NOVAC

THE NEWSLETTER OF THE NORTHERN VIRGINIA ASTRONOMY CLUB

Issue Number 59 **Volume 15** **May/June 1995**

President's Column

by Bob L'Hommedieu

Astronomy Day

This month NOVAC will celebrate Astronomy Day on May 6 with a club Picnic and Swap Meet for our membersstarting at 4 PM. and a public star party at Crockett Park beginning at dusk. We have reserved a picnic pavilion at the park for the festivities. All members are invited and encouraged to attend these events.

Bring your family and a picnic dinner out to the Park and enjoy a get together with other club members. The Park has a variety of day time activities such as fishing, hiking, and boating that would make for good family fun. This year we will also have a Swap Meet during the picnic. Bring those astronomy items that you want to sell or trade and see what treasures other members bring. You might find that eyepiece, filter, or accessory you have been wanting at a bargain price.

Astronomy Day is a national event to promote astronomical interest and appreciation of the night sky among the general public. NOVAC does its part by holding a public star party. We have advertised the event and expect a large turn out. Bring your equipment out to the Park and watch a child's face light up when you show them the beauty of the heavens. Adults as well as children delight at seeing the moon, stars and planets through a "real" telescope for the first time. I believe we have as much fun during Astronomy Day as the public does. Come out to Crockett Park on May 6 and be part of it. □

What's Up

by Al & Lynn Schumann

The Astroscan Caper

We have a couple of grandsons who are nearing the age of reason, and we figure that one of these days we shall introduce them to the stars. At least that's the excuse we used when we bought Ron Bashian's Edmund Scientific Astroscan 2001. We're sure all of you have seen the little red ball-like telescope advertised in the astronomy magazines. It's a 4 1/4" (108mm) f/4.2 reflector with a focal length of 17 1/2" (445mm). It's a cute little thing. It is light weight and easy to handle. It comes with a 28mm eyepiece which yields 16X and gives a 3 degree field of view. The telescope also comes with a base which can be used on a table top or affixed to a regular photo tripod. A backyard checkout with the latter setup was not all that satisfactory. If the vertical friction lock on the tripod pan head slipped, or was inadvertently loosened just a bit, the base would remain firmly bolted to the tripod, but it's bye-bye telescope! Back in September, 1991, *Astronomy* magazine ran an article about making a PVC tripod for an Astroscan. We dug out the article and put together one of those little rascals in a few hours. It works like a charm and gives us more peace of mind. There is at least one other of these PVC tripod-Astroscan combos in NOVAC. We remember seeing it out at Crockett Park some time ago. Maybe we should start a sub-club.

Crockett Park

March 25 was probably the best night ever at

(Continued on page 2)

Inside This Issue

(Continued from page 1)
Crockett Park. The skies were magnificent. It was chilly but tolerable, and there was no dew at all. The usual suspects were on hand to enjoy the great conditions. Twilight seemed to last an inordinately long time. Brent Archinal pointed out that twilight was long gone and what we were seeing was zodiacal light. He explained that the phenomenon was most obvious around the time of the equinox. What we saw was sort of a pyramid of light with the base along the western horizon and the tip of the cone stretching up towards the zenith. It was quite a sight, and one which would have passed unnoticed without Brent's tip. There were some grand telescopes out there. Bob Bunge had his monster reflector in operation, and sky conditions were so good, he was pulling in stuff right on the horizon–objects which normally could not be seen unless the observer were much, much further south. There was a bodacious 7-inch Astro-Physics refractor on the scene. That too, gave us some stunning views, especially of Jupiter, even when it was still low in the sky. There was a home built 10-inch dobsonian that was very cleverly designed. It had a truss tube and a low profile mirror cell and rocker box on the order of the Obsession or Starsplitter telescopes. The things which made this instrument stand out were the nifty little personal finishing touches. Great job.

Maiden Voyage

That same night saw the first real test of our new Astroscan. Performance was a lot better than expected. In fact, it was downright impressive. After looking at a host of objects, it was clear that this was no mere toy. It's a legitimate telescope. However, it is not without its faults. Low power is the only way to go. Trying to change eyepieces is tough. When attempting to increase the power with a different eyepiece, you can't help but move the telescope and change the focus–a lot. Then it's a major challenge to relocate the target. When (if) you do find it, the field of view seems so restricted that you miss out on too much. Planets? Forget it! You're better off with the naked eye. It was in the deep sky arena that the rich field nature of the instrument really paid off. Open clusters were very pretty. With the Pleiades and the Beehive, you get to see the whole thing. Globular clusters were readily identifiable, and the telescope drew in a number of the brighter galaxies. Overall, it was a success. Can't wait to surf the summer Milky Way. It should be quite a sight going through Sagittarius and Scotum, for example. Of course, one of the best features is portability. Packing up after a night's run takes all of a minute, a minute and a half if you want to take the time to put the telescope back in the bag.We are going to have fun with this little thing until we turn it over to the kids.

May 17

We're working up a program for the May meeting at the planetarium. The subject is accessories, and we're putting it on videotape. We have a lot of stuff to cover, and we'll try to have some fun at the same time. No tickets required. As usual, our program is rated G.

A Cry for Help

We have been making life difficult for NOVAC newsletter editors for the last three years. That's how long we have had our computer. We do not mean to be contrary, it's just that we haven't been able to figure out how to upload articles to the bulletin board so they can, in turn, be downloaded swiftly and easily. What we need is a guru who will be willing to show us how to do it, and to help us prepare a step-by-step checklist, in plain English, so we'll remember how it's done the next time. If anyone is interested, please give us a call at (703) 971-3257. □

Theft of the Night

by David L. Crawford

A priceless part of our human heritage is fading into the night sky.

Most American are growing up unable to see the stars their grandparents knew so well. They see the night sky only in pictures or at planetariums. This is true not only in cities, but also in many suburbs where street lamps and other sources of light pollution have obscured our view of constellations, meteor showers, and planets.

Indeed, many youngsters may now say, after viewing the night sky in a rural area for the first time, that "it looks like the planetarium."

Light pollution is not a matter of life and death. Yet is is important nonetheless, profoundly so. We human beings lose something of ourselves when we can no longer look up and see our place in the universe. It is like never again hearing the laughter of children; we give up part of what we are.

Such a loss might be acceptable if light pollution were the inevitable price of progress, but it's not. Most sky glow is unnecessary. The light that obscures our view of the night sky comes mainly from inefficient lighting sources that do little to increase nighttime safety, utility, or security. It produces only glare and clutter, costing more than $ 1 billion annually in wasted energy in the United States alone.

For science, the impact has been even more tangible and adverse. Astronomers require observations of extremely faint objects that can be made only with large telescopes at sites free of air pollution and urban sky glow. For example, scientists interested in how the universe was formed may study the light of galaxies and quasars at incredibly vast distances from Earth. These images offer information about faraway corners of the universe, helping us understand how our own world was formed. Yet, after traveling countless light years, the light from these objects can be lost at the end of its journey in the glare of our own sky.

Space-based telescopes, such as the Hubble Space Telescope, offer one way around the problem. However, large telescopes on Earth will be always be used, if only because they are accessible, cost much less than orbiting devices, and can do many jobs more cheaply.New telescopes now planned or under construction on Earth will complement the knowledge we gain from telescopes in space, but only if they are not compromised by encroaching light pollution, as has occurred at Mount Wilson, near Los Angeles, and several other older observatories.

Reducing light pollution requires that public officials and ordinary citizens be aware of the problem and act to counter it. Low-pressure sodium lights, for example, can replace existing fixtures for most street, parking lots, and others locations. They reduce glare and save money.

Another fairly painless way to reduce light pollution is with outdoor lighting control ordinances, over fifty of which have been enacted in Arizona, California, and Hawaii. These measures typically require communities to prohibit inefficient, low-quality lighting. Not only do they help preserve dark skies, but they also enhance energy efficiency. An outdoor light system recently installed at a prison in Arizona, for example, improved security and reduced light pollution while cutting energy costs by fifty percent. There is no reason that all communities should not have such efficient lighting.

On an individual level, people can help reduce sky glow by using night lighting only when necessary, choosing well shielded fixtures and turning off lights when they are not needed.

Curing light pollution saves money while reducing glare. The stars above us are a priceless heritage, not only for scientific knowledge, but also for our identity as human beings. □

Dr. Crawford is an astronomer at the Kitt Peak National Observatory in Tucson and is also the Executive Director of the International Dark-Sky Association.

This article is taken from in a National Academy of Sciences press release in December 1989. It is just as apt today as in 1989.

Sky Sweep

by Kevin Jones

The late-spring evenings of May and June are perfect for galaxy hopping in the Coma-Virgo Cluster of galaxies: the star-poor but galaxy-rich region of sky between Coma Berenices and Virgo is high overhead. This issue's column will spotlight seventeen Messier galaxies in and around the Coma-Virgo Cluster.

Before diving into the galaxies, however, there are a couple of globular clusters high in the north which are worth a look. The first of these, **M3**, is tucked away in a star-poor corner of the constellation Canes Venatici, close to Boötes and Coma Berenices. It can be found by extending a line drawn through the two brightest stars in Canes Venatici, from Asterion (beta Canum Venaticorum) through Cor Caroli (alpha Canum Venaticorum). Continuing this line to the southeast about two and a half times the separation between these stars extends it to the location of M3. M3 is a very bright globular cluster—it shines at sixth magnitude and can easily be found in binoculars or finderscopes if you know about where to look. M3 has an angular diameter of about ten arcminutes, roughly a third that of the full Moon. It is thought to be located above the plane of the Milky Way about 30,000 light-years away and to be a little less than 100 light-years across.

The second globular is smaller, dimmer, and more distant than M3. **M53**, in southern Coma Berenices, is roughly twice as far away as M3, only a third M3's angular diameter, and glows at eighth magnitude. M53 can be found just north of Alpha Comae Berenicis, the southernmost "bright" star in Coma Berenices. Through the finderscope, M53 is located just off the tip of a distinctive asterism which reminds me of the summer constellation Sagitta, the arrow.

Okay, on to the galaxies. The first galaxy on the agenda is the **Black Eye Galaxy**, **M64**. This Sa or Sb spiral galaxy is located about four degrees to the northwest of M53, within a 30-60-90 degree triangle asterism about three degrees across. M64 shines softly at ninth magnitude and is about six by three arcminutes in angular size. Telescopes of apertures larger than about six inches can reveal an unusually large opaque dust lane near the nucleus of this galaxy. This dust lane, known as the "black eye," is the origin of M64's common name.

The following fifteen Messier galaxies are all located in the heart of the Coma-Virgo Cluster. They are all thought to be about 65 million light-years distant (give or take only 20 million light-years or so), and they all glow faintly at tenth or eleventh magnitude. Because this area is so densely packed with faint galaxies, identifying these galaxies can sometimes be a bit of a challenge. In order to make positive identifications of Coma-Virgo galaxies, a good star atlas such as Uranometria 2000.0 is a very handy thing to keep on hand!

M85 is located in Coma Berenices about ten degrees to the west-southwest of M64. It is an S0 or transitional elliptical galaxy, three by two arcminutes in angular size.

M100 can be found about three degrees south and slightly west of M85. M100 is a fairly large nearly face-on Sc spiral, five minutes of arc in diameter.

Three degrees to the west-southwest of M100, just west of the fifth magnitude star 6 Comae Berenicis, **M98** is located. This galaxy is a long, nearly edge-on Sb spiral galaxy, eight arcminutes in length but only two in width.

M99 is just a degree and a half to the east-southeast of M98. M99 is an almost face-on Sc spiral galaxy, four arcminutes across.

About three and a half degrees east of M99 is **M88**, the last galaxy in Coma Berenices that this column will address. M88 is an Sb-type spiral galaxy, highly inclined to our line of sight. It is about six by three arcminutes in angular size.

M91 is regarded by many as a lost Messier object—perhaps an unintentional duplicate observation of M58, or perhaps a comet. Some completists, however, have assigned the designation M91 to **NGC 4548**, a face-on barred spiral galaxy only a degree east of M88. Whether or not Messier actually observed NGC 4548, it is a pretty galaxy worth sweeping up, particularly given its proximity to M88.

Two degrees south and just east of NGC 4548 is **M90**, located just on the Virgo side of the Virgo-Coma Berenices constellation boundary. This galaxy is an elongated Sb spiral, seven arcminutes in length by three in width.

M89 is found a degree to the south-southeast of M90. M89 is a round elliptical galaxy two arcminutes in diameter.

The pair of elliptical galaxies **M59** and **M60** is located two degrees to the southwest of M89. These galaxies are nearly round, two and three arcminutes in diameter, respectively. They are only separated by half a degree or so.

A degree to the west of this pair is the Sb spiral **M58**. M58 is presented nearly face on to us and appears nearly circular, four arcminutes in angular diameter.

Two degrees to M58's west-northwest is the peculiar giant elliptical galaxy **M87**, also known as the radio source **Virgo A**. Photographs reveal a jet of matter being ejected from this galaxy's nucleus, thought to harbor a large black hole. Through the telescope, M87 simply looks like a placid ball of tenth magnitude light, three minutes of arc in diameter.

Two degrees to the west-northwest of M87 is the pair of elliptical galaxies **M84** and **M86**. These galaxies are separated by only a fraction of a degree and are two and three minutes of arc across, respectively.

Six degrees south and slightly east of the M84 and M86 pair is another Messier elliptical galaxy, **M49**. This galaxy is about three by four arcminutes in angular size.

M61, the final Messier galaxy that is thought to be a physical member of the Coma-Virgo Cluster, is located five degrees to the south-southwest of M49. M61 is a fairly large face-on Sc spiral galaxy, six arcminutes in diameter.

In southern Virgo, south of the Coma-Virgo Cluster of galaxies, the **Sombrero Galaxy**, **M104** is located. This eighth magnitude spiral can be found about ten degrees due west of Spica (alpha Virginis). M104 is seen nearly edge-on and appears quite elongated through telescopes—its angular dimensions are about seven by two arcminutes. Long exposure photographs of this galaxy show it has a sharp, narrow dust lane extending along its equatorial plane. This dust lane along with the galaxy's central bulge give M104 its "sombrero-like" appearance. M104 is not considered a true member of the Coma-Virgo Cluster of galaxies. It is thought to be located at only about half the distance to the cluster. □

Observing Courtesy

No white lights, please.

Put some red plastic over the lens of that flashlight to preserve night vision.

Thanks!

The Recreational Astronomer: Observing Logs

by Jon Stewart-Taylor

Welcome back to the Recreational Astronomer. In this column we'll look at observing logs, a very important and often neglected tool of Recreational Astronomy. They're often considered inconvenient to keep, or thought to get in the way of actual observing. However, a well-kept log isn't really an obstacle, and can contribute significantly to the enjoyment of astronomy. And that's what Recreational Astronomy is all about.

Why and When?

Why would you "waste" time keeping a log instead of spending the time observing? There are several reasons. An observing log helps you to preserve and to relive your experiences. Re-reading old logs can bring back memories, especially small details easily forgotten. A well kept log is a requirement to qualify for any of the Astronomical League observing program certificates. And especially important, filling in the log can help you to train your eye and mind to make you a better observer, and to get more out of your observations. You should keep a written log during every observing session.

Observing logs can have many different levels of detail, so you may wish to keep more than one to accommodate the different types of observing you do. You may want to keep a small notebook for casual sessions, and a larger one for more serious work. When working on one of the observing certificates, you should probably keep a separate log for it. But, the main thing is to record every observation.

What's in a Log?

How you record your observations is up to you, but it usually makes sense to separate your log into two parts. One is for the session itself, containing information which won't change much over the course of the night. The other contains entries for observations of individual objects. For both sections, you can reduce the amount of writing you do by establishing codes for frequently repeated words or phrases. Make sure you use the codes consistently, and keep a key handy in case you forget what a particular code means.

What data should you record during your observing? That varies depending on what kind of observing you're doing. As a starting place, important data for the overall observing session would be:

- Date
- Observing site
- Beginning and ending times
- Equipment available
- Number of other observers
- Moon phase and altitude
- Seeing
- Limiting magnitude
- % cloud cover
- Approximate temperature

Although that seems like a lot, you only have to record it at the beginning and end of each session, and it only takes a minute once you get the hang of it.

For each individual observation, the data to record vary depending on what you're observing and how seriously you're observing it. Some things to consider recording:

- Object observed
- Instrument (type, aperture, and eyepiece)
- How hard or easy was it to find? What and where were the locator stars? And asterisms?
- General notes on appearance (distinctive shape, dust lanes, spiral structure, resembles other objects, etc.)
- Number of stars (for open clusters)
- Size of object (changes with aperture sometimes)
- Elongation and direction of elongation
- Brightness
- Color (if any)
- Other objects in field
- Central star visible? (for planetaries)
- Ratio of ring thickness to diameter (planetaries)
- Effects of filters (for most nebulae, if you use filters)
- Sketch of object

That really is a lot, but even so it's not exhaustive. Pick and choose what's useful to you, and periodically review your logs to see if something else should be recorded, or if something isn't useful.

Sketching the object is more important than many people realize. Even crude sketches can be very effective at jogging your memory later. They are also useful for comparing against photographs for positive identification of the object or features you've observed.

A Happy Medium

You can record your observations on any media which make sense for you. Examples are standard loose-leaf note books. note cards, loose sheets of paper, or spiral-bound notebooks. The main thing to consider is that a useful log is small enough to carry easily, big enough to be able to find in the dark, heavy enough not to blow away in a good breeze, and readable under red light.

Some people find it useful to keep observing logs in a computer database, particularly if you have a laptop, or you already have a computer controlling your telescope. Some people like to record their observations on tape. This is probably the easiest method in the field, but it does require a functioning tape recorder with fresh batteries, and the recordings must be transcribed afterwards. Unless you are a very concise recorder, the transcribing may take longer than the original observing session.

If you are observing a particular set of objects, such as for a Messier certificate, a spiral-bound set of 3x5 or 5x7 note cards can work very well. Record a single object on each card. You can put a chart showing the location of the object on the back of the preceding card. I like to photocopy pages from my star atlases, draw an Telrad and eyepiece field-of-view rings, and then cut out the area containing the object and glue it onto the card.

Finally, try to make the first draft of your log the last draft. If you must transcribe your logs, resist the temptation to edit the entries. If you do, you may lose some of the info which makes the log valuable, or unintentionally add info from other sources. You'll want your observing log to be the truest record of your session as possible.

Acknowledgements

My thanks to Bill (wclarke@qualcomm.com) and Olivier (THIZY_OLIVIER/hp-roseville _om1@hpchase.rose.hp.com) for thoughtful articles about observing logs in the Usenet newsgroup sci.astro.amateur.

— Jon

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Observing Courtesy

If you are using someone else's telescope, please ask the owner before adjusting the telescope.

Sky Calendar for May/June 1995

Compiled by Luke Ward

Times are EDT. Sources include *Astronomy Observer's Guide* and *Sky And Telescope*.

May

3 Eta Aquarid meteors (first quarter moon, good observing). Rate ~ 30 per hr.
Observing at Savage and Parsells for meteors
5 **Observing at Parsells**
6 ***Astronomy Day- picnic and star party at Crockett Park***
11 Mercury at 22° eastern elongation (evening sky)
15 Moon 2° N of Jupiter (10 p.m.)
17 ***NOVAC Meeting, 7:30, Arlington Planetarium***
19 **Observing at Parsells/Savage/Crockett**
20 **Observing at Savage/Crockett**
21 **Observing at Savage**
22 Saturn's rings exactly edge-on (4 a.m.)
24 Mars 1° N of Regulus, closest approach
26/27 **Observing at Savage/Crockett**
27 Moon 0.8° N of Venus (morning)
28 **Observing at Savage**

June

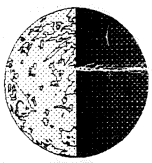
1 Jupiter at opposition
2/3 **Observing at Savage/Crockett**
4 **Observing at Savage**
5 Moon 5° S of Mars
9 **Observing at Parsells**
12 Moon 2° N of Jupiter
16 **Observing at Parsells**
18 Mercury 1.1° N of Aldebaran (morning)
19 Mercury 4° S of Venus (morning)
21 Summer begins, longest day. Sun sets at 8:37 in Washington.
NOVAC Meeting, Arlington Planetarium
23/24 **Observing at Savage/Crockett**
25 **Observing at Savage**
25 Moon 0.6° N of Mercury (morning)
26 Moon 3 ° S of Venus
29 Mercury at 22 ° western elongation (morning sky)
30/1 **Observing at Savage/Crockett**

Rise And Set Times

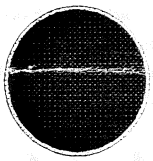
Day	Sun	Planets Visible Mars	Jupiter	Saturn
5/20	5:52-8:18	Sets 2:07 AM	Rises 9:07 PM	Rises 3:04
6/24	5:44-8:37	Sets 12:26 AM	Sets 4:06 AM	Rises 12:43

Lunar Phases

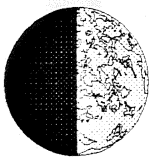
Last Quarter
May 21
June 19



New Moon
May 29
June 27



First Quarter
May 7
June 6



Full Moon
May 14
June 13

Planet Positions

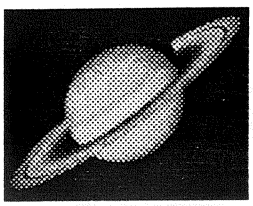
Mercury- be sure to observe this year's best evening apparition! On May 1 and 2, Mercury is placed just to the left of the Pleiades cluster in the West. Mercury will be best observed on May 10, when it will be at its highest. It will be gone by May 22. It will be high in the morning sky on June 29.

Mars- now closing in on Regulus. On May 24, they will be at their closest, only one degree apart. Mars is too far away for telescopic detail. Magnitude: from +0.5 to 1.5.

Jupiter- rises in the early evening during May, and will be up by sunset in June. Opposition June 1. Near Antares. Mag: -2.5.

Saturn- in early morning sky. Earth will pass through the ring plane on May 22, when rings will appear edge-on. Mag: 1.3.

Venus- will sink further into the morning twilight. On May 27, European observers will witness the Moon totally cover Venus. In Washington, the moon will rise near Venus a few hours later. Mag: -3.9.

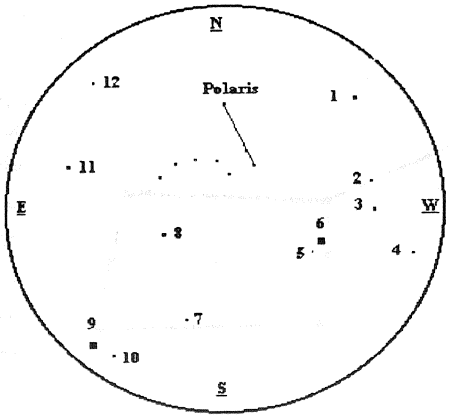


CALL Smithsonian Sky and Planet Information, (202)357-2000. Info on constellations, planets, and satellite passes. Updated Tuesdays.
CALL the NOVAC HOTLINE, (703)256-8359, for schedule updates.
CONNECT to NOVAC's WWW site, http://novac.ssg- reston.tandem.com:2080/novac This site has a wealth of Skyglobe images and monthly event calendars

Meeting Programs

MAY 17, 1994- the Schumanns present "Equipment and Accessories".

JUNE 21, 1994- Dr. William Webster of NASA's Goddard Space Flight Center talks about Exploring the Solar System.



Star Quiz...

Here is the sky as it appears in the early evening during May. Polaris and Ursa Major are added for orientation. See if you can match the numbers to the names of the stars. Numbers 6 and 9 are planets. Answers appear on the next page.

Answers to Star Quiz

(1) Capella, bright winter star; (2) Castor; (3) Pollux, these are the twin stars of Gemini; (4) Procyon; (5) Regulus, star in Leo; (6) Mars, dimming from its fall opposition; (7) Spica; (8) Arcturus, one of the brightest stars; (9) Jupiter, making its evening debut; (10) Antares, fiery red star of Scorpio; (11) Vega; (12) Deneb, both in the Summer. Triangle.□

We continue with that extraordinarily popular feature, namely,

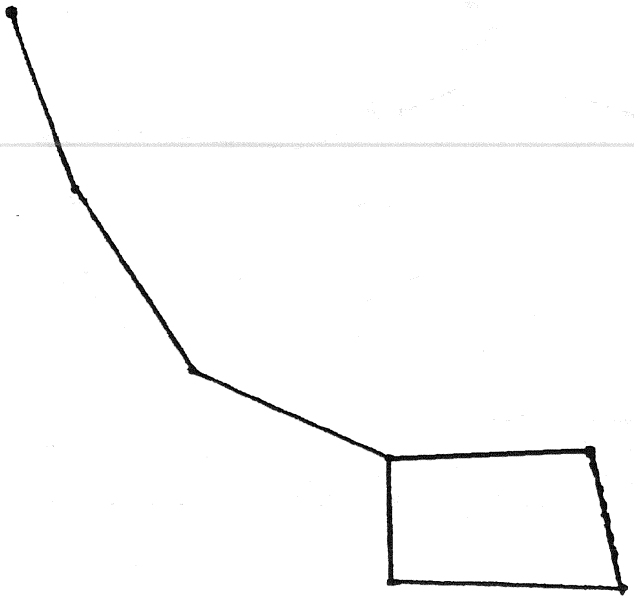
NAME THAT ASTERISM!

As you recall, asterisms that are visible at the time of the newsletter will be portrayed without any identification. The first part of the contest is to give the official name of the the asterism. The second part is to suggest other names for the asterism, to give information about the asterism, e.g., where the stars are in relation to one another, poems about the asterism, etc. The first person to correctly identify the asterism will be the winner of the first part. Interesting entries in the second part will be published. See Page 11 for instructions on how to submit entries to the newsletter (same as for articles).

I am pleased to name the winners of the first two contests: For Asterism #1, the first person to correctly identify the object as the Sickle in Leo was Jon Stewart-Taylor. Someone at the March NOVAC meeting suggested an alternate name "ice cream scooper", which I thought was great. Unfortunately I didn't't get his name. The winner for Asterism #2 was Jon Stewart-Taylor with the Kite in Boötes! Congratulations to Jon for a clean sweep. As a hint to you all, the asterisms in the contests are naked eye objects. Oh, yes, the asterisms may be presented differently, horizontally, rather than vertically, for example, than you are used to seeing them in the sky.

And now for

Asterism # 3



From: Brent Archinal

Mexican dinners before NOVAC meetings!

We're continuing our new "tradition" of trying to get together for dinner before the regular NOVAC meetings. This was something that was suggested at the NOVAC Annual meeting in January, as a way to provide an additional opportunity for members to get together (and in a well-lit room no less!). Anyway, this worked out well in February and March (and at this writing is on for April) with about a dozen members showing up for a fine dinner together.

So, if you're interested in meeting your fellow members at someplace other than a dark observing site, the get-together before the May 17th and June 21 (Summer solstice!) NOVAC meetings will again be at the Santa Fe Cafe in Rosslyn, at 5:45-6 PM. This is a nice Mexican restaurant with reasonable prices, but note that credit cards are not accepted. Smoking is apparently allowed in one part of this (large) one room restaurant, but so far NOVAC members and the few others dining at that time have not been smoking.

Directions: The Santa Fe Cafe is located at 1500 Wilson Blvd., in Rosslyn, with entrances off of both Wilson Blvd. and Clarendon Blvd. This restaurant is easily found, just west of "downtown Rosslyn", on the southwest corner of Wilson Blvd. and N. Oak Street, where Wilson splits becoming Wilson one-way west and Clarendon one-way east. From I66 east, take the Rosslyn exit to Lee Highway, and turn right at the second light onto Fort Myer Dr. Go two blocks and turn right onto Wilson, and the restaurant will be one block ahead on your left (on the corner across Oak/Clarendon from a big outdoor sculpture). On-street parking should be available and it is also close to the Rosslyn metro station.

As before, reservations are probably not necessary. However it might be nice to have some idea how many people are coming, so if you plan to come, need a ride to the meeting and back to the metro, or for more information or directions, you are welcome to give me a call (evenings) at 703-448-7466 or e-mail me at baa@casa.usno.navy.mil.

See you at the big dinner!

- Brent Archinal

Mid-Atlantic Star Party

June 28 - July 3 7 Miles SE of Robbins, NC

Come for a day (Sat.) or stay the entire week. The early registration fee is $10 per person for the event (an astronomer 15 years and younger is free if accompanied by a paying adult). The camping fee is $3 per adult per night. For registration information send a SASE to MASP, Occoneechee Council BSA, P.O. Box 41229, Raleigh, NC 27629 or email starman@email.unc.edu. There will be guest speakers, a swap meed, commercial vendors, contests, side trips, and five nights of star gazing. This site can tent camp thousands, will permit motor homes at the observing site and there is lodging nearby in Southern Pines and Sanford. A formal program and swap meet are schedules for Saturday followed by an awards ceremony and a night of star gazing on the hill (red lights only). A "white light permitted" parking area is provided out of sight of the observing hill for those who must depart in the dark.

Schedule:

June 28 Daily Wednesday through Friday

noon - registration opens

solar & daytime observing

dusk to dawn - dark sky observing - all the outer planets are visible

June 29 Thursday and Friday

(Continued on page 7)

Weather and Amateur Astronomy

by Todd Gross

From toddg@shore.net Mon Apr 3 05:36:13 1995

Received: To: edfein@cpcug.org

Subject: Re: WEATHER & ASTRONOMY: Planning your observing sessions.. Pt. 1

>Weather and Amateur Astronomy

>by Todd Gross

>Starting this month, I will be publishing a series of articles devoted to >Weather and Amateur Astronomy. This month's feature "Planning Your Observing

>Sessions, Based On the Weather - Part 1" is perhaps the most fundamental topic, dealing with planning on what KIND of objects you should be viewing on a given night. If you represent an astronomy club and would like to publish this series of articles, please contact me personally by EMAIL.

Please note, that while I may speak authoritatively, I am just an amateur astronomer, like you, and all the information above reflects my personal opinion(s) only based on my experiences to date.

Thanks!

Amateur Astronomy buff, and weatherdude..

Todd Gross

WHDH-TV Channel 7 Meteorologist, Boston.

Planning your observing sessions. (Based on the weather!)Part 1.

How many times this past winter did you venture out to view Mars and were met with an out of focus image that made you just a little bit nervous about your optics? Perhaps you envisioned a great dust storm obscuring your view of the Martian features. More than likely, it was just the wrong kind of weather!

In part 1 of this 2 part series I will suggest what kinds of objects you should view given different kinds of weather scenarios. In part 2, I will outline the weather features for much of the United States that will deliver the best skies!

You've already done it before, you have planned on NOT observing certain kinds of deep space objects because of another celestial object: The Moon! The Moon casts a strong enough light that it is very hard to view most nebula, so you pick planets and double stars to view near the Full Moon instead.

Well, if you pay attention to atmospheric turbulence, and clarity, you can likewise lay out your plans even more effectively. Let me explain.

Let's break down the objects that you would view in a given night into three simple categories: Deep Space - not very bright (we'll call this TYPE 1), and planets/close double stars - quite bright, but small (we'll call this TYPE 2).

There are also certain objects that can fall somewhere in between Type 1 and 2, such as star clusters, and planetary nebulas, we will call those Type 3. Type 1, deep space objects generally require very dark skies (no Moon, no haze or clouds), but atmospheric instability is not that much of a problem. Type 2, planets and close double stars require a steady atmosphere, but are not that much affected by bright moonlight. This means that the following can be applied in planning YOUR observing session:

Steady Atmosphere - Clear, Moonlit night - Type 2, Type 3
Steady Atmosphere-Haze, Moonlit night - Type 2
Steady Atmosphere - Haze, No moon - Type 2, Type 3
Steady Atmosphere - Clear, no moon - Type 1, Type 2, Type 3
Unsteady atmosphere - Moonlit night - Type 3
Unsteady atmosphere - Clear, no moon - Type 1, Type 3

Notice, I have intentionally left out the category:"Unsteady atmosphere, haze". That is because the atmosphere is usually stable on nights WITH haze, which gives you a good opportunity to view planets and the Moon on that night!

Using the above, let's say that we have a very cold, turbulent night, but no Moon. This would allow viewing of all deep space objects, although they may show some shifting, and be less defined than usual. Alternately, a hazy, moonlit night would basically allow viewing of planets and close double stars. The haze, if not too thick, especially away from the horizon, will hinder the view FAR LESS than an unsteady atmosphere.

How do you know what kind of night your are facing? The best indicator is to see if the bright stars are twinkling. If not at all, you have excellent stability. If twinkling just a bit, then you are still doing well. If they are twinkling a lot, but the planets are not, then you still may view the planets with higher focal length eyepieces, just don't get real tight. Finally, if the planets are showing some signs of twinkling themselves, forget viewing the planets or splitting close doubles, leave it for another night entirely!

How can you tell ahead of time what kind of weather you will be facing for a given night? Well, next month I will talk about the different weather systems that will produce the above mentioned weather conditions, and also take a look at what kind of clouds you may be able to observe right through!

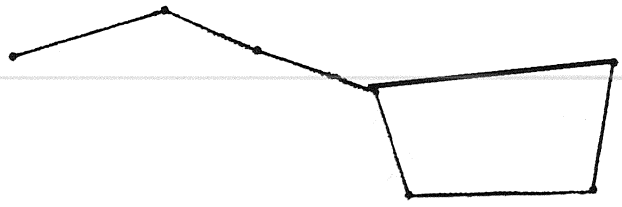
If you have a particular subject that you wish me to write about, please EMAIL me at toddg@shore.net, I cannot guarantee anything, but I will do my best.

Until next month.. Clear Skies!!!

-Todd

[Editor's note: A thank you to Jon Stewart-Taylor for giving us the lead to this article.]

Asterism #4



(Mid-Atlantic Star Party, continued from page 6)

4 pm "news conference" photo opportunity for TV stations
July 1 Saturday
8 am Swap Meet
1 pm until 8 pm - Scheduled Speakers
4 pm contest judging
8 pm group photo and awards ceremony
10pm binocular tour of the sky and other public observing classes
July 2 Sunday
10 am Worship Service
Dusk to dawn - dark sky observing

Surfing the Internet: The most timely Mid-Atlantic Star Party information is to be found at http://www.cybernetics.net/usrs/jdilday/masp.html□

Observers Report

by Jon Stewart-Taylor

March 24 at Parsells Field

Although the forecast called for "partly cloudy", Friday night looked beautifully clear on the way to the car. Brent Archinal had said he would try to make it out also, and I was looking forward to company at Parsells for the first this year. I left Reston at about 8:45, and arrived at Parsells just after 9:00.

It was still clear, a bit chilly, with a wind about 10 mph. The glow from Sterling was moderate, and the sky was about the third darkest I'd ever seen it at Parsells, with the limiting magnitude about 5.0 (Bill Burton says I always estimate a half magnitude too bright, so it may have been 5.5). After setting up (lawn chair, blankets, table, charts, flashlight, binocs, 4" dob, about 10 minutes total), there was still no sign of Brent, so I settled down to hunt some Herschel clusters in Taurus.

Before I'd really gotten started, Brent arrived, and we talked about the site for a while. He commented that it had pretty good skies for being so convenient. We were just about to start observing when a police cruiser arrived, headlights and spotlight on "high".

"Have you seen a juvenile?"

Seems there'd been a fight in Ashburn, and they were looking for the other half of it. They left after we assured them we hadn't seen anyone, but we got two more visits in the next half hour before things settled down for the night.

After my eyes re-adapted, I started hunting for M1 (the Crab nebula) in the 4". I'd previously found it in binoculars, and in Steve Kusterer's 10", but every instrument's different, and it seems I have to re-learn where things are with each one. The wind didn't help, since any un-weighted pages of my charts and notes were constantly blowing away. After using the Telrad through the binoculars to find the right spot, I was rewarded with a pale fuzzy glow.

I recorded the sighting in my Messier log (only another 37 objects to go for the full Messier certificate), then went to see what Brent was chasing. He had M51 (the Whirlpool galaxy) in his 6" despite the Sterling glow. Both nuclei were clearly visible, with a misty haze around the brighter one.

He then very kindly let me use the 6" to find M1 again. The extra aperture made quite a difference. What had been a speck in 10x50s, and a small shapeless fuzzball in the 4", had discernible changes in brightness over the surface, and a hint of "s" shape. After M1 we looked at the Messiers in Ursa Major, particularly M97 (the Owl nebula), and galaxies M81/M82.

By this time I felt a little guilty for spending so much time using Brent's scope while mine was sitting idle, so I went back to chasing Herschel clusters before they got too low in the west (and chasing chart pages blowing away). After half an hour, my conscience was sufficiently mollified. Brent and I browsed through the Messier galaxies in Leo (M65/66 were especially nice), and then found the Clown nebula in Gemini, my first-ever look at it.

By this time it was pretty late, and I was getting pretty cold (did I mention the wind?), so I told Brent I'd be going. Still, the late spring constellations were rising, so I stayed a few extra minutes to get re-acquainted with stars I hadn't seen since October. Even so, I was still home by 12:30.

(Parsells field is scheduled for the Fridays closest to the first and last quarter moons. I will be there at about 9:00 pm on every last quarter moon night if there's any possibility of observing.)

—Jon

Planetarium Events At the Arlington Planetarium

1426 No. Quincy Street, Arlington VA 22207 (703) 358-6070

"Stars Tonight for May" - May 1, 7:30 p.m.

Steve Smith, Planetarium Specialist, is the host for a look at the May skies. Admission is $2.00 for adults and $1.00 for children 12 and under and senior citizens. Seats available on a first-come, first-serve basis. Doors open at 7:15.

Double Feature: "Backyard Critters" and "With Stars in Their Eyes: Women in Astronomy" May 5 - June 11

"Backyard Critters" introduces children to constellations as seen through the eyes of some very interesting critters - the bugs in their backyard! Manny, the praying mantis, is the narrator of this 20-minute feature.

"With Stars in Their Eyes:Women in Astronomy" takes the audience through the early struggles of Caroline Herschel to the greatness of modern day astronomers like Margaret Geller and dozens of others. The program will open your eyes to the tremendous impact women have had and are having on astronomy. It is an inspiration for budding young astronomers, too.

These programs will be shown on Friday and Saturday evenings at 7:30 and Sunday matinees at 1:30 and 3:00. Admission is $2.00 for adults and $1.00 for children 12 and under and senior citizens. For reservations or more information, call the Planetarium Office, (703) 358-6070.

"Equipment & Accessories for Telescopes" May 17, 7:30 p.m.
Bill Burton and Al Schumann are the guest speakers for this meeting of the Northern Va. Astronomy Club. Meetings are open to the public, and admission is free.

"Stars Tonight for June" - June 5, 7:30 p.m.
Chuck Phillips, Astronomy Educator, hosts the June "Stars Tonight".

"Astronomy for Families" Course - June 6, 7:00 p,m.
Learn about stars, constellations, the solar system, outer space, meteors and galaxies. The course runs for three weeks (optional fourth week) on Tuesday evenings beginning June 6. Tuition is $42.00 per family for Arlington residents and $56/.00 for non-residents. Call Arlington Adult Education (703) 358-7200 to register.

"General Astronomy for Adults" Course - June 12, 7:00 p.m.
A content-oriented survey of the night sky, including stars, constellations, the solar system, galaxies, and black holes. This course runs three weeks (optional fourth week) beginning Monday, June 12. Tuition is $42.00 per family for Arlington residents and $56.00 for non-residents. Call Arlington Adult Education (703) 358-7200 to register.

"Exploring the Solar System" - June 21, 7:30 p.m.
Dr. William Webster, Goddard Space Flight Center, is the guest speaker for the June NOVAC meeting. Visitors and prospective members are welcome and admission is free. For more information on this and other programs offered by NOVAC, call their Information Hotline, (703) 256-8359.

Highlights of March and April General Membership Meetings

by Marta Krause, Secretary

NOVAC General Meeting March 15, 1995

The meeting was called to order at 7:30 PM by Bob L'Hommedieu. At least 46 members and guests were present at Arlington Planetarium.

Announcements

1. Astronomy Day is May 6. A public observing session, the club picnic, and a swap meet will be held at Crockett Park. All NOVAC members are encouraged to come with their families and to bring picnic dinners and their telescopes. The picnic will begin around 4 PM.

2. Brent Archinal reminded all in attendance that members and guests are invited to come to dinner before meetings at 6 PM at the Santa Fe Cafe, 1500 Wilson Boulevard, in Rosslyn. The food is good and reasonably priced. Directions are in the newsletter. If you plan to come or need more information, call Brent at (703) 448-7466 (evenings).

3. Jon Stewart-Taylor received an Astronomical League certificate for observing 50 Messier Objects with binoculars. Doug Mistler, NOVAC's AL liaison, presented the certificate.

4. Jerry Wolczanski has been holding observing sessions for school-sponsored "Young Astronomers" and other youth groups in Fauquier County. Recently, *The Fauquier Democrat* wrote about an observing session he and Brenda Jones had done. Anyone interested in helping with these observing sessions should contact Jerry.

5. Jon Stewart-Taylor reported that Bill Burton and his wife Laurel have a new baby. Jon said that Project Orion, Bill's light-pollution survey done with *The Washington Post*, has received more than 1,000 responses. Bill asks that any member with Project Orion observations also send them to him. Finally, NOVAC members are needed to help with solar observing at the April 29 Open House of the US Geological Survey in Reston. Contact Jon to help.

Officers' Reports:

Ron Ferris reported that the program for the April 19 meeting is "Telescopes and Eyepieces" to be presented by Tom Parry. On May 17, Al and Lynn Schumann will present "Equipment Accessories." On June 21, Dr. William Webster, of NASA/Goddard, will present "Exploring the Solar System."

Marta Krause reported that the Southern Star Astronomical Convention will be held April 28-30 at Wildacres Retreat, near Little Switzerland, NC. "The Stellar Seller" is a telephone advertising service for those interested in buying and selling astronomy equipment. Contact the Stellar Seller at (919) 518-2770. "Destiny in Space," is now showing in the IMAX Movie Theatre at the Maryland Science Center through May 4. Call (410) 545-5962.

There was no new or old business.

Member Presentations

Russ Duke described his approach to making more permanent red lenses for small flashlights from soda bottle caps. He also discussed making finder's scopes from used military equipment. For more information, contact Russ.

"Skyglobe," astronomy shareware, was recommended by a member as a good software for astronomy detail and graphics; it has a $20 registration fee.

Jeff Stetekluh and Brent Archinal presented the monthly Observing Report, using the planetarium projector.

Ron Ferris introduced the program for the evening. Dr. Paul Lowman, geophysicist at NASA/Goddard, presented "A Robotic Lunar Observatory."

The meeting was adjourned at 9:35 PM.

NOVAC General Meeting April 19, 1995

The meeting was called to order at 7:30 PM by Bob L'Hommedieu. At least 25 members and guests were present at Arlington Planetarium.

Announcements

1. Astronomy Day is May 6, and NOVAC will be hosting a public observing session at Crockett Park. A club picnic and swap meet will begin about 4 PM. Volunteers are needed to help provide parking directions for guests who arrive after dark; anyone interested in helping should contact one of the officers.

2. Universe '95, a national amateur astronomy convention sponsored by *Astronomy* magazine and the Astronomical Society of the Pacific (ASP), will be held on June 24 and 25 at the University of Maryland at College Park. The two-day event offers speakers, vendors, a star party on June 24, and other activities. For more information, contact the ASP at (415) 337-1100.

3. Sandy Sanders proposed that NOVAC sponsor an annual astronomy science fair for high school students in the Northern Virginia area. Such a fair would increase public awareness of NOVAC and astronomy, and establish regular contact with high schools, including science teachers and students that might be interested in NOVAC membership and activities. Sandy estimated a budget of approximately $200-$250 each year. Anyone interested in learning more about how NOVAC could organize and sponsor a science fair should contact Sandy.

4. Linda Thomas, NOVAC board member heading the Education Committee, seeks volunteers for observing sessions for Scout groups, schools, and other interested organizations. Anyone interested in helping with these sessions should contact Linda.

5. Brent Archinal reminds everyone that pre-meeting dinners continue to be held at the Santa Fe Cafe on Wilson Blvd. in Rosslyn. Arrival time is between 5:45 and 6 PM; the food is good and reasonably priced. Directions are in the newsletter.

6. Charles Shephard reported that St. Paul's Episcopal Church is sponsoring a retreat at Orkney Springs in Shenandoah Park on May 26 -28. The Church would welcome astronomers with telescopes for evening activities. Anyone interested should contact Charles.

7. Jon Stewart-Taylor requested volunteers to help with solar observing at the April 29 Earth Day Open House of the US Geological Survey in Reston. 10,000 people are expected as visitors. Anyone interested in helping Jon with this event should contact him.

8. Jack Greenblatt requested volunteers for evening activities at the Camp of Conscience, a serious look at the cultural, political and social issues of today, to be held August 19 and 20 in the White Mountains, south of Conway, New Hampshire. Jack says that the skies are great in the area. Steve Smith (of Arlington Planetarium) and two individuals from Harvard Observatory will be in attendance. Anyone with telescopes, CCD hookups, astrophotography equipment, or any other interest is encouraged to attend. For more information, contact Jack at (202) 205-3353 (o) or (703) 451-5028 (h).

9. Bob Bolster encouraged interested individuals to come observe at Hopewell Observatory on April 29.

10. John Somiak asked if anyone else had seen the recent Toyota magazine advertisement in which the telescope is upside down.

Officers' Reports:

Ron Ferris noted that the May 17 program on "Equipment Accessories" will be presented by

(Continued on page 10)

(Continued from page 9)

Al and Lynn Schumann. Dr. William Webster of NASA/Goddard will present "Exploring the Solar System" on June 21.

Marta Krause reported that the Mid-Atlantic Star Party will be held June 22 through June 28 near Carthage, NC. Contact the Mid-Atlantic Star Party Coordinator at (919) 362-5194 for information.

Brenda Jones reported that NOVAC's club rate for *Sky & Telescope* has increased to $24 per year. Anyone wishing to subscribe or renew a subscription should send a check for this amount made payable to *Sky & Telescope* to Brenda.

Jeff Stetekluh and Brent Archinal presented the observing report for the month using the planetarium projector.

There were no member presentations.

Ron Ferris introduced Tom Parry, who presented "Telescopes and Eyepieces," a guide for understanding telescope optics and features.

The meeting adjourned at 9:35 PM.

Editor's Note

by Elliott Fein

Our own Bill Burton wrote an article which appeared in *The Washington Post* on April 12, in the Horizon section. Bill analyzed the results of Project Orion, where 1200 readers responded to the request for star counts. We won't attempt to summarize the article here, so if you didn't see it, go down to your local public library to found out the state of light pollution in this area. Congratulations to Bill who did a really great job in Project Orion! Perhaps we can prevail upon him to write an article for this newsletter on his research. □

Notices Notices Notices **NOVAC** *Notices Notices Notices*

NOVAC Notices and Benefits

Discounts on *Sky & Telescope*

As a member of NOVAC you can get a subscription to Sky & Telescope for $24.00 instead of the regular $33.00 rate. To start a new subscription or renew an established subscription, make your check out to SKY & TELESCOPE for $24. Note on the check if this is a new subscription or a renewal. Send your check to Brenda Jones, 883 N. Kentucky St., Arlington, Va. 22205.

You can also order any publication directly from Sky Publishing at a 10% discount. Just mention the Club Discount Plan and that you are a member of NOVAC.

Discounts on *Astronomy*

Your NOVAC membership entitles you to subscribe to Astronomy Magazine at the annual rate of $18.00 (note increase from $16.00). This is a significant discount over the usual $24.00 rate. A two-year subscription costs $36.00. To start a new subscription or renew an established subscription, make your check payable to Kalmbach Publishing Company for $18.00 (one-year subscription) or $36.00 (two-year subscription). Note on the check if this is a new subscription or a renewal. Send your check to Brenda Jones, 883 N. Kentucky St., Arlington, VA 22205. NOTE: There are no special 10% discounts offered on publications through Kalmbach Publishing.

Club Telescopes Available for Use

NOVAC makes available two six-inch (*f*/5) Newtonian reflectors for club members to check out free of charge and use for a limited time.

The first scope is a Celestron model SP-C6 on a Super Polaris German equatorial mount and wood tripod. It will readily fit disassembled in any car and is easily transported and can be set up quickly at remote observing sites. The scope comes with an Orion Ultrascopic 10mm and Meade MA 25mm eyepieces with 1.25-inch barrel sizes. To borrow this scope you will need to show your NOVAC observing pass and leave a $500.00 security deposit.

The second scope is a home-made six-inch reflector on a dobsonian mount and comes with a 25mm Kellner eyepiece. It is easy to transport to dark sky sites and easy to use. To borrow this scope you will need to show your NOVAC observing pass and leave a $250.00 security deposit. If you are interested in borrowing either of these scopes, contact Bob L'Hommedieu, NOVAC President, at (703) 978-0946. He will schedule a time for you to pick the scope up at his home. Bob resides at 4415 Eastwood, Fairfax, VA 22032.

Note: Checks must be made payable to NOVAC. Checks used as security deposits on telescopes, are not deposited and will be returned to the originator when the scope is returned in the same condition it was checked out. The scopes may be checked out for two to four weeks at a time depending on demand.

NOVAC Library

NOVAC has established a library at the Arlington Planetarium for use by NOVAC members. Books may be checked out and returned only at the monthly meetings. Members may check out books for one month at a time. To check out books, see NOVAC librarian Linda Thomas at the monthly meeting. The NOVAC library seeks book donations to the library. If you have any astronomy books or materials you are thinking of discarding, please consider a donation to the NOVAC library. A complete list of all library holdings is available upon request.

NOVAC Observing Schedule for 1995

Observing at C. M. Crockett Park and Savage Farm

May 26, 27.
June 2, 3, 23, 24, 30.
July 1, 21, 22, 28, 29.
August 18, 19, 25, 26.
September 15, 16, 22, 23.
October 20, 21, 27, 28.
November 17, 18, 24, 25.
December 15, 16, 22, 23.

Observing at Parsells Field

May 3, 5, 19.
June 9, 16.
July 7, 21.
August 4, 13.
September 1, 15, 29.
October 13, 27.
November 17.
December 1, 15, 29.

General Membership Meetings

General Membership Meetings are held at the Arlington Planetarium on the third Wednesday of every month. Meetings will be held May 17 and June 21 at 7:30 P.M. The Arlington Planetarium is located at 1426 N. Quincy Street, Arlington. Trustee Meetings are held the Tuesday before the week of the General Membership Meeting. Non-Trustees interested in attending should contact a Club Officer or Board Member for further information.

NOVAC Observing Site Rules

C. M. Crockett Park: NOVAC members may use Crockett Park for observing on nights other than those scheduled for club observing; However, YOU MUST HAVE PRIOR APPROVAL FROM PARK MANAGER

(Continued on page 11)

(Continued from page 10)
GARY KWOLEK. Call (703)-788-4867 early in the day on which you wish to observe. If you reach the answering machine, leave a message saying that you are a NOVAC member and you wish to observe that night. Also, leave a telephone number where someone can reach you. If you do not receive a return call, you MAY NOT use the park. THERE ARE NO EXCEPTIONS! Use of the park is limited to NOVAC members only. Park management locks the entrance gate at sunset and you may use the combination shown on your Observing Pass to gain access. Do not reveal it to anyone. You must lock the gate behind you after entering and please remember to lock it after you leave. During EDT, you must set up on the large field to the left. During EST, you must set up on the paved cul-de-sac 200 yds. past the gate. No loud radios, alcoholic beverages or loose pets. Do not leave trash or debris behind. We are guests of the park and park management may revoke our observing privileges at any time due to the carelessness of one person.

Parsells Field: NOVAC members may use Parsells Field in Loudoun County as an alternative observing site ONLY ON THE NIGHTS DESIGNATED for general observing and meteor showers. Currently there are no provisions for unscheduled observation nights. You must park and set up ONLY IN THE PARKING AREA and not go onto the field itself. Please park to the left near the entrance and set up to the right away from the entrance. No loud radios, alcoholic beverages or loose pets. Do not leave trash or debris behind. We are guests of the Dulles Little League and they reserve the right to revoke our observing privileges any time due to the carelessness of one person.

Savage Farm Site*:* The Savage Farm site is reserved for NOVAC use on the same nights as Crockett Park plus all the major meteor showers. For non-scheduled observing sessions, call the park manager, Paul McCray, at (703) 729-0596 at least 24 hours in advance and leave a message with a number where you can be reached. You MAY use the site for that session UNLESS you receive a call from Mr. McCray stating otherwise. No loud radios, alcoholic beverages or loose pets. Pick up after yourself and do not leave any trash behind. In addition, please make sure the gate is locked whenever you are in the park, and especially when you leave. We are guests of the NVRP and could have our access to this site revoked at any time if it is abused.

Directions to NOVAC Observing Sites

C. M. Crockett Park*:* From the Washington DC/Northern Virginia area, go west on I-66 to the 47-a exit. This is 234 South to Manassas. Continue on 234 for 2.8 miles then turn right on Godwin Drive at what was previously the "Po Folks" restaurant. Follow Godwin Dr. for 1.8 miles to where it merges with Rt. 28 West. Once on Route 28, continue driving for another 13.7 miles through the towns of Nokesville, Catlett and Calverton until you turn right on Rt. 643 toward Warrenton. There is a small country store (Mayhugh's) on the corner of the intersection. Go on about a mile up Rt. 643 to the Park Entrance road. Look for a small sign for C.M. Crockett Park on your right directing you to turn left. Once on the park entrance road, go one-half mile to the park gate.

Parsells Field*:* From the Northern Virginia area go west on the Dulles Access (Toll) Road until you reach Route 28 (last exit before Dulles Airport). Proceed north on Route 28 until you come to Route 625 (Waxpool Rd.). You may also take Route 7 (Leesburg Pike) to Route 28 and go south on 28 until you reach Route 625. Go west on Waxpool Road passing through the town of Ryan and Route 641 (Ashburn Rd.). Continuing on Route Rt. 625, Parsells Field will be on your left a short distance beyond Ryan. If you make it to Route 659 (Belmont Rd.), you've gone too far.

Savage Site*:* Use some combination of Routes 7, 267 (Dulles toll road), and 28 to get to the Route 7 Leesburg bypass. Go around Leesburg on the bypass until you reach "regular" Route 7 again. From the intersection of the bypass and "regular" route 7, continue on route 7 west 18.5 miles to route 601, at the top of Snicker's Gap. Turn left onto route 601 south and go 2.4 miles to the park entrance. The park entrance is past the driveway whose gatepost reads *Ben Lomand.* The park entrance is the next driveway on your left. There will be a sign on a tree saying *Wildlife Sanctuary.* If you come to gateposts on the left that say *Belle Allee* and *Ball Alley 1875,* you have gone too far. You may also take I-66 west to Route 17 North. Stay on Route 17 North until it intersects with Route 50 at Ashby Gap. Turn left onto Route 50 and go one (1.0) mile and turn right on Route 601. Continue on Route 601 (Blue Ridge Mountain Road) and go two miles past the main gate of the FEMA installation. Turn right at the park entrance, after passing the gateposts with *Belle Allee* and *Ball Alley 1875* on your right.

The park entrance on Route 601 is marked by a small brown and white NOVAC sign. Note that the neighbors periodically pull up the sign, so it may not be there. As you turn into the park, go straight ahead until you reach the gate, which is secured by both a keyed padlock and a combination lock. These locks are located to your left behind the gate, as you face it. The combination is on your NOVAC observing pass. ALWAYS lock the gate behind you. The NOVAC lock MUST be locked to the keyed lock, not to the chain, to allow emergency access by the fire department. Drive to the observing area (the stone patio next to the house). There is very limited parking at the observing area itself, so please park in the parking area on the right (as you face the patio).□

The **NOVAC Newsletter** is the official publication of the ***Northern Virginia Astronomy Club*** and is published six times per year at 5 Carter Court, Rockville, MD 20852-1005, telephone (301) 762-6261, Elliott D. Fein, Editor and Publisher. The NOVAC Newsletter is sent to members of NOVAC as a regular membership benefit.

Membership in the Northern Virginia Astronomy Club is $18.00 per year and is open to anyone interested in astronomy or the sciences. Contact Brenda Jones, Treasurer, 883 North Kentucky Street, Arlington, Virginia 22205, telephone (703) 527-7963. All notices of change of address should be sent to Brenda Jones. Please include both old and new addresses.

NOVAC does not knowingly accept advertising for products of inferior quality nor does it accept the responsibility for the quality of advertised products.

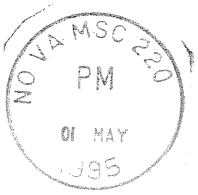
NOVAC members are invited to contribute materials of interest for publication consideration in the NOVAC Newsletter. The editor reserves the right to edit all materials submitted.
Article submissions may be posted to the NOVAC Computer Bulletin Board (BBS) to Elliott Fein or to edfein@cpcug.org on the Internet. Diskettes (3.5" or 5") or typewritten copies may be sent to Elliott's residence at 5 Carter Court, Rockville, MD 20852-1005 (Home phone 301-762-6261).
Deadline for submissions is three weeks in advance of publication, e.g., June 10 for the. July/Aug Newsletter

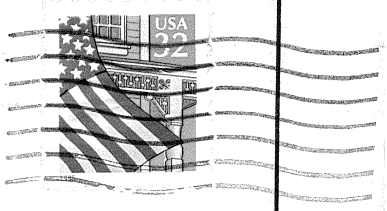
NOVAC Observing Schedule for 1995.

C. M. Crockett Park and Savage Farm:	Parsells Field:
May 26, 27.	May 3, 5, 19.
June 2, 3, 23, 24, 30.	June 9, 16.
July 1, 21, 22, 28, 29.	July 7, 21.
August 18, 19, 25, 26.	August 4, 13.
September 15, 16, 22, 23.	September 1, 15, 29.
October 20, 21, 27, 28.	October 13, 27.
November 17, 18, 24, 25.	November 17.
December 15, 16, 22, 23.	December 1, 15, 29.

NOVAC

The Northern Virginia Astronomy Club
c/o Brenda Clements Jones
883 North Kentucky Street
Arlington, Virginia 22205





Don't forget!

May 6

Astronomy Day and Family Picnic at Crockett Park.

Starts at 4 P.M.!

12/95 - $0.
L. Warrow & Bill Burton
2034 Golf Course Drive
Reston, Virginia 22091