

The Shoreline Observer



*Newsletter for the
Shoreline Amateur Astronomical Association*

President- Mark Logsdon

Vice President- Gary Stroven

Secretary/Treasurer- Phil Sherman

Robert Wade, Editor

November 1992

November Meeting

The November meeting of the Shoreline Amateur Astronomical Association will be held on November 19th, beginning promptly at 7:00 PM in the West Ottawa Middle School Planetarium in Holland, Michigan. The agenda will be as follows:

- | | |
|-----------|---|
| 7:00-7:15 | Refreshments and socializing. |
| 7:15-7:30 | Sandy Plakke will tour the November night sky. |
| 7:30-8:30 | Dr. Michael Jipping of Hope College will speak on his work with NASA on Project Jove. |

Board Meeting

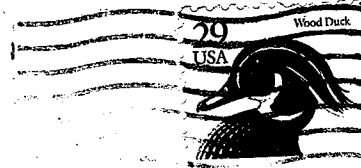
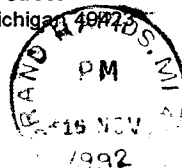
Mark called the meeting to order at 7:22 P.M. on October 22, 1992 and welcomed new officers Gary Stroven (Vice-President), and Phil Sherman (Secretary/Treasurer). Pete and Arlin were also present.

Treasure's Report: \$ 466.02

Refreshments for the October meeting are courtesy of Bob Wade.

Upcoming Meetings: Note that our speaker for November is Dr. Michael Jipping of Hope College. December 17 will be SAAA Family Night. Phil and Gary are coordinating the December meeting.

3882 62nd Street
Holland, Michigan 49423



Star Parties (weather permitting): Friday November 20 at Bob's. No back-up at Mark's on November 21. Friday December 18 at Bob's with back-up on Saturday December 19 at Vivekananda Monastery.

Deadlines: November 19 is the deadline for members who wish to obtain group subscription rates to *Astronomy* or *Sky and Telescope* magazines. It is also the time to reserve your copy of the *Observer's Handbook 1993*. This is also the last gratis newsletter for local members who have not paid their 1992/1993 dues.

Meeting adjourned at 8:45 P.M.

What You Can View

by Pete Burkey

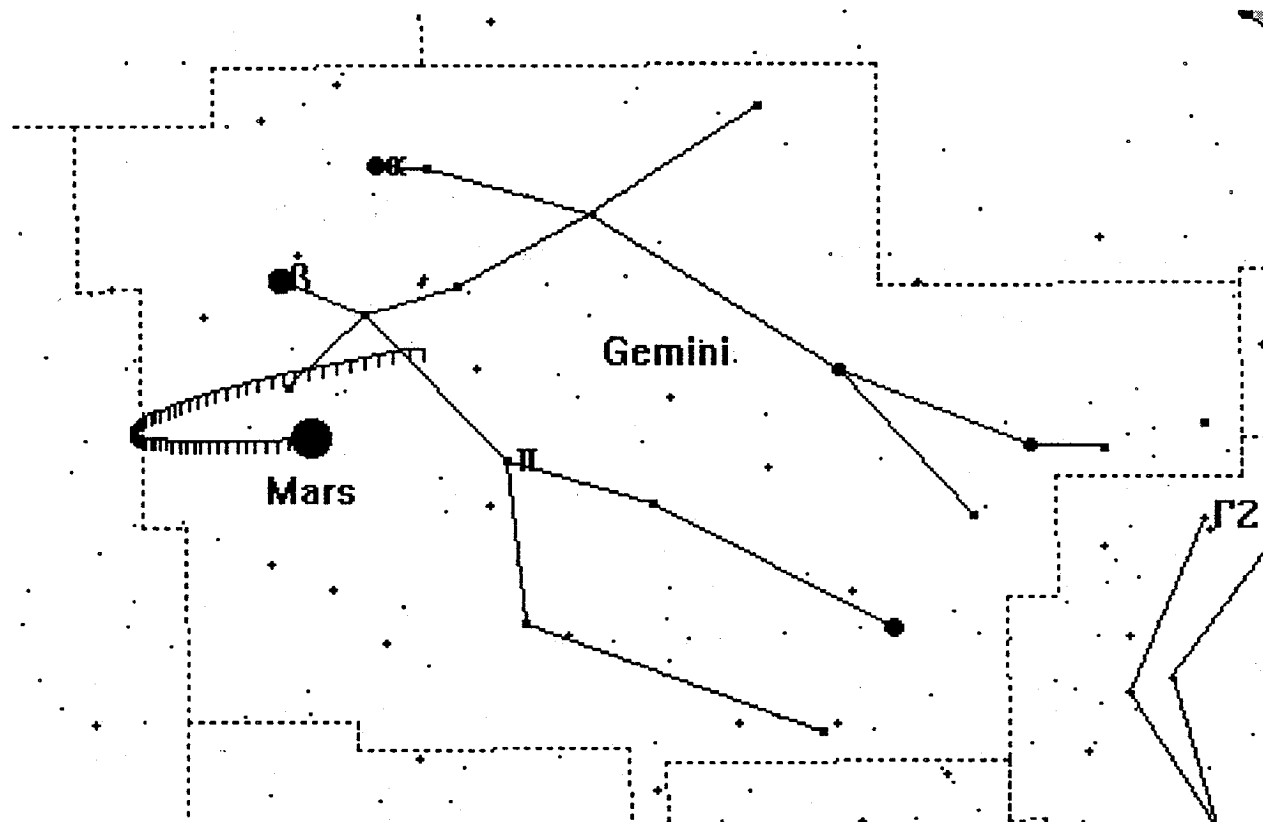
Late November and early December offer us excellent viewing of some rare astronomical events. This time of year, however, is not known for clear skies and mild weather in western Michigan. When a clear night occurs, you need to have your star guides and binoculars handy so you can buzz down to your favorite observing site and enjoy nature's wonders.

The Moon: The waning crescent moon and Jupiter form a lovely pair in the eastern pre-dawn sky on Friday, November 20. One week later, on the 27th, the moon and Venus form a close pair in the southwest after sunset. Then, on Wednesday December 9, we will be treated to a total lunar eclipse:

<u>Event</u>	<u>Time (p.m.)</u>
Moon rise:	5:01
Moon set:	7:44 (next a.m.)
Magnitude:	1.27
Partial phase begins:	5:00
Total phase begins:	6:07
Time of maximum eclipse:	6:44
Total phase ends:	7:20
Partial phase ends:	8:27

As you can see, you'll have to look to the east to see the rising moon already entering partial phase. The deepest part of the eclipse, around 6:44 p.m., may be much darker than usual due to the lingering haze in the upper atmosphere from the June 1992 eruption of Mt. Pinatubo. This eclipse has the potential to be as dark as the "black" eclipses of December 1963 and December 1982.

The Planets: Venus is visible in the southwest after sunset. As mentioned briefly above, look for it near the crescent moon November 25-29. Venus sets within 2 hours of the sun on November 1, increasing to 3.5 hours by the end of December. Mars rises in the ENE about 3 hours after sunset during the first week of December. Mars begins retrograde motion around November 28, shifting 19° westward by mid-February. Compare its position to nearby Castor and Pollux. Jupiter rises about 2 a.m. by the first of December, changing to midnight by year's end. Saturn can be located in the south in mid-November, moving to the southwest by year's end.



Mars in Gemini from November 1 through December 31

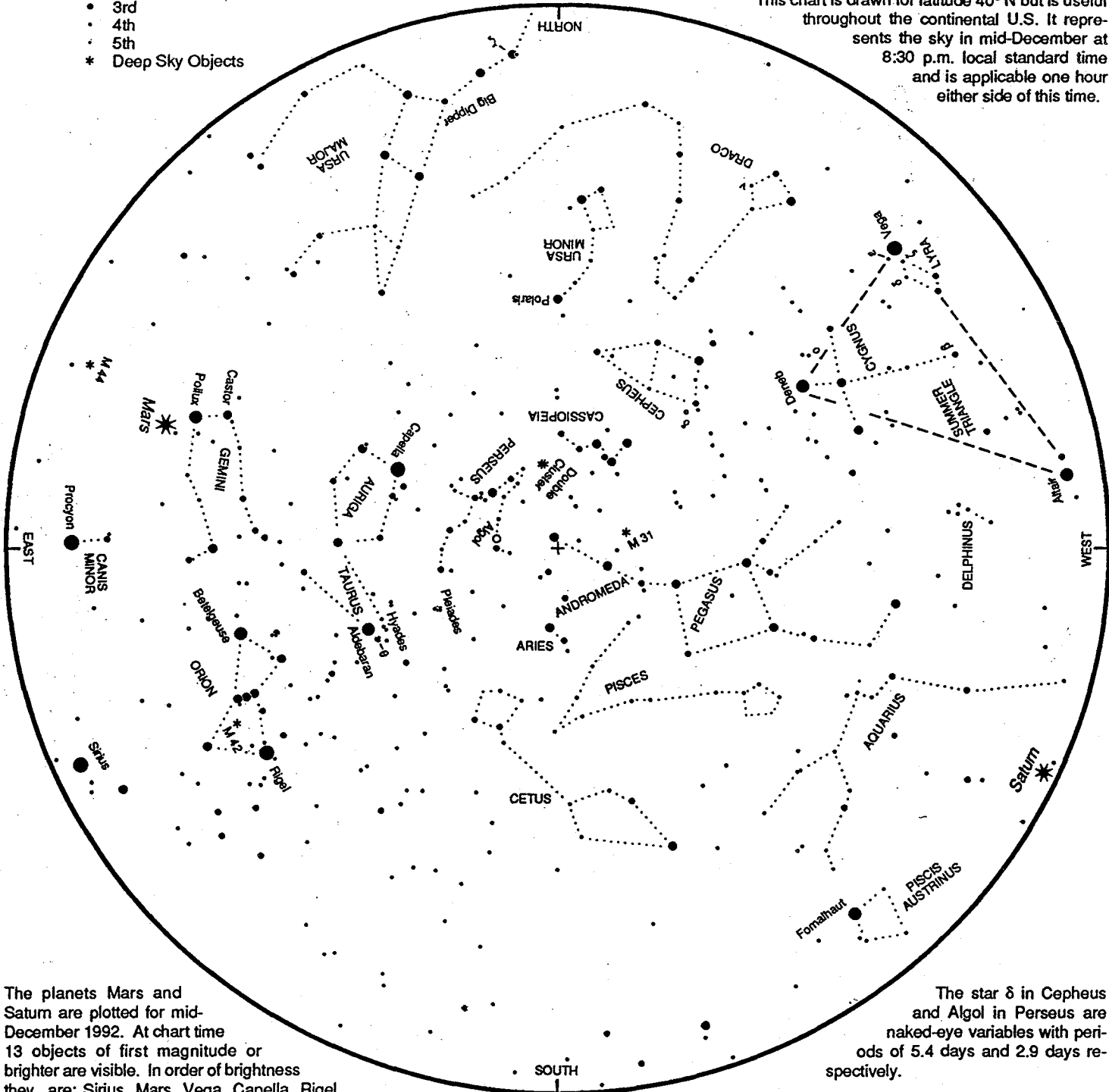
December Evening Skies

LEGEND Star Magnitudes

- Zero or brighter
- 1st
- 2nd
- 3rd
- 4th
- 5th
- * Deep Sky Objects

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Subscription: \$6 per year, from *Sky Calendar*,
Abrams Planetarium, Michigan State University,
East Lansing, MI 48824.

This chart is drawn for latitude 40° N but is useful throughout the continental U.S. It represents the sky in mid-December at 8:30 p.m. local standard time and is applicable one hour either side of this time.



The planets Mars and Saturn are plotted for mid-December 1992. At chart time 13 objects of first magnitude or brighter are visible. In order of brightness they are: Sirius, Mars, Vega, Capella, Rigel, Procyon, Betelgeuse, Saturn, Altair, Aldebaran, Pollux, Fomalhaut, and Deneb.

Our usual monthly maps are designed for stargazers just beginning to find their way around the sky. This month's map is useful for serious stargazing from dark locations. It contains many more stars, inclusive to magnitude 4.5, and some fainter stars as needed to complete patterns or assist in locating special objects.

A selection of double stars (labeled with Greek letters) and "deep sky objects" is also plotted. All are visible with modest equipment; most are within the range of the unaided eye or binoculars.

The double stars, in order of decreasing angular separation, are ζ UMa, δ Lyr, ο Cyg, θ Tau, ε Lyr, ν Dra, ζ Lyr, β Cyg. Look early for those in NW.

The star δ in Cepheus and Algol in Perseus are naked-eye variables with periods of 5.4 days and 2.9 days respectively.

Four open or galactic clusters are noted: the Hyades and Pleiades, or Seven Sisters, in Taurus; the Double Cluster in Perseus; and M44, the Beehive or Praesepe, just rising.

M 42 is the famous Orion Nebula, a gas cloud out of which stars are forming. M 31 is the Andromeda Galaxy, a collection of 300 billion stars located 2 million light years from Earth. Look for both with unaided eye and binoculars from a dark location.

SKY CALENDAR DECEMBER 1992
An aid to enjoying the changing sky

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
<p>Total Eclipse of the Moon Depicted here are Moon's changing appearance and position in sky during eclipse, as seen from near Philadelphia and New York City.</p> <p>Half in shadow 7:57 p.m. EST.</p> <p>Totally ends 7:21 p.m. EST</p> <p>Deepest eclipse 6:44 p.m. EST</p> <p>Totally begins 6:07 p.m. EST</p> <p>Half in shadow 5:31 p.m.</p> <p>Moon enters umbra 4:59 p.m. ENE EST</p> <p>For more on eclipse from other parts of U.S., see left margin of calendar.</p>	<p>Wednesday December 9</p> <p>Leaves umbra 8:29 p.m. EST</p> <p>Half in shadow 7:57 p.m.</p>	<p>Tuesday Dec 8, Pleiades ♀ dusk:</p> <p>Moon ☉ Hyades</p> <p>♂ Cap = Algol, head of Sea-goat; ♀ Cap = Deneb Algol, tail of Sea-goat. Note 4th-mag ♂ Cap within 0.5° N of Saturn Nov 30-Dec 5.</p> <p>♂ Cap ♀ Saturn</p> <p>♂ Cap (double star)</p> <p>To Venus 22° from Saturn; Venus gets 1° closer each day.</p>	<p>Wednesday Dec 9, Pleiades ♀ dusk:</p> <p>Moon in eclipse: see large box at left.</p> <p>Full Moon, ♀ in eclipse Aldebaran</p> <p>♂ ENE</p>	<p>Thursday Dec 3, dawn:</p> <p>♂ SE to SSE</p> <p>♂ ♀ Jupiter, in Virgo, now passes 1.6° S of ♀</p> <p>♂ Spica</p>	<p>Friday at dawn:</p> <p>♂ ♀ Lib</p> <p>♂ ♀ Lib</p> <p>♂ ♀ Mercury (will reach gr elong 21° from Sun Dec 9)</p>	<p>Dawn: west</p> <p>Mars ♀ Pollux ♀ Castor</p> <p>3½ hours after sunset: ♀ Pollux ♀ Castor</p>
<p>Monday, Dec 20 & 21:</p> <p>♂ ♀ Lib</p> <p>♂ ♀ Venus</p> <p>♂ ♀ Saturn</p> <p>♂ ♀ Cap</p> <p>♂ ♀ Venus</p> <p>♂ ♀ Saturn</p>	<p>Monday Dec 21</p> <p>♂ ♀ Lib</p> <p>♂ ♀ Venus</p> <p>♂ ♀ Saturn</p> <p>♂ ♀ Cap</p> <p>♂ ♀ Venus</p> <p>♂ ♀ Saturn</p>	<p>Tuesday at dawn:</p> <p>♂ ♀ Regulus high in SW</p> <p>♂ ♀ Moon</p> <p>♂ ♀ Venus</p> <p>♂ ♀ Saturn</p> <p>♂ ♀ Cap</p> <p>♂ ♀ Venus</p> <p>♂ ♀ Saturn</p>	<p>Wednesday at dusk:</p> <p>♂ ♀ Venus</p> <p>♂ ♀ Saturn</p> <p>♂ ♀ Cap</p> <p>♂ ♀ Venus</p> <p>♂ ♀ Saturn</p> <p>♂ ♀ Cap</p> <p>♂ ♀ Venus</p> <p>♂ ♀ Saturn</p>	<p>Thursday Dec 10 & 11, 3 hours after sunset: ☉ Moon Thurs 10</p> <p>♂ ♀ Castor</p> <p>♂ ♀ Pollux</p> <p>♂ ♀ Moon</p> <p>♂ ♀ F11</p> <p>♂ ♀ Betelgeuse</p> <p>♂ ♀ Orion's belt</p>	<p>Friday Dec 12, Dawn: next box 3½ hours after sunset:</p> <p>♂ ♀ Castor</p> <p>♂ ♀ Pollux</p> <p>♂ ♀ Mars</p> <p>♂ ♀ ENE</p>	<p>Saturday</p> <p>Length of daylight is essentially constant next few days as Sun reaches solstice on Mon Dec 21 at 9:43 a.m. EST and winter begins. But sunrise, midday and sunset are now all occurring ½ minute later each day. Can you explain why?</p> <p>♂ ♀ Moon</p> <p>♂ ♀ Procyon</p>

Holiday Gift Idea: Subscription \$6 per year, starting anytime, from *Sky Calendar*, Abrams Planetarium
Michigan State University, East Lansing, MI 48824

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