

Mason-Dixon Astronomer

The Westminster Astronomical Society of Maryland

Vol. 16 No. 2

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Upcoming Events

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Presidential Message, Part One

Howdy, Welcome to year two of my reign. You would think that after last years stellar performance you would have elected someone else. You had your chance so now you have to suffer along with me. (First lady's comment: I think he did perform to stellar proportions. Yes, I { Phyllis} wrote this not Skip. Tessa and Thomas think he's awesome too, but they think his hobby is too cold.)

We start out a new year with a total lunar eclipse, which by the way for those of you who could not stay awake or figure out how to dress warm enough to go outside was excellent, a snow fall of near record proportions and a new newsletter editor. Who by the way has e-mailed me into submission to write an article for the news letter. Which more of YOU should be doing that way you don't have to listen to me. I hope that everyone has had a wonderful time at all the events we have sponsored or volunteered for. If we want to see our club grow this is the best way.

Hey where did those comments from the First Lady come from? Dam Editors are everywhere.

Since I didn't hear any complaints about the quantity of events we volunteered to do I've decided to volunteer more people for more things. As the president I can do that!

We need some help for the upcoming events: **February 5th, Soldiers Delight County Park** - People with solar telescopes from 2-5pm and someone to show slides, give a talk or just stand their from 7-11pm. This probably came out too late for those

This new monthly feature gives you, the reader a chance to recommend something near and dear to you that enhances your enjoyment of amateur astronomy. Drop a line to your editors about a coveted gadget, eyepiece, book, software, website, astronomy haiku; whatever you wish to share with your fellow WAS'ers.

By Richard Schoen

To get this new feature up and running, your editors would like you to click on a favorite website. If you have a healthy interest in the atmosphere of our solar system's third planet, try: [<http://iwin.nws.noaa.gov/>]. If you are planning an observing session, click on "animated graphics version" and scroll down to a small rectangle which is called "graphics." Once you are inside "graphics," try "water vapor imagery." The most transparent, moisture free areas of the country are depicted in inky grays and black while the hazy and moist areas are light gray or whitish. Hope you enjoy great "seeing!"

Friendly reader, now its your turn. Send us your favorite tips, tricks of the trade and gizmo ideas.

Now Denny Mishler gives a review:

I've always been interested in viewing with lightweight easily setup equipment, saving my larger telescope equipment for star parties or astronomy orientated vacations. A company called Heartland America has repeatedly advertised 20x60mm binoculars for \$69.95 under the brand name Galileo in the USA Today newspaper. I ordered and after 6mos of use I can recommend them for easily portable general astronomy use. They are built rugged with a rubber outer surface. Although the optics are not superb, the binoculars perform well on the moon, sun, Orion nebula, Perseus double cluster and even the Andromeda galaxy. Although I also have giant 100mm binoculars I find myself using the 60's much more often. I enjoyed the transit of Mercury recently using these binoculars. Since my job involves constant travel throughout Texas, Oklahoma and Arkansas including monthly trips to the clear skies of West Texas, I now keep the binoculars and a tripod in my vehicle at all times. Several cautions: if you require good planetary viewing forget these or any other binoculars. The latest ad mentions a tripod mount which wasn't available when I bought. I had to make my own. Heartland also sells 10-30x60mm zoom binoculars that might be great for daylight use such as birding but I doubt they would perform well for astronomy. Heartland America can be reached at 800-229-2901 or www.heartlandamerica

WHY SETI WON'T WORK

By John Fogarty

The Search for Extra-Terrestrial Intelligence (SETI) is a government project using a multi-channel, broadband receiver approach to detect radio signals indicative of intelligent communications coming from other "life forms" in outer space. It won't work.

And why do I think it won't work? Two reasons - the time factor and the use of radio. The most cogent one is the time factor so I'll explain that one first.

Time, geologic time, covers a vast expanse. If the Big Bang theory holds true, the universe started some 10-20 billion years ago, depending on what cosmological constant you believe. (Don't press me for exact dates here!) Our solar system including Earth coalesced some 4.5 billion years ago. The "Cambrian explosion" of life forms on Earth occurred some half billion years ago. Our human life form has only existed maybe a million years, depending on who's dig you're looking at.

Looking at this time scale another way, stretch your arms out to the side and think of this span as representing the time scale of life on Earth. Then get someone to take a nail file and make one swipe across the end of your middle fingernail and, hey, he's wiped out all of human history! Now with a developmental time window this narrow, can you believe that another civilization would develop on another planetary system synchronously with ours so that we stand a chance of talking with them? I can't.

But I also dismissed the use of radio for communication. This falls into an even narrower time slot. OK, so electromagnetic waves are what we use for space communication now, but how long have we been using them? And what'll it be next? Radio waves were only discovered in the last century and only exploited in this past century. Suppose our "parallel civilization" were at the stage we were in in the eighteenth century. Would they be able to notice our signals? And consider the progress of radio in the twentieth century from spark transmitters to vacuum tubes to AM to FM to broadband multiplex (cell phones) to... Again suppose our "parallel civilization" were at the stage we'll be in in just the twenty-first century, what chance do we have today of hearing them with our present equipment? Do you see what I mean?

So do I believe we're alone in the universe? No, I don't -because I don't like that idea! My point is this - if any contacting is to be done, it'll be by THEM contacting US.

EDITOR CHALLENGE: WOULDN'T YOU , THE READER, LIKE TO SEND US A REBUTTAL?

The minutes of the January 12, 2000 meeting:
by Phil Schmitz

Skip talked about upcoming events:

(Phil noted many events that are mentioned elsewhere in the Bulletin.)

Brian Eney talked about his progress on light pollution with some politicians. Curt went over the responsibilities of each executive officer as well as the appointed officers. Curt also brought some Astronomy books with him, including the three volume set of Man on the Moon. The elections were held and Skip Bird (Pres.), Brian Eney (V. Pres.), and Phil Schmitz (Secretary) all held on to their jobs for another year. The new Treasurer is Gary Frishkorn and the new Member at Large is Laura Mooney. The program that evening was presented by Brian Eney on his trip to the Canary Islands where he viewed the Leonid meteor shower.

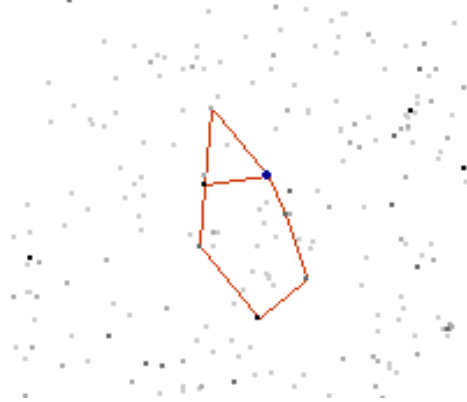


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Auriga
by Richard Schoen

Among the prominent February constellations, you can find Auriga, the charioteer. Due west of Gemini, it lies along the Milky Way. The constellation is shaped like a face under a pointed cap. The eye is the brilliant Capella (the goat). This star is yellowish, almost as bright as Vega, 16 times larger than the sun and 42 light years away. Auriga was the crippled son of the goddess Mineva and Vulcan, the god of the blacksmiths. He made travel easier by inventing the chariot. Jupiter thought so much of this vehicle, he honored Auriga by placing him in the heavens with a whip in his hand. Upon finding gleaming Capella, one can complete the Winter Circle. Going clockwise from Capella, locate Aldebaran, Rigel, Sirius, Procyon, Pollus, and Castor. Betelgeuse is in the midst of it all.



Facts about Capella

| | |
|---|-------------------|
| Distance (Light Years) | 42.2 ±0.5 |
| Visual Magnitude | 0.08 |
| Color (B-V) | 0.8 golden-yellow |
| Culminates at midnight 12/12 | |
| Closest to Polaris of all 1st magnitude stars | |
| Binary components are 70 million miles apart | |
| Capella H, a third component is a binary red dwarf, | |
| separated from the primaries by 0.17 light year. | |

Star Points By Curt Roelle

The king of winter constellations is unquestionably Orion the hunter. Orion is one of the hand full of constellations which, with some imagination, actually bear a resemblance what they are supposed to represent.

One of the most recognizable features of Orion is the distinctive line of three equally spaced stars forming his belt. From left to right their names are Alnitak, Anilam, and Mintaka. The translations of these three Arabic names are "the girdle", "the string of pearls", and "the belt", respectively.

Orion's left shoulder, as you are facing him, is marked by the star Betelgeuse (pronounced Bay-tel-jooz). Betelgeuse is the kind of star called a red supergiant. It's volume is estimated to be some 16 million times that of our sun. Betelgeuse is not only massive but very luminous shining with a brilliance 14,000 times brighter than the Sun. The brightest star in Orion, Betelgeuse has a noticeable golden-orange color to the human eye. The color is made even more apparent in a small telescope or binoculars. The name Betelgeuse is of Arabic origin whose translation is "armpit of the giant."

Orion's right leg or knee, as you are facing him, is marked by the star Rigel (pronounced Rye-jel). Rigel is a blue supergiant star. Although Rigel's mass is two or three times that of Betelgeuse, it has a much smaller volume. Rigel's luminosity on the other hand is much greater than Betelgeuse with a light output some 57,000 times as bright as the Sun. Orion's second brightest star, Rigel is a cold bluish-white in color. Rigel is another Arabic name whose translation is "the foot." Even though Rigel is intrinsically brighter than Betelgeuse they appear similar in brightness. This is because Rigel is nearly twice as far away.

Several of Orion's other stars also have proper names. Orion's other shoulder is Bellatrix, "the female warrior" also known as the "Amazon star." The star marking Orion's other knee is Saiph. Between and above the shoulders Rigel and Bellatrix is Orion's head marked by the star Meissa.

Orion has three stars hanging below the triple belt stars marking his sword. The center star Theta Orionis, the "Trapezium", is actually a multiple star when viewed through a telescope. Small telescopes will show four tightly grouped stars. Larger telescopes will show five, six, and sometimes even more stars.

The Trapezium marks the location of another famous telescopic object, a nebulous cloud known as the great Orion Nebula. This cloud is quite a sight in small or medium sized telescopes.

You can see even more stars in Orion from locations with a dark sky away from the washout effect of city lights. Starting at Betelgeuse two lines of stars extend upward and over Orion's head. These form an upraised club. With this club Orion appears to be ready to whack Taurus the bull where his horns and hide meet. In Orion's other outstretched arm is a curving row of stars forming a shield. The shield is made up of around a dozen stars visible to the unaided eye.

When Orion rises from the southeastern horizon he appears to be laying down. By the time Orion is at his high point while



transiting the meridian he is standing up. The best time to see Orion during February is 7:00 p.m. EST early in the month, 8:00 p.m. at mid month, and 9:00 p.m. in late February.

Your New Editors

Your new *Mason-Dixon Astronomer* editors, Richard and Jaci Schoen are on duty and hoping to serve you the finest available amateur astronomy newsletter. We want to thank Skip Bird, our two-term lame duck president and his executive board for this appointment. In addition, we thank Cynthia Hunter-Shupe for her dedication as outgoing *MDA* editor. Cynthia will be continuing to maintain the WAS website.

(<http://www.westminsterastro.org>)

We hope every reader will submit material of astronomical and Club interest on a regular basis. Please try to write for the greatest number of Club members; articles which are too simplistic or too technical can be found elsewhere. The following chart will serve as a guide for increasing the odds of being published.

| <u>Means of submitting your article</u> | <u>Odds</u> |
|--|-------------|
| Hand-written note on napkin | 1in 20 |
| Phone call | 1in 20 |
| Typed article handed to us | 1in 5 |
| Typed article mailed to editors | 1in 3 |
| Typed article on diskette in Word or generic Ascii format | 1in 1 |
| E-mailed in Word or generic Ascii format | 1in 1 |
| Other formats | 1in 50 |

We hope you will look forward to receiving your newsletter each month.

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Presidential Message, Part Two

of you who would have volunteered but I volunteered you anyways. Thanks.

March 16th, Robert Mouton Elementary School, Science night

Anyone who would like to talk for 20 minutes or show some slides or make a comet or do anything for the kids. We need 3 people at least rain or shine;

March 25th, Soldiers Delight County Park

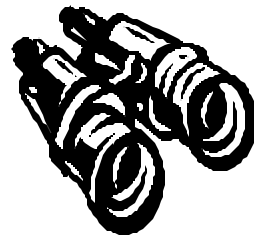
Someone to show slides, give a talk or just stand there from 8-11pm rain or shine. The last time we had over 50 people at this event so we could also use 3-4 people with telescopes or binoculars.

I will not be able to attend some of these events so please volunteer. I don't have a date yet but Piney Run Park has asked us to do a couple of star parties in the next several months. Remember if you don't volunteer on your own I will volunteer you. Just ask the new newspaper editor.

As most of you know volunteering for the programs is very fun and rewarding (sometimes donuts, pizzas or video games until 3 am in the morning). There is also nothing like the excitement in a child's voice when they first see something through a telescope, or a parents appreciation for the information you gave them on the night sky. It's really beside the point that one of those kids or adults could be the next mayor or governor who might just pass the anti-light pollution law which will allow us to still see the night sky. So please volunteer!!!!!!!!!!

Those of you who don't want to be volunteered for something can send cash, no checks, in large quantities to Skip Birds volunteer campaign. If the amount is large enough your name might just mysteriously disappear from the volunteer list!

So until next time "Happy trails to you until we meet again."



What Do You Think?

The Editors are contemplating adding a Kid's Page for children of all ages. What do you think? E-mail Jaci at jaci@home.com with your opinion.

Astronomy Day

Astronomy Day is coming. This year it will take place on April 8th as part of Astronomy Week (April 3-9). For great ideas for this week, contact the Astronomical League at <http://www.astroleague.org/al/astroday/astroday.html>.

WAS Skywatch Calendar by Ron Smith

1. Moon at Apogee 1hr UT. (Distance 405,608km, Diameter 29' 28")
2. Venus is close to the Moon this morning and 28 Sagittarian lies 6' S of Venus.
3. Jupiter's moons Io and Europa are only 3" apart at 8:44 pm EST.
4. Clyde Tombaugh born, 1906
5. New Moon, 8:03am EST
6. First (and probably last) time a golf ball was hit on the Moon, 1971
7. Crescent Moon occults Psi' Aquarii at 5:56pm EST
8. Jules Verne born, 1828
9. /WAS Monthly Meeting, 7:30pm at Bear Branch Nature Center
10. Comet Halley closest to Sun during the 1985-86 apparition, 1986
11. Moon occults Mu Ceti at 11:23pm EST
12. First Quarter Moon - 6:21 pm EST
13. Jupiter's moons Europa and Ganymede are 12" apart at 7:43pm EST
14. Mercury reaches greatest eastern elongation (18 degrees) this evening.
15. Jupiter has an extra moon, a 7th magnitude star lying 3' north.
16. Gerald Kuiper discovers Uranus' moon Miranda (V), 1948
17. Moon occults Delta Cancri this evening
18. Clyde Tombaugh discovers Pluto at the age of 24, 1930
19. Full Moon - 11:27 am EST
20. John Glenn orbits the Earth three times, 1962
21. George Hale dies, 1938
22. Neptune is 1/2 degree northwest of Venus this morning
23. Supernovae SN 1987A is seen naked eye near the Tarantula Nebula, 1987
24. Jocelyn Bell discovers the first pulsar, 1968
25. /
26. Last Quarter Moon - 10:53 pm EST
27. Discovery of radio waves from the Sun, 1942
28. Moon at apogee 21h UT (Distance 404,615 km, Diameter 29' 32")
29. Leap Day



Lunar Eclipse, 2000 by Brian Eney

Thursday, January 20, 2000, started out to be an eventful day not including the night's eclipse. It had snowed for nearly the entire day and I thought "NO WAY, IS IT GOING TO CLEAR BY 10PM." Well the optimist I am I left my house at 4:30 for the MD Science Center under snowy conditions (not flurries I mean a strong down pour).

The Science Center decided to open the doors (an hour late) despite the bad weather. We called it right that one hour did it. As we opened so did the skies!! The general notion among the staff at MSC was we were going to out number our visitors, due to the extreme cold ! For about an hour and half we had a few stragglers from the IMAX movies, but not many. The winds seemed to start up after 9 o'clock, about 35 mph!!

Much to our surprise, by 9:30 p.m. the crowds came!! By 10 o'clock the official count was around 90 people!! Unfortunately not many kids, but a lot of adults learning a lot! The skies had opened up to let us see a beautiful moon against a crystal clear and frigid sky.

The winds never did calm down, whipping everyone and thing to death with snow and tiny ice pellets. By 12:30 a.m. the crowds died down just a little leaving the final count of 102 visitors for the night!! A lot, considering the minus 20 to 30 degree wind chills. All in all, I think it was worth surviving the cold blast for this experience, I had a blast!! Hopefully the next eclipse is during warmer temps.