

ASTRONOMY

Mars Still Prominent

Both Mars and Jupiter will be visible in April evening skies, and although Jupiter is actually the brighter planet, atmospheric absorption dims its light.

By JAMES STOKLEY

► THE PLANET MARS, which came within about 62 million miles of earth on March 11, is now rapidly receding and slowly fading in brightness. But it remains prominent in the evening sky, standing high in the south in Leo, the lion.

Its position is shown on the accompanying maps, which depict the sky as it looks about 10 p.m., your own kind of standard time, at the beginning of April, 9 p.m. at the middle and 8 p.m. at the end.

Leo stands directly south. You can recognize it by the little group of stars called the Sickle to the right. First magnitude Regulus marks the end of the handle of this implement, while its curved blade points toward the southwestern horizon. On the old star maps, where the constellation figures were actually pictured around the stars, the blade marked the lion's head. The star Denebola, which is second magnitude and stands to the left, represents his tail.

Mars, brighter than any nearby stars, is between Regulus and Denebola. Its steady red light also helps to identify it.

Another planet, Jupiter, is also visible on April evenings. It is in Taurus, the bull, shown low in the northwest on the star map. Earlier in the evening it is higher in the west and more conspicuous. Actually, Jupiter is brighter than Mars, but when so low in the sky, it is dimmed considerably by the atmospheric absorption of its light.

Eleven Bright Stars

Eleven bright stars, which are of the first magnitude or brighter on the astronomer's scale of brightness, are visible April evenings. Aldebaran, near Jupiter, is one of these, but like that planet it looks fainter because it is so low. The same is true of Vega, in Lyra, the lyre, near the northeastern horizon. Above Taurus is Auriga, the charioteer, with brilliant Capella.

The others appear on the southern sky map. Below and to the left of Leo stands Virgo, the virgin, with Spica. Above the left end of Virgo is Bootes, the herdsman, with the star Arcturus. Near Mars, as mentioned, is Regulus. Farther to the right, high in the west, is Pollux, in Gemini, the twins. Below this group is Betelgeuse, in Orion, the warrior. In this group there is also first magnitude Rigel, which is below the horizon at the time for which the maps are drawn but may be seen earlier.

Left of Orion, close to the southwestern horizon, stands the great dog, Canis Major. In it is Sirius, the dog star, which is also dimmed by its low altitude, but it is so bright that still it is easy to find. Above it

is the lesser dog, Canis Minor, with the star called Procyon.

If you have been watching Mars since it first appeared in the evening sky at the beginning of the year, you have seen it moving toward the west. It apparently has now moved close to the star rho Leonis (the one shown on the map just to the left of Regulus). But on April 21 this westward movement ceases: the planet seems to move to the east. By the year's end, when it will not be easily visible, it will be in Sagittarius.

Actually Mars, like the earth and other planets, moves in an easterly direction all the time. The nearer a planet is to the sun, the faster it moves in its orbit. Mercury, the innermost planet, has the highest speed, averaging nearly 30 miles per second. Venus, the next out, goes at 21.8 miles per second; earth at 18.5; Mars at 15, and Jupiter at a little more than eight miles per second.

Mars goes around the sun every 687 days, but with our higher speed we catch up to it occasionally—every 780 days. And as we overtake it, Mars seems to move backward in the sky. Astronomers call this a retrograde movement.

When people traveled on railroad trains more often than they do nowadays, a similar effect was often observed. To a passenger on a fast express passing a slow freight

train, it may seem that the freight is going backward.

Similarly Mars has apparently been moving backward (i.e., toward the west) since the end of January, as we overtook and passed it in March. But after April 21, as we swing around our orbit, well beyond Mars, the planet seems to resume its direct, or eastward, motion against the background of stars.

The same thing, of course, happens with other planets: Jupiter, for example. But that one moves much more slowly through the sky, and the changes are not as readily apparent. Jupiter was retrograding (i.e., moving westward) from last Sept. 14 until Jan. 10. Since then its motion in the sky has been eastward.

Celestial Timetable for April

APR.	EST
1	7:21 p.m. New Moon
3	8:50 p.m. Algol at minimum brightness
5	1:00 a.m. Moon passes south of Jupiter
8	8:00 a.m. Mercury between earth and sun
	7:40 p.m. Moon in first quarter
9	6:00 a.m. Moon nearest, 229,900 miles
11	11:00 p.m. Sun between earth and Venus
12	7:00 a.m. Moon passes north of Mars
15	6:03 p.m. Full Moon
22	8:00 p.m. Moon farthest, 251,200 miles
23	4:07 p.m. Moon in last quarter
	10:30 p.m. Algol at minimum
26	10:00 p.m. Moon passes south of Saturn

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

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