



ASTRONOMY

Scorpius Visible in South

Scorpius, one of most typical constellations in the summer sky, contains the brilliant red star Antares—By James Stokley

► WITH THE COMING of June, and the beginning of summer in the Northern Hemisphere on the 21st, the evening skies present their characteristic appearance for this time of year.

Perhaps most typical of summer is the constellation of Scorpius, the scorpion, which shines low in the south as shown on the accompanying maps. These maps depict the sky as it looks about 11:00 p.m., your own kind of daylight saving time, on June 1, or 10:00 p.m. at the middle of the month, and 9:00 p.m. at the month's end. In our latitudes, it is still twilight at this time, and only the brighter stars can be seen.

For later hours, the stars shown low in the west will have descended below the horizon, while others that are not indicated will have risen in the east. Those in the south will have moved farther to the right or west.

The southern sky map shows only the front part of the scorpion, including the brilliant red star Antares, but an hour or so later it will all be in view.

High in the southwest is another prominent constellation: Virgo, the virgin, with the first magnitude star called Spica. Between Virgo and Scorpius stands the figure of Libra, the scales.

To the right of Virgo (shown partly on the northern sky map, partly on the southern) is Leo, the lion. Here is another bright star, Regulus, which is in the handle of the sickle, a hook-shaped group of six stars. The blade points downward.

Directly overhead is Bootes, the herdsman, with brilliant Arcturus. Farther east (northern map) stands Vega, in Lyra, the lyre. Below it is Cygnus, the swan, with Deneb. Farther

right (southern map) is Aquila, the eagle, with Altair. These three stars—Vega, Deneb and Altair—form a conspicuous triangle in the sky, which will be even more prominent in evenings of midsummer. It is often called the summer triangle.

In the northwest is the great bear, Ursa Major, of which the familiar Big Dipper is part. Merak and Dubhe, the two pointers in the bowl of the Dipper, indicate the direction of Polaris, the pole star. This always stands in the north, over the North Pole.

Planets Low on Horizon

No planets are shown on our maps this month, because all are low on the horizon and none is prominent. Mercury is farthest east of the sun on June 30, when it sets about an hour and a half after sunset. You may be able to see it for a few days before and after this date, low in the west at dusk.

At the middle of June, Jupiter sets about two hours after the sun, but is much brighter than Mercury, so you may be able to see it in the twilight glow.

Brilliant Venus rises about two hours

before the sun, and you should be able to see it, low in the sky, as dawn is breaking. Even earlier, but much fainter, appears Saturn, in Pisces, the fishes. It rises about four hours ahead of the sun. Mars comes up from a half hour to an hour before sunrise, but you will not be able to see it, since it is too close to the sun for observation.

Although the brilliant constellations of the winter evening sky are no longer visible, those of summer afford many points of interest. With warm weather, people are more likely to be out in the evening, so this is a good time to start getting acquainted with the various men, women, animals and objects that adorn our skies.

To the modern astronomer, the constellations are not very important. In fact, some good astronomers cannot tell one from another! This situation was not always true. Centuries, ago, when there was little distinction between astronomy and astrology, students of the heavens had to know and recognize these curious figures. If one student wanted to write another about something interesting that he had observed, he might locate it by saying that it was in the foot of the bear, or the shoulder

THE PLANETS IN JUNE		DISTANCE	
		June 1	June 30
Mercury	Visible low in west soon after sunset at month's end	120,900,000 miles	78,400,000 miles
Venus	Visible low in east for about two hours before sunrise	103,100,000	121,300,000
Mars	Not visible	231,100,000	231,000,000
Jupiter	Visible low in west for about two hours after sunset at mid-month	564,200,000	576,000,000
Saturn	Visible in east for about four hours before sunrise at mid-month	918,000,000	874,000,000

of the lion. His correspondent would then know just where to look.

Probably the oldest complete representation of the constellations is the Farnese globe in the National Museum at Naples, which dates back at least to the first century B.C.

About 270 B.C., Aratus, who lived in Cilicia in Asia Minor, wrote a Greek poem called "Phenomena" which described 44 constellations.

In 1603, a lawyer and amateur astronomer named Johann Bayer, who lived in Augsburg, Germany, published a beautiful volume of star maps, entitled "Uranometria."

This work introduced a new system of designating stars. In each constellation, Bayer marked them by Greek letters, in alphabetical order: alpha, beta, gamma, etc. Usually these are in order of brightness. However, the stars of the Big Dipper were so familiar that he lettered them starting with the two pointers as alpha and beta, and on to the end of the handle, Alkaid, which is eta.

To designate a particular star when written, he used the Greek letter followed by the Latin name of the constellation, in the possessive case. Thus Antares, as the brightest star in Scorpius is alpha Scorpii.

This system is still used in astronomical writing for the more prominent stars. However, there are many more faint stars than there are bright ones. For these, a common designation is by a number in a particular star catalog. One of these, is the Henry Draper Catalog, published in 1890 by the Harvard College Observatory. If a star is designated HD 32416, it means that it has that number in the catalog.

So the constellation figures, interesting though they may be, no longer have much scientific importance. The arrangement of the stars in the sky often bears little resemblance to the thing it is named after. The constellations are areas into which the sky is divided, just as the United States is divided into 50 areas called states. The State of Washington does not look George, nor does Maryland resemble Queen Mary, after who it was named.

Celestial Timetable for June

JUNE	EDT	
3	3:41 a.m.	Full moon
10	4:00 a.m.	Moon farthest, distance 251,200 miles
11	0:59 a.m.	Moon in the last quarter
	5:00 p.m.	Moon passes south of Saturn
15	7:00 p.m.	Moon passes north of Venus
18	4:09 p.m.	New moon
20	9:00 a.m.	Moon passes north of Mercury
21	4:33 p.m.	Sun farthest north, summer begins in Northern Hemisphere
22	4:00 a.m.	Moon nearest, distance 227,900 miles
25	9:23 a.m.	Moon in first quarter
30	4:00 p.m.	Mercury farthest east of sun

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

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