

## ASTRONOMY

# Planet Venus Now Prominent

The planet Venus becomes increasingly prominent in May evening skies. Mercury is seen in the most favorable position of the year, James Stokley reports.

► NOT ONLY is the planet Venus becoming more and more prominent in the evening skies: the month of May also brings seldom-seen Mercury to its most favorable position of the year.

Look to the west after sunset and, even before the sky completely darkens, you will see a brilliant "evening star." This is Venus. It is so bright that you can see it long before any other star or planet. About two hours after sunset it follows the sun behind the horizon.

While Venus is visible all month, you will be able to see Mercury only for about a week around May 13. That is the date of greatest eastern elongation, when it sets the longest time after sunset—about 20 minutes ahead of Venus. Thus at this time, before twilight has faded entirely, you will see Mercury slightly below Venus and farther to the right. Mercury will then be brighter than most of the first-magnitude stars, although only about a fortieth of the brightness of Venus.

The accompanying maps show how the sky looks about 10 p.m., your own kind of standard time, on May 1, an hour earlier at the middle of the month and two hours earlier at the end. (Add one hour for daylight saving time.) Even on the 13th, Mercury sets before then but Venus is shown low in the northwest, in the constellation of Taurus. This is its position at the middle of May; later in the month it will move into the next-door constellation of Gemini, the twins, as indicated by the arrow on the map.

## Most Prominent Stars

The most prominent stars of May shine in the southern half of the sky. High in the southwest is Leo, the lion, in which stands a sub-group known as the sickle. First-magnitude Regulus is at the end of the handle. The blade of the sickle forms the lion's head, as he was pictured on ancient star maps. Denebola, to the left, marks his tail.

Next to Leo is Virgo, the virgin, with another star of the first magnitude, called Spica. And above the eastern end of Virgo stands Bootes, the herdsman, with bright Arcturus.

Several other stars of the first magnitude also appear on our maps. In Gemini there is Pollux while next door to the right, in Auriga, the charioteer, is Capella. On the other side of Gemini, in Canis Minor, the lesser dog, Procyon shines. In the northeast, in Lyra, the lyre, you can find Vega.

Below is Cygnus, the swan, with Deneb, a bright star considerably dimmed because of its very low altitude. This is also true of Antares, in Scorpius, the scorpion, which

is only half visible above the southeastern horizon. Both Antares and Deneb will be coming into better view in the evening sky during the next few months, but Capella and Procyon will soon disappear.

Later on May nights three other planets appear in the sky. First is Saturn which rises, in the middle of the month, about 12:30 a.m. About an hour later Jupiter follows. Second only to Venus in brightness, Jupiter is about a quarter as brilliant as that evening star. Saturn, although equal to a bright star, shines with about a tenth the brilliance of Jupiter. Finally, just as dawn is breaking, Mars appears low in the east.

Even if you follow these articles regularly and watch the skies month after month, so that Venus, Mars, Jupiter and Saturn are old friends, you have seldom, if ever, seen Mercury. For, unlike the other planets, Mercury never appears in the sky when it is quite dark. You either see it as you do in May this year—low in the western twilight—or, as will be possible next October, equally low in the east at dawn.

The reason for this is the small-diameter orbit in which Mercury encircles the sun. While the earth goes around that body at a mean distance of about 93,000,000

miles, and Venus at about 67,000,000 miles, that of Mercury is only 36,000,000 miles.

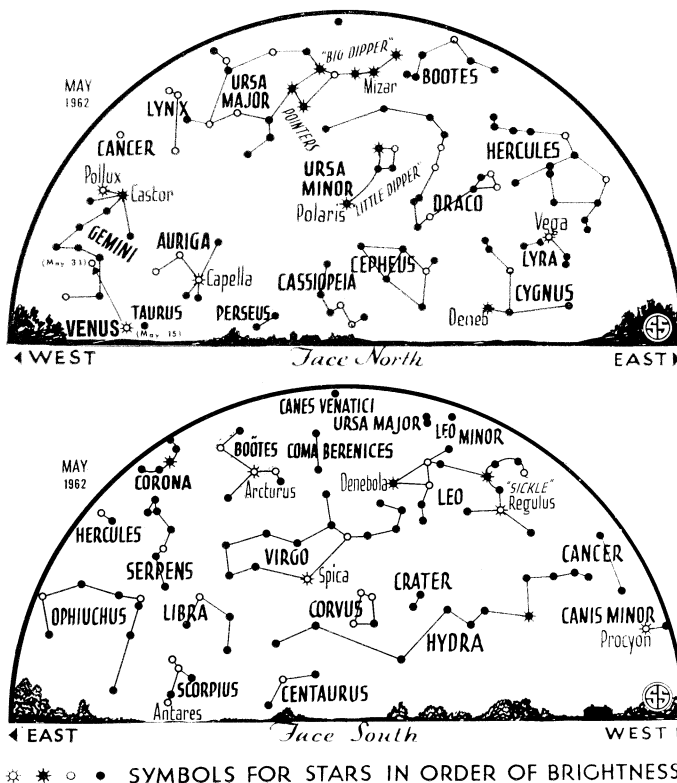
Venus, of course, being closer to the sun than we are, never appears in the opposite part of the sky to the sun. It swings first to the east of that orb, then to the west. It thus appears either in the evening, after sunset, or in the morning, before sunrise. But at its distance from the sun, it can remain visible, as it will this summer, well after the sky is dark.

## Mercury Sets at Twilight

Not so with Mercury. At best it sets at about the time twilight is over, and its visibility depends on the time of year at which it gets farthest to the east or west of the sun. When the time of greatest eastern elongation occurs in the spring, as it does now, people living in the Northern Hemisphere see it remaining visible for perhaps as much as two hours after sunset.

But when an eastern elongation occurs in the fall, it may be just as far from the sun but is much farther south, and then it may set only half an hour or so after sunset. That is why this month of May gives the best opportunity of the year to see the planet.

Of all the planets visible to the naked eye, Mercury is the smallest. Whereas the earth's diameter is 7,918 miles, that of Mercury is only about 3,010. A circle with a diameter of this size would just about fit in the Atlantic Ocean. It would barely touch the western tip of Africa and the northeastern coast of South America, at



Cayenne, French Guiana. To the north, it would reach St. Johns, Newfoundland.

Just as the moon always faces us with the same hemisphere, so does Mercury always keep the same side toward the sun. In the middle of that side, where the sun always is high overhead, the temperature rises to as much as 700 degrees Fahrenheit—enough to melt lead or tin. But there is no atmosphere; no air currents carry warmth around to the dark side. Here the temperature is probably not much above the absolute zero of minus 459.7 degrees Fahrenheit.

Mercury, therefore, has both the hottest and coldest spots on any planet. Even Pluto, the most distant planet, does not get so cold. At 3.6 billion miles from the sun, the rays from that body are very feeble. But every part of Pluto's surface is periodically illuminated—and slightly warmed.

Actually, we can see a little more than half of the moon's surface. There are "librations," which permit us to look around one edge or another. The same with Mercury: between the region where the sun always shines, and that where it never shines, there is a zone where it sometimes appears. If space travelers ever get to Mercury, this is doubtless where they would land.

### Celestial Time Table for May

MAY	EST	
1	2:00 p.m.	Moon passes Mars
	9:00 p.m.	Moon nearest; distance 225,400 miles
2	8:00 p.m.	Neptune nearest earth; distance 2,723,000,000 miles
3	11:25 p.m.	New moon
5	7:00 a.m.	Moon passes Mercury
	6:00 p.m.	Moon passes Venus
11	7:45 a.m.	Moon in first quarter
13	5:00 p.m.	Mercury farthest east of sun
	6:00 p.m.	Moon farthest; distance 251,500 miles
19	9:32 a.m.	Full moon
24	10:00 p.m.	Moon passes Saturn
26	2:06 p.m.	Moon in last quarter
	11:00 p.m.	Moon passes Jupiter
29	8:00 a.m.	Moon nearest; distance 228,500 miles
30	10:00 a.m.	Moon passes Mars

Subtract one hour for CST, two hours for MST, and three hours for PST.

### Know the Sky to Watch Satellites

These star maps showing the positions of stars and planets can help you locate satellites when they flash briefly across the sky. Familiarity with the constellations and their relative positions makes locating artificial moons much easier whenever they are visible from your area.

• Science News Letter, 81:266 April 28, 1962

### SPACE

## Weather Eye in the Sky Spots the Great Lakes

### See Front Cover

► WEATHER SATELLITE Tiros IV photographed the Great Lakes on its 963rd orbit on April 16, 1962. The picture, seen on the front cover, clearly shows from upper left Lakes Superior, Michigan, Huron, Erie and Ontario.

The satellite was launched Feb. 8, 1962. Since that time it has taken about 12,000 photographs.

• Science News Letter, 81:267 April 28, 1962

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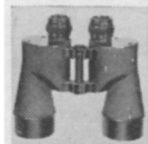


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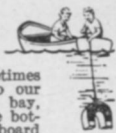


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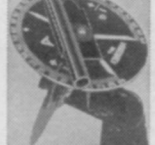
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