

Figure 5. Images of Neptune and Triton in 2015.

Aug 17, 09h 04m UT. 610mm Cass., *Ahad*. Triton to N of the planet.
Nov 1, 20h 24m UT. 254mm Newt., *Clitherow*. Triton Nf. the planet.
Dec 3, 19h 00 UT. 356mm SCT., *Kardasis*. Triton to S of the planet.

night allows real features to be identified from their movement with the rotation of the planet, such as shown in Figures 4b and 4c. Milika & Nicholas produced animations of observations taken on the same night which show the movement of some spots with the rotation of the planet and others as fixed. One image from such

an animation is shown in Figure 4g where the movement of the largest bright spots and possibly a couple of spots in the northern hemisphere is shown.

Alternatively observations taken on the same night by different observers showing the same features also help confirm reality. For example Sussenbach's observation on August 1 (Figure 4e) was confirmed on the same night by Kivits.

Measurement of the observations is ongoing but large uncertainties in the measured positions are to be expected due to the small disk and the difficulty of deriving the orientation of the planet's poles. Some images also showed the satellite Triton which gave a useful reference point in establishing the orientation of the observation.

It is possible that there was more than one storm present but further analysis is required to confirm this or otherwise.

It is fascinating to note that large storms on Neptune can now be detected by amateurs with suitable equipment and it will be interesting to see if more storms will be detected by amateurs in the future.

Several observers (*Ahad*, *Clitherow*, *Delcroix*, *Kardasis*, *Maxson*, *Peach* and *Sussenbach*) were able to image Neptune's largest satellite Triton. Some typical examples of the images received are shown in Figure 5. Other examples are shown in the Neptune gallery of the Section's web page given above.

Paul Abel was also able to detect Triton visually (Figure 1).

Mike Foulkes, *Director*

Mercury & Venus Section

The transit of Mercury, 2016 May 9

As members will probably know, on Monday May 9 there will be a transit of Mercury across the Sun's disk. This relatively rare phenomenon is always an interesting spectacle to watch, though the planet's little disk is small compared to that of Venus, and of course no effects arising from the presence of a planetary atmosphere can be seen. By contrast the solar surface adjacent to the planet will appear brighter than elsewhere. The Director will be pleased to receive any images and drawings. It is interesting to compare the blackness of the disk of the planet with the umbrae of any sunspots that happen to be present.

Few observers will probably choose to go abroad to watch the event, but relying upon the UK weather is often hazardous. I was clouded out for the 1973 November transit, but after 30 years of waiting I had very good luck in 2003 June for the entire transit of Mercury, and in the following year for that of Venus too. For the 2012 Venus transit I was again clouded out. Of course some transits, such as that of Mercury in 2006 November, cannot be viewed at all from the longitude of the UK, but the 2016 event will be visible from the Americas, Europe and Africa.

In 2003 I made a series of observations by projection with a 102mm OG, and some of these are illustrated here (Figures 1 and 2). The transit of Mercury on 2006 Nov 8–9 was previously described in a short note (*R. J. McKim, J. Brit. Astron. Assoc.*, **117**(4), 168 (2007)).

Circumstances of the 2016 event are fully detailed in the *BAA Handbook*, and very conveniently by Peter Macdonald in last October's *Journal*, **125**(5), 263 (2015), so there is no need to repeat them here other than to write that they are extremely favourable, and that in the UK the event will last from 12:12 UT till 19:41 UT. Another useful source is the article by Nick James in the *Yearbook of Astronomy 2016*, edited by John Mason (*MacMillan*, 2015).

The safety sheet issued by the Association on the occasion of the last Venus transit is also relevant. Members may also like to look at the

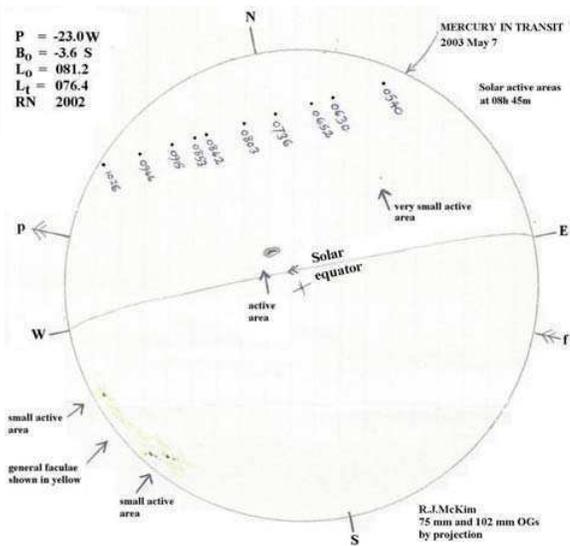


Figure 1. Mercury in transit, 2003 May 7; full-disk drawing by simple projection showing several sunspots (timed at 08:45 UT) and the progress of the transit at selected UT times. 75mm and 102mm OGs, *R. J. McKim*.

ESA's webpage about the transit, which has been created a year ahead of the launch of the *BepiColombo* Mercury mission: <http://bit.ly/1K5nJXz>

BepiColombo also has a useful website, and Prof David Rothery who is a member of the mission team informs me that the site will be streaming live images during the transit both from space and from solar telescopes in Spain and Chile: see <http://www.cosmos.esa.int/web/bepicolombo>.

Prof Rothery adds that the website intends to collect (and thereby publicise) all opportunities for the public to see the transit by finding a transit viewing event near to them.

I look forward to receiving any successful observations, and to compiling a report upon them for the *Journal*.

Richard McKim, *Director*

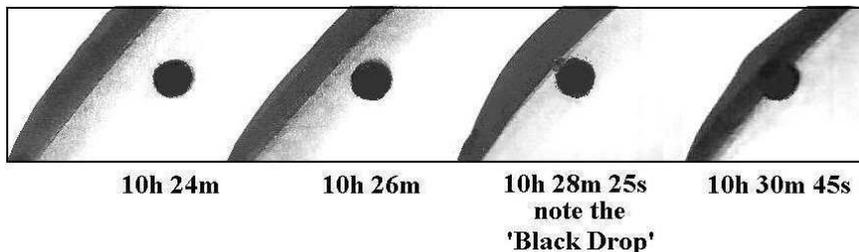


Figure 2. Mercury in transit, 2003 May 7; visual observations at egress taken by simple image projection, 102mm OG, *R. J. McKim*. The 'Black Drop' was briefly seen near the end of the event as a thread linking the planet to the limb. As seeing was quite good, this phenomenon was not particularly noticeable.