

COMET NOTES

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Comet Ikeya, 1963 *a*, brightened to third magnitude as it passed through south polar skies in mid-February and remained an easy naked-eye object as it returned to the equatorial region in early March. According to I. L. Thomsen, Carter Observatory, Wellington, New Zealand, the tail, reported first by Harris at Perth on January 8, became prominent for the first time about February 14. Photographs then showed it as a thin spine, which grew to a length of more than 8° by February 18. A series of photographs by I. Stranson, Brisbane, Australia, between February 20 and 26 showed the development of the tail from the single spine to one containing complex ray structure. A pair of photographs with the 40-inch reflector at Flagstaff on March 1, one in yellow light and one in blue, show almost identical appearances of the inner tail, which by then was composed of many filaments.

Though almost all visual estimates of the total brightness of Comet Ikeya from February 13 until after March 10 lie between magnitudes 3.0 and 4.5, the brightness of the nuclear condensation determined photographically with the 40-inch reflector was only about magnitude 12 or 13 during the same time. Further, the nucleus was much more sharply condensed during February and March than it had been in January.

Bright moonlight interfered with observations during the first two weeks of March, but very interesting photographs were obtained again between March 12 and 22. Observations thereafter were prevented by the rapidly decreasing angular distance of the comet from the sun and will not be resumed until late May. According to an improved orbit by B. G. Marsden, perihelion passage took place on March 21; hence the March photographs undoubtedly show the greatest observable development of Comet Ikeya. Two photographs, one by R. Burnham, Jr., with the 13-inch astrograph of the Lowell Observatory on March

14, and one by the writer with the 40-inch reflector on March 20, are reproduced in Plates I and II and show the appearance of the comet near the time of perihelion passage.

The second new comet of 1963 was discovered by G. E. D. Alcock on March 19. It was then an eighth-magnitude object, with a strong central condensation, located about 3° northwest of δ Cygni and moving slowly northwestward. A preliminary orbit by Marsden indicates that the comet is moving in an orbit at high inclination to the ecliptic, and that perihelion passage took place at a heliocentric distance of 1.6 a.u. early in May.

The new comet is the third discovered by Alcock, the two earlier ones, 1959 *e* and 1959 *f*, having been located within less than a week of each other in August 1959. An early photograph of Comet Alcock is reproduced in Plate III.

Only one other comet on the February–March observing list was moderately bright, and that one, Comet Humason, 1961 *e*, was conveniently observable only from the Southern Hemisphere. C. Jackson has published an accurate position obtained at the Yale–Columbia Southern Station, Canberra, on February 1, when the comet was located in Corona Australis. According to Marsden's ephemeris, the comet will move southwestward, reaching a declination of -58° in mid-April and then will move slowly northward through Norma, Lupus, and Centaurus.

Of the other comets on the list, Comet Seki-Lines was not found on a pair of 120-minute exposures obtained with the 40-inch reflector on February 19, and it must be concluded that observations of that comet are now terminated.

P/Faye, 1961 *c*, was photographed at Flagstaff on several nights during February and March, appearing as a sharply condensed object with a faint trace of tail extending only about 0.5° north of west. The brightness faded from magnitude 19.0 on February 20 to 19.5 on March 19.

Efforts to photograph P/Tempel 2, 1961 *b*, during February did not produce any convincing and confirmable comet images. The possible diffuse images on the plates of January 17 must therefore be viewed with great suspicion.

P/Schwassmann-Wachmann 1 showed some signs of activity during February, being recorded as a very sharply condensed object of magnitude 16 or 17 on February 18. By February 25 the nuclear condensation of magnitude 19.0 was located at the apex of a moderately bright, fan-shaped coma extending westward. On March 20 the stellar nucleus of magnitude 19.3 was embedded in a very faint coma.

Further efforts to locate P/d'Arrest failed during February and March when a number of long exposures, some displaced slightly from the predicted position, failed to reveal any sign of the comet. At its last observed return in 1950, the comet was recovered by G. Van Biesbroeck less than two months before perihelion passage, but it was followed after perihelion to geocentric and heliocentric distances appreciably greater than they were during March 1963. (Predicted time of perihelion passage of Comet d'Arrest in 1963 is October 15.) However, it is not unusual for comets to be rather brighter after perihelion passage than they were at a corresponding time before perihelion.

PLATE I



Lowell Observatory Photograph

Comet Ikeya, 1963 *a*, on March 14, 1963. The exposure was 25 minutes by R. Burnham, Jr., with the 13-inch astrograph of the Lowell Observatory. About three degrees of the tail is visible in this photograph. The bright star surrounded by a halation ring is α Piscium.

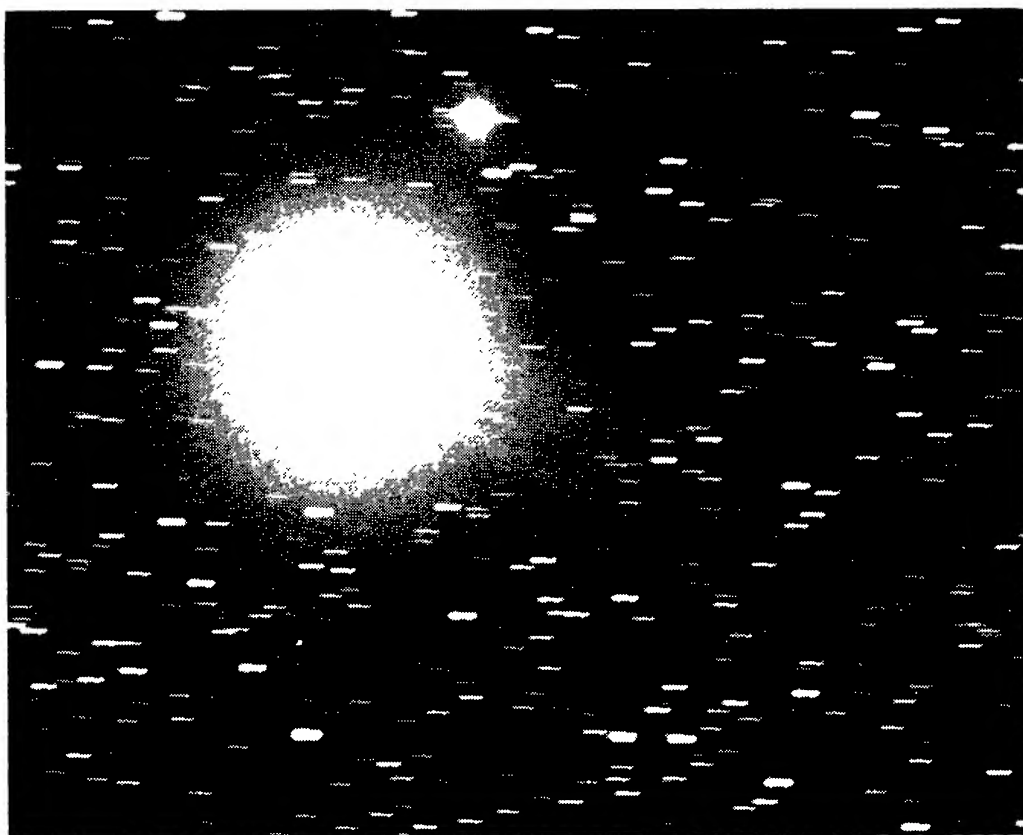
PLATE II



Official U. S. Navy Photograph

Comet Ikeya, 1963 *a*, on March 20, 1963. The exposure was 15 minutes by E. Roemer with the 40-inch reflector of the U. S. Naval Observatory, Flagstaff Station. Only about 0.5 of the inner tail is recorded at larger scale in this photograph in blue light.

PLATE III



Official U. S. Navy Photograph

Comet Alcock, 1963 *b*, on March 21, 1963. A faint, rather broad tail can be detected in this 50-minute exposure with the 40-inch reflector of the U. S. Naval Observatory, Flagstaff Station. On the original plate the length of the tail is about 15'.