Photograph of a Bright Meteor.

CONSIDERING the great frequency of the appearance of bright meteors which flash across the night sky, it is astonishing how few photographs of them have been obtained. The actual photographing of a meteor is really quite a simple matter, but the whole success of the operation depends on whether the camera is pointed to the position in the sky where a meteor happens to pass.

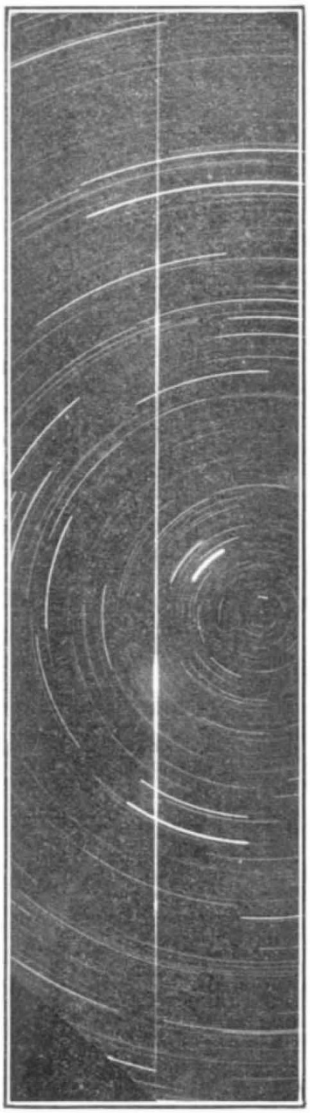

FIG. 1.—Photograph of a Taurid fire-ball.

While any camera will serve the purpose, a suitable instrument is one having a large aperture and short focal length. In a communication to the Royal Astronomical Society (Monthly Notices, vol. 83, p. 92) Dr. W. J. S. Lockyer describes a very interesting photograph which he has secured, and also the instrument used. The lens is an old portrait doublet having an aperture of five and a quarter inches and a focal length of twenty-eight inches; quite a suitable lens. This lens is mounted in a home-made box camera which carries a plate $8\frac{1}{2} \times 6\frac{1}{2}$ in. The field of the lens covers about 16 degrees.

For the purpose of photographing meteor trails, the camera is fixed firmly on a stand and pointed directly at the pole star. This direction is chosen because the stars make their trails completely on the photographic plate, these trails being portions of small circles. By comparing such trails with a star atlas all the stars can be easily identified and the position of the meteor trail accurately deduced. It is Dr. Lockyer's usual practice, when working at night with the 9-inch prismatic camera of the Norman Lockyer Observatory, always to expose as long as possible one plate in this meteor camera, which is erected just outside the dome.

During the night of November 16 last, the plate (Marion's "Record," H.D. 500) was exposed from $8^h\ 58^m$ to $11^h\ 12^m$ G.M.T. In the course of development the first images to appear were the trail of the pole star and a long streak across the plate which was the trail of a bright meteor. A reproduction of a portion of this plate (reduced by one-quarter) is shown in Fig. 1. The photograph shows practically the complete length of the meteor trail.

Considering the slowness of the movement of the image of the pole star (the short brightest trail near the pole) due to the earth's rotation, and the relatively great speed of the meteor—probably in any portion of its trail only a very small fraction of a second—the brilliancy of the latter must have been very great, judging by the great density of the trail.

The most striking feature of the meteor's trail is the great differences in intensity along its path. In some portions it is so bright that it has produced halation on the photographic plate (unbacked) as strong, if not stronger, than the pole star itself. These intensity differences are due most probably to the unequal volatilisation of the material forming the meteor.

It is interesting to note that the meteor trail, when traced on a celestial globe, passes close to a star named κ Tauri, the radiant point, for that date, of slow-moving bright meteors, as determined by Mr. W. F. Denning. Evidently the meteor here photographed was a Taurid fire-ball and the brilliancy of its image was due to its comparatively slow motion.

An Australasian Biological Collecting Expedition.

THE native animals and plants of Australia are of exceptional interest, and many of them are likely to disappear, or at least to become rare, as the result of the extension of the settled areas of the country—a process which has already been in operation for many years. The Trustees of the British Museum, recognising the importance of securing an adequate representation of this remarkable fauna and flora while there is yet time, have made arrangements for a collecting expedition, which started from London a few days ago. Mr. G. H. Wilkins, to whom the leadership has been entrusted, has special qualifications for carrying out his task with success. He is Australian by birth, and he has a good knowledge of the country, where he has many friends from whom he may expect to receive valuable assistance. He has travelled extensively in various parts of the world, and he has already acted as naturalist to several important expeditions. He spent four years, 1913–1917, on the coast of Alaska and in the Beaufort Sea, as a member of the Stefánsson Canadian Arctic Expedition. In 1920 he visited Graham Land with the Cope Expedition, and in 1921–22 he was with the Shackleton-Rowett Expedition, in the *Quest*, visiting South Georgia and the Antarctic Quadrant from Enderby Land to Coats Land. On the return journey valuable collections were made at Gough Island.

Mr. Wilkins expects to be able to obtain assistance, partly voluntary, in Australia, and thus to be provided with a scientific staff among whom the various branches of the work will be distributed. A special effort will be made to obtain good series of mammals, birds, insects, and other members of the land fauna, and to spare some time for the collection of plants. He will collect first in Queensland, at one or two selected stations, going south when the rainy season commences, revisiting Queensland in 1924, and reaching the Cape York Peninsula in one or both years.

A preliminary survey, on a smaller scale, by a collector employed by the Godman Exploration Fund Trustees, has shown that the representation of Australian mammals in the national collection is by no means so complete as it should be; and there is good reason to believe that the projected expedition will add considerably to existing knowledge. This preliminary work has been rendered possible by a generous gift made by Dame Alice Godman and her