



Comet, Asteroid and Meteor Section

CAMnotes 2023 No.1 January-March

Diary of events

Late January-April	Comet C/2017 K2 (PanSTARRS) still visible.
February	Comet C/2022 E3 (ZTF) visible in binoculars.
8-15 February	alpha Centaurids meteor shower may be active.
7-17 March	gamma Normids meteor shower may be active.

Comet C/2022 E3 (ZTF)

Some social media pages mention this comet might become bright enough to see with the naked eye around its close approach to Earth on 1 February. The comet will then be at distance 0.284 AU, and possibly around magnitude 5. However, at this time the comet will be located too far north in the constellation of Camelopardalis. After close approach the comet will start to fade quite rapidly. It emerges above the horizon for southern Africa around 3 to 4 February but then will be lost in twilight and bright moonlight. It might be located as twilight ends on 5 February, around 15° above the northern horizon, but will be a difficult find with the near-full Moon nearby. The first opportunity to see the comet without moonlight interference will be shortly after dark and before the Moon rises on 7 February, when at 8pm local time the comet will be 26° above the horizon at Johannesburg, and located due North in the constellation of Auriga. If the current brightness behaviour holds, then the comet may possibly be around magnitude 6 and be visible in binoculars. Thereafter the comet becomes better placed in the evening, and on the evening of 11 February will be around 1° upper right of the planet Mars, which will be a useful aid to locating the comet. A nice opportunity for astro-photographers occurs on 13 February when the comet borders the sparse open cluster NGC 1647. On 14 February the comet is nearby the bright star Aldebaran in Taurus.

Comet C/2017 K2 (PanSTARRS) still visible?

The comet was expected to reach perhaps magnitude 6 late last year, but finally peaked at about magnitude 8.5. It may maintain that brightness during January and February 2023, after which it begins to fade. Here in the southern hemisphere we are well placed to monitor its fade, and the comet should be observable until the middle of April as it crosses Eridanus, and before it becomes too low above the SW horizon. On the evening of 10 February it will be near the Small Magellanic Cloud, and located just 4.5° from the bright globular cluster 47 Tucanae. On the evening of 31 March it will be located 4° from the Fornax Cluster of galaxies, and on 13 April only 0.3° from the interacting galaxy pair NGC 1531/1532. All of these should make interesting targets for astro-imagers.

The image below, courtesy of Kos Coronaios, shows the appearance of the comet in mid-January, with a short narrow tail. The characteristic colour of the coma seen in images late last year is still evident.



Image of comet C/2017 K2 (PanSTARRS) by Kos Coronaios, taken on 12 January 2023.

alpha Centaurids meteor shower

Several possible radiants in Centaurus have been reported in the past. The most reliable is probably that of the alpha Centaurids, with significant rates having occurred with ZHR about 25/hour in 1974 and 1980. According to Dr Peter Jenniskens the 1980 outburst occurred during the night of 8/9 February and was characterised by bright meteors, on average between magnitude 0 and 1. Jeff Wood in Western Australia said there were many fireballs and many meteors left persistent trains. The IMO Meteor Shower Calendar gives the maximum for 2023 around February 8, shortly after the Full Moon. On that basis all but the brightest members will be washed out, making observations difficult. However, an outburst of meteors occurred from nearby during 13 to 15 February 2021, which were recorded as gamma Crucids, but may have been a further return of the alpha Centaurids. Therefore observations should be carried out from around 7/8 February and until at least 15 February to check if any further outbursts occur this year. By 15 February the Moon will be down to a 25% crescent, rising after 1am, and allowing at least a couple of hours under moonless skies.

gamma Normids meteor shower

The gamma Normid meteor shower was discovered in 1929 by the New Zealand amateur astronomer Ronald McIntosh. The shower was long forgotten and poorly observed, but was added back to the IMO lists a few years ago. Activity appears to vary from year to year but is generally low, with ZHR seldom exceeding 5 to 6 meteors per hour around maximum on 14 March. Information from the IMO Meteor Shower Calendar says the peak activity could occur anywhere between 7-17 March, but a stable profile has not yet been determined. Despite the apparent low activity, this shower would benefit from increased attention by ASSA members to help elucidate the nature of its activity. The radiant is at RA 16h36, Decl. -51° , and observations can be carried out from midnight until dawn. The Moon is at last quarter on 15 March and located 30° to the north of the radiant, and so will constitute a slight hindrance to observation.

Clear skies

Tim