

THE PRAIRIE ASTRONOMER

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NEW COMET APPEARS, DISCOVERED WELL BEFORE PERIHELION, MAY BE FAIRLY BRIGHT

New comet Kohler 1977m was discovered visually on September 3 by Merlin Kohler of Quincy, California, using a Dynamax 8. It is now in Corona Borealis in the evening sky and may reach magnitude 7.5 in November. The following ephemeris was supplied by Brian Marsden. The 1950 positions are for 0h UT.

OCT 4	16h	33.3m	+18d	02'	mag8.7
	9	16	49.4	+15	22
	14	17	07.0	+12	23 8.2
	19	17	26.1	9	04
	24	17	46.8	5	25 7.9
	29	18	09.0	+1	26

The foregoing magnitude estimates, made at the time of the initial orbital calculations, appear to be somewhat conservative. The projected light curve indicated that Kohler should have had a magnitude of about 10 on September 7. Instead,

observations indicated it was nearer magnitude 9.2 on the 7th, and had reached magnitude 9.0 by September 11. Since this is a new comet that has not yet reached perihelion, it should be worth watching in case it achieves a greater than predicted brilliance. Even if it reaches predicted levels, it should be well within the grasp of even small instruments.

OBSERVING CHAIRMAN'S REPORT

This month we have the best of both summer and winter skies. Starting with Draco, we find a small planetary nebula, NGC 6543, about $1\frac{1}{2}$ degrees south and $2\text{-}3\frac{1}{4}$ degrees east of the star f(27) Draconis. It is probably visible in small instruments as a faint fuzzy star of about the ninth magnitude, but it takes a much

(Continued on Page 4)

CLUB ELECTION, OCTOBER SOLAR ECLIPSE, SCI-FI PROGRAM HIGHLIGHT SEPT MEET

Election of officers for the Prairie Astronomy Club will be the first order of business at the September meeting. The meeting will be held at Olin Hall of Science, Nebraska Wesleyan University, on Tuesday night, September 27, 7:30 p.m.

At the last meeting, the Nominating Committee submitted the following list of candidates for the club's five elective offices:

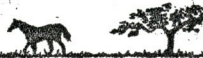
President -- Rick Johnson
Vice President -- Ron Veys
Secretary -- Ed Woerner
Treasurer -- Lee Thomas
Program Chairman -- Jack Dunn
Nominations can be made by any club member from the floor prior to the election.

We will also be discussing plans to cover the October 12 solar eclipse, and Ed Woerner will have a program on science fiction.

SKY CALENDAR

Information for helping tea

Magnitudes of the Planets: Venus -3.4; Jupiter -1.9 to -2.1; Mercury -1.0; Mars +0.8 to +0.4; Saturn +0.8
Motions during October (all eastward): Venus 38°, Mars 15°, Saturn 2.8°, Jupiter 0.8° until Oct 24, when it begins retro-
 grade. Venus goes from Leo into Virgo; see Oct 31. Mars passes 0.8° N of 3.5 mag Delta Geminorum. Oct 2, and 6° S. of Pol-
 lux Oct 11. See Oct 21. By October 31 Mars moves to within 5° west of Beehive Cluster. Jupiter on Oct 1 is 1/2° from 3.2
 magnitude Nu Geminorum, the heel of Castor. By Oct 24 Jupiter is 1 1/4° ENE of that star. Jupiter will pass 1/2° N of Nu
 on Nov 19. Saturn on Oct 1 is 3 1/4° from Regulus; by the 31st it is 0° 9' from that star.

SUNDAY	MONDAY	TUESDAY	
<p><i>Planets This Month:</i> Late Evening: Bright Jupiter rises 30° N of E within 5 hrs after sunset Oct 1, and within 3 1/2 hrs after sunset Oct 31. Red Mars traces Jupiter's path across sky 1-2 hrs later.</p>	<p><i>Morning Planets:</i> Venus, most brilliant planet, rises in E just over 2 hrs before sun Oct 1, and just over 1 1/2 hrs before sun Oct 31. First few days of Oct, use Venus as guide to Mercury. See Oct 2. Look for 5 planets Oct 1-4.</p>	<p>Jupiter, next in brightness after Venus, is very high due south shortly before sunrise in early Oct. By end of month it is due south 2 1/2 hrs before sunrise. For details on positions of planets against stars, see left margin.</p>	<p>An hour Venus two br in sky nectin Mars (Jupite and 1/ toward 31). C Pollux</p>
<p>40 min before sunrise: Look for Mercury 15° lower left of Venus. Face east.</p> <p style="text-align: center;">★ Venus</p> <p style="text-align: center;">★ Mercury</p>	<p>One hour before sunrise:</p> <p style="text-align: center;">Moon ○</p> <p style="text-align: center;">★ Aldebaran</p> <p style="text-align: center;">★ Betelgeuse</p>	<p>One hour before sunrise:</p> <p style="text-align: center;">★ Jupiter</p> <p style="text-align: center;">○ Moon</p> <p style="text-align: center;">Betelgeuse ★</p>	<p>One ho sunris</p> <p style="text-align: center;">• Ca</p> <p style="text-align: center;">★ Po</p>
<p>One hour before sunrise: ★ Saturn 9 before ★ Regulus</p> <p style="text-align: center;">☾ Moon</p> <p style="text-align: center;">★ Venus</p>	<p>One hour before sunrise: ★ Saturn 10 before ★ Regulus</p> <p style="text-align: center;">☾ Moon</p> <p style="text-align: center;">★ Venus</p>	<p>One hour before sunrise: Look 5° south of due east.</p> <p style="text-align: center;">★ Venus</p> <p style="text-align: center;">☾ Moon</p>	<p>New Mo eclips in 50 s eclips 1 p.m. Coast, 5 p.m. CAUTION</p>
<p>One hour after sunset: ☾ Moon</p> <p style="text-align: center;">★ Antares</p> 	<p>This week, watch changing alignment of Mars with Castor and Pollux. On which morning this week will the three objects appear in a straight line?</p>	<p>One hour before sunrise: Look about 40° up in ESE. (1.7° apart)</p> <p style="text-align: center;">★ Saturn</p> <p style="text-align: center;">★ Regulus</p>	<p>First (evenir With b1 for 3re Beta Ca It is c side of 11 p.m. Coast, CDT for</p>
<p>Oct 30, 4 hrs after sunset: Aldebaran</p> <p style="text-align: center;">○ Moon tonight</p> <p style="text-align: center;">★ Jupiter</p> <p style="text-align: center;">○ Moon tomorrow</p>	<p>Oct 31, 45 min before sunrise: ★ Venus</p> <p style="text-align: center;">★ Spica</p>	<p>One hour before sunrise: Look about 45° up in ESE.</p> <p style="text-align: center;">★ Saturn</p> <p style="text-align: center;">★ Regulus</p> <p style="text-align: center;">(1.2° apart)</p>	<p>Tonight full m a few n sunset, directi ens, lo magnitu Aries 1 of moon full mo in Taur</p>

Written by Robert C. Victor
 Diagram calculations by Ted A. Hunt

Subscription: \$2.00 per year, from Abrams P

OCTOBER 1977

Observers and students observe the sky

WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
<p>before sunup, and Jupiter are greatest "stars" On a line connect them, look for 1/5 of way from to Venus Oct 1, of the way Venus by Oct 1, ose to Mars are and Castor.</p>	<p>Also on the line from Jupiter to Venus, look for yellowish Saturn, 4/5 of the way toward Venus on Oct 1. By Oct 31 Saturn is midway between Venus and Jupiter. Near Saturn is fainter bluish Regulus. See Oct 7-10, 18, 25.</p>	<p>SAFE METHOD of observing Oct 12 PARTIAL SOLAR ECLIPSE: Make a 1/16" pinhole in index card, and with your back to the sun, view PROJECTED IMAGE on 2nd card, held 2-3 feet away in shadow of first card.</p>	<p>One hour before sunrise: Aldebaran Pleiades Moon tomorrow morning Moon this morning.</p>
<p>One hour before sunrise: Jupiter Castor Pollux Mars Moon</p>	<p>One hour before sunrise: Castor Pollux Mars Moon</p>	<p>One month from today, on November 7, Saturn will pass only 3/4 degree north of Regulus. Next three days, use moon as guide to Saturn and Regulus as shown on diagrams.</p>	<p>One hour before sunrise: Saturn Regulus 2.5° apart Moon</p>
<p>Partial of sun visible states. Greatest occurs near PDT on West and just after EDT in East. See above.</p>	<p>One hour before sunrise: Castor Pollux Mars (Jupiter very high in south.)</p>	<p>One hour after sunset: Look for reddish twinkling Antares in SW. Antares Moon</p>	<p>One hour after sunset: On what date will you last see Antares? Antares Moon</p>
<p>Quarter, (g half moon). Binoculars, look magnitude pricorni nearby. occulted by dark moon around EDT for East around 9:45 p.m. Miss. River.</p>	<p>One hour before sunrise: Castor Pollux Mars Jupiter (Look high in south.)</p>	<p>Mars has just entered Cancer. This morning a line from Castor to Pollux (4.5° long) extended 7.3° points to Mars. Watch Mars approach Beehive Cluster next 24 days.</p>	<p>One hour after sunset: Moon Fomalhaut</p>
<p>Watch on rise within minutes after in opposite on. As sky dark- ok for 2nd de Hamal in 2° upper left. Next month's on will appear us.</p>	<p>One hour before sunrise: Castor Pollux Mars Jupiter (Look high in south.)</p>	<p>2 hours after sunset: Can you find Pleiades in glare of moon? Look 8° upper left of moon. Pleiades Moon</p>	<p>3 hours after sunset: Pleiades Aldebaran Moon</p>

Sunrise/Sunset East Lansing: Oct 1 7:35 a.m./7:19 p.m.; Oct 15 7:51 a.m./6:56 p.m.; Oct 29 8:08 a.m./6:35 p.m. EDT; Oct 31 7:11 a.m./5:32 p.m. EST

OBSERVING CHAIRMAN'S REPORT...

larger instrument to make out any structure at all. I have observed the nebula with the 30 inch telescope at Behlen Observatory and I did not see the complicated helical structure shown in most photographs, although its disc form can be seen in a 6-inch.

Moving over to Cepheus, be sure to look at NGC 11396, a diffuse nebula which is all but invisible except in a richest field telescope. But it is the central star that I want you to look at. It is a 5th magnitude star about $1\frac{1}{2}$ degrees south and one degree west of Mu Cephei and is perhaps the reddest star I have ever seen. In small telescopes, the effect is most striking, so much so,

in fact, that it has sometimes been called the Garnet Star.

Later in the evening, after you've tried these objects, be sure to look into Pegasus for M15, a fine globular cluster $3\frac{1}{2}$ degrees west and 2.3 degrees north of Epsilon Pegasi. It is resolved under high power in a 6- or 8-inch telescope, but the stars are all very faint. According to the Skalnate Pleso Atlas, there is a very small planetary nebula just east of the center of this cluster, but it is doubtful if amateur telescopes can show it. Also, M2 in Aquarius is a fine globular although it is considerably more difficult to resolve showing only a few stars in my 8-inch Newtonian.

-- David Knisely

THE PRAIRIE ASTRONOMER
c/o The Prairie Astronomy Club
P.O. Box 30553
Lincoln, Nebraska 68501

FIRST CLASS MAIL

Mr. Earl Moser
Hickman,
Nebraska 68372

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