

Hartwell Observations of Minor Planets. By *N. R. Pogson*, formerly Director of *Dr. Lee's Observatory*.

P o l y h y m n i a (33).								
	Greenw. M. T.	Apparent Place		Log. (Par. $\times \Delta$ )	AR.	Decl.	Comparisons	Power
		Right Ascension	Decl.					
1859 Nov. 28	9 <sup>h</sup> 39 <sup>m</sup> 24 <sup>s</sup>	3 <sup>h</sup> 59 <sup>m</sup> 19 <sup>s</sup> 62	+23° 16' 52" 7		9,266 <sub>n</sub>	0,636	7 with <i>f</i>	52
P r o s e r p i n e (26).								
1859 Nov. 28	12 39 28	2 20 0,36	+14 7 2,4		9,383	0,743	12 with <i>e</i>	52
A r i a d n e (43).								
1860 Febr. 19	14 14 14	10 56 41,54	+ 0 33 32,2		9,034	0,824	8 with <i>k</i>	84
19	14 33 7	10 56 41,10	+ 0 33 30,9		9,133	0,823	5 : <i>k</i>	52
23	13 39 43	10 52 48,70	+ 0 51 57,1		8,937	0,822	6 : <i>j</i>	84
23	13 57 21	10 52 47,64	+ 0 51 59,3		9,052	0,822	6 : <i>j</i>	84
27	11 40 17	10 48 48,63	+ 1 12 20,2		8,828 <sub>n</sub>	0,820	5 : <i>h</i>	52
27	11 55 23	10 48 48,06	+ 1 12 23,5		8,640 <sub>n</sub>	0,819	4 : <i>i</i>	84
28	11 27 31	10 47 46,57	+ 1 17 40,9		8,898 <sub>n</sub>	0,819	7 : <i>h</i>	84
29	10 39 30	10 46 45,79	+ 1 23 8,6		9,154 <sub>n</sub>	0,819	10 : <i>i</i>	84
L e u c o t h e a (46).								
1860 Febr. 29	11 0 20	10 43 4,76	+12 28 9,1		8,897 <sub>n</sub>	0,735	6 : <i>g</i>	84
March 2	13 8 1	10 41 8,59	+12 31 20,3		9,082	0,738	7 : <i>g</i>	52
H y g e i a (10).								
1860 Febr. 29	12 2 4	11 21 27,81	— 1 15 7,7		8,856 <sub>n</sub>	0,834	10 : <i>l</i>	84
March 2	13 52 7	11 19 55,45	— 1 7 27,7		9,046	0,833	6 : <i>l</i>	52
U r a n i a (39).								
1860 March 2	12 2 15	* —2 1,84	+*—12 50,9		8,838 <sub>n</sub>	0,820	10 : <i>m</i>	52
E u n o m i a (15).								
1860 Sept. 1	12 14 46	21 35 50,07	— 0 51 31,6		9,089	0,832	6 : <i>p</i>	110
1	12 57 59	21 35 48,34	— 0 51 41,0		9,262	0,831	12 : <i>p</i>	52
4	10 57 59	21 33 16,34	— 0 54 41,5		8,454	0,832	7 : <i>o</i>	84
7	11 35 5	21 30 48,18	— 0 58 17,4		9,027	0,832	5 : <i>n</i>	84
O l y m p i a (59).								
1860 Sept. 25	12 4 13	0 31 0,68	— 0 49 23,4		8,195 <sub>n</sub>	0,832	12 : <i>d</i>	84
Oct. 2	13 24 59	0 25 52,73	— 1 53 56,0		9,190	0,837	10 : <i>c</i>	84
3	9 38 14	0 25 16,45	— 2 1 29,3		9,426 <sub>n</sub>	0,805	6 : <i>c</i>	84
3	10 55 11	0 25 14,09	— 2 1 57,3		8,990 <sub>n</sub>	0,835	6 : <i>c</i>	84
T h a l i a (23).								
1860 Sept. 25	13 4 37	0 11 55,55	—14 34 25,3		9,039	0,891	8 : <i>b</i>	84
Oct. 3	12 28 38	0 4 38,05	—15 3 11,1		9,056	0,892	10 : <i>a</i>	84

The preceding positions of new planets were determined with the Hartwell Equatoreal and two ring micrometers, with the exception of the first observation of Eunomia, when the wire micrometer was employed.

The long delay in their reduction and publication greatly detracts from their actual value, and though a matter of much regret, is the result of circumstances over which I had but little control.

The adopted positions of the comparison stars were as follows:

Ref.	Mag.	Mean $\alpha$ 1860	Mean $\delta$ 1860	Authority.
<i>a</i>	8.9	0 <sup>h</sup> 3 <sup>m</sup> 16 <sup>s</sup> .86	—15° 13' 43".0	A. Z. CCL. 110. A. Z. CCLXI. 6. $\frac{9 \text{ Lalande}}{4}$ .
<i>b</i>	9	0 13 40.42	—14 24 31.4	Weisse 0.227.
<i>c</i>	7.8	0 22 44.01	— 1 53 20.9	11 Ceti. <i>Mädler's</i> Bradley 36. Robinson 78.
<i>d</i>	9	0 34 46.05	— 0 47 32.5	Weisse 0.592.
<i>e</i>	9	2 17 50.02	+13 54 38.0	B. Z. CCLXXXI. 9.
<i>f</i>	8.9	3 55 49.97	+23 1 26.1	B. Z. CCCXCIII. 49. 7481 Lalande.
<i>g</i>	7.8	10 43 46.96	+12 19 14.8	Greenwich Results for 1854 <i>N</i> 337.
<i>h</i>	6	10 48 30.21	+ 1 28 57.1	55 Leonis: Greenw. Results for 1856.
<i>i</i>	7	10 48 59.68	+ 1 10 44.7	57 Leonis. <i>Mädler's</i> Bradley. Robinson 2379.
<i>j</i>	8	10 55 22.65	+ 0 39 27.5	Robinson 2394.
<i>k</i>	6.7	10 56 26.59	+ 0 45 7.0	<i>p</i> <sup>2</sup> Leonis. <i>Mädler's</i> Bradley. Robinson 2400.
<i>l</i>	6.7	11 17 49.74	— 1 26 28.6	Weisse XI. 290. Lalande 21727 and 28.
<i>m</i>	9	11 29 10	+ 1 22 15	Approximate place.
<i>n</i>	6.7	21 30 22.25	— 1 0 56.3	Robinson 4704.
<i>o</i>	7	21 32 18.44	— 0 41 1.3	24 Aquarii. <i>Mädler's</i> Bradley.
<i>p</i>	9	21 38 11.65	— 0 51 2.9	Weisse XXI. 916. Lalande 42398.

The following observations of magnitude were carefully made; not merely as ordinary estimations, but comparatively, with the nearest similar sized stars in any adjacent variable star map under construction.

Polyhymnia.	1859 Nov. 21	11.0	Urania.	1860 March 2	10.4
	24	11.2	Victoria.	1860 April 3	10.5
	28	11.1	Thetis.	1860 April 9	10.5
Proserpine.	1859 Nov. 28	11.5	Metis.	1860 Sept. 1	9.0
Parthenope.	1859 Nov. 28	9.5	Eunomia.	1860 Sept. 1	8.2
Laetitia.	1859 Dec. 8	10.0		4	8.6
	14	9.8		7	8.3
Ariadne.	1860 Febr. 19	10.9	Thalia.	1860 Sept. 7	11.0
	23	10.8		10	11.2
	27	11.2		13	11.0
	28	10.4		25	11.0
	29	10.5		Oct. 3	11.5
Leucothea.	1860 Febr. 29	11.3	Olympia.	1860 Sept. 25	9.6
	March 2	11.0		Oct. 3	10.2
Hygeia.	1860 Febr. 29	9.2	Amphitrite.	1860 Oct. 3	9.0

### The approaching Opposition of Mars at Madras.

Having been requested by the Astronomer Royal to undertake the observation of differences of Right Ascension between Mars and suitable preceding and following stars, near the rising and setting of the planet, for about a fortnight before and after the opposition, I beg leave to state, that weather and health permitting, I purpose to use my best endeavors to comply with his wishes.

The mounting of the new Meridian Circle of this Ob-

Madras 1862 July 26.

servatory having been at length completed, and the instrument in use since May last, I am enabled also to assure M. M. *Struve* and *Winnecke* in particular, and the scientific public in general, of my intention of cooperating with the Pulkova astronomers, as closely as possible in the manner suggested by M. *Winnecke*, in his paper on the subject in the "*Mélanges Mathématiques et Astronomiques* etc. etc.," received with many thanks by the last post.

*Norman Robert Pogson.*