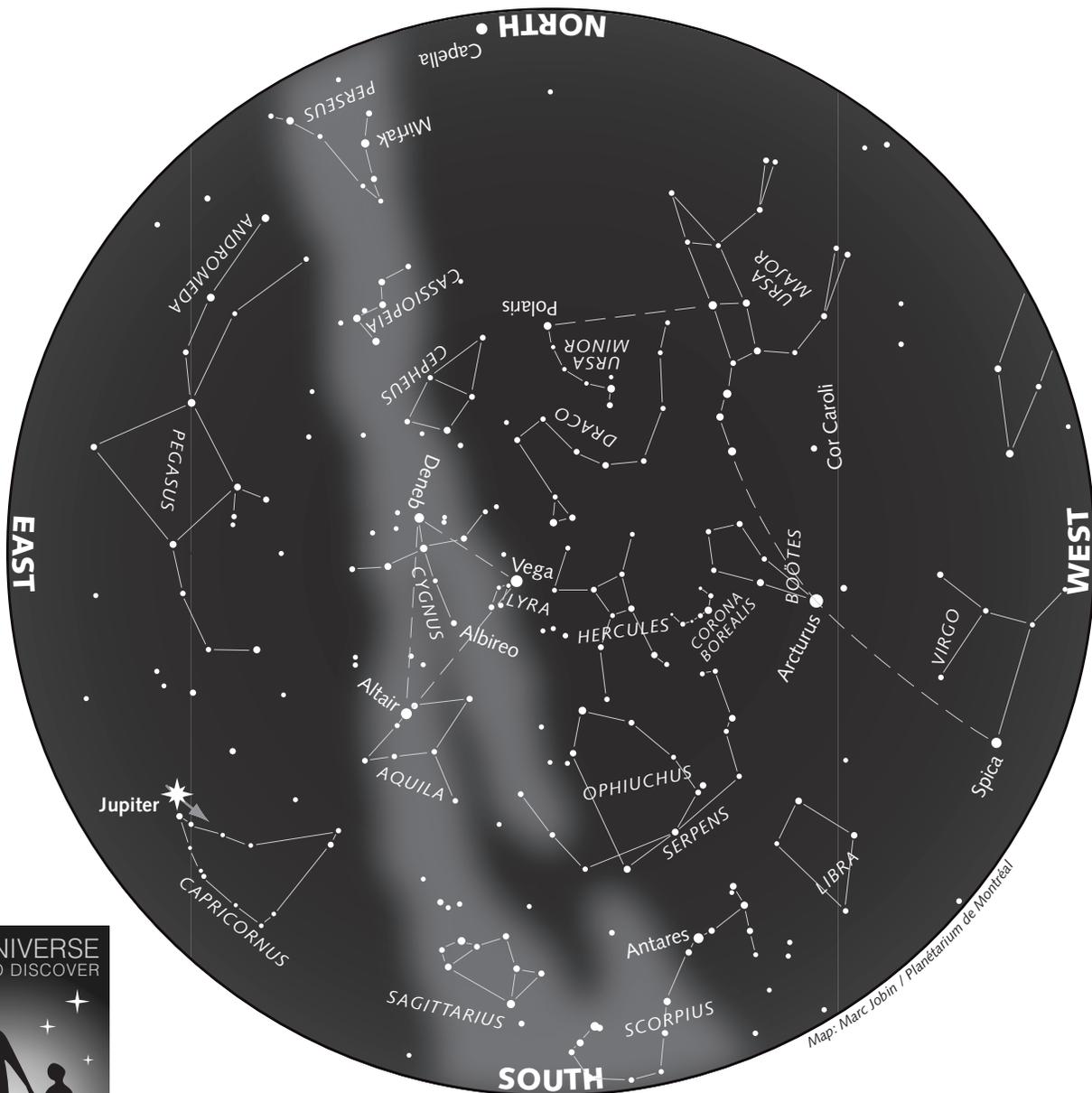


The Starry Sky — Summer 2009



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.

The Sky This Summer

As the season begins, Saturn sets in the western evening sky while Jupiter rises in the east. Throughout the summer, Venus shines as the dazzling morning star in the pre-dawn hours, accompanied by the much fainter planet Mars. The Moon joins Venus and Mars on three occasions, setting the stage for a series of magnificent conjunctions. Mercury, which put on quite a springtime show, lingers at the edge of twilight, and remains absent from the planetary scene until the end of September.

Venus at dawn

This season, **Venus** dominates the eastern morning sky: Around the end of July, the dazzling planet rises almost 3 hours before the Sun, and reaches an altitude of nearly 30 degrees at dawn!

During the first week of summer, Venus appears just below Mars, but the planetary pair quickly drifts apart, as Venus moves toward the east. The dazzling planet certainly merits its name: it currently shines 100 times brighter than Mars! Because Venus is impossible to miss, it serves as a beacon for locating the much fainter Red Planet, which lies just above. **On the morning of July 18**, Venus appears to the left of the V-shaped, Hyades star cluster in Taurus, and is accompanied by Mars, a crescent Moon, and the Pleiades cluster, which

lie to the upper right. This magnificent celestial grouping — by far the finest of the season — should not be missed! Binoculars will definitely add to your enjoyment of this event.

A thin lunar crescent appears just above Venus on the morning of August 17, and again, just to the right of the brilliant planet on September 16. Both of these conjunctions will be spectacular against the glow of morning twilight.

Mars ascends in the east

Throughout spring, **Mars** remained low on the eastern horizon, but as summer advances, the Red Planet rises progressively higher in the sky. **On July 18**, Mars takes part in a beautiful celestial scene, together with Venus and the Moon, set against the stars of Taurus. Look for Mars midway between the Hyades and Pleiades: A thin lunar crescent will lie just to the upper left of the Red Planet. Though much fainter than Venus, Mars is, none-the-less, a fascinating object; its rusty orange colour is particularly easy to distinguish.

The waning crescent Moon appears to the upper left of Mars on the morning of August 16, and just above the Red Planet on September 15.

Jupiter in the evening sky

As summer begins, **Jupiter** rises in the east-southeast, among the stars of Capricornus, just before midnight; and it appears progressively earlier as the season advances. From late-July until summer's end, Jupiter dominates the evening sky and remains a luminous fixture above the southern horizon. On August 14, the giant planet is in opposition: At this point, it rises at sunset and remains visible all night long. During this opposition, Jupiter is closer than usual; and its disk will appear larger than average, making it an excellent target for small telescopes.

A waning gibbous Moon appears to

Poor conditions for the Perseids

This year, the Perseid meteor shower reaches its peak on August 12 at 14:00 EDT — in plain daylight for observers in eastern North America. On both the preceding night (August 11 to 12) and the following night (August 12 to 13) conditions for observing the Perseids will be equivalent. The main drawback will be the presence of a waning gibbous Moon, which will light up the night. The fleeting meteors will be difficult to see, even from the country; and as a result, meteor counts will be hampered considerably. Only the brightest Perseids will be visible against the moonlit sky.

the upper left of Jupiter on the evenings of July 11, August 7, and September 3.

Saturn bids farewell

Early in the season, **Saturn** can be found above the western horizon after evening twilight, among the stars of Leo, but as the season progresses the ringed planet sets earlier and earlier. Saturn is unusually faint right now for two reasons: its distance from Earth is increasing, and its rings appear nearly edge-on, thereby reflecting less sunlight than usual. By mid-August the almost "ring-less" planet is lost in the Sun's glare. There it will remain until it re-appears, in the eastern dawn sky, early this October.

A waxing crescent Moon appears below Saturn on the evenings of June 27 and July 24.

Happy observing!

Research and text: **Louie Bernstein**

Seasonal Milestones

The **summer solstice** takes place on June 21 at 01:46 EDT, and the **autumn equinox** will occur on September 22 at 17:19 EDT. Summer 2009 will last exactly 93d 15h 33m.

On July 3 at 22:00, the Earth is at **aphelion**, the point on its orbit farthest from the Sun. The Earth – Sun distance will then be 152,091,221 km.

Phases of the Moon

(Eastern Daylight Time)

Last quarter	New moon
June 15 at 18:15	June 22 at 15:35
July 15 at 5:53	July 21 at 22:35
August 13 at 14:55	August 20 at 6:02
Sept. 11 at 22:16	Sept. 18 at 14:44
First quarter	Full moon
June 29 at 7:28	July 7 at 5:21
July 28 at 18:00	August 5 at 20:55
August 27 at 7:42	Sept. 4 at 12:03
Sept. 26 at 0:50	Oct. 4 at 2:10