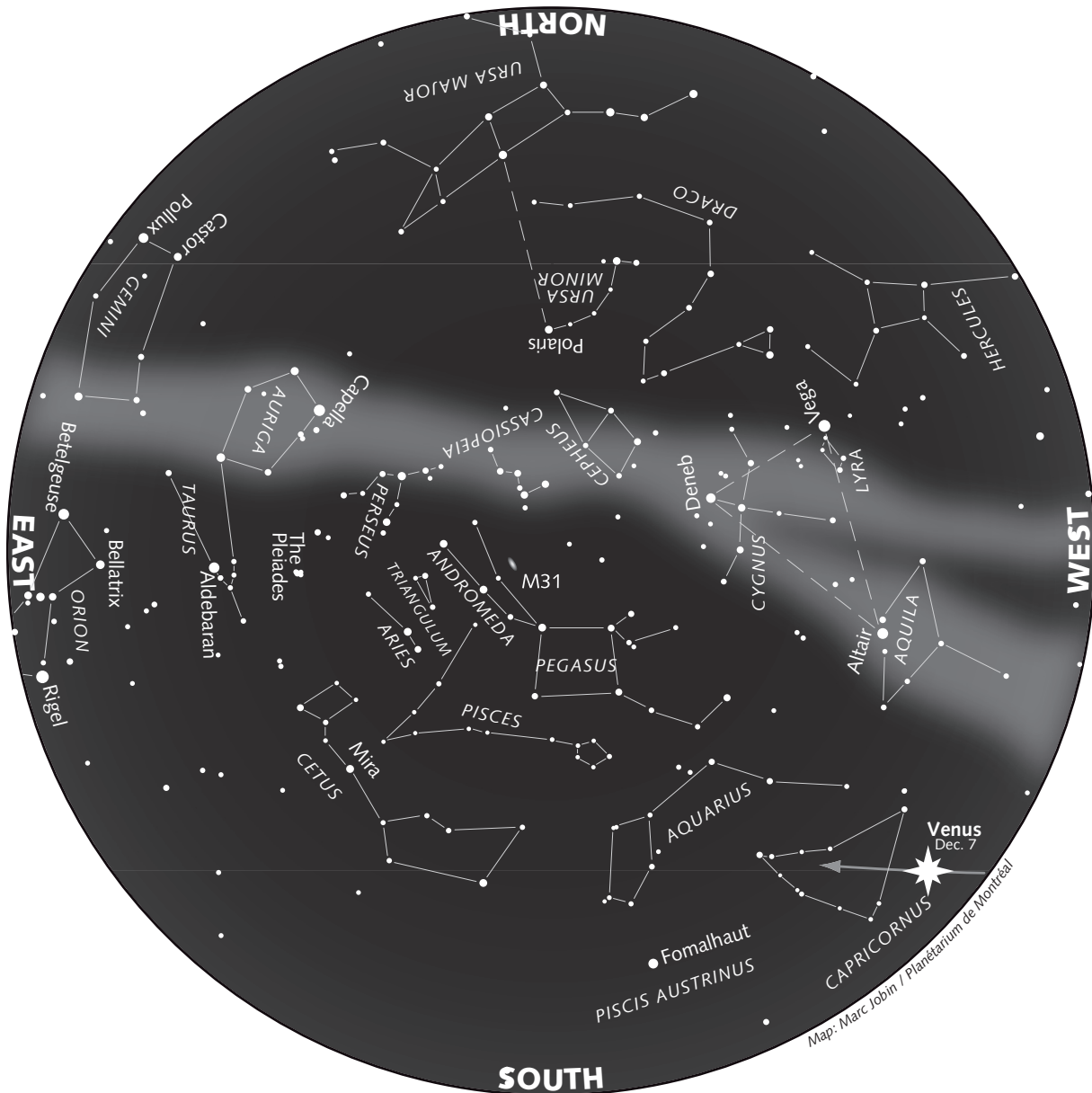


The Starry Sky — Autumn 2008



How to Use this Map

The above map represents the night sky as it appears at the indicated times, and remains usable several hours before and after.

Hold the map up to the sky in front of you and turn it so the direction you are facing appears at the bottom. Lines identify the constellations. The light-coloured area outlines the Milky Way.

Visit our Website: www.planetarium.montreal.qc.ca

This Star Map is Accurate on...

(Eastern Daylight Time, except where mentioned otherwise)

September 21 at 1 a.m.

October 6 at midnight

October 21 at 11 p.m.

November 6 at 9 p.m. EST

November 21 at 8 p.m. EST

December 6 at 7 p.m. EST

The Sky This Autumn

Early this fall, Venus and Jupiter capture the evening sky with their brilliance as they prepare for a stunning, late-season conjunction. Meanwhile, a much fainter planet Saturn reappears in the eastern sky before sunrise. Around mid-autumn, Mercury puts on one of its finest appearances of the year.

Mars, however, is lost in the Sun's glare and remains out of the planetary picture.

Venus, star of the show

This season, **Venus** continues to climb ever higher into the western evening sky. By autumn's end, the dazzling planet reaches an altitude of about 25 degrees at twilight, and sets around 20:00 — nearly 3½ hours after the Sun! As it tracks eastward among the constellations, Venus sweeps through Virgo, Libra, Scorpius, Ophiuchus, Sagittarius and finally ends the season in Capricornus. Note that Ophiuchus is the only constellation through which the ecliptic passes that is not a member of the Zodiac.

From November 9 to December 7, as Venus journeys through Sagittarius, its orbital velocity can be compared with the much slower Jupiter: Venus orbits the Sun in about 225 days while Jupiter takes nearly 12 years. The result is that Venus rapidly overtakes the giant planet and passes it **on November 30**. Venus the brighter of the two, will appear less than two degrees below Jupiter, a prelude to the most spectacular conjunction of the

season, set to occur on the following evening (see Jupiter below). Don't wait for the sky to darken; twilight observing will make this event even more dramatic. And use binoculars if you have them: the view will be spectacular!

A thin crescent Moon appears near Venus on the evenings of October 1 and November 1 and again on the evening of December 1.

Jupiter co-stars

Jupiter has dominated the southern skies of Sagittarius all summer, and now prepares to bid us farewell: By season's end the giant planet sets earlier and earlier, and will disappear in twilight's glow early next year. But Jupiter does not leave without a final, magnificent flourish. **On the evening of December 1**, the brilliant giant co-stars in a celestial performance with Venus and the Moon: The three brightest objects in the evening sky form a tight grouping against the glow of twilight on the western horizon — a conjunction not to be missed! Be sure to observe the Earthshine illuminating the dark part of the Moon. The Earth's light reflected on a crescent Moon in the twilight, is one of the most beautiful sights in astronomy.

The first quarter Moon slips by Jupiter on the evenings of October 6 & 7, and the waxing lunar crescent is next to the giant planet on November 3 and December 1.

Saturn reappears in the morning

Saturn has been absent from the planetary scene, hidden in the glow of twilight since mid-August. But as autumn begins, the ringed planet appears just above the eastern horizon at dawn, as it continues its slow trek through Leo. Though not particularly bright right now, Saturn rises earlier and earlier and gains altitude as the season progresses. By season's end, the planet rises around 23:00 and transits about an hour before morning twilight.

Early this fall the planet's rings are inclined just 2½ degrees from edge-on — a tilt that diminishes throughout the season. By year's end, the inclination closes to less than a degree, making the rings harder to see. This explains why Saturn is less bright than usual: The reduced apparent area of the rings reflects less sunlight back toward the Earth. Though less prominent right now, Saturn's rings are always dramatic to see in a small telescope.

A waning lunar crescent appears to the right of Saturn on the mornings of September 27, October 25 and November 21. The last quarter Moon slips past Saturn on the nights of December 18 and 19.

Mercury, at its best

Though **Mercury** spent the beginning of fall hidden in the Sun's glare, the tiny planet re-emerges with a vengeance around October 10 and quickly captures the dawn spotlight. It ascends into the eastern sky, rapidly gaining altitude with each passing day. Mercury reaches its greatest western elongation on October 22: On this date the planet rises one hour and forty minutes before the Sun, providing the best morning apparition of the year! Mercury remains visible until the first week of November. After that, it quickly re-descends into the twilight where it will remain until late December. If you haven't seen Mercury yet this year, do it while the weather is still mild. The window of opportunity lasts from about October 15 to November 6.

On the morning of October 27, a thin crescent Moon will appear just to the right of the tiny planet — a splendid sight in binoculars!

Happy observing!

Research and text: **Louie Bernstein**

Seasonal Milestones

The **autumn equinox** takes place on September 22, at 11:45 EDT, and the **winter solstice** will occur on December 21 at 07:04 EST. Autumn 2008 will last exactly 89d 20h 19m.

On Sunday morning, November 2, at 02:00, we **return to Eastern Standard Time**, and clocks are set back one hour.

Phases of the Moon

(Eastern Daylight Time,
* = Eastern Standard Time)

First quarter	Full moon
Sept. 7 at 10:04	Sept. 15 at 5:13
Oct. 7 at 5:04	Oct. 14 at 16:02
Nov. 5 at 23:03*	Nov. 13 at 1:17*
Dec. 5 at 16:26*	Dec. 12 at 11:37*
Last quarter	New moon
Sept. 22 at 1:04	Sept. 29 at 4:12
Oct. 21 at 7:55	Oct. 28 at 19:14
Nov. 19 at 16:31*	Nov. 27 at 11:55*
Dec. 19 at 5:29*	Dec. 27 at 7:22*