

Two bright planets are visible in the October evening skies, but not at the same time. Venus, which sets more than an hour after sunset at the first of the month, begins to draw away from the sun more rapidly as October ends. Venus is so bright that you can easily see it low in the west at dusk, before any other star or planet has come into view.

Jupiter, the other evening planet, is more than a third as bright. It rises in the east about 9 p.m., local DST, on the first and two hours earlier on the 31st. Standing in the constellation Taurus, it remains visible the rest of the night. On the evening of Oct. 11, the moon, a few days past full, passes south of Jupiter. In a crescent phase, it passes north of Venus in the morning of Oct. 25. That evening, as well as the evening before, they will form a pretty sight low in the west at dusk.

If you are up and about in the early morning hours you may also see Saturn, which rises about 3 a.m. and equals a first-magnitude star in brightness. On Oct. 7, Mercury will be farthest west of the sun and visible low in the east just before sunrise. From the 4th to the 14th it will increase in brightness more than two and a half times, so it will be most easily located in the week after the 7th.

On Oct. 23, many professional and amateur astronomers, as well as others interested in seeing one of the most impressive spectacles that nature offers, will be in Australia to see a total eclipse of the sun. This will be a highlight of several cruises and tours from the United States.

A total eclipse of the sun isn't very rare, as one occurs somewhere on earth about

OCTOBER STARS

BY JAMES STOKLEY



Oct. 7 noon EST.	Mercury farthest west of sun
8 12:55 am	Full moon
10 8:00 am	Moon farthest, distance 252,400 miles
11 9:00 pm	Moon passes south of Jupiter
16 4:59 am	Moon in last quarter
18 1:00 am	Moon passes south of Saturn
23 1:10 am	New moon; total eclipse of sun visible in southern hemisphere
9:00 am	Moon nearest, distance 221,900 miles
25 9:00 am	Moon passes north of Venus
29 6:05 pm	Moon in first quarter

every year and a half, on the average. However, the width of the path, which may be 8,000 miles long, averages only 60 or 70 miles, but it may be more than a hundred, as it is this time. Thus, at a particular place, a total solar eclipse is seen about once in 360 years.

At Melbourne the eclipse will occur in the afternoon, with the sun about 23° above the northwestern horizon and will last for 2 minutes 45 seconds.

The moon's shadow first touches earth at sunrise in Africa, south of Lake Victoria. Then it speeds eastward, over the island of Zanzibar and the Indian Ocean, to southern Australia. It leaves earth at sunset over the Pacific Ocean, north of New Zealand. Over eastern Africa and most of the Indian Ocean the moon will partially eclipse the sun. The event will not be visible in North America.

To see an eclipse like this from a big city is most unusual. Between 1900 and 2050, according to Jean Meeus, a Belgian astronomer, there are twenty which cover a metropolitan area of two million or more. One was visible on Jan. 25, 1925, from the northern part of New York City.

Following this month's Australian eclipse Mexico City will have a similar opportunity on July 11, 1991. At that time the sun, about 80° above the horizon, will be obscured for 6½ minutes. This is an unusually long time, approaching the maximum possible of about 7½. Residents of St. Louis will see a total eclipse on Aug. 21, 2017, weather permitting. And on April 8, 2024 an eclipse track will pass over Cleveland and the southern part of Montreal. □

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INDIAN ROCK ART OF SOUTHERN CALIFORNIA with Selected Petroglyph Catalog—Gerald A. Smith and Wilson G. Turner—San Bernardino County Mus. Assn., 1976, 160 p.,

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THE STRUCTURE OF HUMAN MEMORY—Charles N. Cofer, Ed.—W H Freeman, 1976, 222 p., diagrams, \$10; paper, \$5.50. Symposium papers on topics ranging from historical perspective, memory for prose, to role of memory in language processing.

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