

# THE WASP

The Warren Astronomical Society  
P.O. Box 474  
East Detroit, Michigan 48021

## AUG 79



THE WARREN ASTRONOMICAL SOCIETY  
PUBLICATION



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## SOCIETY INFORMATION

The Warren Astronomical Society (W.A.S.) is a local, nonprofit organization of amateur astronomers. The Society holds meetings on the first and third Thursdays of each month. The two meeting locations are listed below:

1 <sup>st</sup> Thurs.	Cranbrook Institute Of Science 500 Lone Pine Road Bloomfield Hills, MI	3 <sup>rd</sup> Thurs.	Macomb County Community College – South Campus K Building 14500 Twelve Mile Road Warren, MI
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Membership is open to those interested in astronomy and its related fields. Dues are as follows and includes a year subscription to Sky & Telescope Magazine:

Student - \$11.00	College - \$13.00	Senior Citizen - \$15.50
Individual - \$18.00	Family - \$23.00	

## STARGATE LECTURE SCHEDULE

Chairman- Frank McCullough-725-4736

Lectures are given at Stargate Observatory each weekend. The lecture will be either Friday or Saturday night, depending on the weather and the lecturers' personal schedules. If you cannot lecture on your scheduled weekend, please call the Chairman as early as possible so he may arrange for a replacement. Those wishing to use Stargate must call by 9:00 p.m. on the evening they plan to go out. The lecturers for the coming month are as follows:

Aug 3/4	.....Frank McCullough, 725-4736
Aug 10/11	.....Don Mission, 727-9083
Aug 17/18	.....Jeff Stanek, 751-1673
Aug 24/25	.....Ray Bullock, 879-9458

# WAS Exchange

FOR SALE. . . Cave 12½" transportable mounting with: slow motion on dec. (dec. motor needs replacement). Price - \$400.

10" f/4.9 mirror (needs final figuring) with: diag. (Coulter), tube & homemade cell. Price - \$75.

6" f/10 finished mirror. Price - \$20.

Fork for equatorial mount, laminated birch plywood, some holes. Price - \$15. Call Rik Hill, day 517-799-9390, nite 517-35-5548; or write 4503 E. Patrick, Midland, MI 48640.

FOR SALE. . . 3¼" f/11 refractor tube assembly, makes excellent guide scope. Price - \$175 or best offer. Unitron Unihex, will fit above. Price - \$44 or best offer. Call Bob Shannon, 885-4283.

FOR SALE- 6" reflector RV-6 Dynascope complete with four lenses- 30, 18, 12.5, 7mm; 2x Barlow, 6x30 finder, drive and setting circles.

Also . . . Tasco 50mm refractor with sun filter, two lenses, diagonal, and tripod.

Price \$210.00  
Call Dave Harrold, 391-0124, or write  
184 Hi-Hill Road  
Lake Orion, MI 48035

# EDITORIAL

By: Jeff Stanek  
Editor-WASP

Excuse me if I talk frank. The paper has been doing very poorly the past few months; for example, only two or three articles per month is not what I call a first rate paper. I remember not too long ago we used to have 9 or 10 articles a month in the paper. I know that summer fever is part of the cause, but it is not all to blame. When the editor does his job and puts out the cover and club news page, he does it regardless of the time of year it is!

When the editor tries and tries to get articles for the paper and still the people still don't come up with anything, he can only blame the people in the club who aren't producing. I despise pointing my finger at people but I am afraid this is the only way I can cure this problem. I go up to you people and ask for an occasional article or two, and everybody is eager and says yes, but I'll be darned if they all don't get lost in the mail or something. I don't have to mention names because I have asked just about all of you many times. I would understand if I was asking something impossible from you but I'm not, I am only asking for a one-page article!

WHAT TO DO??? Ask some more? No, you can only scream so loud before people plug their ears, Resign? No, I've worked too hard to resign after only one year of being editor but, if things don't improve, I might well have to, or, Assign articles, Maybe. A rather unsubtle way of getting articles, but I might have to do this. So, these are my main options, but, if you have any suggestions, please bring them to my attention. So, what I'm going to do is make a list of people who have been coming to meetings the past months and haven't written an article. This is merely a reminder list for the people whose name is listed to tell them that they haven't written an article in a while. The people are listed in alphabetical order for your ease in finding your name.

John Baditoi  
Mark Bieniek  
Doug Bock  
Ray Bullock  
Rick Carter  
Loreta Caulley  
Roger Civic  
Dave Dobrzelewski  
Lou Faix  
Dave Harrington  
Jim Hunley  
Dennis Joswik

Larry Kalinowski  
Pete Kwentus  
Dave Locke  
Paul Mainik  
Frank McCullough  
Don Mission  
Joe Manau  
John Rapin  
Bob Shannon  
Tim Skonieczny  
Paul Strong  
Bill Whitney

With some cooperation, we can get this paper going again.

THE FOLLOWING ARE THE MINUTES OF THE JUNE 21, 1979 MEETING OF THE WARREN ASTRONOMICAL SOCIETY:

The meeting opened at 8:20 p.m. with an announcement by President Dave Harrington that the summer solstice had occurred at 7:56 p.m. of that hour.

The date of the annual summer camp-out was disclosed. August 10 and 11 had been chosen as the dates for the annual affair which coincides with the Perseid Meteor Shower. Frank McCullough, observation chairman, asked that all lecturers should meet him in the hall during intermission. Judy Strong made a strong plea for volunteers to provide refreshments. Kim Dyer disclosed that Russ Carroll would be in Michigan on August 12 to 16 and August 20 and 21 for the purpose of conducting photometric studies.

Frank McCullough was presented with a Messier Certificate for observing all 107 of the required celestial objects. Kim Dyer requested a review of the procedures in Obtaining Messier Certificates. Dave noted that a log must be kept by the observer and subsequently be signed by an attending officer. Judy Strong then gave a Skylab update. Dr. Strong and Doug Bock set up the mechanical props which she used to document the path that Skylab would in probability take. She explained the risks where population is dense and that NASA had tried to improve the risk factor. It was learned that July 12 would probably be the descent date. Frank McCullough explained that a computer read-out would foretell the exact time of falling when the time became closer. It is expected to offer a spectacular show of first or second degree magnitude. Since its orbit had deteriorated, it was concluded that Skylab can't be saved.

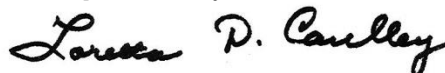
Brad Vincent requested more articles for the WASP. Anyone having a subject of interest was asked to put it down and send it in as soon as possible.

Pete Kwentus presented a film report on the Spring Campout, eclipse in Canada, the Macomb Auditorium showing last May, the Great Lakes Astronomical Symposium in Toledo and the Dayton Apollo Rendezvous. Our Society won the prize for best attendance. Awards were also very worthily picked up by Lou Faix, Rick and Delores Hill and John Searles. All slides were of their usual excellence as is Pete's custom. Mark Christianson and Gary Morin, notable visitors of the evening, were greeted officially by Mr. Harrington.

After intermission Roger Civic gave an unusual and educational talk with slides called: "Stereo Planetary Photography". He achieved great dramatic emphasis with innovative methods of presenting planets and their satellites. His light technical commentary was instructive and thoughtful. The final item on the evening's program consisted of a NASA film entitled "Space Navigation". It offered clever simulated action. Correcting errors in space, deep space tracking devices and techniques were outlined in the film. Projects for enhancing future accuracy were discussed. Trips of greater complexity are in the planning and the future looks interesting and rich in promise for space exploration, according to the film's narrator.

The meeting was closed at 10:45 p.m. by Mr. Harrington.

Respectfully submitted,



Loretta D. Caulley,  
Secretary

*IN LOVING MEMORY OF MY  
DEAR FRIEND, John Searles*

*Time had passed since last I saw you, but I looked forward to being with you again. You had often been in my thoughts, as I know I was in yours.*

*This is a tribute to you, John, for being a beautiful and loving person.*

*Your caring, kind, understanding, gentle, helpful, patient, generous, and humble ways, were possessed qualities that you are remembered for.*

*I met you at a convention in 1974. You were the one who was there to lend a helping hand, even though you were never asked.*

*There are many times you reassured me with a smile and a warm touch, that your feelings were with me.*

*I cannot say that I ever heard you utter a negative or bitter remark. You always seemed to look on the good side of everyone, and everything.*

*As if these natural presents were not enough, you often brought gifts that you had purchased for me. "anonymous" contributions were graciously accepted by fellow club members. Your time and money were often shared with others.*

*You worked hard at all you did, and were inspired by a deep sense of pride.*

*Last year, fellow amateur astronomers awarded you special recognition for your sincere efforts and accomplishments.*

*Your love for the stars, nature, and animals was a beautiful part of your existence.*

*I thank God that I was blessed with knowing you, and sharing some of my life with you.*

*May you be blessed in return with all the riches in God's Kingdom, that you are so deserving of.*

*written on July 6, 1979  
by: Diane Lee Bargiel  
Warren Astronomical Society*

## A Last Goodbye To Our Friend JOHN SEARLES

John Searles was one of those special people you had to respect, admire, and when you got to know him, love. John was the type of person who gave and gave and gave. He not only had a love for astronomy, but he had a love for people and especially his friends. John was a person I'll always remember as he would greet you with his blue jeans on, a simple loose sport shirt, a smile on his face, and his jovial "Hellooooo there!"

I was invited to his home, but never did I expect to see a large mansion he lived in. When I walked in his house for the first time, I was a little uneasy about meeting his parents. You would expect them to be a little stuck up or snobby or a bit Ta-Ta. I met them and found out why John was such a terrific person. The reason was, he had two of the warmest, kindest, and mannerly people a son could have. John carried these traits with him where ever he went.

Many good times John and the club had together, whether it be chasing eclipses in Mexico and Canada or the many campouts, star parties, conventions, or just the relaxed atmosphere of dining at Denny's and talking of the many exciting activities that lie ahead in the future. Well, the future is still ahead for us, and for the events John wanted to be a part of, he will not be left behind. John will always be a part of our conversation, and for the people he dealt closely with our excitement in promoting astronomy and personal friendship will stem from meeting and being a part of a person named John Searles.

John Searles passed away June 27th, 1979 at the age of twenty-eight years old. He was much too young to die and leaves us who were close with a lot of hurt and a touch of bitterness, knowing we cannot continue enjoying life and astronomy with a true friend. I'm sure we all hope and pray he is enjoying something much more pleasant than he had here on earth, and is having the mysteries of the universe unfold before him and know things we the common man will never know. A chance to meet his maker.

(John Searles continued )

There is much more that could be said about John, but no matter how much I write there would always be something I would miss, that only his friends, parents, relatives, and teachers would be able to tell you about him.

On behalf of the Warren Astronomical Society, we would all like to offer our deepest sympathy to Mr. and Mrs. Searles and to John we would like to extend a feeling of honor and love to you, for being a special part of us.

See ya later John!

Written by: Frank McCullough

On behalf of the members of the W.A.S.

## LUCID SPOTS AND CLOUDY STARS

By  
Paul Strong

If you pick up a modern book on general astronomy, you usually find about half the book devoted to solar system astronomy and the other half devoted to stellar astronomy. This was certainly not always the case. An examination of one of the most common adult science education books in eighteenth-century England, *Astronomy Explained on Sir Isaac Newton's Principles* by James Ferguson, shows that only 11 out of the 489 total pages was devoted to stellar astronomy. While the first edition of *Astronomy Explained* was published in 1756, an original 1770 edition of this book was recently analyzed. Ferguson's popular book continued to be published into the beginning of the nineteenth-century.

Chapter 20 "Of the Fixed Stars" in *Astronomy Explained* begins with a discussion of why it is known that the stars are at a large distance from us, as well as that they shine by their own light and not reflected light. Ferguson uses the fact that stars appear larger when viewed with the naked eye than when viewed through a telescope as justification for these statements. Next, the division of stars into the constellation groupings is listed. Ferguson's next discussion shows how little was known concerning the nature of the Milky Way:

*There is a remarkable track around the Heavens, called the Milky Way from its peculiar whiteness, which was formerly thought to be owing to a vast number of very small stars therein; but the telescope shows it to be quite otherwise; and therefore its whiteness must be owing to some other cause. This track appears single in some parts, in others double.*

Even less was known concerning two other celestial mysteries--"lucid spots" and "cloudy stars." You might find it interesting to identify the examples of these objects used by Ferguson:



*There are several little whitish spots in the heavens, which appear magnified, and more luminous when seen through telescopes; yet without stars in them. One of these is in Andromeda's girdle, and was first observed A.D. 1612, by Simon Marcus: it has some whitish rays near its middle, is liable to several changes, and is sometimes invisible. Another is near the ecliptic, between the head and bow of Sagittarius: it is small, but very luminous. A third is on the back of the Centaur which is too far South to be seen in Britain. A fourth of a smaller size is before Antinou's right foot; having a star in it which makes it appear more bright. A fifth is in the constellation of Hercules, between the stars  $\zeta$  and  $\eta$ , which spot though but small, is visible to the bare eye if the sky be clear and the moon absent.*

*Cloudy stars are so called from their misty appearance. They look like dim stars to the naked eye; but through a telescope they appear broad illuminated objects of the sky; in some of which is one star, in others more. Five of these are mentioned by Ptolemy 1. One in the middle of the Crab. 3. One unformed, near the sting of the Scorpion. 4. The eye of Sagittarius. 5. One in the first of these appear more stars through the telescope than in any of rest, although 21 have been counted in the head of Orion, and about 40 in that of the Crab. Two are visible in the eye of Sagittarius without a telescope, and several more with it. Flamsteed observed a cloudy star in the bow of Sagittarius, containing many small stars and the star  $\delta$  d above Sagittarius' right shoulder is encompassed with several more. Both Cassini and Flamsteed discovered one between the Great and Little Dog, which is very full of stars visible only by the telescope. The two whitest spots near the South Pole, called the Magellanic Clouds by sailors, which to the bare eye resemble part of the Milky Way, appear through telescopes to be a mixture of small clouds and stars.*

*But the most remarkable of all the cloudy stars is that in the middle of Orion's sword, where seven stars (of which three are very close together) seem to shine through a cloud, Very lucid near the middle, but faint and ill-defined about the edges. It looks like a gap in the sky, through which one may see (as it were) part of a much brighter region. Although most of these spaces are but a few minutes of a degree in breadth, yet since they are among the fixed stars, they must be spaces larger than what is occupied by our Solar System; and in which there seems to be a perpetual uninterrupted day among numberless worlds, which no human art ever can discover.*

An important initial step in identifying lucid spots and cloudy stars as galaxies, nebulae, and star clusters was to catalogue these objects in a systemic way. It was also in the 1770's, when the French astronomer Charles Messier found that in his effort to discover comets, he needed to identify the non-comet fuzzy objects in the sky. He compiled a list of over 100 diffuse objects, which is now known as the Messier Catalogue.

Messier was followed by William Herschel who initially compiled a list of 1000 nebulae and clusters. This list later included 2500 objects, and was even expanded further to include objects in the southern hemisphere by William's son, John. In 1864, John Herschel published the General Catalogue of Nebulae. J. L. E. Dreyer published in 1888 a still more extensive catalogue, A New General Catalogue of Nebulae and Clusters of Stars, the NGC. This was followed by two supplementary Index Catalogues, the IC's.

## Telescope Review

by Brad Vincent

This month marks the 2nd anniversary of my true commitment (for the second time) to amateur astronomy. The exact date was August 1, 1977 when I forked over the fruits of my part-time labor for an Astroscan 2001. just released a few months before by Edmund Scientific Company. The reason I say it's my second commitment is that I devoted my interests to astronomy once before in the middle sixties. My first telescope then was a Kmart Focal 20 x 30 mm hand telescope for \$4.88 plus tax. Call me a sentimental slob, I still have it!

I began with an Astroscan for three reasons. 1) it's a reflector, 2) ease of use and portability, and 3) I was able to afford it. At first I thought I would be disappointed at not being able to use high power. This was overcome at the beautiful views of the deep sky in remarkable brightness. Since I live near the parking lot of a school, my skies are never dark. Being an RFT, the Astroscan has really proved itself in these terrible skies. Due to the energy shortage. the lights in the parking lot are no longer turned on and the benefits on my behalf are priceless.

The maximum power I do achieve is 89X. I use a 2.5x Barlow and a 12.5 mm Orthoscopic eyepiece. This is as far as I would recommend, I cannot use the 12.5 mm by itself since the focuser won't rack in far enough to come to focus. The other eyepieces are an 18-mm Orthoscopic and the 28mm RKE, the later which came with the scope. Using the Barlow, I achieve the following powers; 16, 25, 40, 62, and 89. This is a nice range for the types of viewing most people do.

Not being satisfied with evening viewing, I bought some aluminized Mylar and made a solar filter. The sunspots come out great and under good conditions (no haze) rice grains can be seen with 62 power. I was so impressed that I took the scope to the eclipse in Canada this year; The scope fit perfectly in a gym bag. I observed with the 18-mm eyepiece and handheld the scope with the aid of the carrying strap. During totality, the filter came off to show a beautiful view under 25 power. I think it paid for itself on that trip alone.

The setup time is almost nonexistent. All one has to do is carry it outside to a table or a car hood (which I use frequently). The dust cover comes off and you're in business. There are only two disadvantages I have come to realize in the past two years. Being an RFT, if the mirror goes out of alignment, it shows up quite noticeably. I discovered that you only have to send it back to the company where they will realign it for free. You only pay the postage one way. The reason it must be sent back is it's a closed unit and you can't get to the mirrors. The other disadvantage is the focuser. being a rubber roller against a steel tube, it tends not to work in cool weather, You have to assist it by hand

Overall, I believe the Astroscan to have been a good investment. My 6-inch mirror is still sitting in two glass disks in the basement. Until I finish that (maybe 1987 at the outside, I work slow) the 2001 will suffice.

## THE APPRENTICE ASTRONOMER NOTEBOOK

Louis J. Faix

There are astrophotos and there are astrophotos. This apprentice astronomer has had results which range from a yak to a wow! Admittedly, after six years of fiddling with cameras and telescopes the percentage that end up in the darkroom waste basket is still about 50%. This is a great deal better than those fumbling early days when one out of ten might have been worth showing. In this issue of "the notebook" I'd like to share some experiences on one item that can be the difference between mediocre and really fine astrophotos - FOCUS.

We've all admired the rich star field images taken through the telescopes of major observatories. By comparison, the bulk of amateur star field photos are rather bland. One of the key differences is the size of the individual star images. In the "wow-gee!" pictures the stars are tiny, sharp points. In the "ho-hum" pictures the stars are little circles. Almost all amateur shutter bugs who use reflector type telescopes have occasionally produced a picture where the stars look like tiny donuts. The key difference in stellar astrophotos is CRITICAL FOCUS; not just nearly focused or almost focused but, critically focused. With the fine grain films now commonly available it is possible to produce negatives or slides wherein, the star points can be as small as .001" in diameter. How close we come to that, and how crisp the photo looks, is highly dependent on achieving critical focus.

Before discussing telescope and camera focusing techniques, it may be well to comment on three other factors which effect image point size. The first of these is aperture size. Just like in wrestling, there is no substitute for BIG. The bigger the objective lens, the sharper the star image. While there are some pretty outlandish claims being made by manufacturers of small telescopes, the fact remains that the wave nature of light and the laws of physics have not been repealed. The Airy's disc of a star image gets smaller as the lens gets bigger. With a small telescope, the amount of light in the outer rings of the Airy's discs may be too faint to be detected by the human eye, but don't forget that the film will see things the eye won't. It accumulates light energy while the eye only reacts to what strikes it at the moment. Believe me - bigger is gooder.



The second factor is collimation. How well are the optical elements aligned? Any ATM probably has lots of experience collimating his/her telescope. For really sharp photographic star images, a routine mechanical alignment isn't good enough. Fortunately, a very precise, very simple procedure is available. With a good quality eyepiece yielding 200-300X power, rack a bright star inside and outside of focus. As Rick Hill pointed out so well at the July 5th Cranbrook meeting, you should see a series of faint concentric circular rings. If the rings are distorted or eccentric, something is wrong with the optics. Most frequently, it is improper collimation or a poorly mounted primary lens. The eye may notice little difference when the telescope is at best focus but, the camera will pick-up the difference.

Thirdly, owners of telescopes which use secondary mirrors should construct their equipment to minimize the number of mechanical elements supporting that secondary mirror. Each one of those rods, bars, wires, etc., diffracts the incoming starlight and enlarges and distorts the Airy's disc. Rick's talk pointed out some of the extreme light scattering problems support obstructions can create. In this regard, the refractor telescope which has no secondary optical elements is the ultimate in small, diffraction free, stellar images.

Well, back to the subject of focusing. The majority of amateur astrophotographers use 35mm single lens reflex cameras. The nice part about these cameras is that they are supposed to be preadjusted at the factory to be sure that when an image is in focus on a ground glass viewing screen its also focused on the film plane. That's a nice idea and in a new camera its generally true. From hard won experience, I've learned that cameras wear like all mechanical devices. The SLR cameras have a small mirror to reflect light coming through the aperture to the viewing screen. This mirror rests against an adjustable stop when in the lowered, focusing position. Just from knocks and bumps, that mirror stop can get out of position a few thousandths of an inch. That may not sound like much but remember that a difference of .005" in the critical focus position on a telescope can double the size of star point and fuzzy up those clear lunar crater rims. If you don't have the tools, patience or know how to work on your own camera, professional repair shops with an optic bench can check and adjust it for about \$10-15.

Most of the better SLR cameras feature interchangeable glass focusing screens. Some brands even market a screen they claim is especially etched for astrophotography. They cost \$12-16. My advice is don't waste your money. If your standard screen seems too coarse, take a piece of 3/32" thick Plexiglas and burnish one side of it lightly with #600 grit mirror grinding compound. A smooth, uniformly opaque surface does as well or better than any of the commercial screens. When installing it in the camera, be sure the unpolished side is closest to your eye.

A few camera brands also market magnifier lens attachments which clip onto the camera viewing window. These facilitate focusing by enlarging the image on the screen. Considering that they don't do anything more than a hand held magnifying lens they're really not worth the investment. The commercial units are priced from \$50-100 whereas, a good hand held lens can be purchased for less than \$3. A simple lens can produce any degree of enlargement by changing the spacing between your eye, the lens and the focusing screen.

A tip for the elder gentry who don't have 20/20 vision anymore and wear spectacles. Always wear your glasses when focusing. If you use bifocals, look through the upper section. Remember, that your eye is one of the lenses in the telescopes optic system. Because an image may be in focus for your eye doesn't mean it's in focus for the film. This is extremely important when using the "eyepiece projection" method of photography for those high power (big f/ratio) planetary pictures.

Now for those connoisseurs of astrophotography. Forget about focusing screens - forget about magnifying lenses. The best investment you'll ever make is 20¢ for a double-edged razor blade and two inches of scotch tape. Now we're really going to talk about critical focus. I mean focus to an accuracy of .001" or-less. Remember the Foucault tester you used to parabolize the mirror of your first telescope? Well, it was one of the world's best critical focusing devices. Remember how you checked for sphericity by trying to find a knife edge position where the whole surface of the mirror went dark all at once? If your knife edge was inside or outside of focus, you could see a curtain of darkness move-gradually across the face of the mirror. That same technique applied to a camera and telescope will produce perfect focus.

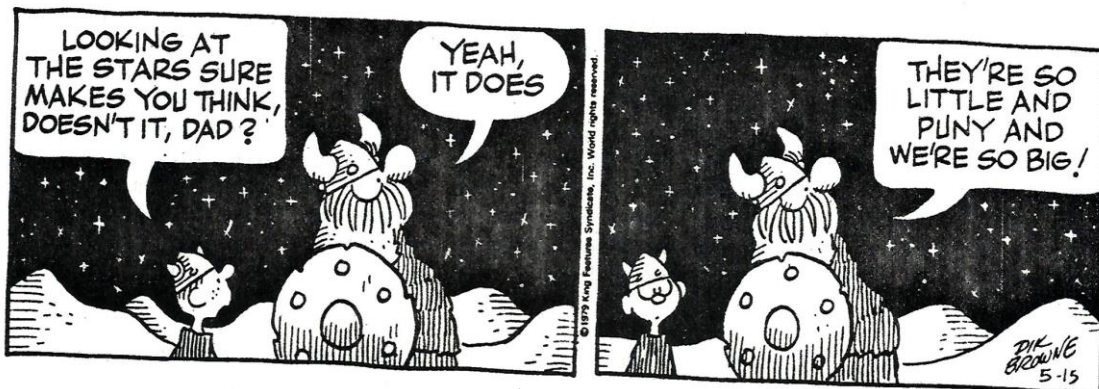
To begin, remove the back of the camera. Open the shutter and lock it open. Place the razor blade on the two rails where the film slides and center one cutting edge of the razor in the center of the picture frame. Tape the blade to the camera body at its non-cutting edges. Mount the camera on the telescope focusing adapter and rotate the camera so the cutting edge of the blade follows a north-south line (that is the lines of right ascension).

Rack the focusing adjustment until the camera film plane is close to the focus plane. Point the telescope at the brightest star closest to the zenith. Now bring your head up close to the back of the camera and look through the open shutter at the telescope objective lens. When the star is in the field of view, the whole surface of the mirror will seem much brighter.

Keep staring at the telescope lens and with the manual override on the telescope drive speed control, run the drive as fast as it will go. As the razor's edge cuts through the beam of light reaching your eye, a curtain of darkness will appear to be drawn across the face of the objective lens. Take note of which side of the lens darkens first. If the curtain moves from left to right, the razor's edge is too far back from the focal plane. If it moves from right to left, the razor's edge is in front of the focal plane. Keep adjusting the focus until a position is found where the light is abruptly extinguished with no apparent movement of the dark area. That will be the point of perfect, critical focus. Use of this technique will put the film exactly at the focal point of the telescope.

Leave the camera mounted on telescope, remove the razor blade and tape, install the film and replace the camera back. You're now ready to shoot the sharpest picture you'll ever take.

One final note. Don't assume that once the camera is initially focused you're all set for a night of continuous photography. The focal plane of a telescope can move during the course of an evening due to thermal expansion or contraction of the telescope tube. A five-degree temperature change is significant. Telescopes with metal tubes and folded optics will show the most effect.



July 19<sup>th</sup> 1979

## STARGATE OBSERVATORY CODE OF CONDUCT

Use of the Stargate Observatory is a privilege of membership in the Warren Astronomical Society. We enjoy this privilege because the W.A.S. continues to meet the commitment of providing lecturers each weekend to Camp Rotary. As a result of meeting our commitment, we may use the observatory on almost any clear night of the year. Also, because our observatory is located on the Camp Rotary grounds, it is unique in that someone watches over it on a 24 hour basis, 7 days a week, and at no cost. Because the use of the observatory is a privilege and not a right, and the camp ranger is responsible for watching over the observatory; we must observe certain rules of conduct when we wish to make use of the Stargate Observatory facilities.

1. Any club member wishing to use the observatory must call the Observatory Chairman, or the W.A.S. President, or the W.A.S. 1<sup>st</sup> Vice President (in that order) before 8 P.M. on the evening they are going out to the camp. (Lecturers are exempt from this requirement on their scheduled dates only.) When you call you must provide:

- A. Your arrival time prior to ~~11 P.M.~~ 4 P.M.
- B. The names of all persons coming out with you. (You may bring non-member guests if you have prior approval.)
- C. A description of the car(s) you will be arriving in.
- D. What facilities you plan to use at the observatory.

Notify a club officer in the order given above and only in that order. The contacted club officer in turn will notify the camp ranger. If you cannot reach one of the above club officers, do not go out and do not call the ranger direct. Being a lecturer or a club officer does not grant you the right to go out to the observatory unannounced.



The only people authorized to come out unannounced are the club President and the Observatory Chairman.

2. Use of the observatory will be allocated on a first come first served basis and only to those who have been trained in its operation. If you should happen to be the second or third person to request use of the observatory on a given night, you will be asked to contact the person who called first and obtain their permission to come out and share the observatory. (Some people may not want company.) The first person to call is the individual responsible for the observatory on that night--unless he or she has made prior arrangements with the contacted club officer.) If you wish to bring out your own equipment, and not use the observatory telescope, you may come out even though the observatory is in use. However, you must still contact a club officer before going out to the camp.
3. If you need a key to the observatory, you will be loaned a key. The only individuals who are authorized to loan out keys are the three club officers mentioned on page 4. Loaner keys must be returned within 24 hours, so that they are available for others to use. The only individuals authorized to have keys in their possession are the club officers and the active lecturers. Lecturers' keys are not to be loaned out. If they do loan out their key they will end up losing it--so don't ask them. People not having a key will, not be loaned one by the ranger.
4. When you go out to Stargate, have your W.A.S. membership card with you. Even though the camp ranger has been notified you are coming out, he may still ask you to show your card to him.

5. Lecturers are obligated to show up on one clear<sup>or cloudy</sup> evening during their scheduled weekend or find a replacement lecturer for that weekend. When a replacement has been found, the Observatory Chairman must be notified of the change. If you can't find a replacement notify the Observatory Chairman as early as possible
6. If you should come out to the observatory without prior notification, you will be challenged by the camp ranger. Your membership card will do you no good in this situation. For security reasons, the ranger has been authorized to ask you to leave the camp grounds. If you do not leave immediately, he may have you arrested. (It should be noted that the camp ranger is often armed when approaching strangers at night.)
7. When you are in the camp, drive slowly (less than 10 MPH). Remember, there are frequently many small children in the camp.
8. When at Stargate, stay in the immediate vicinity (within 100 feet) of the observatory. You are not allowed to visit the camps or cabins unless you have been invited by the adult leaders. The lecturers, however, are allowed to notify the various camp groups that the observatory is open. No one is allowed to roam around the camp grounds or set up their telescope in any location other than at the observatory without the permission of the camp ranger.
9. While at the observatory, keep all noise to a minimum--especially after 11 P.M and during the warmer months. Be careful of loud talking or yelling, slamming car doors, and loud radios. remember, sound travels easily in the damp still night air.
10. Upon first entering the observatory, sign in on the log book. State the date, your arrival time, and who is with you. When you are closing up the observatory for the night, list the time.

11. When you leave the camp ground, you leave for the night. Coming and going in the middle of the night will not be tolerated. And don't wake the ranger up to tell him you are leaving.
12. When you are ready to leave for the night, make sure:
  - A. All litter has been picked up and disposed of both inside and outside of the observatory.
  - B. The dome opening has been fully closed and is pointing South.
  - C. All electrical items have been unplugged from the power outlets and all lights are out.
  - D. The telescope is in a horizontal position on the East or West side of the polar axis. Insure that no one will hit their head on the telescope or the counter weight.
  - E. The telescope's covers have been put back on.
  - F. Both observatory doors are locked.
  - G. The mercury vapor lamp has been turned back on.
13. If any problems are encountered while at Stargate, contact the Observatory Chairman on the following day or as soon as possible.

FAILURE TO OBSERVE THIS CODE OF CONDUCT CAN RESULT IN THE  
SUSPENSION OF YOUR OBSERVATORY PRIVILEGES.

OBSERVATORY CHAIRMAN	Frank McCullough	725-4736
President	Dave Harrington	879-6765
1st Vice President	Judy Strong	
Chief Mechanic	Call Pete Kwentus	771-3283
Past President and Lecturer	Lou Faix	781-3338

IMPORTANT NOTE: All lecturers are to select a night rain or shine, to show the scouts the sky if it is clear or to lecture, demonstrate the telescope. or to show slides in the activities building at the north end of the grounds. YOU MUST SELECT A FRIDAY or SATURDAY NIGHT AND BE PRESENT. This is the only way we can keep the proper relationship between the Ranger and our lecturers, officers, and members.

Remember our observatory is there to enjoy don't be afraid to take advantage of it!

## ASTRONOMY NEWS NOTES

Jordan Marche will be the new planetarium director at Rogers High School in Toledo. He will also be a member of our club starting in September. We welcome him here and hope he has good luck in his new job. Jordan has been very active in the clubs he has been associated with and he has built several telescopes and is an active observer.

## MESSIER AND OBSERVING CLUB MEETING

To encourage more observing in our club there will be more star parties or observing sessions under the name of Messier and Observing Club meetings. Some of the scheduled agenda will be observing techniques, deep sky observing, planetary observing, and special object observing. These special objects would be comets, meteor showers, nova, occultations, transits and other special events. Our first meeting will be at Camp Rotary this Saturday July 21, 1979. There will be several of us there with our telescopes and the observatory will be open also. All are welcome to join us in this observing session. Bring your scopes if you have, one and yourself even if you don't have a scope. This sub-group will be meeting periodically every month at predetermined locations such as Camp Rotary, Frank McCullough's house in New Baltimore, or Brighton State Park. If other locations are offered by the membership as reasonable observing sites we will try those locations out in the future. See you at Camp Rotary Saturday and come even if it is partly cloudy. It will be fun and informative.

## SUMMER CAMPOUT!!!!

Our annual summer campout is almost upon us. It will be August 10, 11 and 12. There will be a Perseid meteor shower watch again this year. This was very successful last year and should prove to be interesting again this year. A messier contest is scheduled also for Friday night and more on Saturday. Softball, Frisbee, and other games on Saturday should be fun. Again, we will have a Saturday evening cookout with a lot of food. Hope to see you and your scopes and games there.

Douglas Bock



THE AMATEUR OBSERVER'S CALENDAR JULY 15 - AUGUST 4 1979 (EDT)

By Brian Wendenham

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
<p>15 U Cephei at min-pm</p>	<p>16 06:59 Last Quarter L.P.V. R Bootis at max. mg. 7.2</p>	<p>17 Eta Aquilae at max-midday</p>	<p>18 U Cephei at min-am 02:55.8 / 5.9 mg. ZC462 R / PA 2350 minus 342 21:13(sunset) - Jupiter (Aldebaran east iter Alt. 90 Az. 285; of Moon yesterday, west of Moon today) Jupiter sets. This may be the last day L.P.V. T Hydrae to see Jupiter until at max. mg. 7.8 August 24 (morning) Today - Aug 13 Delta Aquariid meteors</p>	<p>19 Delta Cephei at max-am 05:06.67 / 6.0 mg. ZC 608d(179 Tauri) R / PA 2870 - 3470</p>	<p>20 07:00 Mars 5° N. of Moon. The pair can be seen at 04:00(beg. of Twilight) at Alt. 5°, Az. 70° Beta Lyrae at min-am U Cephei at min-midday (Eve.) - Uranus within .05° of galaxy NGC 5796 (mg. 12) until August 2</p>	<p>21 02:40 - 07:10 Algol dims</p>
<p>22 U Cephei at min-am 21:41 New Moon</p>	<p>23 U Cephei at min-am 23:30(Mon.) - 04:00 Algol dims 04:00 - 08:30 Algol brightens Eta Aquilae at max-midday Delta Cephei at max-midday</p>	<p>24 U Cephei at min-midday</p>	<p>25 10:00 Saturn 20°N. 00:50 - 05:20 of Moon. Saturn can be seen east of Moon yesterday and west of Moon today at 22:00(midtwilight) Alt. 9°, Az. 273°</p>	<p>26</p>	<p>27 U Cephei at min-am</p>	<p>28</p>
<p>29 Delta Cephei at min-am Capricornid meteor maximum U Cephei at min-midday</p>	<p>30 Eta Aquilae at max-pm 21:36.8 / 7.4 mg. ZC2056 D / PA 1250</p>	<p>31 01:57 First Quarter August 1</p>	<p>2 Beta Lyrae at min-am U Cephei at min-am</p>	<p>3 U Cephei at min-midday Delta Cephei at max-pm L.P.V. X Ophiuchi at max. mg. 6.8</p>	<p>4</p>	<p>29</p>