

## **BAA/ALPO TRANSIENT LUNAR PHENOMENA**

**2003 December**

For October, observations have been received from: myself, Clive Brook (Plymouth, UK), Marie Cook (Frimley, UK), Ed Crandell (Winston-Salem, USA), David Darling (Sun Prairie, USA) Fernando Ferri (Italy), Maurice Gavin (UK), Robin Gray (Winnmucca, USA), Walter Haas (Las Cruces, USA), Gerald North (Narborough, UK), Brendan Shaw (UK), and Bob Young (Harrisburg, USA).

On Oct 01 and 02 Walter Haas checked for colour on the NW ray of Proclus (as reported last month) but failed to find it. On Oct 03 Bob Young employed a 17" reflector to check the appearance of Proclus for a past TLP report by Kern (1972 Jun 18) where libration and illumination repeated. In the original 1972 report, made with a much smaller 60mm refractor, Kern had observed a "*yellow to white bright pattern at the NW wall*". However Bob reported nothing unusual this time other than spurious colour seen on the NW edge of Proclus and other craters. It should be said that the Kern report and others published by Hilbrecht & Kuveler (Earth, Moon & Planets (1984), Vol 30, p53-61) are regarded by some as unreliable due to the small size of many of the telescopes involved. Nevertheless Earth, Moon and Planets is a widely used journal, primarily for professional planetary scientists, so therefore TLP reports contained within are worth investigation. On Oct 07 Robin Gray examined Proclus – this coincided with a repeat illumination TLP report from 1950 Jul 26 where Bartlett thought it unusual not to see the central spot (pseudo peak) in Proclus. Robin managed to see some detail on the floor, despite observing conditions, but makes no claim of a central spot - so probably the 1950 Jul 26 report is not a TLP!

On Oct 16/17 the illumination was well matched to +/-0.5 deg to illumination of Alphonsus as seen by Kozyrev during his 1958 Nov 03 report where he claimed to have recorded spectra of a TLP. Also there was another repeat illumination this night for a TLP from 1964 Oct 27 by Hall, where a pinkish glow had also been seen within the crater. Clearly as two past events were involved and one of these was a very famous observation, it was quite interesting to observe again, even if it was in all probability just going to be the normal appearance. A total of 5 observers studied Alphonsus over the repeat illumination interval, sketches, written descriptions, CCD images, and even one spectra were obtained (see Maurice Gavin's web site at: <http://www.astroman.fsnet.co.uk/moonz.htm>). The spectra actually covers an area of the Moon from the North pole and down through Alphonsus, and is at the red end of the spectrum (Kozyrev's lines were down the blue end of the spectra). Nevertheless it confirms that nothing exciting was happening on 2003 Oct 17th. However at least we now have an colour image of the normal appearance for the crater at this stage in illumination taken by Brendan Shaw (see below) and there is no hint of colour on the central peak area.



The following repeat illumination and libration events occur for December.....

Event: Ptolemaeus (Ingall, 1866 Apr 22) can be seen on/from (UTC): 2003 Dec 01 Germany (15:00-17:51); Italy, UK (16:00-17:51) – [*does the floor appear unusually smooth?*]

Event: Tycho (Shaw, 2003 May 09) can be seen on/from (UTC): 2003 Dec 02 Winnemucca (08:16-08:24); Wellington (08:16-10:02) – [*Can you see the central peak?*]

Event: Tycho (Spellman, 2003 May 10) can be seen on/from (UTC): 2003 Dec 02 Germany (15:19-16:14); Italy (16:00-16:14) – [*Look for N & S spur-like features on central peak*]

Event: Tycho (Spellman, 1996 Apr 27) can be seen on/from (UTC): 2003 Dec 02 Germany (17:15-17:59); Italy (17:15-19:50); UK (19:09-19:50) – [*Look for colour on central peak*]

Event: Aristarchus (Bartlett, 1949 Nov 03) can be seen on/from (UTC): 2003 Dec 05/06 Germany (23:00-03:49); Italy (23:30-01:59); UK, DC, Harrisburg, Madison, Pittsburgh (23:32-03:53); Atlanta, Puerto Rico (00:07-03:53); Houston (00:29-03:53); LA, Las Cruces, New York, Phoenix, Winnemucca (01:00-03:53); Orlando (00:15-03:53) - [*look for colour/glare at base of inner W. wall*]

Event: Proclus (Bartlett, 1976 Jun 10) can be seen on/from (UTC): 2003 Dec 06 Atlanta (07:38-09:58); Houston, Phoenix (07:38-10:18); LA, Las Cruces, Winnemucca (07:38-10:18); Orlando (07:00-09:53); Puerto Rico (06:33-07:59) - [*check visibility/brightness of central spot*]

Event: Aristarchus (Bartlett, 1958 May 31) can be seen on/from (UTC): 2003 Dec 06 New Zealand (14:56-14:58) - [*check colour of floor and E. base of central peak*]

Event: Aristarchus-Cobra Head (Tombaugh et al., 1967 Nov 15) can be seen on/from (UTC): 2003 Dec 06/07 Germany, Italy, UK (20:11-00:28); Atlanta (23:00-00:08); DC, Harrisburg, New York, Pittsburgh, Puerto Rico (22:00-00:28); Madison (23:00-00:28) - [*check for colour N. & E. of Aristarchus and in Cobra Head*]

Event: Gassendi (Cameron, 1961 Aug 25) can be seen on/from (UTC): 2003 Dec 07 LA (12:55-12:59); Phoenix (12:55-12:56); Winnemucca (12:55-13:51) – [*Look for pattern of star-like points*]

Event: Proclus (Bartlett, 1971 Sep 05) can be seen on/from (UTC): 2003 Dec 08/09 Germany, Italy, UK (22:05-01:02) – [*Check brightness of spots and floor*]

Event: Aristarchus-Herodotus (Coates, 1973 Nov 10) can be seen on/from (UTC): 2003 Dec 09 Germany (04:33-06:59); Italy (04:33-05:59); UK (04:33-07:59); Atlanta (05:11-08:18); DC, Harrisburg (04:48-08:18); Houston, LA, Las Cruces, Phoenix, Winnemucca (05:40-08:18); Madison (05:26-08:18); New York (04:39-08:18); Orlando (05:03-08:18); Pittsburgh (04:57-08:18); Puerto Rico (04:33-08:18) - [*Look for colour between these two craters*]

Event: Plato (Moore, 1967 Nov 17) can be seen on/from (UTC): 2003 Dec 09 Atlanta, DC, Harrisburg, Orlando (09:10-11:59); LA (09:10-12:52); Las Cruces (09:10-12:30); Madison (09:10-12:59); New York, Pittsburgh (09:10-11:59); Phoenix (09:10-12:43); Puerto Rico (09:10-09:59); Winnemucca (09:10-13:20) - [*Look for colour on SW wall*]

Event: Cobra Head (Milligan, 1955 Oct 31) can be seen on/from (UTC): 2003 Dec 09 Germany (15:00-15:23); DC, Harrisburg, New York, Pittsburgh (11:36-11:59); Madison (11:36-12:59) - [*Look for a coloured obscuration*]

Event: W. Humbolt (Goodacre, 1897 Dec 09) can be seen on/from (UTC): 2003 Dec 09 Germany (15:00-15:04); New Zealand, Winnemucca (12:24-13:58); Houston (12:24-12:42); LA (12:24-13:52); Las Cruces (12:54-12:57); Madison (12:24-12:35); Phoenix (12:24-13:44) - [*Check colour of edge of shadow on E. wall*]

Event: Proclus (Bartlett, 1955 Oct 03) can be seen on/from (UTC): 2003 Dec 10 New Zealand (10:00-10:55); Atlanta (08:26-09:25); Harrisburg (08:26-09:12); Houston (08:26-09:53); LA (08:26-11:13); Las Cruces (08:26-10:34); Madison (08:26-09:56); New York (08:26-09:02); DC, Orlando (08:26-09:07); Phoenix (08:26-10:52); Pittsburgh (08:26-09:22); Winnemucca (08:26-11:26) - [*Check visibility/brightness of bright spot on E. floor*]

Event: Aristarchus (Bartlett, 1955 Oct 03) can be seen on/from (UTC): 2003 Dec 10 - New Zealand (11:01-12:18); LA (11:01-12:24); Las Cruces (11:01-11:45); Phoenix (11:01-12:03); Winnemucca (11:01-12:40) - [*Is the crater fuzzy and how does it compare with Herodotus?*]

Event: Madler (Wildev, 1962 Apr 22) can be seen on/from (UTC): 2003 Dec 11 Atlanta, DC, Harrisburg, New York, Orlando, Pittsburgh (08:07-11:59); Houston, Las Cruces, Madison (08:07-12:59); LA, Phoenix (08:10-13:59); Puerto Rico (08:07-09:59); Winnemucca (08:17-14:11) - [*Monitor brightness over time*]

Event: Plato (Haas, 1938 Jul 15) can be seen on/from (UTC): 2003 Dec 11 New Zealand (11:00-13:22); Atlanta (10:05-11:03); DC, Harrisburg (10:05-10:38); Houston (10:05-11:42); LA (10:05-13:04); Las Cruces (10:05-12:24); Madison (10:05-11:25); New York (10:05-10:27); Orlando (10:05-10:51); Phoenix (10:05-12:43); Pittsburgh (10:05-10:49); Winnemucca (10:05-13:12) - [*What colour is the floor of Plato?*]

Event: Janssen K (Brook, 1992 Sep 14) can be seen on/from (UTC): 2003 Dec 11 Germany (17:00-18:48); Italy, UK (18:00-18:48) - [*Check brightness*]

Event: Plinius (Haas, 1937 Jul 27) can be seen on/from (UTC): 2003 Dec 12 Germany (18:00-21:09); Italy, UK (19:00-21:00) - [*Check brightness of central peak east end*]

Event: Aristarchus (Firsoff, 1955 Jul 13) can be seen on/from (UTC): 2003 Dec 16 Germany (23:00-23:49) - [*Check for colour*]

Event: Aristarchus (Molesworth, 1897 Sep 21) can be seen on/from (UTC): 2003 Dec 19 Germany (05:29-06:59); UK (05:40-07:59) - [*Look for glimmering streaks beneath E & W walls*]

Event: South Pole/Cusp (Livesey, 1997 Apr 10) can be seen on/from (UTC): 2003 Dec 26 Germany (15:00-17:52); Italy, UK (16:00-18:53) - [*Sketch / image / estimate brightness of illuminated peaks at S.pole and beyond – on the dark side*]

Event: Baily (Jean et al, 1968 Nov 26) can be seen on/from (UTC): 2003 Dec 29 New Zealand (08:00-11:16) - [*Sketch/image dark markings in and outside crater*]

Further predictions, including the more numerous illumination only events can be found on the following web site: <http://www.lpl.arizona.edu/~rhill/alpo/lunarstuff/ltp.html>. If in the unlikely event you see a TLP, please give me a call on my cell phone: +44 (0)798 505 5681 and I will alert other observers. Note when telephoning from outside the UK you must not use the (0). When phoning from within the UK please do not use the +44!

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