

KG  
11365  
39

A.39

*Meridian Circle*  
May. 7. 1862 - Aug. 6. 1862

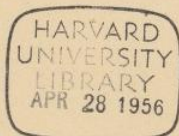


KG 11365.39





KG 11365.39





n c

May 14, 15 +0.259 +0.032 (15 reduced  $\lambda$  with  $n = 0.262$ )

17, 24 +0.159 -0.080

~~24 +0.159 -0.080~~

28-June 17 +0.186 +0.184  
9.269 9.265

June 16<sup>th</sup> reduced with [0.204 0.191]

+30 +0.319  
20 0.264  
10 0.220  
0 0.184  
-10 0.154  
-20 0.128  
-30 +0.105











1862, May 14.

AK

Ill. East

$\alpha$ 2 Geminor			$\alpha$ Can Min			$\beta$ Geminor			157 Cor Bor			$\delta$ Corvi		
	12.1			30.3			17.2			30.3				
	16.0			33.6			20.7			33.9			Pen failed	
	20.3			37.5			25.2			38.3				
	23.9			40.6			28.5			41.7				
7	26	28.0	7	32	44.0	7	37	32.2	12	20	45.6			
	100.3				186.0			123.8			189.8			
7	26	20.06	7	32	37.20	7	37	24.76	12	20	37.96			
	[25	49.07]			6.11		36	53.81						

Using the thickness  
value for ...



May 14 continued on next page

$\gamma$ Corvi	$\gamma$ Virginis	Comp. 12 Can Venat	12 Can Venat	$\epsilon$ Virginis
	8.2	59.0	0.2	46.4
pen failed	11.4	3.0	4.2	49.7
	15.2	7.9	9.2	53.5
	18.2	11.7	13.0	56.5
12 35	21.6	16.1	17.4	0.0
	74.6	97.7	44.0	206.1
12 35	14.92	7.54	8.80	53.22
34	43.17		49 37.23	

1862, May 14

AII

M. East

Polaris S. p.			α Virginis			B. A. C. 4498			5 Virginis			γ Urs Maj		
Syphon	4	24.8			23.7	Syphon	19	33.4			8.1			30.5
Equal.	6	44.4			27.1	Equal.	20	12.7			11.3			35.5
	8	41.7			31.0		20	3.4			15.1			40.6
	11	17.7			34.1		21	40.0			18.1			46.1
13	13	27.0	13	18	37.6	13	22	24.0	13	28	21.6	13	42	51.4
		155.6			153.5			113.5			74.2			205.1
13	8	55.12	13	18	30.70	13	20	58.70	13	28	14.84	13	42	41.02
1	8	13.76		17	58.87		20	31.72		27	43.07			[9.97]



May 14 continued on next page

Second wing

20 not in B

" $\gamma$ Bootis			" $\pi$ Virginis			" $\delta$ Centauri			" $\alpha$ Draconis			" $\alpha$ Draconis			Anonyma		
5		54.7			6.0			2.0			58.7	3		4.9			
5		38.1			9.1			6.0			6.1	3		54.8			
6		42.1			12.9			10.7			15.5	4		56.9			
1		45.3			16.0			14.3			22.2	5		43.1			
4	13	48	48.8	13	55	19.6	13	59	18.5	14	1	30.3	14	6	38.1		
1		229.0			63.6			51.5			132.8			197.8			
12	13	48	45.80	13	55	12.72	13	59	10.30	14	1	12.56	14	4	51.56		
7		10.07			54	40.79								4	24.80		

1862. May 14

A.H.			M. East			G. 517			B. H. C. 784 s p			u Virginis		
p Bootis			l Virginis			p Bootis			B. H. C. 784 s p			u Virginis		
		50.0			7.4			20.1	27	58.5				16.1
		53.3			10.7			23.8	28	20.7				19.4
		57.5			14.6			28.3	28	38.7				23.3
		0.5			17.7			31.9	29	3.3				26.1
14	10	4.2	14	12	21.1	14	26	35.8	14	29	23.6	14	36	29.6
		165.5			71.5			139.9			144.8			114.5
14	9	57.10	14	12	14.30	14	26	27.98	14	28	40.96	14	36	22.90
		25.27					25	56.19	2	28	7.31			



May 14 continued on next page

$\alpha$ 1 Librae			$\alpha$ 2 Librae			$\beta$ Ues Min			$\gamma$ 20 Librae			$\gamma$ Boötis		
1		32.2			43.7			18.7			28.6			59.5
4		35.6			46.9			31.2			32.2			3.1
3		39.5			51.0			45.5			36.2			7.5
1					54.0			56.7			39.4			10.7
6			14	43	57.6	14	52	9.5	14	56	43.3	15	59	14.5
5					253.2			161.6			179.7			95.3
20	14	43	9	43	50.64	14	51	44.32	14	56	35.94	14	59	7.0.6
	14	43		43	18.58			1333					58	35.25

$A \ 3/10 + 6.96$   
 $B \ 26 + 2.66$   
 $C \ 2a - 0.30$

1862. May 14

A.U.

M. Ear

C Bootis

 $\beta$  Librae $\mu$  Bootis

B.H.C. 5140

 $\alpha$  Cor Bore

42.2

4.0

43.2

18.3

45.8

7.0

47.3

wire broke

21.9

49.9

10.8

52.1

26.2

53.2

13.9

55.7

29.6

15 1 57.0 15 10 17.4 15 20 0.3

15 29 33.5

248.1

53.1

198.6

129.5

15 1 49.62 15 10 10.62 15 19 57.72

15 29 25.90

9 38.65

28 54.01



End of May 14

1862phae.

" α Serpentis			" α Serpentis			" λ Serpentis			" μ Serpentis			" ε Serpentis		
3		52.0			57.0			13.3			54.1			25.1
9		55.4			0.2			16.6			57.3			28.3
2		59.6			4.0			20.4			1.0			32.3
6		2.6			7.1			23.4			3.9			35.1
5	15 36	6.3	15 38	10.5	15 40	26.9	15 43	7.5	15 44	38.5				
5		175.9		78.8		100.6		123.8		159.3				
70	15 35	59.18	15 38	31.76	15 40	20.12	15 43	0.76	15 44	31.8.6				
71			37	31.74										



May 11. M. East. May 13.

May 14.

Polaris

Polaris

Polaris

1 4 0.8  
6 3.5  
8 40.5  
10 35.9  
12 54.5  
135.2

1 6 10.8  
8 44.4  
10 42.5  
13 0.2

1 6 13.0  
8 47.5  
10 46.9  
13 2.8

8 27.04  
4 11.98

8 32.04  
4 13.39

8 35.12  
4 14.12

+ 11.81  
[+ 32.81]  
- 33.15  
- 0.34

C. Cent.  
Dev.

0.259 + 0.032 + 40 + 260  
943 8.505 30 186  
20 128  
+ 40 078  
0 + 032  
- 10 - 013  
- 20 - 168

8 34 26.34 1.6039 86 34 26.2  
1.6040

1.6039 86 34 26.6 1.6039  
1.6040

May 14<sup>th</sup>

2 Gemini	10	726	31.19	31.25	-06
Polaris	06	732	31.15	31.26	-11 ✓
Odessa	17	737	31.12	31.26	-14 ✓
4 Virginia	03	1235	31.78	31.76	+02
12 Lamm	25	1250	31.82	31.78	+04
2 Virginia	02	1318	31.85	31.82	+03 ✓
5 —	03	1328	31.86	31.84	+02
4 Bootis	12	1348	31.85	31.87	-02
2 Virginia	04	1355	31.97	31.88	+09
2 Bootis	13	1409	31.96	31.90	+06 ✓
9 —	+17	1426	31.96	31.93	+03
2 Librae	04	1443	32.03	31.96	+07 ✓
2 —	04	1443	31.95	31.96	-01 ✓
4 Bootis	+17	1459	31.98	31.99	-01
2 Librae	-01	1510	31.96	32.00	-04 ✓
2 Bootis	+12	1529	32.06	32.04	+02 ✓
2 Bootis	+12	1538	32.09	32.05	+04 ✓

13 3 + 31.799  
1.022  
0.109  
0.094  
0.100  
0.097

8 34.8 + 2 21.8

C 39.8 - 11.7

X 35.6 2 11.3

G 34.3 4 22.5



715.

♂ Contorini		♀ Contorini		202 <i>Contorini</i> B		39 <i>Capra</i> Hsp.		8 <i>Arctos</i> majori	
	56.4		29.1	11	21 49.2	11	26 30.2		11.9
	59.6		32.5		22 11.5		27 25.5		16.7
	3.5		36.5		39.0		28 14.3		22.5
	4.7		39.6		23 0.2		29 18.0		26.9
	10.2		43.1		23.8		30 11.9		32.0
	136.4		180.8		123.7		99.9		110.0
11	13 3.28	11	18 36.16	11	22 36.74	11	28 19.98	11	39 22.00
	12 29.21				22 4.92	23	27 41.30		
	-0.03		-0.05		+ 6.67		-4.87		+0.35
	+34.04				[+33.89]		[+33.87]		0.
G. ind	-34.09		-34.00		-34.10		-34.11		-34.13
Se.	-0.05				-0.21		-0.30		
ARob		11	14 2.07					11	34 48.22

12031	0.0000	351 55°	9.99999
7x 8936	1.8071	271 0	1.8070
+ 7' 4.5"	81 53 15.8	-1' 4.1"	81 32 41.2
	<del>0.8655</del>		1.2191
	<del>0.8655</del>		1.2199
+1.84	0.264	+ 4.34	0.637
+0.23	9.355	+ 0.53	9.725

812 May 16. All East

All

Polaris s.p.

α Virginis

	4	31.9			28.5
	6	49.0			31.7
	8	44.0			35.5
	11	20.7			38.5
13	13	29.1	13	18	42.1
		174.7			176.3

13	8	58.94	13	18	35.26
				17	58.86

13 19 +36.42



1862 Aug 17<sup>th</sup> M. West

continued, next page

W.S.

R. Corvi

5 MS min B.

7<sup>th</sup> Corvi

B Corvi

 $\alpha$  Centauri s.p.

36.2	11	27.2	32.4	43.2	7.4
37.9	12	33.2	35.9	46.8	14.9
43.1	17	30.4	38.9	49.9	21.9
47.2	14	57.1	43.1	54.2	27.0
50.6	15	57.0	46.4	57.6	33.3
217.0		193.9	196.7	251.7	106.5

12	3	43.40	12	13	38.78	12	25	37.34	12	27	50.34	12	33	21.30
		4.97		13	2.81						11.74			[32 42.68]

1883 16

101 57

9.9907

+ 62.6 1.7965

57 12 13.4 1.3112

or 1.3117

Rev. L. Allen.

13 38.4 - 2 17.6

38.7 - 1 12.4

36.4 + 6.0

40.2 + 1 7.0

42.2 + 2 17.0

1862 May 17th M. cont. continued

$\gamma$ Virginis pr.	$\gamma$ Virginis foll.	$\epsilon$ Urae majori	$\epsilon$ Cephei H. sp.	$\epsilon$ Virginis
15.0	—	26.7	12 49 38.8	53.3
—	18.5	32.8		56.8
21.4	—	36.2		59.9
—	25.3	45.3	57 45.0	3.7
28.4	—	50.9	52 29.5	6.9
		193.9		180.1

Medium stellarium duarum							
12	35	21.73	12	48	38.78	12	50 3.97
34	47.15					0	50 24.38
						12	56 0.12

12 36  
291 11 9.9696w  
-59.6 1.7754w  
85 30 52.3 1.1055w  
Su. 1.1068w

A	21.69	+1.71			4.6	+1 258
B			21.77	- 3.53		
C	21.69	+0.29			3.2	- 41.8
D			21.77	+3.27		
E	21.68				1.1	- 1.254



Continued on next page

$\alpha$ Virginis	Polaris $\delta$ p	43(13) Comae Beren.	$\epsilon$ Centauri	$\alpha$ Virginis
29.5	13 4 28.3	0.0	25.2	30.7
27.0		3.9	29.4	34.2
29.9	9 12.2	7.1	32.9	37.2
33.7	11 7.4	11.6	37.7	41.1
37.0		15.2	41.7	44.4
157.1		37.4	166.9	147.6
13 3 30.22	13 8 58.23	13 6 7.58	13 13 33.38	13 14 37.52
2 57.63	8 15.80			17 58.87

88 3 25.24 1.6038w  
 or 1.6040w

8 58.1 + 4 29.9

9 05. F 11.7

8 58.1 + 2 11.3

662 May 17<sup>th</sup> M. West continued

14 Camelopard. B.	ζ Virginis	γ Myrae nigrom	η Bootis	2 Virgin
19 43.9	15.0		41.6	12.8
20 27.5	18.5		45.2	16.2
21 4.5	21.4	47.4	48.3	19.3
21 53.9	25.2	53.4	52.4	23.0
22 32.8	28.4	58.3	55.9	26.1
162.6	108.5		243.4	97.4
13 21 8.52	13 28 21.20	13 42 47.87	13 48 48.68	13 55 19.48
20 31.07	27 43.03	42 9.21	10.06	54 40.78

200 9  
114 43 9.9430  
+56.1 1.7489  
65 28 32.5 1.1017  
1.1031

50 0

0.1919

A 7.7 -125.1  
B 9.6 - 44.8  
C 8.2 + 3.7  
D 8.9 41.4  
E 8.6 124.2

47.86 -10.44  
91 - 5.49  
85 + 0.45



Continued on next page

<i>A. Capensis</i>	<i>L. Dracoin</i>	<i>20 usae min. B.</i>	<i>L. Virgin</i>	<i>1. Larrigajue s.p.</i>
8.8	5.7	14 3 14.0	14.2	6.8
12.9	13.9	4 8.4	17.8	15.1
16.6	20.6	1 51.4	20.7	25.0
21.4	30.0	5 56.9	24.6	32.2
25.5	37.4	6 44.8	27.9	41.2
85.2	107.6	182.9	105.2	120.3

13 59 17.04	14 1 21.52	14 1 0.58	14 12 21.04	14 14 24.06
		4 24.21		

211 6  
 129 41 9.8863  
 + 41.2 1.1921  
 86 25 4.0 1.2034  
 1.2043

A 5 1.4 -1 47.4  
 B 5 0.4 - 51.5  
 C 4 59.5 + 4.7  
 D 5 0.7 52.3  
 E 5 1.0 147.0

1862 May 17<sup>th</sup> M. West.

Nochi			12 Librae			24 Librae			β Ursae min		
1.1	14	28	4.4		39.1						
6.6			24.1		42.6						
11.4			19.2		45.8		57.3		? 50.1		
17.8		29	7.3				1.3		5.2		
23.0			28.8				4.4		17.0		
59.9			114.2								
14	21	11.98	14	28	46.84	14	43	46.08	14	43	57.56
			2	28	7.57			7.16			18.60
											13.27

37 2  
315 37 " 9.8541  
-45.7 1.6599  
80 51 31.1 0.7924  
0.7989

0.0160

0.0160

0.5791

A 47.05 +42.25  
B 46.31 +27.21  
C 47.36 - 1.24  
D 46.72 - 20.48  
E 46.75 - 42.05

46.10  
45.99  
46.02

+0.30  
+3.30  
+6.96

57.43 - 6.97  
64 3.66  
60 - 0.30

57.53 - 25.47  
81 - 13.39  
21 + 1.11



fiii

 $\mu$  Virginii

23.0

26.4

29.3

33.3

36.4

148.4

14 36 29.68

+ 0.159 - 0.060

+ 30 - 0.009

+ 20° - 0.032

10 0.055

0 0.080

- 10 0.107

- 20 0.140

- 30 0.177

$\epsilon$ Corvi	12	3	-0.15	+38.38	-38.44	-06
$\beta$ —	12	27	-0.15	38.45	38.49	-04
$\gamma$ Virginii	12	35	-0.08	38.50	38.50	00
$\theta$ —	13	3	-0.09	38.50	38.55	-05
$\delta$ —	13	18	-0.11	38.54	38.57	-03
$\zeta$ —	13	28	-0.08	38.59	38.59	00
$\eta$ Bootis	13	48	-0.03	38.59	38.62	-03
$\tau$ Virginii	13	54	-0.07	38.63	38.63	00
1st Abnæ	14	43	-0.12	38.80	38.71	+09
2nd Abnæ	14	43	-0.12	+38.84	38.71	+13

13 24

+ 38.582

+ 0.090

+ 0.107

0.095

Pro R  
Jolly

1862 May 23. M. West

L Corvi			α Corvi			γ Corvi			δ Corvi mi. B			15 (γ) Comae Ber.		
		19.4			50.7			31.9	12	11	24.6			57.8
		52.8			54.3			35.4		13	31.5			58.6
		55.8			57.5			38.3		15	19.9			58.9
		59.9			1.7			42.4		17	45.7			3.3
		2.9			5.2			45.8		19	44.3			6.9
		220.8			169.4			193.8			166.0			176.5
10	1	56.16	12	3	57.84	12	9	38.76	12	15	33.20	12	20	59.30
	1	3.38		3	1.75					14	42.28			

163 41

100 45 9.9923

+ 15.3 1.8015

86 27 57.35 1.5722

or 1.5723

A 33.6 - 4 10.7

B 33.9 - 2 11.8

C 30.8 + 10.9

D 33.6 + 2 2.1

E 34.2 + 4 9.6



Continued on next page

$\delta$ Corvi	$\gamma$ Corvi	$\beta$ Corvi	43 Cephei 1st sp.	$\epsilon$ Virginis
32.8	47.0	57.6	12 49 51.9	—
36.4	57.5	1.3	50 33.9	—
39.4	53.5	4.4	51 22.9	—
43.4	57.4	8.6	52 0.6	51 18.1
46.6	0.8	12.0	52 44.4	21.3
49.6	209.2	83.7	154.7	
12 23 31.72	12 25 53.84	12 28 47.8	12 51 18.94	12 56 14.47
		27 11.69	0 50 25.63	
		7 14		
		1 52.95		

12 36  
 269 40 9.9739<sub>u</sub>  
 -66.7 1.7831<sub>u</sub>  
 85 30 57.25 1.1054<sub>u</sub>  
 26 1.1067<sub>u</sub>

0.0892

A 18.7 +1 25.8 14.44 -6.86  
 B 19.0 + 45.1 14.50 -3.60  
 C 19.2 - 3.7  
 D 18.8 - 41.8  
 E 19.0 -1 25.4

862 May 23 M. West continued

W6.

Polaris sp	$\alpha$ Virginis	214 Camelopardalis	$\delta$ Virginis	$\gamma$ Ursa major
13 4 46.4		13 19 57.3	29.4	51.9
6 57.3	48.7	20 40.4	32.9	57.1
9 29.3	51.7	21 16.7	35.9	1.5
11 22.9	55.6	22 7.5	39.8	6.8
13 40.5	58.8	22 47.0	42.8	12.7
19 0.4		168.9	180.8	130.0
13 9 14.08	13 16 52.00	13 21 21.78	13 28 36.16	13 43 2.00
8 19.42	17 56.85	20 30.05	27 43.01	42 9.27
	- 0.11			
	53.14			

88° 34' 24.15 1.60372  
 or 1.60382

0.0072

200 8

117 12

9.9691

-57.4 1.7583

85 28 33.85 1.1017

or 1.1031

Cran

A	16.0 + 4 29.6	51.98	- 1.82	21.9	- 1.25.1
B	13.0 + 2 21.7	52.01	- 3.59	22.7	- 44.8
C	17.3 - 12.0	52.00	+ 0.30	20.4	+ 3.7
D	11.6 - 2 11.3	52.02	+ 3.32	21.8	+ 41.4
E	12.1 - 4 28.4			22.0	+ 1 24.7
	14.00				



Continued on next page

γ Bootes		α Virginis		20 W. Lac. min. B		α Bootes		α Virginis						
	56.0		27.3	14	3	27.0		19.3	28.8					
	59.6		30.8		4	22.0		24.7	32.3					
	2.7		33.7		5	8.0		37.9	35.4					
	6.9		37.6		6	11.3	?	<del>27.7</del>	39.3					
	10.2		40.7		7	2.0		25.6	122.5					
	135.6		170.1			70.3			178.3					
13	49	3.08	13	55	34.02	14	5	14.06	14	10	18.26	14	12	35.66
	58	<sup>12.03</sup> <del>9.45</del>		54	40.79	14	4	23.21		9	25.25			

211 6

128 10 9.8955

+50.7 1.7057

86 25 5.5 1.2036

14 1.2043

0.0218

A 14.6 -1 47.4 18.26 -7.14

B 14.8 - 56.5

C 12.7 + 4.7 31 +0.31

D 14.7 + 52.3 17 +3.47

E 14.0 + 1 47.0 41 +7.11

1862 May 23. McWest continued

MS.

A Bochi			Gr 507 sp.			$\mu$ Virginis		51 Bochi seq.		1st Libras	
15.3	14	28	19.1			37.6		46.4		53.8	
21.0		26	38.8			41.0		50.5		57.1	
25.8		29	4.0			43.9		53.7		0.0	
32.0		27	21.5			47.6		58.2		4.2	
37.4		29	43.3			51.0		1.6			
131.5			126.7			221.3		210.4			
14	21	26.30	14	29	1.34	14	26	44.26	14	39	54.08
			2	28	8.02						0.87
											43 7.18

37 2  
 314 6 Gr 507 sp.  
 -46.2 1.6654m  
 50 51 30.6  $\frac{1}{2}$  0.7934  
 2. 0.7969

0.060

A 1.4 +42.3  
 B 1.0 +22.2  
 C 2.2 -1.8  
 D 0.9 -20.6  
 E 1.2 -42.1

B 0.54 -3.66  
 C .30 +0.30  
 D 49 3.39  
 E .73 6.93



continued on next page

$\gamma$ Librae	$\beta$ Librae minor	$\gamma$ Scapin	$\gamma$ Bootis	$\beta$ Librae
	40.7	50.0	21.1	25.4
8.7	54.0	53.9	24.9	28.8
11.6	04.7	57.0	28.1	31.7
15.7	19.6	1.2	32.5	35.4
19.0	31.5	4.6	36.0	39.1
	150.5	166.7	142.6	160.8
14 64 12.01	14 52 6.10	14 56 57.34	14 59 28.52	15 10 32.16
43 18.62	57 13.11		58 35.27	9 38.72
- 12.				
55.27				

0.0160

A 12.03 - 6.97  
 B .04 - 3.66  
 C 11.90 + 0.30  
 D 12.09 + 3.39

1862 May 23 continued

MS

323 Cephei B. sp.	37 Wrasse var. B.	de la Roche	$\alpha$ Serpenti (10.4.41)	$\gamma$ Serpenti
15 <u>20</u> 24.6	15 <u>      </u>	39.8	18.5	38.0
15 21 34.6		43.7	22.0	38.5
22 30.8	24 10.5	46.9	24.9	41.0
23 16.6	25 49.1	51.2	28.7	45.3
	27 11.8	54.7	32.1	48.4
		236.3	126.2	208.6
15 22 27.17	15 24 19.13	15 29 47.26	15 34 25.24	15 40 41.72
21 33.22	23 31.00	28 54.06	37 31.81	

50 23      230 46       $\mu$   
 327 27  $\mu$  9.7308 147 50  $\mu$  9.7262  
 -34.7 1.5600 +34.3 1.5356  
 86 12 134  $\mu$  1.1791  $\mu$  87 45 19.2  $\mu$  1.4067  
 10. 1.1791  $\mu$  10. 1.4071

A      20.4      -2 57.4  
 B      27.9 + 53.3      19.0      -1 30.1  
 C      26.4 - 4.4      19.0      + 7.9  
 D      27.2 - 49.4  
 E



continued - next page

$\mu$ Serpenti	$\delta$ Serpenti	( $\gamma$ ) Serpenti	12 Werte mit $\beta$ <del>af</del>	$\delta$ Ophiuchi
15.7	46.5	54.8	15 58 3.9	57.4
19.0	49.9	58.3	<del>58</del> 32.0	0.9
21.9	52.9	1.3	58 57.1	3.8
25.9	56.8	5.3	59 70.6	7.7
28.9	0.0	8.6	15 59 58.3	11.0
111.4	206.1	128.3	181.0	80.8
15 43 22.28	15 44 53.22	15 57 1.66	15 59 0.20 58 6.89	16 8 4.16 7 10.57

239 32  
 15h 36 9.5970  
 + 28" 1.4082  
 53 21 25.6 5 0.9338  
 14 0.9368

A 0.3 - 58.04  
 B 0.1 - 30.5  
 C 59.6 + 2.5  
 X 0.3 + 28.3  
 Z 4.9 + 57.9

1862 May 23 confirmed

finis

46.

6 Officinali

2 Scorpi

1 Serpens om.

57.9

47.3

13.5

55.3

57.1

17.1

58.0

57.3

20.4

2.1

58.7

24.4

5.2

2.1

27.9

172.5

213.5

100.3

16	11	58.50	16	21	57.70	15	36	20.66
				21	1.20			



May 23

$\alpha$ Leonis	10 1	-.05	52.73	-52.74	-.01
$\delta$ Corvi	12 3	-.15	52.98	52.94	+.04
$\beta$ —	12 27	-.15	52.94	52.98	-.04
$\alpha$ Virginis	13 18	-.11	53.04	53.06	-.02
$\zeta$ —	13 28	-.08	53.07	53.08	-.01
$\eta$ Bootis	13 48	-.03	53.02	53.11	+.09
$\gamma$ Virginis	13 55	-.07	53.16	53.13	-.03
$\alpha$ Bootis	14 9	-.03	52.98	53.15	-.17
$\epsilon$ —	14 39	-.01	53.20	53.20	.00
$\iota$ Abne	14 43	-.13	53.21	53.21	.00
$\kappa$ Abne	14 43	-.13	53.26	53.21	+.05
$\phi$ Bootis	14 59	-.01	53.24	53.23	+.01
$\beta$ Abne	15 10	-.10	53.34	53.25	+.09
$\alpha$ Corona	15 29	-.01	53.19	53.28	-.09
$\delta$ Serpenti	15 38	-.06	53.27	53.30	+.03
$\delta$ Ophiuchi	16 7	-.09	53.50	53.35	+.15
$\alpha$ Scorpii	16 21	-.16	53.34	53.37	-.03

14 10 53.157  
 P. H. R. +0.107  
 J. H. J. -0.099  
 0.100



\*  
May 28, 1862.

M. East

M		η Bootis		τ Virginis		α Centauri		α Draconis		α Bootis	
		7.7		39.0		35.2		30.9		22.8	
		11.3		42.3		39.4		38.7		26.6	
		15.1		46.0		43.9		47.6		30.3	
		18.1		48.9		47.4		54.5		33.4	
13	47	21.9	13	53	52.5	13	57	52.0	14	0	2.8
		74.1			228.7			217.9			174.5
											150.4
13	47	14.82	13	53	45.74	13	57	43.58	13	59	46.90
	48	10.02		54	40.78						
										9	25.24

\* May 27. Wire intervals were altered by Prof Bond



End of May 28.

Ill. East

λ Virginis		θ Bootis		ρ Bootis		B. A. C. 7848.p.		μ Virginis	
40.4		26.7		53.0		33.5		49.1	
43.9		32.2		57.0		55.9		52.5	
47.6		43.2		1.3		14.0		56.2	
50.7		38.2		4.7		36.8		59.2	
14 10 54.2	14 19 49.0	14 25 8.8	14 27 57.7	14 35 2.7					
246.8	189.3	124.8	197.9	219.7					
14 10 49.36	14 19 37.86	14 25 0.96	14 27 15.58	14 34 55.94					
		25 56.16	28 8.47						

May 28

			-1 <sup>m</sup>
η Bootis	13 48	0.26	5.06 -5.08
λ Virginis	13 55	0.19	5.15 5.09
ρ Bootis	14 9	0.26	5.10 5.12
ρ —	14 26	0.32	5.12 5.15
	14 4		5.108
Rate			0.099

June 5

M. East

M

"

z Bootis

v Virginis

28.0

59.3

31.7

2.7

35.4

6.2

38.6

9.2

13 47 42.3 13 54 12.7

176.0 90.1

13 47 35.2 13 54 6.02

48 9.97 54 40.75

May 28



1862. June 11.

Continued of next page

All East  
Gr 5.7.

N			p Boole			B. A.C. 784 sp			p Virginis			E Boole		
a Boole														
58.9			29.1			10.6			25.2			34.0		
2.3			32.9			33.7			28.5			37.8		
6.4			37.2			51.2			32.2			42.0		
9.5			40.4			14.0			35.1			45.3		
14	9	13.1	14	25	44.8	14	28	35.4	14	35	38.6	14	38	49.3
90.2			184.4			144.9			159.6			208.4		
6.04			36.88			52.98			31.92			41.68		
25.16			56.08			10.01			39			1.80		

1862 June 11

AU

M Ear

12 Librae			22 Librae			β Vir. Min.			20 Librae			γ Bootis		
		41.2			52.6			26.6			37.7			8.5
		44.8			56.1			39.4			41.3			12.3
		48.5			0.0			53.2			45.4			16.4
		—			2.9			4.0			48.5			19.7
14	42	—	14	43	6.7	14	57	17.8	14	55	52.3	14	56	23.8
					118.3			141.0			225.2			80.7
14	42	48.23	14	42	59.66	14	50	52.20	14	55	45.04	14	58	16.14
	43	7.20		43	18.63		51	[12.33]						35.23

42 D

0.0159

A

68.17

B

32

C

19



## 323 Cephei B.

c Bootis		β Librae		B 1061 s.p.		2 Serpentis		α Serpentis	
	51.3		13.1	19	42.9		1.2		6.2
	54.9		16.4	20	36.1		4.8		9.6
	59.0		20.1	21	19.2		8.7		13.3
	2.1		22.9	22	14.2		11.8		16.2
15- 1	6.1	15- 9	26.7	15- 23	5.0	15- 35	15.6	15- 37	19.8
	173.4		99.2		147.4		42.1		65.1
15- 0	59.68	15- 9	19.84	15- 21	23.48	15- 34	8.42	15- 37	13.02
		9	38.76	27	26.76				31.88

1862. June 11. Ill East

End of June 11.  
for 750

1862

A21

Serpentis			" "			" "			S. Min			B. R. 12355.6		
22.6			3.3			34.4			14.0			44.6		
26.0			6.6			37.7			30.4			27.9		
29.8			13.2			41.3			48.5			1.0		
32.7			10.4			44.1			2.7			45.6		
15 39 36.3	15	42	16.9	15	43	47.9	15	49	20.4	15	55	26.0		
147.4			50.4			205.4			116.0			145.1		
15 39 29.48	15	42	10.08	15	43	41.08	15	48	47.20	15	55	5.02		
											54	19.09		



L Bootin	14 9	+0.26	-18.66	*18.67	+01
♀ —	14 26	0.33	18.87	18.64	-03
E —	14 39	0.30	18.82	18.82	00
L Lhoar	14 43	0.14	18.83	18.81	-02.
L Lhoar	14 43	0.14	18.83	18.81	-02
Y Boolin	14 59	0.30	18.79	18.78	-01
B Lhoar	15 10	0.16	18.76	18.76	00
L Scrp.	15 37	+0.21	<u>18.65</u>	18.74	+09
	14 49		-18.601		
J.R. J.M.	Ran		0.108		

1862 Jan 16<sup>th</sup> M. East

1862

Polaris sp.	2 Virginis	3 Virginis	4 Ursae maj.	7 Bootis
	46.0	30.1	52.0	46.7
6 44.1	49.2	33.5	57.3	0.3
8 76.2	53.1	37.3	3.0	4.0
11 5.2	55.9	40.1	7.4	7.1
13 19.6	59.7	43.7	13.0	11.0
	263.9	184.7	132.7	79.1
13 8 48.84	13 17 52.78	13 27 36.94	13 42 2.54	13 46 3.82
8 38.84	58.70	42.87	18.86	9.88
Ant. lat	+ .15	.19	+ .54	+ .27
Cl. lat	- 5.77	- 5.74	(- 5.78)	- 5.79
L. lat	+ 5.77	+ 5.74	+ 5.71	+ 5.70
Sec.	+ .08	- .02	- .07	- .09
App. R				

84° 34' 21" N by 1.6035  
 20. 1.6036

A 49.6 -4 30.0  
 B 48.7 -2 16.5  
 C 47.8 + 11.6  
 D 49.4 + 2 5.3  
 E



continued on next page

$\alpha$ Virgin	$\delta$ Centauri	$\times$ Draconis	$\delta$ Ursae minor B.	$\delta$ Bootis
26.0	24.0	19.6	14	12.0
31.2	28.2	27.6	3 10.1	15.6
35.2	32.9	36.4	4 8.4	19.5
38.0	36.3	43.0	4 55.6	22.6
41.6	40.8	51.6	5 51.8	26.3
174.0	162.3	178.2		96.0
13 57 34.80	13 58 32.46	14 0 35.64	14 4 4.55	14 9 19.20
40.68			4 16.81	25.12
+ .20	+ .05	+ .89	+ 6.27	+ 0.28
- 5.68			- 5.99	- 5.64
+ 5.69	+ 5.68	+ 5.68	+ 5.67	+ 5.64
+ 1.01			- 0.32	+ 0.02
	13 58 38.19	14 0 42.21		

210 14

120 32

1.744

221 19

+ 55"1

9.9316

1.7409

65 2.3 ty

0.332

111 0.375

86 25 10.0 ty

1.2036

111 1.2045

+ 3.21

+ 3.06

ty 4.6 + 54.5

c 3.8 - 4.6

x 5.6 - 50.0

z 4.2 - 147.6



1862 June 16<sup>th</sup> J.M. Gast.

MS		A. Brooker		S. Brooker		Gr 527 sp.		μ Virgin	
14	11	29.5	27.1				24.5		38.4
		32.9		46.0		27	47.4		41.9
		36.7	27.1	57.3		1	5.3		45.6
		39.6	31.7	53.8			28.9		48.4
		43.3	37.8	57.9	14	28	47.4		52.1
		152.0					159.5		226.4
14	11	36.60	14 20 26.65	14 25 50.04	14 28 7.10	14 35 45.28			
				56.04		10.62			
		+ .15	+ .58	+ .34		- 2.45			+ 17
				- 5.66		(- 6.02)			
		+ 5.66	+ 5.64	+ 5.63		+ 5.63			+ 5.64
				- 0.03		- 0.39			
AK 14	11	42.21	14 20 32.87					14 35 51.06	

$\Delta \mu = 3'$   
 $307.18 \quad 9.9006$   
 $- 57.3 \quad 1.7099$   
 $311.51 \quad 20.5 \quad 0.7933$   
 $0.0668 \quad 0.7933$   
 $- 1.25$   
 $- 1.20$

$49.96 \quad + 3.96$   
 $C \quad 26.63 \quad - 0.47 \quad 96 \quad - 0.34$   
 $D \quad 57 \quad - 5.13 \quad 50.16 \quad - 3.64$   
 $E \quad 76 \quad - 10.04 \quad 66 \quad - 7.84$



Continued on next page

2 Books in Reg.	$\beta$ Libriae	$\delta$ Books in	57 Mrae mini Bate	$\delta$ Mrae Bate
67.3	26.3	5.5	<del>21</del>	40.5
51.0	29.6	9.8	21 36.4	44.3
55.2	32.4	14.4	23 16.3	48.4
58.4	36.2	18.2	24 27.3	51.9
2.4	39.9	22.5	25 59.4	55.7
214.3	165.4	70.4		240.4
14 38 54.86	15 9 32.08	15 19 14.08	15 23 7.35	15 28 48.16
39 0.77	38.76		23 23.71	54.06
+ 32	+ 56	+ .40	+ 10.01	+ 0.32
- 5.59	- 5.52		(- 6.35)	- 5.58
+ 5.61	+ 5.56	+ 5.54	+ 5.53	+ 5.52
+ 0.02	+ 0.04		- 0.82	- 0.06
		15 19 20.02		

230° 57'  
141 6 9.7919  
+ 60.5 1.6072  
87 45 25 3/4 1.4021  
hr. 1.4074  
+ 5.13  
+ 4.88

B	5.3	+26.9
C	8.9	-7.4
D	7.5	-79.8
E	7.7	-171.7

18.52 Jan 16<sup>th</sup> M.E.

MS.

1862pha

1 Serpens	2 Serpens	3 Serpens	4 Serpens	5 Serpens
14.4	19.4	35.8	47.6	55.6
18.0	22.8	39.3	50.8	58.4
21.9	26.4	42.9	54.4	2.8
24.8	29.4	45.8	57.4	5.8
28.6	33.1	49.4	1.0	9.5
107.7	131.1	213.2	214.2	132.5
15 35 21.54	15 37 26.22	15 39 42.64	15 43 54.24	15 50 2.50
91	31.89			
+ 0.28	+ 0.22	+ 0.22	+ 0.21	+ 0.26
	- 8.45			
+ 8.57	+ 8.50	+ 8.50	+ 8.49	+ 8.48
	+ 0.05			
15 35 27.33		15 39 48.36	15 43 59.94	15 50 8.24



continued on next page

$\delta$ Scorpii	$\beta$ Scorpii	* $\nu$ Argelaja [C]	* $\mu$ Argelaja $\delta$ Scorpii	* $\mu$ Argelaja $\pi$ Div 31.
2.0	16.4	15.2	36.1	35.9
5.5	20.0	19.0	39.8	39.7
9.7	23.9	23.3	44.0	44.0
12.7	26.9	26.4	47.3	47.2
16.6	30.7	30.4	51.3	51.3
46.5	117.9	114.3	218.5	218.1
15 52 9.30	15 57 23.58	16 0 22.86	16 3 43.70	16 9 43.62
	29.14			
+ 0.11	+ 12	+ .08	+ .08	+ .08
	- 5.44			
+ 5.48	+ 5.47	+ 5.46	+ 5.46	+ 5.45
	+ 0.03			
15 52 14.89		16 0 28.40	16 3 49.24	16 9 49.15

Dec. -22° 59'

Dec. -28° 3'

Dec. -28° 16'

1862 June 16<sup>th</sup> M. East

fini

Scorpio

48.6

52.1

56.6

59.6

3.5

219.7

16 20 55.94

21 1.62

+ .09

- 5.39

+ 5.43

+ 0.04

K

S

13 28

- 5.74

13 18

- 5.77 - 02

48

- 5.79

55

- 5.68

14 9

- 5.64 + 02

15 9

- 5.52

26

- 5.66

39

- 5.59

15 29

- 5.58 - 06

15 57

- 5.44

37

- 5.45 + 05

16 21

- 5.39 + 04

14 26

- 5.641

15 12

- 5.530

General Mean 14 38 - 5.612

Clock - Correction [Rate from obs. June 11, 17 + 2.569 Days / 107 Hours]

13 0

+ 5.786 +

30

5.732

14 0

5.679

30

5.625

15 0

5.572

30

5.518

16 0

5.465

30

+ 5.414





1862. June 17.

Ill Ear

411			" "			" "			" "			" "		
s Virginis			s Virginis			η Urs Maj			η Bootis			τ Virginis		
	48.2			35.8			54.3			58.8			30.2	
	51.6		first win lost?	39.5			59.4			2.4			33.7	
	55.3			42.3			5.3			6.4			37.3	
	58.2			46.0			9.8			9.4			40.1	
13	18	1.9			13	42	15.4	13	48	13.3	13	54	43.9	13
	215.2						144.2			90.3			185.2	
13	17	55.04		39.22	13	42	4.84	13	48	6.06	13	54	37.04	13
	58.69			42.86			[8.84]			7.88			40.68	



Continued on next page.

" $\theta$ Centauri			" $\alpha$ Draconis			" Anonyma			" $\alpha$ Bootis			" $\lambda$ Virginis		
		26.2			21.9	2		19.5			14.2	Pen failed to record		
		30.2			29.6	3		12.0			17.7			
		34.8			38.8	4		10.5			21.8			
		38.4			45.4	4		56.8			24.7			
13	58	42.9	14	0	53.9	14	5	54.0	14	9	28.6			
		172.5			189.6			152.8			107.0			
13	58	34.50	14	0	37.92	14	4	6.56	14	9	21.40			
							4	16.60			28.11			

1862 June 17.

AU

ell Ear

2 Cassio. s. p.

H Bootis

p Bootis

B. A. C. 784. s. p.

p Virginis

27.0

18.0

44.3

27.1

40.7

36.0

23.4

48.2

49.6

49.0

43.1

29.5

52.6

7.8

47.7

52.7

34.1

55.9

30.7

50.5

14

18

1.0

14

20

40.0

14

26

0.1

14

28

51.7

14

35

54.1

14

159.8

145.0

201.1

166.9

237.0

14

17

483.96

14

20

29.00

14

25

52.22

14

28

9.38

14

35

47.40

14

56.03

28 10.78



Continued on next page

E Bootis			12 Librae			22 Librae			β Urs Min			20 Librae		
		49.5			56.7			8.0			41.8			53.0
		53.2			0.1			11.6			54.5			56.7
		57.4			4.0			15.4			8.7			0.8
		0.5			—			18.4			19.4			3.9
14	39	4.7	14	43	—	14	43	22.1	14	51	32.8	14	56	8.0
		165.3						75.5			157.2			122.4
14	38	57.06	14	43	3.66	14	43	15.10	14	51	7.44	14	56	0.48
	39	0.76			7.18			18.62			[12.00]			

A 3.67  
 B .62  
 C .69  
 3.6

June 17. 1882

A.K.

M. Ear

4 Bootis			1011 D. A. C. S. p			37 Lihua			2 Cor. Per		
		24.0		19	59.9			31.9			42.8
		37.7		20	53.3			35.2			46.5
		43.4		21	35.3			39.0			50.7
		45.0		22	31.1			41.9			53.9
14	58	49.0	15	23	22.3	15	26	45.6	15	28	58.0
		207.5			<del>181.9</del> 201.9			193.6			251.9
					10.38						
14	58	41.50	15	21	<del>36.38</del>	15	26	38.72	15	28	50.38
		35.20		21	38.23						54.06



End of June 17.

2 Cor. Per.		2 Serpenti		2 Serpenti	
	16.6		21.6		38.2
	20.2		24.9		41.5
	24.0		28.7		45.3
	27.1		31.5		48.1
15- 35-	31.0	15- 37	35.3	15- 38	51.7
	114.9		142.0		224.8
15- 35	23.78	15- 37	28.40	15- 38	44.96
			31.69		

2 Virgin	13 18	+0.15	-3.50	+3.55	+05
4 —	13 28	+0.18	3.46	3.53	+07
7 Bootis	13 48	+0.26	3.56	3.49	-07
2 Virgin	13 55	+0.19	3.45	3.48	+03
2 Bootis	14 9	+0.26	3.45	3.46	+01
1 —	14 26	+0.32	3.49	3.43	-06
2 —	14 39	+0.30	3.40	3.41	+01
1 Libra	14 43	+0.14	3.38	3.40	+02
2 Libra	14 43	+0.14	3.38	3.40	+02
4 Bootis	14 59	+0.30	3.40	3.37	-03
2 Corona	15 29	+0.30	3.38	3.32	-06
2 Serpenti	15 38	+0.21	3.28	3.30	+02
	14 26		3.428		
	Rate		+107		

1862 July 3.

Ill. West

All			"			"			"			"		
Cor. Bar.			Cor. Bar.			Serpentis			Serpentis			Serpentis		
		24.5			58.3			3.3			19.9			31.4
		28.5			2.1			6.9			23.4			35.1
		31.8			5.1			9.8			26.3			38.0
		35.9			8.9			13.5			30.0			41.6
15	29	39.7	15	36	12.6	15	38	16.9	15	40	33.3	15	44	45.0
		160.4			87.0			50.4			132.9			191.7
15	29	32.08	15	36	5.40	15	38	10.08	15	40	26.58	15	44	38.22
		53.94						31.83						

Rate +2.16



The night was a little hazy and the stars faint.

5 Vis min		Done Star		Done Star		Done Star		Done Star		Done Star	
	11.6		3.1		36.2		35.7		11.7		
	29.0		6.7		39.7		39.2		15.2		
	43.5		9.6		42.6		42.2		18.2		
	1.2		13.2		46.3		45.7		21.8		
15	30	15	58	16	5	4	6	49.2	16	7	—
	102.9		49.2					212.0			
15	49	15	58	16	5	4	6	42.88	16	7	18.45
	642		9.84		42.88		42.40				

$n = -0.$

1862, July 3

End of July 3.

XII

Ill. West

x Scorpii

5 Herculis

32.4	38.7
36.3	42.8
39.5	46.3
43.6	50.7
47.4	54.7
199.2	233.2

16	21	47.4	16	36	54.7
----	----	------	----	----	------

16	21	39.84	16	36	46.64
		1.44			8.37

The reduction was the  
mean of Periods 15 and 16

x Uranus	0.31	+38.45	15 29	-39.63	+02
x Sept	0.19	38.44	15 38	38.45	-01
x Scorpii	0.06	38.46	16 21	38.52	-06
x Herculis	0.33	38.60	16 36	38.55	+05

		38.462	16	1
Corr Rate		+0.113		
		0.102		
		0.107		





1862 July 18th M.S.

245.

Polaris sp			$\alpha$ Virginis			37 Deliae			$\alpha$ Coronae			$\alpha$ Serpenti		
13	6	7.5			6.2			50.0			0.9			39.9
	8	31.7			9.6			53.3			4.6			43.2
	10	24.5			13.4			57.1			8.9			46.9
	12	53.6			16.3			0.0			12.0			49.8
					19.9			3.7			16.0			52.4
					65.4			164.1			42.4			233.2
13	10	36.88	13	19	13.08	15	27	56.82	15	<sup>30</sup> <del>27</del>	8.46	15	34	46.64
	9	7.20		<del>17</del>	58.88					28	53.77		37	31.73

88° 34' 22" S  $\delta$  1.6036m  
or 1.6032

A 25 - 430.1  
B 37.0 - 2 16.6  
C 36.1 + 11.6  
D 37.1 + 2 5.4  
E 37.3 + 4 29.8



Continued on next page

<i>Herpentis</i>	<i><math>\mu</math> Herpentis</i>	<i>E Herpentis</i>	<i><math>\beta</math> Herpin pr.</i>	<i><math>\delta</math> Draconi</i>
56.3	36.9	7.9	39.0	22.2
59.6	40.3	11.2	40.5	28.6
3.4	44.0	14.9	44.5	36.0
6.2	46.9	17.9	47.4	41.6
9.9	50.6	21.5	51.2	48.5
133.4	218.7	73.3	220.6	176.9
15 41 3.08	15 43 43.74	15 45 14.66	15 58 44.12 57 29.05	16 0 35.38

1862 July 18<sup>th</sup> M East continued  
 2445

α Scorpion			α Ophiuchi			δ Scorpion			ε Ophiuchi			γ Herculis		
56.3			18.4			56.5			13.3			1.1		
0.2			22.3			0.2			16.6			4.6		
4.4			25.9			4.5			20.2			8.5		
7.7			28.7			7.7			23.1			11.5		
11.6			32.4			11.9			26.7			15.3		
80.2			128.1			80.4			99.9			41.0		
16	5	4.04	16	8	28.62	16	11	4.16	16	12	19.98	16	17	8.20
				7	10.56									

for Argelja  
 See June 16

for Argelja  
 See June 16.



continued on next page

$\alpha$ Scoopii			$\beta$ Herouli			$\gamma$ Scorpui			$\delta$ Ophiuchi			$\epsilon$ Herouli		
		8.9			28.1			29.8			48.8			15.3
		12.6			31.8			32.5			49.9			19.2
		16.4			35.9			37.7			53.0			23.5
		19.9			38.9			40.9			55.9			26.8
		24.0			42.9			44.9			59.6			31.1
		22.2			177.6			186.8			262.6			145.9
16	24	16.44	16	25	33.52	16	28	37.06	16	30	52.72	16	32	23.18
	20	1.39											36	8.24

1862 July 18<sup>th</sup> M. East continued  
 2145.

$\eta$ Herculis	$\epsilon$ Scorpion	$\zeta^1$ Scorpion	$\zeta^2$ Scorpion	$\kappa$ Ophiuchi
19.3	25.7	27.3	3.9	20.0
23.5	29.6	31.9	8.5	23.4
28.2	34.0	37.0	13.7	27.2
31.9	37.5	40.7	17.3	30.0
36.5	41.9	45.5	22.2	33.7
139.4	168.7	182.4	69.6	134.8
16 39 27.88	16 42 30.74	16 45 36.48	16 46 13.12	16 52 26.86
				57 11.87



Continued on next page.

Wavelength			E Wavelength			Zone Star 1			Zone Star 2			Zone Star 3		
	10.9		17	0	36.5			33.2			59.2			39.9
	14.8			1	2.8			36.7			2.6			43.1
	19.2				30.5			40.1			6.4			46.7
	22.5				51.3			43.0			9.3			49.6
	26.6			2	18.0			46.7			12.7			53.2
	44.0				141.1			199.7			90.2			232.5
16	56	18.80	17	1	28.22	17	30	39.94	17	32	6.04	17	37	46.50
				0	17.88									

82°15'41" N 0.8668  
 for 0.8708

1862 July 18<sup>th</sup> continued All East.  
 745.

Zone star 4	Zone star 5	Zone star 6	Zone star 7	Zone star 8
36.7	12.5	17.2	8.5	40.2
40.0	16.0	20.5	11.9	43.4
	19.6	24.2	15.6	47.3
46.5	22.5	27.1	18.4	49.8
50.0	26.1	30.7	21.9	53.6
	96.7	119.7	76.3	284.3
17 40 43.37	17 46 19.34	17 46 23.94	17 47 15.26	17 53 46.86

4343  
 48

38

28



- continued on next pg -

Zone star 9	Zone star 10	70 Cygni pr.	Zone star 11	Zone star 12
—	44.5	—	44.6	59.0
27.1	47.7	44.5	44.9	2.5
31.0	51.4	48.2	48.5	6.2
33.7	54.3	51.1	51.7	8.9
37.4	58.0	54.6	55.2	12.6
	255.8		261.9	89.2
17 57 30.62	17 58 57.16	17 59 47.92	18 5 48.38	18 16 5.84

✓ 0.0004

30.50  
71  
58  
40

B 47.90 +3.40  
C .91 -0.29  
D .98 3.12  
E .88 6.72

1862 July 18th continued M East

MS.

Zone star 13			Zone star 14			51 Ceph 14 sp			Zone star 15			Zone star 16		
						18	33	46.5			42.5			
	28.5						35	0.8			45.7		Ground	
							36	0.9			49.4		Broken.	
	34.8						37	16.9			52.0			12.6
	35.4						38	27.7			55.7			16.1
							96.0	92.8			245.3			
14	21	21.75	14	20	19.20	18	36	6.58	18	45	49.06	18	49	9.43
							34	40.95						

57 14 39.2 f 1.3175m  
14. 1.3180m

31.20

31.68

31.68

948  
7.38



continued on next page

Zone star 17	Zone star 18	Zone star 19	Zone star 20	Zone star 21
51.9	19.1	26.1		24.3
56.8	22.5	29.4	faint	27.6
58.8	26.3	33.2	44.4	31.5
1.8	29.2	35.9	47.0	34.0
4.6	32.4	39.7	50.4	37.9
171.9	129.5	164.3		155.3
18 58 58.38	19 1 25.90	19 2 30.86	19 7 43.89	19 9 31.06

44.81  
43.88  
43.68

1862 July 18<sup>th</sup> M East Entmound

45

L Sagittarii			Zone Sta 22			Zone Sta 23			y Aquila			x Aquila		
		31.3			6.1			41.3			54.4			15.5
		34.9			9.4			44.6			57.7			18.8
		39.1			13.2			48.5			1.6			22.6
		42.2			16.0			51.2			4.4			25.7
		46.1			19.7			54.7			8.1			29.2
		193.6			64.4			240.3			126.2			111.86
19	29	38.72	19	32	12.88	19	36	48.06	19	41	124	19	4.5	22.36
	28	23.23								39	45.92		44	7.04



Concluded on next page

$\beta$ Aquilae	Zone 1 hr 24	Zone 1 hr 25	Zone 1 hr 26	$\alpha$ Capricorni
64.8	11.9		13.7	36.7
48.2	15.2		16.4	40.1
51.8	19.0	44.0	20.7	43.9
57.7	21.9	46.9	23.5	46.8
58.3	25.4	50.5	27.0	50.4
257.8	93.4		101.7	217.9
19 49 57.56	19 53 18.68	19 55 43.76	20 3 20.34	20 11 43.58
48 36.13				10 28.14

43.71

43.71

18

30

C

43.71

.78

.78

1862 July 18<sup>th</sup> included, ME

45.

Fore star 27

B Capricorni

Fore star 28

49.0

12.2

49.4

52.4

15.7

52.7

56.1

19.6

56.6

58.9

22.5

59.6

2.5

26.3

3.0

218.9

46.3

221.3

20 15 55.78

20 22 19.26

20 25 56.26

21 3.65

x Virginis	13 18	+0.9	+1	14.79	-14.84	-05	✓
x Cygnus	15 29	.30		15.01	15.07	-06	✓
x Serpens	15 37	.18		15.09	15.09	.00	✓
β Scorpii	15 57	.05		15.12	15.12	.00	
δ Ophiuchi	16 7	.12		15.18	15.14	+04	
x Scorpii	16 21	.02		15.07	15.16	-09	✓
ξ Hercules	16 36	.34		15.28	15.19	+09	
x Ophiuchi	16 51	.19		15.18	15.22	-04	
x Sagittarii	19 28	.02		15.54	15.49	-02	
γ Aquilae	19 40	.19		15.51	15.51	.00	✓
x —	19 44	.18		15.50	15.52	-12	✓
β —	19 49	.17		15.60	15.53	+07	✓
x Capri	20 10	.08		15.52	15.56	-04	✓
ρ —	20 21	.06		15.67	15.58	+09	

17 32

1 15.288

Per R +0.102

Jell 12. 0.108

0.105



fini hys dii

In reducing the zone-stars the following constants were adopted  
 as definitive values were not yet determined

Wire - int

A to mean	+6.745	h Dec +1° 10'
B	+3.922	
C	-0.243	
D	3.225	
E	6.705	

These were afterwards changed in  
 the computation of broken transits

Collimation  $c = +0.14$ 

Clock corr 17 30	-	15.27
hr. rate	-	0.115
Int cor. 1' 0"	+	0.135
Change for 100' cor.	-	0.008

n+c from

Polaris	+0.400	
$\epsilon$ Ursa min	0.389	
$\gamma$ Cephei	0.491	
n+c	+0.427	
c	0.14	9.146
n	+0.287	9.453

-30	-0.01
20	+0.05
10	0.09
+0	0.14
10	0.19
20	0.25
30	+0.33

The clock was put back 2<sup>m</sup> on July 19<sup>th</sup> when it was found

6/2 July 22. M. E.

15

$\alpha$ Coronae			$\delta$ Serpentis			$\epsilon$ Serpentis			$\mu$ Serpentis		
	11.3			45.2			50.2			6.6	47.4
	15.0			48.6			53.7			10.0	50.8
	19.2			52.6			57.4			13.8	54.3
	22.3			55.7			0.2			16.7	57.4
	26.4			59.6			3.9			20.3	0.9
	94.2			261.7			165.4			67.4	210.9
15	28	18.94	15	34	52.34	15	36	57.08	15	39	13.48
	28	53.72		35	51.69		37	31.69		41	54.18



Continued on next page

<i>Chlorantha</i>	<i>Gp 750 up</i>	<i>62 waves minom B.</i>	<i>10 pphinsti</i>	<i>2 pphinsti</i>
18.4	15 52 38.4	15 56 25.1	29.3	23.7
21.6	58 21.5	56 52.2	32.6	27.1
25.4	53 55.3	57 24.8	36.4	30.7
28.2	54 39.3	57 48.9	39.2	33.6
31.8	55 19.2	58 20.4	42.8	37.2
125.4	173.7	171.4	180.3	152.3
15 43 25.06	15 53 <del>58.74</del>	15 57 22.28	16 6 36.06	16 10 30.46
	3 54 28.52	57 59.71	7 10.62	

85 10.575 to 1.0723  
 10 1.0758  
 83 21 39.4 to 0.9341  
 10 0.9370

1862 phae. proj. 392

4 Hermin	2 Hermin	40 Ophirata	64 Camelop 13 sp.	2 Ophirata
11.4	43.5	7.1	16 25.4	56.0
15.1	46.9	10.6	17 7.8	57.5
18.9	50.7	14.6	17 41.0	1.7
21.9	53.6	17.6	18 24.9	4.1
25.8	57.4	21.4	19 4.2	7.8
93.1	252.1	71.3	103.3	124.6
16 15 18.62	17 7 50.42	17 12 14.26	17 17 44.86	17 28 0.92
	8 24.97		18 13.28	28 35.45

85 6404 5 1.0679  
 14 1.0695



finis hujus diei

Comet s.p. &amp; Scorpi on.

19.3  
 29.1  
 27.2  
 48.7  
 58.3  
 30.4  
 34.4  
 134.4

17 29 39.30 16 20 26.88  
 21 1.38

♌ Coronae	15 29	+0.30	1 25.42	25.48	-0.06	✓
♏ Serpentis	15 37	0.17	25.56	25.49	+0.07	✓
♏ Ophiuchi	16 8	0.12	25.50	25.55	+0.01	
♏ Scorpii	16 21	0.02	25.57	25.57	-0.03	✓
♏ Hercules	17 9	0.22	25.67	25.66	+0.01	✓
♏ Ophiuchi	17 29	+0.21	25.64	25.70	+0.02	✓

16 24 + 1 25.572

R. Rate 1.08

Jolly  
 .113  
 .110

49° 27' 5" on 16th  
 in 0.4466m

A 39.41 -18.89  
 B 39.19 -9.57

1862 July 26<sup>th</sup> M.W. $\delta$  Ophiuchi $\beta$  Ophiuchi $\mu$  Herculis $\zeta$  Draconis $\gamma$  Draconis

13.1

36.0

53.0

16.4

40.0

58.7

11.8

19.6

43.3

3.3

15.7

23.3

47.5

54.2

9.3

19.0

26.7

51.2

0.3

14.7

99.5

218.0

139.0

17 28 12.14  
35.43

17 36 19.90

17 40 43.60  
41 6.96

17 50 47.98

17 53 3.80  
[27.34]

A 12.10 -6.90

B 22 -3.48

C 10 +0.30

47.98 -12.32

47.97 -6.23



Continued on next page

<i>M. Sapientarii</i>	<i>S. Sapientarii</i>	<i>M. minoris</i>	<i>S. Cephæthæ. sp.</i>	<i>B. Lynce</i>
87	43.7	14 14 34.7	18 32 2.2	31.3
87	47.9	15 35.4	33 10.9	35.6
11.4	57.2	16 23.2	34 29.0	39.0
15.8	55.4	17 26.0	35 27.2	43.5
17.4	59.2	18 21.6	36 42.0	47.5
	257.4	140.9	111.3	196.9
18 5 12.13	18 11 57.48	14 16 28.18	18 34 22.26	18 44 39.38
5 35.24		16 53.38	34 43.27	45 2.58

$86.36 \pm 21.3$   $1.2269$   $87 \pm 14.369$   $1.3175$   
 $1.2277$   $1.3179$

$12.19 - 7.21$   
 $16 - 3.64$   
 $11 + 0.31$   
 $15 + 3.35$

July 26<sup>th</sup> Mr. W. Conklin

<i>Orion</i> $\beta$ type	<i><math>\alpha</math> Sagittarii</i>	<i><math>\delta</math> Serpentis pr.</i>	<i><math>\theta</math> Serpentis seq.</i>	<i><math>\epsilon</math> Aquilae</i>
33.0	16.7	55.8	57.2	55.2
37.6	20.8	59.4	0.8	58.9
40.9	24.0	2.1	3.5	1.9
45.4	28.1	5.8	7.2	5.8
49.3	31.7	9.2	10.6	9.3
206.2	121.7	132.3	79.3	171.1
18 44 41.24	18 46 24.26	18 49 2.46	18 49 3.86	18 53 2.22



Continued on next page

0 Sagittarii	5 Aquila	25 Canis M. sp.	4 Argemini B. sp.	2 Aquila
59.5	37.9	19 0 36.8	19 5 51.2	54.3
3.2	41.6	1 2.8	9 6.3	58.0
6.2	44.5	1 31.2		0.8
10.0	48.3	1 53.9	15 24.0	4.5
13.2	51.8	2 21.7		8.0
92.6	214.1	146.9		128.6
18 50 6.52	18 58 44.82	19 1 29.38	19 12 23.10	19 11 1.12
	59 7.91	1 51.75	12 38.05	11 24.29

$4.20$   
 $+ 4.5$   
 $82.39$

$8.8763$   
 $0.8555$   
 $0.8901$   
 $0.89372$

$108.18$   
 $71$   
 $+ 7.3$   
 $89$

$9.0869$   
 $0.8621$   
 $1.7650$   
 $1.7650$

$A$  22.8 +6 31.6  
 $B$  24.3 +3 18.0  
 $S$  22.2 -3 1.8  
 $69.3$

1862 July 26. M.W.

<i>D. Aperta</i>		<i>S. Volpura</i>		<i>B. Cygni</i>		<i>K. Taji Marcii</i>		<i>O. Cygni</i>	
	6.6		31.1		42.3		52.8		14.1
	10.2		(34.9)		[46.2]		56.8		16.8
	13.1		38.0		49.6		0.0		24.2
	16.8		42.1		53.8		4.0		29.9
	20.1		—		57.6		7.8		35.0
	66.8						121.4		122.0
19	18 13.36	19	22. 38.37	19	24 49.94	19	28 0.28	19	32 24.40
	36.51						23.06		

A			A	50.00	-7.60
B	18.37	-3.73	B	49.96	-3.84
C	32	+0.32	C	49	+0.32
D	(37)	+3.42	D	(-72)	+3.52
E	48	+7.38	E	59	+7.57



*finis hujus diei*

$\gamma$ Aquilae	$\alpha$ Aquilae	$\beta$ Aquilae	$\gamma$ Ophiuchi
16.0	37.2	6.3	2.7
19.4	40.8	10.0	6.4
21.6	43.7	12.7	9.2
26.3	47.5	16.5	12.9
29.7	50.8	19.9	16.3
114.0	220.0	68.4	47.5
19 39 22.80	19 43 44.00	19 44 13.08	17 58 9.50
45.97	44 7.09	36.19	

9.407 9.166

+30°	-0.14
20	0.56
10	0.97
+0	1.20
-10	1.87
20	2.42
30	3.04

$\alpha$ Ophiuchi	-.09	23.38	17 29	23.40	+02
$\mu$ Hercules	-.02	23.38	17 41	23.37	-01
$\rho$ Sagittarii	-.25	23.36	18 6	23.33	-03
$\beta$ Grae	.00	23.20	18 45	23.26	+06
$\xi$ Aquilae	-.08	23.17	18 59	23.24	+07
$\omega$ —	-.09	23.20	19 11	23.23	-03
$\delta$ —	-.13	23.28	19 19	23.20	-08
$\gamma$ —	-.10	23.27	19 40	23.17	-03
$\epsilon$ —	-.11	23.20	19 44	23.16	+03
$\theta$ —	-.11	23.22	19 47	23.15	+01

- 23.250 18 52

Paul

Jolly

.113  
.099  
.106

1862 Aug 28th M.W.

Mars. sp.

x Bookin

3	4	34.4		55.5
	6	41.1		2.4
	9	15.2		5.4
	11	5.8		9.4
	13	28.0		12.8

124.5

88.5

13	9	0.90	14	9	5.70
	9	24.40		9	24.62
	9	15.82			

14 9 -10.96



1862 Aug 1<sup>st</sup> Wk

4 continued on next page

$\beta$ Scorpii	pr.	$\epsilon$ Ophiuchi	$\gamma$ Herculis	$\beta$ Herculis	$\tau$ Scorpii
	16.2	52.3		7.4	8.7
	19.9	55.9		11.3	12.8
	23.0	58.8	47.9	14.3	16.0
Chambers	[27.9]	2.4	50.8	18.1	20.0
		5.8	54.4	21.7	24.0
		175.2		72.8	81.5
15 57	23.28	16 10 59.04	16 15 47.25	16 24 14.56	16 27 16.30
	28.91				

$\delta$	$\frac{1}{2}$			
	2 <sup>nd</sup>	0.0255		0.0256
	2 <sup>nd</sup> - 1	8.7807		
A		<del>-7.14</del>	47.26	-7.14
B	-3.60	-3.61	19	-3.61
C	23.30	+0.30	51	+0.31
D	21	3.31		
E	32	7.12		

1862 Aug 1<sup>st</sup> continued W.W.

$\zeta$ Ophiuchi			$\zeta$ Heracles			$\eta$ Heracles			$\kappa$ Ophiuchi			$\epsilon$ Heracles		
		25.1			54.3			58.4			59.2			50.0
		28.7			58.4			3.1			2.8			54.2
		31.6			1.9			6.6			5.8			58.6
		35.2			6.1		Clouds.	—			9.4			1.8
		38.6			10.1			15.9			12.6			5.8
		159.2			130.8						89.8			169.4
16	29	31.84	16	36	2.16	16	38	7.10	16	51	5.96	16	54	57.88
				36	8.06						11.76			

and 0.1106

A 7.22 -5.68

M

C 6.92 +0.37

D 7.13 +4.03

G

7.17 +8.17



Monday 4<sup>th</sup> W.W.

~~Mean correction of periods~~  
Period 17 used

$\beta$ Scorp	-24	-5.87	15.57
$\zeta$ Heruli	-01	5.91	16.36
$\kappa$ Ophiuchi	-10	5.90	16.51
		- 5.893	16.28

No corrections set down as the high corrections are a little uncertain

1862 Aug 14 MW



1462 by. <sup>Em</sup> Went.

$\alpha$ Bootis			$\epsilon$ Bootis foll.			$\beta$ Ursa minoris			$\zeta$ Scorpii			$\zeta$ Scorpii		
25.4			0.4			50.8						57.4		
29.2			4.5			4.9						2.1		
32.1			7.6			15.1						5.8		
36.0			12.0			29.3			34.1			10.6		
39.7			15.7			41.9			38.7					
162.4			40.2			142.0								
14	g	32.68	14	3g	8.04	14	51	16.40	16	44	29.58	16	45	6.24
		24.50			0.09			8.36						

$\delta$   $\frac{4}{100}$   
0.0527

0.1298

0.1298

A - 7.59 8.11  
B - 3.84 16  
C + 0.32 7.92  
D + 3.53 .03  
E + 4.58

A 29.63 - 9.07  
B 29.52 - 4.59 6.02 - 4.58  
C .19 + 0.39  
D .31 + 4.21  
E .46 + 9.06

162 Aug 6<sup>th</sup> M West.

$\kappa$ Ophiuchi	Star preceding $\epsilon$ Herculi	$\epsilon$ Herculi	$\epsilon$ Ursa minoris	$\alpha$ Herculi
13.3	50.8	4.0	16 59 30.8	26.2
16.8	56.8	8.2	58.1	29.9
19.6	57.4	11.6	17 0 18.2	32.8
23.4		15.8	46.1	36.7
26.7		[19.9]	1 11.1	39.9
99.8			104.3	165.5
	?			
16 57 19.96	16 54 58.58	16 55 11.87	17 0 20.86	17 8 33.10
11.69			0 13.17	24.82

Sud

0.0675

0.0675

 $\delta$  52° 15' 43.3"  $\epsilon$  0.6666  
 $\alpha$  0.06702

A		[12.05]	- 7.86
B		11.83	- 3.97
C	57.74	+ 0.34	+ 0.34
D	58.45	3.65	+ 3.15
E	65	7.85	+ 7.85



Continued on next page

$\beta$ Herenbi	40 (E) Optimisti	42 (B) ophiurhi	64 Causlap. <sup>sp.</sup> B.	$\beta$ Heacouin
17.4	49.6	37.5	17 5.7	19.0
21.7	53.6	41.6	17 45.3	24.6
25.3	56.4	44.5	18 28.7	29.1
30.0	0.4	48.7	19 1.8	35.4
34.1	3.9	52.5	19 43.2	40.7
126.5	160.9	224.8	124.7	148.8
17 10 25.70	17 12 56.78	17 13 44.96 36.15	17 14 26.94 18 17.01	17 27 29.76 [21.67]

$\gamma$  85° 11' 37" 85 1.0696  
 sp. nr. 1.0694

1862 Aug. 6<sup>th</sup> M West.

$\alpha$ Ophiurii			$\mu$ Sagittarii			$\delta$ Sagittarii			$\eta$ Serpentis			$\delta$ Ursae min. $\Delta$		
36.9			36.6			15.4			16.1					
40.5			40.5			19.6			19.7			16 6.5		
43.3			43.3			22.7			22.3			16 52.7		
47.0			47.6			27.2			26.1			17 56.2		
50.5			51.0			30.9			29.5			18 57.6		
218.2			219.0			115.8			110.7					
17	28	43.64	18	5	43.80	18	12	23.16	18	14	22.74	18	46	58.37
	26	35.34		5	35.14								16	50.58

$256^{\circ} 36' 24''$   $\delta$  1.2270  
 $\alpha$  1.2279

A 57.92 -1 53.68  
 B 58.74 - 57.46  
 C 57.57 + 4.67  
 D 59.26 + 52.70



Continued on next page.

	51 Cepheus 14 <sup>h</sup> 0 <sup>m</sup>		θ Serpentis 1 <sup>h</sup> 0 <sup>m</sup>		θ Serpentis 1 <sup>h</sup> 0 <sup>m</sup>		ε Aquilae		α Sagittarii	
	32	34.4		27.7		28.9		26.9		31.0
	33	44.0		31.2		32.6		30.8		34.8
				33.8		35.1		33.7		37.9
	35	58.0		37.6		38.8		37.4		42.0
	37	15.0		40.6		42.3		40.7		45.4
				170.9		177.7		169.5		191.1
37	18	34 54.35	18	49	34.18	18	49	35.54	18	53 32.90
58		34 46.74							18	56 38.22

	99	3								
	35.36	8.9736								
	-5.4	0.7921								
20	57	14 33.85		1.3173						
24	57	14 33.85		1.3173						
	57	14 33.85		1.3173						
68	57.24	+2 19.84								
46	57.69	+1 10.69								
87										
26	57.10	-1 4.90								
	57.36	-2 19.64								

1862 Aug 6<sup>th</sup> Mount

$\gamma$ Aquilae			$\epsilon$ Camelopardalis			$\omega$ Aquilae			$\beta^1$ Sagittarii			$\beta^2$ Sagittarii		
9.6			1	8.9		26.1			48.0			20.1		
13.5				35.4		29.8			53.2			25.1		
16.2			2	3.9		32.7			57.1			29.0		
20.0				25.5		36.3			1.9			31.2		
23.5				54.9		39.9			6.7			38.7		
82.8				128.0		104.8			166.9			147.1		
18	59	16.56	19	2	1.72	19	11	32.96	19	12	57.38	19	13	29.42
		7.56		1	52.96			24.28						

$\delta 62^{\circ} 39' 38''$   $\delta$  0.59012  
 $\delta$   $\delta$  0.59372



*δ Aquilae*

38.6

42.2

45.0

49 18 45.34  
36.52

<i>α Bootis</i>	14 10	-11	+7.87	7.90	-0.3
<i>ε —</i>	14 39	-09	7.86	7.96	-10
<i>α Opticulus</i>	16 51	-13	8.14	8.22	-08
<i>α Herules</i>	17 8	-12	8.16	8.25	-09
<i>α Opticulus</i>	17 29	-12	8.18	8.29	-11
<i>α Sagittarii</i>	18 6	-22	8.40	8.37	+03
<i>ξ Aquilae</i>	18 59	-12	8.56	8.47	+09
<i>ω —</i>	19 11	-12	8.56	8.49	+07
<i>δ —</i>	19 19	-14	8.68	8.57	+17

17 17 +8.268

Large variation of clock or instrument used

PK  
7R

+117

+120

118

dec 0.005

t

h

C 68.29 +0.29

R 93 +3.13

E 40 +6.8



	Klaunm	β Vir	γ Vir	5 Vir	η Boot	θ Vir	δ Boot	ξ Boot	ζ Boot	κ Boot	λ Boot	μ Boot	ν Boot	also	slip	E1
March 26 <sup>th</sup>			-.06													
Apr 16	-.14	-	-.01	+.03												
— 24	.00		+.02	+.03												
— 25			+.11													
— 26	+.07		+.02													
— 29			-.06	+.00												
— 30			-.06													
May 7						+.01										
14	+.04		+.03	+.02	-.02	+.09	+.06	+.03	+.07	-.01	-.01	-.06	+.02	+.04		
17		-.05	-.03	00	-.03	00			+.09	+.13						
23			-.02	-.01	-.09	+.03	-.17		.00	+.05	+.01	+.09	-.09	+.07		
28					-.02	+.06	-.02	-.03								
June 11						+.01	-.03	-.02	-.02	-.01	00		+.09	00		
16			-.02	10	-.09	+.01	+.02	-.03				+.04	-.06	+.03	+.00	
17			+.05	+.07	-.07	+.03	+.01	-.06	+.02	+.02	-.03		-.06	+.02	+.00	
July 3														+.02	-.01	
18			-.05											-.06	00	
22														-.06	+.07	
26																
Aug 6							-.03									
11							-.02									
20																
21			+.08		-.08		+.01									
Sept 2																
4																
8																
10								+.01								
11																
16																
18																
24																
25																



slip E Bootes

B. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 222. 223. 224. 225. 226. 227. 228. 229. 230. 231. 232. 233. 234. 235. 236. 237. 238. 239. 240. 241. 242. 243. 244. 245. 246. 247. 248. 249. 250. 251. 252. 253. 254. 255. 256. 257. 258. 259. 260. 261. 262. 263. 264. 265. 266. 267. 268. 269. 270. 271. 272. 273. 274. 275. 276. 277. 278. 279. 280. 281. 282. 283. 284. 285. 286. 287. 288. 289. 290. 291. 292. 293. 294. 295. 296. 297. 298. 299. 300. 301. 302. 303. 304. 305. 306. 307. 308. 309. 310. 311. 312. 313. 314. 315. 316. 317. 318. 319. 320. 321. 322. 323. 324. 325. 326. 327. 328. 329. 330. 331. 332. 333. 334. 335. 336. 337. 338. 339. 340. 341. 342. 343. 344. 345. 346. 347. 348. 349. 350. 351. 352. 353. 354. 355. 356. 357. 358. 359. 360. 361. 362. 363. 364. 365. 366. 367. 368. 369. 370. 371. 372. 373. 374. 375. 376. 377. 378. 379. 380. 381. 382. 383. 384. 385. 386. 387. 388. 389. 390. 391. 392. 393. 394. 395. 396. 397. 398. 399. 400. 401. 402. 403. 404. 405. 406. 407. 408. 409. 410. 411. 412. 413. 414. 415. 416. 417. 418. 419. 420. 421. 422. 423. 424. 425. 426. 427. 428. 429. 430. 431. 432. 433. 434. 435. 436. 437. 438. 439. 440. 441. 442. 443. 444. 445. 446. 447. 448. 449. 450. 451. 452. 453. 454. 455. 456. 457. 458. 459. 460. 461. 462. 463. 464. 465. 466. 467. 468. 469. 470. 471. 472. 473. 474. 475. 476. 477. 478. 479. 480. 481. 482. 483. 484. 485. 486. 487. 488. 489. 490. 491. 492. 493. 494. 495. 496. 497. 498. 499. 500. 501. 502. 503. 504. 505. 506. 507. 508. 509. 510. 511. 512. 513. 514. 515. 516. 517. 518. 519. 520. 521. 522. 523. 524. 525. 526. 527. 528. 529. 530. 531. 532. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822. 823. 824. 825. 826. 827. 828. 829. 830. 831. 832. 833. 834. 835. 836. 837. 838. 839. 840. 841. 842. 843. 844. 845. 846. 847. 848. 849. 850. 851. 852. 853. 854. 855. 856. 857. 858. 859. 860. 861. 862. 863. 864. 865. 866. 867. 868. 869. 870. 871. 872. 873. 874. 875. 876. 877. 878. 879. 880. 881. 882. 883. 884. 885. 886. 887. 888. 889. 890. 891. 892. 893. 894. 895. 896. 897. 898. 899. 900. 901. 902. 903. 904. 905. 906. 907. 908. 909. 910. 911. 912. 913. 914. 915. 916. 917. 918. 919. 920. 921. 922. 923. 924. 925. 926. 927. 928. 929. 930. 931. 932. 933. 934. 935. 936. 937. 938. 939. 940. 941. 942. 943. 944. 945. 946. 947. 948. 949. 950. 951. 952. 953. 954. 955. 956. 957. 958. 959. 960. 961. 962. 963. 964. 965. 966. 967. 968. 969. 970. 971. 972. 973. 974. 975. 976. 977. 978. 979. 980. 981. 982. 983. 984. 985. 986. 987. 988. 989. 990. 991. 992. 993. 994. 995. 996. 997. 998. 999. 1000.

+0.1

+0.2 10

+0.3 00

+0.4 +0.2

+0.5 +0.1

-0.1

00

+0.6

-1.0

+1.5 -0.3

+0.3 +0.9

-0.6 +0.5

00 +0.4 -0.9 +0.9 -0.4

+0.1 -0.3

+0.1

+0.2

+0.2

-0.8 -0.9

-1.1

-0.1

0.0

-0.6

-0.8

-0.2

-0.3 -0.4

-1.3

-0.9

-1.8 -0.2

-2.3

00 +0.7 -0.1 -1.0

+0.1

-0.8

+0.3 +0.1

-1.0

-0.5

-0.6

0.1 +1.8 +0.5



Reduction of the observations of July 18<sup>th</sup>

How <sup>up</sup> mean  
The reduction to apparent place 1862.0 was made by the formulae in *Astronomical Tables* vol. II  
p. 311. and have been tested.

The remainder of the reduction is provisional simply, for immediate use in the  
Tables.

$\delta$	$+1^\circ$	1862 July 18. 16 <sup>h</sup> 48 <sup>m</sup> 49 <sup>s</sup>			
45	7.0658	G	4 <sup>h</sup> 3'	f	+41.82
" 1	8.8240	H	155 41	g	+18.24
" 5	7.2877	th		h	+20.13
" 6	5.5296			i	+3.99

lg 1.2611  
" h 1.3039

	17 30	18 0	18 30	19 0	19 30	20 0	20 30
	262 30			255			
sin (6 <sup>h</sup> 4)	9.9992	9.9989	9.9911	9.9756	9.9516	9.9183	9.8741
sin (14 <sup>h</sup> 4)	9.9223	9.9597	9.9810	9.9962	9.9998	9.9979	9.9884
$\tau + i$	-75.135	75.192	75.250	75.308	75.365	75.422	-75.480
- $\alpha$	-2.788	-2.788	-2.788	-2.788	-2.788	-2.788	-2.788
- $\gamma$ etc	+0.021	+0.021	+0.021	+0.020	+0.019	+0.018	+0.016
- $\mu$ etc	-1.161	-1.223	-1.285	-1.325	-1.342	-1.336	-1.307
$\Delta i$	+0.008						
- $\gamma$ etc	+0.035	+0.035	+0.035	+0.033	+0.032	+0.029	+0.027
- $\mu$ etc	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001

	$\kappa$	$\kappa'$	$\delta = 1^\circ$
17 30	-79.04	+0.04	
18 0	79.18	4	
30	79.30	4	
19 0	79.40	4	
30	79.48	4	
20 0	79.53	4	
30	-79.58	+0.03	







1862phae. proj.	Date	h	y in T	(M + S) az - (P + L) in		y in T	F	(3 + A + S) y in T - P - L = y in T
1862phae. proj.	h	A	B	C	D	E	F	G
May 14 7 26	9.8357	9.779	1.0450w	1.2171w	0.3676			
15 15	8365	793	0.415w	1.2190w	0.3685			
15 11 13	8391	814	0.333w	1.2232w	0.3707			
12 23	8393	819	0.327w	1.2235w	0.3709			
17 12 3	8455	8441	0.744w	1.2332w	0.3763			
14 51	9.8459	8447	1.0101w	1.2338w	0.3766			
23 12 3-2	9.8550	9.8362	0.9366w	1.2588w	0.3925			
14 21-24	8552	8413	0.9342w	1.2596w	0.3932			
28 13 17-1	9.8633 0.3560	9.8632	0.8594w	1.2760w	0.4065	4.9089w	250° 32'	
14 35	8633	8638	0.8569w	1.2761w	4060	0.7945w	1.9109	
June 5 12 51	9.8796	9.9816	0.6840w	1.2957w	0.4263			
11 14 2	9.8909 0.3462	0.0870	0.4776w	1.3049w	0.4447	4.9112w	221° 33'	
15 55	8912	0887	0.4738w	1.3050w	4450	0.4426w	1.8114	
16 13 27	9.9061 0.3420	0.0740	0.1656w	1.3093	0.4584	4.9093w	220° 18'	
16 9	9063	0728	0.1553w	1.3094w	4587	0.5361	1.9093	
17 13 18	9.9055 0.3405	0.0647	0.0599w	1.3097w	0.4611	4.9097w	220° 0'	
15 34	9056	0643	0.0572w	1.3098w	4613	0.105w	1.0091	
July 3 15 27	9.9314	0.0909	0.5831	1.3013w	0.5759			
16 36	9315	0909	0.5847	1.3012w	5759			
July 18 15 28	9.9561 0.3214	0.0883	0.9155	1.2641w	0.5460	4.9781w	266° 6'	
20 25	9.9562	0.0903	0.9189	1.2634w	0.5465	4.9758w	266° 4'	
22 15 34	9.961 0.3184w	0.1262	0.9701	1.2488w	0.5569	4.9746w	259° 50'	
17 29	9.9612w	0.1171	0.9711	1.2485w	0.5571	1.0283w	1.7015	
26 17 36	9.9701 0.3152w	0.0944	1.0179	1.2304w	0.5661	1.7667w	258° 12'	
19 32	9.9702 3152w	0.0932	1.0167	1.2301w	5662	1.0068w	1.7752	
Aug. 6 14 38	9.9835 0.3080w	0.0852	1.1159	1.1666w	0.5977	1.7445w	255° 33'	
19 12	9.9839 0.3068w	0.0842	1.1173	1.1657w	0.5982	1.1558w	1.7555	
Chlorine Test	h	A	B	C	D	E	F	G
May 20 0	9.8515	9.8222	0.9735w	1.2477w	0.3857			
21	36	8149	0.647w	1.2518w	78			
22	44	8248	0.674w	1.2558w	0.3905			
23	52	8420	0.936w	1.2596w	33			
24	60	8616	0.912w	1.2632w	60			
25	72	9009	0.7042w	1.2668w	87			
26	9.8588	9.9340	0.8885w	1.2701w	0.4024			
27	9.8610	9.9633	0.8721w	1.2733w	42			





Aglaia = Stars of 1861. (Dr. C.H. Peters)

33 Scorpii for Dec.

9" 15 54 29 -27° 45.4

8 16 0 20 -27 59.5

ε' Scorpii 7 16 3 41 -28 3.1 in Mayer and Bradley

α Scorpii 6.7 16 9 41 -28 15.7 in Mayer; not in Bradley.

He calls this 3α Scorpii

There are plenty of Mayer's stars hereabouts.

Stars for Harvard Long

1862.0 17 36 28. +1. 6.2

39 24 1 6.1

45 0 1 8.2

45 5 1 8.9

46 7 1 8.8

56 11 1 8.1 [Dec]

18 4 29 1 5.5

7 57 1 6.5

20 13 1 2.3

47 50 1 1.5 [Dec]

57 40 1 6.2 [Dec]

1 1.0

19 0 48 1 1.4 [Dec]

2 42 1 10.4

8 11 1 10.4







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