Planets and Meteors in December Skies

Astronomy

By James Stokley

December is not the month that we ordinarily think of in connection with meteor displays—those of August and November are more prominent, and much better known. But the December meteors have one advantage—their light is especially blue, and so they can be most easily photographed. In fact, the amateur photographer can have the fun of taking some pictures of these visitors from space, and, at the same time, can contribute to science, if he cares to stay up a little later than usual on one or two December nights.

The principal shower of December is that of the Geminids. It receives its name, like all meteor showers, from the constellation from which it seems to emerge—in this case, Gemini, the twins. This group is in the eastern sky on December evenings. The meteors reach their maximum on the nights of the tenth to thirteenth. Fortunately, the new moon occurs on the twelfth, so that during this period the nights will be completely dark.

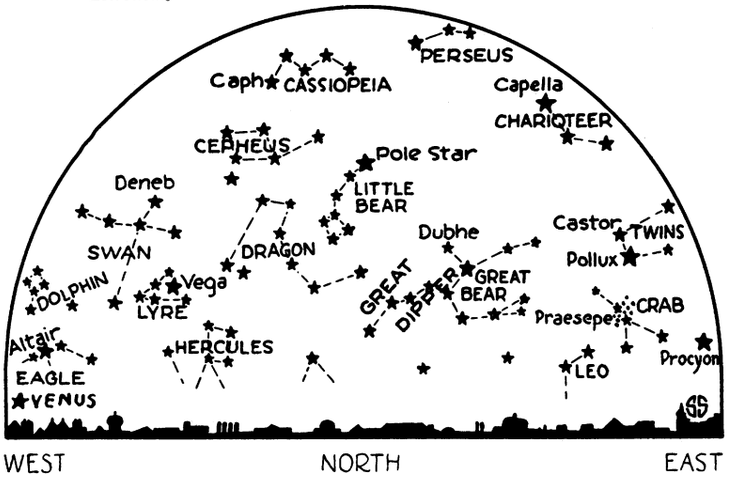
To photograph them you should point your camera at the sky between Orion and Taurus on the nights of December 10 to 13, especially between the hours of midnight and dawn. Fix the camera pointing a little below the Hyades—the V-shaped group with a bright reddish star at the eastern end of the V. Expose for an hour at the maximum aperture, then point below the Hyades, and expose another plate or film for an hour. Keep on shifting between exposures, to keep the region between Orion and Taurus on the plate.

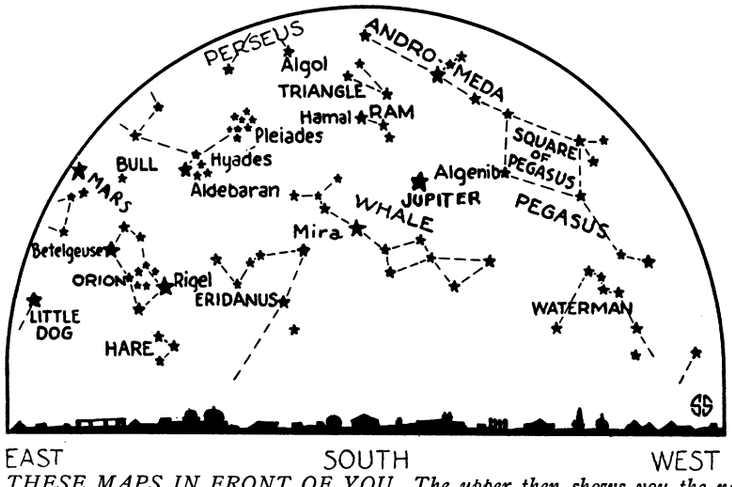
To make a useful record, write down the standard times of opening and closing the shutter and where the exposure was made, accurately enough to locate it on a good map. The negatives—not prints—would be gladly received at the Harvard Observatory, Cambridge, Mass., it has been announced, where they would be searched.

Three planets now decorate the evening sky. In the west for several hours after sunset Venus appears. It is brighter than any other planet or star in the sky, and so it is not hard to locate. Jupiter is in the southern sky, and is second only to Venus in brilliancy. Over in the east is Mars, of a brilliant red color. Mars is inferior in brightness only to Venus, Jupiter and the star Sirius, the brilliant one low in the southeastern sky. Mars' ruddy color, however, affords a means of identification. Until the 23rd it is in the constellation of Gemini; the twins, after which it moves into Taurus, the bull.

This month Mars is in opposition. That means that it is on the side of the earth directly opposite the sun, and that at midnight it is directly south. It reaches this position on the 21st. A few days before—on the 15th—it is at its closest position to the earth on this trip. At that time it is only 54,343,200 miles from the earth.

A number of bright stars can be seen in the sky now, as the winter presents some of the most brilliant. Sirius, the "Dog-Star," in the constellation of Canis Major, the Great Dog, is low in the southeast in the early evening, and has already been mentioned. A little higher, and almost directly east, is the lesser dog, Canis Minor, with the first magnitude Procyon. Above Sirius is the familiar group of Orion. The three stars in a vertical row form the warrior's belt, the row of stars descending from it are his sword. The bright, and reddish, star to the north is Betelgeuse, the brilliant one above the belt is Bellatrix, while the one to the south is Rigel. Above Orion is Taurus, the bull, with Aldebaran marking the eye of the bull. This star is even more ruddy than Betelgeuse. To the north of Taurus is Auriga, the charioteer, marked by the bright Capella. Between Auriga and Canis Minor are Gemini, the twins. The two bright stars are the two twins, Castor (above) and Pollux (below). Pollux is the brighter of the two. In the west is Pegasus, with the familiar "Great Square," and to the northwest, in a vertical position, is the northern cross, or Cygnus, the swan, with the first magnitude Deneb at the top.





HOLD THESE MAPS IN FRONT OF YOU. The upper then shows you the northern and the lower the southern sky as it appears on December evenings

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