

the following times: 11:56, 12:01, 12:09, 12:15, 12:27, 12:35, 12:39, 12:40, 12:41, 12:46, 12:55, 1:02, and 1:06, Eastern Standard Time. The meteors which appeared at 12:01, at 12:46, and at 12:55 were considerably brighter than first magnitude.

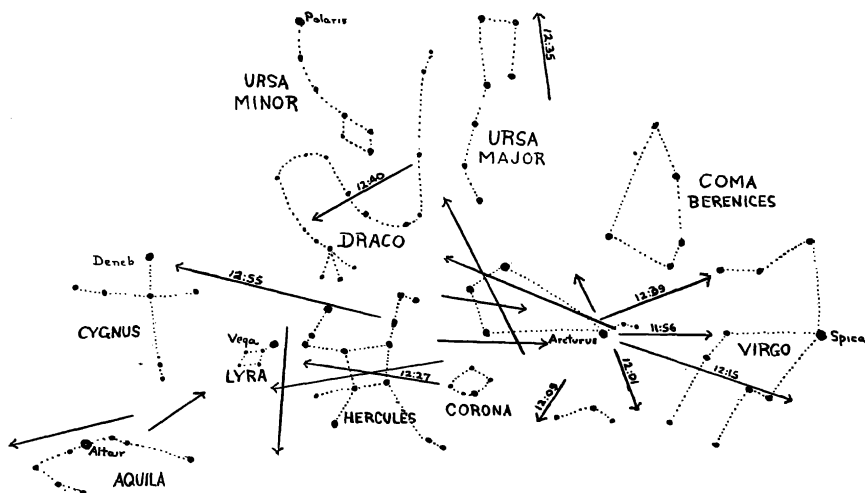


CHART OF METEORS OBSERVED ON MAY 15-16, 1936

The times for some of the meteors are shown on the diagram. A number of others were observed and are plotted, but the time was not determined to greater accuracy than several minutes, and hence their time is not shown.

Five sporadic meteors not belonging to the shower were observed, and are plotted.

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## Comet Notes

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COMET PELTIER (1936 *a*). When the previous notes came into the hands of the readers of POPULAR ASTRONOMY the time had been too short to make safe predictions for the ensuing two months concerning this comet. This time these remarks will not be available until most of the appearance is over!

The expectations about this, the first comet of the year, have fully materialized. From an inconspicuous small nebulous object as it was at the time of its discovery by Peltier, it has grown rapidly to naked-eye visibility in the first week of July. Seen in the telescope it then showed a bright stellar nucleus from which emerged a fan-shaped streamer in the direction of the sun. This streamer gradually merged with the head, and in an opposite direction could be seen the tail of more than a degree in length. Figure 1 is reproduced from a 20 minute exposure with the 24-inch reflector on July 12. The photograph records the shape of the head and tail but the material around the nucleus is so bright that the inner details of the head are lost; in Figure 2 I have tried to record the appearance of the sharp nucleus with its vase-shaped streamer opposite to the tail.

Several computers have established the orbit of this comet. The following

elements by A. D. Maxwell, deduced from measures up to June 13 by McLaughlin (Michigan), gave a close approximation to the final parabola:

## ELEMENTS (1936.0)

$T = 1936, \text{ July } 8.99068 \text{ U.T.}$   
 $\omega = 148^{\circ} \ 31' \ 44''.5$   
 $\Omega = 133 \ 59 \ 05.5$   
 $i = 78 \ 38 \ 41.5$   
 $q = 1.1001092$



FIGURE 1

COMET PELTIER (1936 *a*) ON JULY 12, 1936,  
from a 20-minute exposure with the 24-inch Reflector of Yerkes Observatory.

1936PA.....44..389V

In Figure 3 I have represented the relative positions of the comet, the earth and the sun corresponding to this computed orbit. It will be seen that on August 5 the comet crosses the plane of the earth's orbit from north to south. The nearest approach to the sun occurred on July 9, but after that date the distance from the earth diminished considerably. While the greatest physical activity, especially in the actual development of the tail is to be expected in the middle of July, we earthly observers come so much closer to the comet in the first days of August that its tail will probably subtend an angle of several degrees. At minimum dis-

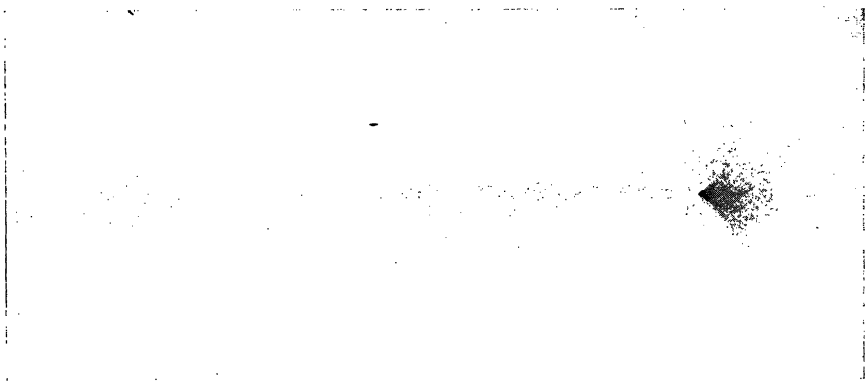


FIGURE 2  
SKETCH OF COMET PELTIER (1936 a)

tance from the earth (August 4) the separation is only one-sixth of our distance from the sun. The following ephemeris computed by Dr. Maxwell shows how rapidly the comet will pass out of view for northern observers in the beginning of August.

0 <sup>h</sup> U.T.	<sup>h</sup>	<sup>m</sup>	<sup>s</sup>	<sup>°</sup>	<sup>'</sup>
July 31	22	13.5		+25	56
Aug. 1		6.8		19	40
2	21	59.7		12	44
3		52.4		+ 5	7
4		44.8		— 2	56
5		37.0		—11	5
6		29.0		—18	59
7		20.8		—26	20
8		12.4		—32	56
9	21	3.9		—38	43

At that time it will move at the rapid rate of 8° a day from the constellation of Pegasus through Aquarius and Capricornus, but the full moon will hamper the visibility. From my naked-eye estimates the comet reached magnitude 5<sup>M</sup>.1 on July 16. A maximum brightness of third magnitude in the first days of August can therefore safely be predicted. This would be the total light of the comet; the nucleus alone, as seen in a telescope, would appear several magnitudes fainter than a 3<sup>M</sup> star. By the middle of August a rapid drop of brightness will set in, but the comet will probably be followed for several months longer with telescopes in the southern hemisphere.

Comparisons of the brightness of the comet with that of neighboring stars