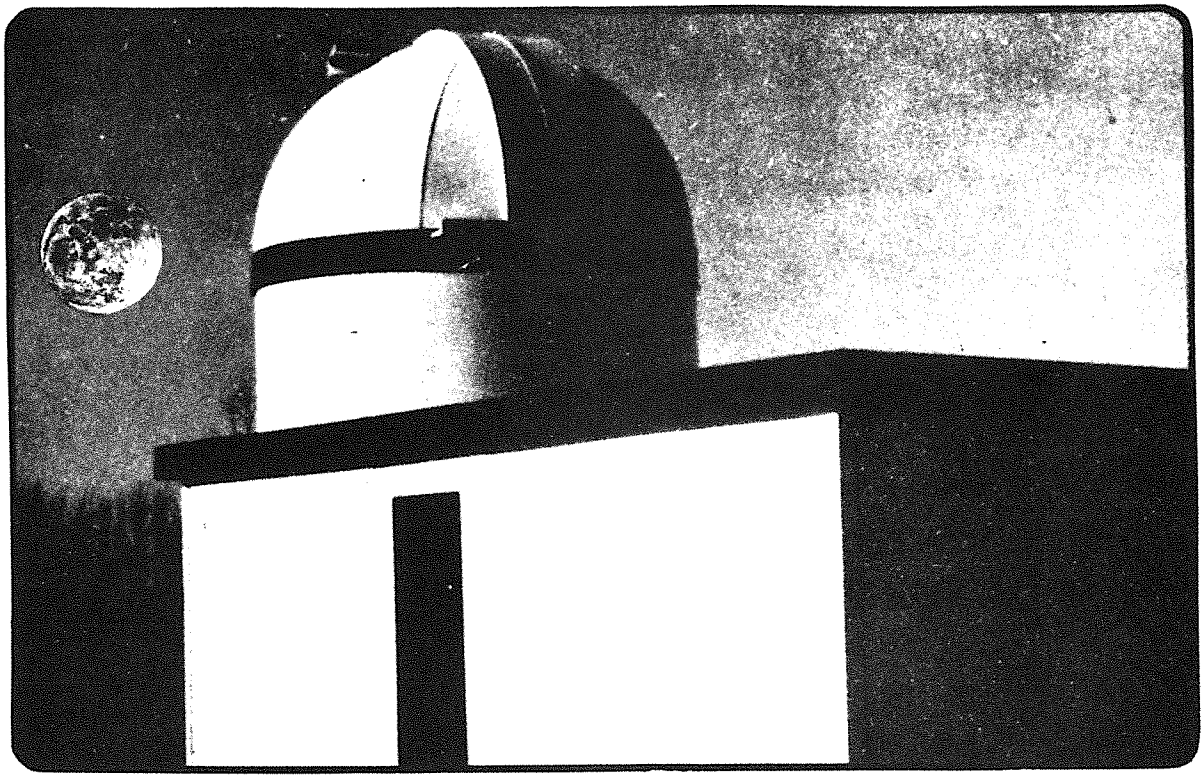

WINNICENTRICS
P.O. BOX 174
ST.JAMES P.O.
WPG., MAN. R3J 3R4

MR. G. WESTCOTT
1527-77 UNIVERSITY CRES.,
WINNIPEG, MAN.
R3T 3N8

19 **BALLOT** 83

Chris Rutkowski ☐

Dave Trimble ☐

Tom Cairns ☐

Mark an 'X' in two boxes only.

This ballot is for the election of three Council positions. Two positions for three years and one position for two years. You may either mail the ballot to the Centre address below or bring it with you to the October meeting, sealed in an envelope.

Winnipeg Centre, R.A.S.C.
P.O. Box 215 St. James P.O.
Wpg., Manitoba R3J 3R4

Election Edition. WINNICENTRICS 1983
************************** Sept/Oct.

WINNICENTRICS is the bi-monthly publication of the Winnipeg Centre, R.A.S.C. It is compiled and printed by members and friends of the Centre. Please send all articles for inclusion in the magazine to the Centre address below. All articles for publication must meet certain standards of veracity, language, and good taste. Any length of article may be submitted, but the staff reserve the right to condense or serialize if necessary. Deadline for articles is the 20th of odd numbered months.

CENTRE ADDRESS: Winnipeg Centre, R.A.S.C.
P.O. Box 215, St. James Post Office,
Winnipeg, Manitoba, R3J 3R4
Canada

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PRESIDENT: Mr. Guy Westcott 269-1499
1st VICE-PRESIDENT: Mr. Andrew Lawless
2nd VICE-PRESIDENT: Mr. Dave Sine 261-0431
TREASURER: Mr. Bud Fairley 269-0034
SECRETARY: Mr. Stan Runge 632-4038

COUNCILLORS:

Miss B. Belkin	Mr. T. Cairns	Mr. W. Jaworski
Dr R. Bochonko	Mr. L. Gamache	Mr. L. Mlodzinski

Librarian: Mr. C. Rutkowski, Assistant Librarian: Miss B. Krosney
Observatory Director: Mr. G. Westcott. All use of the observatory site must be booked and cleared through the Observatory Director, phone: 269-1499

WINNICENTRICS STAFF: Mr. G. Westcott
Mr. D. Sine Miss Brenda Belkin
Mrs. G. Runge Mrs. B. Westcott

* * *

WINNIPEG CALENDAR

SEPTEMBER MEETING. September 9th, Friday.
Room 217 Lockhart Hall, University of Winnipeg.
Time - 8:30 p.m. Topic - Bring and discuss your telescope and its working parts. Guy Westcott will demonstrate how to dismantle and clean a Celestron 8" telescope.

*****

OCTOBER MEETING. October 14th, Friday.
Room 217 Lockhart Hall, University of Winnipeg.
Time - 8:30 p.m. Topic - Annual General Meeting.
Year end reports from officers, Election of new executive and council, films.

CENTRE SCENE.

The members of the Royal Astronomical Society of Canada, Winnipeg Centre, held a star party at the Pinawa Trap Shooting Range on Saturday, July 16th. In attendance were about 15 astronomers from Winnipeg, Pinawa and Lac du Bonnet. An unforeseen amount of dew and numerous numbers of mosquitos, unfortunately brought the evening to an earlier close than was planned. On the Sunday, the members of the Society set up their equipment at Awanipark and with special filters attached, attracted a large crowd of people to look at the sun. As a point of interest, Pinawa will soon have an observatory in operation. Mr. Paul Delaney has set one up in his backyard and hopes to be in operation with a 10" Meade by the end of August.

Mr. Westcott and Mr. Delaney show the sun to the public through Winnipeg's 14" telecope

This year the Centre enjoyed a relatively popular July 1st weekend at Riding Mountain National Park. Although the Friday and Saturday were fairly cloudy, Sunday, was intersparsed with long sunny periods. This enabled the five Winnipeg Centre members and four Saskatoon Centre members to show approximately 2,400 people the solar prominences and sunspots. A good time was had by all who attended and the Park is looking forward to having a clearer nighttime display next year.

Below follows a list of nominees and positions to which they were nominated for the Centre Executive.
PRESIDENT - Mr. Guy Westcott
1ST VICE PRESIDENT - Mr. Del Stevens.
2ND VICE PRESIDENT - Miss B. Belkin.
TREASURER - Mr. Bud Fairley.
SECRETARY - Mr. Stan Runge.

The above being the only nominations received by the deadline, will be declared elected by acclamation at the October 1983 meeting.

COMET NEWS

Discoveries & Recoveries

1983h PERIODIC COMET JOHNSON 1949 II. Alan C. Gilmore and Pamela M. Kilmartin, Mount John University Observatory, New Zealand, recovered this comet on plates exposed June 7 at $m_2 = 19$ (IAU CIRCULAR 3824). Reaching perihelion on T = 1983 Dec. 3 at q = 2.30 AU from the sun, this periodic comet (P = 6.943 yr) is too faint for amateur size telescopes.

1983i PERIODIC COMET RUSSELL 3. Kenneth S. Russell, U.K. Schmidt Telescope Unit, Siding Spring, Australia, telexed his discovery of this object on plates exposed June 14 and 15 with the 1.2-m Schmidt (IAU 3828). Dr. Brian Marsden's orbit (IAU 3830) indicates it to be periodic (P = 6.76 yr is uncertain currently) with a perihelion of q = 2.61 AU reached on 1982 Nov. 20. At $m_1 = 16$ with a 3-4' tail, the comet is too faint for visual surveillance by amateur astronomers. Russell's other comet discoveries are P/Russell 1 1979 V (CNS 79-3), P/Russell 2 1980 III (CNS 80-4) and Russell 1980 I (CNS 80-4).

1983j PERIODIC COMET IRAS. J. Davies, U. of Leicester, reported that the orbiting Infrared Astronomical Satellite (IRAS) detected its third comet this year June 28 (IAUC 3833). Confirmed June 30 by J. Gibson at Palomar Mountain with the 1.2-m Schmidt as a nearly stellar object of blue photographic magnitude 15, elliptical orbit elements now have been computed by Marsden (IAUC 3845): T = 1983 Aug. 23.7, q = 1.70 AU, P = 13.3 yr. The inclination, $i = 46^\circ.2$, is unusually high for a short-period comet. The object may reach 12th magnitude in September, judged by its detection visually, J. Bortle informs us, in his 32-cm reflector.

1983k COMET IRAS. Davies reports yet another comet discovery on July 11 by the IRAS satellite (IAUC 3839), the fourth in less than four months, confirmed as a m = 18 object by J. Dawe and K.S. Russell at the U.K Schmidt telescope unit, Australia. Preliminary parabolic elements by Marsden on IAUC 3847 from positions July 11-19 give perihelion T = 1983 Apr. 28 at q = 2.39 AU with $i = 139^\circ$. At $m_1 = 18$ and dimming, the comet is too faint for monitoring by amateur astronomers.

1983l COMET ČERNIS. Yu. V. Batrakov, Institue for Theoretical Astronomy, Leningrad, reported by telex on IAUC 3840 the discovery of a comet July 19 in southern Aries by Kazimeras Černis, Vilnius Observatory. Confirmed by Dennis di Cicco, SKY & TELESCOPE, on July 21, its visual magnitude was estimated as $m_1 = 10.5$ and 10.4 on July 22 and 23 by Charles S. Morris, Harvard, MA, using a 10-in reflector. Preliminary orbit elements by Marsden (IAUC 3848) give T = 1983 July 24.196 ET, $q = 3.31349$ AU, $\omega = 186^\circ.918$, $\Omega = 208^\circ.877$, and $i = 134^\circ.808$. The comet appears to be a distant, perhaps Bowell-type comet (see article this issue), brighter than Bowell, from which more information about coma grains may be learned. The comet is visible in moderate-aperture amateur instruments and is due to brighten to 10th magnitude as indicated by the following ephemeris:

1983 0^h UT		RA (1950)	Dec	Δ	r	m_1
Aug.	24	$2^h27^m.35$	+ 2°03'.9	2.783	3.326	10.4
Sep.	3	2 16.62	- 1 49.0	2.633	3.336	10.3
	13	2 02.41	- 6 10.1	2.522	3.348	10.3
	23	1 45.60	-10 49.9	2.450	3.363	10.2
Oct.	3	1 26.16	-15 27.9	2.437	3.380	10.2
	13	1 05.45	-19 43.1	2.481	3.400	10.3
	23	0 44.96	-23 18.1	2.578	3.422	10.4
Nov.	2	0 26.08	-26 05.2	2.720	3.447	10.5
	12	0 09.85	-28 05.7	2.898	3.474	10.7
	22	23 56.82	-29 26.8	3.098	3.503	10.9

1983m PERIODIC COMET WOLF. Nearly stellar in appearance at $m_2 = 20$, this periodic (P = 8.215 yr) was recovered by J. Gibson with the 1.2-m Schmidt telescope at Palomar. Perihelion is due 1984 May 31 at q = 2.15 AU, a distance much larger than earlier in this century, when the comet was brighter and observable in modest size instruments (see, e.g., Barnard article, this issue).

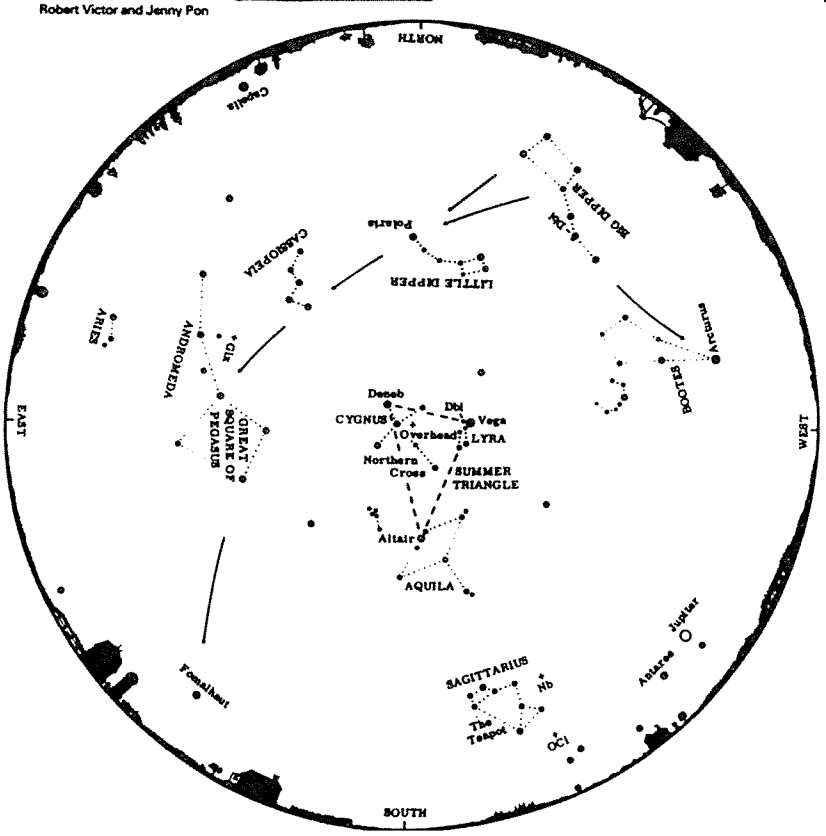
1983n PERIODIC COMET CROMMELIN 1818 I. This 27.4-year periodic was recovered independently by Lubos Kohoutek, Hamburg Observatory, 0.8-m Schmidt, and Susan Wycoff and Peter Wehinger, Arizona State University, using the Kitt Peak National Observatory 0.9-m reflector and CCD camera. At magnitude 19½ and stellar in appearance, the object is "much brighter than anticipated" according to B.G. Marsden (IAUC 3851). This "brightening," like that of P/d'Arrest (see article this issue), is likely artifactual, a result of older-style visual methods which greatly underestimate the comet's true brightness when measured by the modern Sidgwick method. In the first quarter of 1984 this object should be visible in binoculars, possibly reaching threshold naked eye visibility near perihelion on Feb. 20.

SKY NOTES — SEPTEMBER 1983

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
Planets at Dusk: Jupiter, in SSW to SW, is brightest "star" in evening. Note red star Antares to its lower left. Saturn is low in WSW, about 32° to Jupiter's lower right. At mid-month Jupiter sets 3 hours after Sun. **Planets at Dawn:** Venus becomes the brilliant "morning star" rising just north of east within 40 minutes before Sun Sept 1, improving spectacularly to more than 3 hours before Sun by Sept 30. **Regulus and Mars are nearby; Mercury** joins in late in the month. See calendar diagrams.		Very old Moon Sept 6 is hairline thin crescent rising in mid-twilight 16° lower left of Venus. Best view about ½ hour before sun-up. Moon within 17 hours before New from East Coast. From West, Moon lower and not visible. New Moon occurs Sept 6 at 10:35 pm EDT (7:35 pm PDT).	Thin crescent Venus, close to Earth, is large enough to resolve in binoculars and is impressive in telescopes! It is seen best at sunrise; just follow Venus until then. Venus is 14° upper right of rising Sun Sept 1, increasing to 40° by September 30.	Beta Scorpii, Antares, Jupiter, Alpha in Libra. Jupiter less than ½° south of Beta Scorpii. This is their third and last conjunction in 1983. SSW SW WSW	Friday Sept 2, evening: Saturn, Spica.	Morning: High in eastern sky. 3 Castor, Pollux, Moon Sat Sept 3, Moon Sunday Sept 4, Procyon
Morning: 4 Moon, Mars, Regulus, Venus. ENE E	Morning: 5 Mars, Moon, Regulus, Venus. ENE E	Morning: 6 See box above. Mars, Use binoculars for very old Moon, Regulus, Venus. ENE E	Wednesday and Thursday evenings, Sept 7 and 8: Alpha in Libra, Saturn, Spica. Moon Sept. 7 is 21 hours old from E Coast, 24 hours old from West. Easiest from SW U.S. WSW	Moon easy to see Thurs Sept 8. Using binoculars, look early for very young Moon Wednesday Sept 7. W	Evening: 9 Alpha in Libra, Saturn, Moon, Spica. WSW	Evening: 10 Moon, Alpha in Libra, Saturn, Spica. WSW
Morning: 11 Mars, Venus, Regulus. E	Monday 12 Beta, Jupiter, Antares, Moon Sunday Sept 11. SSW SW	Moon at First Quarter. Jupiter, Beta, Beta in Libra, Antares, Alpha in Libra, Saturn. Wednesday evening, Sept 13. SSW SW WSW Spica		Thursday 15 Mercury in inferior conjunction; becomes morning "star" next week.	Morning: 16 Mars, Venus, Regulus. E	17 At dusk this time of year, as seen from mid-northern latitudes, Moon's orbit makes smallest angle with horizon. This is main cause of "Harvest Moon" effect. Compare Moon's slow day-by-day ascent at dusk Sept 7-13 to its rapid day-by-day descent at dawn Sept 3-6.
18 Moon at apogee, greatest distance from Earth this month. As a result, Moon moves only 12° forward in its orbit daily, enhancing "Harvest Moon" effect. See Sept 17, 20, 21, 23	19 Mars, Morning: Venus, Regulus. Venus 7°south of Mars. Watch them get closer until Oct 28. E	20 Harvest Moon effect: From latitudes northward of 40° N all this week, the Moon comes up less than half an hour later each night. Even on Saturday, 3 days after full, the Moon still comes up by the end of evening twilight.	Full Moon tonight. This "Harvest Moon" rises in east shortly after sunset tonight and sets in west shortly after sunrise tomorrow.	Mars, 22 Venus, Regulus. Morning: Mercury visible now until mid-Oct. Mercury E	23 Equinox. Sun moves southward across equator today; autumn begins in our northern hemisphere. Moon, having passed through opposite part of zodiac Wednesday night, rises farther *north* each evening.	Mars, 24 Venus, Regulus. Morning: Mercury 22° lower left of Venus for rest of September. Mercury E
Evening: 25 Jupiter, Antares. Binoculars show Uranus within ½° S (lower left) of Jupiter. SSW SW	Mars, Regulus, 26 Venus. Morning: Mercury E	Morning: 27 Aldebaran, Moon, Pleiades, Hyades	Morning: 28 Moon, Aldebaran, Pleiades, Hyades	Mars, Venus, Regulus. Sept 29, morning: Mars 0.8° N of Regulus. Mercury E	Morning: 30 Castor, Moon Friday Sept 30, Pollux, Moon Saturday Oct 1, Procyon	Calendar diagrams are for mid-twilight, about ¾ hour before sunrise or ¾ hour after sunset. To be featured in October: Mercury at highest of year in morning; Venus at greatest brilliancy; Venus close to Mars; and Jupiter passes Antares for third and final time in 1983.

Robert Victor and Jenny Pon

Abrams Planetarium, Michigan State University, East Lansing, Michigan



Magnitudes: Venus −3.5 to −4.3; Jupiter −1.7 to −1.5; Mercury (Sept 22-30) +1.4 to −0.1; Saturn +0.9; Mars +2.0 to +1.9; Uranus 6.0. **Motions in September: The Sun,** going 29° east, crosses from Leo into Virgo Sept 16. **Mercury** is 12° W of Sun Sept 22, increasing to 18° W of Sun at greatest elongation on Oct 1; see Sept 15. **Venus** increases its angular distance W of Sun from 34° to 40°. Ending retrograde in mid-September, **Venus** remains between 5° and 10° from Regulus all month. **Mars** goes 19° east, from Cancer into Leo, and passes 0.8° north of Regulus on Sept 29. From Sept 11 to Nov 18 **Mars** remains within 10° of Venus. **Jupiter** goes 4° east in Scorpius. On Sept 2 it passes 0°26' south of Beta, the top star in the head of Scorpius. During Sept 6-8 it slides closely north of Omega, a ¼°-wide pair of 4th-magnitude stars. On Sept 25 Jupiter is 0°27' north of Uranus. **Saturn** crawls about 0.1° east per day in Virgo. In the first half of Sept, notice Spica 8° to 9° to Saturn's west (lower right); see Sept 2, 7-10, 13.

The planet Jupiter is plotted for mid-September, 1983. At chart time 8 objects of first magnitude or brighter are visible. In order of brightness they are: Jupiter, Arcturus, Vega, Capella, Altair, Antares, Fomalhaut, and Deneb.

In addition to stars, other objects that should be visible to the unaided eye are labeled on the map. The double star (Dbl) at the bend of the handle of the Big Dipper is easily detected. Much more difficult is the double star near Vega in Lyra. An open or galactic star cluster (OCl) located below Sagittarius, low in the south-southwest, will challenge the unaided eye. Nearby, marked Nb above the "spout" of the "Teapot", is the Lagoon Nebula, a cloud of gas and dust out of which stars are forming. The position of an external star system, called the Andromeda Galaxy after the constellation in which it appears, is also indicated (Glx). Try to observe these objects with unaided eye and binoculars.

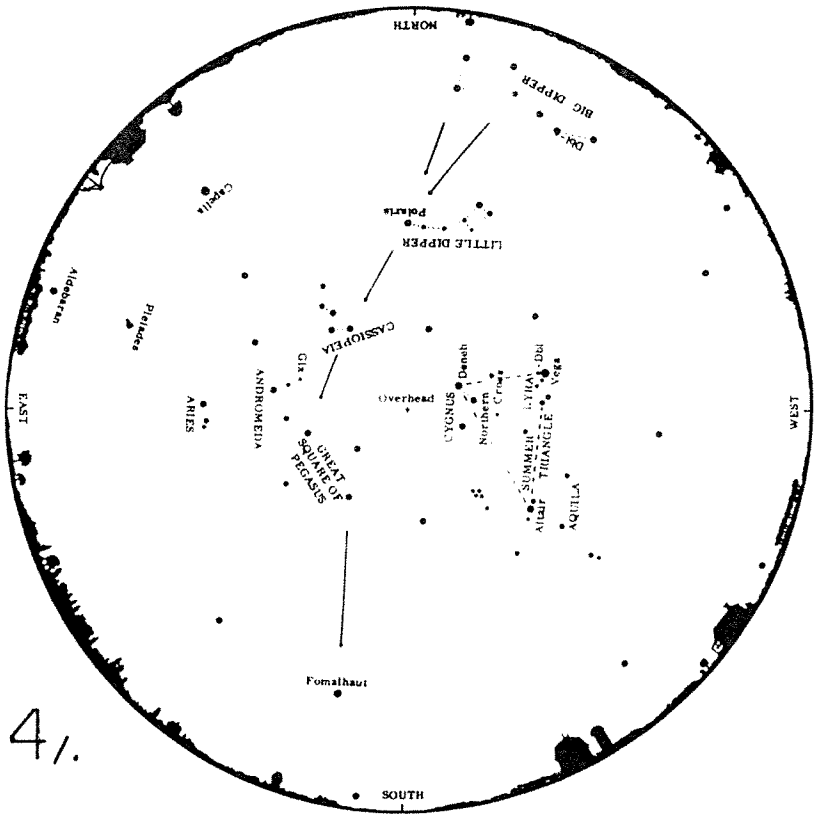
—D. David Batch

SKY NOTES — OCTOBER 1983

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
To new *Sky Calendar* users: Even beginning skywatchers will have no difficulty following this calendar. Everyone recognizes the Moon. In October, Venus is the brightest "star" at dawn; Jupiter is the brightest "star" at dusk. Take the calendar outside in the middle of twilight at dawn or dusk and let the Moon, Venus, or Jupiter guide you to all the other objects shown on the diagrams. We need and appreciate your subscriptions; see address below.	3 Moon, Regulus, Mars, Venus. Morning: Mercury. It's easy to see Venus in daytime. Just keep track of it until sunrise. E	**Planets at Dusk:** Jupiter, low in the southwest, is the brightest evening "star." In first week of October, you might see Saturn very low in WSW, 33° to Jupiter's lower right; see Oct 7-8. Evening diagrams show sky in mid-twilight, about 45 minutes after sunset.		**Planets at Dawn (see diagram):** Venus is spectacular morning "star" in east for 3-4 hours before sunup. Regulus is bluish star to Venus' left in early October, above it in mid-October, and far to its upper right at month's end. Red Mars, fainter than Regulus, stays near Venus all month. Mercury is low in east in twilight in first half of October. Look new horizon, far to lower left of Venus. Morning diagrams show sky in mid-twilight, about 45 minutes before sunrise.	Regulus, Mars, Venus at greatest brilliancy. Morning: Mercury at greatest elongation, 18° from Sun. E
2 This is best week of year to see Mercury in morning sky. Also, watch Mars pull away from Regulus. See Venus pass within 4° south of Regulus Oct 6. Moon passes through Oct 3-5. Don't miss these mornings!		Morning: 4 Regulus, Mars, Venus, Moon, Mercury. E	Morning: 5 Regulus, Mars, Venus. Moon is 25 hours before New from East Coast, 22 hours before New from West. Binoculars help. Mercury. Old Moon in east. Beautiful!	Morning: 6 Regulus, Mars, Venus 3.7° S of Regulus. Mercury. E	New Moon 7:16 am EDT (4:16 am PDT)	Friday and Saturday evenings, Oct 7 and 8: Jupiter, Antares, Young Moon Oct 7, Moon Oct 8, Saturn, SW, WSW
Evening: 9 Jupiter, Antares, Moon. SW	Evening: 10 Moon, Jupiter, Antares. SW	Moon rides low 11 Oct 11-13. Compare Oct 26.	Morning: 12 Regulus, Venus, Mars. On what date will you last see Mercury? E, Mercury, ESE	13 First Quarter. Moon 90° (¼ circle) east of Sun in afternoon and evening. As you face the setting Sun, the Moon is to your left.	Morning: 14 Regulus, Venus, Mars. E, Mercury, ESE	15 Tomorrow evening: Spica in conjunction, on far side of Sun. Within 3 weeks Spica will emerge from Sun's glare into ESE morning sky.
Evening: Jupiter 16 5° N of Antares. This concludes their triple conjunction. Jupiter, Antares. SW	On what date 17 will you last see Antares? Jupiter? Keep records of your observations.	October 18, morning: Regulus, Venus, Mars. E, ESE	Moon rises just south of east within the hour before sunset. 19	20 Moon rises just *north* of east within a few minutes before sunset. **Activity:** Watch for moonrise each evening during next 7 nights and note the place along the horizon you first see it.	Full Moon; 21 rises shortly after sunset.	22 Moon rises about ¼ hour after sunset.
Moon rises before 23 twilight ends, except from southern U.S.	Morning: 24 Aldebaran, Hyades, Moon, Pleiades in west		26 Moon rides high: Tonight and tomorrow night, Moon rises farthest north along horizon — farther north than the Sun ever does.	Morning: 27 Castor, Pollux. Moon high in SSW	Morning: 28 Castor, Pollux, Moon. Also in morning: Venus and Mars closest, 1.7° apart. Late evening: Watch Last Quarter Moon rise.	Morning: 29 Mars, Venus. You can't see Spica yet. Getting nearly 1° higher each morning, it will become visible to naked eye next week. See Nov *Sky Calendar*. Spica, ESE
Morning: 30 High in SE. Moon. Also today: Mercury in superior conjunction, beyond Sun. Regulus	Morning: 31 High ESE. Regulus, Moon, Mars, Venus. Also: Saturn in conjunction, beyond Sun.	Morning: 25 Moon, Aldebaran, Hyades, Pleiades in west				

Robert Victor and Jenny Pon

Abrams Planetarium, Michigan State University, East Lansing, Michigan



Magnitudes: Venus −4.3 to −4.1; Jupiter −1.5 to −1.4; Mercury (Oct 1-16) −0.2 to −1.0; Saturn +0.9; Mars +1.9. **Venus through a telescope** shows a crescent, growing from 28 percent full to nearly half full, but shrinking in size as Venus recedes from Earth. In early October, crescent is big enough to resolve in 7-power binoculars, if observed in bright twilight or in daylight. **Motions in October:** Sun goes 31° east and crosses from Virgo into Libra Oct 31. **Venus** goes 24° east in Leo; see Oct 6, 28. **Mars** goes 19° east in Leo. **Jupiter** crosses from Scorpius into Ophiuchus in early Oct; see Oct 16. **Saturn** crosses from Virgo into Libra in late Oct, but is then lost in Sun's glare. **Mercury:** see Oct 1, 30.

The planets are not plotted on this map. Check the Sky Calendar for planet visibilities. At chart time 6 objects of first magnitude or brighter are visible. In order of brightness they are: Vega, Capella, Altair, Aldebaran, Fomalhaut, and Deneb.

In addition to stars, other objects that should be visible to the unaided eye are labeled on the map. The double star (Dbl) at the bend of the handle of the Big Dipper is easily detected. Much more difficult is the double star near Vega in Lyra. The position of an external star system, called the Andromeda Galaxy after the constellation in which it appears, is also indicated (Glx). Try to observe these objects with unaided eye and binoculars.

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