The Pocket Planetarium ★

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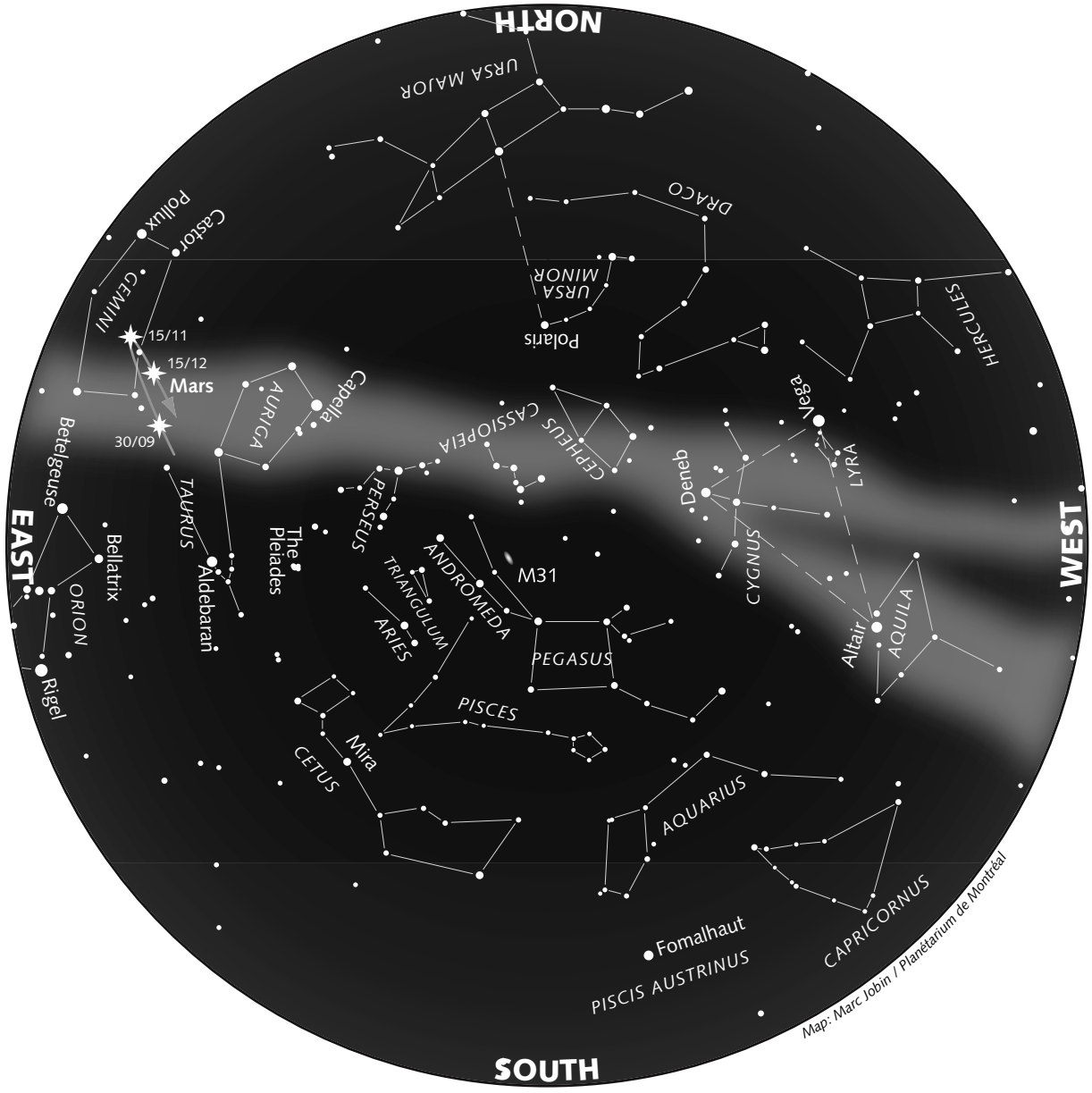
The Starry Sky — Autumn 2007



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

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The Sky This Autumn

Venus, Saturn and Mercury will put on quite a show for early risers. Meanwhile, Mars will light up the night sky, its best performance until 2016.

Mars at its best

As autumn begins, **Mars** rises in the east-northeast shortly after 23:00 and then two hours earlier every month after that. First nestled between the horns of Taurus the Bull, the red planet enters Gemini the Twins in late September. Mars glides within a degree of the star cluster M35 between October 2 and October 4. The Moon's last quarter shines 6 degrees from that duo on the evening of October 2. A waning gibbous Moon returns near Mars on October 30.

Mars begins its westward retrograde motion on November 15. The red planet's brightness increases markedly throughout November as its distance from Earth decreases. During the night of November 26 to 27, Mars has a date with the Moon; they snuggle within two degrees of one another.

In December, Mars' show reaches its crowning moment. The red planet will be at its closest point to Earth on December 19 and at opposition on December 24. Mars will then be brighter than the star Sirius, rising at sunset and setting at sunrise. It will also be the best time of the year to spot details on the Martian surface with a telescope.

On December 21, Mars slides once again close to M35, this time within 3 degrees of the star cluster, and then continues its trek toward the horns of Taurus throughout the following weeks. Finally, the Moon will be only one quarter of a degree away from Mars on December 23; a spectacular sight visible in binoculars or even in a small telescope.

Venus dances with Saturn and Regulus

The Morning Star begins the season at its maximum brightness in Leo the Lion. On the morning of October 7 before dawn, a Moon crescent is boxed-in within an elongated triangle formed by **Venus** (shining very brightly), Saturn (fainter) and Regulus (fainter still), the main star of Leo.

The next morning, the three heavenly bodies begin a grandiose waltz that will go on for a week while the Moon wanders off. Note how the triangle they form changes shape from one night to the next as Venus overtakes Regulus and hones in on Saturn. On the morning of October 14, Venus is a mere 2½ degrees from Saturn.

Venus then continues its eastward trek. It leaves Leo on November 3 and enters the constellation of Virgo the Maiden. On November 30, it glides within 4 degrees from the bright star Spica. A Moon crescent will swing by Venus on November 5 and again on December 5.

Saturn in the morning sky

In early autumn, **Saturn** rises in the east at around 4:30 a.m. and then two hours earlier every month after that. The ringed planet, sitting near Regulus, the brightest star of Leo, will interact with Venus and the Moon during a slew of conjunctions between October 7 and October 15. (See Venus for details.)

With a telescope, Saturn's rings appear less and less tilted (we will see them edge-on in March 2009). Because the rings show less surface area and therefore reflect less light toward Earth, the brightness of Saturn has decreased noticeably compared with the last few years.

A crescent Moon will shine less than 5 degrees underneath Saturn on the morning of November 4. The last quarter is even closer on the morning of December 1: about 2½ degrees. Saturn seemingly stops in the sky on the winter solstice as it prepares to undergo its retrograde motion.

Mercury encounters Spica

During the first week of November, **Mercury** begins an interesting appearance in the morning sky. Look for the tiny planet about an hour before sunrise near the east-southeast horizon. On the morning of November 7, Mercury is 4 degrees to the left of the star Spica and 10 degrees to the left of a thin crescent Moon. The planet will gradually disappear in the light of dawn at the end of November.

Jupiter: see you next summer!

This fall, the giant planet moves eastward in Ophiuchus, the Serpent-bearer and the 13th constellation of the zodiac, and gradually moves away from Antares in Scorpius. **Jupiter** sets earlier and earlier in the evening: the giant planet vanishes in the bright twilight in early December. A crescent Moon will be visible near Jupiter on October 15 and November 12

Happy observing!

Research and text:
André Bordeleau

Seasonal Milestones

The **autumn equinox** will occur on September 23 at 5:52 EDT and the **winter solstice** will arrive on December 22 at 2:08 EST. Autumn 2007 will last exactly 89 days 19 hours 16 minutes.

The switch to **Eastern Standard Time** takes place on the night of Sunday, November 4: Clocks are set back one hour.

Phases of the Moon

*(Eastern Standard Time, except * = Eastern Daylight Time)*

First quarter	Full moon
Sept. 19 at 12:48*	Sept. 26 at 15:45*
Oct. 19 at 4:33*	Oct. 26 at 0:52*
Nov. 17 at 17:33	Nov. 24 at 9:30
Dec. 17 at 5:18	Dec. 23 at 20:16
Last quarter	**New moon**
Oct. 3 at 6:06*	Oct. 11 at 1:01*
Nov. 1 at 17:18*	Nov. 9 at 18:03
Dec. 1 at 7:44	Dec. 9 at 12:40
Dec. 31 at 2:51	Jan. 8 at 6:37

Geminids

The annual Geminid meteor shower is as intense as the Perseids but remains lesser known. The peak is scheduled for December 14 at noon Eastern Time. Therefore, **the nights of December 13 to 14 and 14 to 15** will be best suited for observing. Further, the crescent Moon will set early enough so as not interfere with the sky show.

The Pocket Planetarium *is a seasonal information newsletter published by the Planétarium de Montréal, 1000, rue Saint-Jacques, Montréal (Québec) H3C 1G7*
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