

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

**2003 Oct**

Observations have been received for Aug from: myself (UK), Clive Brook (UK), Maurice Collins (New Zealand), Robin Gray (USA), Gerald North (UK), Brendan Shaw (UK) and Dr Albert Weeks (USA). Several observers have been moaning about the low altitude of the Moon as seen from the UK for July, August, and even September. Just think yourself lucky that you do not live at higher latitudes!

On 2003 Aug 08 at UTC 20:50 Clive Brook (Plymouth, 60mm O.G.) reported a “fountain-like” feature on the SE limb of the Moon, which lasted a fraction of a second. However he does state that seeing was not particularly good and the Moon was low down (11 deg) so it was probably atmospheric related. Anyway I have included this report just for the record, and actually it reminds me slightly of an atmospheric lens effect from an aircraft contrail vortex I once saw back in 1989, when observing Venus. On 2003 Aug 23 UTC 09:00-09:30, Dr Albert Weeks (USA, 20cm reflector) noticed an bright glare from a Mt top about 2-3 diameters NW (or SW) of Mersenius which was unlike any other bright object that he had observed on the Moon before. Anyone familiar with this stage in illumination – please write in with suggestions?

Several repeat illumination and/or libration observations have been received. (1) on 2003 Aug 12/13 UTC 23:45-00:15, Marie Cook observed Hyginus N at a time when illumination and libration agreed to within +/-1 deg of a TLP observation by Klein from 1877 May 27 – the UTC given in the NASA catalog (1978) is “22:00?”, so there may be room for uncertainty in the timing. Anyway she found the crater to be quite dull. Perhaps this explains why Klein states that he had not noticed the crater there before? Other astronomers of that era had noticed a dark crater there e.g. Schmidt. Maybe this is just an issue of the visibility of a dark crater under different seeing conditions/instruments of that era?. (2) 1975 Feb 17/18 UTC 22:00-01:00 TLPs in Aristarchus, Proclus and Menelaus and observed by four UK observers noting colours. At the time, Fitton suggested that atmospheric effects from a high pressure system to the west, however Cameron in the NASA catalog (1978) states that if this was the case then other craters would exhibit colours, and they apparently did not! Whatever the cause it should be noted that Maurice Collins, who observed during repeat illumination conditions on 2003 Aug 14 at UTC 10:45-11:35 did not report any colour – so this rules out subtle surface colour as an alternative explanation. (3) Aristarchus 1983 Oct 24/25 UTC 23:30-01:21 Peter Foley (UK) observed an extended bright spot on the East wall. Two repeat illumination images by Brendan Shaw on 2003 UTC 23:56 and 23:59 seem to confirm an elongated bright area on the E wall, but further study is needed to compare with the original notes. (4) Triesnecker 1966 Jul 10 UTC 11:57-12:59 Allen (Cambridge, UK) observed a faint illumination of a ridge in shadow, but faded quickly – Robin Gray (USA) observed under repeat illumination on 2003 Aug 19 UTC 12:29-13:16 and noted an apparent sunlit ridge projecting from the inner E wall into the otherwise featureless black interior shadow, so therefore Allen’s observation would appear to be normal, and the fade presumably is just from the Sun setting over the topography.

Finally, in last month’s BAA Lunar Section Circular, a speculative email of mine was published, suggesting that bright extended corona streamers from the Sun could provide the necessary weak light source to illuminate the central peak of Tycho when the Sun was still below the crater rim. I have since checked up on the combined brightness of the Sun’s Coronal light and this is equivalent of 57% of the Full Moon (C.W. Allen’s Astrophysical Quantities). This still sounds bright, but as seen from the Moon, the Earth is a further 42x brighter than the light that we see from a Full Moon here on Earth. So alas the coronal illumination theory cannot be an explanation as not even Earthshine was bright enough to be detected on the Tycho image in question.

The following repeat illumination and libration events occur for October:

Event: near Sabine (Jean, 1967 Sep 11) can be seen on/from (UTC): 2003 Oct 02 Germany, Italy (17:00-17:48) – [*search for a dark rectangular shaped area*]

Event: Plato (Williams, 1882 Mar 27) can be seen on/from (UTC): 2003 Oct 03 Puerto Rico (23:08-03:51) – [*check appearance of floor in shadow*]

Event: Pico B (Sartory, 1966 Sep 23) can be seen on/from (UTC): 2003 Oct 04 Germany (17:47-21:48); Italy (17:47-22:07); UK (18:00-22:07) – [*check for colour*]

Event: Proclus (Kern, 1972 Jun 18) can be seen on/from (UTC): 2003 Oct 02/03 Atlanta, Madison (00:00-02:50); DC, Harrisburg, Houston, New York, Pittsburgh (23:00-02:50), LA, Phoenix, Winnemucca (02:00-02:50); Las Cruces (01:00-02:50); Orlando (00:00-02:08) – [*check for colour/pattern visibility on NW wall*]

Event: Mt Piton (Schneller, 1961 Jan 25) can be seen on/from (UTC): 2003 Oct 03/04 Atlanta (00:00-00:11); DC, Harrisburg, Houston (23:00-23:31); Pittsburgh (23:00-23:45); Madison (00:00-00:24); Orlando (~00:00) – [*look for evidence of colour/obscuration*]

Event: Agrippa (Bartlett, 1966 Sep 24) can be seen on/from (UTC): 2003 Oct 05 Atlanta, Harrisburg, Houston, Madison, New York, Orlando, Pittsburgh, Puerto Rico (00:23-04:34); DC (00:23-01:59); LA, Phoenix, Winnemucca (02:00-04:34); Las Cruces (01:00-04:34) – [*how dark is the central peak shadow?*]

Event: Agrippa (Bartlett, 1966 Aug 26) can be seen on/from (UTC): 2003 Oct 05 UK (12:20-15:55) – [*check central peak and it's shadow*]

Event: Gassendi (Henshaw, 1967 Oct 13) can be seen on/from (UTC): 2003 Oct 05 Germany (20:42-23:28); Italy, UK (20:42-23:56); DC, Harrisburg, Houston, New York, Pittsburgh, Puerto Rico (23:00-23:56) – [*look for short duration brightenings NW or NE*]

Event: Plato (North, 1992 May 13) can be seen on/from (UTC): 2003 Oct 07 Atlanta, Madison, Orlando (07:14-07:59), Harrisburg, Houston, Pittsburgh (07:14-07:43); LA, Winnemucca (07:24-10:47); Las Cruces, Phoenix (07:14-09:59) – [*check for colour and visibility of floor craters*]

Event: near South or J.Herschel (Maw, 1913 Jun 15) can be seen on/from (UTC): 2003 Oct 07 Atlanta (07:51-07:59); LA (09:43-10:47); Las Cruces (08:55-09:59); Orlando (07:35-07:59), Phoenix (09:20-09:59); Winnemucca (10:28-10:47) – [*check for coloured spot and/or obscuration patch*]

Event: near Aristarchus (Schroter, 1788 May 17) can be seen on/from (UTC): 2003 Oct 08 Atlanta, Las Cruces, Orlando (01:55-04:14); Phoenix (02:00-04:14); Puerto Rico (00:40-04:14) – [*map out locations of any small depression/bright spots*]

Event: Aristarchus & Cobra Head (Arrlola, 1966 Jul 30) can be seen on/from (UTC): 2003 Oct 08 Atlanta, DC, Harrisburg, Houston, Las Cruces, New York, Orlando, Phoenix, Pittsburgh, Puerto Rico (04:58-07:59); Madison (06:00-08:38); Winnemucca (05:02-08:38) – [*check for colour*]

Event: Aristarchus & Herodotus (Seeliger, 1967 Sep 16) can be seen on/from (UTC): 2003 Oct 08 Germany (17:00-17:07) – [*check for dark streaks on crater walls & does Herodotus wall have a shadow?*]

Event: Aristarchus (Delano, 1967 Sep 17) can be seen on/from (UTC): 2003 Oct 08 Germany, Italy (17:00-19:33); UK (18:00-19:33) – [*compare brightness/colour of rimtop craterlet on SW with central peak*]

Event: Torricelli B (Mobberley, 1985 Sep 27) can be seen on/from (UTC): 2003 Oct 09 Germany (02:38-02:59); Italy (02:38-03:45); UK (02:38-04:26); USA (02:38-06:15) – [*look for brightness variations and visibility of interior star-like point(s)*]

Event: Agrippa (Bartlett, 1966 Jul 02) can be seen on/from (UTC): 2003 Oct 09 Germany, Italy (~17:00) – [*observe central peak area*]

Event: Agrippa (Bartlett, 1967 Sep 18) can be seen on/from (UTC): 2003 Oct 09 Germany, Italy (17:26-21:37); UK (18:00-21:37) – [*check visibility/brightness of landslip area on NW wall*]

Event: Torricelli B (Foley, 1985 Sep 28) can be seen on/from (UTC): 2003 Oct 10 Italy (02:38-04:46); UK (02:38-05:32); Atlanta, DC, Harrisburg, Houston, LA, Las Cruces, Madison, New York, Orlando, Phoenix, Pittsburgh, Puerto Rico, Winnemucca (02:38-09:32) – [*check for brightness variations*]

Event: Gauss (Chilton, 1967 Sep 18) can be seen on/from (UTC): 2003 Oct 10 Atlanta, DC, Harrisburg, Houston, New York, Orlando, Pittsburgh (10:19-10:47); LA, Las Cruces, Phoenix (10:19-12:59); Madison (10:19-11:47); Winnemucca (10:19-13:50) – [*examine W wall with a Polaroid filter*]

Event: S. of Littrow and N. of Argaeus (West, 1919 Dec 07) can be seen on/from (UTC): 2003 Oct 10/11 Germany (22:14-01:08); Italy, UK (22:33-01:08) – [*look for a dark marking, and comment on it's darkness*]

Event: Lichtenberg (Nicolini, 1955 May 07) can be seen on/from (UTC): 2003 Oct 11 Atlanta, DC, Harrisburg, Houston, Madison, New York, Orlando, Pittsburgh (10:01-10:59); LA, Las Cruces, Phoenix (10:01-12:59); Winnemucca (10:01-13:59) – [*check for colour, obscurations, brightness changes etc*]

Event: Gassendi (Moore, 1967 Sep 20) can be seen on/from (UTC): 2003 Oct 12 Atlanta, DC, Harrisburg, Houston, Madison, New York, Orlando, Pittsburgh (10:33-10:59); LA, Las Cruces, Phoenix (10:33-12:59); Winnemucca (10:33-13:59) – [*check for colour on floor*]

Event: Grimaldi (Firsoff, 1938 Mar 28) can be seen on/from (UTC): 2003 Oct 22 Atlanta, Madison, Orlando (09:00-10:59); DC, Harrisburg, Houston, New York, Grimaldi (08:03-10:59); LA, Phoenix; Winnemucca (11:00-11:04); Las Cruces (10:00-11:04); Puerto Rico (08:03-09:59) – [*check for colour*]

Event: Barker's Quadrangle (SE M.Crisium) (Moore, 1948 Oct 08) can be seen on/from (UTC): 2003 Oct 30/31 Atlanta, Madison (23:44-02:47); DC, Harrisburg, Houston, New York, Pittsburgh (23:44-01:52); LA (02:00-04:59); Las Cruces, Phoenix; Winnemucca (01:00-04:51); Orlando (01:00-02:59) – [*can you see the 4 craterlets or a nebulous patch?*]

Event: SE of Ross D (Harris, 1967 Oct 10) can be seen on/from (UTC): 2003 Oct 31 Germany (16:03-19:38); Italy, UK (17:00-19:59) – [*obtain images/sketch the general area*]

Further predictions, see: <http://www.lpl.arizona.edu/~rhill/alpo/lunarstuff/ltp.html> If you see a TLP, please give me a call on my cell phone: +44 (0)798 505 5681 and I will alert other observers.

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