, Venus and sunspots. (1-5 pts. each)

2.) Observe with a telescope and record (record here and elsewhere will mean: date, time, place, instrument and power, description of object) Messier or other deep sky objects. (1 pt. each, 20 pts. extra for having observed and recorded all 107 Messier objects)

3.) Observe a meteor shower and record the hourly rate for three hours. (7 pts, no duplications)

4.) Participate in a Messier Contest. (5 pts each)

5.) Observe and plot (with descriptions) on a star chart at least 15 meteors during a meteor shower. (10 pts, no duplications)

6.) Observe and record the magnitude variations of a variable star over a one month period. (25-35 pts, no duplications)

7.) Make a drawing of any Messier or other deep sky object. (3-7 pts, each)

8.) Observe and record a stellar occultation. (20 pts. no duplications)

9.) Demonstrate that you know how to use setting circles to find celestial objects. (40 pts. no duplications)

10.) Demonstrate that you know how to collimate a reflecting telescope. (30 pts, no duplications)

- 11.) Demonstrate that you know how to align a finder scope with its main telescope. (15 pts, no duplications)
- 12.) Observe and accurately time a stellar occultation. (40 pts, no duplications)
- 13.) Observe and record: Aurora Borealis (25 pts.), Zodiacal Light (30 pts.), or Gegenschein (35 pts.) No Duplications.
- 14.) Observe and record double stars using telescope. (1 pt each)
- 15.) Observe, record and chart, over a one month period, any comet (30 pts., no duplications)
- 16.) Observe, record and chart, over a three month period, any planet. (25-35 pts., no duplications)
- 17.) Observe, record and draw a lunar crater over fourteen successive days of sunlight. (30 pts., no duplications)
- 18.) Observe, record and chart sunspots for a one month period, any comet (30 pts., no duplications)
- 19.) Observe and record eclipses. (Partial lunar-20 pts, Total lunar-30 pts, Partial Solar- 25 pts, Total Solar- 35 pts. No duplications)
- 20.) Observe a planetary occultation. (30 pts, no duplications)
- 21.) Lecture or demonstrate at Stargate Obs. (5 pts each time)
- 22.) Demonstrate that you know how to use Stargate Obs. (20 pts, no duplications)

VII.) ASTROPHOTOGRAPHER MINOR - Accumulate 35 points from the list below.

VIII.) ASTROPHOTOGRAPHER MAJOR- Accumulate 185 points from the list below.

- 1.) Photograph circumpolar or equatorial star trails (1 pt each, , no duplications)
- 2.) Photograph the moon, entire visible disk. (5 pts, no duplications)
- 3.) Photograph one or more craters on the moon using an effective focal length  $\geq 100$  inches. (10 points, no duplications)
- 4.) Photograph a constellation using an instrument with a focal length  $\leq 60$ mm. (5 pts., 10 pts, if guided longer than 5 min., no duplications)
- 5.) Photograph any of the following looking through a telescope: Jupiter, Saturn, Venus, Mercury, Mars or sunspots. (5-10 pts., no duplications)
- 6.) Photograph a celestial object using all of the following systems: prime focus, afocal, and projection. (30 pts, no duplications)
- 7.) Photograph an aurora (20 pts, no duplications)
- 8.) Photograph zodiacal light. (25 pts., no duplications)
- 9.) Photograph Gegenschein. (30 pts., no duplications)
- 10.) Photograph Messier or other deep sky objects. (5 pts. each if inst. f.l.  $\leq 60$ mm; 10 pts. each if inst. f.l.  $\leq 135$ mm; 15 pts. each if inst. f.l.  $\leq 200$ mm; 20 pts. each if inst. f.l.  $\leq 500$ mm; 25 pts. each if inst. f.l.  $> 500$ mm. 10 extra points if the photograph has been accurately guided longer than 5 min.
- 11.) Photograph a stellar occultation. (20 pts., no duplications)
- 12.) Photograph a planetary occultation. (30 pts., no duplications)
- 13.) Photograph a solar transit. (20-30 pts., no duplications)
- 14.) Photograph an eclipse. (25 pts. for partial lunar and partial solar, 30 pts. for total lunar, 35 for total solar, no duplications)
- 15.) Photograph a comet. (same point scale as #10)

IX.) AMATEUR TELESCOPE MAKER-Accumulate 25 points from the following list:

- 1.) Grind and polish a telescope objective and complete a telescope and mount for it. (3" = 5 pts., 4(?) = 10 pts., 6" = 15 pts., 8" = 20 pts., 10(?) = 25 pts., 12(?) = 30 pts.)
- 2.) Construct some other sort of optical apparatus. Points will be determined by the judges.

X.) SPECIAL MERIT AWARD-This certificate will be awarded to those individuals who have made significant contributions to the Warren Astronomical Society. Any member or group of members may nominate someone for this award; Nominations will be considered by the judges and approved or rejected.

NOTE: The above certificates may change at any time. The judges will be aware of any changes and every effort will be made to publish updates in the W.A.S.P. as they occur.

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"Nature and Nature's Laws lay hid in night;  
God said 'Let Newton be!' and all was light."  
-Pope

"The greater the sphere of our knowledge, the larger is  
the surface of its contact with the infinity of our  
ignorance."

"A man said to the universe: 'Sir, I exist!'  
'However,' replied the universe,  
'That fact has not created in me  
A sense of obligation.'  
-Stephan Crane

"I believe a leaf of grass is no less than the  
journeywork of the stars."  
Walt Whitman, Leaves of Grass

"The heavens declare the glory of God."  
-Stellafane

Astro-Almanac  
By  
Kenneth Wilson

MARCH /	EVENT
1	Twilight begins: 5:03-ends: 19:25 (LMT); First Quarter Moon at 13:03.
2	Mercury 4° N. of Jupiter at 11:00, Moon 0.6° N. of Saturn at 18:00-Occultation.
3	
4	
5	
6	Lunar Perigee (225,530 mi.) at 1:00
7	
8	Full Moon at 5:03, Mercury stationary at 22:00
9	
10	
11	Moon 5° S. of Uranus at 4:00, Twilight begins: 4:45-ends: 19:38 L.M.T.
12	Neptune Stationary at 12:02.
13	
14	Moon 3° S. of Neptune at 9:00.
15	Last Quarter Moon at 14:15, Mercury at 220211 42, Venus at 204414 21 (mag. -4.3), Mars at 042723 20 (mag. +1.2), Jupiter at 221511 41 (mag. -1.6), Uranus at 134109 51, Neptune at 163320 69.
16	Mercury at descending node.
17	Mars 7° N. of Aldebaran at 9:00, Lunar apogee (251,550 mi.) at 21:00
18	
19	Moon 0.9° N. of Venus at 17:00.
20	Vernal Equinox at 19:00 spring begins.
21	Twilight begins: 4:25-ends: 19:52, Mercury 0.1° S. of Jupiter at 11:00, Moon 6° N. of Jupiter, Mercury at 12:00, Warren Astronomical Society General Meeting at 8:00 E.D.T.
22	
23	Mercury at greatest W. elong. (28°) at 15:00, New Moon at 16:24.
24	
25	
26	Pluto at opposition at 7:00
27	Mercury at aphelion
28	
29	Moon 1.1° S. of Mars at 5:00.
30	Moon 0.2° N. of Saturn at 1:00, First Quarter Moon at 20:44.
31	Vesta at opposition at 17:00, Twilight begins: 4:04-ends: 20:08 L.M.T.

NOTE: All times, unless otherwise noted, are in 24-hour E.S.T.

My surprise reached a climax, however, when I found that Sherlock Holmes was ignorant of the Copernican Theory, and of the composition of the Solar System. That any civilized human being in the nineteenth century should not be aware that the Earth traveled around the sun appeared to me to be such an extraordinary fact that I could hardly realize it.

“You appear to be astonished,” he said, smiling at my expression of surprise. “Now that I know it, I shall do my best to forget it...”

“But the Solar System!” I protested.

“What the deuce is it to me?” he interrupted impatiently: “you say that we go around the sun. If we went round the moon it would not make a penny-worth of difference to me...”

-Sir Arthur Conan Doyle. A Study in Scarlet