

KG  
11365  
535



KG-11365.535









③ Lynae

J 3.34<sup>3</sup>

g 3.8.3

Q 3.96

O 4.06

K 4.29

g 4.45

f 4.55

Predicted Mini.

1897

May 14 8

27 6



KG 11365.536





Nov. 5. 1895

Annie J. Cannon. Obs.  
(Instrument, West Equatorial of Harvard College Observatory, aperture 6 inches, power about 30).

T Cassiopeiae

6.35

d 3 V V 2 f (the letters d and f are those assigned to the stars in Professor Pickering's work "Variable Stars of Long Period").

Each star was successively brought into the center of the field. The under scoring of the first V is accidental.



Nov. 27. 1895.

Annie J. Cannon Obs.

T Cassiopeiae.

5.50

81 H 92 V

Each star was successively brought  
into the centre of the field.



Feb 10, 1896.

S Persei

21 v

v 2 g

7.07.



6 in. Tel.  
M. F.'s watch

September 30, 1896.  
Obs. of Wells's algal var in  
Delphinus

Fobs & rec.

7.45 c b 3 v  
v 2 c

A. Cannon Obs.

7 40 c c 1 v

L D Wells.

7 42 c c 1 v  
v 5 d

MCS.

8 00 c c 1 v

E. F. G.

8 9 c c 1 v

8 12 c c 3 v M.F.  
v 1 d

A. C.

8 13 c c 1 v  
v 3 d

L D W

8 15 c c 1 v  
v 2 d

Sept. 30, 1896.  
Wells algol var. Cont.

c M. C. S. ✓

8 17 c 1 v  
v 1 d

c E. F. G. ✓

8 23 c 2 v  
v 2 d

M. F. ✓

8 26 c 3 v  
v 2 d

E. C. ✓

8 30 c 1 v  
v 1 d

L. D. W. ✓

8 32 c 4 v  
v 5 d

M. S. ✓

8 36 c 1 v

v 1 d

G. F. S. ✓

8 39 c 3 v  
v 2 d



Sept. 30, 1896.  
Obs. of Wells algal var. Cont.

m.f. ✓

8 44 c 4 v  
v 1 d

a. ~~g.~~ c. ✓

8 46 c c 2 v  
v 2 d

L D W ✓

8 48 c c 3 v  
v 5 d

M. S. ✓

8 50 c c 3 v  
v 1 d

g. f. g. ✓

8 54 c c 1 v  
v 1 d

m.f. ✓

8 58 c c 4 v  
v 1 d

a. c. ✓

9 02 c c 2 v  
v 2 d

Sept 30, 1896.

Mills' Algol var. cont.  
L.D.W.9 09 C 5-v  
C v 5-d

M.S.

9 12 c d = v

E.F.G.

9 14 c 2 v  
v 1 d

M.F.

9 17 e 2 v  
v v 2 f

M.B.

9 19 Haze.

A.C.

9 22 v = d

L.D.W.

9 24 v = d

12 in Tel. L.D.W. 12 inch  
9 32 e 2 v



Sept. 30, 1896.  
 Wells' algal var cont. - M.Fds -

938 ✓ e 2 v  
 v 2 f

941 ✓ A.C. ✓  
 E 3 v  
 r 1 f

942 ✓ M.S. ✓  
 e 2 v  
 v 1 f

Oct. 18. '96

8.03 T Cass.

d  $\frac{4}{8}$  v

v 22 ✓

Full moon.

V is very red, and  $\epsilon$  seems to me to be a blue star, so that comparison is difficult.



Oct. 22. '96

24.17.8  
19.55  
422.8

5.50

T Cass.

Nothing but clouds in the field. ✓

6.20

T Ursa Maj. ✓

$\alpha = \Sigma$

21 35  
12 40x  
8 55

7.30

S Ursa Maj.

$\alpha$  not seen. but the moon is  
very bright and Ursa Maj. low  
down near horizon so  
could not identify companion  
stars correctly. ✓

22 22  
12 37  
9 25

Oct. 26. '96

7.51 T Cass.  
d 2 r  
r 4 2 ✓

8.40 S Cass.  
f 5 - 2  
r 2 1 g ✓

9.20 S Persei  
E 1 r  
r 4 f ✓  
T Persei  
C 2 r  
r 2 d ✓

The moon was near  
and bright at the time  
of the observations of  
W & Y Persei.



Oct. 27, '96

7.20

R. Urs. Maj.

not seen

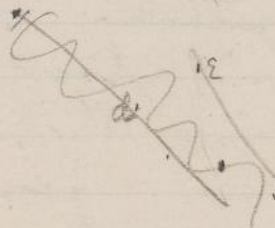
is the faintest companion star  
identified

8.07

S Cygni

not seen.

I am not finding faint companion stars on chart but the stars are familiar from the plates I worked with last winter.  
m + n are clearly seen. Fainter ones not seen.



Oct. 28. 96

6.15

R Cass.

e, v

v 3 m c

The variable is very red

7.25

T Cass.

d ~~x~~ v

v 2 E c

I tried to turn my head so that line connecting eyes would be parallel to line connecting stars, but owing to the position of e + v it was hard to get good sight in that position. E + v are quite near and show a decided difference in color. They are so near that probably the error from sensitiveness of different portions of the retina is slight.

8.15

R Aurigae

I searched unsuccessfully for the field of this variable. c

8.45

S Cygni

Field very hazy and seeing poor.  
d is seen but indistinct c

On looking out the dome, I find that the whole sky is hazy whereas the seeing was good earlier in the evening.



Oct. 31, 96

$$\begin{array}{r} 20 \quad 27 \\ -2 \quad 39.6 \\ \hline 7 \quad 47.4 \end{array}$$

S Urs. Maj.

0 3 v

6.05-

v 1 f

✓ Companion stars from Mrs. Leavitt's drawing.

S Bootis

$$\begin{array}{r} \text{S.T. } 22^h 0^m \\ \text{R.E. } 14 \quad 19.5 \\ \hline 7 \quad 40.5 \end{array} \quad \begin{array}{r} 12 \\ 7 \quad 40.5 \\ \hline 4 \quad 19.5 \end{array}$$

7.05-

v n. s.

h was clearly seen, I have no chart of fainter companion stars.

8.05

R Camel

$$\begin{array}{r} 22 \quad 15 \\ 14 \quad 25.1 \\ \hline 7 \quad 49.9 \end{array} \quad \begin{array}{r} 12 \\ 7 \quad 49.9 \\ \hline 4 \quad 10.1 \end{array}$$

v was seen much fainter than of the faintest companion star on chart. It was fainter than any star in the neighborhood.

8.25-

R Urs. Min.

e 2 v

v 2 f ✓

S Cephei

e 3 v

v 3 f ✓

Nov. 2. 96

6.15

$\gamma$  Cephei

It is considerably brighter than  $\alpha$ .  
I could not surely identify brighter  
companion stars. The variable was  
just about on the meridian and  
I could not turn the telescope  
to the East.

6.25

$\beta$  Cass

$\alpha$  3 v

$\gamma$  2 c

7.40

$\gamma$  Cass.

$\alpha$  1 v

$\gamma$  4 c

8.00

$\delta$  Cass

$\alpha$  2 v

$\gamma$  3 c

8.30

$\gamma$  Persei

$\alpha$  4 v

$\gamma$  1 c

8.45

$\delta$  Persei

$\alpha$  4 v

$\gamma$  1 c



Nov 2. '96.

R Aurigae

b 3 v

v 2 c

I am not quite sure of the comparison star c. I went in the direction of the arrows identifying all the stars on the chart.

above the chart.

c

6.00 R Lynx Nov. 3. 98.

f 1 v  
v 3 g c

The star is low down and brightness of the whole field seemed to vary. Observations uncertain.

7.25 R Urs. Maj.  
v seen considerably fainter than the faintest star given on chart.

7.45 S Urs. Maj.  
f 3 v  
v 2 g c

near horizon.

7.53 S Urs. Maj.  
~~v seen~~  
l 2 v c

Have no chart of fainter stars.  
Region is near horizon

8.08 S Bootis  
v n. s. c  
h was extremely faint.



Nov. 3. '96

8  
8.23

R Camel

v is fainter than g. by several grades.

8.28

R Draconis

e 2 v c

v 2 f

9.20

J Cygni

v not seen c

o is the faintest comparison star  
I saw. Miss Leavitt's chart.

Nov. 4. 96

5.35

T Cass

d 3 v

r 2 e c

5.50

S Cass.

f 4 v

v 1 g c

Clouds make it necessary to stop.



Nov. 6. '98.

8.05<sup>-</sup> S Cygni      Obtained chart of faintest stars from Mr. Hendley  
 v n.s.  
 ✓ o was the faintest comp. star I could see.  
 It was barely seen.

8.35<sup>-</sup> T Cephæ  
 The variable is much brighter  
 than d. I could not be sure  
 of the other brighter comparison  
 stars which were all outside  
 the field.

S Cygni  
 v n.s.  
 8.50<sup>-</sup> ~~m the faintest comp. star seen~~  
 This is Nov. 9<sup>th</sup> observation. See p. 24.  
 Entered here by mistake, the pages being  
 turned by the wind.

Nov. 7, 96.

5.30

R Mrs. May.

v m. S

Cp was barely seen. Twilight rather strong.

5.44

T Mrs. May.

f 3 v  
C v 29

6.00

S Mrs. May.

l, v

C r 4 m

7.25-

T Persei

b 2 v

r 3 C C

7.33-

S Persei

d 3 f

v f 1 E C

7.45-

R Aurigae

C 2 v

r 3 d C

C is so far away that the observations is somewhat uncertain



Nov 7. 96

8.15

R Lyncis

It seemed to be of about the same  
brightness as  $\beta$ . but the images were  
so faint I could not estimate  
grades.

8.35

S Bootis

C & n. S no small stars visible. full freedom  
towards horizon.

9.05

R Camel

~~2 3 v~~~~v 1 f~~

mistakes in comp. stars.

2 4 v

v 1 h c

9.10

R Ursae Minor

2 3 v

v 2 f c

Nov. 9. '96.

7.20 T Cass.  
d 1 v  
v 4 e c

7.30 S Cass  
f 3 v  
v 1 g c

I find it difficult to decide when one star is out of the field as in the case of f here. My eye seems to lose the impression & in seeing so many pass by.

7.43 T Persei  
h 1 v  
v 4 e c

7.50 S Persei  
d 4 v  
v 1 e c

8.16 A Draconis  
f 2 v  
v 3 g c



Nov. 4. 96.

8.30

T Cephei.

v very brilliant. Field remarkably  
clear. There is nothing near to  
compare with.

S Cygni

v n.s.

8.50

C m the faintest comp. star seen

9.07

S Cephei

e 1 v

C v 3 f

Nov. 10. 96.

7.50

R Aurigae  
L3 v ~~x~~  
c

I do not seem to be able to compare c + v, as c is far out of the field and the eye-piece is unsteady, so that the focus changes.

8.03

T Persei  
b4 v  
v<sup>2</sup> c c

8.06

S Per.  
d3 v  
v<sup>2</sup> c c

S Bootis

v n.s.

c h is very faint. Region too dim.

8.35

R Urs. Min.  
d3 v  
v<sup>2</sup> c c

8.45

R Camel.  
f3 v c  
v<sup>2</sup> c



Nov. 20. 96.

S Cygni

V. M. S. C

S. S. V

region not clear. It is the faintest  
comp. star seen. Moon about full  
and light clouds.

The sky seems full of clouds as  
as to present work





7.15-

Nov. 24. '98.

Miss Wells' Variable

m 1 v

J V 2 n

S Cephei.

It seen and then clouds covered  
the field before comparison could be made

7.50

Clouds Everywhere

Dec. 1, '96.

S Cass.

7.45-

g 4 v ✓

I could not identify  $\gamma$ , being  
out of the field. The field  
was so full of stars that  
I could not be at all sure  
of  $\gamma$  from any chart I had.

S Persei

$\alpha$  4 v

v ~~7~~ 2 c



\*  
Dec 3. 96.

T Cass

d 5-8 v

v 1 E ✓

5.35

d seemed unusually bright to night

6.00

R Aurigae

e, v

v  $\frac{4}{5}$  f ✓

7.50

Miss Bell's Variable in Cygnus

g 1 v

Tr 4 d

8 0

S Cygnus

v n.s. ✓

o the faintest comp. star seen.

8 10

T Cephei

v considerably brighter than d.  
no other bright comp. star in the field.

8 20

S Cephei

d & 5-v

v 1 E ✓

v is remarkably red

Dec. 3. '96

A 30

R. Draconis.

R, B

v 2 l c

Regions low in mist.  
Observation uncertain

A 40

R. Urs. Min. c

d 3 r

v 1 e



Dec. 5<sup>th</sup> '96

Miss Wells' Variables in Cygnus.

6.45

$\gamma$  n.s.

$\beta$  clearly seen.

Shifting clouds.

7.00

$\alpha$  Lyncis.

The region was too misty to see much.

8.15

S & Persei

Rapid successive comparisons of  $\gamma$  &  $\epsilon$

$\gamma$  1  $\epsilon$

$\gamma$  2  $\epsilon$

$\gamma$  2  $\epsilon$

$\gamma$  1  $\epsilon$

$\gamma$  2  $\epsilon$

$\gamma$  2  $\epsilon$

$\gamma$  1  $\epsilon$

$\gamma$  2  $\epsilon$

$\gamma$  1  $\epsilon$

$\gamma$  1  $\epsilon$

$\gamma$  1  $\epsilon$

$\gamma$  1  $\epsilon$

$\gamma$  1  $\epsilon$

$\gamma$  1  $\epsilon$

Dec. 5, '96.

S Pucci

~~v 1 E~~

8.40

d 2 v

v 1 E c

T Cass.

8.50

Rapid comp. of v + E.

E 1 v

v 1 E

v 0 E

E 1 v

E 1 v

E 1 v

9.10

E 1 v

v 2 f c

9.20

R Cass.

v brighter than any comp star in the chart.

I tried to decide rapidly in this evening's work, and in order to make my grade a more certain quantity, I endeavored to let one grade represent a real difference in light, thinking perhaps the uncertainty I have felt in estimating grades arose from an effort to make it too small a quantity.



Dec. 7. '96.

5.30

T Cass.

d 3 v  
v 1  $\frac{1}{2}$   $\frac{1}{2}$  c

5.50

S Cass.

g 1 v v

Could not find h

7.00

S Bortis.

Region too low to see any faint stars.  
a & b were the only comp. stars  
I could see.

7.45

Miss Bell's variable in Cygnus.

d 1 v  
52  $\beta$  c

Other star marked variable on same chart  
 $\phi$  1  $\psi$

Dec 7. '96.

R Mrs. Minn.

8.00

d 2 v

v 1 2

✓

8.25

R Camel.

c 1 v

v 1 d c

Misty.



Dec. 11. 96

Hells' Variable in Cygnus.

6.10

g<sup>3</sup> v  
v1 d ✓

6.45

S Cass.

g<sup>2</sup> v  
v2 h ✓

I think I am sure of h<sub>1</sub>  
if the large star on the  
chart is a double.

7.05

R Aurigae  
h<sub>1</sub> v  
v2 f ✓

7.30

R Lynce  
v n. b.

h<sub>1</sub> is the faintest comp. star  
I can identify.

Dec. 12. '96

Mitchell's variables in Cygnus.

6.20

$\beta$  1 v c



Dec. 14, '96,  
Miss Bell's Variables in Cygnus

6.45

f 2 v  
v 1 g c

This observation is extremely doubtful as there seemed to be clouds actually on the spot of observation.

8.05

T Cass.

f 1 v  
v 2 g v

8.25

R Aurigae

e 2 v  
v 2 f c

R Cass.

It is very bright. As all the bright stars lie outside the field, I had no measure of its brightness.

Dec. 17. 98.

Miss Betts' variable in Cygnus.

6  
7.40g 1 v  
r 3 d c

6.50

S Cygni

r m. s. c

m faintly seen.

7.10

R Draconis

m 2 v

r 1 m c

7.15

J Urs. Min. (R Urs. Min. prob.)

d 3 v

v 1 E c

7.35

R Camel.

L 4 v

v 1 c c

7.38

S Bootes

Too low for observation

7.58

R Urs. Maj.

v 1 m

Am not sure of c. c



Dec. 17. 98.

T Cass.

8.25.

f z v

v z g ✓

Dec. 19. '96.

640 Mrs. Wells' variables in Cygnus  
 g 3 v  
 v 1 a ? c

This is the impression  
 I received between  
 clouds.

7 0 S. Persei  
 h 1 v  
 v 2 E c

7 20 S. Persei  
 C 1 v  
 v ~~2~~ 3 d c



Jan. 30. '97

✓ I Cephei

x

2 2 v

2 1 g c

✓ 5.45-

✓ Miss Wells' Var. in Cygnus

p 1 v

✓ v 2 g

✓ 6.15-

✓ I Cass. c

h 1 v

v 1 k

✓ 9.15-

Feb. 1, 97  
 T Cephei

✓ 6.00

g 3 v  
 r 1 h c

✓ 6.15-

Miss Bell's Variable

g 3 v  
 c r 2 x



Feb. 4, '97.

✓ 2 ✓  
other ✓  
S Cass ✓  
v i k ✓

Sewing poor.

✓ 15 ✓  
S Cass. ✓  
v i k ✓

First in eye-piece  
trouble some.

Feb. 5, 1917

✓ 5.43-

R Aurigae

g 3 v

v 2 h c

Hazy

✓ 6.15

T Persei

c 3 v

v 1 d c

✓ 6.20

S Persei

b 2 v

v 1 c c

Observation uncertain  
field very hazy.



Feb. 16, 97.

R Mrs. Maj.  
g 2 v  
v 2 L C

✓ 8.10

Feb. 11. '97

Miss Wells' variables on Cygnus

✓ 7.00

$\alpha 1 v$   
 $v 1 \beta$

Seeing unsteady. ✓

✓ 7.20

T Mrs. May. c  
v n. S

Seeing good.

✓ 7.25

S Mrs. May.  
d 2 v c Could not find c

✓

S Bortis

Region too low.

✓ 7.40

R Camelop.

a 5 v  
v 1 v c

✓ 7.50

R Mrs. Mini.

d 2 v  
v 2 f c









Feb. 11. '97

R Draconis

V n.s.

l clearly seen. c

8.00

R Cass

V brighter than any comp.

star in the field

Estimated to be over half  
a magnitude brighter than  
J.C.

8.20

8.25

R Cass.

R C V

V 1 l c

Clouds are appearing, probably  
not interfering with previous  
observations however.

Feb. 13, 97

7.15  
✓

Miss Bell's Variable  
V n.s.  
c of faintly seen.

✓  
7 2v

T Pucci  
b 3 v  
v 1 c c

✓  
7 3v

S Pucci  
d 1 v  
v 3 c c

✓  
7 4v

R Cass  
4 3 f c

✓  
7 5v

S Cephei  
a 2 v  
v 1 b c v is very red.

Friday. Feb. 19 '97.

7.15-

Miss Bell's' variable in Cygnus.

9 3 v  
2 1 x

Seeing unsteady.

Stars near the Pole observed for the purpose of identifying with the catalogue.

Impossible to do anything without a chart.

5 8.00

R. Lynx  
r.m.s. c

5 8.10

R. Urs. Maj.

L 2 v

v 2 R 2

Am not sure of R



Feb. 19, '97.

✓ 8.20 T Mrs. May:  
 v n.s.  
 n faintly seen. c

✓ 8.30 S Mrs. May:  
 d r c

✓ 8.40 S Bootis  
 f 1 v  
 v 3 f c Objects <sup>low r.</sup> faint. Moon up.

✓ 8.50 R Draconis  
 h 1 v  
 v 3 f c

Feb. 23, 97

Mis Bell's variable.

✓ 7.15-

x1v

SD1 (3)

Very windy and hazy.

The wind blows the dome around so as to make observing difficult.

✓ 7.30

T Persei

C1v

v3dc

The stars seem to be encircled with rings. I thought at first it was due to poor focus but as I can not better it, it is probably caused by fog.

✓ 45

S Persei

E1v

v2f ? ✓

Feb 23. '97

T Cass.

L 1 v

v 2 m c

Horizontal Telescope.

Time) 8.06  
 Stars in centre of the field. H.R. {  $7^h 26^m 9^s$   
 $+32^\circ 9'$

Readings

Collimation. 0 of scale  $32^m$  East.

Direction

 $+31^\circ 45'$



Feb. 24, '97.

afternoon

Horizontal Telescope.

Sid. Time  $1^h 28^m$ 

Jenus in centre of field.

Readings. Coll. 8.48 m. East.

Dec.  $11^{\circ} 6^m$ 

Position of Jenus from Eplemeu's

R. A.  $1^h 19^m 34.47$ Dec.  $11^{\circ} 4' 58.2$

700 Feb. 24 '97 Evening.  
 Miss Wells' variable in light.  
 ✓  $\beta 1 v$  Have no fainter <sup>comp.</sup> star  
 seeing good.

✓  
 7 15 S Cass.  
 $n 2 v$   
 $v 10 c$

Comparison star S Cass. looks  
 slightly brighter than R.

✓ 7 30 S Persei  
 $E 1 v$   
 $v 22 f c$

✓ 7 45 R Camelop.  
 $A 4 v$   
 $v 1 f c$

✓ 8 15 R Urs. Min.  
 $E 1 v$   
 $v 2 f c$

✓ 8 30 R Draconis  
 $v n. s. c$   
 in clear but faint

Feb. 24. '97.

8.40

✓

R Aurigae  
 $m \frac{2}{x} r$  C  
 $v \frac{1}{x} m$

✓ 8.50

✓ T Cephei  
 $b \frac{1}{x} r$   
 $b \frac{2}{x} m$  C

✓ 9.0

✓ Cephei  
 $b \frac{1}{x} r$   
 $r \circ c c$  This very red.



Feb. 27.97

6.45

R Lyncis

✓

v n.s.

l clearly seen. c

✓

7.00

Mis Wells' variables

~~at v~~ ~~g~~ 4 v

~~for~~ v 1 d c

✓ 7.10

J Cass

n 1 v

v 20 c

Nov. 4, '97

✓ 7.10 Miss Bell's variable.  
p 3 v  
v 1 g ✓ Seeing poor. Refraction.

✓ 7 20 R Cass.  
v brighter than any comp. star  
I could identify.

✓ 7 35 R Urs. Maj.  
m 1 v ✓  
v 2 n

7✓ 50 T Urs. Maj.  
v n.s.  
m clearly seen ✓

✓ 8.00 S Urs. Maj.  
v 1 f. ~ Could not find 2

✓ 8 10 R Draco's  
v n.s.

✓ 8 20 Ineh. 4, 97  
R Urs. Minor  
c 2 v  
b 1 f ✓

✓ 8 30 S Bootis  
g 1 v  
b 1 z ✓

✓ 8 40 U Orionis  
v is considerably brighter than  
d, the brightest comp star  
marked on chart.

9. 00 T Orionis  
v seen and field identified  
I did not observe before finding  
the stars that the comp. stars  
are not marked on the chart.



v seems of nearly equal brightness  
as star marked x, though v looks  
more enveloped in the nebulosity.



Feb. 4. '97

✓ U. Prunus

e 3 v

red

Mich. 17.97

7.00

SS Cygni

too low for observation now.  
I could not see any of the stars  
near

7:10 U. Orionis

v 3 d

Have lost c. It is  
not on chart.

7:20

T. Orionis

$\beta$  4  $\times$  v  
v 1  $\times$

Very poor seeing.  
See drawing on p. 61.

7.30

R. Urs. Maj.

n 1 v

v 20 c

7 40

S. Urs. Maj.

f 2 v

v 19 c

Mich. 17. 97

7.50

S Bootis

d 1 v

r 3 E ✓

Very hazy.

8.0

R Camelop.

b 3 v

r 1 C ✓

8.20

R Mrs. Min.

E 2 v

r 1 f ✓

Doubtful. Hazy & dim

8.30

R Tauri

Field so hazy that no stars are visible

8.40

R Gem.

r 22.5

I think I identified the field correctly.



Wednesday, Feb. 31. '97.

Eye-piece holding space. bar micrometer  
missed in the telescope.

I tried to find Iris. The position  
was calculated from the opposition  
of Feb. 24 forward making its

$$R.A. = 11^h 07^m$$

$$Dec. = 2^{\circ} 11'$$

I can not identify the planet.  
The stock and of the eye-piece  
is too long so the field is not  
wholly illuminated and the  
field is full of faint stars.

8.25-

S Cephei

a 3 v

v 1 b c

8 30

T Cephei

b 3 v

v 1 m c

Friday, April 2, 97

8.10

T Orionis

v n. s.

Faint stars not seen probably  
too hazy.

20

U Orionis

v l d

Get chart of c

30

BD +46° 1271

$\beta$  3v  $v_1 = \alpha$

$\alpha$  &  $\beta$  being marked on  
my chart.

The star is somewhat red.

8.45-

DM 17° 4122 (Miss Leland's computer  
Region too low for observation.)

9.00

S Ephi

a 4v

v 1b c

Saturday April 3. '97

- 7.45<sup>-</sup> S Cephei  
a 1 v  
v 3 b c
- 8.00 BD ~~17° 41'~~ + 46° 1271  
a 1 v  
v 4 f
- 8.10 T Orionis  
β 5 v  
v 2 α 2 2 2  
2 2 2
- 8.20 R Aurigae  
v n. S. C Thought once however  
the barely glimpsed.
- 8.30 R Urs. Maj.  
p. v  
v 2 g C Difficult
- 8.40 S Urs. Maj.  
h 2 v  
v 2 c C
- 8.45 S Bootis  
ε 1 v  
v 4 f c



April 3, 1917.

9.30

R Camelopard.

Time 10.28

Dec. circle at  $84^{\circ} 0'$

A.A. " "  $4^m 20^s$

E 1 v

v 2 f c

Trouble in finding  
the star probably  
due to practice  
of setting the dec.  
lineations ahead,  
as is necessary  
in most parts  
of the sky that I  
have worked in

9.31

S R Urs. Min

d 1 v

v 22 c

Dec' circle set  
same as dec. of  
star

9.40

R Draconis

Dec. set at  $66^{\circ} 30'$

n 1 v

v 20 c

10.00

R Lynx

k 1 v

v 3 l c

April 11. 97

8.45 S Cephei  
a 20  
r 22 C

8.50 BB 46° 1271 (Suspected v.)  
v. 1 x

Monday, April 12, '97

micrometer

Measurement of crater. Copernicus.

9 85.2

7 20.3

Spider line set on central diamond <sup>line</sup>  
Central diamond line on  
one edge of crater and  
spider line moved to  
other edge.

The moon moves so rapidly that  
accuracy is seemingly impossible  
without a clock to move the telescope.



April 12, '97  
 S Cephei  
 a 1 v  
 v 4 b c

9.00

U Cephei

Comparison stars all identified  
 from Mr. Reed's chart

9.25 T Uro. Maj.

h 3 v

v 2 k

c

9.30 S Uro. Maj.

h 1 v c

Have no chart here of fainter  
 stars

This should be on p. 76.

April 21. Mistake in recording

Friday April 16, '97

Mrs. Fleming's new variable

DM - 8° 1641

8.20

a 3 v

v 3 b

8.35

S Cephei

a 5 v

v 2 b c

R Virginis

v n. s.

m + n distinctly seen.

S Virginis

Too close to the moon.

R Leonis Minoris

v n. s.

Monday, April 19, 97

S Cephei

a 5-v

1030

v 1 b

v 3 e c



Tuesday, April 20, 197

8.25

U Orionis

E 3 v

v 2 f

8.30

T Cass

v thought the barely glimpsed  
Region too.

n clearly seen.

9.40

S Cass

p 2 v ✓

9.45

T Persei

b 3 v

v 1 c ✓

9.48

S Persei

f 1 v

v 4 g ✓

9.55

R Aurigae

v n. v

seeing excellent ✓

April 20, 97

10.5

R Lyrae  
f 3 v  
v 1 f c

10.15

R Urs. Maj.  
f 3 v  
v 2 f c

10.25

S Urs. Maj.  
on meridian

10.35

T Urs. Maj.  
on meridian nearly,

S Bootis

10.45

C 1 v  
r 4 f c

10.55

S Cygnus  
f 2 v  
v 2 f c

11.05

T Cephei  
v = r c



Wednesday, April 21, 97

8.00

S Cephei  
a 6 v  
r = b  
v 3 c c

See p. 71. where several h- nights  
observations were recorded by mistake.

9.40

R Cass.  
Region h- low.

9.50

R Leonis Minor

9.40

Could not find  
any fainter companion  
stars on chart.

10.00

r Canceri  
m 3 v  
v 1 n



Saturday April 24, 1917

S Cass.

8.40

I thought the barely seen  
C is faint, seeing poor.

8.50

T Pucier

b 4 v

C v 1 c

S Pucier

Seeing poor.

8.51

f 4 v  
C v 2 g

g was barely seen.

8.56

R Lyncis

f 1 v

C f 4 g

Seeing improved.

9.05

R Urs. Maj.

f 3 v

C v 1 g

Faint stars uncertain.

9.15

S Cephei

b 1 v

v 3 c c

Monday, April 26. '97

8.15 S Cephei  
a 4 v  
c r 1 b

Air very unsteady.

8.20 T Cephei  
v not seen  
n is faint.

Cloudy.

Wednesday, April 28, 97

8.20

*S Cephei*

*a 3 v*

*v 2 b c*

8.40

*R Draconis*

*h 2 r*

*r 1 R*

*c*

8.50

*R Urs. minor*

*d 1 v*

*v 3 E*

*c*

9.00

*R Camelopard.*

*g 2 v*

*h 1 h*

*c*



Thursday April 29. '97

7.30

S Cephei  
a 2 v  
c v 4 v

v looks remarkably  
red in the strong  
twilight.

7.40

T Urs. May  
z 3 v  
c v 1 g

7

7.45

S Bootis  
b 4 v  
c v 2 c

7  
7.50

R Draconis  
h 3 v  
c v 1 k

7  
7.52

R Urs. Minor  
d 1 v  
c v 3 e

8.00

R Camelopard.  
g 3 v  
c v = h

April 29. '97

S Urs. Maj.

~~m 4 v~~

~~v 1 x~~

Mistake in comp. stars

8.15- ~~m~~ 1 v

C v 20.

R Cass.

Region too low.

8.30

T Cass

r visible

n distinctly seen.

8.35

T Persei

C 2 v

C v 3 d

8.40

S Persei

f, v

C v 3 f

8.50

R Lynx

f 2 v

C v 2 g

9.10

S Cygni

C c 5 v

v id

Tuesday May 4, 97

7.50

R Cass.  
Reflexion to low.

8.00

T Persei  
b 4 r  
r 1 c c

Seeing very poor.

8.01

S Persei  
f 5 v  
v = f c

Images faint.

8.08

R Lyncis  
f 1 v  
v 3 g c

8.14

R Mrs. May  
e 3 r  
v 2 s

c

S was barely seen  
at times only.

8.18

T Mrs. May  
f 2 v  
v 3 g c



May 4, 97  
S Urs. May

8.25

n1r

c r 20

8.27

S Bortis

b 3 r

c r 2 c

8.30

R Camelop.

h 2 r

c r 3 k

k was very faint  
barely seen in fact.

8.38

R Urs. Mini.

c 4 r

c r = d

8.41

R Draconis

h 2 r

c r 1 k

8.50

S Cygni

c d 1 r

r 2 e

9 00

T Cephei

h 3 r

c r 1 m

9.05-

May 4. '97.  
*S Cephei*  
 a 3 v  
 ✓ 7 2.6

*SS Cygni*  
 Lod. loss.

*V Virginis*  
 m 3 v  
 v 1 n

*W Virginis*  
 m, v  
~~m~~ v 3 n

Book I

Notes, & questions.

Feb 24, 1897. Comp star  $l$  for SCas slightly  $> k$ .

Has  $U$  Orionis been reduced? See p. 61 where  
obs. is checked.



Copy of obs.

1897. mol. 4. 9.00<sup>u</sup>T Or.  $r = d$ 

chart (a)

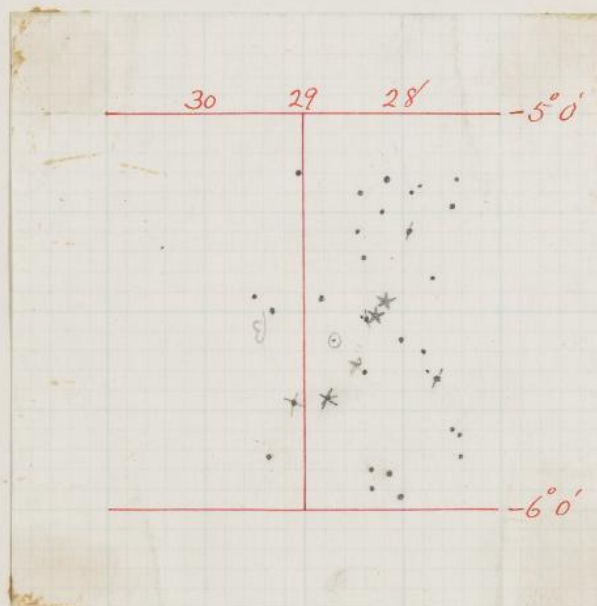
" " 4 8.40<sup>u</sup>U Or.  $r$  consid. h. than d." " " 9.10<sup>u</sup>

" " c 3 r r 2 d

1986

T Orionis  
 $5^h 30^m 30.4 - 5^\circ 32' (1900)$

(a)



May 5, 197.

8.15

T Camelopard.

Region identified  
Variable either too faint to be  
seen or obscured by clouds.

8.25

R Coronae

Estimated to be about  $3/4$  of  
a mag. brighter than  $\beta$ .  
Get brighter stars.  
It does not look red

8.35

V Coronae

$\gamma$  2 v

$\gamma$  2  $\beta$

It is red

✓

8.45

S Coronae

$\epsilon$  5 v

It is not on chart

✓

U Persei  
Too low

9.10

R Corvi

$\gamma$  2 v

$\gamma$  3 k



May 5, '97.

9.25

R Virginis  
f 5-6  
r 1 g

9.30

U Virginis  
v invisible  
o & p distinctly seen

9.40

Y Virginis  
v invisible, seeing some

9.45

S Cygni  
d 2 v  
c v 1 e

9.55

S Cephei  
a 4 v  
c v 1 b

10.00

SS Cygni  
v n.s.  
c o is faint

8, 40

S Cephei. May 6, '97.  
 a 5-6  
 c 5-10

a 5-6 b  
 b 3 c  
 c 2-3 d  
 d 4 e

Saturday, May 8, '97

8.07

R Draconis

$f 2 v$   
 $v 2 h$

8.10

R Urs. Min

$v = d$   
 $v 2 e$

8.13

R Camelop.  
Not seen.

8.15

S Bootis

$b 3 v$   
 $v 2 c$

8.20

S Urs. May

$n 3 v$   
 $v = 0$

Stars very faint

8.24

T Urs. May

$e 1 v$   
 $v 3 f$

8.30

R Lynx's

$f 1 v$   
 $v 2 g$



May 8, 97

8.35- R Aurigae  
v n. 5

8.37 T Persei  
c 4 v  
v = c

8.39 S Persei  
f 1 v  
v 4 g

X Virginis  
k 3 v

Ask about these stars.

R Hydrae  
Region too low and dim  
to identify stars.

S Virginis  
k 1 v  
v 2 c

May 8, 97

S Librae

Can not identify field as only  
the brightest stars are seen.

S Cephei

a 3 v

S v 3 c

10.5

Monday May 17, '97

9.20

S Cephei

a 6 v

v 2 b

v 2 c

c

Cloudy.



Tuesday, May 18, 1897

8.00 T Urs. May.  
C v 2 C Twilight ratchet song.

8.05 S Bootis  
b 3 v  
✓ v 1 C

8.10 C R Draconis  
f 1 v  
C v 3 g

8.20 R Aquila  
C v n. s.

8.35 R Lynx  
C f 1 v  
v 2 g

8.46 S Cephei  
about  
v 2 v  
C v 1 C  
v 1-12

May 18, '97  
Scaphi  
Q12

(B) Lyrae  
Q1 (B)

Wednesday, May 19, 97

9. 50

S Cephei

a 5-6 r

v 2 c

c v 2 b

10. 78

S Cygni

c α 3 v

Field low. (B not seen)

10. 10

c S Cygni

l, v

v 3 f

10. 20

T Camelopardis

v not seen.

l barely visible. Ask about chart. There seem to be two variables marked.

10 30

T Cephei

m 2 v

c v 2 n

Seeing poor



Saturday May 22, '97

8.00

S Cephei

c 1 b

v 2 c

&

a 6-7 v

U Cephei

Six-Inch Equatorial,

d 3 v

r 3 s

Sid. T.

12.41

8.22

8.30

d 4 v

v 1 s

v 1 v

8.37

v 3 f

5-inch Tel.

9.10

f 2 v

r 1 h

9.15

v = h

9.20

u 1 v

v 2 f

May 22, 97

9.27

n 1 v  
v 3 q

9.35

n 2 v  
v 4 q

9.40

n 3 v  
v 2 q

9.45

n 3 v  
v 3 q

9.50

n 4 v  
v = q

10.00

q 3 v  
n = n

Focus very poor

10.10

q 3 v  
v 1 n

10.20

n 1 v

The part of the telescope holding the eye-piece was loose so that in bringing the stars into the centre of the field the focus changed continually. Almost impossible to compare unless the stars were near together.

May 22, '97  
β Lyrac

23 β



Tuesday, May 25, 1917.

9.50

R Virginis  
e 4 v  
r 1 f

Seeing fair

9.55

R Corvi

Too cloudy.

10.00

+ Mrs. May:

S v 3 e

Ask for chart of

Monday, May 31, 1897

9.45-

SS Cygni  
 $\alpha$   $\beta$   $\gamma$   
 $\delta$   
 $\gamma$ -1  $\beta$   $\gamma$

9.55-

S Cephei  
 $\alpha$   $\beta$   $\gamma$   
 $\gamma$  2  $\epsilon$   
 $\gamma$  2  $\delta$

10.00

S Cygni  
 $\alpha$   $\beta$   $\gamma$   
 $\gamma$  2  $\gamma$

10.15

R Cass.  
 $\alpha$   $\beta$   $\gamma$   
 $\gamma$ -1  $\alpha$

10

20

T Cass.  
 $\gamma$  n.s.

10

35

S Cass.  
 $\gamma$  n.s.

May 31. 97

10 45 T Persei

b 30

v 1 c

10 48 S Persei

f 30

c v 1 g

10 52 R Urs. May.

c v n s

11 0 T Urs. May.

c v 3 e

S Urs. May.

v through the barely glimpsed



Tuesday, June 1, '97  
U Cephei.

8.20

 $g \ 3 \ v$   
 $v \ 1 \ h$ 

8.23

 $f \ 1 \ v$   
 $v \ 2 \ h$ 

Cloudy?

8.26

 $g \ 2 \ v$   
 $v \ 1 \ f$ 

8.29

 $h \ 1 \ v$   
 $v \ 2 \ l$ 

8.30

 $h \ 2 \ v$   
 $v \ 3 \ g$ 

Seeing poor.

8.33

 $g' \ 2 \ v$   
 $v = h$ 

8.35

 $g' \ 1 \ v$   
 $v \ 2 \ l$

June 1. '97.  
U Cephei

8.36

$\overset{5}{g} \times v$   
r, k

8.37

h 3 v  
v 2 g

8.39

k 1 v  
v 3 g

8.41

f 2 v  
v 3 t

8.44

h 2 v  
v 2 g

8.46

k 1 v  
v 2 o

8.47

h 3 v  
v = g

8.49

l 1 v  
v 4 m

June 1, '97  
 U Cephei

8.57

g 1 v  
 v 2 0

8.53

g 2 v  
 v 2 n

8.54

l 2 v  
 v 2 m

8.56

0 2 v  
 v 1 t

8.58

g 2 v  
 v 2 n

9.02

g 6 v  
 v 2 p

9.04

g 3 v  
 v 1 n

9.06

g 3 v  
 v 1-2 n

9.11

m 2 v  
 v 1 0



June 1, '97  
 U Cephei

9.13

g 3 v  
 r 1 n

9.15

g 3 v  
 v 0 - 1 n

9.20

S S Cygni  
 g 3 v  
 v =  $\beta$  ✓

9.30

S Mrs. May  
 c v =  $\beta$  Images very faint

+ Mrs. May

9.36

c d 2 v  
 v 1 e

R Lynx

9.50

c e 3 v  
 v 2 f

June 1, '97

R. Dracini

16.10

C

v4e

8.25

Wednesday, June 2, '97.  
 S Cephei  
 a 6 v  
 v 1 b  
 ✓ v 1 c

8.38

β Lyrae  
 { 0-1 v  
 v 1 0



Friday. June 11, 1897.

8. 15-

S S Cygni  
k, r  
c v 2 l

8. 45-

S Cephei  
c v 1 c  
v 2 b

Monday, June 14, 1897.

9.20

$\delta$  Cygni  
R 4 v  
v 1 l c

9.50

$\delta$  Cephei  
v 2 c  
c v 2 b

9.55 -

$\beta$  Lyrae  
J 4 v  
v 2 g

Tuesday, June 15, 1897

8.30

T Mrs. May.  
div.  
✓ v4e

8.32

S. Mrs.  
✓ v n. S.

Twilight rather strong

8.33-

R Mrs.  
✓ v n. S.  
n is faint.

8.40

✓ R Lyncis  
v n. S.

too much haze. —

8.45

R Mrs. Min.  
e 3 v  
✓ v 1 d

8.55-

R Draconi  
e 5 v  
✓ v 4 e

Can not find cl

9.00

S Cygni  
✓ e 3 v  
v 4 h



110

June 15, '97

Moonlight

9 10

T Cephei  
l 14 v  
C r 1 m

9 15

S S Cygni  
l 31 v  
r = m  
C r 4 n

9 25

S Cephei  
C v 2 b  
v 2 c

9 30

S Boetis  
f. v  
C v 3 f

Hazy.

9 45

B Lynce  
l 1 v  
v 1 o

Wednesday June 16. 1897

8.45- R Corvi  
 r n. s.  
 l is the faintest companion  
 star I can see.

8.50 S Virginis  
 d 3 v  
 v 2 e

8.55- S Scorpii  
 Barely glimpsed.

8.57 R Scorpii  
 Invisible.

9 00 S S Cygni  
 n 1-2 v  
 c v 10

9 10 S Cephei  
 C v <sup>a 5-6 v</sup><sub>3 v</sub>  
 v 2 b

June 16. '97.  
R Lyrae  
9.15  $\alpha$  v  
v-o-e

9.20  $\beta$  Lyrae  
v-o  
v-o-o



Friday June 18, 1897

9.00

$\delta$  Cygni

0.4 v

v 1 p c

9.20

$\beta$  Lynce  
f 2 v

9.25-

$\delta$  Librae

k 3 v

v 1 l

9.35-

5571  $\delta$  Librae

l 1 v

v 3 m

9.40.

$\eta$  Virg.

l 1 v

v 4 m

9.45-

$\nu$  Virginis

m 4 v

v = n

June 18. 1897.

9.55

Mr Bootis

V much brighter than a

10 00

R Bootis

V n.s.

Ask about the  
identification of this field

10 05

S Serpentis

g v v

v i n

10 10

S Cephei

v d b

C v 2 c

10.20

C m R Cass.

X 3 v

v i n

10 30

C T Cass

n 4 v

m not seen.

Monday, June 24, 1897

9.40

S S Cygni  
B 2 v  
v 1 x c

9.45

B Lynae  
E 1 v  
v 1 v

9.55

S Cephei  
x 2 v  
v 2 c



Tuesday, June 22, 1897

R Aurigae  
C not seen. Region low.

9.15

S. L. Cygni  
B. 1 v  
v 2 f c

Wednesday, June 23, 1897

8.55-

S Cephei  
v 1 c  
v 2 b c

9 00

S Cygni  
B 0-1 v  
v 3 f v

Seeing very poor.  
Stars faint

9 05-

R Draconis  
c c 5 v

Can not find d

9 08

S Cygni  
h 2 v  
c v 1 k

9 15-

T Cephei  
c v 4 m  
v = l

9 20

S Urs. May.  
h 3 v  
c v 1 l

June 23, 1897

9 25

T Urs. Maj.

d, v

✓

r 3 e

9 35

c R Urs. Maj.

~~r 3 e~~

9 38

R Lyncis

c

r 2 d

Field too  
seeing unsteady.

9 50

S Cass

v n. s

✓ 0 seen, very faint.

10 10

S Bootis

✓

f 2 v

2 2 f



Monday, Sept 27, '97

8.35 S S Cygni  
v = x

Region almost on the meridian.  
Observation difficult.

8.40 T Cass.  
f 1 v  
v 3 f ✓

{ observe sequence of n  
40, by Mr. Wendell's  
request.

8.45 S Cass.  
v n. s. ✓

8.47 T Persei  
b 4 v  
v 0-1 c

8.49 S Persei  
v 8 5 v

Tuesday Sept. 28, '97.

7.40

S S Cygni

l, v

v 1-2 m

n 10

7.50

R Aurigae

l, v

c v 2 m

Observations uncertain, region  
low, variable almost lost  
at times.

7.55

R Mrs. May

c v barely glimpsed.

8.05

T Mrs. May

v n. s

c m clearly seen

8.07

S Mrs. May

l, v

c v 3 m

Sept. 28, 97

8.15-

L Bootis

H 15

C v 2R



Wednesday, Sept. 29, 1897

8.25-

S S Cygni  
h v  
r 2 l

8 35

R Camelop.  
✓ r 1 c

8 45

R Draconis  
✓ r 2-3 g

9. 10  
~~8 55~~

CS Cygni  
v invisible

9. 30

✓ T Cephei  
h 1 v  
r Hf

9.50

S S Cygni  
h 2 l

Thursday, Sept. 30, 1897.

8 45

S. S. Cygni  
K1W  
r3L

Sunday, Oct. 3, 1897

7.25

SS Cygni  
c v 1 k

The interval between  
v & ~~k~~<sup>h</sup> seems too large  
to estimate correctly.

7.30

R Cass.  
c v invisible.

7.45

S Cephei  
d 1 v  
c v 3 l

8.15

S Boötis of  
v barely seen with high power  
eye-piece, much fainter than  
h



Monday, Oct. 4. 1897

U Persei

8.45-

x c2v

v1d

9 00

S S Cygni

h 2v

v 2l

Friday, Oct. 6. 1897

S. S. Cygnus

h<sub>2</sub>o

72 m

✓  $v = 8.2$

9 05

Wednesday, Oct. 13, 1897

8.40 U Persei  
v 2 c

8.50 S Persei  
f 4 v  
v 1 g c

8.55 T Persei  
b 4 v  
v 2 c v

9.15 S Cephei  
d 3 v  
v 2 e c

9.20 S S Cygni  
v = p  
v 3 g  
v



Monday, Oct. 19, 1897

U Persei

830

v1c

840

+ Cass

f 2v

v 1g c

850

SS Cygni

$\beta$  1v  
v 1g

Wednesday, Oct. 27, 1897

8 00 U Persei  
v 2 c

8 05 T Cass.  
F<sup>3</sup> v  
v 1 g

8 10 S Cass  
v invisible

8 20 S Persei  
F<sup>5</sup> v  
v 1 g

8 30 R Gargan  
R 3 b  
v 1 l

Scungood.

8 40 R Lyncis  
h 3 v

Refined low

Saturday, Oct. 30, '97.

7 30

R Camelopard.  
c v 2 b

7 40

R Draconis  
c v invisible with both eye-  
pieces.

7 45

γ Cephei  
c v 4 d

7 55

σ S Cygni  
v = f

8 0

σ Cephei  
d 4 v  
v 1 c

8 10

γ Cass  
c e 1 x v  
v 2 f

v is very red.  
Field very clear.



Oct. 30. 197

8 20 S Cass  
C V invisible

8 38 S Cygnus  
C V invisible

8 40 U Persei  
V 1 C

Wednesday, Nov. 10, 97

U. Persei

(Brightmoon)

7 30

v 3 - 4 c

Another comp. star should  
be selected for this  
variable. There is no  
star very near that is  
suitable. The star I have  
marked b on the chart  
is a little too bright  
but it is the best in  
the neighborhood.  
Examine again on a  
better night.

8 00

S Cephei  
v 5 - d

8 10

S Cephei  
c 2 v  
v 1 f

8 15

S S Cygni  
v = f

Nov. 10, 1897.

8 20 R Camelopard  
✓ v 3 b

8 30 S Persei  
✓ f 4 v  
✓ v 1 g

8 40 T Persei  
✓ b 5 v  
v = c

8 50 R Aurigae  
h 1 v  
✓ v 2 h

R Lynx  
Moon too near field to identify  
the stars



Tuesday, Nov. 23, 1897

8730 S Cygni  
c g r

740 U Persei  
v 1c

800 R Mrs. May.  
v = g  
c v 6th

820 R Tauri  
h 2v  
v 1k

825 S Tauri  
v n. s.  
Comp. stars. S & v seen distinctly.

845 R Ceti  
g 3 v  
v 1k

950 T Mrs. May.  
Too near horizon

Wednesday, Nov. 24, 1897

8 00

S Cygni  
c  $\gamma$  12 v

8 10

R Aquarii  
e v

Could not find f on chart.

8 30

S Aquarii

Too lost to identify the fields

8 40

R Aurigae

$\gamma$  4 v  
c  $v = h$

9 10  
~~8 50~~

R Lyncis

not seen, but <sup>too</sup> cloudy to compare.

Saturday Nov. 27, 1897

8 N

c S Cygni  
2 1-2 v

8 30

c R Lyncis  
v = p

Both stars barely glimpsed

8 40

c T Urs. Maj.  
v n. s.

m is seen, but very faint.

8 45

c S Urs. Maj.  
v n. s.

c is the faintest comp. star seen

8 50

c T Cephei

v much brighter than d, could not identify brighter comp. stars.  
v thought v be about  $\frac{3}{4}$  mag. brighter than ~~d~~ d

9 00

c S Cygni

v n. s. It was at first thought v be barely seen but a higher power did not confirm the observation.



Tuesday, Nov 30, 1897

5.35

S Cygni  
n & 2v

~~n &~~

✓ 0 0 - 1 v

9.05

S Cygni  
v = n

✓ v 2 0

9.15

T Cass

d 4 v

✓ v 2 e

9.20

S Cass  
✓ Invisible

9.30

✓ R Cass

m 3 v

v 0 - 1 n

9.45

✓ S Cygni

m 3 v

v 1 n

See p. 140.





5-30

Wednesday, Dec 2, 1897  
S S Cygni  
 $v = h$   
c  $v = 4-5 m$

Monday, Dec. 6, 1897

5 05

U Persei

c 3 v

v 1 d

7 40

S Cygni

c m<sup>3</sup> 8

v 1 n

S Aquarii

Can not identify field, moon too bright

7 55

c S Cephei

f 4 v

b 1 g

v is very red.

8 00

c S Cephei

v very bright and red.

In the field.

b 4 v

8 15

c R Urs. Min

c 2 v

v 1 f

Seeing very poor

Monday, Dec. 6. 1897.

8.25

R Camelop.  
Clubs.



Saturday, Dec. 11, 1897

750 S S Cygni  
 B1 v  
 ✓ B1 f

800 S Ceti  
 v n. s.  
 m is not seen.  
 m is distinctly seen,

815 R. Piscium  
 k 2 v  
 v 1 l

825 R Ceti  
 g 4 v  
 v 2 k

Star h seems slightly fainter  
 than k. Seeing poor Uranus  
 again on a good night.

900 U Ceti  
~~c 3 v~~ f 5 e  
~~v 2~~ c = v  
 Star d on chart is brighter than c

Tuesday, Jan. 18, 1895

7 15

S Cygni  
v 8 m  
C v = l

7 20

U Persei  
d 2 v  
v 1 l

Object high, obs diff.

7 25

S Cass.  
4 v  
v = l

7 35

S Cass  
Invisible

7 40

T Persei  
C 1 v  
v 5 d

7 45

S Persei  
e 2 v  
v 1 f



Tuesday, Jan. 18, 1898.

8 15 R Lyncis  
k 3 v  
v 1 l

8 20 R Mrs. May  
m 4 v  
v = n

9 15 B D +90 1144

There is no star seen in the position this is given on the chart, (when the low-power eye-piece is in)

The higher power brings out a star apparently in this position and of about 12.5 mag.

Configuration of faint stars is marked on my chart, where the comp. star a is given. To-night B the observation is

a 3 v  
v = 12.5

The star marked b is about 5° N. of the B. D. star. It appears like of about the 9th mag. and is double



Wednesday, Jan. 19, 1895.

R Tauri

Seeing poor

01v

v2p

S Tauri

" "

n2v

v10

Many stars probably observed for S Tauri

U Orionis

h2v

v2m<sup>2</sup>

Monday, Jan 2<sup>4</sup>, 1898.

S Cygni

7 30

~~h~~ 2 v

c v / ~~h~~ d

Clear but windy.

7 40

R Urs. Maj.

m 1 v

v 3 m

R is red.

7 45

T Urs. Maj.

v = d

v 4 e

7 55

S Urs. Maj.

h 2 v

v 2 m

8 15

S Bootis

e 1 v

v 3-4 f

8 20

A Carn.

f 1 v  
f 2 h

8 30

Monday, Jan 24, 1898.  
R Urs. Minoris~~7-4~~

d v r

v = l

8 40

R Draconis

v 4-5 l



Thursday, Jan. 27, 1898.

S Cygni

7 45

<sup>d</sup> 3 v

c v 1 m<sup>e</sup>

7 50

S Cygni

Invisible. Not seen even with the high power eye-piece.

8

T Che Cephei  
v 2 d

8 05

S Cephei

g 2 v

Pr 2 h

v is faint, but very red.

8 10

R Cass.

About a magnitude brighter than the brightest comp. star on chart.

R Piscium

8 15

g 3 v

Pr 1 h

Moon very near  
& cloud rising.

Thursday Jan 27, 1898

840

S Hydrae

m 25

r 12

9

U Persei

Too hazy.

Thursday, Feb. 10, 1898

740

SS Cygni  
 v not seen  
 & B barely glimpsed  
 Field low & sky unsteady.

820

U Persei

v

m

l

k 3 v  
 v = l

Duguis about this star. The chart  
 and the sky do not seem to  
 agree but I think I have iden-  
 tified the variable correctly.



Feb. 16, 1898.

8 40

Sauri

p 0.2v  
v 1p

Star observed appears like in the same positions  
the variable on the chart. Is the chart right?

8 50

Sauri

p 0.2v  
v = 9p

9 00

T Cass

x e 1v  
v 3p

9 05

S Cass

invisible

9 10

S Persei

C 3v  
v 2d

9 13

T Persei

b 4v  
v = C

920

Feb. 10, 1898.  
R Aurigae  
v3/d

Got Mr. Reed to observe the field  
of  $\delta$  Tauri. He thinks the variable is  
invisible, though the chart does not  
give a star as bright as the one  
observed in that position. The  
matter will be looked up.

Thursday, Feb. <sup>2</sup> 24, 1898

S Tauri

8 00

p 3 r

r 1 q

R Tauri

8 15

r = r

Seeing poor.

8 30

U Orionis

5 1 b

Used finder to make  
observation.

See next page!



Friday Feb. 25, 1898

7 15

U Orionis

By a mistake in looking at the chart, the companion star  $\alpha$  was observed last night for the variables

$\epsilon 2 v$   
 $v 1 g$

7 25

T Cass

$\epsilon 3 v$

$v 1 f$

7 30

S Cass

$v$  invisible. Seeing good.  
Low power used.

7 35

S Persei

$\epsilon 2 v$

$v 3 d$

7 37

T Persei

$\epsilon 4 v$

$v 1 - 1 c$

Feb. 25, 1898.

740

R Aurigae.

d 3-4 v

v 1 e

750

R Urs. Maj.

f 2 v

v 1 g

8

T Urs. Maj.

e 1 v

v 2 f

8 05-

S Urs. Maj.

e 2 v

v 3 f

8 15-

S Bootis

e 3 v

v 1 f

8 25

R Camelop

v invisible

Feb. 25, 1898.

8 40

R. Diacanis  
v 3 e

8 50

S Cygni

v not seen.

Field low, but all the brighter  
stars are seen.

8 55

S Cephei

e 1 v

v 4 f

9 05

S Cephei

g 3 v

g 1 h

9 15

R. Lyrae's

Lubricator.



Saturday, Feb. 26. 1898

7 40

R Cass.

very red & bright.

Est. 5.9

8

R Loris Minoris

.

, m

. v

. g

0 4 v

(p 1-20)

g not seen.

Feb. 26. 1898

845-

X X Virginia  
Too cloudy. only the bright  
stars seen

Monday, Feb. 28. 1898

7 30

S Cygni

Region too poor. Could not see enough stars to identify the field.

7 50

R Aurigae

l 3 v

Can not find on chart.

Star observed seems to be in the right position for the variable. Seeing very poor, so that faint configurations are not well seen.

R Gemmae

8

v thought to be barely glimpsed. Companion stars well seen.

8 15~

S Hydrae

v n. s.

8 45

X Perseus

~~l 3 v~~

~~v 1. d. l~~

d 3 v

v 0.1  $\beta$



9 15-

Feb. 28, 1898.  
R Aries
~~5 g  
 9 h  
 1 k  
 k h~~ 

 15 g  
 9 h  
 Ph 2 k

Wednesday. Mch. 9. 1898

8

R Luri  
invisible

8 02

S Luri  
Barely glimpsed

8 05

U Orionis  
e 3 v  
v 3 f

8 10

T Cass  
e 4 v  
v 1 f

Thursday Mch. 10, 1898

730 R. Lauri  
seen with difficulty.  
Seem excellent High power eye-piece  
used.

$\alpha 2 v$

740 S. Lauri

$\alpha 1 v$

750 R. Arctis

$\alpha 3 v$

$v-1 \beta$

820 Mr. Wendell's Susp. Variable.

B.D. +90 1144

$\alpha 2 v$

Seem excellent  
Star marked b on chart is  
probably the B D star. It appears  
to be about 5' N. and is double.  
The star marked variable is about  
12 mag. & does not look red.



Dec. 10. '98

830

S Bootis  
g 3 v  
v 1 h

840

R Urs. Min.  
d 3 v  
v 1 e

845

R Draconis  
v 34 f  
v 1 e

850

+ Cephei  
e 4 v  
v 0-1 f

Friday, March 11, 1898

740

bar. 1279

U Camelops.

Om. + 62° 5-96 in Camelops

e 1 v

r 2 d

v very red.

750

R Mrs. May.

v barely glimpsed.

8

T Mrs. May.

e 3 v

r = f

8.05

S Mrs. May.

e 1 v

r 3 f

e is the comp. star  
on chart of T Mrs. May  
f, on chart of S Mrs. May.

8 20

R Gemmorium

$\beta''$  2 v

166

Mch. 11, '98

840

*R Comae*  
v n. S.

9

*R Leonis Minoris*  
p 3 v  
v 19



Thursday, March 17, 1898

8 R Mrs. May  
 L 1 r  
 v 4 t, t barely seen

$$s = 12.02$$

$$t = 12.53$$

$$12.12$$

$$12.13$$

$$s = 12.125$$

8 20 J Cass  
 L 3 r  
 v 1 f

8 30 S Cass  
 v = k  
 v 1 - 2 l

8 45 W Aug.  
 L 3 r  
 v 1 - 2 k

8 52 v Aug.  
 L visible

Friday, Mech. 18, 1898

7 45

S Persei  
f 4v  
v 1c

7 48

T Persei  
c 1v  
v 4d

7 50

R Aurigae  
e 2v  
v 2f

8

T Urs. May  
f 3v  
v 1g

8 10

S Urs. May  
e 2v  
v 2f

8 25

S Bootis  
h 2v  
v 1k

830

Inc. 18, 1898,  
R. D. Zaccaria  
vif

835-

S Cephei  
f. 1 v  
to 2 p



Friday, Mch 25, 1898

7 30

U Dromas  $d \frac{1}{2} v$   
 $v \frac{1}{3} e$

$v$  is very red,

7 40

R Virginis

$e \frac{1}{4} v$

$v = f$

7 50

M Virginis

$v \frac{1}{5} k$

$v \frac{1}{10} - 1 h$

Seems poor.

8 15

R Cass

very bright & red.

est. <sup>mag.</sup> 6.5

Mich. 25, 1898.

830


$\delta$  Cephei  
e 2 v  
v 3 g  
v 0.1 f

840

$\delta$  Cephei  
h 3 v  
v 4 h

Wednesday.  
~~Thursday~~ April 6. 1898.

9

S Mrs. May: 

h 3 v

v 3 h

9 05

S Mrs. May:

d 3 v

v 1 e

e is on chart of  
 S Mrs. May.

R Coronae  
 Clouds



Thursday, Apr. 7, 1898

8 R Cass.  
Very bright & red.  
Est. 7.00

8 05 T Cass  
g<sup>1</sup> v  
v 4 h

8 10 S Cass  
f 5 v  
v = g

8 15 S Persei  
b, v  
v 2 c

8 48 T Persei  
c 2 v  
v 2 d

April 7. 1898.

8 25

R Aurigae  
f 1-2 v  
v 3 g

8 30

R Lyncei  
0 4 v  
v = p.

8 40

S Cephei

f 1 v  
v 2 g

Seeing poor.

8 5

S Cephei  
C 3 b

8 50

V Cephei  
h 4 v  
v 2 l

April 7, 1898.

9 10

R Draconis  
h 2 v  
v 1 R

9 15

S Cygni

f 1 v  
v 2 g

9 20

R Urs. Minoris

d 3 v  
v 1 e

9 30

R Camelopard

v n. s.

Seeing poor.  
g is faint.

9 40

S Bootes  
h 2 v  
v 1 l



Saturday, April 9, 1898

8 15

W Virginis  
h 2 v  
v 2 m

Hazy.

8 20

V Virginis  
Invisible.

8 30

S Virginis  
n 2 v  
x v 20

8 50

R Hydrae  
v 3 p.

~~Sagitta about comp.  
stars R & n.  
R is much brighter  
than n.  
Mistake in reading chart. Star  
label for n is in.~~

9 20

W Hydrae  
Field too hazy.

April 7, 1898,

940

R Bootis  
v 4 h  
v = j

945-

M Bootis  
v 5 a

Monday, April 11, 1898.

8 15

$\gamma$  Virginis  
Too hazy.

8 25

R Virginis

$v = m$

$v 3 n$

Seeing is fair.

8 40

R Canum Venaticis

$v 3 g$

Can not find  $f$  on chart.

Have parents further work



Saturday April 16. 1898

U Orionis

$v = l$

$v = f$

R Gemmarum.

not seen.

Seeing good.

4th stars well seen. but there seems to be nothing in the exact position of the variable.

S Hydrae

$v = p$

Observation uncertain.  
Seeing poor with high power which is necessary to bring out the stars.

R Coma Berenice.

$v = n, s.$

Monday, April 18, 1898

730

V Cancri

~~2~~ v 1 d

Two sets of comp. stars  
are marked on the chart.  
The  $\alpha$  used is about  
R.A.  $12^h 30^m$   $+17^\circ 24'$

750

R Leonis

u 1 v

v 3 f.

8

T Virginis

v invisible

m well seen.

n also clearly seen.

April 18. 1898.

8 20

R Corvi

v unresolvable

$\beta + \phi$  distinctly seen

8 30

$\gamma$  Virginis

$\ell 3 v$

$v 3 k'$

$\circ \circ d. k'$   
 $\ell \quad \quad k$

9

$\mu$  Virginis

$m 2 v$

$v 1 n$

9 10

S Librae  
Too low.

9 30

S Coronae

$v 2 \ell$

9 35

$\mu$  Coronae

$v = g$

$v 3 h$



Thursday, April 21. '98

8 30

R Draconis

l 2 r

8 40

R Coronae

about a magnitude brighter than  
f. No brighter comparison  
near. The one at  
15<sup>h</sup> 44.2 26° 40' approx.  
is too bright

9

S Serpentis

g 2 r  
B 1 x

9 20

R Herculis

r invisible

$\beta$  is fairly well seen.

April 21, 1898.

930

R Mrs. May.

L 2 v  
v-1 t

Tuesday April 26, 1898.

R virginis

8.30

$\beta$  2 v  
v-1.2 q

X virginis

9.46

$\alpha$  3 v  
v-1  $\beta$

S Librae

9<sup>h</sup> 58.5<sup>m</sup>

S.T. 12<sup>h</sup> 35

H.A. E 2<sup>h</sup> 36<sup>m</sup>

Dec - 20° 20'

v invisible



April 26, 1898.

- Librae 5511

10 12

S.T. 12<sup>h</sup> 50<sup>m</sup>

H.A.E 2 29

Dec. - 22° 30'

V thought ~~the~~ barely glimpsed

10<sup>h</sup> 36<sup>m</sup>

R and S Serpini

S.T. 1<sup>h</sup> 12<sup>m</sup>

H.A.E 2 43

Dec. - 22° 40'

R invisible

S invisible

Monday, May 9, 1898.

8

S Cass.

v 2 e

(e 1-2 f.)

8 15

T Cass.

Field too low for faint stars.  
e seen but variable not  
observed.

8 20

S Persei

b 3 v

v 1 e

8 25

T Persei

c 2 v

v 2 d

8 40

R Aurigae

b 1 v

v 3 k

May 9, '98.

9

R Lyncis

l. v

v 2 m

9 30

R Urs. Maj.

t 2 v <sup>or</sup> very faint

10

S S Cygni

c v barely glimpsed.

Seeing poor.

~~β v~~  
x 2 v



Tuesday, May 10, 1898

750

T Mrs. May.  
k<sub>3</sub> v  
v 2 l

755

S Mrs. May.

d 4 v  
v 2 l

l is on the chart of  
T Mrs. May.

810

S Bootis

v N. S.

m steadily seen

820

R Camelop.  
g 2 v  
v 2 l

830

R Mrs. Minors  
d = v  
~~d 2 v~~  
v 2 l

May 10, 1898.

845- R Draconis

0.1 v

f barely glimpsed.

Friday, May 13. 1898

U Camelop.

Var. 1279.

8 40 22 C

r is very red.

I am not sure of star C.

T Cephei

9 20

.d

.f

.o p

r

ch

n .l

L, v

v 3 m

May 14. The notation of p, r, v.  
is taken from plate  
I 13459 where the  
comparison stars for  
T Cephei are marked.  
On the chart in "Variable Stars  
of Long Period" star "p" and the  
variables seem farther apart than  
on this plate. I was in doubt last night which of the stars marked p?  
in pencil was the one indicated on the chart.



Saturday May 14, '98

8 20 S Cephei

9 30  
r 2 h

8 30 S Cephei

f 2 r  
r 1 f

9 S Cass.  
Too low. Can not identify field.

9 15 R Virginis

β 1 r  
r 2 f

9 30 R Hydrae

r 5 f  
alt. 7.5

May 14, 98.

9 50 - Librae

n 40

There are no familiar  
companion stars.

9 55 S Librae

v. invisible.

S.T. 13<sup>m</sup> 42<sup>m</sup>  
H.A.  $\epsilon$ , 1 28  
Dec. - 20° 0'

10 10

SS Cygni  
S.T. 13 55-  
H.A.  $\epsilon$ , 7 36  
Dec. +43 0

C ~~3~~ 3 v  
v barely glimpsed

Saturday, May 21, '98

8.35-

R Camm Venetia

L1v  
v2k

S. T. 12<sup>h</sup> 58<sup>m</sup>

H. A. E. 0 50

Dec + 40° 40'

950

S S Cygni

C <sup>a</sup>  
~~L4v~~  
v1 ~~Lc~~



Thursday, June 23, 1898.

840

$\delta$  Cygni  
v not seen.

Field low, fainter stars invisible.

9

T Cass - field too low for observation.

v not seen with low power  
eye-piece.

With high power,

$\delta$  3, 1 v

$\delta$  2?

$\delta$  e

Look up this  
star, it may  
be  $\delta$ . It  
is marked x  
on one chart.

910

Seeing much better, and the stars  
are surely identified

T Cass.

$\delta$  2 v

$\delta$  2 g

June 23, 1898.  
S Cass.

c 5 v

v 4 c

d not found.

S Persui

c, v

v 3 d

T Persui

b 3 v

v 2 c

9 25 S S Cygni

c ~~X~~ 3 v

Seeing excellent.

R Aurigae.

Field no corr.

9 35

Incler passed right above the pole  
through the two stars of the little dipper  
called the guardian of the pole, path  
perpendicular to the line joining pole & these stars.  
Moderately bright.

June 23. 1898.

R Mrs. May.

SEV

$v = t$

Faint stars seen  
with difficulty, the  
sky seems hazy just at  
this region.

9 45-



Friday, Sept. 30, 1898

7 10

SS Cygni  
v not seen  
c & n barely glimpsed  
Moon very bright.

7 15

R Aurigae

v n.s.  
k is the faintest comp. star distinctly  
seen.

7 20

R Lynx

Found w. low.

25

R Urs. Majoris

L 1 v

v 3 f

Direction of stars f and e are indicated  
by arrows on the chart.

f e

g

They are identified on  
plates resembling the  
one containing "g" but pointing  
in the opposite direction.

Sept. 30, '98

7 40

J Mrs. May:

C 2 v

v 2-3 d

7 50

S Mrs. May:

L 1 v

v 3 f

8

S Bortis

C 2 v

v 1 d

Saturday, October 1, 1898.

- 8 15<sup>-</sup> R Camelop.  
d2v  
v1-2e  
very  
most bright.
- 8 20 R Urs. Minoris  
f1v  
v3g.
- 8 25 R Draconis  
v1c  
b not in field.
- 35 I Cephei  
v very bright and red.  
v5d Ask for chart  
of bright stars.
- 40 R Cass  
v invisible  
o clearly seen and familiar stars



Oct. 1. 1898.

8 50

S Cass.

g<sup>1</sup> v  
h<sup>2</sup> k

9

S Cass.

g<sup>5</sup> v  
v<sup>3</sup> kIsolated m<sup>1</sup> larger h not on chart.

9 05

S Persei

c<sup>3</sup> v  
v<sup>1</sup> d

9 10

S Persei

h<sup>3</sup> v  
v<sup>1</sup> c

9 30

S Cephei

c<sup>3</sup> v  
v<sup>2</sup> dv not very red  
may be due to  
moon. light.

40

S P Cygni

v invisible

Oct. 1. 1898,

9 50

S Cygni

v invisible.

Monday, Oct. 3, 1898

7 10

R Coronae

$r$  estimated as  $7^m$   
no comp. stars on chart bright enough.  
comp. star  $\gamma$  estimated as about  $8^m$

8

R Herculis

$r 10$

Seeing poor for ft. stars.

8 15

R Aquilae Var. 6834.

$r 2 \alpha$

$r$  is quite red.

8 25

R Sagittarii

$h \neq r$

$r 1-2 h$

8 30

Clouds.



Thursday, Oct. 6, 1898

R Ophiuchi

725-

m 2 v

v 1 m

Look up mag. of star marked ?  
on chart. It is about one grade  
brighter than m, whereas it is  
represented on the chart as a bright  
star.

8

Z Cygni

7192

p 1 v  
v 2 H

'5

..

p.

:

o

The sequence is not clearly  
marked on chart,

Oct. 6, 1898.

8 30

$\chi$  Cygni

$\gamma$  invisible.

8 40

R T Cygni

$\epsilon$  2  $\gamma$

$\gamma$  1 a

Saturday, Oct. 8, 1898

7 30 V Ceti var. 8597.

V invisible.

Inquire about comp.  
stars. Brighter ones have names  
lower in the alphabet than the  
fainter ones.

50

R Aquarii  
Region too hazy.

8 10

T Andromedae

$\gamma$  2 v  
v 15

$\beta < \gamma$

S Ceti  
Too hazy.

9

U Persei

v = f  
v 2 e

$e < f$



Monday, Oct. 10. 1898

7 40

R Delphin  
v invisible.

S. T. = 22<sup>h</sup> 10<sup>m</sup>

H. A. M. = 2<sup>h</sup>

Dec. H. = 8<sup>h</sup> 15<sup>m</sup>

Star  $\alpha$  seen, at least star  
nearly in position of variable  
is assumed to be  $\alpha$ , and not  
the variable, as it is somewhat  
fainter than the comp. star  $\eta$ .

8

R Aquarii  
b k v  
r 3 c

Oct. 10. 1898

8 10

U Persei

 $\alpha' 22$  $\beta 1-27$  $\gamma 49' ?$  $\delta 12$ 

8 30

U Ceti

 $\nu$  invisible

Faint stars not seen, region low. (Var. 893)

10

R Piscium

(Var. 513)

 $\alpha' 32$  $\nu 12$ 

10 45

R Arietis

 $\nu$  invisible

H.

Oct. 10, 1898,

10 50

o Ceti  
g 2 v  
v 2-3 h



Oct. 11, 1898.

8

U Persei

c 1 v

v 2 d

e' 2-3 e

e 1 f

f 5-6 g'

g' 1 f  
f

840

S Cygni

o 8 1 v

Seeing difficult, star  
almost on meridian.  
Sky clear.

850

J Cass

f 5 v

v = g

S Cass

e 3 v

v 1 h

Oct. 11, 1898.

9

Clouds.

910 S  $\star$  Persei  
C 4 v  
r i c.915 J  $\star$  Persei  
v = c  
v - d917 R Aurigae  
Clouds

Wednesday Oct. 12, 1898

8 15-

U Persei  
v o-1c  
v 4d

R Andromedae  
Can not identify this field  
from the chart.

8 45

T Andromedae  
β 2 v  
v 3 ε

8 50

R Aurigae  
v m. s.  
Seeing excellent.

L

9

R Lynx  
h 1 v  
v 4 k

Seeing excellent.

9 15-

R Urs. Maj.  
v 5 g



9 10

Oct. 12. 1898  
 S Urs. Maj.  
 d 4 v  
 r 1-2 l

9 15

T Urs. Maj.  
 b 1 & v  
 v 1 c

Comp. stars are  
 a long way N.

9 17

S Bootis  
 c 2 v  
 v 3 d

9 20

R Camelop  
 e 1 v  
 v 3 d f

9 22

S Cygni  
 v invisible

H  
 Seeing fine.

9 45

S S Cygni  
 n p 2 v  
 r = x<sub>0</sub>

Thursday, Oct. 13, 1898

*R Andromedae* 112

8 05

Decl.  $+38^{\circ}30'$   
H. A. E.  $2^{\text{h}}22^{\text{m}}$   
S. T.  $21^{\text{h}}56^{\text{m}}$

212  
v 4g

Seeing excellent.  
All the ft. stars  
identified.

8 20

*S Ceti* 114

v invisible

H.

$\beta$  is ~~seen~~ glimpsed and  
so clearly seen.

8 45

*U Ceti* 893

v invisible H.

$\alpha$  clearly seen

Region low for high power.

9 10

*V Delphinus*

7458

v = 9.5 mag.

No faint comp. stars.

Oct. 13, 1898.

930

r Cygni 7428

n2v

940

SS Cygni

X1v

L.



Monday Oct. 17 '98

7 30

J Cass  
e 3 v  
v 1 f

8

R Pegasi var. 8290

n 2 v  
v 1 0

8 05

T Aquarii var. 7468  
p 3 v

There are no families comparable  
now stars on chart.

8 20

R S Cygni var. 7259

d  
x 4 v  
v = ~~f~~ e  
v 4-5 f

or very red.

8 50

U Cygni var. 7299  
g 2 v  
v 1 f

9

Oct. 17. '98.  
*SS Cygni*  
 o *XZ v*

920

*R Ceti*  
*k, v*  
*v3l*

var. 845

930

- *Camelopardalis* var. 1279  $D m + 62^{\circ} 59'$   
*d4v*  
*v = c*

*v* very red com-  
 parison difficult

950

*R U Cygni*

var. 7783.

*k, v*  
*v1/3*



Thursday, Oct. 20. 1898

7 15 S Serpentes.  
Field too low. Top of cedar tree  
clouds the field.

7 30 R Draconis  
a6v

7 40 S Herculis  
g2v  
v1-2h

7 50 S Coronae var. 5504  
v invisible  
another variable on chart marked  
the Coronae  
U  
h3v  
v2h

8 30 T Aquarii  
p5-v Ask for fainter stars.



Oct. 20, 1898

8 40  $\delta$  Cephei  $21^h 36 + 78^{\circ} 10$   
 $\delta, v$   
 $v-3e$

9  $\delta$  Cygni  $L$   
 $\delta, v$

9 10  $\gamma$  Andromedae  
 $\gamma, \beta, 4v$   
 $v-0-1\beta$

9 20  $\delta$  Ceti  
 $v$  invisible  
 comp. star "o" seen







1985 phase 2 proj. 5160

The contents of this  
book are all lodged

Apr. 24, 1901.  
L.C.



R Canum bch.

R Bootis

S Librae

S Serpentin

T Scorpi

U Hercules

W "

Y "

R Scuti

R Cygni

R Vulpec.

S Aquarii

S Pegasi

U Cass.

X Ceti

Y Cam.

W Orion

V Canis



