

Here is a picture of the sky these June evenings. Just hold the maps before you like a picture. Face north when using the view of the northern sky and face south when viewing the southern sky.

Comet May Cause Meteoric Display

Astronomy

IF you watch the sky during the nights of early June you may be treated to an unusual display of meteors or "shooting stars."

For comet 1930d, as the astronomers call the new visitor to the heavens discovered by the Germans, Schwassmann and Wachmann, is expected to cause a meteoric display about June 9, radiating from the region of the sky slightly west of the constellation of Hercules and above the Northern Crown. This is the prediction of the Japanese astronomer, Prof. Issei Yamamoto of Kyoto, Japan, and American astronomers are urging all interested to keep a sharp lookout for an unusual number of meteors.

Astronomers explain that there is no certainty that meteors will be seen as the earth passes near the comet's orbit but a chance of seeing a good display is not one that should be missed. Careful watch should be begun about June 1 and continued until about June 11, with especial diligence of observation on the nights June 8, 9 and 10.

At any time on a clear night shooting stars may be seen here and there in the sky at intervals of several minutes, but at special times of the year when the earth cuts through the path of meteoric swarms they are particularly numerous and appear to come from one general location in the sky. There are a number of annual meteor swarms met by the earth, most famous of which are the Leonids on November 14 and the Perseids on August 12, so named because the meteors appear to come from the constellations after which the swarms are named.

The display expected from comet 1930d is an extra heavenly meteoric exhibition and that is why astronomers are particularly interested in it.

The radiant or the point in the sky from which the June meteors appear to diverge or radiate will be nearly overhead high in the eastern sky early in the evening.

Both Prof. Charles P. Olivier of the Flower Observatory, University of Pennsylvania, and Dr. Harlow Shapley, director of the Harvard College Observatory, urge amateurs to record the numbers of meteors seen each hour during the time of their observations. Those who are experienced with the use of star charts should record the path of each bright meteor among the stars. The duration of flight should be timed or estimated. In the event that bright meteors appear in large numbers an effort should be made to photograph the meteor tracks.

Reports of observations should be sent to Prof. Olivier at the University of Pennsylvania who will utilize them in connection with other reports received from members of the American Meteor Society which has as its special objective the observation of meteors.

Comet 1930d is now eighth magnitude and it is not expected to become visible to the naked eye as seemed likely a few weeks ago when its path was first computed, observations by Prof. G. Van Biesbroeck of Yerkes Observatory indicate.

THE photograph of comet 1930d (Schwassmann-Wachmann comet) on the cover of the SCIENCE NEWS-LETTER this week was made by a

20-minute exposure with the two-foot reflecting telescope of Yerkes Observatory operated by Prof. G. Van Biesbroeck. The comet has two tails visible visually although but faintly recorded by the photograph. The main tail is opposite the sun and extends 25 seconds of distance on the plate, a length that may be judged by the fact that the photograph on the cover is 20 seconds wide. A shorter tail, 20 seconds long, makes an apparent angle of 20 degrees with the direction of the sun.

WHILE weather in May and early June may be warm and summery, summer must delay its official entry until the sun gets in its proper position and enters the sign of Cancer. This astronomical milestone is passed this year on Saturday, June 21, at 10:54 p. m. Eastern Standard Time. Then the sun reaches its farthest north position of the year. At noon that day, at a point on the tropic of cancer, the sun is directly overhead. At such places a curious effect is observed, in that vertical posts or poles cast no shadows, an effect that some of the ancient peoples in Mexico used to time one of their important religious festivals. They referred to it as "the sun god descending to earth."

We of countries farther north than the tropic of cancer never observe the sun god thus "coming to earth." We do, however, at that time have the longest period of sunshine of the year. "What is so rare as a day in June," sang the poet, but on the 21st we will have over fifty per cent. more daylight than we will have on December 22, when the year's shortest

day will arrive. On the longest day the sun, at latitude 40 degrees north, will rise at 4:31 a. m., and will set at 7:32 p. m., eastern standard time. (For daylight saving time, it would rise at 5:31 and set at 8:32.) There are thus more than 15 hours of daylight on the day of the summer solstice.

These figures refer to the actual setting of the sun itself. Of course, twilight continues for several hours after sunset, and begins several hours before sunrise. This is an effect of the earth's atmosphere. While the sun is below the horizon for a person on the surface of the earth, the air above him may still be illuminated. If we lived on an airless planet—Mercury, for example—this would not happen. Darkness would come immediately at sunset, and the day would come exactly at sunrise. As it is, with evening twilight lasting at the time of the solstice until 9:35 p. m., as the astronomer reckons it, and morning twilight beginning at 2:27 a. m., there are only about 4 hours and 52 minutes of real darkness on the night of the 21st of the month.

Farther north, as in the British Isles, darkness does not come at all at this time of year, but morning twilight begins before the evening twilight has ended. And then if one goes still farther north, to North Cape, for instance, the sun does not set at all, and one sees the strange phenomenon of the midnight sun. On the other hand, at 40 degrees south latitude, the parallel of which passes through New Zealand, they are now enjoying their winter months. There, at our summer solstice, they have the winter solstice, and the times of sunrise and sunset are just about the same as they will be for us on the 22d of next December.

Venus shines brightly in the early

evening western sky as it did last month and as it will for several months to come.

The June evening sky is occupied by an unusually large number of bright stars. Almost directly overhead is Arcturus, in the constellation of Boötes, the Charioteer. Arcturus is one of the brightest stars in the heavens, for of all the stars that we can see, it is only exceeded in brilliance by Sirius, Vega and Capella. Sirius was visible in the winter sky and it has now departed, but Vega can be seen high in the eastern sky, in the constellation of Lyra, the Lyre. Capella is low in the northwest, hardly visible because it is so near the horizon, though during the past few months it was better placed.

Below to the right of Vega is Altair, in the constellation of Aquila, the eagle. Pollux, one of the two twins, Gemini, is low in the northwest not far from Capella. Spica, in Virgo, the Virgin, is in the southwest, while to the west, at the end of the handle of the "sickle" in Leo, the lion, is Regulus. The ruddy Antares, in Scorpius, is in the southern sky. The "Northern Cross" in Cygnus, the Swan, is in the eastern sky, with the cross lying on its side, and with the bright Deneb at the northern end.

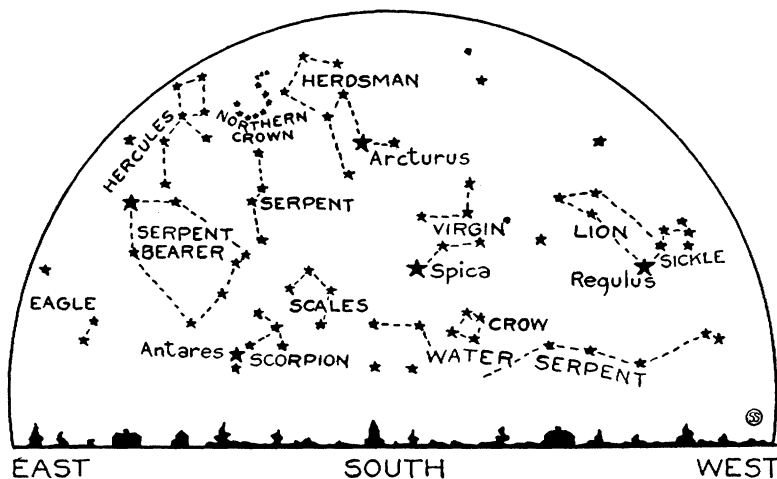
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Mirror

THE 69-inch mirror of the new Perkins Observatory telescope has reached the polishing stage and is now having its surface given its final shape. It is the largest piece of optical glass made in the United States and when completed will be placed in service at Ohio Wesleyan University, Delaware, Ohio. It will then be the third largest reflecting telescope in the world.

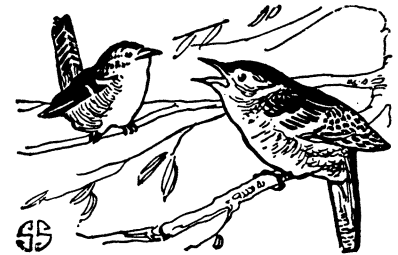
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NATURE RAMBLINGS

By Frank Thone



Wrens

WHOEVER has had the foresight to put up a wren house probably has tenants by now, with Mistress Jenny scolding at cats, fighting sparrows and in general comporting herself like the competent little domestic shrew that she is. Her husband, about the most henpecked of male birds, is nevertheless of a cheerful disposition, and manages to get in a good deal of really melodious singing in the intervals between fits of domestic worries.

Men and wrens have probably shared habitations from the very earliest cave-dwelling days, for the house wren is a cave wren where there are no houses. Its Greco-Latin scientific name is a recognition of its cave-dwelling habits: *Troglodytes*—a title, it will be recalled, bestowed also upon cave-dwelling men.

The wren's long bill, its inquisitive habits, and its nervous, incessant activity, all fit it admirably for its great trade of insect-hunter. More than almost any other bird, the wren is carnivorous, only about two per cent. of its food normally consisting of vegetable matter. Thus the wren is not only a close neighbor but a good friend and ally of man.

If one wants bird neighbors, wrens are easier tenants to secure than any birds except the undesired sparrows. They will move into any kind of a bird house; even a tin can with a hole in the end furnishes a wren family a suitable apartment. Only the hole should be small. The proper diameter is one inch, or the size of a twenty-five cent piece. This prevents larger robber birds, especially sparrows, from entering, and is quite big enough for the diminutive body of the wren to slip through.

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