

Observations for January have been received from myself (UK), Clive Brook (UK), Marie Cook (UK), Raffaello Braga (Italy), Walter Haas (USA), Robin Gray (USA) and Gerald North (UK). The total amount of observing time was ~13 hours. Many observations were of repeat illumination or repeat illumination + libration events. It is not possible to list all of these here, but here are a selection:

- 1) Robin Gray attempted to observe Capuanus on Jan 07 UTC 01:30-02:09, but found it to be in Earthshine? This prediction was for repeat illumination corresponding to a 1949 Mar 03 TLP in Barker's Quadrangle (Capuanus) by Patrick Moore (Ref: Event #516 in the 1978 NASA catalog of TLP). Further research revealed an error in the catalog - Barker's Quadrangle is actually two thirds of the way from Picard to the E. shore of Mare Crisium, and nowhere near Capuanus.



- 2) The coordinator observed Ptolemaeus on Jan 10 (see image sequence above - south towards bottom right). The first image corresponds to just 10 min after the repeat illumination for the Bartlett's 1973 Nov 03 TLP. The NASA catalog describes this as a "Large oval bright area between center and S. Wall though floor was in shadow. Looked like a feeble surface glow. Might be a high area but doesn't think so (would have to be higher than the rim of Ptol. A which was invis. And no areas on floor are higher than that). W. Wall rim barely in sunlight. Drawing." The catalog weight assigned to this observation was 3, which corresponded to a "single report by a probably good observer". Now you can see a "large bright oval area" that matches Bartlett's description. So to have this appear twice over widely separated dates, and at the same colongitude, suggests that this is a normal shadow effect. Furthermore on p 69 of the Times Atlas of the Moon we see clear evidence in the contours that the southerly part of the floor is in fact high, and not low. Indeed it turns out that the northern Ptolemaeus A craterlet sits in a depression, hence it is quite natural for the southern part of the floor of Ptolemaeus to appear in sunlight, as an illuminated oval, before Ptolemaeus A. Therefore the 1973 event was not a TLP.
- 3) Marie Cook observed Eratosthenes on Jan 11 at 21:00-21:15 UTC when the crater was ~2/3<sup>rd</sup> in shadow. The central peak was faintly seen but still in the shadow part of the crater. At 22:20 UTC the central peak was still in shadow, but brighter. At 22:55 UTC a bright spot was seen on the southern end of the central peak - still in shadow. This corresponds to the repeat illumination conditions for Harold Hill's 1947 Jan 30<sup>th</sup> observation where he noted that the main central peak was in a surprising shadowless condition, when the whole area to the west should have been in darkness. Nothing unusual was seen by Marie, so the 1947 event remains on our books as a possible TLP.
- 4) Walter Haas observed Aristarchus/Herodotus area on Jan 15<sup>th</sup> between 04:34-04:47 UTC. This covered parts of the schedules for repeat illumination of four past unconnected Aristarchus TLP events: Budine 1964 Feb 25 (Cobra Head & Aristarchus: red flashes), Brown 1966 Apr 02 (central peak very bright with silver glistening effect), Baumeister 1973 Aug 10 (orange to red colours seen on the crater floor), Prout 1976 Sep 06 (crater dull and violet hue on W wall). Walter reports that his observation of Aristarchus showed it to be quite normal without any trace of red or violet colours, so again these original observations need further investigation.

So January's observations have provided very useful new material. At least two past TLPs (one not mentioned here) have now been proven to be perfectly normal appearances for the features concerned and can now be removed from the NASA catalog.

#### **Repeat illumination and libration events for Mar 2003:**

Event: Eimmart (Pickering, 1913 Jan 15) can be seen on/from (UTC): 2003 Mar 10 Germany (19:00-19:17); Italy (18:36-19:17) - *[look for anything resembling a white apron of material]*.

Event: Alphonsus (Moseley, 1967 Feb 17) can be seen on/from (UTC): 2003 Mar 11 Los Angeles, Winnemucca NV (08:01-08:46) - *[check for colour, especially inside SW floor]*.

Event: Copernicus (Lovell, 1966 Mar 01) can be seen on/from (UTC): 2003 Mar 12/13 Atlanta GA, Harrisburg/Pittsburgh PA, Madison WI, Washington DC (00:00-02:50); Houston TX (01:00-02:31); Las Cruces NM (02:00-02:50); Los Angeles, Phoenix AZ, Winnemucca NV (02:00-03:14); New York

(23:00-03:14); Orlando FL (00:00-01:55); Germany (21:34-02:35); Italy (21:34-23:59); UK (21:34-01:59) - *[check for colour on outer wall]*.

Event: Alphonsus (Moseley, 1967 Feb 19) can be seen on/from (UTC): 2003 Mar 13 Winnemucca (10:41-10:52) - *[check for colour]*.

Event: Barker's Quadrangle (quadrangle of craterlets) - two thirds of the way between Picard and E Mare Crisium shore line (Moore, 1949 Feb 09) can be seen on/from (UTC): 2003 Mar 14 Germany, Italy (18:21-22:16); UK (19:00-22:16) - *[check visibility of these craterlets]*.

Event: Cobra Head (Thorton, 1949 Feb 10) can be seen on/from (UTC): 2003 Mar 14/15 Atlanta GA (00:17-02:16); Houston TX, Madison WI, New York (01:28-02:16); Harrisburg/Pittsburgh PA, Orlando FL, Washington DC (00:20-02:16); Puerto Rico (23:35-02:16); Germany, Italy, UK (22:20-02:16) - *[original observation was of vapour originating on W. Side of landslip - all detail clear elsewhere]*.

Event: Cobra Head (Bestwick, 1955 Sep 28) can be seen on/from (UTC): 2003 Mar 15 Germany, Italy (18:00-19:06) - *[Diffused patch of smoke or vapour, almost obscured - spread over plain]*.

Event: Rays of (or in?) Herodotus (Kozyrev, 1955 Oct 28) can be seen on/from (UTC): 2003 Mar 15/16 Atlanta GA (00:00-01:19); Madison WI, Houston TX (01:00-01:29); Harrisburg/Pittsburgh PA, Orlando FL, Washington DC (00:00-01:29); Puerto Rico (23:00-01:29); Germany, Italy, UK (21:46-01:29) - *[change in luminosity in UV/Violet spectral lines - check for changes with filters, especially blue/violet]*.

Event: Timocharis (Firsoff 1954 Oct 10) can be seen on/from (UTC): 2003 Mar 17 Atlanta GA, Harrisburg/Pittsburgh PA, New York, Orlando FL, Washington DC (00:00-00:56); Germany (21:01-22:22), UK (21:01-00:56) - *[check for brightenings in blue filter]*.

Events: Furnerius & Stevinus (Cameron 1961 May 29) can be seen on/from (UTC): 2003-Mar-17 Atlanta GA, Orlando FL (09:46-10:52); Madison WI (10:46-11:40); Harrisburg/Pittsburgh PA, Washington DC (09:46-10:45); Houston TX (09:46-11:51); Las Cruces NM (09:46-12:44); New York (09:46-09:59); Phoenix AZ (09:46-12:57); Winnemucca NV (09:46-13:41) - *[check rims for point-like craterlets]*.  
Event: Aristarchus (Firsoff 1955 Sep 30) can be seen on/from (UTC): 2003 Mar 17 Winnemucca NV (12:59-13:41) - *[check for westward yellow smear]*.

Event: Aristarchus (Schnuchel 1972 Oct 21) can be seen on/from (UTC): 2003 Mar 17 Germany, Italy (18:00-19:52); UK (19:00-19:52) - *[check for bright spot and variability]*.

Event: Plato (Kelsey, 1967 Feb 24) can be seen on/from (UTC): 2003 Mar 17 Germany, Italy (18:05-22:01); UK (19:00-22:01) - *[check for colour on walls]*.

Event: Aristarchus area (Gruithuisen 1842 Oct 18) can be seen on/from (UTC): 2003-Mar-17/18 Atlanta GA, Harrisburg/Pittsburgh PA, New York, Orlando FL, Washington DC (00:00-00:35); Puerto Rico (23:00-00:35); Germany, Italy, UK (20:41-00:35) - *[check for colour in spots W & NW of crater]*.

Event: Plato (Klein, 1878 Nov 09) can be seen on/from (UTC): 2003-Mar-18 Atlanta GA, Madison WI, Las Cruces NM, Houston TX, Orlando FL, Phoenix AZ, Pittsburgh/Harrisburg PA, Washington DC (02:39-06:24); Los Angeles (03:00-06:32); New York (02:39-06:08); Puerto Rico (02:39-04:52) - *[“faint, but unmistakable cloud not seen before” - look for anything Klein might have mistaken for a cloud]*.

Event: Aristarchus (Farrant 1967-Dec-16) can be seen on/from (UTC): 2003-Mar-18 Atlanta GA, Harrisburg/Pittsburgh PA, New York, Orlando FL, Washington DC (08:52-10:59); Houston (09:33-10:33); Madison WI (08:52-11:59); Los Angeles, Las Cruces NM, Phoenix AZ, Winnemucca NV (09:33-12:37) - *[check for colour on walls]*.

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 you would like to join the TLP telephone alert team, please let me know your phone No. and how late you wish to be contacted. 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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