



Nov 2004 Newsletter of the Omaha Astronomical Society Issue 203

For those of us who had cloudy skies



General Meeting of the
Omaha Astronomical Society
Friday, November 5th at 7:30 PM
Durham Science Center, Room 169
UNO Campus

Program: See Page 3

Events

NOVEMBER CLUB STAR PARTY
Saturday 13th November

MAHONEY PUBLIC STAR PARTIES

Done for the Year

**PLANNING MEETING FOR 2005
NEBRASKA STAR PARTY**

11 November, 7:30 pm
Mahoney State Park Lodge
Join us and do your part to help plan NSP 12!

NEALE WOODS NATURE CENTER PROGRAMS

Phone number: (402) 453 - 5615

Friday, 12th Nov 7:00 –8:30 PM The Water Constellation's
with Uranus & Neptune

Friday, 19th Nov 7:00 –8:30 PM Jewels of the Night Sky

OAS members are encouraged to help out with these events.

STELLA is a publication of The Omaha Astronomical Society. Please send related correspondence to: STELLA, c/o Omaha Astronomical Society, P O Box 540424, Omaha, NE



BULLETINS

November Meeting

Deb Cheney—Winter Constellations

Mark Weiss—Winter Observing

Good November Dates to Observe at the OAS Club Site or at any good location

Friday 5 Nov, last quarter moon
Saturday 6 Nov, last quarter moon
Friday 12 Nov, new moon
Saturday 13 Nov, new moon

Upcoming Events

Annual End of the Year Get
Together, Following the
December Business Meeting

Door Prizes
&
Refreshments

An Astronomy Quiz

1. What is between Copernicus and Lansberg?
2. What are the two newest Astronomical League observing programs?
3. What do Devil's Tower and Pleiades have in common?
4. What is different about Gliese 710, and what is it?
5. What was done November 16, 1974 that involves M13?
6. In what constellations does Stephen's Quintet lie?
7. What is Stephen's Quintet?
8. What is time that it takes light to reach Saturn from earth?
9. What was photographed for the first time November 26, 1885?
10. What is pictured below?



The A.L. Lunar Club Program

To qualify for the AL's Lunar Club Certificate and pin, you need only be a member of the Astronomical League, either through an affiliated club or as a Member-at-Large, and observe 100 features on the moon. These 100 features are broken down into three groups: 18 naked eye, 46 binocular, and 36 telescopic features. Any pair of binoculars and any telescope may be used for this program. As a matter of fact, to prove that the Lunar Club could be done with small apertures, they used 7x35 binoculars and a 60mm refractor. So, as you can see, this program does not require expensive equipment. Also, if you have problems with observing the features at one level, you may go up to the next higher level. In other words, if you have trouble with any of the naked eye objects, you may jump up to binoculars.

If you have trouble with any of the binocular objects, then you may move up to a telescope. But if you have trouble with any of the telescopic objects, you are on your own. You will have to arrange your own time on the Hubble Space Telescope. Before moving up to the next higher level, please try to get as many objects as you can with the instrument required at that level. Finally, when using binoculars, we recommend that you tripod mount them for stability. This program does require that you observe the moon during all of its phases, normally over a period of two or three months.

The list for the lunar program is too large to list here, but at most meetings Deb Cheney has the list with her. It is very simple to log your observations. Just list the instruments that you used at the top of the list pages, check off the features as you observe them in the "CHK" column, and then list the date and time you observed the feature in the columns on the right-hand side of pages. That is all there is to it.

For those of you that still may have some trouble observing the 100 original features of the program, they have included 10 optional activities. Each one activity counts as two of the regular observations.

Clear skies for all.

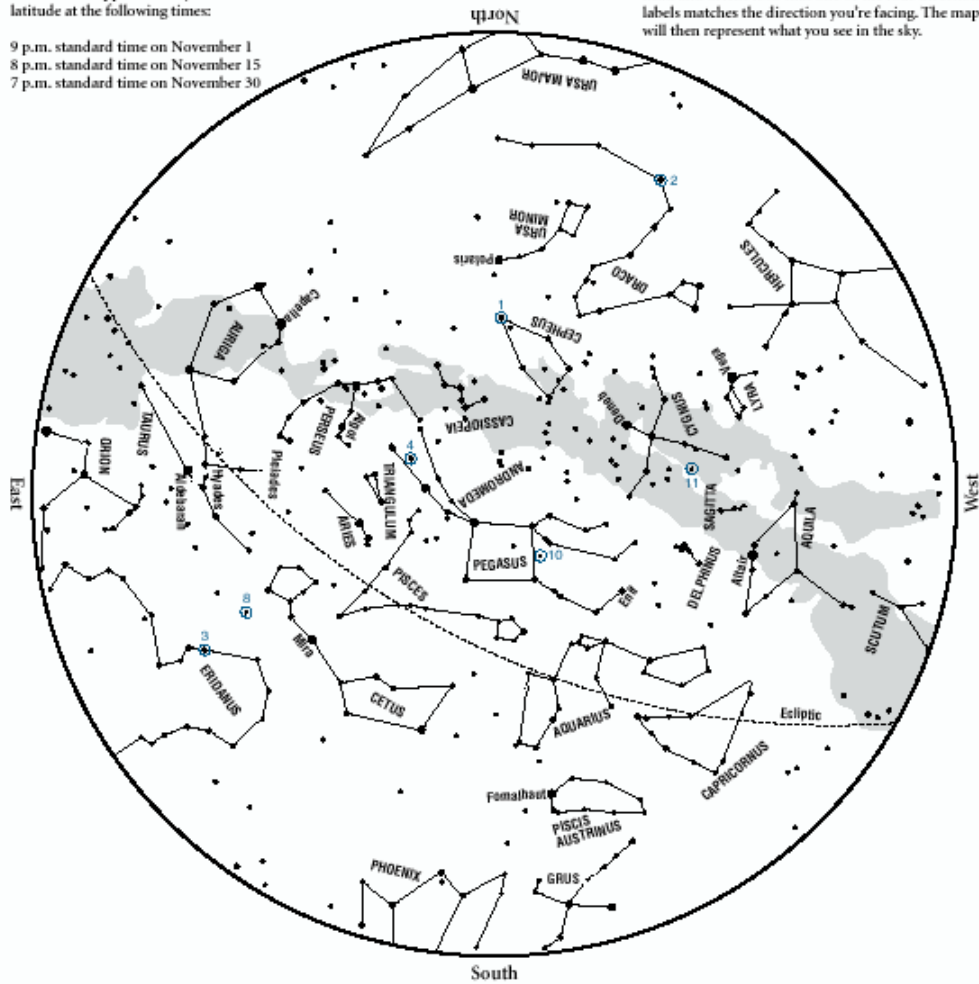
The November Sky

November

The all-sky map represents the night sky as seen from approximately 35° north latitude at the following times:

- 9 p.m. standard time on November 1
- 8 p.m. standard time on November 15
- 7 p.m. standard time on November 30

To locate stars in the sky, hold the map above your head and orient it so that one of the four direction labels matches the direction you're facing. The map will then represent what you see in the sky.



November Sky Calendar

4th Taurid Meteor Shower
5th Last Quarter Moon
12th New Moon
19th First Quarter Moon
26th Full Moon

Recent Observing Awards

No new awards this month

Visit the club web site at: **www.OmahaAstro.com**

Save the club money... and get your newsletter in full color by signing up for the email edition of the Stella. Signing up is easy... just go to:

[Http://www.omahaastro.com/DigitalStella](http://www.omahaastro.com/DigitalStella)

Welcome New Members...

Phil Alcocer of Bellevue
Nancy Chmiel of Omaha

Capricorn Smiles

Harlan Seyfer

When one opens the all-sky maps in the November issues of *Sky and Telescope* and *Astronomy*, one sees located in the southwest a cheerful smile. This is the constellation of Capricorn, the sea goat. The toothy grin has nothing to do with the lore of the constellation, but is a coincidental artifact of the way in which constellations are drawn in these magazines and in other references. The *Night Sky Observer's Guide* also links the brighter stars of the constellation into a smile. The *Cambridge Star Atlas* and the *Bright Star Atlas* however avoid drawing lines between the bright stars of any constellation, as does *Sky Atlas 2000.0*. This is perhaps the most commonsense approach, since most constellations bear only a extremely vague resemblance to the celestial being or object the ancients said they represented. That certainly applies to the mythical sea-goat, which is the modern translation of Capricornus. Anyway, step outside with one of the all-sky maps on an autumn evening. Look to the south or southwest to find Capricorn. Once you recognize the smile, I guarantee the image will stick with you along with the W of Cassiopeia and the Great Square of Pegasus. It may require somewhat dark skies to see.

The constellation Capricornus appears to have originated with the Sumerians and Babylonians as well as its neighboring 'watery' neighbors: Aquarius, Pisces, and Cetus. These people called it *Suhur-Mash-ha*, the goat-fish. The Greeks called it *Aegoceros*, the goat-horned creature. Our modern name originates with the Romans and the Latin language. *Caper* and *cornu* are Latin for goat and horn respectively.

Several thousand years ago when the sun reached its southern-most point, it was in Capricorn. At that point, which occurs around December 21, the sun is exactly 23 degrees,

27 minutes latitude south of the equator. Hence our name the *Tropic of Capricorn*. Today, due to the Earth's precessional motion, that event occurs about 30 degrees to the west when the sun is in Sagittarius. Perhaps it is time to wipe the slate clean and rename that belt of the Earth the *Tropic of Sagittarius*. Likewise the Tropic of Cancer should be re-labeled the *Tropic of Gemini*.

Of the twelve zodiac constellations, Capricornus is the smallest.

The left (east) corner of the smile is the tip of Capricorn's tail. The star forming that point is Deneb Algedi "the tail of the kid (goat)" otherwise known as Delta (d) Capricorni. Delta Capricorni's claim to fame is that it is the star near which John Couch Adams and Urbain Jean Joseph Le Verrier simultaneously discover, in 1846, the planet we now call Neptune. Coincidentally Neptune is now back in Capricornus, centered on the upper lip of the smile.

The right corner of the smile is marked by Algedi, Alpha (a) Capricorni. Algedi is Arabic for "the kid". It is actually two stars, Alpha-one (a^1) and Alpha-two (a^2). They form an easy double in binoculars, being separated by 6.1 arcminutes. 50mm binos can usually split pairs down to about 2.3 arc minutes. Unfortunately the Alphas are not a true pair. Alpha-one is about five times the distance of Alpha-two, which is about 100 light years from us. However Alpha-one itself is a nice multiple, with four members visible in a six-inch scope on a reasonable night. Alpha-two is also multiple, a bit more challenging, but do-able on a steady night.

Just below the alpha pair lies Beta (b) Capricorni, itself double in binoculars with a separation of about three arcminutes. This pair was known to the Arabs as Dabih, "The Lucky Slaughterer". Yellowish Beta-one and bluish Beta-two are the brighter part of a multiple star system.

About 3.5 degrees southeast of Beta lies a gaggle of doubles, all within about one degree of each other. Pi (ρ), Rho (ρ), and Omicron (\omicron) form a nice right triangle, with a hypotenuse length of around 50 arcminutes. The pair Pi Capricorni are at the point of the right angle. Separated by three arcseconds, this white and blue double is a challenge for an eight-inch scope on a steady night. Opposite Pi, Rho and Omicron Capricorni form the hypotenuse of our triangle. The twin stars of Rho Capricorni are separated by about six arcminutes and are a nice yellow and purple pair in binoculars. The bluish Omicron twins are about 22 arcseconds apart and easily split in small telescopes.

We can not drop in on Capricornus without pausing to admire NGC 7099, also known as the 30th entry in Messier's catalog — M30. You can find it southeast of the smile, as if it were a mole on the chin. Stephen James O'Meara wrote, "Despite the object's brightness (magnitude 6.9), low power does not resolve it at all." Walter Scott Houston had the opposite impression. He wrote, "Its bright center and easily resolved edges do, however, make it an interesting object for small telescopes. I find this sight rewarding in a 4-inch scope at 40X." Who is right?

If you have participated in a March Messier Marathon, you will recognize M30 as most likely the last Messier object to be located when it makes its just-in-time appearance in the dawn sky.

Note to All

I am still looking for donations to be given as door prizes at the December get together.

PLEASE GIVE GENEROUSLY

Thanks in Advance

October Astronomy Quiz Answers

1. A. Gary Grimes Constellation Certificate
 B. Dave Burgess Messier Certificate
 C. Mark Weiss Binocular Messier Certificate
2. Alpheratz, Scheat, Algenib, and Markab.
3. Radio telescope, in Puerto Rico
4. No, also visual.
5. Sagitta and M71.
6. Infrared.
7. Mt. On the moon.
8. Open cluster in Orion.
9. Canis Major, the Little Dog.
10. Hurricane Ivan from the ISS.

November Highlights

Nov. 1-7: Passing planets. Venus and Jupiter -- the two brightest pinpoints of light in the night sky -- are passing by each other in the pre-dawn sky this week. We'll tell you when and where to look for this beautiful encounter..

Nov. 8-14: Morning maneuvers. The crescent Moon maneuvers past the brilliant planets Venus and Jupiter in the pre-dawn sky this week, creating a beautiful display. It also takes aim at Mars, which is just climbing into view.

Nov. 15-21: Creation's afterglow. A faint glow of microwaves permeates the universe -- the afterglow of the Big Bang. A satellite that was launched 15 years ago found tiny ripples in the afterglow -- ripples that gave birth to the first stars and galaxies.

Nov. 22-28: Mighty mites. The small, old stars known as white dwarfs are helping astronomers measure the age of our galaxy, probe the interiors of stars, and hunt for planets.

Nov. 29-Dec. 5: Bruising encounter. 50 years ago, a woman who was just sitting in her house had a nasty encounter with a "falling star." We'll talk about this bruising encounter with a meteorite, and about some other meteorites that were thought to have magical powers.



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BENEFITS OF MEMBERSHIP

- ◆ Members receive the STELLA, our monthly newsletter.
- ◆ Each member is automatically a member of the Astronomical League, the only nation-wide organization for amateur astronomers.
- ◆ Use of the observing site at Weeping Water, NE
- ◆ The opportunity to borrow one of several club-owned telescopes.
- ◆ Organized trips to local observatories, planetariums and museums.
- ◆ Significant savings on subscriptions to **Sky & Telescope** and **Astronomy** magazines.
- ◆ Savings on astronomy books and printed materials.

ANNUAL MEMBERSHIP DUES

Regular/Family
\$25.00

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\$10.00

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