from info submitted by Ed Watson

Comet Hale-Bopp is putting on a fine show in the morning sky. By the time this issue goes to press, the February moon will interfere with comet viewing. However, a good opportunity to view the comet is from March 2-March 20, with the best opportunity from March 7-20. These mornings should be a spectacular string of 14 consecutive moonless mornings for comet viewing. The comet nears its closest approach to Earth, its greatest brilliance, and the closest approach to the Sun, all slated for the last 10 days of March. The comet should be an easy naked-eye object. Times of best observation range from 5:51 am on March 4th to 5:27 am on March 18, as the sun rises earlier each day. March 4th the comet can be found 15 degrees below Deneb, and it moves until it's 30 degrees to the lower-left of Deneb on the 18th.

Be sure to get out and observe this comet. All you need are binoculars.

Be sure to look through the club's calendar of events. The evening apparition of this comet ranges from March 8th to May 11th for our latitude, although it will be quite low to the horizon until early April. We have many opportunities to view Hale-Bopp in the evening sky during April.
The WASP
Published by
Warren Astronomical Society, Inc.
P.O. Box 1505
Warren, Michigan 48090-1505

1995 Officers
President Dave D’Onofrio 313-563-6652
1st VP Lou Faix 810-781-3333
2nd VP Blaine McCullough 810-673-8696
Secretary Glenn Wilkins 810-526-8236
Treasurer Ben Tolbert 810-796-2672

The Warren Astronomical Society, Inc., 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.

First Thursday meeting: Third Thursday meeting:
Cranbrook: Institute of Science Macomb Community College
1221 North Woodward Ave South campus, Bldg. B, Room 209
Bloomfield Hills, Michigan 14600 Twelve Mile Rd.
Warren, Michigan 

Membership and Annual Dues
Student College Individual Family Senior Citizen $12.00 $17.00 $25.00 $30.00 $17.00
Send membership applications and dues to the treasurer: Ben Tolbert 20206 Vermander Clinton Twp. MI 48035

Among the many benefits of membership are:
- Discount magazine subscriptions: Astronomy $20.00 (12 monthly issues)
Sky & Telescope $27.00 (12 monthly issues)
CCD Astronomy $27.00
- Loaner telescopes (with deposit). See 2nd VP.
- Free copy of each WASP newsletter.
- Free use of Stargate Observatory,
- Special interest subgroups. See chairpersons.
- Free use of W.A.S. Library. See librarian.
- Call list: don’t miss unexpected events.
- Free membership in Astronomical League, including Reflector newsletter.

More benefits are listed in Member Booklet

The Warren Astronomical Society Paper (WASP) is the official monthly publication of the Society. Each new issue of the WASP is made available at the Macomb meeting on the third Thursday. Non-members will be charged $1.00 for each new issue.

Articles for inclusion in the WASP are strongly encouraged and should be submitted to the editor on or before the first Thursday of each month. Any format of submission is accepted, however the easiest forms for this editor are files in plain text format, and graphics in PCX format. Materials can either be transmitted in person, via US Mail, via direct modem connection at the phone number listed below (call using voice first), or E-mailed on the Internet to bondono@eaglequest.com

For further information on contribution, see or call the editor: Jeff Bondono 51054 Kingwood Shelby Twp. Michigan 48316-4524 510-731-4706

Disclaimer: The articles presented herein represent the opinion of their authors and are not necessarily the opinion of the Warren Astronomical Society or this editor. The WASP reserves the right to edit or deny publication of any submission.

The Stargate Observatory is owned and operated by the Society. Located on the grounds of Camp Rotary on 29 Mile Road, 1.8 miles east of Rome Plank Road, Stargate features a 12.5 inch f/17 club built telescope under a steel dome. The observatory is open to all club members in accordance to the “Stargate Observatory Rules” published in the member handbook. Those wishing to use the observatory must call the 2nd VP by 7:00 p.m. on the evening of the session. The coordinates for Stargate Observatory are 82° 56’ 0.4’ W, 42° 46’ N.

Library: The Society maintains a library of astronomy-related books and periodicals at the Macomb meeting room. See the librarian, Louis Namenee, to check out a book.

Special interest groups
Computers Larry Kalinowski 810-776-9720
Deep Sky Doug Bock 810-750-0273
Lunar/Planetary Riyad Matti 810-548-2323
Solar Marty Kunz 810-477-0546
Math John Herrgott 810-548-1442
Telescope Fred Judd 810-758-7458

According to a news report heard on the radio, the Russians have taken on the responsibility. No word was given as to when the US version would be available for launch.

An interesting turn of events occurred when the editor of the Lehigh Valley Amateur Astronomical Society (LVAS) announced that comet Hale-Bopp had two nuclei. It seems he reported a story heard on the Internet about a “spiked” object near the comet. Just how he concluded there were two nuclei is probably a story in itself, but in the end it was determined to be just diffraction spikes on a nearby star. A phenomenon we all have witnessed using a reflector with a secondary spider support. A correction was printed in the following issue. The spiked star photograph made a lot of news when interpreted by novice observers, some even saying it was a UFO. I’ve seen photos of that spiked star and if you look carefully at the picture, there’s a hint of four diffraction spikes, typical of a four vane secondary spider, which the photographer’s telescope contains. It’s amazing how a simple story can be blown all out of proportion, by people with unintentional misinterpretations.

Starting in February, all new attendees at the computer group meetings, will receive a free software disk, as a gesture of good will.

The April 3rd meeting, to be held at Stargate, instead of Cranbrook, is really a gathering of WAS members and the Metro-park authority. They want to see the WAS in action, so to speak, and we all want to see Hale-Bopp. It’ll be important to make a good impression on our welcome visitors.

The February computer meeting will be at my home in Roseville, on Thursday the 27th and the March meeting also on Thursday the 27th. The address is 15674 Flanagan, two blocks west of Groesbeck Highway and two blocks north of Common Rd. (12 1/2 Mile Road). (810-776-9720). (Take Common Rd. west before you turn north on Callahan.) It’s about eight or nine houses from the corner. Please use the side entrance. Look for the yellow porch light.

Astro-Facts
By Greg Milewski

Did you know that….
If you dropped a piece of popcorn on a neutron star, it would produce as much energy as an atomic bomb?

ACROSS

1. America’s manned space flights took off from Cape ___
3. The first American space program
5. The vehicle which landed on the Moon
6. A member of the first group of astronauts, but he did not get into space until much later
7. How many astronauts were in the 14 Across program?
8. The first man to set foot on the Moon
12. A sport played on the Moon
13. The U.S. agency which directed the manned space program
14. The second American manned space program
15. A member of the first group of astronauts; he died in a fire
16. The second man on the Moon

DOWN

1. A member of the first group of astronauts
2. What the Russians called their space travelers
4. A member of the first group of astronauts
6. A member of the first group of astronauts
8. The program which put man on the moon
9. The first American to go into space, he also landed on the Moon and played 12 across.
10. A member of the first group of astronauts; the first American to orbit the Earth
11. The first man to orbit the Earth

Submitted by: G. Milewski
January 16, 1997

Dave opened the meeting at 7:55 by introducing the new officers and thanking the ‘96 officers and other major contributors. There were 18 members and 3 guests in attendance on an arctic evening.

Treasurer’s Report - As of 1-16-97 the WAS had a balance of $3,529.10. Ben Tolbert also presented a summary for 1996 indicating an increase of 8 paying members to 102. See Ben if you would like a complete financial report.

Regular scout lecturers are needed for Stargate and support is also needed for Astronomy Day at Cranbrook on April 12.

The February issue of the WASP reflects the activities plan (p. 5) for the first half of 1996 as agreed at the last Officer’s meeting. The 4-3 meeting will be at Stargate instead of Cranbrook on a trial basis, and to take advantage of Hale-Bopp. The 4-25/26 public comet parties may be revised to include the Ford Astronomy Club. The 6-6/7 events will be at Northern Cross (Doug’s place) instead of Stargate. Campers will be welcome.

The officers would like to increase subgroup activity at the regular meetings. Also, it is felt that a beginners group is needed with involvement by advanced members who enjoy teaching. Your ideas on how to implement these objectives would be welcome. See Dave.

The telescope subgroup plans to resume meetings in April. The first objective is to replace or improve the dob mount for the club 10” scope. Contact Fred Judd with other suggestions or personal telescope needs.

The next Officer’s mtg. will be at Blain’s home on 3-13. In addition to further events planning, we will discuss development of usage rules for the 22” scope.

Recent magnitude measurements of Hale-Bopp indicated a 3 vs. a predicted 2.

A 36 minute break commenced at 8:44 featuring treats by Angie.

The feature presentation on comets was by Larry Kalinowski and was done on Power Point to demonstrate some of the software used by the Computer sub group.

The meeting adjourned at 10:28.

February 6, 1997

Dave opened the meeting at 7:41 for 36 people eager for the scheduled planetarium show, perhaps desperate for even a simulated glimpse of stars!

Yours truly was surprised and extremely pleased to be presented with a nice plaque for being the Amateur Astronomer of 1996.

John Herrgott volunteered to head a team to prepare for our comet show at Metro Beach on April 5 and 6. Contact John to help out (810) 505-9346.

A team leader and team are also needed for the comet show at Kensington Metro Park on April 25 and 26. It will be a joint effort with the Ford Club and, perhaps, the Genesee Club. Dave indicated that the Metro Park people are very excited about this event and will provide full support at Martindale Beach which offers a good view to the northwest. We control lighting to the extent that public safety allows. Contact Dave (810) 563-6652.

The 14th. annual summer solstice party will be at Doug Bock’s in Fenton June 6 to 8. Doug is asking for volunteers to assist him in this event which will welcome campers. There will be a fee this year of approximately $3/night to cover expenses for portable toilets. Doug also asked for pictures which can be added to the WAS web site which he is developing. On April 11-13 and May 9-11 Doug will host star parties at his property near Cadillac. (810) 750-0273

Treasurer’s report: Balance = $3,568.70 as of 2-1-97.

John Herrgott reported that the Metro Park authority accepted in full our operating plan for Stargate, essentially the same as our prior agreement. Furthermore, they indicated a willingness to consider any reasonable plan that we might propose for an interpretive facility! The next meeting with the park authority will be on April 3. Maximum attendance by the WAS at this meeting is very important to validate our interest and commitment. Contact John for details.

The Perseid Meteor shower is August 11-13 which is during the week. Riyad recommended making reservations and vacation plans now at Point Crescent the weekend of August 8 due to high demand.

The annual SMURFS star party is believed to be the weekend of August 1.

The feature presentation was on comets in the planetarium by Jeff Bass. It was entertaining and informative with Jeff indulging many requests for special views and effects. The Cranbrook observatory will be open to the public for the 17 days in March/April offering the best views of Hale-Bopp. An additional planetarium show for WAS families is being scheduled for this fall.

The meeting ended at 9:53.
Please note that the April 3rd Macomb Meeting will be held at Stargate Observatory instead of our usual meeting place. We will observe Comet Hale-Bopp if weather permits, and have a presentation if the weather is not favorable. This event will be the first of a series of opportunities to observe the comet with the Warren Astronomical Society.

<table>
<thead>
<tr>
<th>Month</th>
<th>Date</th>
<th>Time</th>
<th>Event Description</th>
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<tbody>
<tr>
<td>Feb</td>
<td>Thu 20</td>
<td>7:30 pm</td>
<td>Meeting: Macomb Community College South Campus, Bldg. B, Room 209</td>
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<tr>
<td></td>
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<td>“A Book Review and Discussion”, by John Herrgott</td>
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<td>Thu 27</td>
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<td>Computer Subgroup Meeting</td>
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<td></td>
<td>Thu 6</td>
<td>7:30 pm</td>
<td>Meeting: Downstairs at Cranbrook Institute of Science</td>
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<td>“Deep Sky Observing”, by Doug Bock</td>
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<td>Fri 7-Sat 8</td>
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<td>Fish Lake Star Party</td>
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<td></td>
<td>Sat 8</td>
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<td>Remote Telescope, Deep sky observing, and Photon Acquisition Meeting at</td>
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<td>Northern Cross Observatory</td>
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<td></td>
<td>Thu 13</td>
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<td>Board Meeting at Blaine McCullough’s house</td>
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<tr>
<td></td>
<td>Thu 20</td>
<td>7:30 pm</td>
<td>Meeting: Macomb Community College South Campus, Bldg. B, Room 209</td>
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<td></td>
<td>“Mats: Everything Old is New Again”, by Alan Rothenberg</td>
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<td></td>
<td>Thu 27</td>
<td></td>
<td>Computer Subgroup Meeting</td>
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<tr>
<td>Apr</td>
<td>Thu 3</td>
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<td>Comet Observing if clear (presentation if cloudy) at Stargate Observatory</td>
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<td>(replaces Macomb Meeting)</td>
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<td></td>
<td>Fri 4</td>
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<td>Public Comet Observing at Metro Beach</td>
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<td>Sat 5</td>
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<td>Public Comet Observing at Metro Beach</td>
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<td></td>
<td>Sat 12</td>
<td>1:00 pm</td>
<td>Astronomy Day at Cranbrook Institute of Science</td>
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<td></td>
<td>Thu 17</td>
<td>7:30 pm</td>
<td>Meeting: Macomb Community College South Campus, Bldg. B, Room 209</td>
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<td></td>
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<td></td>
<td>“Solar Eclipse”, by Dave Harrington</td>
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<td></td>
<td>Thu 24</td>
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<td>Computer Subgroup Meeting</td>
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<td></td>
<td>Fri 25</td>
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<td>Public Comet Observing at Kensington Metro Park</td>
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<td></td>
<td>Sat 26</td>
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<td>Public Comet Observing at Kensington Metro Park</td>
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<td>May</td>
<td>Thu 1</td>
<td>7:30 pm</td>
<td>Meeting: Downstairs at Cranbrook Institute of Science</td>
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<td>Fri 2-Sat 3</td>
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<td>Campout/Observing at Justin’s Family Campground, just south of Bad Axe</td>
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<td>Thu 15</td>
<td>7:30 pm</td>
<td>Meeting: Macomb Community College South Campus, Bldg. B, Room 209</td>
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<td>June</td>
<td>Thu 5</td>
<td>7:30 pm</td>
<td>Meeting: Downstairs at Cranbrook Institute of Science</td>
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<td>Fri 6-Sat 7</td>
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<td>14th Annual Summer Solstice Party, at Northern Cross Observatory</td>
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<td>Fri 13-Sat 14</td>
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<td>27th Annual Apollo Rendezvous and Telescope Fair, Dayton Ohio</td>
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<td></td>
<td>Thu 19</td>
<td>7:30 pm</td>
<td>Meeting: Macomb Community College South Campus, Bldg. B, Room 209</td>
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<tr>
<td>July</td>
<td>Wed 30-Sun 2</td>
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<td>SMURFS ‘97</td>
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WASP
### 1997 March 1997

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<th>Sunday</th>
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**Notes:**
- Detroit, MI
- March Equinox: 20 8:56
- Solar Eclipse: March 8 8:29p
- Lunar Eclipse: March 23 11:40p

**Key to times:**
- SunRise
- MoonRise
- SunSet
- MoonSet