

Deep Sky Section

Brightening of Hind's Variable Nebula

In December 2004 reports from visual observers in the USA on the amastro web site (<http://groups.yahoo.com/group/amastro/>) indicated that Hind's Variable Nebula, NGC1555, had brightened. An alert was issued on BAA electronic circular no.00169 and paper circular no.798. There are five recognised variable nebulae – Hubble's, Hind's, Gyulbudaghian's, NGC 6729 and, since Jan 2004, McNeil's. Of these, Hubble's nebula in Monoceros and NGC6729 in Corona Australis are usually bright and easy to observe, while the others are challenging objects, particularly visually, requiring telescopes in the 50 to 75cm range with very good skies.

NGC1555 is located in Taurus at RA 4h 21.8m and Dec +19° 32' (2000.0). It was discovered by John Russell Hind in 1852, using a 7-inch (178mm) refractor from London. He also discovered the variable star, T Tauri, associated with the nebula, although variations in the brightness of T Tauri do not seem to directly correlate with variations in the nebula's brightness. Hind's variable nebula is a small 30 arcsec comet-shaped area of faint nebulosity lying just to the west of T Tauri. It is predominately a reflection nebula and therefore nebula filters are of little use. Variations in brightness are usually associated with subtle changes in shape or size of the nebula, or in the brightness distribution over its surface.

There appears to be some confusion in the literature, and in some software, between



Left: NGC1555 before recent brightening, taken by David Strange. 50cm Newtonian, SX CCD. **Right:** NGC1555 after brightening by Martin Mobblerley, 35cm Celestron C14 @ f7.7 on Paramount ME, ST9XE CCD, 120s, 2004 Dec 16.873 UT.

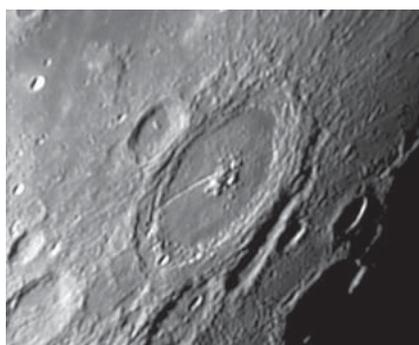
NGC1555 and nearby NGC1554. The *Night Sky Observers Guide* (Willmann–Bell, 1998) regards them as the same object, with the different NGC numbers referring to different parts of the same nebula. *MegaStar v4.0* lists them correctly as NGC1554 (Struve's Lost Nebula) and NGC1555 (Hind's Variable Nebula) in its Non Stellar Objects database, but then plots them both as NGC1554. *Uranometria*, both old and new editions, also regards them as the same. For the correct positions of the two objects, along with images, see the NGC/IC Project web page <http://www.ngcic.org>.

Following the email alert, reports of brightening were received from several members. The Director tried for it visually in his 35cm Dobsonian under reasonable

skies in mid-December but could not detect it. However both Gary Poyner (35cm SCT) and Alan Snook (31cm Newt.) observed it and CCD images were received from Cliff Meredith, Martin Mobblerley, Grant Privett and Gordon Rogers. Images reproduced here show the nebula before and after brightening.

The behaviour of Hind's Variable Nebula is not well understood and this is an ideal opportunity to monitor a normally difficult and greatly under observed object. Please monitor on a regular basis and send all observations to the Director, along with full details of instrumentation and observing conditions.

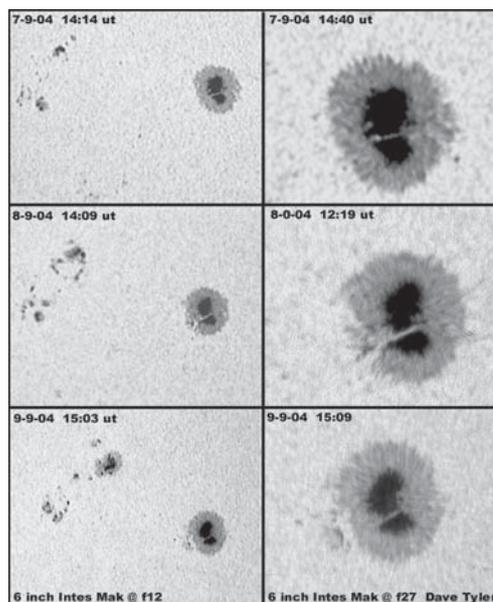
Stewart Moore, Director



Left: Lunar craters imaged on 2004 September 1 with a Vixen 80mm apochromat refractor. Top: Langrenus; below, Petavius. *Damian Peach.*

Right: Development of a solar active area over three days last September. 150mm Intes MK-67 Maksutov with Toucam 840 webcam and Baader film filter. *Dave Tyler.*

Imaging the Moon and the Sun





An eclipse and an aurora captured in the autumn sky



Above, a surging/rayed aurora photographed from Glen Ullin, North Dakota, USA by Jay Brausch, 2004 November 10/11, 04.45 UT.

Left, the lunar eclipse of 2004 October 28 photographed high in the sky from Connecticut by Charles L. Calia. Stellarvue 80mm f/6 refractor, Kodak 400 ISO film. Top, 01.52 UT; below, 02.19 UT.



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