The Andromeda Galaxy photographed with a backyard Schmidt camera, showing the full extent of the visible disk and the two nearest satellite galaxies, M32 and NGC 205. The knot in M31's spiral arm, at upper right, is the giant starcloud NGC 206. Photo by Ron Patten; 8-inch f/1.5 Schmidt, 4-minute exposure on hypersensitized TP 2415.
WARREN ASTRONOMICAL SOCIETY

The Warren Astronomical Society is a local, non-profit organization of amateur astronomers. The Society holds meetings on the first and third Thursdays of each month, starting at 7:30 P.M., as follows:

1st. Thursday
Cranbrook Institute of Science
500 Lone Pine Rd.
Bloomfield Hills, MI

3rd. Thursday
Macomb County Community College
South Campus
Building B, Room 21b
14500 Twelve Mile Rd.
Warren, MI

Membership is open to those interested in astronomy and its related fields. Dues are as follows:

Student .... $8
College .... $12
Senior Citizen ... $12
Individual .... $17
Family ... $22

Sky and Telescope Magazine is available for $14.50 per year, and Astronomy Magazine for $12.00 per year. Send membership applications and dues to the Treasurer, for faster service.

OFFICERS

President : Alan Rothenberg 355-5844*
1st. V.P. : Ken Strom 977-9489*
2nd. V.P. : Riyad Matti 548-7511
Secretary : Alice Strom 977-9489*
Treasurer : Russ Patten 588-0799*
Librarian : Marty Kunz 477-0546*

Deep Sky Group : Doug Bock 758-9369 -Meets at Northern Cross Observatory, Fenton, MI
Lunar Group : Frank McCullough 683-4882 -Meets at Stargate Observatory, New Haven, MI

WARREN ASTRONOMICAL SOCIETY PAPER

Editor: Ken Kelly / 839-7250
Send all articles to: THE WASP, P.O. Box 474, East Detroit, MI 48021

The W.A.S.P. is the official publication of the Warren Astronomical Society and is available free to all club members.

NEWSLETTER EXCHANGES: Send your Newsletter to: THE WASP, P.O. Box 474, East Detroit, MI 48021.

NOTE: Newsletters or change of address notices sent to other addresses may not reach the Editor.

All articles and changes should be submitted at the Cranbrook meeting or before.

STARGATE OBSERVATORY

Observatory Chairman: Riyad Matti / 548-7511

Stargate Observatory is owned and operated by the Warren Astronomical Society in conjunction with Rotary International. Located on the grounds of Camp Rotary, Stargate features a 12.5 inch club-built Cassegrain telescope under an aluminum dome. The Observatory is open to all members of the club in accordance with THE STARGATE OBSERVATORY CODE OF CONDUCT. Those wishing to use the observatory must phone by 7:00 P.M. on the evening of the observing session. Lectures are given at Stargate Observatory each weekend. The lecture will be either Friday or Saturday night, depending on the weather and the lecturer’s personal schedule.

LECTURER’S LIST

Lecturers should check with Camp Rotary to determine whether the Scouts are staying at the camp and to inform the Ranger the day and time of the lecture. If you cannot lecture on your scheduled weekend, please make arrangements to switch weekends with another lecturer or call the Chairman as early as possible. The lecturers for the coming weekends are:

Nov. 21/22 Alan Rothenberg ......... 355-5844
dec. 26/27 Mike Bennett .......... 651-7991
28/29 Ken Strom ............... 977-9489
Jan. 2/3 Ken Kelly ............. 839-7250
Dec. 5/6 Jon Root ............... 464-7908
9/10 Clyde Burdette .......... 747-3295
12/13 Riyad Matti ............. 548-7511
16/17 James Yak .............. 465-9897
19/20 Russ Patten ............. 588-0799
23/24 Alan Rothenberg ....... 355-5844
Dec. 4 – Meeting at Cranbrook Institute of Science, 7:30 P.M. Jack Brisbin will talk on attractions for Astronomers in Toronto.

Dec. 11 – Christmas Banquet – Marinelli’s. Special Christmas Slide Show, Raffle, Door Prizes, and Awards Ceremony. See Flyer for Details.

NOTE: There will be no Macomb Meeting in December. Have a Happy Holiday.

Dec. 30 – Jan. 2 Toronto Field Trip. See Flyer for Details.

Jan. 8 – Meeting at Cranbrook Institute of Science, 7:30 P.M.

Jan. 10 – Lunar & Planetary Observing at Camp Rotary, weather permitting. If Cloudy, we will meet at Alan’s Apt.

Jan. 15 – General Meeting at Macomb Community College, 7:30 P.M., Bldg. B, Room 216.
MINUTES OF THE ANNUAL MEETING OF THE WARREN ASTRONOMICAL SOCIETY

The meeting was held on Oct. 16, 1986, and was called to order at 7:55 P.M.

Treasurer’s Reports - The Sept. /Oct. report was given and accepted as read. The Annual Report for 1985/86 was given and was accepted as read.

President’s Annual Report - During the past year, there were several Cranbrook observing nights and several other events showing Comet Halley to the Public. Also, 6000 to 8000 people saw the comet thru members’ telescopes at Metropolitan Beach. There were also two showings of Mars at Metro. Beach during its opposition. There was a Perseid Meteor Shower session at Seven Ponds Nature Center, lectures at schools, and observing sessions of the Deep Sky Group, the Lunar & Planetary Group, and the Astrophotography Group. The observing came to a climax at the 25th Anniversary Celebration on Sept. 16 at Camp Rotary. A motion was made and carried to accept the President’s Report as read.

Observatory Report - A new roof and shingles were put on the observatory. The mirrors were recoated, the telescope counter-weights were replaced, and handles were put on them by Clyde Burdette. Mike Bennett made an extension tube for the diagonal. Russ Patten replaced the doorknobs. The ladder support is now being redesigned. Also, an aperture stop was made, the equatorial head was taken apart & refurbished, and a mechanical slow motion declination control was installed because a replacement for the motorized one could not be found. It was moved and carried that the report be accepted.

WASP Editor’s Report - We purchased our own copying machine for the WASP last January. It is a Sharp Z-60, and it saves time and money. It was moved and carried that the report be accepted.

Lunar & Planetary Group - There will be an observing session on Oct. 25.

Deep Sky Group - There will be an observing session on Nov. 6.

Miscellaneous - There will be an Old-Book-Sale at the Detroit Public Library on Oct. 24th & 25th. The Field-Trip to Toronto is scheduled for Dec. 30 to Jan. 2. The Christmas Banquet is scheduled for Dec. 11. The ARM-CHAIR ASTRONOMY AWARD was discussed.

ELECTION OF OFFICERS FOR 1987:

President - Alan Rothenberg
1st. V.P. - Ken Strom
2nd. V. P. - Riyad Matti
Secretary - Alice Strom
Treasurer - Russ Patten
Librarian - Marty Kunz (Appointed by the President)

The Annual meeting adjourned at 9:00 P.M.

Respectfully Submitted
Kenneth Kelly, Secretary
Come One !! Come All !!

THE WARREN ASTRONOMICAL SOCIETY

CHRISTMAS BANQUET

at Marinelli's of Troy
4924 Rochester Rd.
689-6460 (Frank M.)

Raffle - Door Prizes - Awards Presentation

**** SPECIAL CHRISTMAS PROGRAM ****

Thursday, December 11, 1986

7:00  Cocktail Hour
8:00  Dinner

Dinner Selections    Dinner Includes
Veal Parmigiano    $11.75  Soup & Salad
Lasagna            $ 9.75  Vegetables & Rolls
Perch              $ 9.75  Beverage & Dessert
Shrimp             $ 9.75  Glass of Wine
NY Strip Steak     $11.75  Tax & Tip included

RSVP or For more information call:
977-9489 or 683-4082
New Year in Toronto with the W.A.S.

 Spend 4 Days and 3 nights in the luxurious Sheraton Centre. Ride the Via Train from Windsor to Toronto's Union Station.

 Special Events:
- Tour David Dunlap Observatory (74")
- McLaughlin Planetarium
- CN Tower (tour of the Universe)
- Casa Loma
- Ontario Science Center
- World's Biggest Book Store
- Photon (Lazer tag)
- And many more!

 For more info call Alan at 355-5844

 Hotel & Train only $125.00 (US)

 Deposits must be in by Nov 20.
Well, now we continue where we left off last month. Astronomy had become my full fledged hobby and I could not get enough - fast enough. I recall the month of January when my scope was not even two weeks old, and I had only seen the moon. I did not know where or what to look for, and the only guide I had was Star Time in the Detroit News. I remember reading, "the bright object near the moon tonight is the planet Jupiter." Wow! Here was to be my second object.

That evening I went on a hayride with the sky being very clear, and as the wagon made its way back to the barn, the moon was starting to rise. But still no Jupiter. A few minutes later a bright star broke the horizon. This had to be Jupiter. I figured by the time I got home it would be well up to observe. It was three o'clock in the morning, and the star was nearly overhead. Yes, I was sure this was Jupiter. I assembled the telescope and set it pointing upward, and got the star in my finder. Looking in the scope was the most breath-taking sight! Here was a ball with four white specks, two on each side. I remember the moon was so close that the sky was a light blue. I looked closer and saw two dark belts and a dark polar area. I was looking at the largest planet in our solar system! I swept west and gazed at that big bright beautiful moon. I was froze, and as I went in I remember a dark haze which lingered in my right eye.

Another first object for my scope was on an evening when I should have been studying for my exam, but went outside instead to observe in 10 degree weather. For some strange reason, I looked at every fairly bright star to see if I could find something of interest. But if you've seen one star, you've seen them all. I looked southwest through some trees and a somewhat bright star lingered out there with a steady dull light. There really was no reason why I should have turned my scope in that direction, but it bugged me, so I looked. What was this - a ball? It had to be a planet. Was it Uranus, Neptune, Venus? What was it? Then I saw a fine line running on either side. It wasn't . . . but it was . . . Saturn, with a dull yellowish glow! Frank chalks up another major discovery.

I remember my first look at the sun. I set my scope up on the sun porch, and opened the door so I could stay warm and still observe.

And so my early observations came to a close. The planets and moon were my nightly companions, and there was so much else up there. Yet I knew nothing of the constellations and how to find other objects. I bought a book called "Stars", a little paperback, and started learning on my own. I soon moved, and my advancement with finding nebulas and galaxies was still nowhere to be found. I looked and swept, and bought magazines, and saw glorious pictures showing where, near certain constellations, these objects could be found. I turned up nothing. The great “realm of the galaxies” . . . I looked, expecting to see swarms of galaxies. Nothing but frustration. But why wasn't I seeing anything as I looked up into a mint green sky.?!?

In high school I met a special friend who I owe a lot to as far as leading me into the right direction in astronomy. He had a two inch refractor and wanted to get
together to observe. We talked astronomy and got to be very close buddies. One day he
told me of finding out that a Mr. Trott was head of a group called the “Warren
Astronomical Society”. He had called, and was referred to a Mr. Alyea. The group met
at Warren Lincoln High School. He asked if I would like to go to a meeting. Needless
to say, I accepted the invitation.

I was thrilled. I thought school would never end that day, and he got
permission to use his parents’ car. We left with much gusto. I had pictures of my 4½”
reflector, which I was sure still was the fifth largest telescope in Michigan. It
definitely was bigger than my buddy, Dave Atnip’s 2” refractor. Oh, how I would boast,
but of course still be modest, about the large size of my instrument. When we got
there, we could not find the room.- But by the time we hit the second floor, we asked
some, kids who were running track in the hallways, who told us to see the janitor,
who led us to the room.

We walked inside and there were about 12 people milling in the center of the
room. Some were carrying large hunks of glass, and talking to a distinguished
gentleman with grey hair, as he held the glass up to the light, while a younger boy
waited for a reply from this man. Straight ahead was a man, short hair cut, pleasant
looking, standing behind the teacher’s desk. This must be the gentleman we should
introduce ourselves. to. The first thing I felt was being out of place. Just finding that
these people were friendly would be a big help. He seemed to notice our resistancy,
because he broke his conversation and asked if we were here for the astronomy
meeting. We said, yes, of course, and he welcomed us. We chatted for a short while,
and then he told us to make ourselves at home, as he got everyone quiet to start the
meeting.

The evening proceeded with the business session, which I knew nothing about
and I guess I really didn’t care to, because I was still an outsider. They showed a
NASA movie which was very stimulating, and revived me from the business part. Mr.
Polus (the gentleman we had talked to) showed some moon pictures he had taken on
8x10 black and white, and then Mrs. Alyea told of the coming camp-out to be held on
the first quarter moon at Bald Mountain. This sounded like great fun, and Dave and I
both agreed we would definitely like to attend.

A question was asked. Where do you look to find the Ring Nebula, and can you
find it in an amateur instrument? Mr. Polus was a little hesitant to answer, but the
young gentleman with the grey hair strode up to the chalkboard and drew a
constellation named Lyra, the Harp. He showed how between these two stars the Ring
was to be found. He even drew a little “donut” to show how it looked. My first
question was raised, “What size telescope should you use to find this object?” He
answered that a 6” was a big enough telescope to pick it up in. CRUSH! I felt sick in
the stomach. Here were kids carrying 6” mirrors in their hands, and the President is
taking pictures through an 8” telescope. I find out my telescope, the biggest in the
Wards’ catalogue, is nothing but a toy. How do you tell your mother and yourself you
don’t have the fifth largest telescope in Michigan?

One nice thing did happen to end the evening. They had a 12½” Cassegrain on
the roof of the high school. We had refreshments and went upstairs into the W.A.S.
observatory, a great giant dome with a giant telescope. Someone pushed a button and the slits opened up.

This was the frosting on the cake. I had to look. We saw Mars that evening, which boiled in the evening air, but I was not disappointed. I blabbered all the way home. It was a thrill! The next meeting was in two weeks. I had three things to look forward to: 1) the end of two weeks, 2) the camp-out, and 3) I would defy the laws of nature - I would find the Ring Nebula in my Tasco 4½" telescope!

So we now end Part Two of this thrilling story. You now should realize what a green amateur I was, and what simple little things can bring you the most exciting and memorable feelings. And how even the person who works and has been involved in a club for some time, has gone at one time in his or her life, through the basics and beginnings of astronomy and a club. And knows how it is to be a stranger, just needing a friendly "hello" and welcome, and making you feel you belong.

The learning and friendship of other people came with time. To my friend, Dave, who made only three or four meetings after that, I say “thank you” for giving me the break I needed to get my ambition towards astronomy on the right track. For Dave, his hobby turned out to be singing in churches with a girl he was going to marry, and furthering himself in religion. Me, well, I went “Coo-coo for Co-Co-Puffs”.

NEXT MONTH ... PART III: The Camp-out.

Bald Mountain excursions with Dave.

I find the Ring Nebula!
Occultation Predictions for December 1986

The following table contains occultation predictions for the month of December. The longitude and latitude for these predictions are W 83 44 37.7, +42 42 17.6. The elevation is +305 Meters. On the chart below the PA stands for position angle, Per. SNLT is percentage the moon is lit by the sun, where + is increasing illumination (from new moon to full) and is decreasing illumination (full moon to new moon). (P) is the phenomena happening, D = disappearance, R = reappearance.

The events were picked based on magnitude and the percent illumination of the moon. If the stellar mag. was marginal (about 6.0 mag, or dimmer) and the illumination percentage greater than 50 percent, the event is either negated or only the half of the event on the dark limb is included.

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This chart was constructed utilizing data from the U.S. Naval Observatory for the location of the Northern Cross Observatory located near Fenton, MI.

Submitted by: Robin L. Bock
Assistant Director, Northern Cross Observatory
This chart is drawn for Latitude 40° north, but should be useful to stargazers throughout the continental United States. It represents the sky at the following local standard times:

Late November: 10 p.m.
Early December: 9 p.m.
Late December: 8 p.m.
Early January: 7 p.m.
Late January: 6 p.m.

This map is applicable one hour either side of the above times.

© Abrams Planetarium
Subscription: $5.00 per year, from Sky Calendar, Abrams Planetarium, Michigan State University, East Lansing, Michigan 48824.

The planets Mars and Jupiter are plotted for mid-December 1986. At chart time 13 objects of first magnitude or brighter are visible. In order of brightness they are: Jupiter, Sirius, Vega, Capella, Rigel, Procyon, Mars, Betelgeuse, Altair, Aldebaran, Pollux, Fomalhaut, and Deneb. In addition to stars, other objects that should be visible to the unaided eye are labeled on the map. The double star (Dbi) at the bend of the handle of the Big Dipper should be detectable above the treetops in the north. The famous Orion Nebula, a cloud of gas and dust out of which stars are forming, is marked (Nb) in that constellation. The position of an external star system, called the Andromeda Galaxy after the constellation in which it appears, is also indicated (Glx). Try to observe these objects with unaided eye and binoculars.

—D. David Batch
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For Sale

Meade 826 Telescope
8" f/6 Newtonian
Equatorial Mount
Clock Drive
Two Eyepieces and Barlow
6x30 Finderscope
***** $600.00 *****

SEARS 60 mm Refractor
Equatorial Mount / Tripod
Eyepieces
Solar Projection Attachment
***** $125.00 *****

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******************************************************************************
WARREN ASTRONOMICAL SOCIETY - MEMBERSHIP APPLICATION

The Warren Astronomical Society is a local, non-profit organization of amateur astronomers. The Society holds meetings on the first and third Thursdays of each month, starting at 7:30 P.M., as follows:

1st. Thursday
Cranbrook Institute of Science
500 Lone Pine Rd.
Bloomfield Hills, MI

3rd. Thursday
Macomb County Community College
South Campus
Building B, Room 21b
14500 Twelve Mile Rd.
Warren, MI

Membership is open to those interested in astronomy and its related fields. Dues are as follows:
- Student: $8
- College: $12
- Senior Citizen: $12
- Individual: $17
- Family: $22

Sky and Telescope Magazine is available for $14.50 per year, and Astronomy Magazine for $14.00 per year. Send membership applications and dues to the Treasurer, for faster service.

OFFICERS
President: Alan Rothenberg 355-5844*
1st. V.P.: Ken Strom 977-9489*
2nd. V.P.: Riyad Matti 548-7511
Secretary: Alice Strom 977-9489*
Treasurer: Russ Patten 588-0799*

DEEP SKY GROUP
Chairman: Doug Bock 758-9369 - Meets at Northern Cross Observatory, Fenton, MI

LUNAR GROUP
Chairman: Frank McCullough 688-4082 - Meets at Stargate Observatory, Ray Center, MI

STARGATE OBSERVATORY

STARGATE OBSERVATORY

Observatory Chairman: Riyad Matti / 548-7511
Stargate Observatory is owned and operated by the Warren Astronomical Society in conjunction with Rotary International. Located on the grounds of Camp Rotary, Stargate features a 12.5 inch club-built Cassegrain telescope under an aluminum dome. The Observatory is open to all members of the club in accordance with ‘THE STARGATE OBSERVATORY CODE OF CONDUCT’. Those wishing to use the observatory must call by 7:00 P.M. on the evening of the observing session. Lectures are given at Stargate Observatory each weekend. The lecture will be either Friday or Saturday night, depending on the weather and the lecturer’s personal schedule.

MEMBERSHIP APPLICATION

NAME ____________________________________________________________

ADDRESS __________________________________________________________

CITY & ZIP CODE _________________________________________________

PHONE NUMBER _________________________________________________

MEMBERSHIP CATEGORY & AMOUNT ___________________________________

You will receive a membership card.