

Bright Planets Remain in View

by James Stokley

With the coming of June—and the beginning of summer—three bright planets continue to shine in the evening sky.

Venus appears in the west at dusk, brighter than any other planet or any star. Nearby Jupiter is only a little fainter and Mars, in the southwest, is third in brilliance.

The accompanying maps show the June evening skies as they look about 11:00 p.m., local daylight saving time, at the first of the month. They appear about the same at 10:00 p.m. in mid-June, and at 9:00 p.m. at month's end.

Because Venus is moving across the sky very rapidly, it is shown by a line extending from the constellation of Gemini, the twins, into Leo, the lion. Cancer, the crab, stands between these two groups, but its stars are too faint to be shown when it is so low in the sky.

On June 8 Venus passes north of Jupiter. Three days later the crescent

moon passes to the north of Jupiter and of Venus, making a striking display in the western early evening sky.

Mars is in Virgo, the virgin, close to the bright star Spica, which is about a quarter as bright.

The most brilliant star of the June evening is Vega, high in the east in Lyra, the lyre, and a little fainter than Mars. Below Vega is Cygnus, the swan, with Deneb. This star is part of an asterism known as the Northern Cross. Farther right (shown on the southern sky map) is Altair, in Aquila, the eagle.

These three stars—Vega, Deneb and Altair—form an unofficial group sometimes called the summer triangle, because it is so prominent in the evening.

Above Virgo stands Boötes, the herdsman, with Arcturus its most brilliant star. A less conspicuous constellation, Libra, the scales, is to the left of Virgo. To the left of Libra is Scorpius, the scorpion, with red Antares.

Toward the west, in Leo, the lion, Regulus shines. And low in the north-west, close to Venus at the beginning of June, is Pollux, brighter star of the twins. Farther right, even nearer the horizon, is Capella, in Auriga, the charioteer.

Because they are so low, the light of these stars is dimmed, since it must

June	EDT	CELESTIAL TIMETABLE FOR JUNE
2	1:00 p.m.	Moon passes south of Saturn (visible in early morning sky)
	10:00 p.m.	Moon farthest, distance. 251,600 miles
8	1:14 a.m.	New moon
	10:00 p.m.	Venus passes north of Jupiter
10	1:00 a.m.	Moon passes north of Mercury
11	1:00 p.m.	Moon passes north of Jupiter
	6:00 p.m.	Moon passes north of Venus
12	6:00 a.m.	Mercury farthest east of sun and visible for a few days about now low in west after sunset
15	7:12 a.m.	Moon in first quarter
16	11:00 p.m.	Moon passes north of Mars
18	4:00 p.m.	Moon nearest, distance 227,600 miles
20	8:00 p.m.	Venus farthest east of sun
21	10:23 p.m.	Sun farthest north, summer begins in Northern Hemisphere
22	12:57 a.m.	Full moon
29	2:40 p.m.	Moon in last quarter
	Midnight	Moon passes north of Saturn
30	4:00 p.m.	Moon farthest, distance 251,000 miles

Subtract one hour for CDT, two hours for MDT, and three hours for PDT.



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pass through a thickness of atmosphere much greater than if they were overhead. For this reason they are represented by symbols for stars fainter than they actually are. The same is true, to a lesser extent, of Altair, Antares, Deneb and Regulus. All of these rate as first magnitude on the astronomical brightness scale.

On June 21, at 10:23 p.m., EDT, the sun reaches its farthest north position. Then it will stand above the Tropic of Cancer, directly over a point in the Pacific Ocean southeast of Japan and near Iwo Jima.

This event, the summer solstice, marks the beginning of summer in the Northern Hemisphere. For countries south of the equator, however, it is the beginning of winter.

Probably most people know how the moon goes through its regular change in phase every month, beginning with the narrow crescent low in the west soon after sunset. Then comes first quarter, the half-moon is in the south at sunset. Next the full moon, rising in the east as the sun descends behind the western horizon. Last quarter follows. Again it is a half-moon, which rises at midnight. Finally, as it nears the phase of new (when it is invisible) it is a narrow crescent again, appearing low in the east just before the sun rises.

Venus undergoes similar changes in phase, but these require a telescope to make them visible. They occur for exactly the same reason as the phases of the moon.

Both Venus and the moon are lighted by the sun. The sunward hemisphere is bright and the other half is dark. When Venus or the moon is in the direction opposite from the sun we see the whole bright hemisphere—the full phase. When it is 90 degrees away from the sun, only half the bright side, one-fourth of the moon's surface is visible—the quarter phase.

When the moon is nearly in the sun's direction and on our side of the sun only a narrow sliver of the illuminated hemisphere is visible. Then it is a narrow crescent.

There is, however, an important difference between the moon and Venus in going through their change in phase. The former remains at about the same distance from earth—averaging a little under a quarter million miles. Despite the change in phase, it remains at about the same apparent diameter.

But when Venus is full, as it was early this year, it is far out beyond the sun, at a distance of more than 150 million miles. When it appears as a narrow crescent (as it will early in August), it is only about 40 million miles away. The crescent, therefore, looks larger in diameter than the quarter phase, or the full Venus.

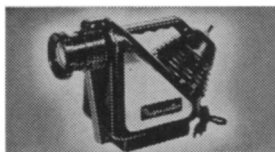
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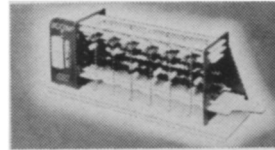
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