The Pocket Planetarium ★

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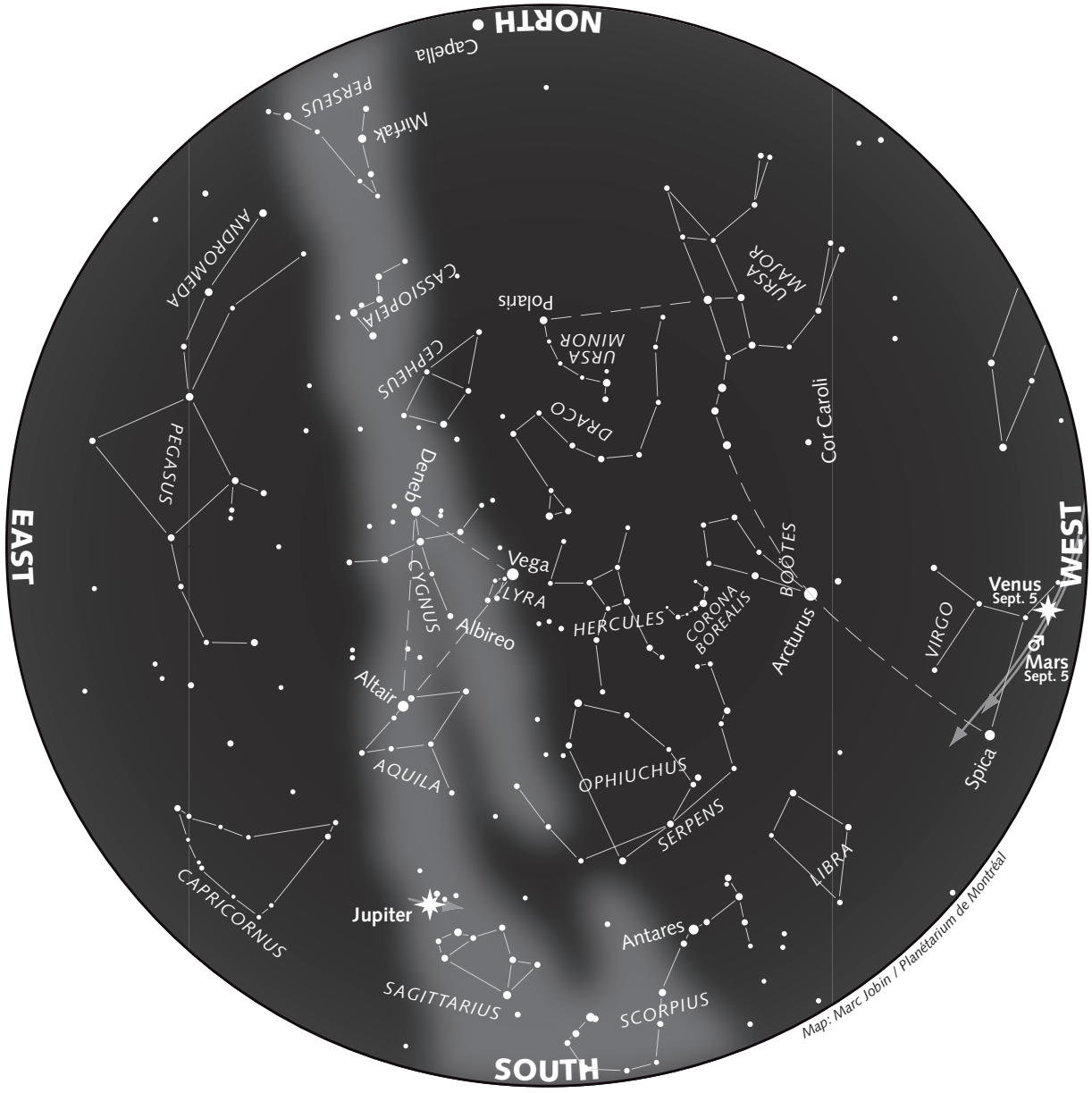
The Starry Sky — Summer 2008



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)

June 21 at 1 a.m.
July 6 at midnight
July 21 at 11 p.m.
August 6 at 10 p.m.
August 21 at 9 p.m.
September 6 at 8 p.m.

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The Sky This Summer

During the summer months, Venus receives visits from Mercury, Mars and Saturn. These planetary encounters take place close to the western horizon and will be visible within an hour following sunset. To see them you'll need a clear horizon, and you'll have to be early!

Venus and company at twilight

Venus gradually distances itself from the Sun's glare around mid-July and shines as the evening star throughout the remainder of 2008. However, the brilliant planet remains close to the western horizon as it undergoes a series of planetary encounters in August and September.

Venus will be in conjunction with **Saturn** on August 13: On that evening the two planets will be less than half-a-degree apart! Through a telescope at low power, both objects will be visible in the same field of view. At the same time, **Mercury** will be just three degrees to the lower right of the two planets. Try not to miss this one! Binoculars should help.

On August 15, it's Mercury's turn to encounter Saturn; then, a few evenings later, Mercury visits Venus. **On August 20,** Mercury and Venus will be less than a degree apart. Look for these conjunctions close to the western horizon, 30 minutes after sunset.

Venus and Mercury remain close to each other as they gradually approach Mars, which appears much fainter. Until mid-September, the three planets form a triangle that changes shape from evening to evening. **On September 11,** look for Mars just one third-of-a-degree below Venus. All the while, the three planets approach the bright star Spica, in Virgo. Finally, as summer ends, Venus continues to distance itself from the Sun, while Mercury, Mars and Spica plunge deeper into the glow of twilight and disappear below the horizon.

A thin crescent Moon appears near Venus on the evenings of July 3, August 2 and September 1.

Mars changes constellations

Mars begins the summer in Leo. On June 30, as the red planet moves eastward through the constellation, it passes within one degree of the star Regulus — the heart of Leo. By July 10, Mars catches up to Saturn and sits less than a degree below the ringed planet.

But Mars doesn't stop there: It enters Virgo on August 9, and by month's end, the red planet joins Mercury and Venus for a series of conjunctions (see Venus). A thin crescent Moon appears near Mars early in the evening on July 5 & 6; on August 3 & 4; and September 1.

Saturn at twilight

Saturn moves ever closer to the western horizon, and conditions for observing the ringed planet quickly deteriorate as summer progresses. Don't wait to see this remarkable telescopic object!

Following its encounters with Venus and Mercury, Saturn disappears in the glow of twilight around mid-August: It will reappear in the eastern dawn at the end of September. A thin crescent Moon appears near Saturn early on the evenings of July 6 & 7 and August 2 & 3.

Jupiter in the south

On the solstice, **Jupiter** rises in Sagittarius at 22:00 and sets after sunrise. But by July 9, the giant planet reaches opposition: It rises at sunset, culminates in the south around midnight, and sets at sunrise. This is the best time to observe Jupiter with a telescope.

A gibbous Moon will be in Jupiter's vicinity during the night of July 16 to 17, on the nights of August 12 through to the 14, and again on September 9.

Mercury in the morning sky

Mercury rises before the Sun at the beginning of summer. It reaches its greatest western elongation on July 1, when it appears in the northeast more than an hour before sunrise. The tiny planet will get progressively brighter before it plunges back toward the Sun around mid-July. It reaches superior conjunction on the far side of our star on July 29, and will gradually reappear in the western evening twilight around mid-August.

Happy observing!

Research and text: **André Bordeleau**
Translation: **Louie Bernstein**

Seasonal Milestones

The **summer solstice** will occur on June 20 at 20:00 EDT and the **autumn equinox** will arrive on September 22 at 11:45. Summer 2008 will last 93 d 15 h 45 min, making it the longest season of the year.

The Earth will reach **aphelion**, the farthest point from the Sun in its orbit, on July 4 at 3:00 a.m. The Earth-Sun distance will be 152,104,136 kilometres.

Phases of the Moon

(Eastern Daylight Time)

First quarter	Full moon
June 10 at 11:04	June 18 at 13:30
July 10 at 0:35	July 18 at 3:59
August 8 at 16:20	August 16 at 17:16
Sept. 7 at 10:04	Sept. 15 at 5:13
Last quarter	**New moon**
June 26 at 8:10	July 2 at 22:19
July 25 at 14:42	August 1 at 6:12
August 23 at 19:49	August 30 at 15:58
Sept. 22 at 1:04	Sept. 29 at 4:12

Average conditions for the Perseids

This year, the peak of the annual Perseid meteor shower is forecast for August 12 at 7:00 a.m. EDT. In other words, the best night to see the meteors will be August 11 to 12. However, the preceding and following nights should also provide good displays. The bad news is: the Moon will be almost full, flooding the sky with light. But all is not lost! The Moon will be low in the sky and will set in the southwest at 1:00 a.m., leaving about four ideal observing hours of darkness. The following night, the Moon will set around 2:00 a.m. and will leave about three hours of good observation.

Observing the Perseids does not require special equipment; but a clear dark sky, far from the city, is preferable. Stretch out on a lawn chair or inflatable mattress and just look up at the sky. But be sure to dress warmly. Under reasonably dark skies, after the moon has set, you should be able to see up to 40 meteors per hour. The eye is the best instrument for observing the Perseids because it provides the largest field of view.

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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