

ASTRONOMY

Lion and Scorpion

Summer Constellations Begin to Appear in Evening Sky; Venus and Other Planets Visible Only After Midnight

By JAMES STOKLEY

WITH the coming of May, the evening skies begin to take on a summery appearance. To the southeast, the Scorpion is beginning to show. Antares, the red star which marks the heart, is shown on the map just above the horizon. This is the position at 10:00 p. m., standard time, on May 1; at 9:00 p. m. on the 15th and at 8:00 p. m. on the 31st. An hour or so later the rest of the animal is visible, a long, hook-shaped row of stars forming the characteristic curved tail.

The accompanying maps also show the other stars that are visible at the times mentioned. High in the southwest is Leo, the lion, with the "sickle," another hook-shaped group. Regulus marks the end of the sickle's handle, which is below. Between Leo and Scorpis is Virgo, the virgin, in which Spica is the brightest star. To the west we find, rath-

er low, Procyon, in Canis Minor, the little dog. Next, to the north, are the Gemini, the twins, with the stars Castor and Pollux above. Then comes Auriga, the charioteer, with Capella, and, low in the north, Cassiopeia, the queen, a group shaped like a letter W.

High in the north is Ursa Major. The best known part of this figure is the "great dipper," now turned upside down, with the bowl to the left. The two stars of the bowl, farthest from the handle, are the "pointers," whose direction, now downward, indicates Polaris, the pole star. This is part of the "little dipper," which, in turn, is part of the little bear, Ursa Minor. By following the line of the curved handle of the large dipper, we come to Arcturus, in Bootes, then to Spica.

To the northeast we can see the brightest star now visible, Vega, in Lyra, the lyre, which will shine overhead on summer evenings. Below the lyre is the

swan, Cygnus, of which the star Deneb is part.

No planets are in a position to be seen during the evening this month, but Mars, in the constellation of Sagittarius, rises in the southeast about midnight. It can easily be located because it is red in color, and very bright.

About two hours before sunrise Jupiter, even more brilliant than Mars, comes up. An hour before the sun, Venus, still brighter, appears, but by then the sky is beginning to show signs of the approaching dawn, and the stars and planets are disappearing.

Saturn is close to Venus, and Mercury is also, about May 1, but they are much fainter and will be difficult to see.

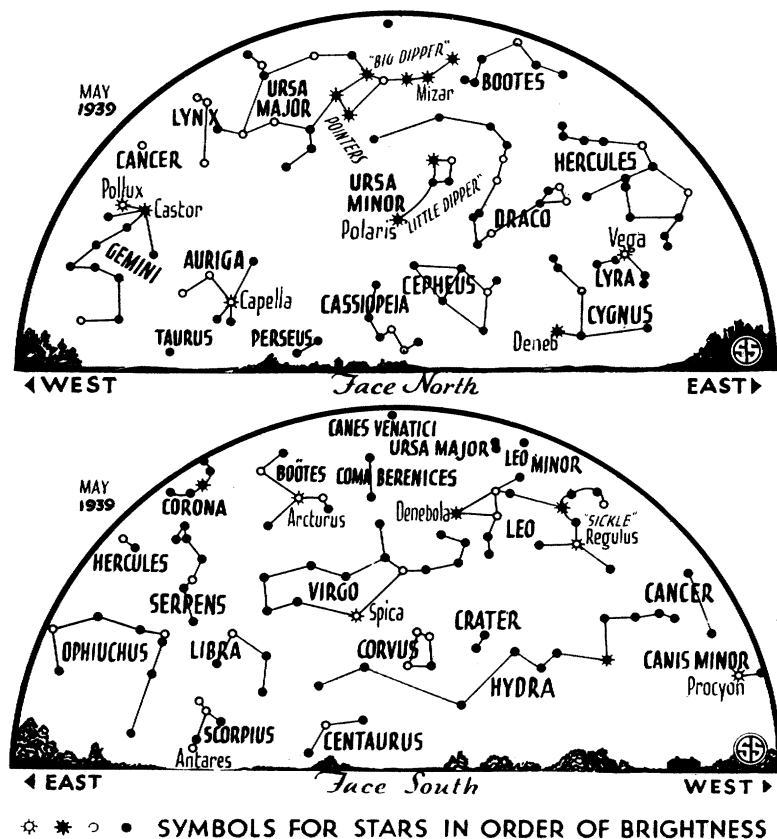
On the night of May 1 the moon will pass in front of the star Spica. This kind of an eclipse is called an occultation. Although the occultation of Spica can be seen with the unaided eye, some sort of optical aid, even a pair of opera glasses, will greatly help the view. It happens that the moon is then almost full and very bright, so the glasses will make it easier to see the star.

In the course of the month, the moon moves across the sky toward the east, and so, when one looks early in the evening, the star will be to the left of the moon. Then the eastern edge of the moon, which is dark, will pass in front of the star.

When this happens, the star vanishes instantaneously, even more quickly than an electric light going out when the switch is opened. This is an effect of the lack of a lunar atmosphere. If there were a layer of air above the moon's surface, the star light would gradually have to shine through more and more of it, and the diminution in light would be gradual.

Sometimes we see the planet Mars eclipse a star, and then this happens, because Mars, like the earth, has an atmosphere around it. After about an hour, the star reappears, because the moon has moved across it. The reappearance, of course, is from the right hand, the bright edge of the moon.

Since the moon is moving easterly, people in the western part of the United States will see the star vanish and reappear first. In California the disappearance will come about 7:42 p. m., Pacific Standard Time, and the emergence at 8:46 p. m., P. S. T. (Turn to page 269)



ed by Bakelite Corporation will help construct homes, airplanes, furniture, boats and automobiles.

Diesel locomotives by General Motors Corporation and high powered steam turbine electric locomotives by General Electric Company will contribute to rail progress.

Roads for light traffic made by mixing cement with natural roadway soil right on the highway are developed by Portland Cement Association.

Rubber is taking on new forms for widespread use. Tough, thin, transparent, waterproof sheets of rubber are being made by B. F. Goodrich Rubber Company for use in protecting everything from clothes to food, while United States Rubber Company has a rubber sheet with many pores, useful in filtration and storage battery manufacture.

There is also a cellular hard rubber, as light as $4\frac{1}{4}$ pounds per cubic foot, useful in insulation against heat, and a new sponge rubber made from latex that will compete with metal springs, hair cushions, and mattresses.

Rubber tires are made more non-skid and blow-out proof.

Photographic film quadrupling the fastest speed of yesterday is reported by Agfa Ansco Corporation, while Eastman Kodak Company hails the coming of color to everyday photography.

A new low-cost plastic is about to be manufactured from wood by Masonite Corporation, while pentachlorophenol for wood preserving treatment produced by Monsanto Chemical Company will make wood a more permanent building material.

Science News Letter, April 29, 1939

Correction

IN THE Macmillan Company's advertisement of new scientific books on page 253 of the SCIENCE NEWS LETTER for April 22 the price of "The Races of Europe" by Carleton S. Coon was erroneously given as \$5.75. The correct price of this book is \$7.00.

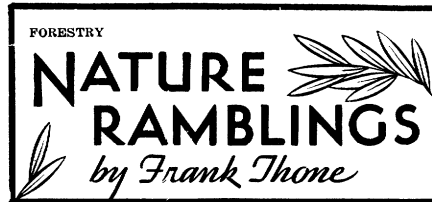
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Watch Parent Trees

FUTURE forests of the nation depend largely upon what we are doing now, especially in the selection of the trees that are to be their parents, Leon S. Minckler of the Appalachian Forest Experiment Station points out. (*Journal of Forestry*, April)

Application of the science of genetics to trees has lagged far behind the uses of genetics in other fields, he declares. This is only natural, perhaps, because a generation in trees is almost as long as it is in the human race, so that geneticists have found annual plants, like beans and wheat, more to their liking. And foresters have had so many other, more pressing problems that they have let tree-breeding problems wait.

Some of the things now being done in the reestablishment of our forests are rather doubtful, from the genetic point of view. Seed from lowland trees is used for planting upland areas, and some seed importations are made from as far away as Italy. Better practice, Mr. Minckler urges, would be to study local genetic strains and varieties and use the most successful of these, since they have already demonstrated their fitness under local conditions.

Relatively little of American reforestation is done by planting seeds or setting out nursery seedlings. Much more usual is the practice of leaving seed trees standing when a piece of land is logged off.

The selection of these seed trees would therefore seem to be of supreme importance. Yet too often the worst instead of the best trees are left, because lumber interests hate to "waste" a tree that will make profitable logs. Using cripples and runts for tree breeding is just as bad forestry as sending the best young men to war to be killed and leaving runts

and defectives as fathers of the next generation is bad eugenics.

However, even the abandonment of such bad seed-tree selection is not enough, Mr. Minckler emphasizes. We must not only avoid poor seed trees. We must intelligently select those that show the best qualities, and that give promise of being able to transmit those qualities through their seed to the next tree generation.

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In Illinois, the former will be at 10:21 p. h., C.S.T., and the latter at 11:37 p. m., C.S.T., while, for an observer in Washington, D. C., the times will be 11:52 p. m. and 12:59 a. m., E.S.T. The times are different for every location, but these given will help one to tell them approximately.

Celestial Time Table for May

Monday, May 1, 4:00 a. m., Mercury farthest west of sun; evening, Spica occulted by moon. **Tuesday, May 2**, 10:59 p. m., Algol at minimum. **Wednesday, May 3**, 10:15 a. m., full moon. **Friday, May 5**, 7:48 p. m., Algol at minimum. **Tuesday, May 9**, 5:00 a. m. moon passes Mars. **Wednesday, May 10**, 12:00 p. m., moon farthest from earth—251,200 miles away. **Thursday, May 11**, 5:40 a. m., moon at last quarter. **Sunday, May 14**, 6:03 p. m., moon passes Jupiter. **Tuesday, May 16**, 4:16 p. m., moon passes Venus. **Thursday, May 18**, 11:25 p. m., new moon. **Tuesday, May 23**, 12:42 a. m., Algol at minimum; 7:00 a. m., moon nearest earth—228,800 miles away. **Thursday, May 25**, 6:20 p. m., moon at first quarter; 9:31 p. m., Algol at minimum. **Sunday, May 28**, 6:20 p. m., Algol at minimum.

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