

KG
11365
36

A.36

Transit Circle

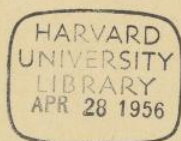
1861. March 21 - Oct. 1. 1861

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KG-11365.36



KG 11365.36



March 23, 1861

M. East

A. H.

 β Tauri" ϵ Orionis

11.9 52.0

15.5 55.1

19.5 58.7

23.4 2.0

5 20 27.05 32 5.3

97.3 173.1

5 20 19.465 31 58.62

Mar. 24

H.P.7.

p Leonis

Moon I

M. Earl
" q Leonis

15.0

53.8

17.1

18.2

57.0

20.5

21.9

0.5

24.0

25.3

3.9

27.4

10 28

28.4/0

56

7.411

12

30.7

108.8

122.6

119.7

10 28

21.76/0

56

0.5211

12

23.94

March 25

A 71

 α Aurigae β Tauri

8.0

15.1

12.7

18.7

17.8

27.7

22.7

26.1

5 9

27.3 5 20 30.3

88.5

113.4

5 9

17.705 5 20 22.68

Mar 28

H.P.V.

All Ear.

Moon TTD		20 Librae?		2' Librae		Unknown	
	1.5		49.5			11.7	Lame mejos 17.8
	5.0		53.2			14.9	2' Librae and 21.1
	8.9		57.1			18.7	north 8 about 24.9
	12.4		0.8			22.1	28.3
14	57	16.3	14	59	4.4	15	7
	44.1		165.0			25.6	15 8 32.0
						93.0	124.1
14	57	8.82	14	58	57.00	15	7
						18.60	15 8 24.82

2' Librae

March 29

H.P.J.

JK East

1861phase

β Scorpii			Moon HD			δ Ophiuchi			σ Scorpii			α Scorpii			
		16.5			54.6			58.9			39.5			48.1	
		19.8			58.4			2.1			43.0			51.8	
		23.8			2.3			5.7			47.1			55.7	
		27.7			6.1			9.0			50.5			59.3	
16	0	30.5	16	2	9.8	16	10	12.2	16	15	54.2	16	24	2.9	17
		117.7			131.2			87.9			234.3			217.8	
16	0	23.5	16	2	2.2	16	10	5.5	16	15	46.8	16	23	55.5	17

Mar 29

N.P.Y.

Ill. East

E. Wrs. Min.

3.1		28.5
1.8		52.7
5.7		18.7
2.3		43.4
9	17 3	67.5
8		150.8

56	17 3	18.16
----	------	-------

March 31.

H.P.T.

M. East

α Hercul	θ Ophiuchi	δ Ophiuchi	γ Draconis	Moon 110	
17.0	27.3	35.4	16.4	2.4	
20.5	30.9	38.9	21.6	6.2	18
23.9	34.8	42.7	27.2	9.9	
27.6	38.5	46.5	32.9	13.7	
17 11 30.717	16 42.117	19 50.217	56 38.018	10 17.5	
119.7	173.6	213.7	136.1	49.7	
17 11 23.9417	16 34.7217	19 42.7417	56 27.2218	10 9.94	18

Mar. 31

H.P. 7.

		S Urs Min		of Sagittarii		of Sagittarii	
0			7.8		56.7		
4			2.3		6.4		37.2
2	18	20	1.9		9.9		40.5
9			57.5		8.0		44.6
7			53.3		11.6		48.5
5				18	40	18	49
7			122.8		80.6		222.7
4	18	20	0.56	18	40	4.12	18 49 44.54

Apr. 8

M

 α Orionis μ Geminor

49.1

43.0

52.3

46.5

55.9

50.4

59.2

54.0

5- 57 2.7 6

17

57.6

219.2

251.5

5- 50 55.84 6

17

50.30

Apr 11

A.M.

v Leonis

7.3

10.1

14.1

17.4

11 33- 20.7

20.0

11 33- 14.00

33 13.75

29 52.81

3 20.94

Apr. 17/18.

HS

L. Cassiopeiae

Polaris

58.7	1	6	28.0
4.1		8	39.8
10.5		11	1.6
16.2			
22.1		15	23.0
147.6			

Q 36 10.22
32 38.05

Apr. 20

A. U.

2 Can Maj

31.6

33.0

38.7

42.1

6 42 48.6

193.0

6 42 38.60

Apr. 20. 1861

N. P. 7.

W. East
A. H.

1861pha

#	♂ Leonis		♀ Leonis		Moon TO		♂ Leonis		♀ Leonis					
	24.2		30.1		2.5		29.3		53.4					
	27.5		33.5		5.7		32.5		58.6					
	31.1		37.3		9.4		36.2		62.2					
	34.4		40.6		12.7		39.6		5.5					
9	56	37.8	10	4	43.9	10	29	16.1	10	45	42.9	10	57	8.8
	155.0		185.4		46.4		180.5		130.5					
9	56	30.10	10	4	37.08	10	29	9.28	10	45	36.10	10	57	2.10

Apr. 23

AH

Procyon

Pollux

37.4	37.2	23.6
8.6	40.4	27.0
2.2	44.0	31.2
5.5	47.3	34.8
8.8	50.7	38.7
0.5	219.6	155.3
10	43.92	31.06

May 3, 1861

A.H.

 β Leonis γ Urs Maj

53.6

21.4

56.2

26.6

0.0

32.8

3.4

38.6

11 46

6.5-11

50

44.2

119.1

-

163.6

11 45

59.82 11

50

32.72

May 15

- AU

M. Ear

β Geminor		Moon IV		Hydrae	
	3.0		37.7		1.2
	6.7		41.0		4.3
	10.6		44.9		8.0
	14.3		48.5		11.3
7	41	18.1	8	22	52.0
		52.7			224.1
				25	14.7
					395
7	41	10.5	8	22	44.82
				25	7.90

186, May 16 M.E.

P.R.I.

γ Bootis	ϵ Bootis	β Librae	μ Bootis	γ Ursae minoris
48.7	31.2	52.3	32.8	3.7
52.2	34.6	55.5	36.8	14.6
56.1	38.6	59.1	41.3	26.2
59.9	42.2	2.3	45.3	37.7
3.7	45.7	5.9	49.6	48.1
220.6	192.3	175.1	205.8	129.9

15 2 56.12 15 5 38.46 15 13 59.02 15 23 41.16 15 25 25.98

Harried

1861 May 16

HRT.

37 Librae

α Librae

Lat 287.6

5 Mosae min:

55.5	7.5	51.6	3.0
58.7	11.1	54.7	17.1
2.3	15.1	58.5	34.5
5.6	18.9	1.5	50.6
9.0	22.6	4.9	6.8
131.1	75.2	171.2	112.5

15 31 222 15 33 15.04 15 42 58.24 15 53 34.50

1st wire Bad.

1861 May 17. M. E.

Continued

me. pro

1861 phase	BM. 3906	BM. 8213 SP	β Leonis	β Virgin	15 Ormae
11	25 38.2	11 30 15.3	19.1	48.7	20.0
	26 0.2	31 12.4	22.4	57.8	29.6
	25.8	32 6.0	26.1	55.3	27.7
	48.6	33 6.5	29.45	58.7	31.4
27	12.1	33 59.1	32.95	1.9	35.3
	124.9	99.3	130.0	156.4	138.0
11	26 24.70				

11 16 24.98 11 32 7.86 11 46 26.00 11 47 55.28 12 24 27.60

1861 Aug 17. P.M. E.

continued.

7.14.5.

 α Corvi η Corvi β Corvi

12 Canum ven.

 ϵ Virgin1.1
4.3
7.9
11.3
14.9
39.513.0
18.4
15.225.6
29.0
33.0
36.4
40.2
164.257.9
55.3
59.8
4.0
8.3
178.337.2
40.3
44.0
47.3
50.8
219.6

12 27 7.90 12 29

12 31 32.84
12 27 (8.28)

12 53 59.66

12 59 43.92

Battery weak

1861 May 17 cont. ME

445

Polaris S.P.

4498 B.M.

23	7	54.2		
	10	4.3	13	24 14.8
	12	19.6		25 0.2
	14	44.2		28 42.4
	16	47.7		26 23.8
		170.0		

13	12	22.00
	7	48.61
	4	33.39

1861, May 18.

H.P. 7.

McEae

p Bootis		6 Bootis		12 Librae		22 Librae		p Mus Men						
	13.5		0.9		24.5		36.0		15.7					
	47.0		4.8		27.6		39.2		27.7					
	21.1		8.7		31.4		42.8		41.1					
	25.0		12.5		34.7		46.2		53.1					
14	30	29.0	14	33	16.5	14	47	38.3	14	58	6.2			
	105.6		43.1		156.5		213.9		143.8					
14	30	21.12	14	33	8.62	14	47	31.30	14	47	42.78	14	55	40.76

May 18. 1861

U.P.7.

Ill Ear

Libra		ψ Bootes		c. Bootes	
	20.6		52.8		35.6
	24.0		56.3		39.0
	28.1		0.4		43.0
	31.7		4.0		46.6
15 0	35.3 15	3	8.0 15	5	50.2
	139.7		121.5		214.4
15 0	27.9 15	3	0.3 15	5	42.88

May 19. 1861

H.P.V.

All Star

e Leonis		v Leonis		Moon 10		y Virginis		s Corvi	
	38.0		15.1		26.3		13.4		6.0
	41.2		18.3		29.6		16.4		9.2
	45.0		22.1		33.2		20.1		13.0
	48.0		25.2		36.3		23.3		16.3
// 27	51.4	// 34	28.7	// 55	40.2	12	17	26.7	12 27 19.9
	223.6		109.4		165.6			99.9	64.4
// 27	44.72	// 34	21.88	// 55	33.12	12	17	19.98	12 27 12.88

May 19.

U.P.T.

Ill Ear

1861phae

N. V. V.		"		"		Polaris S. p.		* Spica	
γ Corvi		β Corvi							
	20.0		30.8 13	8	2.8				18.6
	23.2		34.1	10	16.0				21.6
	27.1		38.0	12	26.2				25.4
	30.5		41.4	14	48.9				28.6
12	29	34.0 12	31	45.2	16	52.8 13	22	32.0	
	134.8		189.3		146.7			126.2	
12	29	26.96 12	31	37.90 13	12	29.34 13	22	25.24	
				7	49.50		27	55.63	
					39.52			29.67	

* disturbed by
clouds

1861 May 20 M.E.

J.H. S. 1861

y Virgin

C I

12 a Cassiopea gen.

Polaris S.P.

L Virginis

4.6	25.2	57.0	13 8 5.5	20.1
7.8	28.6	1.2	10 19.4	23.4
11.3	32.3	5.8	12 29.4	27.0
14.4	35.8	9.9	14 53.4	30.4
18.0	39.3	14.1	16 58.7	33.9
56.1	161.2	28.0	166.4	186.8

12 39 11.22 12 51 32.24 12 54 5.60 13 12 33.28 13 22 26.96
 50.50
 42.78

Medium.

BAC 4498

73 Virginis

13 24 18.9
 13 24 18.9
 25 5.6
 25 5.3
 26 29.1

8.2
 11.5
 15.0

13 29 8.02

$\Delta - 18^{\circ} 1'$
 $\mu = 1.054$ m.

III. - 0.05 8.15
 IV. - 3.59 7.91
 V. - 6.99 8.01

May 21. For other observations of May 21 see after May 23

Ill Eare

A.U.		" "		" "		" "		" "		" "		" "		
α Virginis		73 Virginis		Moon I		η Bootis		4700 B.A.C.						
	22.0		2.9		42.1		38.2		45.2					
	25.2		6.2		45.5		36.7		48.4					
	28.8		9.9		49.3		40.6		52.0					
	32.2		13.5		52.8		44.0		55.4					
13	22	35.6	13	28	17.0	13	50	56.6	13	52	47.4	14	7	59.0
	143.8		49.5				246.3				201.9			260.0
13	22	28.76	13	28	9.90	13	50	49.26	13	52	40.38	14	7	52.0.0

1861 May 23 M. End.

45.

α Leonis	δ Ursa majoris	γ Leonis praecedens	β Leonis	β Virginis
30.0	11.8	50.0	30.5	0.1
33.2	16.0	53.2	33.9	3.2
36.9	21.1	57.3	37.5	6.9
40.1	25.6	0.7	40.9	10.0
43.7	30.3	4.3	44.4	13.5
183.9	104.8	165.7	187.2	33.7
10 4 36.78	10 12 20.96	10 15 57.14	11 46 37.44	11 48 6.74

1861 May 23 M. East.

745

PM 833650			PM 4150			δ Corvi		γ Corvi		β Corvi				
11	56	1.7	12	15	16.8		13.3		27.5		38.0			
	56	49.7		16	21.6		16.5		30.7		51.4			
	57	34.3		17	37.2		20.3		34.5		45.4			
	58	26.6		18	53.1		23.6		37.8		48.6			
	59	10.7		19	52.4		27.3		41.3		52.5			
		123.0			171.1		101.0		171.8		226.1			
11	57	36.6	12	17	34.22	12	27	29.10	12	27	34.36	12	37	45.22

Seen by twilight
field
Atris not illum.

rated

Mag 6.9

1861 May 23 M. E.

H.P.S.			H.P.S.			H.P.S.		
Palanis I.P.			Moon I			Moon II		
					3.8			35.3
					7.3			38.9
					11.3			42.8
					15.1			46.4
13	10	24.0						
	12	32.2						
	14	59.0						
	17	5.5						
			16	0	19.1/6	2	50.0/7	13 6.2
					56.6		213.4	175.7
			16	0	11.32/6	2	42.68/7	12 59.14

May 23.

H. P. J.

All Love

II Hercules		40 F Ophiuchi		B. A. C. " 1662		β Draconis		α Ophiuchi	
44.5		14.8		9.3		47.1		2.9	
48.4		18.2		48.0		52.0		5.9	
53.0		22.0		25.9		58.1		10.0	
57.0		25.4		8.8		3.4		13.0	
15	12 17	17	29.1 17	23	46.6 17	32	8.9 17	33	16.5
204.1		109.5		138.6		169.5		483	
14	52.82 17	17	21.90 17	22	27.72 17	31	58.90 17	33	9.66

May 23

H.P.J.

Ill East

1861phae

N.P.V.

u Her	ε Draconis	γ Draconis	70 Ophiuchi	δ Saggiittarii	B.
34.0	35.7	52.4	59.9	398	
37.5	41.6	57.3	3.0	41.5	
41.9	48.1	3.2	6.6	47.6	
45.5	54.1	8.5	9.8	51.3	
17 45 49.6	17 56 0.3	17 58 13.9	18 3 13.2	18 16 55.3	18
208.5	199.8	135.3	92.5	237.5	
17 45 41.70	17 55 47.96	17 58 3.06	18 3 6.50	18 16 47.50	18

May 23

U.P.T.

Ill Ear

B.A.C. 62812	110 Hercules	B Lyrae	Comes	o Sagittarii
57.6	14.1	29.2	31.2	12.8
57.8	17.4	33.0	35.0	16.2
51.3	21.5	37.2	39.2	20.2
48.9	24.8	41.0	43.1	23.9
18 23 42.4/18	44 28.7/18	49 45.1/18	49 47.2/18	57 27.5
248.5	106.5	185.5	195.7	100.6
18 21 49.70/18	44 21.30/18	49 37.10/18	49 39.14/18	57 20.12

May 23

N.P. 7.

ell Ene

θ^1 Serpentis		θ^2 Serpentis		ν Sagittarii		δ Aquilae		π Sagittarii	
	52.7		52.9		58.2		35.0		4.1
	55.9		57.2		58.6		38.1		7.2
	59.2		0.6		2.5		42.1		11.1
	2.4		4.1		6.0		45.0		14.4
18	54	18	54	19	1	19	3	19	6
	59.18		7.3		9.7		48.8		18.4
	176.1		123.1		132.1		209.0		53.2
18	53	18	54	19	1	19	3	19	6
	59.22		0.62		2.42		41.80		11.04

May 23

Ill.

π Aquilae?			δ " Aquilae			δa " Vulpeculae			β Cygni			"		
		43.8			3.4			28.3			39.4			41.9
		47.1			6.7			31.6			43.8			45.3
		50.8			10.1			35.7			47.2			49.3
		54.0			13.1			39.3			50.7			53.2
19	17	57.7	19	23	16.6	19	27	43.1	19	29	54.7	19	25	57.1
		253.4			49.9			178.0			235.1			246.9
19	17	50.68	19	23	9.98	19	27	35.60	19	29	47.02	19	25	47.38

May 23.

H.P.S.

All Ear

Sagittarii		Cygni	
	49.0		12.4
	52.1		17.5
	56.0		22.8
	59.8		27.8
19 37	3.4	19 37	33.1
	220.3		118.6
19 32	56.06	19 37	22.72

May 21

N.P.J.

All East

ϵ Ophiuchi		γ Herculis		α Scorpis		β Herculis		τ Scorpis						
	28.6		17.1		23.6		44.3		44.1					
	31.9		20.2		27.1		47.5		47.7					
	35.2		24.2		31.1		51.6		52.0					
	38.4		27.7		34.8		55.1		55.6					
16	15	41.9	16	20	31.3	16	25	38.3	16	28	58.3	16	31	59.4
	176.0		120.5		154.9		257.4		258.8					
16	15	35.20	16	20	24.10	16	25	30.98	16		57.48	16	31	51.74

May 21

All. Ear

H.P.S.

5 Ophiuchi

η Herculis

ε Scorpion

5' Scorpion

52 Scorpion

18		1.0		—		40.1		41.4		18.1					
		4.1		40.0		44.0		45.7		22.6					
		7.9		45.1		48.2		50.6		27.3					
		11.0		49.0		52.0		55.1		31.6					
16	34	14.4	16	42	53.6	16	45	56.0	16	48	59.5	16	49	36.2	16
		38.4						240.3		252.3				135.8	
16	34	7.68			16	45	48.06	16	48	50.46	16	49	27.16		16

May 21

H.P. 7

All Ear

	α Ophiuchi		ε Herculis		γ Ophiuchi		δ Herculis		π Herculis						
1		35.6		27.3		55.1		48.8		40.9					
6		38.9		30.8		58.3		52.0		44.9					
3		42.4		35.1		2.1		55.7		49.3					
6		45.9		38.6		5.3		59.1		53.1					
2	16	55	49.3	16	59	42.9	17	7	9.1	17	13	2.5	17	14	57.6
8		212.1		174.7		129.9		218.1		245.8					
6	16	55	42.42	16	59	34.94	17	7	1.98	17	12	55.62	17	14	49.16

May 21

U.P.T.

All Ear

BAC 1662			" β Draconis			" β ophiuchi			" μ Herculis			" ξ Draconis		
		5.8			43.3			6.6			30.2			31.9
		44.7			48.7			9.8			33.7			37.6
		22.5			54.6			13.6			38.0			44.1
		5.0			59.6			16.7			41.6			50.1
17	23	41.6	17	32	5.3	17	40	20.1	17	45	45.6	17	55	56.3
		119.6			211.5			66.8			189.1			220.0
17	21	23.92	17	31	54.30	17	40	13.36	17	45	37.82	17	55	44.0

May 21

U.P.T.

All Eari

	γ Draconis	γ Ophiuchi	μ Sagittarii	δ Sagittarii	η Serpentis
9	49.5	larger star 56.0	57.5	35.9	37.5
6	53.6	observed 59.3	1.0	38.5	40.7
1	59.4	2.8	4.7	43.6	44.2
1	4.7	6.0	8.2	47.5	47.5
3	17 57 10.0 18	2 9.4 18	9 11.9 18	16 57.5 18	18 50.8
0	177.2	133.5	83.3	217.0	220.7
0	17 56 59.44 18	2 2.70 18	9 4.66 18	16 43.40 18	18 44.14

May 21.

X.P. 7.

M. Eav.

A.C. 62812

" 2 Lyrae

54.5

41.7

47.0

45.9

47.1

50.3

41.2

54.6

18 23 39.418 36 55.0

229.6

251.5

18 23 45.9218 36 50.30

861 June 5th
45.

2 Virgins	8 Virgins	Polaris N.	2 Virgins	BK 4498
13.4	43.6		58.8	13 24 6.6
16.7	46.8	11 2.9	54.0	46.0
20.2	50.3	13 10.8	57.7	25 31.2
23.6	53.6	15 31.9	0.9	26 11.3
27.1	57.0	17 39.1	2.4	55.5
101.0	251.3		167.8	150.6
13 0 20.20	13 7 50.26	13 13	13 22 57.56	13 25 30.12

1861 June 5.

1945.

continued on next page.

ζ Virgin	η Ursae majoris	η Bootis	τ Virgin	δ Centauri
35.1	58.4	2.0	33.0	28.2
38.3	3.2	5.3	36.2	32.2
41.9	8.5	9.1	39.7	36.7
45.3	13.6	12.5	42.9	40.7
48.6	18.8	16.1	46.4	44.9
209.2	102.5	45.0	198.2	182.7
13 32 41.84	13 47 8.50	13 53 9.00	13 59 39.64	14 33 36.54

661 Jan 5 ind.
H.S.

<i>α Draconis</i>			<i>Anonyma 7 = Pol. 357</i>			<i>α Bootis</i>			<i>κ Virginis</i>			<i>α Bootis</i>		
27.2	7	39.7	17.5			34.2			37.4			27.3		
34.6	8	31.0	28.6			24.4			44.2			33.0		
43.1	9	26.1	27.8			44.4			48.0			38.4		
50.6	10	20.9	31.5			205.2						43.9		
58.8	11	13.7	121.6											
214.3		131.4												
14	5	42.86	14	9	26.28	14	14	24.32	14	16	41.04	14	25	

b' b. of center
of field

1861 June 5
H.

continued.

δ Bootis	α Bootis	μ Virginis	1α Librae	2α Librae
47.7	35.0	43.1	59.1	10.6
51.3	38.8	46.3	2.4	13.9
55.6	42.9	50.0	6.1	17.4
59.4	46.7	53.3	9.4	20.8
3.4	50.5	56.6	13.0	24.3
217.4	213.9	249.3	90.0	87.0
14 30 55.48	14 33 42.78	14 40 49.86	14 48 6.00	14 48 17.40

1861 June 5 continued
TMS.

β Bootis minor	γ Bootis	δ Bootis	β Librae	BK 106450
14 55 49.0	27.3	19.8	30.8	
56 1.3	30.7	13.2	33.9	15 32.0
15.0	36.8	17.2	37.6	26 19.8
27.3	38.4	20.8	41.0	27 14.5
40.0	42.1	24.4	44.4	28 2.1
132.9	173.3	85.4	167.7	
14 56 14.58	15 3 34.66	15 6 17.08	15 14 37.54	15 26

1861 June 5.

MS.

Continued next page.

<i>37 diurnal</i>	α Corona Borealis	γ Serpens	α Serpens	γ Serpens
36.2	216.2	19.7	24.4	40.8
37.6	49.8	23.1	27.4	44.0
41.0	53.8	26.8	31.0	47.7
44.3	57.3	30.4	34.2	51.9
47.7	✓ 1.2	33.9	37.9	54.4
204.6	208.3	133.9	154.9	237.8
15 31 40.92	15 33 53.66	15 40 26.38	15 42 30.98	15 44 47.56

1861 June 5

WHS

14 Serpentinis

2 Verpentis

21.2

52.3

24.3

55.7

28.0

59.1

rejected*

2.4

34.6

5.8

175.3

15 47

15 48 59.06

* in consequence of
a remark on the list
of stars observed this
evening. The observation
was an accidental break
the time it was taken.

1861 June 7

J.H.S.

A.H.

Polaris	α Virginis	ζ Virginis	θ Bootis	ρ Bootis
13 8 53.5	55.2	39.7	26.6	52.3
11 7.5	58.5	43.0	31.9	56.0
13 16.2	21	46.4	37.7	0.1
15 40.8	5.4	49.8	42.9	4.0
17 47.1	8.9	53.1	48.6	7.9
167.1	130.1	232.0	187.7	120.3
13 13 21.42	13 23 20.2	13 32 46.40	14 25 37.54	14 31 0.06

Not very good
wires too faint.

1861, June 7.

A. H.

M. Ear

784 B. J. C.

12¹¹ Liban

22 Librae

—

36

15.1

47.7

6.9

18.3

8.3

10.6

22, 0

1

14. 0

26, 3

14

33

50.

14

48

175

14

48

28.8

5-2.6

109.5

14

48

10.5.

14

48

21.90

1861 June 13.

✓ 1.

Capricorn	Aquarii	Amoyanus	Amoyanus	Aquarii
44.5	23.4	15.7	41.3	15.8
47.9	26.9	18.7	44.6	18.9
51.6	30.4	22.3	48.4	22.7
55.0	33.8	26.2	51.8	26.0
58.3	37.2	lost.	55.2	29.4
257.3	151.7		241.3	112.8

20 36 51.46 20 45 30.04 20 53 22.43 20 54 48.26 21 7 22.56

Approx. AR. 1860.0

20 31 29
-15° 26'20 40 9
-10 020 48 5
-13° 23.620 49 26
-13 10? eclim21 2 0
-11 56

Bad seeing. observations bad.

327° 45'	322° 15'	325° 35'	further north (considerably)	324 10
0.8	0.6	1.3		0.8
52.8	57.7	55.1		56.7
16.1	25.2	22.3		23.2
12.2	14.7	13.2		13.9
+10.2 ca. -0.5	+3.2 -98.4 -95.3	-3.5 -7.7 -8.3	No Da.	+1.8 -30.8 -26.4 ?

for Da.

20 37 15

20 45 19
46 320 53 8
54 14

2

21 6 52
7 44

Ext. in hg. 4

325.11
9.375
7.443
+6.88 22.58
+3.49 22.19
-0.05 22.25
-3.50 22.69
-6.81

48.18
48.09
48.35
48.19
48.29

9

1861 June 15 continued.

ϕ Bootis	α Bootis				
45.5	28.0				
49.0	31.6				
53.0	35.6				
56.7	39.3				
6.6	42.8				
204.8	177.3				
15 3 52.96	15 5 35.46				

1861 June 17.

M.

Polaris 56°			α Virginis			C.I.			85 Virginis			89 Virginis		
13	9	15.8			11.3			15.2			25.0			38.3
	11	30.9			14.4			18.5			28.4			41.6
	13	42.0			18.1			22.3			32.0			45.4
	16	3.4			21.4			25.7			35.6			48.9
	18	9.5			24.8			29.4			39.0			52.3
		101.6			90.0			111.1			160.0			226.4
13	13	44.32	13	23	18.00	13	27	22.22	13	43	32.00	13	47	45.28

1861 June 17 continued

45.

12 Librae	22 Librae	2 Serpens
19.5	31.0	44.6
22.8	34.2	48.0
26.4	37.9	51.6
29.9	41.2	54.8
33.4	44.8	58.1
132.0	189.1	257.1

14 48 26.40 41 48 37.82 15 48 51.60

In observing these stars the center
was placed midway (in A.P.D.)
between them.

June 18, 1861.

Ill. Ear

AU		" Virginis		" Virginis		" Virginis		Moon TU		784 B AC	
		55.0		49.7		56.2		49.4			
		58.2		53.0		59.5		52.9			
		1.7		56.5		3.1		56.8			27.1
		5.0		0.0		6.2		0.2			49.3
14	0	8.3.14	11	3.2.14	17	9.8.14	27	4.0.14	34		8.7
		128.2		162.4		134.8		163.3			
14	0	1.64.14	10	56.48.14	17	2.96.14	26	56.66			

u Virginis

		5.1
		8.2
		11.9
		15.1
14	41	18.4
		59.7
14	41	11.84

June 18.

Old Ear

All		2 α Librae		2 σ Librae		ψ Bootis		β Librae	
12 Librae		2 α Librae		2 σ Librae		ψ Bootis		β Librae	
	21.0		32.4		17.4		49.2		53.0
	24.3		38.7		20.7		52.7		56.1
	28.0		39.4		24.6		56.7		59.7
			42.7		28.2		0.4		3.1
14	48	14	48	15	1	15	4	15	15
			46.2			82.0	4.3		6.4
			196.4			122.9	163.3		178.3
		14	48	15	1	15	3	15	14
			39.28			24.58	56.66		59.66

1861 June 18

F.N.S

<i>Ameglia</i> 9/9	<i>Ameglia</i> 9/5	<i>v. Aguarini</i>	<i>18 Aguarini</i>
25.9	48.3	22.6	57.0
25.9	57.4	25.8	0.2
29.2	59.1	29.5	3.8
32.3	58.5	32.9	7.2
36.0	1.9	36.2	10.5
	215.2	167.0	78.8
20 54 29.13	20 56 55.04	20 8 29.40	21 23 3.76

325 35

325 25

324 10

325 40

8.3

52.8

57.0

57.8

58.5

45.6

49.9

48.4

27.7

12.5

19.8

16.1

19.8

6.0

10.6

8.2

-2.6

+5.7

+1.6

-2.6

rel. ~~98.5~~ ?
~~77.2~~

—
-03.4 ?

-39.7
-45.8

-57
-52

-50

20 54 16

20

20 8 21

21 22 5

55 38

20 57 50

8 45

22 52

29.29
29.15
28.79
29.19

23 42

June 20th 1861

TWS

Polaris 56.*

 α Virginii* γ Bootis τ Virginii δ Centauri

13 7 47.1
 9 54.8
 12 17.0
 14 23.5

41.2
 26.4
 28.1
 31.2
 34.7
 139.6

13 19 27.92

* Chro. 236.

* Chro. 236.

Rev. 3157

 α Booti δ Booti ϵ Booti η Librae

*Le Libane**β Utae minor**ψ Bootis*

June 20.

A.U.

All. Ear

29 Librae			p Librae			Moon 10			5 Ophiuchi		
		59.1			48.2			0.1			4.7
		2.6			45.9			3.9			8.1
		6.5			49.9			7.7			12.0
		10.4			53.6			11.6			15.6
15	34	14.2	15	53	57.5	15	36	15.3	15	18	19.1
		92.8			250.1			38.6			59.5
15	34	6.56	15	53	50.02	15	36	7.72	15	18	11.90

1861 June 22

1861

ζ Hermin	η Hermin	ϵ Scorp	ζ Scorp	ζ Scorp
28.0	32.3	36.4	37.9	14.5
31.7	36.4	40.3	42.0	19.0
35.9	41.1	44.6	47.1	23.6
39.7	45.2	48.5	51.1	28.0
43.9	49.6	52.3	55.7	32.5
179.2	204.6	222.1	233.8	117.6
16 41 35.84	16 43 40.92	16 46 44.42	16 49 46.76	16 50 23.52

Continued next page

κ Ophiuchi	γ Hercolis	ϵ Lysiae minoris	α Hercolis	BH 1662	SP
32.1	23.8	5 3.4	45.1	22 43.1	
35.2	27.5	27.3	48.4	22	43.1
38.9	31.5	53.8	52.1	23	21.3
42.2	35.4	6 17.6	55.3	24	2.4
45.7	39.3	42.2	59.0	24	39.4
49.1	43.5	144.3	260.3		
16 56 38.82	17 0 31.50	17 5 52.86	17 13 52.06	17	

1861 June 22 cont.

PHS

γ Draconis	γ Sagittarii	γ Ophiuchi prae.	μ Sagittarii	δ Sagittarii
45.1	35.4	52.8	51.1	32.5
50.2	39.1	56.1	57.6	36.2
55.9	43.2	59.5	1.3	40.5
1.1	46.9	2.7	4.9	44.1
6.5	50.8	6.2	8.4	48.1
158.7	215.4	177.3	126.3	201.4
17 58 55.74	18 1 42.08	18 3 59.46	18 11 1.26	18 17 40.28

<i>σ</i> <i>W</i> <i>h</i> <i>u</i> <i>m</i> <i>i</i> <i>n</i> <i>i</i> <i>r</i> <i>i</i>	<i>σ</i> <i>I</i> <i>C</i> <i>p</i> <i>h</i> <i>i</i> (<i>M</i> <i>o</i> <i>o</i> <i>r</i> <i>i</i>) <i>S</i> <i>P</i>	<i>σ</i> <i>I</i> <i>L</i>	<i>σ</i> <i>S</i> <i>a</i> <i>g</i> <i>i</i> <i>t</i> <i>a</i> <i>r</i> <i>i</i>	<i>σ</i> <i>S</i> <i>a</i> <i>g</i> <i>i</i> <i>t</i> <i>a</i> <i>r</i> <i>i</i>
20 57.8	37 21.8	35.9	5.7	56.9
21 45.4	38 32.2	39.4	9.2	0.4
22 45.3	39 39.6	43.6	13.2	4.2
23 39.8	40 53.6	47.2	16.9	7.5
24 37.2	42 0.3	51.1	20.6	11.2
219.5	147.5	217.2	65.6	80.2
18 22 43.90	18 39 41.50	18 49 13.44	18 52 13.12	19 7 4.04

1964 June 23.

97

 α Serpentis μ Serpentis γ Aquarii β Scorpii pr. δ Opticari

53.2

50.2

17.1

49.7

31.9

56.2

53.2

20.3

53.0

35.1

0.0

56.9

24.3

56.9

38.6

3.1

0.1

27.9

0.1

41.7

6.6

3.5

31.7

3.7

40.5

119.1

163.9

121.3

163.4

192.8

15 42 59.82

15 47 56.78

15 57 26.26

16 2 56.68

16 12 38.58

Continued on next page.

ϵ Ophiuchi	ζ Ophiuchi	ζ Norra	η Norra	ϵ Scorpion
26.2	1.6	29.2	33.7	37.7
29.4	1.8	33.1	37.8	41.5
32.0	5.5	37.2	42.2	45.8
36.3	8.7	41.0	46.6	49.9
39.6	12.4	45.1	51.0	54.0
164.5		145.6	211.3	228.9
16 16 290	16 35	16 41 37.12	16 43 42.26	16 46 45.78

1861 June 23 continued.

HRT

α Hercolini	ϵ Ursae minoris	γ Optimae	δ Hercolini	δ (E) Optimae
25.2	5 4.9	53.2	46.2	9.1
29.0	29.0	56.5	49.5	12.4
33.1	55.3	0.0	53.4	16.0
36.7	6 19.4	3.3	56.7	19.6
40.6	45.1	7.0	0.1	23.2
144.6	153.7	120.0	205.9	80.3
17 0 32.92	13 5 54.74	17 8 0.00	17 13 53.18	17 18 16.06

Continued on next page.

BH 1662 SP		β Draconis	γ Draconis	δ Sagittarii	η Sagittarii
22	5.0	40.8	46.4	34.1	38.6
22	43.6	46.1	51.4	37.6	38.6
23	22.9	51.8	57.2	41.8	42.3
24	4.4	57.3	2.3	45.5	45.5
24	41.1	3.0	7.8	49.5	48.8
117.0		199.0	165.1	204.5	210.8
17	23 22.40	17 32 51.80	17 53 57.02	18 17 41.70	18 19 42.16

1861 Jan 23 continued

429

Mikae mimon			α Lyrae		β Lyrae		δ Sagittarii		θ Sagittarii		
				39.9		23.4		7.2		46.8	
18	21	45.8		43.9		27.3		10.9		49.7	
	22	47.1		48.5		31.5		14.7		53.3	
	23	42.6		52.6		35.5		18.2		56.4	
	24	37.2		56.8		39.4		22.0		0.1	
				211.7		157.1		79.0		206.3	
18	37	48.34	18	50	31.62	18	52	14.60	18	54	53.26

1861 Jan 23 continued on next page

<i>D. Serpenti</i>	<i>D. Sagittarii</i>	<i>S. Aquilae</i>	<i>S. Aquilae</i>	<i>61 Cygni</i>
48.3	49.7		57.6	22.8
51.2	53.0	32.2	0.7	28.9
55.0	57.0	35.9	4.4	30.0
58.2	0.3	39.4	7.5	33.6
1.5	4.0	42.9	11.1	37.2
214.2	104.0		81.3	149.2
18 54 54.84	19 1 56.60	19 4	19 24 4.26	19 26 29.86

1861 Jan 23 continued

ppg

β Cygni	Comes β Cygni	ζ^1 Sagittarii	θ Cygni	γ Aquilae
33.9	36.1	3.6	6.6	7.0
37.4	39.7	7.0	11.4	10.2
41.3	43.7	11.0	17.1	13.8
45.1	47.2	14.6	22.0	17.0
48.9	51.1	18.2	27.5	20.7
208.6	217.8	54.4	84.6	68.7
19 30 41.32	19 30 43.56	19 33 10.88	19 38 16.92	19 45 13.74

Moon II	α Ursae minoris		β Capricorni	Lac 39368?	δ Capricorni	
16.5	20	2	46.4	40.2	13.8	30.7
19.7		5	23.1	43.5	17.8	34.6
23.7		8	32.1	47.3	22.5	38.7
27.3				50.6	26.8	34.6
31.2		14	14.5	54.2	31.2	38.7
118.4				235.8	112.1	

19 50 23.68

20 18 47.16

20 25 22.42 20 26

June 28.

A.U.

M Ear

 α Cor Bor

19.6

23.0

26.9

30.6

15- 34 34.4

134.5

15- 34 26.90

July 3.

M.S.

Argon.

12 litres

22 litres

36.6

36.6

48.1

38.7

39.9

51.2

42.2

43.6

55.1

45.6

46.9

58.3

49.0

50.3

1.9

211.1

217.3

154.6

7 37 42.22

14 48 43.46

14 48 54.92

5 39.4

39.75

39.77

July 5, 1861

A.M.

Ill Ear

 β Librae

2 Cor Bor

10.1 25.4

13.3 28.8

16.8 32.8

20.1 36.4

15- 15- 23.1- 15- 34 40.2

83.8 163.6

15- 15- 16.76 15- 34 32.72

July 10.

At.

 α Scorpii

35.1

38.5

42.5

46.1

16 26 50.0

212.2

16 26 42.44

1861 July 10

744.

2 Virgin

2 hours min 1.6?

-0.05

6.3

12 26.8

-0.49

9.7

14 26.5

-0.77

13.0

16 58.3

19 1.0

13 1 6.23 13 14

July 16. 1861

A.H.

Ill Ear

α^2 Librae			β " " Min			Moon TO			β Librae			γ " Librae		
		57.1			33.8			30.7			17.5			20.8
		0.5			45.8			34.2			20.7			24.0
		4.1			59.2			38.1			24.3			27.7
		7.4			11.3			41.8			27.6			30.9
14	49	10.9	14	57	24.2	15	7	45.7	15	15	30.9	15	32	34.4
		80.0			174.3			190.5			121.0			137.8
14	49	16.00	14	56	58.86	15	7	38.10	15	15	24.20	15	32	27.56

July 16. 1861

A.U.

2 Cor. Per.

32.7

36.3

40.2

43.9

15- 34 47.7

200.8

15- 34 40.16

July 18 1961

A.N.

Ill Ear

α Cor. Bor.			2 " Serpentis			α Serpentis			2 Librae			ρ Scapic		
		33.6			7.3			12.0			3.0			5.1
		37.1			10.5			15.2			6.3			8.7
		41.1			14.3			18.7			10.0			12.7
		44.7			17.8			22.0			13.4			16.4
15	34	48.5	15	41	21.3	15	43	25.3	15	51	17.1	15	54	20.2
		205.0			71.2			93.2			49.8			63.1
15	34	41.00	15	41	14.24	15	43	18.64	15	51	9.96	15	54	12.62

July 17, 1861

M.			M.			M.			M.			M.			M.		
S. Scipii			M. I.			S. Scipii			S. Scipii			S. Scipii			S. Scipii		
	54.0			51.1			31.5			610.3			5	20.8			
	57.3			53.6			38.1			62.8				44.7			
	1.1			57.7			39.1			67.9			6	10.8			
	4.6			61.3			42.4			54.4				34.4			
15	58	8.2		68.3			46.2			55.2				59.4			
	125.2			166.0			194.3			238.6				170.1			
15	58	1.04	16	10	57.60	16	18	38.86	16	21	47.72	17	6	10.02			
							12	48.88		20	57.59						

Approximate Red.

16 5 7.57

Computed.

23.696
39.69
9.5965

16 5 7.87

C-0

+ 0.530

5 50.06 24
- 0.03
49.88

* m.p. & <i>Ophiuchi</i>	<i>Ophiuchi</i>
57.5	15.4
9.8	19.3
4.8	23.2
6.3	26.6
12.3	30.3
83.7	115.2

17 19 4.74 17 19 23.04
₁₃ 32.96

July 26

M.

July 30

M

 α Scorpii

44.8

48.3

52.3

56.0

16 26 59.6

261.0

 α Ophiuchi

6.9

10.2

13.7

17.0

17 25 20.7

68.5

 α Ceti

38.3

41.5

45.1

48.3

2 55 51.7

224.9

16 26 52.20

17 25 13.20 2 55 44.98

Aug 15. 1861

A.M.

Ill East

Moon TO		γ Sagittarii		μ Sagittarii		δ Sagittarii		λ Sagittarii					
	2.2		37.7		12.1		50.7		8.6				
	6.0		41.3		15.5		54.4		12.2				
	9.8		45.4		19.3		58.3		16.0				
	13.6		48.9		22.7		2.0		19.4				
17	53	17	57	53.0	18	6	26.4	18	12	6.0	18	20	23.3
	49.1			226.3			96.0			171.4			79.5
17	53	17	57	45.26	18	6	19.20	18	12	58.28	18	20	15.90

Aug 20. 1861.

AK

 γ Draconis

3.4

8.4

14.2

19.3

17 54 24.9

70.2

17 54 14.04

Sept-4

A.U.

 α Aquilae" δ Aquilae

13.5

25.6

16.8

29.0

20.4

32.4

23.6

36.5

19 12

27.1

19 19

39.0

101.4

161.5

19 12

20.28

19 19

32.30

Sept 12

A.U.

 γ Draconis

48.7

55.6

3.0

9.4

16 23

17.0

133.7

16 23

2.74

1861. Sept. 13.

A.H.		M. East		H.P.T.	
κ^2 Sagittarii		Moon TV	ϵ^2 Sagittarii	η Sagittarii	
	9.7	46.3	—	59.3	
	13.3	49.8	32.4	2.4	
	17.1	53.7	36.0	6.1	
	20.5	57.0	39.3	9.3	
19 29	24.3	19 35 0.9	19 35 42.8	19 51 13.0	
	84.9	207.7		90.1	
19 29	16.98	19 34 53.54	19 51 6.02		

1861 Sept 18.

Continued on next page

Observation made with Chronometer. Galvanic Circuit Broken

γ Picium	κ Picium	γ Cephei	CI	CI
34.0	26.9	55.4	10.4	13.8
37.3	28.3	10.0	13.6	17.1
40.9	31.7	25.6	17.3	20.8
43.5	34.9	39.2	21.0	24.1
? 49.4	38.4	54.3	24.2	27.6
27 10 40.62	23 7 158.2	186.5	26.5	103.4

23 10 40.83	23 20 31.64	23 34 24.90	23 42 17.30	23 44 20.68
2.06	19 52.90	33 47.69		

40.83

40.70

40.58

41.09

41.09

CI is slightly
defective in illuminationThe following
interpretation is the
most probable

34.0

37.3

40.9

43.5

? 48.4

205.1

23 10 40.83

Mean from high sun

I 40.70

31.59

II 40.70

31.70

III 40.85

31.65

IV 41.09

31.49

17.30

31.77

This should

be 44.5 prob.

why

shown a little

improved?

1861 Sept. 18 continued

745		Sept 26. All		Oct 1. All	
ω Picum		α Cygni		α Cygni	
46.9	25.5		43.5		29.2
50.3	28.9		48.0		33.9
53.7	32.6		53.0		38.8
57.0	35.5		57.4		43.2
60.4	39.1	20 83	2.4	20 36	48.0
206.3	161.4		20 4.3		193.1
28 52 53.66	0 8 32.28	20 37	52.86	20 36	38.62
14.99	7 53.81				
58.67					

$$\sec \delta - 1 = \frac{1 - \cos \delta}{\cos \delta} = \frac{1 - \cos \delta}{\sin \delta} \operatorname{tg} \delta = \operatorname{tg} \frac{\delta}{2} \operatorname{tg} \delta$$

Star for Radan.

Res. h. app.

1861 June 13.	Capricorni	1856.0	307° 43' 13".12	-15° 28' 38.52			
			+0.04	-0.36			
			+9 14.97	+2 14.94			
			-0.09	+0.23			
		1861.0	307 52 28.04	-15° 26' 23.71	+54".63	+10".86	
	♌ Aquarii	1856.0	309 53 18.30	-10° 2' 29.67			
			+0.40	-0.40			
			+8 56.62	+2 21.48			
			-0.97	+0.22			
		1861.0	310 2 16.25	-10° 0' 8.88	+52".21	10.09	
	♌ Aquarii	1850.0	315 21 18.08	-11° 58' 33.42			
			+1.18	-0.22			
			+8 59.54	+2 26.68			
			-0.09	+0.20			
		1861.0	315 30 16.71	-11° 55' 56.49	+54".05	12.03	
	♌ Aquarii	1850.0	318 59 52.85	-13° 31' 6.83			
			+1.11	+0.14			
			+9 1.44	+2 46.47			
			-0.10	+0.19			
		1861.0	319 8 55.30	-13° 28' 20.03	+50".25	13.40	

Res. h. app.

June 13.

C	353 2	353 2	353 2	353 2					
x	307 52	310 2	312 0	315 30	319 9				
14.	186 33	186 43	186 33	186 33					
log	9.4611	9.4611	9.4774	9.4725	9.4797	35".65	35".65	35".65	35".65
sin(41°)	9.9341	9.9331	9.9131	9.8933	9.8709	+3.69	+2.29	+3.04	+2.98
g	1.192	1.192	1.192	1.192	1.192	+15.14	14.38	13.91	12.83
4(B+2)	9.711	9.707	9.709	9.707	9.707				
sec	0.016	0.007	0.012	0.009	0.012	+8.00	8.49	8.93	9.60
tan(41°)	9.8841	9.8831	9.8641	9.8421	9.8191	+3.80	2.58	3.56	3.33
L	1.310	1.310	1.310	1.310	1.310	-0.96	-0.98	-0.97	-0.98
4(B+2)	9.8451	9.8461	9.8251	9.8021	9.7791				
21	9.4251	9.4401	9.4651	9.4951	9.5371				
								+52.60	
								+11.51	

Date + 1.4 π $\pi + 0.830$ 0.23
 Cor. Dist. $c = + 0.10$
 $u = 0.58$
 307 53 22.62 20 31 33.50 + 5 17.96 - 0.09 17.87
 310 3 7.46 40 12.50 17.84 - 0.05 17.79
 315 31 9.76 21 2 4.65 17.91 - 0.07 17.84

- 5 17.83 10 50'

Clock cor.

App. June 13.

- 0.08
20 48 4.52

June 18 Rev. to App. Eq. June 13.

315 31 9.76 21 2 4.65 5 24.75 - 0.07
 319 9 45.55 16 27.04 24.72 - 0.08

5 24.68
 24.64
 5 24.66 21 9
 R. - 0.01
 Prod. W. - 0.08
 5 24.57
 20 48 4.56

Mid = 34.00 + 2

315 35 7.98
 + 1 42.00
 2.72

34.1715 58.3

2.772
 8016
 11088
 + 94248

325 39 13.6

44.5 3.0
 1 6 0.6
 52 4.4
 54 6.1
 137 7.0
 1 52.3
 54 102.
 2.48 - 0.2
 141.6
 13.6

325 36 52.70 10 9.55
 + 1 41.00

327 45 5.47
 - 5 40.00
 + 1.20

Ref.

327 39 27.17 + 10.2 + 1 31.7 40 58.9 26 12.9 14 46.0
 322 13 28.55 + 3 2 1 15.1 14 43.6 59 58.3 45.3
 325 36 52.70 - 31 2 1 24.3 38 17.0
 324 9 10.25 + 1.7 2 1 20.0 10 30.2 55 44.5 45.7
 312 14 45.7
 - 13 23 31.3 + 8.0 2.

325 36 52.70 + 3.02 + 1.24.3 38 15.8

324 9 10.84 1 20.0 10 30.8 5 14 46.3

325 40 38.64 1 25.2 40 53.8 14 46.3

- 13 23 29.0

13 23 30.1

1461.0

20 48 1.03
 - 13 23 41.7
 + 0.76

(Cambridge)

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