NOVAC

The Newsletter of the Northern Virginia Astronomy Club

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The star is not extinguished when it sets
Upon the dull horizon; it but goes
To shine in other skies, then reappear
In ours, as fresh as when it first arose.
- *Horatius Bonar, Life After Death*

ELECTIONS

by Bob Ridgley

Elections were held at the February general membership meeting. As you can see from the title bar at the top of this page, there are some familiar names and some new ones. These are the folks who will take us thru the next three years; except the Board of Directors who's terms expire each year.

If you have suggestions, ideas, or want to volunteer for any activity please contact either the President or the Vice-President, or come to the general membership meetings which are held at the Arlington County Planetarium at 7:30 p.m. on the third Wednesday of each month.

CROCKETT PARK ACTIVITIES

by Bob Ridgley

There are new regulations for NOVAC members who wish to observe at Crockett Park. With the exception of our regularly scheduled club observing nights, any NOVAC member who wishes to observe at the park MUST HAVE PRIOR APPROVAL FROM RODGER PENCE, the Park Manager. Call early in the day on which you wish to observe; the telephone number is 703-788-4867. If you reach the answering machine tell them you want to observe that night and leave a telephone number where you can be reached. If you do not receive a call back you may not use the park...there are no exceptions! Use of the park is limited to NOVAC members only! It is suggested that when you are observing you place a sign on the gate to let park personnel know you are there. In that you may avoid being "headlighted" as the park personnel come and go.

NOVAC will be hosting two public observing nights at the park. They will be on Saturday, April 29, and Saturday, May 27. The public is invited from 8:00 to 9:00 p.m. NOVAC members are requested to arrive early, before dark. Be ready to help people use the telescopes or binoculars which they may have brought along, and to show them celestial objects thru our own scopes. NOVAC will present a brief slide show prior to the observing session. We are counting on a good turnout from the club. No rain dates are scheduled. Call the NOVAC hotline if the weather is doubtful.

DUES

by Bob Ridgley

Beginning with this issue of the newsletter two important pieces of information will be printed on the top line of your mailing label. The first is your membership expiration date; the second is the amount of dues which you owe. The dues are prorated to December of this year. If you think that either is incorrect please let me know. If the topline is marked with red you dues are past due and this will be your last newsletter.

Please remember to send you renewal check directly to me (the Treasurer): Bob Ridgley, 1316 South Buchanan Street, Arlington, Virginia, 22204-3410. Make your check payable to "NOVAC." Send all other club related correspondence to (the Secretary): Al Schumann, 6121 Rivanna Drive, Reston, Virginia, 22150.

Beginning with the next issue you will receive only one edition of the newsletter after your membership expires; no other notification or reminders will be sent.

REVISED 1989 OBSERVING SCHEDULE

by Bob Ridgley

Please disregard the observing schedule which appeared in the last issue of the newsletter. It contained several errors.

It's so hard to find good help these days!

The format is: day, date, and moons age.

SAT	4/01	23 days
FRI	4/07	01 days
SAT	4/08	02 days
FRI	4/28	21 days
SAT	4/29	22 days
FRI	5/05	28 days
SAT	5/06	01 days
FRI	5/26	20 days
SAT	5/27	21 days
FRI	6/02	27 days
SAT	6/03	28 days
FRI	6/30	25 days
SAT	7/01	26 days
FRI	7/07	04 days
SAT	7/08	05 days
FRI	7/28	24 days
SAT	7/29	25 days
FRI	8/04	03 days
SAT	8/05	04 days
FRI	8/25	22 days
SAT	8/26	23 days
FRI	9/01*	01 days
SAT	9/02*	02 days
FRI	9/22	22 days
SAT	9/23	23 days
FRI	9/29	28 days
SAT	9/30	01 days
FRI	10/20	19 days
SAT	10/21	20 days
FRI	10/27	26 days
SAT	10/28	27 days
FRI	11/17	17 days
SAT	11/18	18 days
FRI	11/24	24 days
SAT	11/25	25 days
FRI	12/22	24 days
SAT	12/23	25 days
FRI	12/29	01 days
SAT	12/30	02 days

* 1989 Northern Virginia Telescope Meet at C. W. Crockett Park

MEMBERSHIP IS GROWING

by Bob Ridgley

NOVAC would like to extend a warm welcome to the folks who joined the club during January, February, and March. They are:

Larry J. Brindza,
Ken Levin,
David Miller,
Alan Moeck,
Mary F. O'Connell,
Randy L. Ribler,
Mary Rolape,
Julian I. Rosenberg,
Daniel D. Sloss.

We hope to see you at our observations and monthly meetings. Please contact any of the club's officers with any questions or suggestions you might have.

NOVAC is now nine years old and our membership has now grown to 124. Of that number, 92 are current in their dues, 17 are past due, and 15 are complimentary members (other clubs, organizations, etc.)

We would like to thank the L'Enfant Plaza branch of the Perpetual Saving Bank, F.S.B. for giving NOVAC an special interest bearing business account free of all service charges. This will save us about $100.00 per year.

We would also like to thank the anonymous donor for their very generous gift of $100.00. This is not first time this person has contributed to our organization. It is greatly appreciated!

And last but not least, the NOVAC treasury balance is currently $910.23.

APRIL/MAY SKY SWEEP

by Kevin Jones

R.A./DEC. DESCRIPTION

02215+5708 - Double Cluster in Perseus. In Milky Way between Perseus and Cassiopeia. Big & Bright. A lovely starfield and a real showpiece. Use wide-angle eyepiece or binocs. Also: Stock 2, a very large (>1 degree) cluster of 10th magnitude stars is about 3 degrees to N. Use rich-field scope or giant binoculars.

02290+6724 - Iota Cassiopeiae, Triple Star. Mags 4.7, 7.0, 7.1. 2.3", 8.2" separations. Yellow-bluish-bluish.

02506+5553 - Eta Persei, double star. Mags 3.8, 8.6. Separation 28.4". Yellow and blue.

06089+2420 - M35, Open Cluster in Gemini. Just above foot of Castor. Bright (m5.5) & large. Fainter (11th mag) and more distant cluster NGC 2158 to SW.

07346+3154 - Castor, double star. Mags 1.97, 2.95. 1.8" separation. 350-year binary. YY Geminorum (Castor C) (eclipsing binary +/- 9th mag) at 73" PA 164 degrees.

08404+1941 - M44, Praesepe in Cancer. Directly between Pollux and Regulus. Large bright cluster of yellowish stars. Easily visible to naked eye from Crockett Park.

09556+6904 - M81/M82, Galaxies in Ursa Major. 2 close galaxies, M81 spiral, M82 irregular/exploding. Dust lanes visible in M82.

10199+1951 - Gamma Leonis, Double Star. Both deep yellow. Mags 2.3, 3.5. Sepataion 4.4". 407-year binary.

11147+5501 - M97, Owl Nebula. 12th magnitude. Close to Merak. Faint, large, and very round. Filters (UHC, etc.) help.

12245+2543 - Coma Cluster (Melotte 111). Extra-huge (>5 degrees). Use binoculars. Don't bother using a telescope.

12308+1223 - M87, Galaxy in Virgo Cluster. Mag 9.3, size 3'.Giant elliptical, extremely massive and luminous. Radio source.

12364+2559 - NGC 4565, The Spindle Galaxy in Coma

Berenices. Mag 10.5, size 15'x1.4'. Classic example of an edge-on spiral.

12400-1136 - M104, Sombrero Galaxy. An outlying member of the Virgo Cluster. Dark dust lane. Bright: mag 8.2.

12417-0126 - Gamma Virginis, double star. Central star in the "Y" of Virgo. Mags both 3.65. Binary, closing rapidly (closest in 2007).

12561+3819 - Cor Caroli, Double Star. Only slight color contrast. Mags 2.9, 5.6. Distance 20".

12568+2141 - M64, The Black Eye Galaxy. 8th mag. Monster dust cloud near nucleus. Globular M53 nearby.4

13239+5455 - Mizar, Double Star. Mags 2.27, 3.95. Separation 14.5". Also wide double w/ Alcor.

13267-4718 - Omega Centauri, Globular Cluster. Theoretically visible from around here. It's worth a trip south to see, though! (Why not go to Hawaii??)

13299+4712 - M51, The Whirlpool Galaxy in Canes Venatici. Bright interacting galaxy. Spiral structure easily seen. 13422+2823 M3, Globular Cluster in Bootes. Bright & round.

14450+2704 - Epsilon Bootis, double star. Magnitudes 2.7, 5.1. 2.9" apart. Colors yellowish-bluish. A pretty double.

15185+0205 - M5, Globular Cluster in Serpens. Very bright. Round.

15394+3638 - Zeta Coronae Borealis, double star. 5th and 6th magnitude stars 6.3" apart. Easy pair.

16417+3627 - M13, The Hercules Cluster. Wow. Look for 11th mag. galaxy NGC 6207 nearby.

17147+1424 - Alpha Herculis, double star. Ras Algethi. Mags. var(3.0-3.8), 5.4. 4.6" apart. Red-green.

17322+5511 - Nu Draconis. double star. Mags. both 4.9; 62" apart.

17419+7210 - Psi Draconis, double star. Mags. 4.6, 5.8. 30.3" apart. Fixed pair.

18444+3940 - Epsilon Lyrae, double-double star. Wide borderline naked-eye pair; each component itself a close double. Wide pair 207.8", close pairs 2.8", 2.3". All stars 5th or 6th magnitude.

19307+2758 - Albireo, Double Star. Beautiful blue-orange contrast. Mags 3.2, 5.4. Separation 34.6".

SPECIAL EVENTS

by Bob Ridgley

Those of us who live in the Washington metro area tend to take our many cultural advantages for granted. One of them is the National Air & Space Museum. NASM not only provides us with outstanding exhibits, but also lectures which are related to astronomy and space exploration. Tours, and classes are available thru the Resident Associate Program. Some of the current exhibits and lecture offerings which might be of interest to us are as follows.

"Calling All Stars" is the new show at the Albert Einstein Planetarium. It traces the search for extraterrestrial intelligence, from ancient folklore to the latest scientific investigations. Shows are presented ten times each day, seven days a week. The first show begins at 10:50 a.m., except on Tuesdays and Thursdays, when they begin at 12:50 p.m. Tickets are $2.25 for adults; $1.25 for students, children, and senior citizens. Incidentally, NOVAC's own Geoff Chester participated in the development of this show. Nice work Geoff!

"Other Suns, Other Worlds" is a lecture series devoted to stellar and planetary evolution. Sponsored by The Perkin Elmer Corporation all lectures are free and are open to the public. The remaining three lectures in this five part series are:

> **"Early Star Formation and Planet Formation"** given by Frederick M. Walter a research associate and fellow at the Center for Astrophysics and Space Astronomy at the University of Colorado at Boulder. Recent discoveries of large numbers of "naked" T-Tauri type stars, without large amounts of circumstellar material, may force a reevaluation of the numbers of potential planetary systems throughout the galaxy. The lecture will be held in the Albert Einstein Planetarium on Wednesday, April 12, at 7:30 p.m.
>
> **"The Hot Stars of Planetary Nebulae"** Sally Heap, a research Astronomer at the NASA Goddard Space Flight Center, and her colleagues study the super-hot central stars within planetary nebulae. The surface temperatures of these white dwarf stars often reach a half million degrees kelvin. Listen to this lecture in the Albert Einstein Planetarium on Wednesday, May 10, at 7:30 p.m.
>
> In **"The Supernova Story"** you will learn something about the colorful history of supernove observations, from the earliest sightings of "new stars" by the Chinese court astronomers to the high-tech observations of the 20th century. Laurence A. Marschall, a professor of physics at Gettysburg College in Gettysburg, Pennsylvania, will discuss the remarkable flurry of new discoveries -- and new puzzles -- which have followed the announcement of Supernova 1987A. Come listen on Wednesday, June 7, 7:30 p.m., in the Albert Einstein Planetarium.

The Monthly Sky Lecture for April will feature the Martian Explorations of Lowell and Campbell. The date is Satur-

day, April 1, at 9:30 p.m.; the place is the Albert Einstein Planetarium.

The Monthly Sky Lecture for May will by given by Fred Espenak of the NASA-Goddard Space Flight Center. The topic will be "Solar Eclipses." It's in the Albert Einstein Planetarium on Saturday, May 6, at 9:30 p.m.

Search for Extraterrestrial Intelligence Lecture Series (SETI). In conjunction with the new planetarium show (described at the top of this article) NASM and the Harvard-Smithsonian Center for Astrophysics have sponsored a four part lecture series about the search for Extraterrestrial Intelligence. Unfortunately we have missed the first three. The last lecture is titled **"The Wider Search: Signals of Intelligence."** If funding is approved, some time in the early 1990's NASA will begin the Search for Extraterrestrial Intelligence Microwave Observing Project. The lecture will describe the rational for a microwave search, the technical advances that have made it possible, the planned observational techniques, and the actions that might result from the successful detection of -- or failure to detect an ETI signal. The lecturer is Jill C. Tarter, the Principal Investigator for the SETI Institute. Come and listen; it's in the Albert Einstein Planetarium on Wednesday, April 5, at 7:30 p.m.

And last but not least, one of Washington's most overlooked treats. It's a festival of flight, a celebration of space and an outstanding outing for the entire family. It's the **Annual Smithsonian Garber Facility Open House,** in Suitland Maryland...are you listening Al? It's Saturday and Sunday, April 29-30, from 10 a.m. to 3 p.m. For directions call 357-2700. The Garber Facility houses the museum's restoration workshops well as its reserve collection of historic air and space craft. The open house weekend is an opportunity to browse thru six vast exhibit buildings and view hundreds of artifacts, from Piper Cubs to Japanese warplanes, from rocket engines to antique Chinese "fighter kites". You can talk to the skilled mechanics and watch them restore famous aircraft such as the Boeing B-29 "Enola Gay"! The facility's Archives have thousands of aerospace photographs which can be viewed on a videodisc machine. Also a telescope will be setup for solar viewing. This is a must for those of you who are interested in flying or space flight! Am I running on...sorry.

Although I will faithfully try to keep us all informed about lectures and happenings at NASM anyone can write for a free events calendar to: Calendar, Room 3363, National Air & Space Museum, Washington, D.C. 20560. For information about Smithsonian public programs, please call (202)-357-2700 or 357-1729 (non-voice TDD).

IT REALLY HITS THE SPOT

by Al Schumann

"Vern, sometimes you just get lucky. Know wot I mean?" Ernie isn't the only one who can hit the jackpot now and then. At times we all get lucky. Take late last year, for example. *ASTRONOMY* Magazine had printed the transit times for Jupiter's Great Red Spot (GRS). I had never made a concerted effort to study this phenomenon, but the GRS was scheduled to transit the meridian at about lO p.m. on November 9th. Since both my calendar and the skies were clear I set up shop in the back yard.

Deep sky seeing wasn't all that good, but the atmosphere was remarkably steady for planetary viewing. After the tube cooled I popped in a 9mm eyepiece (222X), focused carefully and found the GRS in the southern equatorial belt. It had not quite reached the meridian, but it was as plain as can be. Also visible was a small black spot. It was smaller than a bread box but bigger than a fly speck, and for a full minute I looked at the corrector plate trying to find a blob of dirt. Next, out came the eyepiece for cleaning. Finally, it dawned on me that it was the shadow of one of Jupiter's moons!! One of the four Galilean moons was passing between Jupiter and the sun and tracing its shadow on the high clouds we think of as Jupiter's surface. I wondered how many Jovian residents were oohhing and aahing as the solar eclipse came and went.

Europa was the eclipsing moon, by the way, and its shadow appeared to be a beauty mark pasted on the lower right hand edge of the Great Red Spot. For two hours I sat -- spellbound -- watching that sight as both objects moved across Jupiter's surface and finally faded away.

One last note. The Great Red Spot ain't red any more. To me it looked more like the color of egg nog. Bob Ridgley allowed as how it should be renamed the Great Beige Spot. However, by any other name the Red Spot would be a visual treat. If it is accompanied by the shadow of an eclipsing moon that's the luckiest visual treat of all.

LET'S KEEP IT CLEAN

by Bob Ridgley

Want to strike terror into the heart of most any amateur astronomer? Just tell them that their corrector plate, primary mirror, or objective lens is dirty and needs to be cleaned. Then stand back and watch the anxiety attack.

There are as many "how to" articles, special solvent mixtures, and sure-fire techniques as there are telescopes. Some experts even recommend postponing the inevitable by advising that optics are better off not being cleaned then being damaged by improper cleaning. This is probably not bad advice; but not very encouraging, especially to people who are taking their first shot at cleaning precision optics!

Well there just might be a better way. The folks at Bradford Laboratories, in Mountian View, California have developed a new product called OPTI-CLEAN POLYMER. It's a mixture of water, methanol (wood alcohol), and a urethane polymer. A thin layer of the clear, viscous fluid is

brushed onto any optical surface, allowed to dry, and then striped off. Bradford's brochure states..."As the coated film cures, it forms a mechanical bond to the surface. As this occurs, the polymer shrinks and mechanically picks up surface particulates forming a secondary bonding to organics present on the surface, encapsulating both. When the cured film is removed, it carries the surface residuals with it, leaving the surface clean." I have had an opportunity to use the product and am very pleased with the results.

OPTI-CLEAN unlike other strippable films is relatively safe to use in the home environment. Normal safety precautions should be used; no smoking nor open flames, and good ventilation. The same as those which you would use when spray painting. It does not give off strong fumes, only water vapor and alcohol. The cured film, claims the manufacturer, is biodegradable so disposal is not a problem.

In applying it to small optics such as eyepieces, binoculars, and diagonal mirrors, I have found that a small sable brush does the job nicely. Larger optics call for the dribble from the bottle and spread with the brush technique. Brushes may be cleaned with alcohol; spills can be stripped after they dry. Removal of the cured film requires the use of peel-tabs. I use adhesive mailing labels. Place one at the outer edge of the well cured film, press into place and allow it a few minutes to adhere. Then gently pull toward to center and presto, off comes the film with the dirt.

You can purchase OPTI-CLEAN directly from the manufacturer: Bradford Laboratories, 1157 San Antonio Road, Mountian View, California 94043-1002 (tele 408-745-0185). A pint costs $45.00 plus shipping. Expensive but a little goes a long way. I have cleaned binoculars, several eyepieces, a 10-inch corrector plate, and a 13-inch mirror and barely put a dent in the pint bottle. If you just can not wait to try it, Company Seven (tele 301-953-2000) in Laurel, Maryland will soon be stocking it.

A demonstration will be conducted at the April general membership meeting. Now if we can only get rid of neon signs, high pressure sodium and mercury vapor street lights....

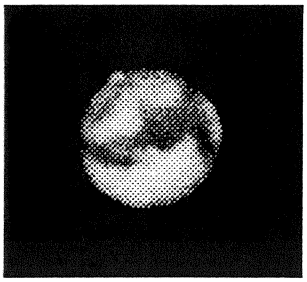
SON OF MOONWATCH

by Al Schumann

For those of us who were skunked on the last effort, we have another chance to play "Spot the Young Crescent Moon." The U.S. Naval Observatory has again put out a call for reports from observers who search for the young moon on the evening of April 6.

Observers should have an unobstructed western horizon and begin searching about half an hour after sunset.

Negative reports are also important; so, even if you do not see the moon, crank out a report. In a post card or a note including your name, observing location and whether or not you saw the moon. Send reports to: Moonwatch, Nautical Almanac Office, U.S. Naval Observatory, Washington, D.C. 20392.



MARS

Blaine Korcel to this photograph of Mars on October 1, 1988 from his backyard in Springfield, Virginia. Exposure was made on 2415 Tech Pan film for 1/8 second. Eyepiece projection was used with a 15mm Parks Erfle combined with a 2x barlow yielding 213x. The telescope was an 8-inch F/8 Newtonian.

A MATTER OF ATTRACTION

by Laurel Wanrow and Bill Burton

This spring Laurel Wanrow, board member of NOVAC, will wed Bill Burton, fellow club member. They first met on January 10, 1986 at the Halley's Comet Watch at Braddock Park, and again thereafter at club meetings and observation sessions. Bill was first attracted by Laurel's exquisite photos of Comet Halley, and Laurel found irresistible Bill's eight-inch Newtonian. One thing led to another, and on May 28th they will become a gravationally bound mutually orbiting double-star system!

Editors Note:
One of our June clubs nights will be dedicated to wishing them well on this happy occasion. The next issue of the newsletter will have details.

ADVERTISEMENTS

For Sale, contact Al Schumann at 971-3257: Two University Konig eyepieces; a 32mm - $50.00, and a 12mm - $40.00. Both are in ecxellent conditions.

For Sale, contact Jim Schaeffer at 476-5624 (home) or 281-6363 (office): CAPS, baseball type, mesh back, adjustable, NOVAC logo, $5.95 (you pick-up), $7.75 (UPS ship); JACKETS, nylon/satin, NOVAC logo on front & back, elastic at sleeves, neck, and bottom, very good quality, sizes s, m, l, xl $34.95; TELRAD finders, $38.00.

The NOVAC NEWSLETTER is published six times a year. Subscriptions are available through membership in NOVAC. Dues are $10.00 per year. For club membership information contact Al Schumann, Secretary, 6121 Rivanna Drive, Springfield, Virginia, 22150, telephone: 703-971-3257.

NOVAC

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WASH. D.C.
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MAR 23
1989
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