



This map shows the location of three of the planets visible to watchers of the evening sky this month. As Saturn rises in the East, Jupiter and Mars are sinking in the West. The twisting tail of the distinctive summer constellation Scorpius is shown directly south.

At about 7:30 p. m., eastern standard time, the planet will be less than the moon's own diameter to the north, but then it will not be easily visible. When the planet and moon come into view, however, they will still be close together, especially for observers in the eastern part of the country. Those farther west will not have moonrise until correspondingly later, and by that time the planet and our satellite will have separated even more.

#### Moon to Hide Star

In the early morning hours of July 5, the moon will pass in front of a star known as tau Scorpii, in the constellation of Scorpius, the scorpion. The star is of the 2.8 magnitude, easily visible to the naked eye, but it will not be so conspicuous when close to the brilliant moon. With slight optical aid, such as a pair of field glasses, the occultation, as such a phenomenon is called, should be easily seen.

Six first magnitude stars decorate the July evening sky. In the eastern sky almost overhead is the constellation of Lyra, the lyre, in which we find the brilliant Vega, brightest of the stars now visible. Below Lyra is Cygnus, the swan, which is sometimes called the northern cross, from the arrangement of the stars that constitute the group. The cross is now horizontal. The northernmost star in the cross is Deneb, another of the six, though much fainter than Vega. To the south of Cygnus is a brilliant star, Altair, which marks Aquila, the eagle. Directly south is Scorpius, already referred to, in which there is a brilliant star of distinctly red color. This is Antares, and it is supposed to mark

the scorpion's head. The animal's long tail curves down and to the left.

High in the western sky is Bootes, in which we find first magnitude Arcturus, the light from which, after a journey of 40 years, was used a few weeks ago to inaugurate the Chicago Century of Progress Exposition. Lower, and in the southwest, is Virgo. Besides temporarily containing the planet Mars, Virgo has a bright star, Spica, which is to the left of the planet.

In the northern sky, Cassiopeia, shaped like the letter W, is near the horizon. Hanging in the northwest by the end of its handle is the great dipper marking Ursa Major, the great bear. The pointers are the two lowest stars in this figure, and continuing from them to the right you can locate the pole star, Polaris, which is approximately at the position of the north pole of the sky. It is only approximate, however, for the true pole, the point of the sky directly above the earth's north pole, is more than twice the moon's diameter away from the pole star.

#### Hundred Thousand Stars

Directly overhead is Hercules, which contains no very bright stars. However, it does contain one very remarkable object which can be seen under the most favorable conditions with the unaided eye as a faint patch of light but for which a telescope is required really to appreciate. This is the so-called "great cluster in Hercules," a globular swarm of perhaps a hundred thousand stars, each comparable in size with our own sun. Its distance is so great, however, that its light takes about 36,000 years to reach us, and it is so vast that a beam of light takes 320 years to cross it. The

immensity of these distances can be realized when it is recalled that light travels seven times around the earth in a single second! A number of such clusters are known, but this one is the most famous.

On July 2 there occurs an astronomical event which produces no striking visible effects in the sky. On that date the earth is in aphelion, at a greater distance from the sun than at any other time in the year. After that the earth will approach closer to the sun until next winter. Despite the greater distance, however, this is the warmest time of year because now the sun's light, and heat, fall most directly on us in the northern hemisphere. In the winter time, even though the sun is closer, the sun's rays strike at a slant, and the same amount of heat is spread over a greater area, which more than compensates for its nearness.

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#### ZOOLOGY

### "Demon Frog" Brought To National Museum

ROCK-DWELLING frogs of Puerto Rico, dreaded as demons by the natives who, however, have never seen them, have been brought to the U. S. National Museum here by Gerritt S. Miller, Jr., recently returned from a West Indian collecting trip.

The "guaione," as the frog is called, won his fearsome repute among the Puerto Ricans by his resounding voice, which echoes and re-echoes from the wild mountain gullies where he lives. Some of them say he is not a living creature at all, only a voice; others pictured him in fearsome terms as over a foot long and armed with terrible teeth, when they tried to dissuade Mr. Miller from his quest.

But the museum scientist persisted, and finally found his guaiones in boulder-filled mountain caves where the going was hard and somewhat dangerous. He located them with the aid of a flashlight, and dislodged them from their crevice habitats with a twig.

Once he had them safely bottled they appeared ordinary enough frogs, the biggest of them less than two inches long. The most distinctive feature about them was their eyes, which he says stuck out like "mouse-ears."

Oddly enough, these frogs dislike the water, and if they fall into it get out as quickly as they can.

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