

KG
11365
47

A.47

Meridian Circle

1863 Dec 5-

1864 Jan 11.

Sold by T. Groom & Co., Stationers, India Building, 82 State St., Boston.

RG 11365.47

The obs. in this book have been mostly read off by
W^r. H. C. Cury on separate sheets. I have copied them myself
and generally revised them to see that no errors of 2^d have
crept in.

KG 11365.47



	m	c		
Dec 6-7	+0.446	-0.430		
9-15	+0.367	-0.430		
	9.515	9.633		
21-22	+0.437	-0.430		
	9.678	9.633		
23	+0.394	-0.430		
26-29	+0.277	+0.343	9.442	9.535
Dec 30-Jan 9	+0.230	+0.343	9.362	9.535
Jan 11-12	+0.291	+0.343	9.464	9.535
— 74 —	+0.239	+0.343	9.374	9.535

	Dec 9-15	21-22	23	26-29	Dec 30 Jan 10	Jan 11 -12
+45	-0.240	-0.130	-0.212	+1.762	+0.716	+0.776
+40	0.252	0.162	0.230	0.680	0.641	0.692
30	0.263	0.222	0.268	0.555	0.528	0.563
20	0.322	0.283	0.312	0.466	0.449	0.471
10	0.372	0.353	0.367	0.397	0.389	0.397
0	0.430	0.430	0.430	0.343	0.343	0.343
-10	0.502	0.521	0.507	0.299	0.308	0.297
-20	0.592	0.631	0.602	0.264	0.281	0.259
-30	0.707	0.740	0.723	0.235	0.262	0.267
-40	-0.870	-0.962	-0.893	+0.216	+0.255	+0.204

1863 Dec 5 MW

1863 Dec 6 MW

JMS

JMS

mt of place

y Draconis

Potam. tp

x Bootis

y Virginis

30.3

13 3 56.6

14 7 41.6

mt

36.5

6 11.6

45.5

mt

40.7

8 34.6

46.4

mt

46.6

10 26.5

52.2

26.8

51.9

55.9

30.3

206.0

242.6

17 51 41.20

13 8 26.20

14 7 48.72

13 16 23.48

9 10 5.30

9 27.00

13 18 1.89

Clock Errors

Dec 6

x Virginis

13 14 -0.52 -138.93

x Bootis

14 9 -0.30 -138.58

13 46 -138.76

8 58° 35' 23" 8 39 11

A 27.08 +4 30.48

A 23.53 -6.77

B 26.14 +2 14.58

B 23.43 -3.37

C 24.32 - 10.28

23

D 27.24 -1 59.26

E -4 35.52

1863 Dec 7 MNR

745

<i>Apian</i>	<i>Opian</i>	<i>3 Apian</i>	<i>4 Apian</i>	<i>3rd Am Hop</i>
3.8	56.1	18.3	55.6	22 11 41.3
7.8	0.5	25.5	59.3	12 8.9
10.4	3.5	30.6	1.9	38.0
14.1	7.5	37.3	5.6	13 0.8
17.5	11.0	43.7	9.0	32.6
52.6	78.6	155.4	131.2	121.6
21 57 10.72	21 59 2.72	22 4 31.08	22 8 2.24	22 12 36.32
58 48.16			9 39.59	14 12.72

next page

SW mag	h ₃ App M	El Prim	h ₄ App M	Prim
11.8	0 47 57.9	10.5	31.8	
17.7	48 42.3	14.2	52.3	1 6 26.4
24.6	49 16.8	17.0	6.9	8 15.9
29.6	50 3.3	21.7	25.3	
36.2	50 45.8	24.0	42.5	13 0.8
119.9	161.1	86.4	158.8	
0 46 23.98	0 49 20.22	0 54 17.28	0 59 7.76	4 8 17.22
	50 58.09	55 54.60		10 5.08

Clock Errors

α Aquarii	21 59	-0.44	-1 37.88	10792 +04
A	22 10	-0.50	-1 37.85	13290 +05
σ Piscium	0 56	-0.37	-1 37.69	13761 -08
	23 42		-1 37.807	

Per Rate

+0.095
+0.113
+0.104

The time was read off 10 52.1 by M.C.; but he
mistook 12 52.1 (the y same for it)

In Dec 6

A 29.82
26.18
25.66

1863 Day JWR

JH5.

34 APR 11

 β Monog μ α Monog μ γ Reyni γ Reyni

22	45	32.8	52.5	31.6	44.4	15.9
	46	1.7	58.4	39.1	24.9	19.8
		22.5	5.2	16.9	27.7	22.5
		49.9	10.1	52.8	31.2	21.2
47		14.9	17.6	1.2	34.7	29.4
		121.8	143.7	171.6		113.8

22	46	24.36	22	52	4.74	22	53	46.32	22	56	27.90	0	54	22.76
	47	56.34				10	55	18.72		57	59.96		55	54.58

δ 14.28(14.1) 8.5157
 α 27.92 6.78
 β 34.28 ± 3.42
 γ 27.96 $+0.26$
 δ 27.93 $+3.03$
 ϵ $+7.00$

next page
Phaenomena

In Cepha H				Orbital			214 Camell B	v Persei		d. Mictis	
7	38.1	1	3	57.3	1	17	21	59.8		53.5	
8	58.6		6	33.7			44.2	55		57.7	
5	11.8		8	20.8		18	30.2	9.6		0.5	
2	31.1		10	52.9		19	55	14.8		4.5	
4	47.9		13	4.3			53.8	19.9		8.0	
8	137.5			169.0			136.8	109.6		124.2	
26	0 59 13.50	1	8	33.80	1	18	27.32	1 28 9.92	1	58	0.84
58			10	3.99	13	20	0.85			59	32.62

1863 Dec 9 MW

MS

20 min	32	36 lap H	Gr 527	v Piracim
0	14.8	22.1	21.4	64.4
1	6.4	34.0	45.2	48.4
2	4.3	43.7	2.7	51.0
	49.1	55.0	25.0	54.5
3	48.3	24 6.4	46.4	57.8
	122.9	161.2	140.7	256.1
2	2 0.58	2 23 44.24	2 27 4.14	1 32 51.22
14	3 33.77		28 35.65	34 22.87

Clock Error

α Pegasi	22 58	-0.35	-132.41	32.42 +01
ϵ Piracim	0 55	0.39	132.21	32.18 -03
γ Piracim	1 34	0.60	132.05	32.10 +05
α Arietis	2 0	0.31	132.09	32.06 -03
	0 52		-132.19	
Ref R			+0.113	
Roll			+0.130	
			0.122	

1863 Dec 10 M.T.

Parrini dent

next page

JMS

print

P. Aquarii		30 cm 114 op		34 cm 114		2 P. Aquarii		202 cm 113	
		Int.		Int.				Int.	
48.0						31.6			
52.0		15.4		4.7		35.9		12.5	
54.6		44.9		26.0		39.3		37.2	
58.2		8.7		53.1		43.3		50.9	
1.7		41.5		18.3		47.5		24.2	
214.5						197.6			
21	22 54.90	22	12 43.49	22	46 27.64	22	48 39.52	23	20 36.06
	24 23.88	10	14 13.36	22	47 56.18		50 8.10	11	22 5.58

$83^{\circ}14'23''110$ 0.92917
 $82^{\circ}24'23''$ 0.88086
 $81^{\circ}52'5''$ 0.84939

A 27.71 - 50.59
 B 27.92 - 25.17
 C 27.92 + 1.92
 D 27.01 + 22.31
 E _____

10 35.97 + 73.41
 C 35.91 - 1.79
 D 36.15 - 20.75
 E 36.27 - 47.93

43.55 + 26.14
 C 46.75 - 2.15
 D 43.77 24.93
 E 43.90 57.60

See note in note-book

<i>Squarii</i>	21 24	-0.47	129.45	29.87	+0.6
<i>Spiracch</i>	22 50	0.72	129.30	29.33	+0.3
<i>Ericium</i>	0. 56	0.39	129.18	29.09	-0.9

476 10.2 53.5
 53.4 56.7
 10.7
 100.2
 100.7
 100.9
 100.9
 Rate

23 3

129.310
0.130 pr
0.114 fat

0.122

85° 31' 52" 1.10838

A 29.97 = 85.43
B 30.59 = 42.51
C 29.25 = 3.25
D 29.57 = 37.67

$A \quad 32.57 - 4 \quad 30.53$
 $B \quad 39.69 + 2 \quad 41.61$
 $D \quad [34.98] + 1 \quad 35.98$

1863 Dec 14 AM

1863 Dec 15 AM

next page

JPB

J. Pezani

15.1
20.2
24.2
29.2
34.2
122.9

5 5 24.58

JHS

J. Pezani

19.0
22.9
25.7
29.4
32.7
129.7

22 33 25.94
34 41.17

J. Pezani

15.1
19.5
22.6
26.7
30.5
114.4

22 35 22.88

J. Pezani

32.1
35.9
38.9
42.5
46.0
195.6

22 38 39.08

1863 Dec 15 MW cont

745

34 Cap H	α Pic austr.	α Antares	ρ Pic austr.	α Regan
22 45 49.2	45.2	48.9	35.8	37.5
46 17.9	49.7	58.1	39.8	41.5
30.9	52.8	3.7	42.4	44.4
47 5.8	57.0	9.6	56.0	58.1
31.0	1.0	18.1	49.4	57.5
142.1	205.7	136.6	213.3	223.0
22 46 40.62	22 48 53.14	22 54 3.32	22 55 42.66	22 56 44.60
22 47 55.32	50 8.03	10 55 19.10		22 57 59.89

next page

ϵ Pic	ϵ Cephei	Polaris	δ Cygnus	ϵ Camelopardalis
32.6	0 58 54.3	1 4 10.3	52.6	1 17 21.1
36.4	59 13.8	6 44.6	25	18 3.7
39.3	27.8	8 31.9	9.5	48.8
42.9	43.2	11 2.9	18.9	19 22.8
46.2	1 0 41.6	13 16.9	27.7	20 11.6
197.4	147.7	111.6	111.2	108.0
0 54 39.48	0 59 29.54	1 8 46.32	1 15 10.24	1 18 45.60
55 54.52		9 59.61		13 20 2.26

863 Oct 15th MW cont

145

Arctis		51 Arctis		DIP 217 sp		Plan modest sp		slab	
	10.3		20		20		23.0		50.5
	14.2		2 40		34.9		35.3		54.3
	17.5				42.2		49.2		57.2
	21.2				47.5		57.4		0.6
	24.8				55.5		13.5		4.2
	38.0						180.4		167.0
1	58	1260	2 40	2 46		2 49	4808	2 53	57.40
	59	32.59						55	12.18

next page

57 Min in Bq	320 Ceph B	6 Canis Major II	+ Pleiades	+ Pleiades
3 17 39.7	2nd	57.4	33.6	58.1
19 51.1	2nd	6.0	37.6	2.4
20 34.2	3 21 25.3	11.8	40.8	5.2
2nd	22 19.0	19.5	44.6	9.2
1st	23 10.9	27.3	48.5	12.7
		122.4	205.1	87.6
3 20 28.69	3 21 29.38	3 29 12.48	41.02	3 34 5.52
15 21 48.26	3 22 41.83			

57 44 47.5 1.40538 56 12553 1.18010
~~107676~~
 28.98 + 2 49.28 3014 - 1 40.76
 29.03 + 1 24.23 2886 - 58.14
 27.77 - 6.43 29.13 + 3.83

1863 Dec 15th MW and

SWS

May Pleyat	E hour Sp	Y Midm	Gr 250	62m at Bp
44.9	mt	21.5	39.5	3 55 19.6
49.1	mt	25.4	25.4	49.3
52.2	375	28.2	57.8	56 20.0
56.1	54.1	31.8	mt	43.3
59.7	17? 192	35.4	mt	57 16.8
262.0		142.3		149.0
3 39 52.40	3 47	3 50 28.46	3 54 1.55	3 56 17.40
		51 43.01	3 55 14.69	15 57 32.88

85-11 34.2 1.07626

C 0.82 + 3.02
 D 0.42 + 35.02
 E 0.41 + 120.91

	31779	o' Eridani	40 Widdan m	for 40 m	y Tauri
9.6	1 68.2	2nd	41.7	46.9	43.8
9.3	2 11.3	1st	45.2	50.7	47.8
0.0	27.7	1st	47.9	?	50.6
3.3	49.4	4.4	51.5	~~51.5~~	54.4
1.8	3 9.1	7.8	54.8	~~54.8~~	57.7
0.0	145.7		240.7		254.3
8.0	4 2 29.14	4 4 1.05	4 7 48.14		4 10 50.86
8.8		5 15.66			

1.06

1.06

6.74

3.36

1863 Dec 15th M. Wood

7145

δ Tauri	δ Tauri	ϵ Tauri	η Draconis	ϵ Tauri
46.0	55.9	47.1	37.1	47.8
50.1	59.8	47.1	44.2	51.6
53.0	2.9	26.1	52.1	54.4
56.7	6.7	31.8	57.7	58.1
0.2	10.1	35.4	5.7	1.7
206.0	135.4		196.8	213.6
4 13 53.20	4 15 3.08	4 19 28.32 20 42.92	4 20 51.36	4 26 54.72 28 9.41

28.34 7.06
27 3.53
36 0.26
3.17
7.15

<i>64 Camel B</i>	<i>Orion</i>	<i>Leopold</i>	<i>Orion</i>
5 16 34.1	44.7	24.5	59.6
17 17.1	48.4	28.5	3.4
49.4	51.1	31.3	6.2
18 32.4	54.6	35.2	10.2
19 12.8	58.0	38.7	13.2
145.8	256.8	158.2	92.6
5 17 53.16	5 23 57.36	5 25 31.64	5 28. 6.52
5 19 9.19	25 5.71	26 46.05	29 20.92

<i>5 Pegasi</i>	22 35 -0.37 -1 15.60 115.71 +.11
<i>α Per. austr.</i>	22 50 -0.72 -1 15.64 115.72 +.11 ✓
<i>α Pegasi</i>	22 58 -0.35 -1 15.64 115.67 +.03 ✓
<i>ε Perseus</i>	0 56 -0.39 -1 15.43 115.42 -0.1
<i>α Androm.</i>	2 5 -0.51 -1 15.30 115.29 -0.1 ✓
<i>α Lict.</i>	2 55 -0.41 -1 15.19 115.17 -0.2 ✓
<i>γ Eridani</i>	3 52 -0.54 -1 15.09 115.05 -0.4
<i>δ Eridani</i>	4 5 -0.48 -1 15.02 115.03 -0.4
<i>ε Tauri</i>	4 21 -0.33 -1 14.93 114.90 +.07
<i>α Tauri</i>	4 28 -0.34 -1 15.03 114.98 -0.5 ✓
<i>δ Orionis</i>	5 25 -0.43 -1 14.88 114.86 -0.2
<i>α Leporis</i>	5 27 -0.57 -1 14.98 114.86 -1.2
<i>ε Orionis</i>	5 29 -0.44 -1 14.84 114.86 -0.2

2 42 -115.199
 Per R +.114
 Jolt - +.136
 125

1863 Dec 18th 24W

7HS.

o Ceti

+ Capricorn
2nd323 Capricorn B
2nd.

1863 Dec 21st 2400 ~~475~~

and log

7145

34 Ceph A	202 Canal B sp	39 Ceph A	4 Ceph A	2 Picini
mt	23 20 26.9	27 25 3.5	23.6	52.3
mt	47.9	26 79	39.9	54.3
58.0	21 13.4	53.2	52.3	59.1
23.7	32.5	27 53.1	7.8	2.5
50.3	59.4	28 48.8	21.9	5.9
	178.1	166.5	145.5	176.1
22 46 59.24	23 21 11.62	23 26 ~~57.30~~	23 32 53.10	0 54 59.22
47 54.37	11 21 7.55	23 27 53.10		55 54.45

082622 in 0.88083

A 59.49 - 50.81

B 58.33 - 25.37

C 59.89 + 1.89

1863 Dec 21st MW cond

745

44 Cygni A	Polaris	214 Canis B	~~γ Andromedae~~	~~γ Andromedae~~
12.6	1 4 28.7	1 17 44.1	42.0	53.8
31.7	6 53.7	18 25.3	46.0	57.5
47.0	8 44.3	19 10.9	48.6	0.1
4.9	11 13.8	46.3	52.5	3.9
23.4	13 33.7	20 32.6	55.6	7.3
119.6	+ 2 171.2	159.2	266.7	122.6

0 59 47.92	1 8 58.24	19 7.44	1 43 48.94	1 44 0.52
	9 55.16	13 20 3.67		

214 Canis B	γ Andromedae	γ Andromedae
1 46 20.8	31.5	32.4
17.9	36.5	37.3
47 21.2	40.2	41.1
45.6	45.1	45.9
44 17.6	49.4	50.4
153.1	202.7	207.4
1 47 18.62	1 54 60.54	1 54 41.42

next page

The minimum two days by
from the following on the date

	L. Arctic	L. Brown Tp	20 Arctic Bsp	Gr 527	41 Arctic
3.8	29.8	29.4	ent	2 26 56.8	2 41 58.3
5	32.8	37.2	2 1 48.4	27 19.9	
1	36.9	46.7	2 47.5	36.8	42 5.7
9	40.8	52.7	3 30.1	28 0.3	— 9.5
3	44.5	1.5	4 28.1	21.1	— 13.3
6	185.8	166.9		134.9	
52	1 59 37.16	1 59 45.38	2 2 41.99	2 27 38.98	
	59 32.54		14 3 36.44	28 34.81	

26 24 12 1.20257

B 42.01 +53.21
 C 42.54 -3.96
 D 42.21 47.89
 E 40.21 1 47.89

1863 Dec 21st cont.

Lm

Tauri
below

XIV 217 sp	β Urs minor sp	α Lohi	Camel. 223 B sp	α Perse
48.8	43.1	10.3	2 58 44.1	34.9
55.1	55.8	13.9	59 10.8	40.6
2.6	9.5	17.0	40.9	44.9
5.0	20.1	20.5	3 0 2.3	50.6
15.5	33.9	24.1	34.9	55.7
130.0	162.4	85.8	134.0	276.9
2 48 2.00	2 51 8.48	2 55 17.16	2 59 38.80	3 14 45.38
	14 51 3.61	12.16		

Tauri

3 17 36.1
40.2
43.6

next page

57 Min Bq	313 Epi B	9 Carmel H	2 Perse	η Tauri
3 19 03.5	not	17.2	12.9	24.1
20 29.8	not	25.2	18.5	27.9
22 00.9	3 22 00.9	31.4	22.7	31.1
not	23 34.8	39.1	26.0	34.9
not	24 26.7	46.8	32.9	38.8
		159.7	115.0	156.8
3 20 54.24	3 22 44.82	3 30 31.94	3 33 23.00	3 39 31.36
15 21 49.77	3 22 40.99			26.53

874441114 1.60526 86° 12' 58" 1.15018

A 5838 + 2 49.98 A 15.48 1 41.22

B 5462 + 1 24.52 B 14.26 50.52

C 5458 - 6.33

27.31

1863 Dec 24st MW and

9146 (Eriusm. riding)

5 Wm minor sp

y Eridani

Gr 750

62 Wm B. sp

α Tauri

23.9

41.2

3

53 58.4

1st

7.6

40.7

44.9

51 41.5

2nd

11.4

57.8

47.8

55 42.1

3 57 41.5

14.3

11.9

51.6

55 57.8

58 5.4

18.3

29.7

55.1

56 39.7

36.6

21.6

164.0

240.6

211.5

73.2

3 48 56.50

3 51 48.12

3 55 18.30

3 57 38.99

L 28 14.64

42.89

14.49

15 57 33.27

9.45

Clock Errors

Eriusm	-0.37	55.60	0.56	55.69	+0.09
α Arietis	-0.27	55.65	2.0	55.55	-1.0
β Ceti	-0.40	55.40	2.55	55.43	+0.3
η Tauri	-0.26	55.43	3.39	55.33	-1.0
γ Eridani	-0.56	55.33	3.52	55.30	-0.3
α Tauri	-0.31	55.12	4.28	55.22	+1.0
		-55.422	58		
Rate	+0.132				

83° 21' 4" A. 0.93635

A 3866 - 57.74
 B 30 - 28.83
 C 3935 - 2.15
 D 3946 - 25.94
 E 38.15 - 58.45

1863 Dec 22nd MW.

next exp

2145 ~~(I think there is some mistake about the zero for this day)~~

2 Blatwint sp	20 cm in 13 sp.	1 Caprip	Gr Cui	2 Caprip H
32.6	2 1 59.5	48.9	7 58.9	1.1
40.5	2 47.8	57.8	2.2	13.4
49.5	3 50.9	5.0	5.0	21.9
55.8	4 33.5	14.8	8.7	34.0
4.9	5 32.3	23.5	12.3	44.9
183.3	224.0	150.0	87.1	115.3
2 exp 48.16	2 3 44.80	2 18 6.00	2 21 54.2	2 25 23.06
	14 3 36.68		57.54	

1863 Dec 27th M West continued

5775

Sp 527			γ Ceti	δ Micr	III 217 μ	β Wm μ
2	27	58.3	18.3	1.5	51.2	46.4
	28	23.5	21.9	5.6	58.4	59.1
	28	40.2	24.8	8.7	6.0	12.4
	29	2.5	28.5	12.6	10.9	22.9
	29	24.0	31.8	16.5	19.1	37.4
		148.5	125.3	44.9	145.6	176.2
2	28	41.70	2 36 25.06	2 41 8.98	2 47 51.2	2 50 11.64
		34.74	17.86			
			19.92			

225 lam 613 ? $\frac{1}{2}$

2 58 43.5
 59 4.9
 36.8

Clock Curves

ξ - Ceti	-0.37	52.49	222.
γ —	-0.41	52.41	236
		-52.65	229

1863 Dec 23rd M Mont.

1865

5 Regni			7 Regni			34 Cephei H			α Pictor. austr.			Polaris H		
	44.8			40.7		22	45	13.1		10.8			35.8	
	48.6			45.0			45	42.1		15.2			42.2	
	51.3			48.4			46	2.6		18.5			48.8	
	54.9			52.3			46	28.8		22.5			53.6	
	58.4			56.1			46	55.8		26.4			0.7	
	255.0			242.5				142.4		93.4			181.1	
22	33	51.60	22	35	48.50	22	46	4.48	22	49	18.68	22	52	48.22
	34	41.09		44			47	54.11		50	7.92			

not rep

	δ Wme arj p	β Rann	ϵ Pegan	γ Pincim	δ Apranai
8	15.4	1.6	3.3	11.2	53.4
2	22.7	5.3	7.1	15.7	57.4
8	30.2	8.2	10.0	17.7	0.4
6	36.3	11.8	13.7	21.3	4.2
7	44.7	15.2	17.1	24.7	7.8
1	149.3	42.1	57.2	90.0	123.2
22	22 54 29.86	22 56 8.42	22 57 10.24 59.79	23 9 18.00 10 7.44	23 15 0.64

1863 Dec 23^d M West

Picium	202 lamult B sp	39 Aphro H	32 lamult B pe	32 lamult B for
2.1	23 20 31.1	ht	ht	ht
5.9	20 52.4	ht	0 46 34.1	0 46 41.3
8.6	21 19.6	23 26 58.5	47 9.8	47 17.3
12.1	21 38.6	27 59.2	47 36.9	47 44.1
15.5	22 6.3	28 55.2	ht	ht
44.2	150.0			
23 19 8.84	23 21 18.00	23 27 3.59		
58.22	11 22 7.86	23 27 52.50		

86633 51500 1.2224

A 4.12 - 157.08

B 3.93 - 55.27

C 2.72 + 4.22

rest pos

43 Cephei H	ϵ Pictoris	44 Cephei H	β Andromedae	Polaris
0 48 39.2		0 59 19.3	11.5	1 4 31.3
49 26.8		39.2	16.2	7 3.1
50 2.0	5.0	53.3	19.4	8 57.6
50 47.5	8.5	1 0 11.4	24.0	11 19.4
51 31.6	12.0	29.5	28.0	65
147.1		152.7	99.1	
0 50 56.2	0 55 5.23	0 59 54.54	1 1 19.82	1 9 5.50
50 54.46	54.43			53.82

A 5.29 -6.71
 B 5.15 -3.75
 C 5.26 +0.76

D 55°35'26"8" 1.6092

B 4.7 - 214.7
 C 7.9 - 10.29
 D 2.4 159.3
 E 7.0 435.7

1863 Dec 23^d M West coast

W5

A Levi

2 1/2 Camel Bop

7 Pium

2 Pumi

1 Pium

2 Levi

19.0 1 17 49.0

17.9

42.1

26.9

22.5 18 32.6

22.0

47.8

30.6

25.5 19 16.4

24.6

51.7

33.3

29.1 19 51.1

28.6

57.3

37.3

32.5 20 39.3

31.8

2.3

40.4

128.6 188.4

124.7

201.2

168.5

1 16 25.72 1 19 13.68

1 23 24.94

1 28 52.24

1 33 33.70

17 14.73 13 20 1.11

24 14.00

34 22.76

1 Pium

Pisium already

next page

	* μ α Ceti	α Ceti	219 Camelopardalis	β Arietis	α Pisium	total
9	68.0	59.8	1 44 27.0	13.3	6.5	
6	51.9	3.6	56.8	17.1		10.2
3	52.9	6.5	45 27.2	20.3	12.9	
3	54.6	10.1	101	23.8		16.5
4	1.7	13.4	101	27.4	19.8	
5	215.1	93.4		101.9		
70	1 41 55.02	1 42 6.68		1 46 20.38	1 54 13.18	
76				47 9.59		

in total

A	13.14	- 6.66
B	13.19	- 3.31
C	13.15	+ 0.25
D	13.14	2.94
E	13.22	6.78

1863 Dec 23rd MW ant

Metric	d. Pressure	20 cm in B. up	1. Caping	3 rd Coli
36.0	ht	ht	52.2	1.7
40.2	ht	2 1 53.1	1.3	5.5
42.9	57.1	2 49.3	8.0	8.4
47.0	58.2	3 33.9	17.3	11.9
50.8	6.9	4 37.1	25.7	15.4
216.9			104.5	42.9
1 58 43.38	1 59	2 2 46.82	2 18 8.90	2 20 8.58
59 32.52		14 3 31.67		57.53

S 86° 24' 12" 1.20553

A

B 45.69 +52.79

C 45.77 - 4.03

D 47.11 46.79

E 49.02 48.08

364 p. 14	Gr. 527	Elliptic
3.7	3.3	50.2
16.4	26.0	54.1
25.3	44.3	57.1
37.1	5.8	0.7
48.4	28.0	3.9
130.9	107.4	166.0

2 24 26.18 2 27 45.48 1 36 57.20
 2 28 34.62

ζ Pegasi	22 35	-0.37	49.86	49.89	+03
α Perseus	22 50	-0.73	49.97	49.86	-11
α Pegasi	22 58	-0.34	49.89	49.84	-05
γ Pegasus	23 10	-0.41	49.85	49.81	-04
κ —	23 20	-0.43	49.81	49.79	-02
ϵ —	D. 56	-0.39	49.59	49.58	-01
θ Ceti	1 17	-0.50	49.51	49.52	+03
γ Pegasus	1 24	-0.35	49.41	49.52	+11
ν —	1 34	-0.40	49.46	49.50	+04
β Andromedae	1 47	-0.31	49.52	49.47	-05
α Andromedae	1 59	-0.30	49.44	49.44	.00
ϵ Andromedae	2 21	-1.38	49.33	49.40	+07
Rate -0.148					
$2^{\text{h}} 2^{\text{m}} + 49.430$					
0.31 - 49.637					
Rate prec +0.127					
- fully -0.136					
+0.131					

1863 Dec 26th M East

1863

β Aquarii	α Picuum	2021 April 13	39 Cephei	γ Cephei
23	11.1	23 20 44.4	23 25 8.8	36.0
6.1	14.4	21 [12.2]	26 5.9	51.2
10.0	18.1	21 30.4	27 3.9	6.9
15.6 ^{14.6} Viri Chet.	20.8	24 56.3	27 50.7	19.1
16.4	24.6	22 19.9	28 54.9	35.7
49.0	89.0		124.2	146.9
23 15 9.40	23 19 17.80	23 21 32.66	23 27 0.84	23 33 5.78
	58.19	11 22 8.39	27 58.78	

81° 52' 5" 2 0.8494

A 32.65 - 47.05
 B 68 - 23.42
 C 59 + 1.79
 D [95] + 20.75
 E 57 + 47.93

next page

δ Sulphur	γ Ursae majoris	309 Cephei 13	26th	detritomurine
2.7	49.8	23 50 53.1	59.2	34.6
6.7	56.3	51 40.4	3.1	38.4
10.8	1.2	52 30.6	6.8	42.4
13.9	7.4	53 10.4	9.9	45.7
18.3	13.1	54 4.4	13.7	49.9
52.4	127.8	138.9	91.8	211.0
23 41 10.48	23 46 156	23 52 27.78 53 16.57	23 56 6.36	0 0 42.20 1 22.73

1863 Dec 26th Ill East end

2445

Pepani

277
31.2
34.9
37.9
41.8
173.5

Gunnar and Bop

0 9 39.3
—
—
15 52.8
17 54.1

5 Mann Bop

0 11 16.2
12 12.6
13 25.6
—

18 left

19.8
23.2
26.7
29.6
33.5
132.8

18 Binsley

1 28 11.9
35.7
29 0.6
19.6
48.0
113.8

0 5 34.70 0 13 49.53 0 12 17.29 0 22 26.56 0 28 58.76
6 15.08 12 14 6.11 12 12 44.06 23 6.79

88° 26' 48" 156692 82° 11' 5" 130877

N 18.54 4 5.56

B 50.61 2 2.19

B 18.17 - 1 74.3

L 17.75 + 5.15

A 11.96 + 59.76

E 49.40 + 4 10.13

new paper

<i>Shapley</i>	<i>β Ceti</i>	<i>74 Bradley</i>	<i>Elmore</i>	<i>43 Capricorn</i>
57.4	57.4	0 40 48.5	10.9	0 48 40.7
3.3	2.9	41 16.2	18.1	49 22.6
7.6	6.7	45.1	23.1	50 8.6
14.5	9.6	42 8.2	29.3	50 44.5
21.2	12.7	38.9	35.7	51 33.0
106.0	92.3	156.9	117.1	149.4
0 32 9.20	6.46	0 41 43.38	0 47 23.42	0 50 5.88
	1 36 46.51			50.72

1863 Dec 26th M East

Picium	h Cephei 14	β Andromedae	Polaris	γ Capricorni
7.4	25.6	20.5	1 4 16.0	25.9
10.9	42.9	24.5	6 33.3	34.9
14.4	1.9	28.9	8 56.5	44.0
17.2	16.1	32.2	10 50.4	51.5
21.0	35.7	37.0	13 21.8	1.3
70.9	122.2	142.6	178.0	157.6
1 55 14.18	1 0 0.44	1 1 28.52	1 8 47.00	1 15 43.52
54.40			9 51.43	

mal pay

θ Lib.	214 Camel B 4	η Pictoris	323 Lepus B	ϵ Eridani
1	18 6.7	26.9	3 20 9.6	46.6
1	18 54.4	30.3	21 1.8	50.1
34.9	19 30.8	33.9	21 58.4	53.7
? 37.8	20 14.5	36.9	22 37.3	56.5
41.6	20 56.8	40.8	23 35.5	0.3
	163.2	168.8	139.6	207.2
1 16 34.78	1 19 32.64	1 23 33.76	3 21 51.92	3 25 53.44
17 14.70	13 20 4.88	24 12.97	22 40.37	

E 34.78 - 6.82

D 34.78 - 3.05

C 34.78 + 0.25

1863 Dec 26^m M East

Eriani absent

1863phae 46

1863phae 46		8 Eridani		7 Tauri		5 Persei		Suma in p						
Amplitude		7 Tauri		5 Persei		Suma in p								
31.8		27.9		59.4		39.2		42.6						
39.3		32.7		2.7		42.9		1.2						
56.7		38.2		6.3		46.8		14.5						
52.9		42.2		9.2		49.8		32.4						
1.0		47.9		12.9		54.0		48.3						
171.7		186.9		90.5		232.7		139.0						
3	29	46.34	3	32	37.78	3	36	6.10	3	38	46.54	3	48	15.60
										39	26.52			

Hand page

γ Eridani	Gr 150	Greenwich Bop	2 Tauri	XVI 182 4r
56.3	3 53 8.3	—	22.6	—
59.8	53 51.7	—	25.9	—
3.4	54 31.1	3 56 57.7	29.7	—
6.3	55 4.5	57 28.8	32.8	55.9
10.2	55 49.3	57 56.9	36.7	13.9
136.0	140.9		147.7	
3 51 3.20	3 54 28.18	3 56 59.84	4 27 29.54	4 32
42.98	3 55 14.96	15 57 33.61	28 9.46	

 $83^{\circ}10'59.3''$ 1.93627

 A 59.42 - 57.48

 B 0.20 - 28.60

 C 59.89 + 2.19

1563 Dec 25th M East ant

746

Volap H	in Midam	(not 9 lamul H)	9 Anulapondali	3 Perm
4 33 48.1	57.7	40.9	49.9	
34 9.9	1.2	49.1	53.8	
31.4	4.8	57.8	58.1	
49.1	7.5	4.5	1.2	
35 13.5	11.3	13.9	5.7	
152.0	83.5	166.2	168.7	

4 34 3040 4 38 1.70 4 39 57.24 3 44 57.74

23^h 49^m + 39.997
(3)

3 59 + 39.487
(3)

note - 0.122

* Androm	23 19	+0.35	-40.06	40.06 + 0.02	+0.53
* Androm	0 1	0.54	39.99	39.96 - 0.03	
4 Perseus	0 6	0.42	39.96	39.95 - 0.01	
12 Ceti	0 23	0.32	39.91	39.91 ± 0.00	
β —	0 37	0.27	39.78	39.88 + 0.10	
ε Per	0 56	0.38	39.84	39.84 ± 0.00	
δ Ceti	1 17	0.30	39.82	39.79 + 0.03	
γ Perseus	1 24	0.42	39.79	39.78 - 0.01	
γ Tauri	3 39	0.50	39.48	39.47 - 0.01	
γ Androm	3 51	0.28	39.50	39.44 - 0.06	
α Tauri	4 27	+0.44	39.48	39.36 - 0.12	
†					
	1 27		-39.767		
	Pro R		+0.136		
			0.135		
			0.136		

1863 Dec 29th M. G. M. G. M.

real mps

Palmer	Alt	214 Crumitt	7 Picum	2 Perri
1 4 20.7	377	1 18 18.3	36.9	1.1
6 37.9	41.2	19 5.6	40.3	6.0
9 2.9	44.4	40.5	44.0	11.3
10 52.2	47.6	20 26.6	46.9	15.3
13 27.5	51.4	21 8.7	50.9	21.1
143.2	222.7	99.7	219.0	54.8
1 8 52.64	1 16 44.54	1 19 43.94	1 23 43.80	1 29 10.968
9 48.75	17 14.66	13 20 5.74	24 13.93	

1863 Dec 29th M East

Ceti	* prior X Ceti	X Ceti	219 Gamma Cep	β Androm	
9.2	6.9	18.7	51.8	32.2	
12.7	10.5	22.5	25.1	35.7	
14.5	14.1	25.8	46.6	39.5	
19.0	16.9	28.6		42.5	
23.0	20.7	32.5		46.7	
30.9	29.1	126.1		146.6	
1 37 16.18	1 42 13.82	1 42 25.62	1 45	1 46 39.32	1
				57 9.57	

rent paper

50 Capripigan	d Picum		d Arctis	20 um in Box			6x lens
3.9	in	out	54.9	2	1	31.0	—
14.7	28.2	28.7	58.6	2	2	32.4	—
26.0	32.1	—	2.5	3	3	16.6	43.7
34.9	—	38.0	5.5	4	4	13.0	46.6
47.1	38.8	—	9.6	5	5	6.7	50.3
126.6			131.1			99.7	

1	51	28.32	1	54	31.97	1	59	2.22	2	3	19.94	2	9	43.50
								32.44	4	3	38.81		10	13.46

31.86

32.01

31.85

32.06

32.02

31.91 32.03

43.45

0.25

57

3.03

46

16.62

1863 Dec 2nd 11th East ant

146.

0 Oct	1 Capripige	1 Caprip. foll.	5 ² Ceti	35 Lamshp. H
53.5	9.6	11.0	2 20 20.7	21.6
56.9	18.3	19.5		32.5
0.3	27.2	28.7		44.2
3.3	34.4	35.6		53.2
6.9	43.8	45.3		5.8
120.9	133.3	140.1		157.3
2 12 0.18	2 17 26.66	2 17 28.02		2 24 43.46

next page

γ 527	ϵ Levi	γ Ceti	δ 1 Arietis	XIV 217 δ 1
18.2	23.9	40.3		16.0
39.5	27.5	43.7	δ 2nd int ~~426.7~~	23.5
1.7	31.0	47.3	31.2	28.6
19.0	33.8	50.0	34.2	35.9
43.1	37.7	52.8	38.6	42.9
121.5	153.9	238.7		146.9
2 28 0.30	2 32 30.78	2 35 47.02	2 41	2 47 29.38
		36 17.01		

1863 Dec 29th III East

η Eridani	β Ursa mi sp	β Persii	ζ Eridani	δ Persii
12.0	11.2	43.3	—	59.7
15.4	25.6	47.6	—	5.0
17.1	35.8	52.2	45.8	10.5
21.8	47.4	56.0	48.6	14.8
25.7	2.0	0.9	52.4	20.7
94.0	124.2	210.0		110.9
2 49 16.50	2 50 36.86	2 58 52.00	3 8	3 14 10.18

1863 Dec 29th All East out

945

Gr 750

621m in 13m

Gr 779

at Eidani

8 Tauri

V Tauri stand

3	53	17.0	3	56	44.2	29.7	39.2	
	56.9			57	8.1	49.9	62.8	34.4
	54	40.0				11.6	16.1	38.2
	55	12.5			38.5	28.2	48.9	41.1
	57.9			58	8.2	51.4	52.8	45.2
	164.3					70.8	229.5	
3	54	36.86	3	57	10.11	4	4	45.90
	55	13.79	15	57	33.92		5	15.62
								14

S 83°30'59"6 0.90627

A 1073 - 5727

B 990 - 28.60

C 1028 + 2.18

D 904 + 2834

δ Tauri	η Draconis sp	α Tauri	δ Eridani	XVI 182 sp
40.8	24.1	32.6	22.6	
44.4	32.1	36.1	26.1	
48.1	37.9	39.8	29.8	32.2
51.0	45.4	42.8	32.6	47.2
55.1	52.7	46.7	36.6	38 6.1
239.4	192.2	198.0	147.7	
L 15 47.88	L 21 38.44	L 27 39.60 28 9.46	L 31 29.54 32	L 32

1863 Dec 29th M West End

MS

ϕ Alpha H	δ Uranus	α Andromeda	β Orion	γ Orion
19.3	4 58 34.3	2.5	25.9	25.9
41.9	59 1.9	7.2	29.3	29.4
59.5	22.4	12.4	33.0	33.0
23.7	49.3	16.2	35.7	35.8
	5 0 14.5	21.7	39.6	39.5
	122.4	80.0	163.5	163.6
L 34	4 59 24.48	5 6 12.00	5 7 32.70	5 10 32.72
	16 59 59.34	6 42.06	8 2.32	

next page

	β Tauri	64 Canis Major B	74 Canis Major B	δ Orion	ν Leporis
9	70	int	int	29.5	9.5
4	10.8	int	56.6	32.9	13.1
0	11.8	5 18 33.3	10.4	36.5	16.8
8	17.9	19 6.5	20.9	39.2	19.7
5	22.3	19 50.2	35.5	42.1	23.7
6	72.8			181.2	82.8
72	5 17 14.56 44.52	5 18 30.27 ~~19 6.5~~ 19 6.50	5 21	5 24 36.24 25 5.81	5 26 16.56 46.13

85° 15' 5" m. 1.06992

C 3033 - 2.97
D 3202 - 34.481
2 3158 - 72.64

1863 Dec 29th M East mt

1 st Min	2 nd Min	40 th Min	41 st Min	2 nd Min
44.5	14.2	58.9	5.3	6 13 31.3
48.0	17.7	28.3	26.3	14 35.4
57.6	21.7	36.4	42.9	15 21.2
54.4	24.3	56.9	2.9	16 22.2
58.1	28.2	15.7	22.7	17 19.1
256.6	106.1	188.2	100.1	129.2
5 28 57.32	5 59 21.22	6 9 37.64	6 9 14.02	6 15 25.84
21.02	50.86			44.61

23 Emerald H	51 Aphid H	51 Siro	4 Tauri
58.2	6 33 15.6	35.1	28.7
16.7	34 25.3	38.4	32.3
36.8	35 39.5	~~41.6~~	35.9
52.5	36 36.3	45.0	38.8
13.5	int	49.0	42.8
177.7			178.5
6 22 35.5	6 35 34 38	6 38 41.94	41 11 35.70
	36 17.42	39 11.46	

[illegible]

1863 Dec 30th SW East

Lepus		Wm. mag. 12		309 Lepus B		Palmer		214 Camel Bp	
47.5	3.0			mt		—			
4.0	9.4			mt		—		1 19 8.1	
19.7	14.5	23	52 43.7			—		19 42.1	
31.7	20.4		53 22.4			—		20 28.8	
48.9	26.3		54 15.6			1 13 36.4		21 10.7	
157.8	73.6								
23 33 18.36	28 46 14.72	23 52 40.12	1 9 0.65	1 9 0.65	1 9 0.65	1 9 0.65	1 9 0.65	1 9 0.65	1 9 0.65
		23 53 15.29	1 9 57.85	1 9 57.85	1 9 57.85	1 9 57.85	1 9 57.85	1 9 57.85	1 9 57.85

85° 57' 23" 84 1.15772 86° 35' 27.8 1.60926 85° 27' 31.6 86° 11' 11.2 1.20275

40.11 3.59

40.78 41.62

39.46 1.3644

1.10141
24.06
A 46.64 - 1.10141
B 97 - 52.79
C 29 + 4.12
D 15.77 + 37.02

1.35775

Examined 39.6?

next page

η Picorum	ϵ Leo	π Aki	219 Cassiopeia	50 Capricorn
~~38.7~~ 39.6	illigible	21.6	54.6	6.8
43.2	15.5	24.9	27.6	17.8
46.8	19.2	28.7	51.9	29.1
47.7	illigible	31.4	23.1	37.6
53.7		35.4	52.5	50.1
233.0		142.0	209.7	141.4
1 23 66.6	1 39	1 412 28.60	1 45 53.94	1 57 28.28
24 13.92				

1863 Dec 27th West

Lamin Pair

Picini	2 Picini	2 Picini	20 Picini	20 Picini
— 28.1	+ 58 57.8	— 59.7	— 56.4	
31.6	1.4	8.6	2 2 34.3	59.8
— 35.3	5.3	15.0	3 17.6	3.4
37.9	8.3	23.7	4 16.2	6.1
— 41.8	12.4	31.5	5 7.8	9.9
	85.2	138.5		135.6
1 54 34.94	1 59 5.04	2 0 10.70	2 3 21.96	2 12 3.12
	32.44		14 3 39.07	

Mc 24 35.3 for D.

34.76
34.91
35.05
34.96
35.02

21.71
22.91
21.63
21.08

34.935
34.943

next page

<i>Alpsing</i>	<i>*fall = Alpsing</i>	<i>Gr. Alt.</i>	<i>36 lapsing H</i>	<i>gr 527</i>
12.6	14.1	23.5	24.3	2 27 21.3
21.1	22.4	27.0	35.5	28 42.5
30.2	31.3	30.6	47.4	28 4.7
37.4	38.6	33.3	56.3	28 22.2
46.7	47.9	37.1	9.8	28 45.8
148.0	154.3	151.5	173.3	136.5
2 17 29.4	2 17 30.86	2 20 30.30	2 24 46.66	2 28 3.30
		57.47		34.02

1863 Dec 30th M East

45

Uncle Simon 4p

1 Eridani

Gr 750

Columb By

Gr 779

14.1

9.2

3 53 20.6

27

32.2

27.7

12.6

54 0.2

3 56 47.1

52.6

45.1

16.3

43.0

57 11.0

14.6

19.2

55 16.2

11.7

31.3

23.1

56 1.4

58 10.2

54.2

80.4

81.4

154.9

3 48

3 51 16.08

3 54 40.28

3 57 12.56

4 3 12.98

42.96

55 13.64

15 57 34.05

12.73

13.10

13.18

12.44

fini anni 1863

γ Piscium	1 24	+0.42	-27.08	+26.98	-10
α Arietis	2 0	0.47	26.93	26.90	-03
$\frac{1}{2}$ 2 Ceti	2 21	0.38	26.79	26.85	+06
γ Eridani	3 52	0.30	26.58	26.65	+07
	2 24		-26.865		<u>use</u>
Per Rate			+0.126		
			+0.141		
			0.134		

1863 Jan 1 M East

thin

Polaris	Alt	24h Count	7 Polaris
6 47.4		1 18.288	46.2
1 9 13.4		19 16.2	49.7
11 2.1	54.6	19 51.4	53.5
13 36.1	57.1	20 36.0	56.4
	0.9	21 20.0	0.2
		152.4	206.0
1 9 2.05	1 16 54.16	1 19 54.48	1 23 50.20
46.09	17 14.63	13 20 0.58	24 13.90

Clock Error

Alt	1 17	+ 0.31	- 20.16
7 Polaris	1 24	+ 0.42	- 20.29
	1 20		- 20.22

38° 35' 27" 9 m 16093

B	2.1	+ 2 14.7		
C	3.1	- 10.3	- 54.34	- 0.26
D	2.7	1 59.4	13	297
E	0.3	1 35.8	04	666

1864 Jan 2 M East

fmin

MS

4 Cephei

009 Cephei B

2 Poppi

39 Lep 14 ?

8 Sculptori

23 - 33

18.9

30.7

43.2

59.0

Not to be formed

35.7

38.9

42.9

45.6

49.3

212.4

23 27 30.8??

7

37.1

41.2

22 57 42.48
59.69

23 41

1863 Jan 5 M East

Heaven 2nd wire M.C. has 49.3

Arctis

20 Wn m Bop

5th C.W.

5th 527

2 C.W.

17.2
21.0
25.1
28.2
32.0
123.5

2 1 55.6
2 50.6
3 32.6
4 33.0
5 30.7
202.5

43.2
46.6
50.3
52.9
56.8
249.8

2 27 39.9
28 0.7
26.0
40.7
29 41.6
109.9

57.8
1.2
4.9
7.5
11.4
82.8

1 59 24.70
32.38

2 3 40.50
14 3 40.83

2 20 49.96
57.41

2 28 21.98
33.40

2 55 4.56
12.05

40.7
40.2
38.6
37.3
35.1
40.3
± 2.33
± 1.55
± 1.07

next page

β Perri	ζ Eridani	α Perri	δ Tauri	δ Umi in Bp
5.6	—	22.2	17.4	3 19 11.4
9.9	—	27.5	20.9	20 46.4
14.8	—	32.8	24.4	21 56.3
18.2	11.1	37.2	27.2	—
29.3	14.9	42.9	30.8	—
71.4		162.6	120.7	
2 59 14.36	3 9	3 14 32.52	3 17 24.14	3 22 2.48
				15 21 54.74

87° 44' 41" 1.40570

C 2.73 + 6.43
 B 0.99 144.59
 E 3.72 252.32

1864 Jan 5 ME

Linn

236 Apr 10

5 Permi

21.5

26.1

30.3

3 23 7.1

33.7

24 3.5

38.0

149.6

3 22 21.73

3 25 29.92

3 22 38.29

Jan 2

a Regi

22 57 +0.41 -16.80

5

a Arctis

2 0 0.47 7.21 +7.14 -02

E. Ceti

2 21 0.55 7.07 7.15 +08

a Ceti

2 55 0.75 7.14 7.08 -06

2 25 -7.14

Pro R
Jolly

+0.128

0.122

+ 0.125

8h 12' 51" 1.16028

D 22.65 42.45

E 21.81 42.69

1864 Feb 11 East

mat pp

7MS

γ Aphi	α Picum	δ Ceti	γ Pegasi	Brady 48
10.9	—	—	3.2	0 28 47.3
25.8	12.1	—	6.4	29 9.2
42.0	15.7	42.1	10.3	34.7
53.3	18.5	45.1	13.2	54.3
10.0	22.2	49.1	17.0	30 19.9
142.0			50.1	165.4
23 33 40.40	23 52 15.45 20.36	23 56	0 6 10.02 14.93	0 29 33.08

15.46
 45
 48
 40
 6.72
 3.36
 0.25
 3.02
 6.80

1863 Jan 6^m 2d End

145 p. 41

Cepheus

	Bradley 74	E Minor major	μ Andromeda	43 Cephei II
34.6	0 41 22.8	46.7	1.5	
38.1		53.6	4.9	0 49 55.8
41.9	42 19.8	58.5	9.4	50 41.1
44.7		49.7	13.0	51 18.5
48.8	43 13.3	11.1	17.5	52 7.0
208.1	148.7	174.6	45.3	

0 36 41.62	0 42 17.74	0 47 58.92	0 49 9.06	0 50 39.24
46.34				0 50 50.83

85° 57' 5" 110851

B 38.32 + 42.52

C 37.86 - 3.24

D 40.82 37.68

E 39.96 1 27.04

next page

ϵ Permin	β Andromeda	Polaris	δ Cygnus	δ Uchi
42.7	55.7	1 4 44.1	1.3	
46.0	59.8	—	10.1	
49.7	6.2	—	19.4	10.0
52.4	7.6	—	26.4	13.0
55.3	12.3	17 53.5	36.5	16.8
267.1	139.6		93.2	
0 55 49.42	1 2 3.92	1 9 16.28	1 16 14.74	1 17 9.90
54.27		4 9 52.77		14.56

88°35'28" 1.60932

14.84 4 30.74

2 17.4 4 35.79

9.74 - 0.26
 10.03 - 2.97
 9.94 - 1.86

1863 Jan 6^m LWS cont

795

salapropion

above wh - morning obs

214 Cam 13 sp	η Piscium	ϵ Persei	219 Cam 13	50 Caprip
7 16 43.4	2.3	26.4	13 45 11.2	29.0
19 31.1	5.7	31.5	40.6	39.7
20 6.2	9.4	36.8	46 12.5	51.3
20 57.7	12.5	40.8	35.7	0.3
21 33.4	16.0	46.4	47 8.3	12.4
165.8	45.9	161.9	108.3	132.7
9 20 9.16	9 24 9.18	1 29 36.38	13 46 9.66	1 51 50.54
13 20 7.82	13.8			

Rock Computation

α Piscium	+0.37	-4.54	23.52	4.54	.00
β Persei	0.46	-4.50	0.6	4.57	+0.1
γ Caprip	0.22	-4.46	0.37	4.44	-0.2
δ Piscium	0.37	-4.48	0.56	4.40	-0.8
θ Ceti	0.31	-4.35	1.17	4.36	+0.1
ζ Piscium	+0.41	-4.27	1.24	4.34	+0.7
		-4.23	0.42		

Row R
July

+0.172

+0.1424

0.133

1866 Jan 8th Mt East

JMS. Morning obs.

Ment. pag.

Very hazy this

309 Apr B-p y Corvi

6400 mi B-p

S Corvi

y Corvi

47.4

48.2

2.3

50.9

12 11 56.7

51.8

5.8

11 53 20.0

56.7

14 8.8

55.5

9.7

57.4

15 46.4

58.5

12.5

1.3

1.9

16.6

211.7

215.9

46.9

11 53 23.59

12 8 54.34

12 13 58.82

12 22 55.18

12 25 9.08

23 53 12.61

12 14 17.09

55° 57' 25" 1.15/71

58° 24' 48" 1.56693

13 58.69 + 2 02.49

2 59.47 - 9.33

15 58.10 - 1 48.30

1866 Jan 8th ME and

743

Bradley 48 sp	Virginia	Roll	Bradley 74 sp	Elmore major	43 Gephart 48 sp
3.6	44.5	—	40.7	53.6	
29.9	—	48.1	10.4	59.7	12 50 22.8
47.9	57.5	—	34.5	6.5	50 59.8
13.7	—	54.4	2.4	11.3	51 48.7
36.5	58.0	—	30.5	18.6	52 28.4
131.6			118.5	149.7	

12 29.50.32 12 34 57.32 12 42 35.70 12 48 5.94 12 51 2.41
 47.45 0 50 50.21

51.16

51.41

51.25

51.46

51.22

51.21 51.23

85° 51' 57" 5 1.10856

A 294 - 1 25.96

B 318 - 42.52

C 305 + 3.25

D 448 + 37.68

E + 1 27.05

next page

α Virgin	44 Cephei H sp	Polaris sp	α Virgin	γ Ursa maj
? 24.4	15.2	13 5 35.9	0.2	3.9
25.9	34.7	8 5.2	3.6	9.4
29.4	18.4	7 58.4	7.2	14.9
32.2	7.3	12 23.6	10.0	19.1
36.1	25.3	14 45.4	14.0	25.0
146.0	130.9	168.5	35.0	72.3
12 55 29.20	13 0 50.18	13 10 9.70	13 18 7.00	13 42 14.46
		1 9 70.17	2.95	

Harmon 1st W.

The mean has been
taken under the
supposition that
22.5 is right

1864 Jan 8th M.S. cont'd.

^{gaint}
 219 Camel 13 η Bootis

13 45 17.2
 47.2
 46 18.0

 47 16.6

9.9
 [13.3]
 17.8
 20.3
 24.7
 86.0

13 48 17.20
 13.85

γ Virgin	+0.34	4.21	12.35	-4.22	-01
δ	0.31	4.26	13.18	4.28	+08
η Bootis	0.44	4.47	13.28	4.37	-08
		+ 4.28	13.14		

Pro R
 204

 0.134
 0.139

1863 Jan 7 MS conts

next page

2785.

y Picium			i Picium			N Picium			2 Cti			x Andromeda		
---			56.4			16.9			45.0			20.2		
---			57.8			22.3			48.7			26.1		
---			3.4			25.6			52.2			28.0		
15.5			6.2			28.6			55.3			31.1		
19.3			9.9			32.5			59.3			35.5		
			135.7			128.1			260.5			136.9		
23	10	12.55	23	33	3.14	23	52	25.62	23	56	52.10	0	1	27.78
		7.27		32	57.88			20.33						22.53

12.49 3.01
 .53 6.77

1863 Jan 9th Ill. Cont.

915

Hamm 5th min.

γ Pegasi	Cannon B			12 Oct	Be 48			α Capricornus
13.2	0	10	36.7		5.5	0	28	55.9
16.7		12	55.5		8.7		29	18.8
20.3		15	36.8		12.4			44.4
23.1		16	49.9		15.1		30	3.7
27.1		18	52.8		18.9			30.2
100.4		22	1.7		60.6			153.0
0 6 20.08	0	14	16.34	0 23	12.12	0	29	42.60
14.90	12	14	17.54		6.62			0 32 54.42

next page

β Cen	δ Phoen	Br. 74	ellipticity	μ indromedon
44.8	37.3	—	57.1	10.9
48.3	40.6	—	3.8	15.0
52.1	44.4	0 42 29.4	9.4	19.7
55.1	47.2	51.3	15.6	23.0
59.0	51.8	43 23.0	21.7	27.8
259.3	220.3		107.6	96.4
0 36 57.56	0 41 44.06		0 48 9.52	0 49 19.28
46.32				

$82^{\circ}58.5'$ der 0.9126

A 54.64
 B 27.19
 C -1.95 27.45
 D -24.44 26.86
 E -55.46 27.54
 27.28

1864 Jan 9th Lu East cont.

DMS,

63 Cephei H

2 Picium

441 Cephei H

p Andromeda

Polaris

		52.8		9.7		5.9	1	4	50.9
0	50	6.0		27.7		10.0		7	7.4
		51.2		46.1		14.1		9	36.6
	51	28.1		0.6		17.6		1.1	25.9
	52	16.2		20.4		22.4		13	58.6
		118.4		104.5		70.0			179.4

0 50 49.01
0 50 50.07

0 55 59.68
54.23

9 0 44.90 1 2 14.00 1 9 23.88
39.72

Lu Jan 9th

52.52

47.95

50.42

49.15

next page

ψ Cygnus	θ Uli	214 Amitt 10 η	η Perium	ρ Perium
11.4	---	18 55.9	12.3	21.8
19.9	---	19 43.0	15.9	24.8
29.5	20.6	20 17.2	19.4	28.3
36.4	23.2	21 4.2	22.4	31.2
46.3	27.0	21 43.9	26.2	35.0
143.5		164.2	96.2	141.1
1 16 28.70	1 17 20.17	1 20 20.84	1 24 19.24	1 24 28.22
	14.52	13 20 8.67	13.80	22.57

20.14

23

14

864 Aug 7th Mount

1863phae.p

α Auctin		α Draconis 4p		204m m 134p		67let		0 Let		faint				
30.3		32.5		2	2	10.9		12.4		29.1				
34.2		41.6		3	3	9.2		15.8		32.6				
38.1		48.4		3	3	52.9		19.4		36.2				
41.0		56.6		4	4	51.9		22.3		39.2				
45.1		4.8		5	5	44.8		26.2		42.7				
188.7		183.9				169.7		96.1		179.8				
1	59	37.74	2	0	48.78	2	3	57.94	2	10	19.22	2	12	35.96
		32.32				14	3	42.06			13.33			

36 Caprip H ahead

next page

[illegible]

1864 Jan 9th WE

41 Anets ahead

η Cassini	XIV 207 sp	η Eridani	β Umi sp	α Cen
15.8	51.9	67.4	67.6	10.8
19.3	59.7	57.0	1.9	14.5
23.0	4.9	56.6	12.7	18.1
25.6	12.1	57.5	26.0	20.9
29.5	19.0	1.3	38.5	24.6
113.2	147.6	211.7	126.7	88.9
2 36 22.64 16.90	2 48 5.52	2 49 54.34	2 51 13.34	2 55 17.78 12.01

and log

β Persei	δ Antares	12 Escdani	5 Escdani	α Tauri
18.7	52.0	17.3	14.4	30.7
23.2	55.6	21.3	17.5	33.9
27.8	59.0	25.4	21.4	37.5
31.6	2.0	28.5	24.1	40.5
36.8	6.0	33.0	28.1	44.1
138.1	174.6	125.5	105.5	186.7
2 59 27.62	$\int$ 3 58.92 53.32	$\int$ 6 25.10	3 9 21.10	$\int$ 14 37.34

864 Jan 9 UK and

fair

188

7 Wm B op

323 April 13

36 Capri H

21 Arctis

3 19 23.9
21 1.0

3 31 43.4

22 32.1

23 20.2

24 17.0

56.9

7.3

19.2

26.5

40.9

152.8

59.1

2.7

6.7

9.8

14.1

92.6

3 22 15.88

15 21 56.21

3 22 32.22

3 22 37.52

2 25 18.56

2 42 6.52

Perseus	23 10	0.35	5.55	5.61	-02
1	23 73	0.36	5.62	5.66	-04
W	23 52	0.37	5.66	5.70	-04
Androm	0 1	0.51	5.76	5.72	+04
Perseus	0 6	0.41	5.57	5.73	-14
12 Ceti	0 23	0.33	5.83	5.77	+06
B	0 37	0.28	5.82	5.80	+02
Perseus	0 56	0.37	5.82	5.84	-02
12 Ceti	1 12	0.31	5.96	5.89	+07
Perseus	1 24	0.41	5.65	5.91	-06
Perseus	1 34	0.37	6.02	5.93	+09
Arctis	2 0	0.42	5.89	5.99	-10
12 Ceti	2 10	0.32	6.11	6.01	+20
12 Ceti	2 21	0.38	6.04	6.04	.00
12 Ceti	2 36	0.35	6.09	6.09	+02
12 Ceti	2 55	0.36	6.13	6.11	+02
Arctis	3 4	0.44	6.04	6.13	-09

0 4 5.675

2 28 6.110

47 1 16 5.842

87 min 140503 864 57 1 118031

1 11

5.878

Perseus 0.134

Zep 0.136

0.135

No change in rate.

B 33.56 + 50.16

C 33.27 - 2.83

D 35.74 44.46

E 34.31 42.69

1889

1888

1 14.58

2 52.29

1864 Jan 10 24 E

next ny

JWS

ϵ Perseus	β Andromedae	Polaris	δ Capricornus	δ Ceti
56.2	9.2	1 4 57.9	14.2	16.9
59.6	13.4	7 8.5	23.3	19.9
21	17.6	9 32.8	22.4	23.7
6.0	21.0	11 26.3	39.4	26.4
9.7	25.7	14 0.8	49.5	30.2
134.6		126.3	158.9	117.1
0 56 292	1 2 17.38	1 9 25.26	1 16 31.78	1 17 23.42
55 54.22		38.79		14.51

1864 Jan 10 2nd cont

fin

1864

14 Cumul 13 yr.

1 19 0.0
 19 58.2
 20 23.4
 21 7.8
 21 50.4
 129.8

20 25.96

13 20 8.97

Alisaur	0.56	+0.38	9.08
Orbit	1.17	0.30	9.21
	1.6		+9.145

1863 Smith M L

next page

1863

ϵ Perseus	μ Andromedae	43 Cephei	ϵ Perseus	45 Cephei
4.6	18.1		0.1	16.9
11.4	22.3	0 50 12.4	3.5	34.2
16.4	26.9	58.0	7.1	52.8
22.8	30.4	51 32.7	9.9	7.0
28.9	35.1	52 22.8	13.6	27.1
54.1	132.8		34.2	138.0
0 48 16.82	0 49 26.56	0 50 55.11	0 56 6.84	1 0 51.60
		50 49.48	55 54.21	

54.92

54.75

55.02

55.76

864 Jan 11th ME

886

3 Andromeda	Polaris	4 Cygnus	Heli	211 Camel
13.0	1 4 55.5	18.4		1 19 3.3
17.1	7 12.6	27.0	24.0	19 51.6
21.5	9 36.6	36.1	27.6	20 27.2
24.9	11 32.8	43.7	30.3	21 13.4
29.5	13 58.2	53.8	34.3	21 55.0
106.0.	195.7	179.0		150.9
1 2 21.20	1 9 27.104	1 16 35.80	1 17 27.36	1 20 30.18
	37.82		14.50	13 20 9.29

27.35

34

33

44

red prop

<i>Clon</i>	<i>psi</i>	<i>41 Arctus</i>	<i>η Eridani</i>	<i>ε Arctus</i>
6.8	22.9	6.3	54.7	38.7
10.1	26.5	9.9	58.2	37.3
13.8	29.9	13.9	1.9	41.5
16.6	32.8	17.0	4.6	46.2
20.5	36.5	21.2	8.5	48.9
67.8	148.6	68.3	127.9	205.6
2 34 13.56	³⁴ 2 29.72	2 43 13.66	2 51 1.58	2 53 41.12
	36 16.88			

1864 Jan 11th M^g

α Chi	ρ Persu	δ Anitn	δ Eretani	δ Eridani
18.2	25.7	59.1	24.7	21.5
21.6	30.4	2.8	26.4	24.9
25.3	35.2	6.4	32.5	26.5
28.0	36.7	9.4	35.8	31.4
31.6	43.7	13.3	40.1	35.2
124.9	173.7	91.0	161.5	141.5
2 55 24.98 11.99	3 0 34.74	3 8 ⁴ 620 3 53.30	3 7 32.30	3 10 28.30

next page

δ Persei	δ Tauri	ϵ Eridani	δ Persei	δ Eridani
42.7	37.7	39.8	20.9	52.1
47.4	41.3	43.0	25.9	55.6
53.1	44.9	46.7	30.7	59.2
57.4	47.7	49.4	34.3	2.0
3.2	51.7	53.2	40.6	5.9
203.4	223.3	232.1	152.4	174.8
$\int$ 15 52.76	$\int$ 18 44.66	$\int$ 27 46.42	$\int$ 34 30.56	$\int$ 37 58.96

1863 Jan 11th M. E. cont

486

γ Tauri	ζ Persei	ζ Ursa m ^{aj}	γ Sauri	ζ 250
31.9	42.7	36.4	49.0	3 53 58.8
35.7	46.8	54.5	52.5	54 39.7
39.6	50.9	8.7	56.1	55 21.0
42.6	53.9	26.2	58.9	55 53.8
46.8	58.4	42.4	2.9	56 308.9
196.6	252.7	168.2	219.4	212.5
3 39 39.32	3 46 57.52	3 50 9.64	3 51 55.88	3 55 18.58
26.42			42.88	12.03

Next Page

Columbiæ		at Enduro		V Tauri		S Tauri	
for 779							
	108		21.8		11.5		13.8
3 57 30.1	31.6		25.3		15.0		17.4
54.3	53.3		29.0		18.7		21.1
58 24.6	10.3		31.7		21.7		24.0
53.4	32.8		35.6		25.7		28.0
	138.8		143.4		92.6		104.3
3 57 55.96	4 4 57.76	4 6 5 28.68	4 10 18.52	4 16 20.86			
15 57 35.44		5 15.54					

83020' 57.84 0.23624

A 55.93 - 57.47

B 58.00 - 58.60

C 58.49 + 2.19

D 58.44 28.34

1864 Jan 11th M. E. Court

new book

746

by Tupper

у Брауні 7р

α Tauri

53 Epidauri

XLVI 182 R

238

74

154

54

27. v

15.2

18.9

8. 8

159

31.0 ~~20.0~~

28.0

22.6

12.6

31.5

33.

28.2

253

153

50.1

370

35.9

29.5

19.3

S.O

153. 8

108.2

111.9

67. 4

4 17 30.76

4 22 21.64

4 28 22.38

4 32 12.28

4, 33

94.

See also last book for these stars
 Deviations of Stars from H.C. Standard Catalogue

	α Andro	γ Lyn	δ Letic	δ Letic	δ Pricum	δ Letic	γ Pricum	α Pricum	δ Letic	δ Andro
Dec 7					-08					
9					-03			+05		-03
10					-09					
15					-01					-01
21					+09					-10
23					-01	+03	+11	+04	-05	.00
26	-03	-01	.00	+10	.00	+12	-01			
29						+02	+08		+02	-03
30							-10			-03
Jan 5										-02
6		+01		-02	-08	+01	+07			
9	+04	-14	+06	+02	-02	+02	-06	+09		-10
11					+03	+11				
12						+03				
14	+04	.00			+03	+09	+13			
16				.00	-03	-03				
21					+03	+10	+01			-03
27	+10	.00	+	+03		+10	-05	+03	+04	
Feb 10									-12	
12										-05
23										+16
Mar 3									+20	+12

