

KG

11365

781



KG 11365.781779

Ask if there are any obs.  
of  $\gamma$  Eridani by Mr. Reed.  
I have found very little  
var. in this star.

same field

Observe  $\delta$  Delphini as  
soon as possible. It is  
probably in decreasing light.  
No mag. in 1903.  
Prob can make obs. for 2 or 3 weeks.



035124 T Erid. Early

Obs. seq. + var. if possible

Seq. has only been obs. once, and  
then only to h. (1)

035916 V Erid. Obs. seq. has  
been only once as far as <sup>(Early)</sup>  
note a & b especially.  
Star has not varied much.  
Also compare  $\delta$  (2)

040725 W Erid. (3) Early  
Compare sequence, 3 times the  
same night, since these fields  
are all down now.  
See p. 58 when  $\delta$  &  $\delta'$  is used.  
~~It is only marked on chart.~~  
This without the Chart - found.

To do on photog. variables.

(7)

Estimate seq. of 074305.  
Not yet estimated. 3 nights.

I have not found any var.  
to speak of in this star so far.  
Follow it up closely.

X Ceti (4) 031421 Observe

again if possible. Will have to  
be done soon as it is dark,  
as it is low now. Also observe  
sequence. This sequence has  
only been obs. as far as e.



050022 I Leporis <sup>2</sup> Early  
observe star and  
spec. reg. which has  
not yet been observed,  
and the star will soon  
be past.

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(5)

094622 I Hydrae.  
Look at and see if  
it is very bright.

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X Monoc.  
Spec. obs. only as far as  
b. Do again.

(6)

080322 RU Puppis

obs. sep.

082405 RT Hyd.

sep. not observed.

090024 SP Hy.

sep. not obs.



# Telescopic work.

♄ Canis Min. observe sequence  
again. commence with L. 4/5  
as far as can be seen.

— Can. Min. 074305.

Observe sequence as far  
as d. star does not  
seem to vary much.

observe ♄ Pyrrhides

Try vis. seq. R, U Puppis,  
as marked in black.

Observe final seq. of Mr. Cancri once more.  
Obs. of June, 2012 might be rejected.



To be obs. to-night.

R Ceti.

U Ceti.

X Ceti.

R Tauri.

S "

Z Bootis (early)

Q S Virg. "

R Vulp.

R Cass.

Missing M.  
enlargements.

---

R Ceti.  
R Cass.



To be obs.

R + S Lania

U Orinis

X Monoc

R Lem

Z Bootis (very early if possible event)

S Urs. Mini.

U Serpenti

R oph. ? very early.

Z "

R T C

Faint

R Androm

R Aurigae

R Dra.

T Aquarii

S Sagittarii

U Herc.

M Herc.

S Coronae

V. 1 Cygnus  
 X " " very bright  
 X Aq.  
 RS "  
 RT Cap.  
 R Aquarii  
 R Del.  
 RS Cap.  
 - Aquar.  
 X Aquar.  
 S Lacertae  
 - Androm.  
 Y Cass.







10027960, vol. 1, 1922



KG 11365.781



Friday, Nov. 28, 1902.

7 50

SS Cygni

$$\begin{array}{r} v=0 \quad 11.77 \\ v \text{ 2 } p \quad 11.94 \\ \hline 11.26 \end{array} \quad \text{est} = 12 \quad \checkmark \quad C$$

8 15

Nova Persei

Hagen 29  $\times$  3 v Hagen 32 (marked on chart Miss Seland has)   
 $v$  1 b (marked on Mr. Wendell's Hagen   
 Est = 10

8 30

X Cygni

$\#$  L 3 v 6.70  $\checkmark$  C   
 on chart est = 7 1/2

8 35

V Persei

d'3 v

v 2 e

est = 9 1/2 C

S Ceti

8 42

$$\begin{array}{r} v=7 \quad 2.52 \\ v \text{ 3 } p \quad 2.41 \\ \hline 2.46 \end{array} \quad \text{est} = 9 \quad \checkmark \quad C$$

Nov. 28, 1902.

855

R Aurigae

f 2 v 9.02

f 22 g  $\frac{9.02}{9.05}$ ✓ C  
est = 9 1/2

815

Z Aquarii

The field of R Aquarii  
is just near this star and  
I can use some of the  
comp. stars f & R for Z.

f 2 v  
f 21 g

est = 8

f & g are comp. stars for  
R Aquarii

920

S Urs. Maj.

n 3 v 11.34

v 10  $\frac{11.42}{11.43}$ ✓ C  
est = 12  
Low

(15) (450)



Saturday, Nov. 29, 1902

725

- Aquarii

217 -14 48

~~259~~

b5 v

v0-1 a

est =  $8\frac{1}{2}$

photop. sequence used

735

X Aquarii

v vis.

photop. b seen.

745

M Aquarii

v vis.

d & c are not seen.

Field loss

Q is well seen.

V & Delphin

752

v at about limit of vis.

It is fainter than f the faintest photop. comp & clau

~~f 506~~

f 6 v

est = 13

Nov 29, 1902.

R. S. Cap.

Low level.

8 07

S. W. S. Mm.

Cloud rose over field before  
obs. could be made.

(3) (453)

Monday, Dec. 1, 1902

8 50

S Tauri

r inis.

12.6

C

t seen

8 52

R Tauri

r inis.

12.6

C

t seen

9 05

U Inimis

L 3 v 11.35

v = t 11.57

✓

est = 12 1/2 C

other very difficult

9 08

R Lynx

G 3 v 9.66

v 1 h 9.64

9.65

✓

est = 9 1/2 C

9 15

R Gem.

p 1 v 10.32

v 4 g 10.36

10.34

✓

C

est = 11

9 20

R Urs. Maj.

v 2 g 7.51

✓

est = 8 1/2 C

9 30

R Androm.

h 3 v 4.59

v 1 h 4.55

4.57

✓

C

est = 8 1/2 9



8938

Dec. 1, 1902.  
TT Mrs. May.
$$\begin{array}{r} \text{L3v} \quad 10.70 \quad \checkmark \quad C \\ \text{v0-1 m} \quad \frac{10.70}{10.70} \quad \text{est} = 10 \end{array}$$

Selling very poor.

8945

TT Audron.

$$\begin{array}{r} \text{L2v} \quad 11.74 \quad C \\ \text{v1s} \quad \frac{11.67}{11.70} \quad \text{est} = 12\frac{1}{2} \end{array}$$

TT Cass.

$$\begin{array}{r} \text{L1v} \quad 7.97 \quad \checkmark \quad C \\ \text{v4 f} \quad \frac{7.77}{7.47} \quad \text{est} = 8\frac{1}{2} \end{array}$$

R Pascum

$$\begin{array}{r} \text{L3v} \quad 9.55 \quad \checkmark \quad C \\ \text{v0-1 m} \quad \frac{9.32}{9.44} \quad \text{est} = 9\frac{1}{2} \end{array}$$

(17) (470)

Tuesday, Dec. 2, 1902

5 20

S Corvinae  
by stars seen.  
Field too.

Stars in Hercules looked for  
but the sky is too hazy and  
smoke covered in the north  
west to see any of them

5 30

R Cass.

$$\begin{array}{r} k3v \\ v1b \\ \hline 7.40 \\ 4.06 \\ \hline 7.93 \end{array}$$

✓  
est = 8 1/2 C

5 45

R Sag.  
v. m. is.  
on barely seen

C

5 55

TT Hercules

$$\begin{array}{r} k3v \\ v1b \\ \hline 9.24 \\ 9.05 \\ \hline 9.64 \end{array}$$

✓  
est = 9 1/2 C  
Spectroscopy in region is poor.

6 00

R Cygni

$$\begin{array}{r} p2v \\ m2g \\ \hline 10.22 \\ 10.33 \\ \hline 10.24 \end{array}$$

✓  
est = 10 1/2 C

620

630

Dec. 2, 1902

R. Delphin

$$\begin{array}{r} 2.92 \\ 2.95 \\ \hline 2.96 \end{array}$$

$$\checkmark \quad \text{est} = +0.9\frac{1}{2}$$

S. Aquarii

Clouds over region

(8) (478)



Thermometer 189

Saturday, Dec. 7, 1902

7 45

S Aquarii

M

h 2 v

2.21

✓

C

v 1-2 h

2.71

est = 9 1/2

2.76

Moon near

7 55

R Pegasus

h 1 v

10.99

✓

C

v 3 h

11.03

est = 12

11.01

8 10

S Pegasus

h 2 v

11.21

✓

C

v 1-2 h

11.12

est = 11 1/2

11.20

8 25

R Aquarii

h 2 v

2.55

✓

C

v 2 h

2.46

est = 8 1/2

2.50

8 35

S Ceti

2.22

h 3 v

2.66

✓

C

v 0-1 h

2.74

est = 8 1/2

est = 9

8 40

R S Cygni

h 3 v

7.55

✓

C

v 2 h

7.31

est = 8

7.43

Dec. 7, 1902

8 45

U Cygni

e 3 v

2.07

v 1 f

2.26

2.16

✓

est = 8 1/2 C

8 55

R Vulpec

h 3 v

9.64

v 2 l

9.34

9.49

✓

est = 10 C

8 58

T Ceph

e 4 v

7.52

v 2-3 f

7.44

7.42

✓

est = 8 C

9 00

S Ceph

h 3 v

2.13

v 1 c

2.05

2.09

✓

est = 8 C

wh color very striking

9 02

R Urs. Min

d 3 v

9.56

v 1 c

9.52

9.54

✓

est = 9 1/2 C

Odor of coal gas very strong in the dome.

9 04

R Draconis

v = e

2.02

v 4 f

7.44

7.95

✓

est = 8 1/2 C



Dec. 7, 1902

9 20

o Ceti

p. 80-1v

2.27

v 3 z

2.29

4.56

est = 9 C

9 40

R Ceti

v = n

10.60

v 3-4 ~~z~~ 0

10.25

10.72

est = 10 1/2 C

Hogon eye-piece very troublesome during this obs.

9 45

M Ceti

f. v

2.36

v 3 f

2.21

4.57

est = 9

✓ C

9 47

R Arctis

e 2 v

2.43

v 1 f

2.61

5.04

est = 8 1/2 C

(32)

(510)



550

Tuesday, Dec. 9, 1902

R. Traupuli

M

$k=3v$   
 $v=l$

$est=10$

Seeing poor and thermometer  
1 1/2 degrees below zero,  
Seems to poor & continue

(2)(672)

Wednesday, Dec. 17, 1902

515

TT Herculis

$$\begin{array}{r} f_{10} \\ v_{38} \end{array} \frac{\begin{array}{r} 8.20 \\ 8.09 \\ \hline 8.14 \end{array}}{\text{est} = 9} \quad \checkmark \quad C$$

517

Z Cygni

$$\begin{array}{r} f_{3-4} \\ v = 9 \end{array} \frac{\begin{array}{r} 7.88 \\ 7.76 \\ \hline 7.82 \end{array}}{\text{est} = 9} \quad \checkmark \quad C$$

525

R Cygni

$$\begin{array}{r} f_{37} \\ v = 2 \end{array} \frac{\begin{array}{r} 10.83 \\ 10.93 \\ \hline 10.88 \end{array}}{\text{est} = 10\frac{1}{2}} \quad \checkmark \quad C$$

530

R S Cygni

$$\begin{array}{r} a_{20} \\ v_{3d} \end{array} \frac{\begin{array}{r} 7.45 \\ 7.21 \\ \hline 7.33 \end{array}}{\text{est} = 8} \quad \checkmark \quad C$$

537

W Herculis.

v invis.

$$\underline{11.3}$$

C

W glimpsed

545

R Delphin.

$$\begin{array}{r} f_{20} \\ v_{29} \end{array} \frac{\begin{array}{r} 8.49 \\ 8.58 \\ \hline 8.54 \end{array}}{\text{est} = 9\frac{1}{2}} \quad \checkmark \quad C$$

550

TT Aquarii

$$\begin{array}{r} e_{40} \\ v_{38} \end{array} \frac{\begin{array}{r} 7.60 \\ 7.53 \\ \hline 7.56 \end{array}}{\text{est} = 9} \quad \checkmark \quad C$$

if not on chart

852

Dec. 17, 1902.

U Cygni

$$v = \frac{7.77}{\text{hr}} \quad \checkmark$$

$$v + f = \frac{7.96}{\text{hr}} \quad \checkmark \quad \text{est} = 9\frac{1}{2} \quad C$$

$$\frac{7.86}{\text{hr}}$$

610

R Vulpeculae

$$10.19 \text{ hr} \quad \checkmark$$

on 4v

Hagen mt in place, and there  
are no fainter comp. stars on  
chart

620

V Cygni

$$v = 12.6$$

S seen

625

S Aquarii

L 4v

v 0-1 m

$$9.26 \quad \checkmark$$

$$9.25$$

$$9.26$$

$$\text{est} = 10\frac{1}{2} \quad C$$

Field low, seeing poor

R Pegasi

v 0-1v

v 4c

$$10.94 \quad \checkmark$$

$$10.93 \quad \checkmark$$

$$10.94 \quad \checkmark$$

$$\text{est} = 11\frac{1}{2} \quad C$$

S Pegasi

p 1v  
v 2v

$$10.69 \quad \checkmark$$

$$10.81 \quad \checkmark$$

$$10.75 \quad \checkmark$$

$$\text{est} = 10\frac{1}{2} \quad C$$

640



Dec. 17, 1902.

6 45

R Agnani

e2 p

7.79 ✓

v3 f

 $\frac{7.77}{7.78}$  ✓

est = 8 C

It is getting very hazy.

(2 3) (5 25)

Thursday, Dec. 18, 1902

7 00

S Bootis  
Too low.

7 07

R Aurigae  

$$\begin{array}{r} p.36 \\ p.52 \\ \hline p.44 \end{array}$$
 c2v v3f est = 8 1/2 ✓ C

7 22

S Persei  

$$\begin{array}{r} p.p.p. = \\ p.p.7 \\ \hline p.p.p. \end{array}$$
 v-e v2f est = 8 1/2 ✓ C

7 23

T Persei  

$$\begin{array}{r} p.58 \\ p.48 \\ \hline p.53 \end{array}$$
 c2v v2d est = 8 1/2 ✓ C

7 35

R Lynce's  

$$\begin{array}{r} 10.04 \\ 10.03 \\ \hline 10.04 \end{array}$$
 h3v v1k est = 9. ✓ C  
 Seeing very poor

7 38

Clouding up continually

R Urs. May

$$\begin{array}{r} p.01 \\ p.03 \\ \hline p.02 \end{array}$$
 g3v v1-2h est = 8 ✓ C

Dec. 18, 1902.

745 R Camelopard.

P. 85

P. 97

P. 91

b 4 v  
v o - i e

est = 8 1/2

C

748 S S Cygni.

11.88

11.94

11.91

v o i v  
v e f

est = 12

C

A current of warm air comes from the room below where the wood-work joins on to the stone pier. Dome is full of gas.

755 S Cephei

b 4 v

P. 23

P. 10

P. 16

v o - i e

est = 7 1/2

C

758 T Cephei

e 3 v

7.42

7.39

7.40

v 3 f

est = 7 1/2

C

801

A Draconis

f 3 - 4 v

P. 63

P. 56

P. 60

v = f

est = 8 1/2

C



Dec. 18, 1902.  
R. Ues. Min.

d 3 v  $\begin{array}{r} 9.56 \\ 9.52 \\ \hline 9.54 \end{array}$  est =  $9\frac{1}{2}$  ✓ C

S Ceti

v = f  $\begin{array}{r} 8.71 \\ 8.73 \\ \hline 8.72 \end{array}$  est =  $8\frac{1}{2}$  ✓ C

TT Androm.

42 v  $13.00$  ✓ C  
if not seen est =  $12\frac{1}{2}$

R Androm.

v = d  $\begin{array}{r} 6.94 \\ 6.85 \\ \hline 6.90 \end{array}$  est = 7 ✓ C

TT Cass.

e 2 v  $\begin{array}{r} 8.07 \\ 8.02 \\ \hline 8.04 \end{array}$  est =  $8\frac{1}{2}$  ✓ C

R Cass

k 2 v  $\begin{array}{r} 7.70 \\ 7.96 \\ \hline 7.83 \end{array}$  est = 8 ✓ C

R Piscium

o 3 v  $\begin{array}{r} 10.60 \\ 10.59 \\ \hline 10.60 \end{array}$  est =  $10\frac{1}{2}$  ✓ C

Dec. 18, 1902.

8 59

o Ceti

 $v = 8$  $v 4 2$ 

$$\begin{array}{r} 8.82 \\ 8.79 \\ \hline 8.80 \end{array}$$

est =  $8\frac{1}{2}$ 

C

9 07

R Ceti

 $v = 8$ 

11.53

g not seen

est =  $12\frac{1}{2}$ ~~S~~ Seeping poor

9 12

U Ceti

 $v = 8$  $v 3 7$ 

$$\begin{array}{r} 8.00 \\ 7.96 \\ \hline 7.98 \end{array}$$

est =  $8\frac{1}{2}$ 

C

9 15

R Arctis

 $v = 8$  $v 4-5 e$ 

7.89

$$\begin{array}{r} 7.78 \\ \hline 7.84 \end{array}$$

est = 8

C

S & T Uls. May  
Cloud over again

9 30

U Orionis

 $v = 8$  $v 4 m$ 

$$\begin{array}{r} 11.54 \\ 11.77 \\ \hline 11.67 \end{array}$$

est =  $12\frac{1}{2}$ 

C

9 45

S Can. Min.

 $v = 10$  $v 4 m$ 

10.07

$$\begin{array}{r} 10.04 \\ \hline 10.06 \end{array}$$

est = 10

C

faded in br. moonlight  
(414) (578) Potted Plotted, Ledgered



Dec. 19, 1902

535

R Scuti  
Field too low

S Bootis

v. mires.

540

R barely seen.  
It seems impossible to see  
any stars this season near  
the horizon unless they  
are bright.

900

U Persei

e' 3v chart @

v 2 photographic

c

est = 9

907

R Leonis min

k3v

$\begin{array}{r} 8.77^v \\ 8.69^v \\ \hline 8.73^v \end{array}$

v1h

est = 9 1/2

Sky very hazy.

916

R Gem

q1v  
v2v

$\begin{array}{r} 10.86^v \\ 10.94^v \\ \hline 10.90^v \end{array}$

est = 12



Dec. 19, 1902

9 23

R. Cancri

$$\begin{array}{r} 9.1v \\ v \approx h \end{array} \quad \begin{array}{r} P.16v \\ \underline{P.12} \\ P.14v \end{array} \quad \text{est} = 8$$

V. Cancri

9 30

$$\begin{array}{r} v = 9 \\ v \approx 3/2 \end{array} \quad \begin{array}{r} 11.27v \\ \underline{11.27} \\ 11.27 \end{array} \quad \text{est} = 11 \frac{1}{2}$$

R. Leonis

Behind east dome

9.35

S. Urs. Maj.

$$\begin{array}{r} L3v \\ v \approx m \end{array} \quad \begin{array}{r} 10.39v \\ \underline{10.59v} \\ 10.497 \end{array} \quad \text{est} = 12$$

9 42

T. Urs. Maj.

$$\begin{array}{r} L3v \\ v = f \end{array} \quad \begin{array}{r} L.30v \\ \underline{P.34v} \\ P.32 \end{array} \quad \text{est} = 8$$

10 10

S. Hydrae

v. Uris.

n. seen

11.1

10 16

T. Hydrae

v. Uris.

8 seen - full very hot  
 8 seen - very hot

Seen from all the camp  
 (14) (593) L.P.R.

Saturday, January 17, 1903

7 12

R Cygni  
Cloud over again

7 30

U Orionis

v = 9

v 2/3 2

10.18

10.21

10.20

est = 10 1/2 ✓

R Cygni

Can barely see the var.  
Sky too hazy to make a  
satisfactory estimate.

8 05

R Aurigae

e 3 v

v 2 f

2.46

2.62

2.54

est = 8 1/2 ✓

8 12

R Lynce

n 1 v

v 20

11.5

11.25

11.29

11.27

est = 10 1/2 ✓

8 20

R Urs. Maj

e 3 v

v 1 m

9.10

9.33

9.22

est = 9 ✓

8 30

R Gem.

t 1 v

v 4 u

12.18

12.11

12.14

est = 12 ✓



Jan. 17, 1903.

840

S Can. Min

fiv

v1-2g

est = 9

$$\begin{array}{r} 2.58 \\ 2.64 \\ \hline 2.61 \end{array}$$

✓

845

R Cancer

v1 l

k not on chart

2.50

✓

est = 9

850

R Leonis Min

l, v

v3 n

$$\begin{array}{r} 2.89 \\ 2.06 \\ \hline 2.98 \end{array}$$

est = 9 1/2

✓

R Leonis

~~03 v~~~~v3 n~~

$$\begin{array}{r} 2.97 \\ 2.22 \\ \hline 2.84 \end{array}$$

est = 9

✓

8900

03 v

v3 p

S Bootis

v-7

v4 g

$$\begin{array}{r} 2.67 \\ 2.22 \\ \hline 2.72 \end{array}$$

est = 9 10

corr.

✓

leaving very poor

913

T Cass.

g3 v

v1 h

$$\begin{array}{r} 2.86 \\ 2.88 \\ \hline 2.87 \end{array}$$

est = 10 9

✓



Jan. 17, 1903.

9 15

R Andromedae in Linder  
 C 3 v  $\frac{6.70}{6.64}$   
 v 3 d  $\frac{6.67}{6.67}$  est = 7

9 30

R Piscium Lorr.  
 S 3 v  $\frac{12.13}{11.96}$   
 v 1 t  $\frac{12.04}{12.04}$  est = 7  
 Semiprecy poor  
 obs. doubt full

9 40

R Arctis  
 v 3 g f  $\frac{2.71}{2.66}$  est = 9 1/2

9 45

S Pueri  
 C 1-2 v  $\frac{2.53}{2.35}$   
 v 3 d  $\frac{2.46}{2.46}$  est = 8 1/2

9 48

T Pueri  
 C 2-3 v  $\frac{2.63}{2.53}$   
 v 1-2 d  $\frac{2.32}{2.32}$  est = 9

9 50

T Cephei  
 d 1 v  $\frac{6.78}{6.72}$   
 v 4 e  $\frac{6.75}{6.75}$  est = 7 1/2  
 (33) (626)

Monday, Jan. 19, 1903

Thermometer +12 1/2

7 20

SS Cygni

v 2.0 (8)

11.87

Seeing poor in region ✓

7 30

R Piscium

h 2 v

v 1.2

12.03 ✓  
11.96 ✓  
12.00

est = 11 1/2 ✓

low seeing poor.

7 35

S Ceti

Seeing too poor, fields too

7 40

o Ceti

b 3 v

(v 1-2)

A. 32 ✓  
P. 43 ✓  
P. 38

est = 8 ✓

Sky too hazy in S.W. to make satisfactory estimates.

8 07

R Camelopard

h 3 v

v 3 c

A. 75  
P. 72  
P. 74

est = 8 ✓

8 10

S Cephei

C 3 v

v 2 d

P. 45-  
P. 41.8  
P. 46

est = 8 7/2 ✓



8 15

Jan. 19, 190<sup>3</sup> 4.

S Mrs. May

fir  
v-3 g
$$\begin{array}{r} 0.60 \\ 0.53 \\ \hline 0.07 \end{array}$$

est = 8 1/2 ✓

8 18

T Mrs. May

d 2 v

v1-2 e

$$\begin{array}{r} 7.78 \\ 7.95 \\ \hline 2.82 \end{array}$$

est = 8 ✓

(13) (639) L.P.P.



Wednesday, Jan 21, 1903

7 05

R Cygni

± 2 v

v 4 u

11.90

11.70

11.84

est = 12 1/2

w 2 x u

Obs. difficult

2 Cygni

field too low

7 10

S Cygni

or minor

seen

7 15

R S Cygni

clouds formed over region

clouds

8 00

U Cygni

b 5 v

v 1 c

6.68

6.44

6.56

clear

est = 8

8 08

V Cygni

g 2 v

11.95

est = 12

not seen

Seen only by jets  
and flares

R & S Pegasi

too low

8 20

Jan. 21, 1903.

R Cass.

l 3v

v 2-3 m

9.46

9.55

9.50

est = 9 ✓

8 25

R Hrs. Min

d 1v

v 3-4 h

9.36

9.27

9.32

est = 9 ✓

8 30

R Diacronis

m 2v

v 1 n

10.36

10.46

10.41

est = 10 ✓

8 45

J Cass

v vis.

photog. l seen

8 50

U Persei

b 4v

v = e

est = 8 1/2

vis. notation chart (6)

S Lacertae

Shield too hazy.



Jan. 21, 1903,

910

X Cth

912  
v2f

est=10

a b4a

a-d two large

d1-2c

e 5-α

α 3 β

β 4 γ

γ 3 δ

δ 1-2 ε

ε 3 ζ

ζ 3-4 η

h &amp; fainter comp. stars not seen

930

S Lani

p1v

v2-3 γ

$$\begin{array}{r} 10.74 \\ 10.89 \\ \hline 10.82 \end{array}$$

est=10 1/2 ✓

R Lani

v2v

v1c

$$\begin{array}{r} 11.86 \\ 11.94 \\ \hline 11.90 \end{array}$$

est=11 1/2 ✓

950

V Cancer

v2v

v3t

$$\begin{array}{r} 12.14 \\ 12.03 \\ \hline 12.08 \end{array}$$

est=12 1/2 difficult



1000

Jan. 21, 1903  
W. Can. Minors  
r minor  
o seen

(21) (660) L.P.P.  
W<sub>9</sub> W<sub>(71)</sub>

Thursday, Jan. 22, 1953

5 50

S Ceti

m 4v

v = m

$$\begin{array}{r} 10.59 \\ 10.49 \\ \hline 10.54 \\ \hline \text{Hazy} \end{array}$$

est =  $10\frac{1}{2}$

5 55

R Aquarii

6.76

C 3v

do not on chart

est = 4

z Aquarii

clouds formed over region

7 30

R Pegasi

11.77

t 1v

is not seen distinctly

Seeing very poor, cloud near

est =  $12\frac{1}{2}$

7 35

S Pegasi

v = h

v 3 R

$$\begin{array}{r} 8.26 \\ 8.71 \\ \hline 8.94 \end{array}$$

est =  $9\frac{1}{2}$

7 50

U Ceti

f 2v

b 2g

$$\begin{array}{r} 8.46 \\ 8.51 \\ \hline 8.38 \end{array}$$

est =  $8\frac{1}{2}$

Jan. 22, 1903.

8 10

R Ceti

v. invis.

q seen

12.1Clouds around pole axis  
to N. S. W.

8 15

S. Hydrae

var. invis.

Can not find Hagen.

Nothing in place of var  
as bright as  $11\frac{1}{2}$  or 12  
mag. certainly

8 45

R. Trianguli

d 4.5

v. e.

7.3

est = 7

9 00

Vars in Eridanus searched  
for in rain. Cloud peaks  
but over upon.Too cloudy to make observations  
(10) (670) L.P.P.



Friday, January 23, 1903

720

RT Cygni  
var. very faint, barely glimpsed,  
seemingly poor, mid high

phot. 5 v

est =  $12\frac{1}{2}$

740

S Lacertae

b 4-5 v

v 1 c

est =  $10\frac{1}{2}$

photographic chart

V Exilani

802

b 2-3 v

v 2 a

est =  $8\frac{1}{2}$

830

T Eridani

c 1 v

v 1 c

(c)

est = 9

Est. phot. sequence

a 4 b

b 5 c

c 2-3 c

c 1 4 e 2

c 2 3 d

d 1 e

f 2 e

e 5 g

g 3 h

very faint

Jan. 23, 1903

8 45

T Androm

v mrs

12.2

t seen

8 50

U Sirius

9<sup>12</sup> v

10.28

10.41

10.34

est = 10 1/2

9 05

T Hydrae

n 22

10.23

10.41

10.32

v 20

est = 10 1/2

9 30

S Hydrae

v mrs.

p seen

11.9

(11) (681)

\* 9 @ L.P.

Monday, Jan 26, 1903

5-45

Tried for  $\gamma$  Cygni but  
the refraction is enveloped in  
haze.



Friday, Jan. 30, 1903

6 55

R S Cygni  
Shield too low  
var. seen but huge covered  
region before obs. could be made.

7 20

W Eridani  
v. mris.  
No star seen near pos.  
of var. Photog. comp. stars  
from eye near the var.  
but neither of them is seen  
to seem.

7 40

$\delta$  TT Leporis

$h_2 v$   
 $v_3 h'$

est =  $10\frac{1}{2}$   
Shield not very clear

$\times$  Monocerotis

$d_3 \& v$   
 $v \& 4 d'$

est =  $7\frac{1}{2}$

$d_6 d'$   
 $d' 4-5 a$   
 $a 4 c$   
 $c 5 h$

Jan. 30, 1903,

8 20 +5° 1797 — Can Min.

a 3 v

v 2 b est =  $8\frac{1}{2}$  9

Floating clouds no crunch

8 30 Clouds all over

8 40 Clear.

S. W. S. Min.

(photog.) b 2 v

a 6

v 1 c (photog.) est =  $7\frac{1}{2}$

9 00

R. T. Hydrae

Photog. sequence poor for

visual use

(a marked on charts)

a' 5 v

v 4 d

a is too bright

d 3 b



Jan. 30, 1903

902

T Cass

h 3 v

$$v_0 - 1 h \frac{9.28^{\circ}}{\frac{9.31}{9.30}} = \text{est} = 9\frac{1}{2}$$

915

S Tauri

01 v

$$v = p \frac{10.36^{\circ}}{\frac{10.64}{10.50}} = \text{est} = 10\frac{1}{2}$$

920

R Tauri

p 3 v

$$v_0 - q \frac{10.94^{\circ}}{\frac{11.14^{\circ}}{11.04}} = \text{est} = 11$$

U Orionis

930

q 0 - 1 v

$$v - 3 - 4 \frac{10.23^{\circ}}{\frac{10.21^{\circ}}{10.22^{\circ}}} = \text{est} = 10\frac{1}{2}$$

(16) (699) ~~5~~ ~~60~~

L.P.P.



Saturday, Jan. 31, 1903

705 SS Cygni  
~~0.22~~ 22  
 70-1 p.  $\begin{array}{r} 11.97 \\ 12.09 \\ \hline 12.03 \end{array}$  est = 12 ✓

715 R Arctis  
 m1v  
 23 n  $\begin{array}{r} 10.37 \\ 10.46 \\ \hline 10.42 \end{array}$  est = 10 ✓

720 o Ceti  
 25 v  
 21 β  $\begin{array}{r} 7.78 \\ 7.92 \\ \hline 7.85 \end{array}$  est = 8 ✓

730 S Persei  
 b2v  
 21 c  $\begin{array}{r} 8.30 \\ 8.28 \\ \hline 8.33 \end{array}$  est = 8 ✓

731 TT Persei  
 c3v  
 21 d  $\begin{array}{r} 8.68 \\ 8.58 \\ \hline 8.63 \end{array}$  est = 9 ✓

735 U Ceti  
 21 v  
 21 h  $\begin{array}{r} 8.61 \\ 8.59 \\ \hline 8.60 \end{array}$  est = 9 1/2 ✓

738 R Cass  
 25 v  
 21 m  $\begin{array}{r} 8.66 \\ 8.70 \\ \hline 8.68 \end{array}$  est = 9 ✓

Jan. 31, 1903

750

S Cephei

C2v

~~7.60~~

✓

v4 d

8.35

8.28

8.32

est = 8 1/2

805

R Lynx

n 2-3 v

11.40

v-1 d

11.39

11.40

est = 11

810

S Can. Min.

e4-5 v

8.51

v1 f

8.38

8.44

est = 9

815

R Cancer

h5v

9.10

v1 m

8.90

9.00

est = 9 1/2

825

v Cancer

has been

faint to get good estimate

R Leonis Min.

02 v

9.79

v1 f

9.88

9.84

est = 10

✓



Jan. 31, 1903.

830

R Leonis

p. v

r 39

$$\begin{array}{r} 9.12 \\ 7.91 \\ \hline 9.02 \end{array}$$

est = 8 1/2

833

R Uis. Maj.

r = n

r 3-40

$$\begin{array}{r} 9.76 \\ 9.53 \\ \hline 9.64 \end{array}$$

est = 9 1/2

840

S Uis. Maj.

l 4-5 v

r 1 f

$$\begin{array}{r} 9.31 \\ 9.40 \\ \hline 9.36 \end{array}$$

est = 8 1/2

842

TI Uis. Maj.

l 3 v

r 2 e

$$\begin{array}{r} 7.88 \\ 7.80 \\ \hline 7.84 \end{array}$$

est = 7 1/2

844

S Bortis

l 3 v

r 1 f

$$\begin{array}{r} 9.42 \\ 9.57 \\ \hline 9.50 \end{array}$$

est = 9 1/2

846

R Camelopard

h 1 v

r 4 e

$$\begin{array}{r} 9.55 \\ 9.62 \\ \hline 9.58 \end{array}$$

est = 8

848

R Draconis

r 3 v

r 0-10

$$\begin{array}{r} 10.86 \\ 10.92 \\ \hline 10.89 \end{array}$$

est = 10 1/2



9 or

Jan. 31, 1903,

71 Cephei

r, d 6.58 est = 7

(39) (738)

L.P.P.

Friday, February 6, 1903

720

R Cass  
h 5 v  
v 1 l

2.00  
2.06  
2.03

M

v is so very red that  
comp. is difficult.

730

♂ Cephei  
v appears to be too bright to  
compare with d and I have  
no chart of brighter comp. stars.

735

S Larii

Field in bright moon light  
S not seen

40

R Tauri

var. seen clearly although the  
field is very bright

h 1 v

obs. very uncertain  
m not seen 9.35

50

S Cass.

h 3 v

12.58"

obs. doubtful;  
objects very faint  
S not seen

Feb. 6, 1903,

8

R Leonis

p. v

v-3-49

$$\begin{array}{r} 2.12 \\ 7.86 \\ \hline 7.99 \end{array}$$

✓

810

R Urs. Min.

c 2 v

v 1 d

$$\begin{array}{r} 9.10 \\ 9.16 \\ \hline 9.13 \end{array}$$

✓

812

S Pucci

b 3 v

v = c

$$\begin{array}{r} 8.40 \\ 8.38 \\ \hline 8.39 \end{array}$$

✓

815

TT Pucci

c 2 v

v 2 d

$$\begin{array}{r} 9.52 \\ 9.48 \\ \hline 9.53 \end{array}$$

✓

820

R Urs. Maj.

o 1 v

v 3 f

$$\begin{array}{r} 9.98 \\ 10.16 \\ \hline 10.07 \end{array}$$

✓

822

R Camelop

b 2 v

v 4-5 c

$$\begin{array}{r} 2.65 \\ 2.57 \\ \hline 2.61 \end{array}$$

✓

855

R Aurigae

d 4-5 v

d 4-5 v

v 0-1 c

$$\begin{array}{r} 2.17 \\ 2.13 \\ \hline 2.15 \end{array}$$

✓



Feb. 6, 1903

9 00

Clouds rising in north.

9 15

Too cloudy to continue

(12) (756)

Thursday, Feb. 12, 1953

M  
=

7 10

SS Cygni

$$\begin{array}{r} d.4v \\ v=e \end{array} \quad \begin{array}{r} 9.00 \\ \underline{8.90} \\ 8.90 \end{array} \quad \text{est} = 9$$

Seeing very poor.  
Either thin clouds or haze  
in north west.

7 20

TT Cass

$$\begin{array}{r} k.3v \\ v.2l \end{array} \quad \begin{array}{r} 9.66 \\ \underline{9.61} \\ 9.64 \end{array} \quad \text{est} = 9\frac{1}{2}$$

R Piscium

v.iris

seen,

$$\underline{11.9}$$

7 30

R Arctis

0.1v

$$\begin{array}{r} v.3p \end{array} \quad \begin{array}{r} 11.25 \\ \underline{11.24} \\ 11.26 \end{array} \quad \text{est} = 10\frac{1}{2}$$

Seeing poor

7 33

o Ceti

x 2-3v

$$\begin{array}{r} v.3-4p \end{array} \quad \begin{array}{r} 7.53 \\ \underline{7.67} \\ 7.60 \end{array} \quad \text{est} = 8\frac{1}{2}$$



Feb 12, 1903,

738

U Ceti

h 2 v

 $\frac{8.99}{8.96}$ 

v 1-2 k

 $\frac{8.96}{8.98}$ est =  $9\frac{1}{2}$ 

Moon light &amp; haze strong.

740

S Pucsi

b 3 v

 $\frac{8.40}{8.28}$ 

v 1 c

 $\frac{8.28}{8.34}$ 

est = 8

T Pucsi

~~741~~  
742

c 4 v

 $\frac{8.78}{8.52}$ 

v 1 d

 $\frac{8.52}{8.64}$ 

est = 9

745<sup>5</sup>

R Tauris

h 2 v

 $\frac{8.99}{8.95}$ 

v 3 c

 $\frac{8.95}{8.97}$ est =  $9\frac{1}{2}$ 

Near moon

748<sup>5</sup>

S Tauris

h 2 v

 $\frac{10.08}{10.16}$ 

v 1 d

 $\frac{10.16}{10.12}$ est =  $10\frac{1}{2}$ 

Near moon



Feb. 12, 1903.

805

R Cass

$\begin{array}{r} \text{c2r} \quad \text{A. 36} \\ \text{v4m} \quad \text{A. 40} \\ \hline \text{P. 38} \end{array} \quad \text{est} = 8\frac{1}{2} \quad 9$

808

S Cephei

$\begin{array}{r} \text{c2r} \quad \text{A. 35} \\ \text{v3d} \quad \text{A. 3A} \\ \hline \text{P. 36} \end{array} \quad \text{est} = 8$

815

U. Orionis

$\begin{array}{r} \text{p2r} \quad \text{9.86} \\ \text{v1g} \quad \text{10.08} \\ \hline \text{9.97} \end{array} \quad \text{est} = 10\frac{1}{2}$

S Urs. Minor

831

v=b'

v4a

est = 7 $\frac{1}{2}$ 

845

X X Ceto

r min.

field very bright

(26) (782)

Friday, February 13, 1903.

7<sup>00</sup> Clouds over whole sky.  
 8<sup>20</sup> S Canis Mm. M  
 $\begin{array}{r} l\ 3\ v \\ v\ 1\ f \end{array} \begin{array}{r} 8.36 \\ 8.37 \\ \hline 8.37 \end{array} \text{ est} = 8\frac{1}{2}$

8<sup>25</sup> R. Cancri  
 Field very bright from mm  
 $\begin{array}{r} 0\ 1\ v \\ v\ 2-3\ f \end{array} \begin{array}{r} 9.65 \\ 9.68 \\ \hline 9.66 \end{array} \text{ est} = 10\frac{1}{2}$   
 seeing poor.

8<sup>30</sup> S Ues. Inaj.  
 $\begin{array}{r} l\ 3\ v \\ v\ 2-3 \end{array} \begin{array}{r} d\ 5\ v \\ v\ 0-1 \end{array} \begin{array}{r} 8.02 \\ 7.91 \\ \hline 7.92 \end{array} \text{ est} = 8$

8<sup>32</sup> TT Ues. Mey.  
 $\begin{array}{r} v = l \\ v\ 3-4\ f \end{array} \begin{array}{r} 8.00 \\ 8.99 \\ \hline 8.00 \end{array} \text{ est} = 8$

8<sup>45</sup> R TT Ues.  
 $\begin{array}{r} a\ 5-6\ v \\ v\ 0-1\ b \end{array} \begin{array}{r} 5.85 \\ \hline \end{array} \text{ est} = 6$

9<sup>00</sup> R Camelop  
 $\begin{array}{r} b\ 3\ v \\ v\ 3\ c \end{array} \begin{array}{r} 8.75 \\ 8.72 \\ \hline 8.74 \end{array} \text{ est} = 8$   
 L.P.P. (12) (794)



Saturday, February 14, 1983

7 15

SS Cygni

e2v

v2-3 f

$$\begin{array}{r} 9.10 \\ 9.14 \\ \hline 9.12 \end{array}$$

est = 9 1/2

7 20

v Cygni

o1v

v2 f

$$\begin{array}{r} 10.92 \\ 11.08 \\ \hline 11.03 \end{array}$$

est = 11

7 30

U Cygni

b1v

v3 c

$$\begin{array}{r} 6.22 \\ 6.24 \\ \hline 6.26 \end{array}$$

est = 6 1/2

v very red

Field low but seeing good

7 33

S Cygni

v mris

o seen

$$\begin{array}{r} 12.5 \\ \hline \end{array}$$

R Ceti

v mris

f seen

$$\begin{array}{r} 11.6 \\ \hline \end{array}$$



Feb 14, 1903

8 05

R Lami

k 2 v

v 2 l

$$\begin{array}{r} 299 \\ 9.05 \\ \hline 202 \end{array}$$

est = 9

8 07

S Lami

n 2 v

v 10

$$\begin{array}{r} 10.08 \\ 10.16 \\ \hline 10.12 \end{array}$$

est = 10

8 15

R Lyncis

0 3 v

v 1 p

$$\begin{array}{r} 11.79 \\ 11.78 \\ \hline 11.78 \end{array}$$

est = 10 1/2

8 25

R Lami

v 10 v

n seen

12.6

V Cancri

8 31

star in pos. of e on Hapen  
is brighter than or and nearly  
equal to g

t 3 v

v ± n

$$\begin{array}{r} 12.63 \\ 12.76 \\ \hline 12.70 \end{array}$$

obs. containing  
objects all very ft.

8 35

R Lami

p 2 v

v 2 g

$$\begin{array}{r} 10.18 \\ 10.31 \\ \hline 10.24 \end{array}$$

est = 10 1/2

Feb. 14, 1903.

8 50

R Leonis

$$\begin{array}{r} 91v \\ v3r \end{array} \quad \begin{array}{r} A.31 \\ A.11 \\ \hline A.21 \end{array} \quad \text{est} = 8$$

8 52

R Comae  
Lorlor.

9 8 55

S Bootis

$$\begin{array}{r} d5v \\ v=e \end{array} \quad \begin{array}{r} 928v \\ 912v \\ \hline 920v \end{array} \quad \text{est} = 8\frac{1}{2}$$

9 00

R Draconis

$$\begin{array}{r} 02-3v \\ v2f \end{array} \quad \begin{array}{r} 1022v \\ 1139v \\ \hline 1130v \end{array} \quad \text{est} = 11$$

9 03

R Urs. Maj.

$$\begin{array}{r} 04-5v \\ v0-1f \end{array} \quad \begin{array}{r} 1033v \\ 1041v \\ \hline 1027v \end{array} \quad \text{est} = 10\frac{1}{2}$$

9 06

R Aurigae

$$\begin{array}{r} e2v \\ v2f \end{array} \quad \begin{array}{r} 2.36v \\ 2.62v \\ \hline 2.49v \end{array} \quad \text{est} = 8 \quad (26) (820)$$

9 15

R Can. Venat.

Moon up  
Field too poor to see the stars



Thursday, Feb. 19, 1923

Dome is ice bound.

Thermom.  $+5^{\circ}$

8:15 R Lornis

237

712

$\frac{A. 71}{P. 55}$   
 $\frac{P. 63}{}$

est =  $8\frac{1}{2}$

8:30

U Persei

237

70-1 b

est =  $8\frac{7}{2}$

The sequence marked in  
D.M. chart & Hagen seems  
like all right except k  
& l

l & k.

k is so near another star that  
it makes a poor comp. star.  
See if it can be omitted.

R. Trianguli

I can not touch the dome,  
so that further obs. are  
impossible.

(H) (224)

# #  
(1) (26)  
L.P.P.



Monday, February 23, 1903

6 50

V Cygni  
Field too low.

6 55

R Cass.

m3v

v2n

$\frac{9.10}{9.20}$   
 $\frac{9.15}{9.15}$

est = 9

7 05

S Cass

g1v

v3n

$\frac{11.97}{11.98}$   
 $\frac{11.99}{11.99}$

est = 12

7 15

U Persei

b1v

v4c

est = 8

a2b

b4c

c5d

d3-4e

e2f

f3g

g2h

h2h

Int. bet h and m seems to  
be too large, but it is hard to eat  
when the stars when the star is bright

February 23, 1983.

735 R. Inaiguli

a 3 v  
v 2 b 6" 57 est = 6

a 4 <sup>v</sup>  
v 2 b Funder

745

R. Tauri

Clouds covered up prior before  
obs. could be made  
var. brighter and near g.

803

R. Tauri

24-5 v  
v 1 g  $\frac{2.24}{2.06}$   
2.15 est = 8

805

S. Tauri

v = 0  
v 2 p  $\frac{10.26}{10.44}$   
10.35 est = 10

810

R. Eridani

b 3 v  
v 1-1 a est = 8, (fuzzy)



Feb 23, 1903.

825

X Ceti

var minor.

b 5a

a 6c

c 2d

d 4e

e 4f

Is e variable? It seems  
to be much brighter to night  
than formerly.

Other stars in this sep too  
faint to night. Field too.

845

U Orionis

0.4v

vzp

$$\begin{array}{r} 9.76 \\ 9.66 \\ \hline 9.71 \end{array}$$

est = 10 1/2

850

S Hydrae

m-m

v 3-4m

$$\begin{array}{r} 10.66 \\ 10.69 \\ \hline 10.68 \end{array}$$

est = 11

It is very hard to keep the light  
power up price in focus



February 23, 1953.

TT Hydrae

$$858 \quad \begin{array}{l} f2-3v \\ v-1-2g \end{array} \quad \begin{array}{r} 8.82 \\ 8.70 \\ \hline 8.76 \end{array} \quad \text{est} = 9\frac{1}{2}$$

X Virg

$$907 \quad \begin{array}{l} l3v \\ v1m \end{array} \quad \begin{array}{r} 11.12 \\ 11.06 \\ \hline 11.09 \end{array} \quad \text{est} = 10\frac{1}{2}$$

sunny poor

915 R Leonis

$$\begin{array}{l} t3v \\ v1m \end{array} \quad \begin{array}{r} 9.15 \\ 9.00 \\ \hline 9.02 \end{array} \quad \text{est} = 9\frac{1}{2}$$

930

R U Puppis

$$\begin{array}{l} d1v \\ v3a \end{array}$$

est = 8 $\frac{1}{2}$   
star reddish

945

d 4-5a

a 1 b

b 4 c

c 4 f

~~f 3 b~~

f c 3 g

g 1 2 f

f 3 e

Field rather hazy.

$$(20) (25) \quad \times (20 \ 106)$$

Wednesday, February 25, 1903

7 20

o Ceti

z 3 v

v 3 x

$\frac{6.97}{6.98}$   
 $\frac{6.98}{6.98}$

est =  $7\frac{1}{2}$

v very red.

7 40

W Eridani

~~ar~~

bra

a 5 c

c 4 d

d 3-4 d'

d' 5 f

f 4 e

~~de~~

was yrs.

h & h seen

8 10

T & Eridani

g 1 v

est = 10?

objects very faint  
field too hazy & cluttered  
other comp stars

Feb. 25, 1903.

825

T Laporis  
after hard work in deciphering the  
photographic chart, I think the  
following is correct.

v mrs.

b seen

k + l not seen

835

X Monoc.

d 6 v

83a

est = 8 7 1/2

855

V Canis Min

v mrs.

o seen

n > m

- Canis Min. +5° (797)

900

v = a

v 4-5 b

est = 8 1/2

R T Hydrus

910

~~a 4 v~~

a 2 v

b is too far

est = 8



Feb. 25, 1903.

9 35

W Cancer  
 I think the var. is unres.  
 A star is seen which is a  
 little brighter than photop. h.  
 but it does not appear to  
 be in exactly right position  
 for the var.  
 It may be comp. star m.

9 42

T Virg  
 L45  
 V1-2 m

$$\begin{array}{r} 10.46 \\ 10.47 \\ \hline 10.46 \end{array}$$

est = 10  
 Field hazy.

9 48

R Virg  
 q 1-2 m

$$\begin{array}{r} 10.74 \\ \hline 10.74 \end{array}$$

est = 10 1/2

Can not find Haper.  
 It is possible that star  
 obs. is not the var. but  
 star near not in DM.

9 55

Y Virg  
 r mfp.  
 0 seen

Feb. 25, 1903.

1003 U. Virg.  
 0.3 v  
 vzf  $\begin{array}{r} 10.32 \\ 10.24 \\ \hline 10.31 \end{array}$  est =  $10\frac{1}{2}$

1066 R. Bootis  
 0.2 e  $\underline{7.6^2}$  est = 8  
 a not on chart

1015 S. Coronae  
 e 2-3 v  $\underline{7.21}$  est =  $7\frac{1}{2}$   
 f not on chart

1025 S. Virg.  
 g virg.  
 p seen  $\underline{10.1}$   
 L. P. P.

(15) (867)  $\#$  (4)  $\#$  (112)



Monday, March 2, 1903

8 05

Clouds in s.w. so that I  
can not see any of these  
stars.

8 25

R Leonis

$$\begin{array}{r} 110.1v \\ vHw \\ \hline 9.03 \\ 2.74 \\ \hline 8.88 \end{array} \text{ est} = 9$$

8 30

R Lani

$$\begin{array}{r} 12.3v \\ 20.2g \\ \hline 8.04 \\ 7.26 \\ \hline 8.00 \end{array} \text{ est} = 9$$

8 33

S & Lani

$$\begin{array}{r} 01.2v \\ v=f \\ \hline 10.41 \\ 10.64 \\ \hline 10.52 \end{array} \text{ est} = 10 \frac{1}{2}$$

8 40

U Orionis

$$\begin{array}{r} 114v \\ v=0 \\ \hline 9.40 \\ 9.36 \\ \hline 9.38 \end{array} \text{ est} = 9 \frac{1}{2}$$



March 2, 1903.

850

T Cass

$$\begin{array}{r}
 n1v \quad 1062 \\
 v30 \quad 1072 \\
 \hline
 \quad \quad 1067
 \end{array}
 \quad \text{est} = 10$$

858

S Cass

$$\begin{array}{r}
 o2v \quad 1128 \\
 v1p \quad 1138 \\
 \hline
 \quad \quad 1133
 \end{array}
 \quad \text{est} = 11$$

900

S Pucci

$$\begin{array}{r}
 b3v \quad 8140 \\
 v1c \quad 822 \\
 \hline
 \quad \quad 834
 \end{array}
 \quad \text{est} = 8\frac{1}{2}$$

903

R Aurigae

$$\begin{array}{r}
 ex-5v \quad 861 \\
 v1f \quad 872 \\
 \hline
 \quad \quad 866
 \end{array}
 \quad \text{est} = 9$$

918

S Cass Min.

$$\begin{array}{r}
 exv \quad 846 \\
 v2f \quad 828 \\
 \hline
 \quad \quad 837
 \end{array}
 \quad \text{est} = 8$$

915

R Loris Min

$$\begin{array}{r}
 q2v \quad 1071 \\
 v0-12 \quad 1089 \\
 \hline
 \quad \quad 1080
 \end{array}
 \quad \text{est} = 10$$

March 3, 1903.

9 30

V Cancer

$$\begin{array}{r} t \text{ 1 } v \quad 12.43 \\ v \text{ 3 } u \quad \underline{12.46} \\ \quad \quad \underline{12.44} \end{array}$$
est =  $12\frac{1}{2}$ 

Var. so near comp. star  
 & that obs. is uncertain,

9 35

S Bootis

$$\begin{array}{r} d \text{ 2 } v \quad 8.98 \\ v \text{ 2-3 } v \quad \underline{8.87} \\ \quad \quad \underline{8.92} \end{array}$$
est =  $8\frac{1}{2}$ 

9 45

R Comae

$$\begin{array}{r} v \text{ unis.} \\ \text{seen} \end{array} \quad \underline{12.3}$$

9 50

R Can. Venab.

$$\begin{array}{r} s \text{ 2 } v \quad \underline{12.34} \\ t \text{ unis.} \end{array}$$
est =  $11\frac{1}{2}$ 

10 00

R Comae

$$\begin{array}{r} b \text{ 2 } v \quad 7.13 \\ v \text{ 3 } e \quad \underline{7.10} \\ \quad \quad \underline{7.12} \end{array}$$
est =  $7\frac{1}{2}$ 

V Virginis

var. unis.

n seen

10.8

Feb. 3, 1903.

10.20

S Serpentis  
Behind east dome

10.25

W Hercules

V Vires.

11.3

on screen

(27) (898) L.P.P.



Friday, March 6, 1903

715

R. Trianguli

M

a 2 v

r 4 b

5.6

est =  $5\frac{1}{2}$

Interval bet d & e is too  
large d' mislaid & marked  
in copy of D.M.

d b d'

d' & e

730

U. Persei

b 3 v

r 1 c

83

est = 8

(new copy of D.M.)

735

R. Arctis

var not seen

11.2

o seen

740

R. Cancri

p 2 v

r 2 q

10.13 v

10.01 v

10.07

est = 10

March 6, 1903

745

S Hydrae

$$\begin{array}{r}
 h\ 3\ v \\
 v\ 1-2\ h \\
 \hline
 \begin{array}{r}
 9.72 \\
 9.63 \\
 \hline
 9.68
 \end{array}
 \end{array}
 \text{est} = 9\frac{1}{2}$$

800

T Hydrae

$$\begin{array}{r}
 d\ 4-5\ v \\
 v\ 1\ c \\
 \hline
 \begin{array}{r}
 8.36 \\
 8.11 \\
 \hline
 8.24
 \end{array}
 \end{array}
 \text{est} = 8$$

803

R Leonis

$$\begin{array}{r}
 v = u \\
 v\ 4\ iv \\
 \hline
 \begin{array}{r}
 8.98 \\
 8.74 \\
 \hline
 8.86
 \end{array}
 \end{array}
 \text{est} = 9\frac{1}{2}$$

810

R Leonis Min

$$\begin{array}{r}
 v = 9 \\
 v\ 3\ r \\
 \hline
 \begin{array}{r}
 10.51 \\
 10.64 \\
 \hline
 10.58
 \end{array}
 \end{array}
 \text{est} = 10\frac{1}{2}$$

820

R Usc. Maj.

$$\begin{array}{r}
 9\ 2\ v \\
 v\ 1-2\ r \\
 \hline
 \begin{array}{r}
 11.22 \\
 11.33 \\
 \hline
 11.28
 \end{array}
 \end{array}
 \text{est} = 10\frac{1}{2}$$

Visitord.

910

S Usc. Maj.

$$\begin{array}{r}
 d\ 3\ v \\
 v\ 3\ c \\
 \hline
 \begin{array}{r}
 7.82 \\
 7.56 \\
 \hline
 7.69
 \end{array}
 \end{array}
 \text{est} = 7\frac{1}{2}$$

March 6, 1903  
 TT. Mrs. May

9 15

f3-4v  $\frac{p.69}{p.74}$   
 v1g  $\frac{p.72}{p.72}$

est =  $8\frac{1}{2}$

9 17

R Cancri  
 b5v  
 v1c

$\frac{p.95}{p.92}$   
 $\frac{p.94}{p.94}$

est = 9

9 20

S Cephei  
 c4v  
 b1d

$\frac{p.55}{p.54}$   
 $\frac{p.56}{p.56}$

est =  $8\frac{1}{2}$

(24) (9/8) (2 114)  
 LPP



Thursday, Mich, 12, 1903

M

720 U Puccei chart ©  
 $v = c$   
 $v \neq d$  est = 9  $\delta 5$

730 S Ues Mini  
 ~~$v = b$~~   
 $v \neq c$  est =  $8 \frac{1}{2}$   $\delta 1$

S Cass.  
 var. too fr. to compare  
 in such a hazy sky.

o Ceti  
 Too low.

738 R Aurigae  
 $g \neq v$   
 $g \neq 3 \neq$  est =  $9 \frac{1}{2}$   $\delta 2$   
 $\delta 2$   
 $\delta 2$   
 $\delta 2$

745 U Orionis  
 $h \neq v$   $\delta 2$   
 $v \neq m$   $\delta 2$  est = 10

Feb. 12, 1903.

S Can. Min.

c 2-35  $\frac{2.31}{2.10}$

v 37  $\frac{2.24}{2.10}$  est = 8 1/2

R. Cancri

Field near moon  
var. too fte. to compare in  
such a bright field

S Urs. Maji

c 45

v 1 d  $\frac{2.70}{2.42}$  est = 7 1/2

Urs. Maji

v = 9

v 4 h  $\frac{2.86}{2.80}$  est = 9

S Bortis

div

v 4 e

$\frac{2.88}{2.72}$

$\frac{2.80}{2.80}$

est = 9

Feb. 12, 1903,

825

S. Cephei

C 4 V

V 1 d  $\frac{8.55}{8.58}$

est = 8 1/2

The light of this star is such a peculiar shade of red that it is almost impossible to compare it with any other stars.

835

R. Camelopard.

C 6 V

V 1 C  $\frac{9.05}{8.92}$

est = 9

(20) (930) L.P.P.



Tuesday, March 17, 1903

715

T Cass  
 $\begin{array}{r} 0.44 \\ 11.47 \\ 11.32 \\ \hline 11.40 \end{array}$   $\begin{array}{r} 4.5v \\ v = p \end{array}$   $\begin{array}{r} 11.50 \\ 11.40 \\ \hline 11.50 \end{array}$  est = 11

725

S Cass.  
 $\begin{array}{r} 0.3v \\ v = p \end{array}$   $\begin{array}{r} 11.38 \\ 11.38 \\ \hline 11.38 \end{array}$  est = 10

735

S T Cass  
 $\begin{array}{r} 0.3v \\ v = c \end{array}$   $\begin{array}{r} 8.40 \\ 8.28 \\ \hline 8.32 \end{array}$  est = 8

740

R Cass  
 $\begin{array}{r} 9.50 \\ 9.68 \\ \hline 9.59 \end{array}$   $\begin{array}{r} v = 2-30 \\ v = 2-30 \end{array}$  est = 10  
 Hazy. Seeing very poor.

745

R Larr  
 $\begin{array}{r} 8.19 \\ 8.11 \\ \hline 8.15 \end{array}$   $\begin{array}{r} 8.4v \\ 8.0-12 \end{array}$  est = 8

748

S Larr  
 $\begin{array}{r} 10.74 \\ 10.94 \\ \hline 10.84 \end{array}$   $\begin{array}{r} p = 1v \\ p = 2g \end{array}$  est = 10

Feb. 17, 1903.

800 J Cancri  
 $\begin{array}{r} 12.14 \\ 11.93 \\ \hline 12.04 \end{array}$  est = 11

803 S Hydrae  
 $\begin{array}{r} 9.21 \\ 9.22 \\ \hline 9.22 \end{array}$  est = 9

810 T Hydrae  
 $\begin{array}{r} 7.03 \\ 7.76 \\ \hline 7.90 \end{array}$  est = 7 1/2

820 R Leonis Min  
 $\begin{array}{r} 11.04 \\ 11.30 \\ \hline 11.21 \end{array}$  est = 10 1/2

825 R Urs. Maj.  
 $\begin{array}{r} 12.22 \\ 12.33 \\ \hline 12.28 \end{array}$  est = 12

845 R Genes.  
 v. minor.  
 u seen 12.6

Nov. 17, 1903

9

S ~~R~~ Puppis

var. min.

photog. & spec.

Field too hazy to estimate  
sequence

915

R H Puppis

d3a

a2-b

b5c

c4f

g1-b e

c2f

f2g

d1v

v3a

est =  $8\frac{1}{2}$

Field too hazy for estimate  
of fainter stars to be  
very reliable



Nov. 17, 1903.

RT Hydrae

930

a' 2 v  
v 3 b

est = ~~7.2~~ 8

935

TT Virg

h 2 v

v 4 m

10.26  
10.22  
10.24

est = 10

very hazy.

945

W Cancri

var. nris.

h & b seen

I identif. carefully made and  
I think it is correct.

(28) (966) (7 121) L.P.P.

Thursday, Mch. 19, 1903

7 50 New Algol + 73° 53 3

v 3 a

S.O. trades Lt. Scale.  $a = +73^{\circ} 53 4$

7 55

U Persei

v = d  
v 5 e

est = 9

8

R Trianguli

c 0 - 1 v  
v 4 d

est = 6 1/2

X Ceti  
Loo low

8 20

X Monoc.

c 3 v

v 1 - 2 b

est = 9

8 30

v Canis Min

var mini

0 1 e

March 19, 1903,

$$845 + 5^{\circ} 1797 = 074305$$

$$v = 0-1 a \quad \text{est} = 8 \frac{1}{2}$$

858 R Aurigae  
 f 5 v  
 v 0-1 g

$$\text{est} = 9 \frac{9.32}{9.23} \underline{\underline{9.28}}$$

858 U Orionis

$$v = l$$

$$\frac{9.27}{9.38} \underline{\underline{9.32}}$$

$$v = 5 m \quad \text{est} = 9$$

9 R Lynce  
 v invis.  
 n seen

903 S Can Min

$$l 2 v$$

$$\frac{9.26}{9.23} \underline{\underline{9.24}}$$

$$v 2-3 f \quad \text{est} = 8$$

R Cancer

$$v = 9$$

$$\frac{10.21}{10.08} \underline{\underline{10.14}}$$

910

$$\cancel{v = 1 f}$$

$$v = 5 12$$

$$\text{est} = 11$$



Me 119, 1903,

920

R Leonis

41v

9.70

v-2-3 y

9.39

9.50

est = 9 1/2

923

R Comae

var. invis.

seen

δ S Bootis

δ 1 v

9.80

9.72

9.80

v-4 e

est = 9 1/2

925

R Camelopard.

α 2 v

9.22

9.05

9.14

v-4-5 d

est = 9 1/2

928

R Bootis

γ 3 v

8.77

8.68

8.72

v-1 h

est = 9

940

γ Virg.

var. invis.

seen

950

March 19, 1983.

1015

R Corvi

v-2 b

6.73

est =  $7\frac{1}{2}$

Specimen not very  
good in color.

1020

R Virg.

h-1 v

9.00

9.04

v-3 m

9.02

est =  $9\frac{1}{2}$

1022

U Virg.

g-4 v

9.12

9.08

v-1 h

9.00

est = 9

1035

New Alpha

+43° 53' 3"

14.5

b-3-4 v

Star about  $1\frac{1}{2}$  or 2 mag.  
fainter than obs. at 7:50  
Evidently passing through  
min

(30)/996 L.P.P.

Friday, March 20, 1903.

8 00

J Cass  
var. mrs

S l? seen

g. k. Am not sure  
N l? whether this  
is l or not.

8 10

— Aurum 23 50 48

a' 2 v

v 5 a est = 8 1/2

R Sextantis

8 20

a 5 v

v 3-4 d est = 8

a 5 a'

a' 3 d

d 3 b

b 1 c

c 4 f

f 2 g

g 3 e



Mich. 20, 1903

R Draconis

900

p 5 v

r 1 g

$$\begin{array}{r} 12.49 \\ 11.91 \\ \hline 12.20 \end{array}$$

est =  $12\frac{1}{2}$

902 ~~TTT~~ Virg.

l 2 v

r 3 m

$$\begin{array}{r} 10.26 \\ 10.32 \\ \hline 10.29 \end{array}$$

est = 10

907

r Virg.

l 2 v

r 4 m

$$\begin{array}{r} 10.04 \\ 9.85 \\ \hline 9.94 \end{array}$$

est = 18

n 2 m

915

S Virg.

r vis

t seen

11.6

920

m Hercules

k 1 v

r 2 l

$$\begin{array}{r} 9.89 \\ 10.02 \\ \hline 9.96 \end{array}$$

est =  $9\frac{1}{2}$

Mich. 20, 1903

9 30

R Hecc

var. not surely seen  
n seen 10.4

Shield loss

Other stars in Hercules to loss

9 35

TT Ues. May

h 3 v  $\frac{9.47}{9.65}$   
v 2 k  $\frac{9.56}{9.56}$  est =  $9\frac{1}{2}$

38

S Ues. May

d 3 v  $\frac{7.82}{7.71}$   
v 1-2 e  $\frac{7.76}{7.76}$  est =  $7\frac{1}{2}$

(16) (1012)

# (7) (120)

LP

Thursday, March 26, 1903

+73°533

740

.528  
+ .470  
+ .058

b3v

10.23

v2e

10.43  
10.33

e2-3d

R Androm

var. seen but field is  
too low to make estimates

800

R Cass

v=n

9.40

v50

9.43

9.42

est = 9 1/2

808

S Cass

m4v

10.76

v1m

10.68

10.72

est = 10 1/2

820

R Cancri

v=r

10.78

v4-5t

10.70

10.74

est = 10 1/2



March 26, 1953

831

V Cancri

13.7

$$\begin{array}{r} 12.24 \\ 12.17 \\ \hline 12.20 \end{array}$$

est = 12

840

R Comae

van mires

12.6

t seen

850

+730533

983

v1 b

$$\begin{array}{r} .576 \\ .470 \\ \hline +.106 \end{array}$$

a and a' are too bright  
are not sure of identity of  
a",  
var. looks brighter than  
it did at earlier obs.

9

R Can Ven

93v

$$\begin{array}{r} 11.48 \\ 11.54 \\ \hline 11.51 \end{array}$$

v1-22

notation marked in Hapn  
which is diff. from  
photo. enlargement

March 26, 1903.

907

V Virg.

k2r

9.48

9.64

v2c

9.56

est = 9

815

S Coronae

7.26

e3r

est = 8

from chart

830

R Coronae

e2r

8.80

8.75

v1m

8.77

est = 8 1/2

845

S Serpentis

v mris. 11.0

n seen

Field Corr

850

S Cephei

d3r

8.98

8.94

v1c

8.96

est = 9

(20 1032) L.P.D.

8 25

Sunday, March 29, 1903

Nova Lemmonium

d 0-1 r

A5

r 2-3

f

e → d

(2) (1034) L195 d



Tuesday, March 31, 1903

645

TT Eridani  
Too low. Can not be observed  
again this season.

725

X Ceti

~~Gamma~~

b 4-5 a

a 7 c too large but I can not find  
c 2-3 d a better star nearby

~~e + f not seen~~

d 4 β

β 5 e

e 5-6 f

fainter stars not  
seen

745

c 2 v

v 1 d

est = 9

I Leporis

or not seen

seen

Can not do anything with the  
comp. stars while the field is  
so low

March 31, 1903.

8 15

X Monre.

 $d 5 d^{*2}$  $d^2 2-3 a$  $a 3 c$  ~~$e 3 c'$~~  ~~$e 3 c'$~~  $b' f' e 2 4 e$  $e 2 f$  $f 3 h$  $h 3 g$  $g 2 f k$  $c 3 b$  $b 3 b'$  ~~$e 2 v$~~  ~~$v 1-2 c'$~~  $c 3 v$  $v 1-2 b$  $est = 8 \frac{1}{2}$

March 31, 1903

831

R U Puppis

x 6 d<sub>a</sub>

d 4 d

a 40-1 b

b 4 e

e 2 f

f 1 g

g 2-3 e

h 6 h

h 3-4 m

m 3 h

h 2-3 h

{ est e-h is uncertain  
due to too great distance  
bet. the stars.

x 5 v

v 1-2 d

est = 8 1/2

848

Nova Gemini

e 3 e

e 4-5 d

d 3-4 f

v = d

v 4 f

No redness noticed.  
Nova does not seem to differ  
from the comp. stars in color.



Feb. 31, 1903.

9

5 Pyridis

a 3 b 4 b

b 5 c

c 4 d

d 3 d'

d' 3-4 d<sup>2</sup>

d<sup>2</sup> 3 e

e 1 f

f 3 g

g 4 h

d' = e (Reel)  
d<sup>2</sup> = f "

k + l not seen

9 30

Var not seen distinctly.  
May be glimpsed but  
am not certain of ident.

9 50

R Virg.

74v

75g

796  
778  
787

est = 8

Mich. 31, 1903.

9 55 R Comae  
 $\begin{array}{r} h\ 3\ v \\ v\ 2\ k \\ \hline 8.23 \\ 8.08 \\ \hline 8.16 \end{array}$  est = 8

9 57 U Hercules  
 $\begin{array}{r} 0\ 2\ v \\ v\ 1-2\ f \\ \hline 9.16 \\ 9.14 \\ \hline 9.15 \end{array}$  est =  $9\frac{1}{2}$

10 00 S Serpentis  
 var. mires  
 R seen ~~12.16~~ 12.2

10 13 R Hercules  
 $\begin{array}{r} 0\ 3-4\ v \\ v\ 2\ f \\ \hline 10.05 \\ 11.18 \\ \hline 11.12 \end{array}$  est = 12

10 20 W Hercules  
 $\begin{array}{r} e\ 1\ v \\ v\ 3\ f \\ \hline 8.88 \\ 8.72 \\ \hline 8.80 \end{array}$  est = 9  
 (10)(1052) LPP.  
 (x 39 (167))

Friday, April 10, 1903

Proa Gem.

M + floating clouds

~~8~~  
740

d 4v

50-1 & f

est = 9

$$\begin{array}{r} 8.93 \\ 9.02 \\ \hline 8.96 \end{array}$$

R + S Tarn  
Looker

745

N. Davis in Finder

e 2v

v 4f

$$\begin{array}{r} 6.21 \\ 6.22 \\ \hline 6.22 \end{array}$$

est = 6.

55

S Cass

v = h

v 3-4 k

$$\begin{array}{r} 10.06 \\ 10.07 \\ 10.08 \\ \hline 10.07 \end{array}$$

est = 7.4

8

cloudy.

Stopped by clouds

(6) (1058)

L.P.P.



Saturday, April 11, 1903

7.30 All cloudy

7.50 Cloudy

Sunday, April 12, 1903

8 15

S Persei

M

b & 1-2 v

v 3 #c

$\frac{9.23}{\frac{8.08}{8.16}}$

est = 8

8 20

Ursæ Gem.

d 2 v

v #2 g

$\frac{9.67}{\frac{8.71}{8.69}}$

est = 8 3/4

Sky too bright to see fainter comp. stars.

L, g, o, only are seen of that group near the Ursa.

8 35

S Ues. Maj.

f 1 v

v 3 g

$\frac{9.60}{\frac{8.53}{8.56}}$

est = 8 1/2

TT Ues. Maj.

m 1-2 v

v 2 m

$\frac{10.90}{\frac{11.06}{10.98}}$

est = 10 1/2

8 38

R Aurigae

h 1 v

v 2 k

$\frac{9.22}{\frac{10.06}{9.94}}$

est = 9 1/2

8 50

April 12, 1983,

V. Cancri

907

$9.27 \pm$   
 $11.47 \pm$   
 $11.64 \pm$   
 $\underline{11.55}$

est = 11

73  
 Field very hazy.

913

S Booris

$9.22 \pm$   
 $9.27 \pm$   
 $\underline{9.24 \pm}$

est = 9

(14) (1072) LPP.



Friday, April 17, 1903

8 20 Nova Gen

g 1<sup>v</sup>  $\frac{9.01}{8.81}$   $\frac{8.91}{8.91}$  ext = 9

seeing poor

Region cloudy or hazy.

vis notation

Clouds floating around everything

8 30

S Canis Min.

e 3<sup>v</sup>  $\frac{8.36}{8.33}$   $\frac{8.32}{8.32}$  ext = 8  
v 1-2 f shy clear

8 35

R Cancri

s 2<sup>v</sup>  $\frac{10.98}{10.95}$   $\frac{10.96}{10.96}$  ext = 11  
v 2 t

V Cancri

8 38

p 3<sup>v</sup>  $\frac{11.14}{11.17}$   $\frac{11.16}{11.16}$  ext = 11  
v 1 g

S Hydrae

8 45

d 4-5<sup>v</sup>  $\frac{8.18}{8.20}$   $\frac{8.19}{8.19}$  ext = 17 1/2  
v 0-1 e

April 17, 1903.

90

TT Hydrae

b 2 v

v 2 c

$$\begin{array}{r} 7.62 \\ 2.53 \\ \hline 7.58 \end{array}$$

est =  $7\frac{1}{2}$ 

910

R Leonis min.

t 1 v

v 4 u

$$\begin{array}{r} 12.13 \\ 11.99 \\ \hline 12.06 \end{array}$$

est =  $11\frac{1}{2}$ 

912

R Leonis

q 2 v

v 1 y

$$\begin{array}{r} 9.80 \\ 9.54 \\ \hline 9.74 \end{array}$$

est =  $9\frac{1}{2}$ 

915

R Gem.

v 1 v 1 v

w seen

12.9

935

TT Virg.

m 4 v

v = n

$$\begin{array}{r} 11.02 \\ 11.06 \\ \hline 11.04 \end{array}$$

est =  $10\frac{1}{2}$ 

Can not find Haper. Am not  
sure of ident. as there is a star near

Star assumed to be near  
is reddish



April 17, 1903.

945

Y Virg  
r viris  
seen13.0

950

R Virg  
c 42  
vif
$$\begin{array}{r} 7.49 \\ 7.46 \\ \hline 7.48 \end{array}$$

est = 7

953

U Virg  
dost  
v o - 1 e
$$\begin{array}{r} A.33 \\ A.10 \\ \hline P.22 \end{array}$$

est = 7 1/2

958

V Virg  
g 2 v  
g 3 h
$$\begin{array}{r} A.89 \\ A.66 \\ \hline P.78 \end{array}$$

est = 8 1/2

1005

S Virg  
r viris12.1

u seen

1010

R Boatis  
g 2 v  
v H h
$$\begin{array}{r} 11.48 \\ 11.33 \\ \hline 11.40 \end{array}$$

est = 10



April 17, 1903.

1020 S Coronae  $\underline{\underline{7.52}}$   
 238  
 further check est =  $7\frac{1}{2}$

1023 S Librae  
 920  $\begin{array}{r} 883 \\ 867 \\ \hline 875 \end{array}$  est =  $8\frac{1}{2}$   
 182h  $\underline{\underline{8.75}}$

1033 S Serpentis  
 1220  $\begin{array}{r} 12.26 \\ 11.89 \\ \hline 12.08 \end{array}$  est = 11  
 042  $\underline{\underline{12.08}}$

(31)(1103) L.P.P.

Saturday, April 18, 1903

730

R. Tauri

k3v  
v3h

9.09  
8.95  
9.02

est = 10? Field line

732

S. Tauri

var, not seen

n seen

9.10.0

745

TT Cass.

p4v

q not seen

11.72

est = 11 1/2?

R. Cass.

TT line

755

Nova Gem.

h1v

v3h

9.27  
9.23  
9.25

est = 9

758

S. Cephei.

f3v

v1-2g

9.67  
9.69  
9.68

est = 9

April 18, 1903.

8 15

R Draconis

m 1 r

r 30

est =  $10 \frac{1}{2}$

$\frac{10.66}{10.67}$   
10.66

8 25

R Urs. Maj.

t 5 r

r = u

$\frac{13.03}{13.12}$   
13.08

est = 13

8 28

R Lynceis

var. minor

12 glimpsed

12.9

8 40

U Persei

l 2 r

r 2 f

est = 10

Sequence on Hagen

8 50

41 Virg

m 3 r

r 1 u

$\frac{10.92}{10.96}$   
10.94 est =  $10 \frac{1}{2}$

Var. correctly ident. last evening



April 18, 1903.

R Canum Venet

p1v

v3g

$$\begin{array}{r} 10.54 \\ 10.84 \\ \hline 10.72 \end{array}$$

est = 10 9/12

Rotation on Kappa used  
Which is the correct one?

R Cancellor

v = g

v 5th

$$\begin{array}{r} 10.80 \\ 10.72 \\ \hline 10.76 \end{array}$$

11.22

(to Hagen) assumed to  
be comp. star h, which  
is not marked on chart.

R Cygni

v = d

v4e

$$\begin{array}{r} 7.96 \\ 7.87 \\ \hline 7.92 \end{array}$$

est = 7 1/2

R Coronae

f1v

v4f

$$\begin{array}{r} 7.28 \\ 7.23 \\ \hline 7.26 \end{array}$$

est = 7 1/2

April 18, 1903.

920

R Herc.

v vivis.

s + r seen

130

n L n

U Herc.

↑ 23

p2r

9.49

9.46

r3q

9.48

est = 10

W Herculis

827

c2r

9.49

v1d

9.469.46

est = 8

S Herculis

830

o2r

10.26

v2p

10.3210.29

est = 9 1/2

T Herculis

835

p2r

11.17

r4q

11.2511.21

est = 11

840

S Cygni

v vivis

p seen

~~#2~~ 130

950

April 18, 1903

R Cygni  
var. iris.w o N

u + w glimpsed

12.4V Cygni  
Lorlon

(30) (1134) L.P.P.



Monday, April <sup>20</sup>~~19~~ 1903

803

Nova Gem

g<sup>2-3</sup>v  $\frac{9.16}{9.07}$  est = 9  
v-1 h  $\frac{9.12}{9.12}$

805

U Orionis

e 2 v  $\frac{6.21}{6.32}$  est = 6 1/2  
v o f  $\frac{6.26}{6.26}$   
Thinner

The dome can not be turned  
and thus are all the stars on the  
list that can be obs. in  
present position of dome.

905

Dome fixed

v Can Min  
var. stars.

a<sup>2</sup> seen  
ask. of photog. rep.  
a<sup>1</sup> midch. > 8

a<sup>1</sup> 7 a<sup>1</sup>  
a<sup>1</sup> 3-4 a<sup>2</sup>  
a<sup>2</sup> 5 a<sup>3</sup>  
a<sup>3</sup> 5 a<sup>4</sup>

a<sup>4</sup> 4 b

b 3 c

c 2 d

d 1-2 e

e 2 f m 3 m

f 3 g m 4 0

g 4 h p with

h = e

h 1 l

April 20, 1903

9.30

Mr Cancri

b 5 a  
 a 4 a'  
 a' 5-6 c  
 g + d  
 d 3-4 re  
 e 2 f  
 g 5 g  
 g + h  
 h 3 + b  
 k 3 l

k <sup>2</sup> r r  
 r 1 l

est = 13

m m h e m

10 00

Mr Cygni

v = d  
 v 4 e  $\frac{7.10}{7.37} - \frac{7.24}{7.24}$  est = 8 1/2

10 05

R S Cygni

21 v  
 h 3 e  $\frac{7.26}{7.87} - \frac{8.06}{8.06}$  est = 9  
 Lost

1008

April 20, 1983  
S Bortis

$$\begin{array}{r} e 4 v \\ v = f \end{array} \quad \begin{array}{r} 9.52 \\ 9.67 \\ \hline 9.60 \end{array} \quad \text{est} = 9$$

sky very clear,

1020

$$\begin{array}{r} V \text{ Cygni} \\ o 1 v \\ v = 3 f \end{array} \quad \begin{array}{r} 10.98 \\ 10.98 \\ \hline 10.98 \end{array} \quad \text{est} = 11$$

Low.

~~SS Cygni~~  
~~Too low~~

1030

$\chi$  Cygni  
var. not seen distinctly, perhaps  
flickered. Ident. diff. which  
field is so low  
seen 109

(14) (1140)

(24) (191)

L.P.P.



Tuesday, April 21, 1903

740

S Cass.

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

$$\begin{array}{r} 8.96 \\ 9.10 \\ \hline 9.03 \end{array}$$

est = 9

R Lrang.  
Two lfr

745

\* S Urs. May.

g<sup>5</sup>r  
v<sup>1</sup>h

$$\begin{array}{r} 9.00 \\ 9.22 \\ \hline 9.11 \end{array}$$

est = 9

†† Urs. May.

o<sup>5</sup>r

v<sup>1</sup>g

$$\begin{array}{r} 12.23 \\ 12.16 \\ \hline 12.20 \end{array}$$

est = 11 1/2

g<sup>3</sup>p

8

S Pucen

ob<sup>3</sup>r

v<sup>2</sup>e

$$\begin{array}{r} 8.40 \\ 8.18 \\ \hline 8.29 \end{array}$$

est = 8 1/2

810

R Aurigae

h<sup>1</sup>r

v<sup>4</sup>m

$$\begin{array}{r} 10.78 \\ 10.73 \\ \hline 10.76 \end{array}$$

est = 10 1/2

Clouds near

April 21, 1903.

8 40

074305. - Can Min

a 3v

v 2-3 b

ext = 9

I have not found any var.  
in this star.

8 50

RT Hydrae

Est. of photog. sequence.

a 5 a'

a' 7 b

b 2 d

d 2 c

c 5 e

e 4 f

e 3 h

h 4 g

g 1 k

k 3 m

m 2 l

l 2-3 n

n 50

l is near another star.

9 10

e 4 v

v 2 c

ext =  $9\frac{1}{2}$

April 21, 1903

9 15

S Urs. Min.

a 5 v

v 1 c

8.5

est =  $8\frac{1}{2}$

9 25

R Septentis

v = d

v 3 b

est =  $9\frac{1}{2}$

R T Virg.

9 30

Sequene

a much > b

b to d

d to e

v = b

v 5 c

est = 8

9 45

ζ Bootis

var. nivalis

f seen

I do not remember ever  
seeing this star



April 21, 1953.

10 v

R S Trig.

b 5 b'

b' 4 b<sup>2</sup>

b<sup>2</sup> 5 a

a 5 c

c 2 d e

e 4 d

d 6 d'

(d') d 4 5 f

f 5 g

g 3 h

h 2 k

18/2

d' 4 r

r 1 f

est = 10

(22) (1170) L.P.P.

\*<sub>26</sub> #7 (217)

Friday, April 24, 1903

7 45

of H<sub>2</sub>O<sub>2</sub>

Photographic sep: to faint.  
var. very red.

Cloud formed over sep: before  
stars were selected & obs. made

8

Cloudy

9

Too cloudy

Saturday, April 25, 1903

7 45

γ Hydrae

Photog. sequence of no use visually  
Chart (a)

22 v

v-4β

est = ~~8 1/2~~ 8

very red.

7 55

Nova Gem.

h 3 v

v-1 k

$$\begin{array}{r} 9.47 \\ 9.43 \\ \hline 9.45 \end{array}$$

est = 9 1/2

8 10

S Pyraidis

This star is low for Cambridge  
24 41. I have never seen  
the var.

Var. minor.

Est. of seq. in black ink.

a 4 b

b c c

c 4 d

other stars too faint to estimate  
but the order of the sequence  
is all right.



April 25, 1903.

$\gamma$  Canis Min.

$a_1 7-8 a_1'$

$a_1' 5-a_2$

$a_2 5-a_3$

$a_3 6-a_4$

$a_4 3-\gamma b$

$b 3 c$

$c 3-4 d$

$d = e$

$e 3 f$

$f 5 g$

$g 4-5 h$

$h 5 k$  ?  $k$  is very faint

$h 3 m$

$m 2 n$

$n 1 l$

0 too faint, if really seen.

840

var. minor.

$\delta$  Can. Min.

$e 5 v$

$v 0-1 f$

est.  $8\frac{1}{2}$

A 56  
A 57  
A 50

$\alpha$  Cancri

$v = t$

11.15

11.09

11.12

$v 4 m$

est.  $\approx 11\frac{1}{2}$

842

844

April 25, 1983.

855

V Cancer

n 5v

v0-10

10.11

10.19

10.15

est = 10

900

S Hydrae

d 2v

v 2e

7.93

A. 05

7.99

est = 8

905

T Hydrae

a 5-6 v

v 1b

7.47

2.32

7.15

est = 7 1/2

912

R Loris Imi

t 3v

v 2u

12.33

12.19

12.26

est = 12 1/2

920

R Loris

v = y

v 4-5 z

9.64

9.67

9.66

est = 9

930

T Virg

n 5v

v 10

11.56

11.32

11.44

est = 11

April 25, 1903.

9 35

R Virg.

e 2 r

v 3 f

$$\begin{array}{r} 7.29 \\ 7.26 \\ \hline 7.28 \end{array}$$

est = 7

U Virg.

v = e f

v 4-5 f

$$\begin{array}{r} 8.15 \\ 8.01 \\ \hline 8.08 \end{array}$$

est = 8

V Virg.

e 1 r

v 2 f

$$\begin{array}{r} 8.26 \\ 8.22 \\ \hline 8.24 \end{array}$$

est = 8 1/2

(26)

(1196)

(1A)

(235)



Monday, April 27, 1903

7 45

R Cass.

Too hrr.

No stars visible in or near field.

8 00

71 Cass.

Too hrr.

It barely seen

8 05

S Cass.

$z^{5-v}$   
 $v-1g$

est =  $9\frac{1}{2}$

$\begin{array}{r} \text{p. 88} \\ \text{p. 66} \\ \hline \text{p. 77} \end{array}$

~~Can.~~

$f_{1-2e}$

8 10

— Can. Min.

074305

a7b

b4c

c5d

a5-v

v1-2 b

est =  $8\frac{1}{2}$

I have never seen this star fainter than

8 15

R. H. Puppis

Region too hrr.

Can not identify

8 20

X Monoc

d3r

v2e

est =  $9\frac{1}{2}$ 

Low

RTT Hydra

c5r

v2e

v2 g h

est =  $9\frac{1}{2}$ 

8 30

Est. of sequence

a b a'

a'5b

b2-4d

d3e

c3e'

c'5e

e2h

x h2f

f = g

g3h

h4e

9 00

M. Cancri

var. in faint or seeing too  
hazy to identify



April 27, 1963.

9 20

R Comae

var. mis

s seen

12.3

9 23

R Can. Venat.

f 2v

v 3g

10.64

10.80

10.76

est = 10

Notation on Hagen used.

9 28

Nova Gem.

h 1-2v

v 4m

9.86

9.63

9.74

est = 9 3/4

9 38

R Camelop

~~h xv~~~~v 3h~~~~est = 11~~

h 3v

v 1-2 h

11.62

11.65

11.58

est = 12

on barely seen. I have never  
been sure of seeing this comp.  
star before

9 45

J Bootis

f 2v

v 2g

9.87

9.98

9.92

est = 9 1/2



9 50

April 27, 1903  
R Bootis

g 4v	11.68	est = 11 1/2
v 1v	11.63	
	<u>11.66</u>	

S Corvinae

9 10 00

h 1v	8.24	est = 8
	7.62	
v 2g	<u>7.93</u>	

h certainly looks higher than g. It may be due to position as h is below g.

10 15

S Serpentes

12.39
<u>12.20</u>
<u>12.30</u>

h 1v	est = 12 1/2
v 3t	

Obs. very uncertain  
Stars seen w. difficulty

R Draconis

10 20

10.76
<u>10.87</u>
<u>10.82</u>

h 2v

v 10

est = 10 1/2

h Herculis

10 25

9.59
<u>9.56</u>
<u>9.58</u>

p 3v

v 2g

est = 10

Apr. 27, 1903,

1030

W Hercules

 $r = c$  $r = 3d$ 

p. 39

p. 24

p. 32

est = 8

R oph.

1035

var. iris.

Field br.

k seen

87

(29) (1225)

L.P.P.

\*(14) (249)



Tuesday, April 28, 1903.

Nova Gem.

$$\begin{array}{r} L 2-3 v \\ v-1 m \end{array} \quad \begin{array}{r} 9.96 \\ 9.93 \\ \hline 9.94 \end{array} \quad \text{est} = 10$$

U Pucce

$$L 3 v \quad 105$$

v-1 g

est =  $10 \frac{1}{2}$   
 seeing very poor.  
 before work

S Ues. May.

$$\begin{array}{r} 9.62 \\ 9.64 \\ \hline 9.63 \end{array}$$

h 4 v  
v-1 k

$$\begin{array}{r} 9.54 \\ 9.54 \\ \hline 9.54 \end{array}$$

est = 9

T<sup>1</sup> Ues. May.

$$\begin{array}{r} 05 v \\ v = q \end{array} \quad \begin{array}{r} 12.23 \\ 12.26 \\ \hline 12.24 \end{array}$$

est = 12

S Pucce

h 4 v

v-1 c

$$\begin{array}{r} 8.50 \\ 8.33 \\ \hline 8.42 \end{array}$$

est =  $8 \frac{1}{2}$



April 28, 1903 -

R Aurigae

820

l3v

10.98

v1m

10.03  
11.00

est =  $10\frac{1}{2}$

T1 Cephei 6.48

830

r2d

est =  $7\frac{1}{2}$

S Cephei

~~r4v~~

840

f4v

9.77

r2g

9.66  
9.70

est = 10

Star strikingly red.

R Sextantis

~~a a'~~

~~a' b~~

~~b c~~

a'

There is too much diff. bet. stars  
a and a'. Another star should join  
This will be called a". It is  $> a'$

a b a'

a" b a'

a' b d

a b c

b 2c

c 5 f

f 2 e

e 3 g

e is very near the var

24

Apr. 28, 1903.

900

R. Septentis

 $v = d$  $v = 3-4b$ est =  $8\frac{1}{2}$ 

915

R. W. Librue  
Field corr.var =  $\epsilon$   
Seeing too poor in region to est.  
sequence.

W. Serpentinis

b 4 a

c no bin chart.

a & b probably much higher than var. even  
false

d 7-8 e

e 3 g

8 5 ~~f~~

2 h

th 7 k

k 5 l

l 5 m in very fr.

k ~~5~~ r

est = 12

v 1-2 l

945

April 28, 1903

955

RT Cygni

~~0.5 v~~  
~~7-1~~~~est~~b1 v  
v4 c

est = 7 1/2

10 00

S Hercules

0.4 v

v1 p

10.46  
10.42  
10.44

est = 11 1/2

10 05

TT Hercules

0.5 v

v0-1 p

10.90  
10.92  
10.91

est = 11

10 10

SS Cygni  
Looking yet.(26)(1251) L.D.D.  
(16) (265)



26

Wednesday, Apr. 29, 1903

750

U Camelop

 $v = c$  $v \neq d$ est =  $v$ 

Seeing very hazy.

810

V Leonis

 $h \neq v$  $v \neq k$ est =  $10 \frac{1}{2}$ ~~k not on chart~~ $k = l$ 

ast

b1-2c

c6d

d

c4d

e2d

d3f

Seeing very hazy and changing  
Will wait for better night to  
close up

Apr. 29, 1913

8 30

V Cancer

w 4-5 v

v = 0

$$\begin{array}{r} 1006 \\ 10.24 \\ \hline 10.15 \end{array}$$

est = 10 1/2

R W Virg

R X "

Est of. Signatures

c 5 d

d 5 a

a 3-4 b

b 3 e

e 3-4 f

f 6-7 h

h 6 g

g 3 h

h 4 l

l 4-5 m

R X Virg

f 5 v

v 2 g h

est = 9

L. P. P.

9 00

R W Virg.

b 3 v

v 2 e

est = 7 1/2

$$\begin{array}{r} 701660 \\ 100000 \\ \hline 601660 \end{array}$$

9 02



28

May 1  
~~April 29~~, 1903.

M

8 00

Nova Gem.

h 0-1 v

v 3 k

$$\begin{array}{r} 9.22 \\ 9.23 \\ \hline 9.22 \end{array}$$

Very near moon but obs. seems good.  
Nova undoubtedly for chatr  
at time of my last obs.

8 15

S Leonis

e 3-yr

v 1 f

est = 10

Seeing hazy

S Hydrae

8 20

d 1 v

v 4 e

$$\begin{array}{r} 7.83 \\ 7.85 \\ \hline 7.84 \end{array}$$

est = 8

8 25

W Hydrae

h 2 v

v 3 e

$$\begin{array}{r} 7.62 \\ 7.63 \\ \hline 7.62 \end{array}$$

est = 7 1/2

8

35

R Cancer

h 0 v

v 1 t

$$\begin{array}{r} 11.18 \\ 11.05 \\ \hline 11.12 \end{array}$$

est = 12



May 1, 1903

850

R Loris Min

l 5-6 v

v = u

12.58

12.39

12.48

est = 12 1/2

u + var very ft. in the moon  
light

855

R Loris

y 2 v

v 2 y

9.08

9.44

9.66

est = 9 1/2

Red color very noticeable in Nova

905

TT Virg

0 3-4 v

v 1 p

11.77

11.71

11.74

est = 12

908

R Corvi

l 3 v

v 1-2 f

8.57

8.51

8.54

est = 7 1/2

920

R Virg.

e 4 v

v 1 f

7.49

7.46

7.48

finder est = 7

May 1, 1903.

9 30

U Virg

e 1 v

r 4 f

$$\begin{array}{r} 7.26 \\ 7.08 \\ \hline 7.164 \end{array}$$

est = 8

9 35

U Virg

e 3 v

r 1 f

$$\begin{array}{r} 7.46 \\ 7.32 \\ \hline 7.39 \end{array}$$

est = 8 1/2

9 45

R Coronae

f 3 v

r 2 g

$$\begin{array}{r} 7.48 \\ 7.43 \\ \hline 7.46 \end{array}$$

est = 7 1/2

9 55

S Serpentes

e 3 v

r 1 s

$$\begin{array}{r} 12.36 \\ 12.19 \\ \hline 12.28 \end{array}$$

est = 11 1/2

10 00

R S Cygni

d 4 v

r 1 e

$$\begin{array}{r} 7.91 \\ 7.65 \\ \hline 7.72 \end{array}$$

est = 8 1/2

10 02

U Cygni

d 3-4 v

r 1 e

$$\begin{array}{r} 7.45 \\ 7.67 \\ \hline 7.56 \end{array}$$

est = 8 1/2

May 1, 1913.

1085 ✓ Cygnus

$$0.12 \quad \begin{array}{r} 10.98 \\ 1203 \\ \hline 11.00 \end{array} \quad \text{est} = 11$$

1010 S Librae

$$0.45 \quad \begin{array}{r} 2.48 \\ 2.39 \\ \hline 2.44 \end{array} \quad \text{est} = 9 \frac{1}{2}$$

1015 S S Cygnus

Field ident, but too low  
to see familiar stars —  
var not seen

g seen 9.7

(96)

(1297)

X (281)

L.P.P.



Saturday, May 2, 1903

Mora Gem.

M

k 2-3 v  $\begin{array}{r} 9.78 \\ 9.61 \\ \hline 9.70 \end{array}$   
r l

Seems hazy.

RTT Virg.

a' 5 v  
v 1 b

est = 8

a' 5 b  
b 4-5 d  
d 2 c

c - e too large

If the var. even felt as faint  
as c or less, additional  
stars will have to be selected.

8 3 v

RST Virg.

d 6 f

m 5-n

b' 6 b 2

b 2 5 a

a 5 c

c 3 e

e 4 d

d 3 d 2

d 2 4 d'

f 2 g

g 5 h

h 3 k

k 2 l

l 1 k

l = m

May 2, 1903.

900

R S V zig

v = h  
v - 3 - k

est = 9 1/2

R V Librae

v = a

v - 5 - b

est = 8 1/2

Seemg too poor in this region  
to obtain sequence

925

R U Librae

~~h = v~~  
~~v - 2 - g~~~~est =~~g, v  
f, v, f

h &gt; f

est = 10 1/2

940

R Hercules

v = iris

a seen

130

942

U Hercules

v = g

v - 4 - 5 - r

$$\begin{array}{r}
 976 \\
 991 \\
 \hline
 584
 \end{array}$$

est = 9 1/2

34

950

May 2, 1903.

H Hercules

$C = 2.37$   $A. 64$   
 $r = d$   $P. 54$   $est = 8\frac{1}{2}$   
 $P. 59$

$(14)$   $(1311)$   $R.P.P.$   
 $H (18)$   $(299)$



Wednesday, May 6, 1903

810

Mora Lem

M

k<sub>0</sub>-12

v<sub>3</sub> l

9.58

9.41

9.50

Very hazy + foggy

(2) (1313) R.P.P.

Friday, May 8, 1903.

M

800

Proa Lem.

h 1-2 r 9.86

v 4 m  $\frac{9.63}{9.74}$

est = 10

seeing very poor.

805

S Corona

h 5-6 r 8.69

v 0-1 k  $\frac{8.42}{8.56}$

est = 8 1/2

S Cass

f 2 r 8.58

v 3 g  $\frac{8.46}{8.52}$

est = 8 1/2

S Hydrae

c 5 r 7.69

v 1 d  $\frac{7.63}{7.66}$

est = 7 1/2

T Hydrae

v = b 7.42

v 5 e  $\frac{7.23}{7.32}$

est = 7 1/2

T Ceph

v = d 6.68

v 5 e  $\frac{6.62}{6.65}$

est = 7

May 8, 1903,

840

S Bootis

$\begin{array}{r} 10.70 \\ 10.72 \\ \hline 10.71 \end{array}$ 
 $\text{est} = 10 \frac{1}{2}$

(14) (1327)

L.P.D.



Saturday, May 9, 1903

m

8 7.55

Nova Gem  
 $\begin{array}{r} 9.83 \\ 9.66 \\ \hline 9.74 \end{array}$  h 3 v  
 vo-1 l est = 10

Seeing poor.

S Urs. Min.

8

c 4 v  
 v 1 d' est = 9

Photop. star d is not visible  
 with low power telescope  
 internal to layer bet. c & d,  
 therefore star marked d'  
 in Chart (a) is inserted

S Pueri

No stars seen in field

R Leonis

8 20

u 2 v  
 v 3 w  $\begin{array}{r} 9.18 \\ 9.84 \\ \hline 9.01 \end{array}$  est = 9 1/2

May 9, 1913.

830 R Can Ven

$$\begin{array}{r} mrv \\ v=0 \end{array} \begin{array}{r} 10.17 \\ 10.17 \\ \hline 10.17 \end{array}$$

$$est = 9\frac{1}{2} \text{ (near moon)}$$

840 R Draconis

$$\begin{array}{r} mrv \\ rin \end{array} \begin{array}{r} 10.36 \\ 10.46 \\ \hline 10.41 \end{array}$$

$$est = 10$$

845 W Herc

$$\begin{array}{r} dvr \\ v5e \end{array} \begin{array}{r} 8.64 \\ 8.24 \\ \hline 8.46 \end{array}$$

$$est = 8\frac{1}{2}$$

935 RTT Cygni

b3v

vie

$$est = 7\frac{1}{2}$$

938 RS Cygni

d3v

v2e

$$\begin{array}{r} 7.81 \\ 7.55 \\ \hline 7.68 \end{array}$$

$$est = 8\frac{1}{2}$$

940

U Cygni

d4v

vie

$$\begin{array}{r} 7.50 \\ 7.67 \\ \hline 7.58 \end{array}$$

$$est = 9$$

May 9, 1903

9.45

S. Cephei  
r - 1e  
r - 4f
$$\begin{array}{r} 9.00 \\ 0.97 \\ \hline 9.00 \end{array}$$

r very red.

(20) (1957)

L.P.P.



Monday, May 11, 1913

M  
=

8 00 Nova Gen.

l 2 v  $\frac{291}{273}$   
v 3 m  $\frac{282}{282}$  est = 1.8  
Seimp pool

8 15 W Cancer  
v invis  
photop. f seen  
h not seen

Photop. f = vis h

8 30 R Sextantis

d 1 v  
v 2 b (photop. sep.)  
est = 8 1/2

9 30 TT Herculis

v = m  $\frac{944}{942}$   
v 4 n  $\frac{943}{943}$

(6) 6363

R. J. J.

Tuesday, May 12, 1903

8 10

Nova Gem

lir

v 3 m

9.81  
9.73  
9.76

est = 10

8 12

S Persei

brr

v 2 c

8.31  
8.18  
8.24

est = 8 1/2

8 15

S Hydrae

r = c

v 5 f

8.25  
8.06  
8.16

est = 8 1/2

8 18

TT Hydrae

c 3 v

v 1 d

8.03  
7.81  
7.92

est = 8 1/2

8 35

R Urs. Maj.  
var. invis.  
t seen

12.6

mom up

8 40

V Cancri

l 3 v

v 1 m

9.44  
9.24  
9.34

est = 9 1/2

May 12, 1913.

845

R Cancri

v 3-4v

v 1 t

$$\text{est} = 12 \frac{11.13}{11.05} \underline{11.09}$$

850

R Aurigae

v = m

v 3 w

$$\frac{11.13}{11.12} \underline{11.16}$$

$$\text{est} = 11 \frac{1}{2}$$

855

S Cass.

f 1 v

v 3 g

$$\frac{8.48}{8.46} \underline{8.47}$$

$$\text{est} = 8 \frac{1}{2}$$

900

S Bootis

h 1 v

v 3 h

$$\frac{10.70}{10.62} \underline{10.76}$$

$$\text{est} = 10 \frac{1}{2}$$

903

R Draconis

v = m

v 4 m

$$\frac{10.36}{10.16} \underline{10.26}$$

$$\text{est} = 10$$

915

V Virg.

f 3-4 v

v 1 g

$$\frac{8.77}{8.49} \underline{8.63}$$

$$\text{est} = 8 \frac{1}{2}$$

near noon



9 20

May 12, 1953.

U Virg.

f2v  
f1g
$$\begin{array}{r} 2.66 \\ 2.62 \\ \hline 2.64 \end{array}$$
est =  $8\frac{1}{2}$ 

9 30

R Virg.

f1v  
f4g
$$\begin{array}{r} 2.66 \\ 2.48 \\ \hline 2.57 \end{array}$$

Snider

est = 7

SS Cygni

was not seen

seen 97

Fuller Wolcott for families  
states who visited

(26/1389) L.P.P.

Wednesday, May 13, 1903

800

U. Ominis

Finder

l 3 v  
r 2 f

est = 7 ?

6.31  
6.42  
6.36

810

Nova Gem

l 3 v  
r 1 m

10.01 v  
9.23 v  
9.29  
est = 10

812

S Can. Min.

l 3 v  
r 2 h

9.09  
9.07  
9.08 est = 9

820

V Can. Min.

No trace of the var.

l m, n, o seen distinctly also  
a star near p, but not exactly  
in position and which is probably  
the star originally marked  
p on the chart (photop).

25

074305. - Can. Min.

ax v  
r 1 b

est = 8 1/2



May 13, 1903.

840

R Cancri

l 3 v

v 3 m

est = 12 1/2

Seeing shifting.

l = photop. l  
m = " l

I think this is the very good  
not ~~photop. l~~ star m. I have  
never seen the latter star in  
the telescope

845

R Leonis min

v = u

$$\begin{array}{r} 12.39 \\ 12.40 \\ \hline 12.44 \end{array}$$
v 4<sup>3</sup> w

est = 13

852

R Urs. Maj.

u 3 v

v 2 w

$$\begin{array}{r} 13.42 \\ 13.30 \\ \hline 13.36 \end{array}$$

est = 13 or less

u & w are very faint  
The faint stars in region are  
very clearly identified to my eye



May 13, 1953.

910

R Camelopard  
 var. not seen  
 2 seen 10.9

Moon up  
Seeing porren.Seeing porren  
upfront

915

R Corvi  
 5 r  
 5 r

$$\begin{array}{r} 916 \\ 892 \\ \hline 24 \end{array}$$

est =  $8\frac{1}{2}$ 

918

R Lorn

v = 4  
 v = 3 y

$$\begin{array}{r} 960 \\ 930 \\ \hline 30 \end{array}$$

est = 9

930

S Serpantis

var not seen  
 2 seen

$$\begin{array}{r} 12.2 \end{array}$$

Near moon

940

Clouds forming

Cloudy all over

(20)(1409)

L.P.P.

950

S Urs. Maj.

4 r, v = m

$$\begin{array}{r} 10.65 \\ 10.57 \\ \hline 0.08 \end{array}$$

est = 11

Clouds near  
 but the upper seems  
 clear

Saturday, May 16, 1913

8 30

Too cloudy.

9 20

Seeing too poor to observe

Monday, May 18, 1953

805

Wova, Lem.

Too cloudy. No stars visible  
in immediate neighborhood.



Wednesday, May 20, 1903

8.10

R Corvi

$$\begin{array}{r} 9.25 \\ 9.28 \\ \hline 9.25 \end{array} \text{ est} = 9$$

8.15

S Comae

$$\begin{array}{r} 2.47 \\ 2.32 \\ \hline 2.40 \end{array} \text{ est} = 9$$

8.30

hoya Gem

$$\begin{array}{r} 9.57 \\ 9.48 \\ \hline 9.52 \end{array} \text{ est} = 9 \frac{1}{2}$$

8.45

W Cancri

Photog h (vis. <sup>h</sup> ~~h~~) 5 v.

Faintly comp. stars not certainly identified in the changeable ~~area~~ state of sky.

8.55

R Bootis

$$\begin{array}{r} 12.46 \\ 12.43 \\ \hline 12.44 \end{array} \text{ est} = 12$$

May 20, 1903

9 05

S Serpentis

g 4 v

12.15

v = 2

12.0612.19

est = 11 1/2

9 15

R Cor. Bor.

f 3 v 2.48 Frider

f to faint

9 20

U Herculis

g 3 v

10.06

v = 2

10.2610.16

est = 12

9 25

W Herculis

e 2 v

2.98

v 1 f

2.922.95

est = 8 1/2

9 35

S Herculis

e 1 v

11.42

v 2 f

11.5811.50

est = 11 1/2

9 50

T Herculis

f 4 v

8.50

v 0 - 1 g

8.348.42

est = 8 1/2



May 20, 1953.

10 08

S S Cygni

b3 vt  
v1 c

$$\begin{array}{r} 2.62 \\ 8.40 \\ \hline 8.51 \end{array}$$

est = 8

10 05

R Scuti  
var too low to compare  
with 1, and there are no  
brighter comp. stars on chart.

10 10

R S Cygni

d2 v  
v3 c

$$\begin{array}{r} 7.71 \\ 7.45 \\ \hline 7.58 \end{array}$$

est = 8

10 12

U Cygni

v = e  
v5 f

$$\begin{array}{r} * 7.77 \\ 7.86 \\ \hline 7.82 \end{array}$$

est = 8

very red.

10 25

V Cygni

o3 v  
v1 p

$$\begin{array}{r} 11.18 \\ 11.18 \\ \hline 11.18 \end{array}$$

est = 11



May 20, 1903

R Vulpec  
Looloor.

1030 S Librae

$$\begin{array}{r}
 83v \quad 8.714 \\
 wig \quad 253 \\
 \hline
 \quad \quad 8.644
 \end{array}
 \quad \text{est} = 8\frac{1}{2}$$

1035 R oph.

$$83v \quad \underline{14.86}?$$

Obs. uncertain. Stars very faint.  
 certainly seems

(31) (1440) LPP.

Thursday, May 21, 1903

8 00

S Persei  
Too low.

S Cass  
Cloud over region.

8 15

S Can. Min.

9 30  $\frac{9.09}{9.07}$   
v 2 h  $\frac{9.07}{9.08}$  est = 8 1/2

Seeing very poor.

8 18

V Cancri

9 20  $\frac{8.86}{8.76}$   
v 1-2 h  $\frac{8.76}{8.78}$  est = 8 1/2

Seeing good

8 25

R Cancri

9 25  $\frac{10.92}{10.95}$   
v 2 h  $\frac{10.95}{10.96}$  est = 11 1/2

8 30

Nova Gem.

9 30  $\frac{10.81}{9.93}$   
v 1 m  $\frac{9.93}{9.98}$  est = 10

(May 21, 1903.

832 S Hydrae  
 $v = e$   
 $v = 7$   $\frac{8.25}{8.06}$   
 $\frac{8.16}{8.01}$   $est = 8\frac{1}{2}$

835 T Hydrae  
 $d = v$   
 $v = 3 e$   $\frac{8.11}{7.91}$   
 $\frac{8.01}{8.01}$   $est = 8$

845 R Lyncis  
 var. Iris.  $\frac{12.5}{12.5}$   
 q seen Can not find Hagen

850 TT Virg.  
 $q = v$   
 $v = 4 r$   $\frac{12.22}{12.00}$   
 $\frac{12.11}{12.11}$   $est = 11\frac{1}{2}$

915 U Virg.  
 $v = h$   
 $v = 3 h$   $\frac{8.98}{8.91}$   
 $\frac{8.94}{8.94}$   $est = 9$

920 V Virg.  
 $q = v$   
 $v = 3 h$   $\frac{8.64}{8.66}$   
 $\frac{8.65}{8.65}$   $est = 9$



May 21, 1903.

9 30

R Lemic Min

$$\begin{array}{r}
 u \text{ } \overline{v} \\
 v \text{ } 3 \text{ } \overline{w} \\
 \hline
 12.59 \\
 12.48 \\
 \hline
 12.54
 \end{array}
 \text{ est} = 12\frac{1}{2}$$

9 40

R Ues. Maj

$$\begin{array}{r}
 t \text{ } \overline{4v} \\
 r \text{ } 1 \text{ } \overline{u} \\
 \hline
 12.93 \\
 13.02 \\
 \hline
 12.98
 \end{array}
 \text{ est} = 13\frac{1}{4}$$

9 42

S Ues. Maj

$$\begin{array}{r}
 m \text{ } 1 \text{ } \overline{v} \\
 r \text{ } 2-3 \text{ } \overline{u} \\
 \hline
 10.75 \\
 10.83 \\
 \hline
 10.79
 \end{array}
 \text{ est} = 11$$

9 47<sup>8</sup>

TT Ues. Maj

$$\begin{array}{r}
 12.5 \text{ } \overline{v} \\
 2 \text{ not seen} \\
 \hline
 12.88
 \end{array}
 \text{ est} = 13$$

10 15

R Corone

$$\begin{array}{r}
 e \text{ } \overline{4v} \\
 r \text{ } 2 \text{ } \overline{f} \\
 \hline
 7.12 \\
 6.99 \\
 \hline
 7.05
 \end{array}
 \text{ Telescope}$$

(FINDER)

7.25  
 The finder is so shaky I can not compare with e.

May 21, 1903.

10 38-

S S Cygn

C 0-1 v

v 4 d

8.55

8.20

8.38

(30.) (1470) LPP.

8 00

Friday, May 22, 1903U Persei  
Too low.8 35<sup>2</sup>R Sextantis  
div  
0.2 b(photog. sep.)  
est = 8 1/2 ?8 36<sup>2</sup>S Persei  
Cloud over region - Low

8 30

Nova Gem  
Too hazy. Can not see  
Nova clearly enough to  
make estimate. It is certainly  
fainter than L.

8 35

R Leonis

t 4v

v in

$$\begin{array}{r} 9.25 \\ 2.00 \\ \hline 9.06 \end{array}$$

est = 8 1/2

RT Hydrae

Too hazy or cloudy.



May 22, 1903.

845 R Aurigae  
var. not certainly seen  
or seen  
Air very musty.

850 Nova Gem  
No stars seen in field,  
The west seems hopeless to night.

900 R Virg.  
J 2 v  $\frac{2.02}{2.00}$   
to 2 h  $\frac{2.00}{2.00}$  est =  $8\frac{1}{2}$

930 R T Virg.  
x b 2 v  
v 3 e est = 8  
var. very red & obs. difficult.

a b a' b  
a' b b  
b 5 c  
c 2 d  
e w faint

May 22, 1983.

9 <sup>3</sup> 48RT Cygni  
dir  
v3e

ext = 8

9 40

RS Virg  
m3v  
v3n

9 45

RU Libae  
h2r  
k not seenI can not  
ext. the map  
seeing too poor  
variable barely seen

9 55.

SS Cygni  
c2v  
v1d
$$\begin{array}{r} 2.70 \\ 8.50 \\ \hline 11.20 \end{array}$$

seeing very poor

 15 (1485) LPP  
 (14 303)

Saturday, May 23, 1903

815 S Cass.  
 $v = l$   $\frac{2.05}{8.17}$   
 $v = f$   $\frac{8.12}{8.12}$   $est = 8\frac{1}{2}$

825 Nova Gem.  
 $l = v$   
 $v = 1 m$

$$\begin{array}{r} 10.03 \\ 9.94 \\ \hline 10.00 \end{array}$$

comp. star & not seen  
 while it appears to be  
 nearly equal to m.

835 R Camelopard.  
 $v = m$   
 $k$  seen  
 In trace of m seen

$$\frac{11.9}{11.9}$$

840 R Draconis  
 $k = v$   
 $v = l$   $\frac{9.70}{9.70}$   $est = 9$

842 TT Cephei  
 $l = v$   
 $v = f$   $\frac{7.52}{7.59}$   
 $\frac{7.56}{7.56}$   $est = 7\frac{1}{2}$



62

850

May 23, 1903.

S Cephæi.

$$\begin{array}{r} 2v \\ r 2g \end{array} \quad \begin{array}{r} 9.57 \\ 9.64 \\ \hline 9.60 \end{array} \quad \text{est} = 9\frac{1}{2}$$

v very red,

900

R Aurigæ

$$\begin{array}{r} n 3v \\ r 10 \end{array} \quad \begin{array}{r} 11.78 \\ 11.83 \\ \hline 11.80 \end{array} \quad \text{est} = 10$$

910

R Cameri

$$\begin{array}{r} k 5v \\ r = h \end{array}$$

(vis. sep.)

$$\begin{array}{l} k = h \text{ (photog.)} \\ l = k \text{ " } \end{array}$$

915

$$\begin{array}{r} R 2 V_{\text{reg}} \\ v = h \\ v 5g \end{array}$$

est = 9

(photog. sep.)

R m Virg.

Really both for the 6"  
Should be obs with field glass

May 23, 1903.

9 3 V Z Booth's

No trace of the var  
I have never seen this star  
(to my recollection)

by thought. the barely visible  
to very plainly seen  
(Photop. seq.)

R & <sup>v</sup> Libran

Photop. seq.

a b

b c

c d

d

e d

d f

f g

g h

a 1 v

v 4 h

est = 9

10 20

May 23, 1903.

2 oph  
 Phobos, seyr

a 7 b  
 b 6 c  
 c 1-2 d

~~e~~ 1 d

d 6 f

f 3 h

h 1 g

g 4 h

k 2 m

m = l

m & l are near together &  
 the telescope does not separate  
 them well enough to estimate  
 with certainty.

k 2 v

v 1 l

est 1 1/2



May 23, 1953.

10 23

S S Cygni

div

A.70

S.70

v2e

S.70

est = 9

R oph.

10 35

r 4v

11.96

11.89

v1e

11.92

est = 13

10 45

U Serpentis

n 2v

v = 12 1/2 or 13

10 55

R Herc.

v vives

t seen

13.4

(25)

(15 10)

(H  
47)

(320)

L.P.D.

Monday, May 25, 1903

808

V Cancri

f 4 v

v 1 g

est = 8  
 Sky rather bright  
 Twilight strong

2.63

4.56

7.60

812

S Hydrae

d 5 v

v 1 e

2.23

4.26

6.22

est = 8

815

TT Hydrae

d 3 v

v 1 e

2.21

2.11

4.16

est = 8 1/2

830

Mira Gem

l 2 v

v 1 m

9.91

9.93

9.92

est = 10

840

RTT Hydrae

~~at~~

c 3 v

v 3 e

est =

Seeing very poor  
 field low

May 25, 1903.

850 R Sextantis

Exam of photog. comp. star etc  
e certainly > g  
e 3 g

V Virg

v-h

v-2k

$$\begin{array}{r} 2.96 \\ 2.02 \\ \hline 2.02 \end{array}$$

est = 9

912 RTT Virg  
b4v  
v3d

est = 8

9 <sup>15</sup>~~20~~ R S Virg.  
m3v  
v1n

est = 18

930 S Yrs. Min.  
~~1.2~~

K

d1.2v  
v2dchart (a)  
est = 18



May 25, 1903

9 40

TT Hercules

C5 v

v2 e

$$\begin{array}{r} 7.67 \\ 7.62 \\ \hline 7.64 \end{array}$$

est = 7 1/2

d much less than e

g 2 d

d 1 h

$$\begin{array}{r} 2.59 \\ 2.59 \\ \hline 2.59 \end{array}$$

9 45

SS Cygni

h v

v2 h

$$\begin{array}{r} 10.08 \\ 10.23 \\ \hline 10.16 \end{array}$$

est = 9 1/2

(22)

(1532)

(#3)

(323)

L.P.D.

Tuesday, May 26, 1903

810

R Can. Ven,

h3v  
v1k  $\begin{array}{r} 9.23 \\ 9.03 \\ \hline 9.13 \end{array}$  est =  $8\frac{1}{2}$

8.20-40

W Cancri

Final seq. estimated

a4b

b2-3c

c5d

d7<sup>3</sup>e

e4f

f2g

g5h

h5k

i too faint. not seen

84

k1-2v

l n. s.

845

Wra Gem.

l3v

o0-1m

est = 18

$\begin{array}{r} 10.01 \\ 9.98 \\ \hline 10.00 \end{array}$

Seeing very good

May 26, 1903.

8-50

2 Bortis

a = d  
d 2 f c

~~d~~  
c 0 - 1 b

~~e 4~~  
b 4 e

e 3 g

f 1 f

g 3 h

h 2 k

k 5 l

l 3 m

n not seen

M here of the var.



May 26, 1913

R S Librae

B 24

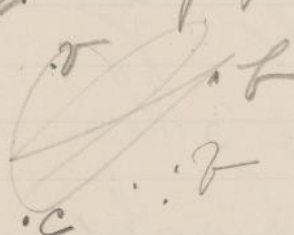
B25473 comp. stars  
ident.

925

a b c  
 c 4 b  
 b 7 d  
 d 2 e  
 e 5 f  
 f 3 g  
 h n s

I think the star obs. for f  
 was the right one. A.P.C. May 27/13

Ident. of f is uncertain



b 2 v  
 v 4 d  
 est = 8 1/2

v b  
 a

931

R Uis May.

u 2 v  
 u not seen

13. 32

est = 13

May 26, 1913

945 R U Librae

b4a

a6c

c3d

d3f

f1e

e3g

g3h

h2k

k3l

k2r

r1l

est = 12

955

S S Cygni

k4r

r1l

$$\begin{array}{r} 10.83 \\ 10.92 \\ \hline 10.88 \end{array}$$
est = 10  $\frac{1}{2}$ 

$$\begin{array}{c} (3) \\ \#(33) \end{array}$$

$$\begin{array}{c} (1545) \\ \#(306) \end{array}$$

L.P.P.

Monday, June 1, 1903

8 25 Nova Gem.  
Can not identify field.

8 30 W Cancer  
Sky too bright & field near  
moon ~~is~~ Can not see  
var. or faint comp. stars.

8 35 V Cancer  
C 3 v  $\frac{2.10}{2.23}$   
v 2 f  $\frac{2.06}{2.06}$  est = 8

Cloud near, but obs. appears  
to be good.

Clouds forming rapidly.

9 10 IT Hercules  
C 3 v  $\frac{2.47}{2.52}$   
v 3 e  $\frac{2.50}{2.50}$  est =  $7\frac{1}{2}$

Comp. star "d"

g 3 v  $\frac{2.69}{2.52}$   
for h  $\frac{2.64}{2.64}$  est =  $8\frac{1}{2}$  9

Could the br. star south of  
"d" be comp. star "d" mentioned  
in the one marked?



June 1, 1903.

9 15

Fair  
Cloud over again

9 20

N. S. S. S.  
Too cloudy

9 30

all cloudy

(6) (1551) L.P.P.  
(#) (356)

Tuesday, June 2, 1903

MM

815

Nova Gem.

sky too bright.

825

Y Vng.  
too near moon  
to be seen

830

T Hercules

C3V

7.47

23-42

7.47

7.47

8

star "d"

g3d  
jd 1h

2.69

2.59

2.64

840

Nova Gem.

Can not identify field.  
Probably impossible to observe  
the nova again this season

845

S Corona

k2V

v1-22

est = 9

2.67

2.62

2.64

9 00

June 2, 1903.  
R S Librae

a 3 c  
c 4 b  
d to faint  
b 3 v

Seeing poor

U Serpentis  
non vis.  
seen.  
the to be with moon light  
D est. sequence.

9 25

U Herculis

$r = 2$

$r 4 s$

$$\begin{array}{r} 10.06 \\ 10.46 \\ \hline 10.42 \end{array}$$

est =  $10\frac{1}{2}$

9 28

R Draconis

$r 1 v$

$r 2 h$

$$\begin{array}{r} 8.66 \\ 8.86 \\ \hline 8.76 \end{array}$$

est = 9



June 2, 1903.

9.45 S Herc.  
 s hr  
 to not seen  $\text{est} = 12\frac{1}{2}$  12.18

9.50 M Herculis  
 h 2v  
 v 2h  $\frac{9.69}{9.59} \text{est} = 9\frac{1}{2}$   
9.64

Seeing poor.

(14) (1565) LPP  
 (2) (358)

Saturday, June 13, 1903

815

R Corvi  
Twilight mounting.

830

TT Hercules

$$\begin{array}{r} C \overset{2}{\cancel{4}} v \\ v 4 e \end{array} \quad \begin{array}{r} 7.37 \\ \underline{7.42} \\ 7.46 \end{array} \quad \text{est} = 7\frac{1}{2}$$

$$\begin{array}{r} h 1-2 \overset{d}{\cancel{x}} \\ d \cancel{x} 2 k \end{array} \quad \begin{array}{r} 8.79 \\ \underline{8.74} \\ 8.76 \end{array} \quad \text{est} = 9\frac{1}{2}$$

S Herculis

840

$$\begin{array}{r} d 5 v \\ v 1 t \end{array} \quad \begin{array}{r} 12.28 \\ \underline{12.32} \\ 12.33 \end{array} \quad \text{est} = 13$$

R Corvi

$$\begin{array}{r} \cancel{2} \cancel{x} \\ v \cancel{1} \cancel{k} \end{array} \quad \text{est} = 10$$

$$\begin{array}{r} h 1 v \\ v 2 e \end{array} \quad \begin{array}{r} 9.62 \\ \underline{9.66} \\ 9.67 \end{array} \quad \text{Field Corv}$$

R Lums

$$\begin{array}{r} p 4 v \\ v 1 q \end{array} \quad \begin{array}{r} 8.42 \\ \underline{8.11} \\ 8.26 \end{array} \quad \text{est} = 9$$

850

June 13, 1903.

855

R Leone min.

scr

root ext = 12 1/2

$$\begin{array}{r} 11.98 \\ 11.98 \\ \hline 11.88 \end{array}$$

901

R Urs May

t 3 r

v 1 u

ext = 13

$$\begin{array}{r} 12.03 \\ 13.02 \\ \hline 12.99 \end{array}$$

903

R Lynce's  
var. iris.  
p seen12.0

905

R Aurigae

Too low. No stars seen

910

R Comae

q 2 r

v 1 u

$$\begin{array}{r} 11.58 \\ 11.66 \\ \hline 11.62 \end{array}$$

ext = 11

920

R Virg.  
var. iris.  
p seen11.9

930

Y Virg.  
m 3 r

v 1 u

ext = 11

$$\begin{array}{r} 10.94 \\ 10.72 \\ \hline 10.71 \\ 10.68 \end{array}$$



June 13, 1903.

R Virg.

9 40

$$\begin{array}{r} n \ 2 \ v \\ r \ 10 \end{array} \quad \begin{array}{r} 9.82 \\ 9.79 \\ \hline 9.80 \end{array} \quad \text{est} = 10$$

9 45

U Virg.

$$\begin{array}{r} n \ 2 \ v \\ r \ 20 \end{array} \quad \begin{array}{r} 9.70 \\ 9.80 \\ \hline 9.79 \end{array} \quad \text{est} = 10 \frac{1}{2}$$

9 48

$$\begin{array}{r} v \ \text{Virg} \\ l \ 3 \ v \\ r \ 1 \ m \end{array}$$

$$\begin{array}{r} 10.14 \\ 10.15 \\ \hline 10.14 \end{array} \quad \text{est} = 9 \frac{1}{2}$$

9 59

S Virg.

$$\begin{array}{r} t \ 2 \ v \\ n \ \text{not seen} \end{array} \quad \begin{array}{r} 11.72 \\ \hline \end{array} \quad \text{est} = 13$$

S Virg. May:

10 10

$$\begin{array}{r} n \ 3 \ v \\ r \ 0-10 \end{array} \quad \begin{array}{r} 11.38 \\ 11.53 \\ \hline 11.46 \end{array} \quad \text{est} = 12 \frac{1}{2}$$

TT Virg. May:

10 15

$$\begin{array}{r} r \ \text{not seen} \\ p \ \text{seen} \end{array} \quad \begin{array}{r} 12.2 \\ \hline \end{array}$$

June 13, 1903.

1020

U Herc.

h 42  
v 22

$$\begin{array}{r} 10.76 \\ 10.88 \\ \hline 10.82 \end{array}$$

est =  $10\frac{1}{2}$ 

See my poss.  
moon up.

1025

R Draconis

d 12

v 42

$$\begin{array}{r} 7.76 \\ 7.62 \\ \hline 7.69 \end{array}$$

est = 8

1035

R Can. Venat.

f 32

v 19

est =  $8\frac{1}{2}$ 

$$\begin{array}{r} 8.76 \\ 8.54 \\ \hline 8.65 \end{array}$$

1040

T Cephei

h 22

v 19

$$\begin{array}{r} 8.32 \\ 8.08 \\ \hline 8.20 \end{array}$$

h 79

# 60 (1600)  
— (300)

L. J. J.



Tuesday, September 22, 1903

730

R Can Venat

f1v

v4g

P. 56

P. 24

P. 140

est =  $8\frac{1}{2}$

733

S Bootis

80-1v

8v 3 L

10.23

10.30

10.26

est =  $10\frac{1}{2}$

740

R Cymelop

9.60

9.67

9.64

1v-2e

~~7.76~~

~~7.87~~

~~7.82~~

est =  $9\frac{1}{2}$

750

R Bootis

21v 7.00

est =  $7\frac{1}{2}$

Hazy,

758

S Serpenti

h3v

v1e

9.90

9.98

9.98

est = 10

810

S Coronae

95xv

1v0-1v

11.59

11.70

11.68

est = 12



Sept. 22, 1923

815 R Herc.  
var. minor.  
seen 13.0

831 W Herc.  
var. minor.  
seen 12.1

833 W Herc.  
var. minor.  
seen 12.5

840 S Herc.  
 $\begin{array}{r} 2.3v \\ 2.1l \\ \hline 2.0A \\ 2.05v \\ \hline 2.06 \end{array}$ 
 est =  $9\frac{1}{2}$  10

845 R Drac.  
 $\begin{array}{r} 0.2v \\ 0.2p \\ \hline 11.17 \\ 11.39 \\ \hline 11.28 \end{array}$ 
 est = 12

855 T Herc.  
var. minor.  
seen 13.1

R Scuti  
Too bright

Sept. 22, 1913

9.20

R Sagittarii  
4 2 v 12.34v is so near u that comp  
is very difficult

9.23

S Sag.  
var. minor  
4 seen 12.2

9.30

R Cygni  
v = 0  
v 4 p9.62  
9.62  
9.62 est = 10

9.35

2 Cygni  
u 1 v  
v 2 w9.11  
9.08  
9.10est = 10  $\frac{1}{2}$ 

(20)(1620)



Wednesday, Sept. 23, 1903

7<sup>20</sup>  
+5

R. Oph.

Too cloudy.

Seeing too poor in west.

7<sup>15</sup> -  $\pi$  X Audum  
can not see  
a glimpse.

Seeing very poor

7<sup>18</sup>  $\pi$  Cass.

7<sup>30</sup>

orig

$\frac{247}{246}$   
 $\frac{246}{246}$

est =  $8\frac{1}{2}$

7-20- 8:30  
intervals  
too poor.

Sky examined at  
and seeing always

(2) (1622)

L.P.P.



Thursday, Sept. 24, 1903

720

R Ophiuchi

$$\begin{array}{r} m3v \\ v10 \end{array} \begin{array}{r} 10.12 \\ 10.10 \\ \hline 10.11 \end{array} \text{est} = 10$$

725

S Serpenti.

$$\begin{array}{r} k2v \\ v1c \end{array} \begin{array}{r} 9.98 \\ 9.98 \\ \hline 9.98 \end{array} \text{est} = 10$$

735

R Usc. Maj.

$$v1-2g \quad 7.56 \quad \text{est} = 8$$

740

TT Usc. Maj.

$$\begin{array}{r} 20-1v \\ v5g \end{array} \begin{array}{r} 2.39 \\ 2.34 \\ \hline 2.36 \end{array} \text{est} = 8$$

742

S Usc. Maj.

$$\begin{array}{r} e3v \\ v2f \end{array} \begin{array}{r} 2.26 \\ 2.30 \\ \hline 2.28 \end{array} \text{est} = 8$$

745

R Delphin

$$\begin{array}{r} k2v \\ v1c \end{array} \begin{array}{r} 9.71 \\ 9.71 \\ \hline 9.71 \end{array} \text{est} = 10$$

Sept. 24, 1903

755

T Aquarii

d 3 v

11.32

v 1 t

11.42

11.37

est = 11

805

R Vulpec.

var. much  $< m$   
 Can not find Hagen. Is there  
 one?

810

S Cephei

c 2 v

A. 35

A. 3 P

P. 36

v 3 d

est. 8

v very red

820

S Aquarii

n 2 v

988

v 1 d

994

991

est = 10 1/2

825

R Pegasi

h 4 v

A. 85

A. 70

P. 74

v = h

est = 9



Sept 24, 1923

840

S Pegasi

$$\begin{array}{r}
 u 0-1 v \quad 12.54 \\
 v 4 w \quad \underline{12.54} \\
 \quad \quad \underline{12.54}
 \end{array}
 \text{ est} = 12\frac{1}{2}$$

845

S Cass

$$\begin{array}{r}
 h 3 v \quad 9.50 \\
 v 1-2 h \quad \underline{9.63} \\
 \quad \quad \underline{9.56}
 \end{array}
 \text{ est} = 10$$

905

R Androm  
var. iris.

$$2 \text{ seen} \quad \underline{13.4}$$

910

S Ceti

$$\begin{array}{r}
 h 3 v \quad 8.50 \\
 v 1 f \quad \underline{8.42} \\
 \quad \quad \underline{8.46}
 \end{array}
 \text{ est} = 8\frac{1}{2}$$

912

R Piscium

$$\begin{array}{r}
 h 0-1 v \quad 9.00 \\
 v 2-3 h \quad \underline{9.00} \\
 \quad \quad \underline{9.00}
 \end{array}
 \text{ est} = 9$$

925

R Arctis

$$\begin{array}{r}
 h 3 v \quad 12.62 \\
 v 1-2 h \quad \underline{12.72} \\
 \quad \quad \underline{12.67}
 \end{array}
 \text{ est} = 13$$



Sept 24, 1903

2830

S Persei

div

v 2 e

~~8.88~~

p. 78

p. 62

p. 73

est = 9 1/2

o Ceti

933

70-1 v

v 4 8

p. 63

p. 42

p. 52

est = 8

Low

940

S Cygni

10.76

div

Reject this as h was  
not the comp. star.

g is too bright to compare

Look up ident. of h.

942

R S Cygni

H

03 v

v 1 d

7.55

7.417.42

est = 7 1/2

950

u Cygni

h 4 v

v 0-1 h

9.91

9.739.82

est = 10

LPP

(3A1660)

Friday, Sept. 25, 1913

7 15

Y Cass  
Z<sup>3</sup> v  
v<sup>3</sup> e

photog. sep.  
est = 9 1/2

7 40

- Androm 2 350 45

a<sup>3</sup> v  
v<sup>3</sup> & c.

est = 9 1/2

8 05

S Lacertae

a' 3 v  
v 2 a

est = 9 1/2

8 10

U Puceri

a 4 v

v 1 b

est = 9

(C)

Final not

8 20

R Lyncis

Z 4 v

v 0-1 f

est = 9 Final not



Sept. 25, 1903

8 30

X Aquarii

var. minor.

k sim, also, L, f -

I think I have never seen this star.

8 45

R TT Cygni

f, v

v 4 g

est = 9

8 55

R Aquarii

n 2 v

r 10

1001

10.04

1002

est = 10 1/2

Seeing very hazy

9 10

Z Aquarii

k 3 v

v 1 c

est = 9 1/2

k & c are comp. stars  
for R Aquarii

9 20

- Aquarii

a 2 v

r 1 c

210714

est = 8

photog. eq.



Sept. 25, 1913

9 35

R S Cap.

a 2 v

v 4 d'

est = 9

9 40

V Delphin

var. probably imm.

h

d

a

v?

hyaline

Very faint star in pos  
marked w? but  
it is not in  
right place  
of the chart is

correct. Look up on  
photog. plate

9 45

V Pegasi

a 3 v

v 1-2 b

photog. seg.

est = 8

L. M. P.

9 50

M Aquarii

d a v

est = 11

a too faint. Observe spectrum

(23)  
(1683)

Saturday, Sept. 26, 1903

*M*

730

T Androm.  
var. vivis  
u glimfcerl

U Serpentes

(Near moon  
about 1<sup>st</sup> quarter)

b6a

c off edge of chart.

a5d

d-e to large

e5g

f4f

g3-4h

h3k

k5l

l3m

m2n

*h*  
*f*  
*g*

810

h4v

v2k

est.



194

Sept. 26, 1913

8.20

S Ues. Min.

 $r = e$  $r + f$ est =  $9\frac{1}{2}$ 

8.35

R S Aquilae

var. invis

b seen.

Z ophiuchi

a - b too large

b - c

c + d

d - e

e - f too large

9.00

Seeing too poor in region to  
est. fainter comp. stars

c - 2 r

v - 2 d

est =  $8\frac{1}{2}$ 

9.05

R Aurigae

v invis.

b seen



Sept. 26, 1903

R Lyncis

~~208~~

6.49

a 2 r

6.75

r 3-4 b

est =

6.82

7/2

W Aquarii  
Est. of photog. sequence<sup>3</sup>  
a ~~4~~ a'a' 5 a<sup>2</sup>a<sup>2</sup> 5 a<sup>3</sup> ~~e~~~~c b~~a<sup>3</sup> 2-3 c ~~ff~~

c 2-3 b

b 2 d

d - e trifurcate.

I can select fainter stars but  
have no means of identifying them  
as the photog. chart does not  
show the ft. stars clearly.

V Cygni  
var. stars.  
+ sem

Sept. 26, 1903.

g. 45

R T Capricorn

very very red, and brighter  
than the brightest stars of the  
photographic sequence. Ask  
whether another seq. shall be  
selected.

A

1691

A

18

A

(376)

L.P.P.



Monday, Sept. 28, 1903

m

7 20

S S Cygni

n 1 r  
r 3 0

11.42  
11.47  
11.44

est = 10 1/2

7 40

S Lacertae

a' 4-5 a

a 5 b b' (marked on Hagn)

b' 4 b

b 6 c

c 4 d

d 1 e

e 3 f

f rather fh. in the  
(moonlight)

a' 4 r

r 1 a

est = 8 1/2

8

V Pegasi

a 6 b

b 5 c

c 2-3 d

d 6 e

e 5 f

f 2 g

f d 3 d'

d' 4 e

e 4 f

f 1 g

g 3 h

h 4 k

k 3 l



Sept. 28, 1903

8 20

V Regani

a 3 v

v 2 b

est = 8.

8 25 -

V Delphini

Cloud formed over region.

Clouds —

(6) (1627)

\* (17) (393)

L. R. R

Tuesday, Sept. 29, 1913

M

7 45 X Aquilae  
mag. 11.0  
seen.

Field very near moon. So near to  
get good est. of sequence.  
The visual order of the photop.  
Seq. is

a — large  
c  
d — large  
e  
f  
g  
h

Sequence has been changed  
so this order is out of order  
as the check is unmarked.  
A. J. C. Dec. 12, 1913.

810

S Ues. Imin

b 3 a

a 2 c

c 3 c'

c 3 d'

d' 6 d

d 3 e

r = d

r 3 e

d' is darker

est. 9



830

Sept. 29, 1903.  
S Cygni
$$\begin{array}{r} k3v \\ v0-1 \end{array} \begin{array}{r} 11.38 \\ 11.31 \\ \hline 11.34 \end{array} \text{ est} = 10\frac{1}{2}$$

Had Ident. of "from memory" a few even-  
mings ago was entirely wrong, hence  
that obs. should be upstaken

833

$$\begin{array}{r} S \text{ Ceti} \\ e1v \\ v3f \end{array} \begin{array}{r} 8.30 \\ 8.22 \\ \hline 8.26 \end{array} \text{ est} = 8$$

840

$$\begin{array}{r} S \text{ Urs. Maj.} \\ e3v \\ v3-4 \end{array} \begin{array}{r} 8.16 \\ 8.15 \\ \hline 8.16 \end{array} \text{ est} = 8$$

843

$$\begin{array}{r} T1 \text{ Urs. Maj.} \\ e2v \\ v1f \end{array} \begin{array}{r} 8.20 \\ 8.20 \\ \hline 8.22 \end{array} \text{ est} = 8$$

848

$$\begin{array}{r} R \text{ Cygni} \\ q2v \\ v2M \end{array} \begin{array}{r} 7.96 \\ 7.91 \\ \hline 7.94 \end{array} \text{ est} = 8$$



Sept. 29, 1953.

850

R Ues. May. est = 8

7.41 r 3 f f motion chart.

855

T Cephei

m 2 v 9.25v 3 m 9.22 est = 9 1/2

9

S Bootis

f 2 v 9.27v 2 f 9.22 est = 9

Hazy.

805

R Camelopard.

c 3 v 9.32v 1-2 d 9.35 9.34 est = 8

(19) (1716) L P P  
(6) (399)

202

Wednesday, Sept. 30, 1903

8 00

R Vulpec

M

var. mris.

+ rem.

11.9

8 03

TT Cass

e 2 r

r 2 f

est = 8

$$\begin{array}{r} 2.07 \\ 7.97 \\ \hline 2.02 \end{array}$$

8 15

S Cass.

h 4 r

v r k

$$\begin{array}{r} 9.60 \\ 9.68 \\ \hline 9.64 \end{array}$$

est = 10

8 20

S Pusi

d 1 r

r 3-4 e

$$\begin{array}{r} 2.78 \\ 2.53 \\ \hline 2.66 \end{array}$$

est = 9

8 25

Clouds forming

8 30

clouds over whole sky.

9 00

R Ceti

e 3 r

v o - 1 f

$$\begin{array}{r} 2.55 \\ 2.37 \\ \hline 2.46 \end{array}$$

est = 8

(2) (1724)

obs. very uncertain  
direct clouds



Sunday, Oct. 13, 1903

8.20

Sky partly covered with clouds.

St. Bort's

Clouds covered again before field was identified.

8.50

T Androm,

Sky clear.

W 4 v

12.98

4 not seen

9.00

R Androm,

var. iris.

2 seen,

13.4

No trace of the var.

TT Cass.

9.05

f 1 v

W 4 g

f. 27

0.16

0.22

very red &

difficult to compare

est. 8 1/2



Oct 13, 1903.

915

S Ceti

e 2 r

r 2 f

$$\begin{array}{r} 9.40 \\ 9.32 \\ \hline 9.36 \end{array}$$

est = 8

Fuld hazy.

920

S Cass.

k 2 r

r 0-1 l

$$\begin{array}{r} 9.98 \\ 10.01 \\ \hline 10.00 \end{array}$$

Is this the star where  
l has sometimes appeared > k.  
k is certainly brighter to-night.

930

R Piscium

n 1 r

r 20

$$\begin{array}{r} 9.92 \\ 10.00 \\ \hline 9.96 \end{array}$$

est = 9 1/2

935

R Arctis

g 3 r

r 2 r

$$\begin{array}{r} 12.20 \\ 12.12 \\ \hline 12.16 \end{array}$$

est = 11 1/2

938

S Ceti

S 3 r

r 2 z

$$\begin{array}{r} 9.12 \\ 8.99 \\ \hline 9.06 \end{array}$$

Seemg poor in this repin

Oct 13, 1903,

R &amp; S Tauri

9 45

Both wires sunny poor.  
 o barely glimpsed, 10.4

R Lyncis

9 50

air 6.79  
 v4b 6.70  
6.74 est =  $7\frac{1}{2}$

S S Cygni

10

n3v 11.62  
 v0-1 o 11.72  
11.67 est = 11

S Cygni

10 10

o4v 12.83  
 p not seen est =  $12\frac{1}{2}$

R S Cygni

10 12

c2v 7.45  
 v3d 7.21  
7.33 est =  $7\frac{1}{2}$

U Cygni

10 15

var much < d m not on  
 Chart & can not find 1 day in  
 (20) (20) L. J. P.



Wednesday, Oct. 15, 1903.

Sky very hazy + cloudy.

725

S Persei

$$\begin{array}{r} 73v \quad 9.37 \\ v2f \quad 9.33 \\ \hline 9.35 \end{array} \text{ est} = 9 \frac{1}{2}$$

730

R Ues. Maj.

$$\begin{array}{r} 84v \quad 8.11 \\ v=h \quad 8.18 \\ \hline 8.14 \end{array} \text{ est} = 8$$

X Cygni

740

$$\begin{array}{r} h1v \quad 5.83 \\ v4k \quad 5.69 \\ \hline 5.76 \end{array} \text{ est} = 7$$

Sky very poor, obs. uncertain

904

S Cephei

Seeing better

$$\begin{array}{r} d1v \quad 8.78 \\ v3e \quad 8.74 \\ \hline 8.76 \end{array} \text{ est} = 8$$

very red

907

TT Cephei

$$\begin{array}{r} m1v \quad 9.75 \\ v4n \quad 9.70 \\ \hline 9.72 \end{array} \text{ est} = 10$$



Oct 15, 1903

920 U Cygni

Chart (a)

$$\begin{array}{r}
 n 17 \quad 10.26 \\
 v 30 \quad 10.19 \\
 \hline
 10.22
 \end{array}
 \quad \text{est} = 11$$

l 2 m  
 m 3-4 n  
 n 40

Seeing fair

930 R Vulpec.  
 var. not seen  
 l seen 9.6

Seeing poor  
again

938 V Cygni  
 var. iris 11.8  
 g seen

(12) (32) est. Vars.

(3) (3) est. Corof #.

L.N.P.

Monday, Oct. 19, 1913

630

R Bootis

832  $\frac{A.74}{P.58}$  P.66 est = 8

635-

S Coronae

var. mis.

seen

11.9

40

S Serpentis

n 3-4 v

v 1 0

11.26

11.14

11.20

est = 12

obs. difficult, field too

6450

R Herculis

042

v 1 p

est = 12

11.10

11.20

11.19

653

S S Cygni

C1v

v 3 d

A.60

P.30

P.45

est = 8



Oct. 19, 1983

708

U Hercules  
var. iris.  
unflashed  
taken steadily.

705

W Hercules  
var. iris.  $\frac{1}{2}$  s?  $\frac{1}{2}$  d. c  
n seen? seen  
Hafun found  
"Hafun got in place."  
"ident. from memory."

710

R Can. Penab  
L3v  $\frac{9.49}{9.44}$  est=10  
v1-2 m  $\frac{9.46}{9.46}$   
Field very low.

715

S Hercules  
L4v  $\frac{9.49}{9.31}$  est=8 1/2  
v=h  $\frac{9.40}{9.40}$

720

T Hercules  
04v  $\frac{10.80}{10.72}$  est=10 1/2  
v0-1 p  $\frac{10.86}{10.86}$



Oct 19, 1903

7 25

R Draconis

Either invis. or very ft.  
Can not find H<sub>2</sub>.

7

R Scuti

Too light for obs. with this glass  
much > f.

7 35

R Sagittarii

t 4 v

11.56

11.32

v 2 u

11.44

obs diff. v a o  
u are to close

7 38

S Sagittarii

not seen

u seen

11.6

7 45

R Cygni

k 3 v

A. 33

A. 15

v 2 l

A. 24

est = 8 1/2

7 50

R Delphinus

g 2 v

A. 98

A. 95

v 2 h

A. 96

est = 9

800

Oct 19, 1903  
 TT Aquarii  
 var. minor 11.6  
 to seen

803

S Ues. May  
 d 3v  $\begin{array}{r} 7.83 \\ 2.66 \\ \hline 7.74 \end{array}$  est = 8  
 v 2e

805

TT Ues. May  
 f 1v  $\begin{array}{r} 8.44 \\ 2.54 \\ \hline 8.19 \end{array}$  est = 8 1/2  
 v 3g

810

S Borté  
 v = e  $\begin{array}{r} 9.12 \\ 2.22 \\ \hline 9.17 \end{array}$  est = 9 1/2  
 v 4-5f

812

R Camelop  
 b 5v  $\begin{array}{r} 8.95 \\ 8.92 \\ \hline 8.94 \end{array}$  est = 8 1/2  
 v 1c

816

S Cygni  
 m 3v  $\begin{array}{r} 12.45 \\ 12.43 \\ \hline 12.44 \end{array}$  est = 12  
 v = 0



212

838

Oct. 19, 1913.  
S ~~3~~ Aquarii

$$\begin{array}{r}
 r = 9 \\
 r = 3h \\
 \hline
 \begin{array}{r}
 10.66 \\
 10.76 \\
 \hline
 10.61
 \end{array}
 \end{array}
 \text{ est} = 10$$

840

R Pegasi

$$\begin{array}{r}
 m = 3v \\
 r = 20 \\
 \hline
 \begin{array}{r}
 9.94 \\
 9.63 \\
 \hline
 9.78
 \end{array}
 \end{array}
 \text{ est} = 10$$

900

R Draconis  
Hagen found  
var. minor.  
p seen

907

S Pegasi

$$\begin{array}{r}
 p = 3v \\
 r = 0-1 q \\
 \hline
 \begin{array}{r}
 10.89 \\
 10.96 \\
 \hline
 10.92
 \end{array}
 \end{array}
 \text{ est} = 10 \frac{1}{2}$$

910

R Aquarii

$$\begin{array}{r}
 m = 4v \\
 r = n \\
 \hline
 \begin{array}{r}
 9.90 \\
 9.81 \\
 \hline
 9.86
 \end{array}
 \end{array}
 \text{ est} = 9 \frac{1}{2}$$



Oct. 19, 1903

915

Z Apnarini

b1v

r3c

est = 9 1/2

Is compared w. R Apnarini spectrum  
I make Z Apnarini

l3v

r1m

but these stars are  
a long way off & the obs. seems  
uncertain

920

R Ceti

h1v

r2-3h

est = 9

$$\begin{array}{r} 9.07 \\ 9.17 \\ \hline 9.12 \end{array}$$

925

U Ceti

b1v

r2l

$$\begin{array}{r} 9.21 \\ 9.23 \\ \hline 9.22 \end{array}$$

est = 9

field low

930

R Lyncis

arr

r4b

$$\begin{array}{r} 6.89 \\ 6.70 \\ \hline 6.80 \end{array}$$

est = 6

Oct. 19, 1903.

940

R Trianguli

d 5 r  
r 1 c

est = 7

Final exp.

945

U Persei

b 3 r  
r 1 c

est = 9

chart (C)

948

X Ceti

C 1 r  
r 2 d

est = 9

vis. sequence which is  
the same as photop. for stars  
C & d

1000

PP V Pegasi

C 1 r  
r 4 d

est = 8 1/2

(54) (26)



Tuesday, Oct. 20, 1903

6 50

S S Cygni

C 4 v

v i d

$\begin{array}{r} 2.90 \\ 2.50 \\ \hline 2.70 \end{array}$

est =  $8\frac{1}{2}$

7 00

U. Serpenti

S<sup>3</sup> v  
S<sup>2</sup> z f

(phot. seq.)

est =  $9\frac{1}{2}$

b 5 a

a 4 c

c 4 d

d 3-4 e

e 6 g

The field is too near  
the cluster proper for  
further obs.

7 20

S Lacertae

a<sup>2</sup>  $\frac{4}{3}$  v

v 1-2 a'

a' the brightest star hitherto selected  
is not bright enough, so a'' is selected  
and marked on ~~Herschel's~~ ~~position chart~~ <sup>(R)</sup>



Oct. 20, 1903.  
Est. of sequence of *S. Lacertae*

$a \sim 5a'$   
 $a'$

Field is too high

8 00 *f. Carr*

$v = c$   
 $v = d$   
 $f = 2v$   
 $v = 4c$

$est = 9\frac{1}{2}$

photog. sep.

$c, d, \& f,$  are not very  
much apart in brightness.  
There is no need of all of  
them in the sequence

$a \sim 4b'$   
 $b \sim 3b$

Oct. 20, 1983

820 RS - Andromeda, 235048.

b'3 v  
v1a est = 89Very little if any var. found  
in this star.  
Starred.825 R Delphinus  
var. v1s  
No trace of any stars in position  
given in the photog. chart.  
f seen distinctly.830 X Aquarius  
var. v1s  
h, & k easily seen840 W Aquarius  
d6v  
v1e est = 12  
This var. appears to be always  
too faint to be obs. with this telescope



218

Oct 20, 1903.

8  
9 50R S Aquilae  
var. iris.  
h seen

9 00

X Aquilae

~~var. iris~~ var. probably iris  
h seen.

Est. of photog. sequence

a - c rather large

c 6 b'  
b 2 b  
b 1 d

d 3 e

e 2 f

f - g to faint

9 20

R 71 Cygni  
c 3 v  
v 3 d

est. 8



Oct. 20, 1983

219

9 30 U Orionis  
 var. not seen  
 of seen

(14) (100) Vars.  
 (12) (15) Conf.\*













1902phae.proj..782C