

On the Nebulosity of the Pleiades and on a New Merope Nebula.

By *E. E. Barnard.*

Having the opportunity in November and December to examine the Pleiades with the 36 inch refractor, I have looked up the several nebulosities that have been shown in the various photographs that have been made of the cluster by the Henry Brothers and Mr. Roberts etc. As any thing in the way of visual observations of these features will be of interest, I append the following remarks not that any thing not shown on the photographs has been seen (except in one case which will receive attention further on) but merely as a visual verification of the photographs.

The Maia Nebula.

This object is seen essentially as shown on the Paris photograph. It comes north preceding from Maia and terminates between two small stars, as in the photographs. It is in no wise difficult in the great telescope, especially when Maia is placed just without the field. It can not be seen to join Maia because of the brightness of the star. It is best defined on the preceding side.

The Electra Nebula.

This curved streak emanating from the place of Electra is extremely difficult.

The Alcyone Nebulosity.

Nothing nebulous could be seen near Alcyone because of the illumination of the field.

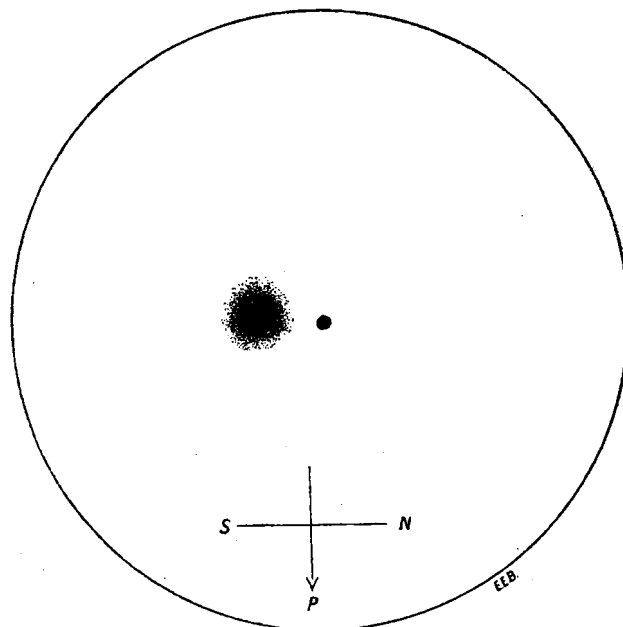
The Merope Nebula.

The large diffused Merope Nebula, which was originally discovered by Temple in 1859, was seen as a hazy glow although the field was only 5' in diameter. Two of the long parallel strips of nebulosity north following Merope were easily seen.

A New Merope Nebula.

On Nov. 14 while examining the cluster, I discovered a new and comparatively bright round cometary nebula close south and following Merope, every precaution was taken to prove that it was not a ghost of Merope by examining the other stars of the group under the same conditions. I have since seen it several times and on Dec. 8th I could see it with some difficulty in the 12 inch by occulting Merope with a wire in the eyepiece. With the great telescope the nebula can be seen fairly well with Merope in the field and is conspicuous when the star is placed just outside the north edge of the field. It is about 30" in diameter, of the 13^m, gradually brighter in the middle, and very cometary in appearance. It was examined with powers of 300, 520 and 1500 with all of which it was comparatively easy.

Mt. Hamilton 1890 Dec. 10.



The New Merope Nebula.

Nov. 14. 1890.

On Dec. 5th I measured its position, referred to Merope, with the filar micrometer of the 36 inch

at sidereal 1^h 10^m

Nebula — Merope :

$$\Delta\alpha = +0^{\circ} 9'.4 \text{ (6 obs.) } \Delta\delta = -0^{\circ} 35'.2 \text{ (6 obs.)}$$

Later in the night, when the Pleiades had passed to the west the telescope was reversed and the object measured again

at sidereal 4^h 50^m

Nebula — Merope :

$$\Delta\alpha = +0^{\circ} 7'.9 \text{ (2 obs.) } \Delta\delta = -0^{\circ} 36'.3 \text{ (5 obs.)}$$

which are as accordant as could be expected in the case of a nebula so near a bright star.

Taking the mean of these and weighting by number of observations we have

Nebula — Merope :

$$\Delta\alpha = +0^{\circ} 9'.04 \text{ (8 obs.) } \Delta\delta = -0^{\circ} 35'.72 \text{ (11 obs.)}$$

It can be readily understood why this, the brightest of all the Pleiades Nebulae, has never been photographed. A sufficiently easy exposure to secure an impression of the nebula, would so overexpose Merope that its light would coalesce with that of the nebula.

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