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THE PRAIRIE ASTRONOMER

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LAST MONTH'S MULTIPLE MOONS CIRCLING URANUS BECOME THIS MONTH'S RINGS

Last month, we reported that photometric measurements made during the occultation of star SAO 158687 by Uranus March 10 indicated the existence of as many as 100 small moons orbiting the seventh planet. A month's further investigation and analysis of data have led to the altered conclusion that, instead of a swarm of discrete bodies circling Uranus there are most probably at least 5 faint rings similar to those circling Saturn.

The rings still have not been seen. Their presence is inferred from the fact that starlight from behind the planet was cut off five times in nine minutes as the planet approached the star, and five times more after the star reappeared from behind the planet.

The position of the rings is consistent with the assumption that a ring belt would circle the planet at its equator. Uranus' equator is almost exactly perpendicular to the plane of the planet's orbit, and to the orbits of the other major planets except Pluto. This, Uranus' poles lie at its orbital plane, and its moons and the newly-discovered rings orbit at right angles to that plane.

The brevity and weak amplitude of the stellar appulses indicate that the rings will probably never be detected either visually or photographically from Earth. However, an effort to observe the rings more close-

ly may be made in 1986, when a spacecraft due to be launched this September could approach Uranus, provided it is still working after nine years and survives earlier scheduled passes of Jupiter and Saturn.

APRIL MEETING NOTICE

The regular meeting of the Prairie Astronomy Club will be held at Olin Hall of Science, Nebraska Wesleyan University, Tuesday, April 26, at 7:30 p.m. Program Chairman Jack Dunn promises a program. At press time he was pondering what it would be.

ANOTHER BIG STEP: GROUNDBREAKING FOR COMMUNITY OBSERVATORY

Groundbreaking ceremonies were held at the Holmes Park site of the Hyde Community Observatory Thursday, April 21 at 2:00 p.m. Construction is to begin within a few days, with completion of the observatory expected this summer.

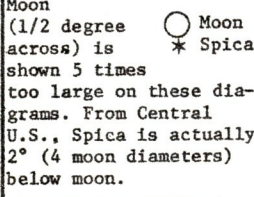

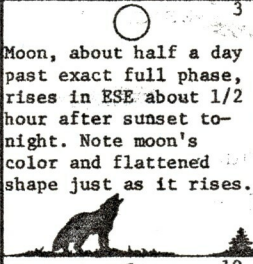
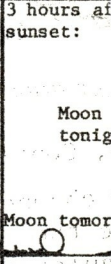
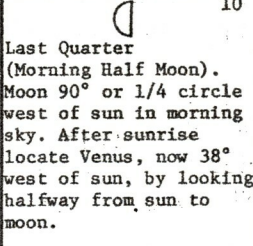


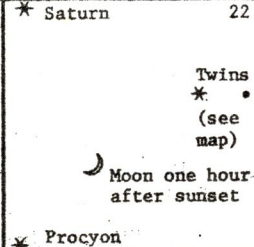
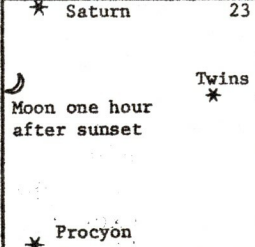
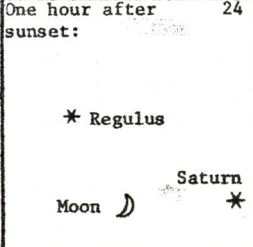
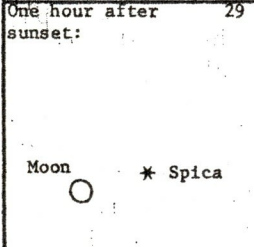
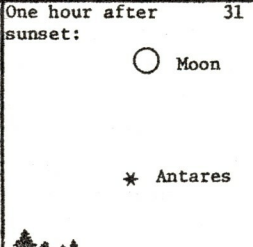
ATTENTION, ASTRONOMICAL RATCHETJAWS

A meeting or so ago, Earl Moser suggested getting together a list of club members who have CBs. When we get the names collected, we'll publish them in the newsletter. Drop a note in the mail to the club address, or let the newsletter editor know at the meeting. We need your name, CB

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SKY CALENDAR

Information for helping teachers

SUNDAY	MONDAY	TUESDAY	WEDNESDAY
<p>One hour after sunset: Moon (1/2 degree across) is shown 5 times too large on these diagrams. From Central U.S., Spica is actually 2° (4 moon diameters) below moon.</p> <p>1</p> 	<p>One hour after sunset: Spica * Moon</p> <p>2</p> 	<p>Moon, about half a day past exact full phase, rises in ESE about 1/2 hour after sunset tonight. Note moon's color and flattened shape just as it rises.</p> <p>3</p> 	<p>3 hours after sunset: Moon tonight Moon tomorrow</p> 
<p>The Beehive Cluster is very easy to locate with binoculars 2 hours after sunset. Look 4° west (to lower right) of Saturn. In dark skies unpolluted by city lights, the Beehive can be seen as a hazy patch to the unaided eye.</p> <p>8</p>	<p>Although Saturn and the Beehive appear only 4° apart, one is much more distant. Light from Saturn takes 77 minutes to reach us; light from the Beehive, 500 years.</p> <p>9</p>	<p>Last Quarter (Morning Half Moon). Moon 90° or 1/4 circle west of sun in morning sky. After sunrise locate Venus, now 38° west of sun, by looking halfway from sun to moon.</p> <p>10</p> 	<p>Venus at glaucy, 12 bright as star and 1 bright as Mars is 1e from Venus mornings, June 12.</p> <p>11</p>
<p>Venus and Mars are less than 1° apart for 12 mornings, May 15-26. One hour before sunrise today:</p> <p>Venus * Mars</p> <p>Moon</p> 	<p>Aldebaran is gone, and Jupiter now sets only an hour after the sun. With binoculars you might see Jupiter a few more evenings. Jupiter will be in conjunction with sun June 4.</p> <p>16</p>	<p>New Moon, in conjunction with sun. Today the sun and moon rise and set together. Also, moon's dark side is toward us, so moon isn't visible.</p> <p>17</p> 	<p>Remember the Pleiades in April? They are on far side May 20 and sun's glare earth will way around Pleiades visible all</p> <p>18</p>
<p>* Saturn</p> <p>Twins * (see map)</p> <p>Moon one hour after sunset</p> <p>* Procyon</p> <p>22</p> 	<p>* Saturn</p> <p>Twins * Moon one hour after sunset</p> <p>* Procyon</p> <p>23</p> 	<p>One hour after sunset: * Regulus Saturn Moon</p> <p>24</p> 	<p>One hour after sunset: * Regulus First Q</p> <p>25</p>
<p>One hour after sunset: Moon * Spica</p> <p>29</p> 	<p>Tonight Aldebaran is in conjunction with sun, and Antares is at opposition. Aldebaran is lost in sun's glare and Antares is visible all night. Tonight look for Antares 25° lower left of moon.</p> <p>30</p>	<p>One hour after sunset: Moon * Antares</p> <p>31</p> 	<p>EVENING (Jupiter and Antares)</p> <p>MORNING (Venus and Mars)</p> <p>For more information see boxes</p>

Magnitudes of the Planets: Venus -4.2 to -4.1; Jupiter -1.5; Saturn +0.5 to +0.6; Mars +1.3. Motions: Saturn, in Cancer, moves only 1.8° eastward this month. With binoculars look for the Beehive Cluster west of Saturn. On May 1 they are 3.5° apart; on May 31st, 5.3°. Jupiter, in Taurus, is against dark sky background only first few days of month (see May 5). Venus and Mars are 7° apart on May 1. Mars approaches to within 1.1° of Venus by midmonth; the two planets, moving eastward at nearly the same pace, remain close to each other well into June.

MAY 1977

Observers and students observe the sky

WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
4 Jupiter and Aldebaran, 5 1/2 degrees apart, now set in WNW as twilight ends. Look for them each evening. When will you last see each? Tonight 1 hr after sunset, they are 7° up. Aldebaran is to left of Jupiter.	5	6 Use this month's map about 2 hours after sunset. Now that moon rises late, sky is dark then. Using binoculars, locate these star clusters: Coma Berenice (the hair of Berenice) and the Beehive.	7 One hour before sunrise: Planets 3 1/2° apart. Venus * * Mars
11 Sun enters Taurus tomorrow night, leaves it June 21. Next 3 mornings are excellent for finding Venus in daytime. Just note its position relative to moon before sunup, and watch it until sun rises.	12	13 One hour before sunrise: Moon Venus * Mars	14 One hour before sunrise: Planets 1.1° apart. Moon occults Venus from central Canada. Moon * Venus Mars
18 Mars appears closest to Venus this morning; look 0.6° lower left of Venus. 40 min after sunset: Can you still see Jupiter? * Betelgeuse Moon	19	20 40 minutes after sunset: Moon Use binoculars for Jupiter * Betelgeuse	21 One hour before sunrise: Planets 0.7° apart. Mars * Venus
25 As twilight ends, Procyon is 5° above horizon in west (look 23° lower left of Pollux). By May 31, Procyon will set at end of twilight. On what date in early June will you last see it?	26	27 Saturn is now 5° east of the Beehive and 18° west of Regulus. In early November Saturn will pass 3/4 degree north of Regulus.	28 One hour before sunrise: Planets 1.1° apart. Mars * Venus
<p>PLANETS (and Saturn)</p> <p>PLANETS (Mars): information, t right.</p> <p>Bright <i>Jupiter</i> on May 1 sets in WNW 2 hrs after sunset. By May 16 it sets only 1 hr after sunset, and a few days later it is gone. <i>Saturn</i> as the evening sky darkens on May 1 is some 60° up in SW; by May 31 it is about 35° up in west. Saturn is the only bright "star" between Pollux and Regulus, near Beehive; see star map. Brilliant <i>Venus</i> and fainter red <i>Mars</i> are close together all month, low in east during morning twilight. For details see day boxes. Venus is bright enough to see in the daytime; just find it before sunup, and keep track of it until after sun rises. Telescopes and binoculars show Venus' crescent phase, best seen in bright twilight. As Venus recedes from the earth, its illuminated fraction becomes half full by mid-June.</p>			

East Lansing Sunrise: May 1 6:33 a.m.; May 16 6:15 a.m.; May 31 6:03 a.m. EDT
 Sunset : May 1 8:38 p.m.; May 16 8:55 p.m.; May 31 9:09 p.m. EDT

ASTRONOMICAL LEAGUE UPDATE

Verification has been received that the Astronomical League has updated its mailing list to match the club's actual membership roster effective at the end of the month of February. This should affect the mailing of the next Reflector. Remember to notify Lee Thomas of any address changes or problems in receiving either the Reflector or Sky & Telescope.

If you miss a meeting and your membership is up for renewal, the best way to get it handled fast is to send your Sky & Tel renewal card

and your check to the club, P.O. Box 80553, Lincoln, Nebraska 68501. Do not send renewals to individual club officers--it just slows down the process.

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RATCHETJAWS, Continued from Page 1

handle, the channel you like to use, and (because the editor is so used to being regulated by the FCC that it's hard to shake the habit), your official call sign.

To start the ball rolling, take note that Earl Moser is "Stardust", can be found on channel 15, and his official call is KAMU 8900.

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