



Comet, Asteroid and Meteor Section

CAMnotes 2011 No.2

- 1) Review of Comet, Asteroid and Meteor Section activity in 2011 to date
- 2) Comet, asteroid and meteor shower observations required for the coming months

Review of Comet, Asteroid and Meteor Section activities

Comets

Comets C/2006 S3 LONEOS and C/2009 F4 McNaught have been imaged by Tim Cooper. Both objects were around 14th magnitude when imaged.

Asteroids

Observations of two predicted asteroidal occultations were clouded out for Nigel Wakefield and Tim Cooper.

Meteors

Observations of six meteor showers (alpha Centaurids, gamma Normids, delta Pavonids, pi Puppids, eta Aquariids and alpha Circinids) have been reported so far in 2011 by four observers (Tony Jones, Karen Koch, Mary Fanner and Tim Cooper).

My thanks go to the above observers who have taken the trouble to report observations.

Observations required in the second half of 2011

Observations of the following events are required by the Comet, Asteroid and Meteor Section in the second six months of 2011. There are two asteroids requiring photometric study, and several favourable asteroidal occultations, mainly for observers in the extreme north and south of the country. Comet 45P Honda-Mrkos-Pajdusakova, C/2009 P1 Garradd and C/2010 X1 Elenin should all become binocular objects, and conditions favour observations of several further meteor showers.

Date	Event
July-August	Asteroid 209 Dido Photometry required to determine rotation period.
July-September	Asteroid 193 Ambrosia Photometry required to determine rotation period. The asteroid is at opposition in July and is designated a priority object for study.
July-September	Comet C/2009 P1 Garradd Currently magnitude 10. Although the comet only reaches perihelion on December 23, it will be too close to the sun and too far north in Hercules for observation at its brightest. Observe from now until late September when it will set early evening, likely visible in binoculars.
July 5	Asteroid 1245 Calvinia Occults mag 9.1 TYC6273-01168-1 at 22h09 UT. Extreme northern Limpopo favoured
July 17	Asteroid 522 Helga Occults mag 8.5 TYC6324-02415-1 at 01h11 UT for observers in Limpopo province.
July 20	Asteroid 1264 Letaba Occults mag 11.2 UCAC2 35618927 at 20h30 UT. Western and Southern Cape favoured.
July 29/30	Meteor activity Delta Aquariid and alpha Capricornid meteor showers. These two showers can be observed together, and show very different characteristics. The delta Aquarids are a whole complex of radiants including the previously listed delta and iota Aquariids, both of which are split into southern and northern branches. They are best observed by plotting. The ZHR of the complex is about 15-20. Meteors tend to be medium speed, white and faintish. They are probably the debris of comet 96P Machholz. The alpha Capricornids are possibly the debris of comet 45P Honda-Mrkos-Pajdusakova, and are slow, brighter and yellow. The shower often produces fireballs. ZHR is typically 5, but has increased to 15 on occasions. There is concurrent activity from Piscis Austrinus which needs to be reported separately.
July-September	Comet 45P Honda-Mrkos-Pajdusakova Makes a close approach to earth of 0.06 AU on August 16, the 15th closest approach by a comet in recorded history. The comet may reach naked eye visibility. It should be observed from about July, through perihelion in September and thereafter as it fades

Date	Event
August 3	<p>Asteroid 4955 Gold Occults magnitude 10.1 TYC6170-00622-1 at 19h43 UT. Cape west coast and Southern Cape favoured.</p>
August 6	<p>Asteroid 359 Georgia Occults magnitude 11.4 TYC6765-00726-1 at 20h23 UT for observers in Western and Southern Cape.</p>
September	<p>Comet C/2010 X1 Elenin At perihelion on 9 September, when it sets early evening. The comet will probably be best after perihelion when it may reach magnitude 4 with a short tail in the early morning sky. By 20 October it rises at around 01h30 local time and should still be an easy binocular object. It should be followed as it fades from telescopic visibility towards year end.</p>
October 21	<p>Meteor activity Orionid meteor shower. Like the eta Aquariids is also the debris from comet 1P Halley, and needs observation for the same reasons. The Orionids are high enough to observe from about midnight until dawn. Meteors are fast, often trained, ZHR about 23 but the maximum is quite broad, often showing a number of sub-maxima.</p>
November 21	<p>Meteor activity Alpha Monocerotid meteor shower. The parent comet is unknown. The shower showed strong outbursts in 1925, 1935, 1985 and 1995. No outburst is expected in 2011 but the shower should be observed to determine if anything unexpected occurs. The meteors are faint, quite fast, and any outburst is of short duration, probably less than 1 hour in duration.</p>
December 1-6	<p>Meteor activity The Phoenicid meteor shower showed only one notable outburst to date, in 1956. Potential activity is predicted in 2011 from an encounter of the earth with the dust trail left behind in 1870, but 5 days earlier than the normal date of maximum, and with a more northerly radiant between Sculptor and Cetus. Observers are encouraged to observe this shower during the first week of December, despite the presence of a bright moon, which reaches full on December 10.</p>
December	<p>Meteor activity The Puppis-Velid complex is a poorly understood complex of radiants only visible from the southern hemisphere. They are ideal for evening observation and require plotting to elucidate the centres of activity. Observers prepared to add to our understanding of this complex should indicate if they are prepared to participate in an organised observing program.</p>