

KG
11366
v. 723

Double Stars.

J. L. Fairbanks; Stationer, 135 Washington Street, Boston.

W XIV 1063

Journals. Description
of N. D. woods
Companion fellows.
Dist. between the two flats
= $\frac{1}{8}$ of the large plain
or = the dia of small π

Journal of the
P. H. Wilson
1895
Sept. 1st to Oct. 1st
at the Cape of Good Hope
South Africa

ξ Bootis.

18 40	14 44 0	+2.75	14 45 12
	+19 46.1	-15.13	19 39.6
7"	320°		3.5 6.5

Binary. Orbit by Sir. J. Herschel in 1833.

44 Bootis

14 59 23

+ 48 10.6

4" 240°

5 6

Probably binary, with orbit much inclined
or eccentric.

η Coronae Bor.

15 17 40 30 46.5

0" ? 6 6.5

Binary. Orbit by Villarceau Conn. des
Temps 1852

Orbit by Madler referred to by Winnecke

A N 967 ~~Orbit by W~~

μ^2 Bootis

15 19 27

37 49.1

1" 300°

8 8.5

Probably binary, but needs examination.

γ Coronae Bor.

15 37 7 . +26 .43.3
0" ? . ? ?

51 ξ Librae.

15 57 1

-11 0.1

AB 1" 80°

4.5 5 7.5

AC 7" 68°

Orbit AN vol 50

σ Coronae Bor.

16 9 40 . +.34 12.0

2" 195° . 6 6.5

λ Ophiuchi

16 24 10

+ 2 16:8

1" 20°

4 6

ζ Herculis

16 36 15

+ 31 50.6

2"

?

Binary.

36 *Ophiuchi*

17 7 5 — 26 23.5

5" 200° 4.5 6.5

Common proper motion with 30
Scorpii 3'.1 53^s

τ Ophiuchi

17 55 47

- 8 10.6

1" 250° .

5 6

70 ophiuchi

17 58 40

+2 32.5

7" 100°

4.5 7

Binary. Orbit by Bessel

ξ Ursae Majoris

11	11	2	+ 32	17.3
?	2"	.	4	5 1/2

ζ Aquarii

22 21 53

- 0 42

330° 3"

4 4 1/2

61' Cygni

21 0 44

+ 38 4.1

16" 120°
~~100~~

5.5 6

4 Aquarii

20 44 20

- 6 7.5

0" 50°

6 8

η Cassiopeae

0 40 56

+ 57

6.4

110° 10"

4

7½

μ Draconis

17 2 34

+ 54 39.0

3" 195°

4 4½

v Leonis

11 16 56

2" 80°

11 ¹⁶~~33~~·3

4 7½

37 Pegasi

22 23 12

+ 3 45.2

1" 140°

6 7 1/2

γ Virginis

12 34 53

- 0 42.9

2" 2

4 4

P XIII 127

13 27 27

+ 0 22.3

2" 70°

8 9

♄ Canceri

Orbit

Orbit by Winnecke A N 967

α Centauri

α Geminorum

Orbit by Thiele N 1227

w Leonis

orbits by Klinkerfues.

42, Comae Beren.

Orbits

ξ Bootis

44 Bootis

σ Coronae

210 Herculis

51 3 1

Stars of Madler
not in Sonnyth

Σ 1879

1 Coronae

P XV 74

Σ 2026

167 Hercules

- 210 Hercules

- Σ 2173

452 Hercules

Σ 2402

Σ 2455

Σ 2514

Σ 2708

Σ 2760

- Σ 2847

Σ 3037

Σ 2318 18 20.0 +25 57 8.0 10.2 20"6

Σ 2306 14.5 -15 9 triple 7.2 7.9 12"8

315 Hercules 17 34.8 +29 18 7.5 9.9 10"4

167 " 16 46.2 +28 52 6.5 8.0 1"1



$$\sin(h'' - h) = \sin(v'' - v) \sec b \sec b''$$

$$\frac{\sin(h'' - h) \cdot \sec b}{\sin(v'' - v) \sec b''} = \sec^2 b \cos i$$

$$= \sec b$$

- P XX 452 20 57 18 38 59 7 11 ^{14"} ~~29~~ 297°
 — 61' Cygni 21 0 44 38 4.1 5 1/2 6 16" 100°
 P XXI 51 21 8 23 +59 26.1 6 1/2 7 1/2 1" 225°
 β Aquarii 21 24 29 -6 9.7 3 15 25" 320
 P XXI 248 21 34 48 +56 53.1 (••) ^{inverted}
 — κ Pegasi 21 38 34 +25 1.8 4 13 ^{moving?} 12 310°
 29 Aquarii 21 55 6 -17 36.5 6 8 4" 240°
 P XXII 11 22 4 4 +58 38.3 (•)
 41 Aquarii 22 6 54 -21 44.4 6 8 1/2 5 119
 — 33 Pegasi 22 17 13 +20 10.2 6 1/2 10 3 170°
 ζ Aquarii 22 21 55 -0 43.3
 — 37 Pegasi 22 23 12 +3 45.2 6 7 1/2 1 120
 δ Cephei 22 24 11 +57 43.8 4 1/2 7 41 192
 ? P XXII 200 22 36 2 -9 0.7 7 8 1/2 3 313
 — P XXII 306 23 4 3 +32 6.1 7 8 1/2 8 146
 — π Cephei 23 3 38 +74 39.8 5 10 2 330
 P XXIII 69 23 16 50 -9 11.7 8 8 1/2 7 272
 — P XXIII 101 23 23 51 +57 48.7 (•••)

π Aquilae

P.D. $43^{\circ} 42' 56''$

$$\begin{array}{r}
 14 \\
 4 \\
 \hline
 112 \\
 48 \\
 43 \quad 43 \quad 48 \\
 1-52 \\
 \hline
 46 \quad 40 \\
 80 \\
 28 \\
 56 \\
 42
 \end{array}$$

μ , Sag. 18 5 42 -21 5.5 Quadruple
3.5 16 9.5 10

AB = 10" AC = 40" AD = 45"

2002 H Cyph. Sob.

18 9 9 -19 55.2 8.5 10 20" 250

In a nebula according to H.

18 M Cyph. Sob.

18 12 6 -17 11.3 9 11 35 322

apparently found by Smyth

39 Drac. 21 59 +58 43.3 5 8½ 7 3" 89" 3° 20°

ϕ Drac Z

ϵ_1 & ϵ_2 Lyrae

18 39 53 +39 31.8

- P XVIII 226 45 0 +59 10.8 8 9 2" 98

o Draconis 49 13 +59 13.5 5 9 30 345

56 Draconis

P XIX 108 19 15 33 +62 57.9 8 9 0" 350

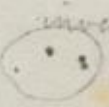
P XIX 185 19 29 27 -10 ~~43.6~~ 9 10 12 | 3" 8" 335°
three in a line

R S Cygni 19 40 47 +44 48.3 3½ 9 15.5 20°

57 Aquilae 19 47 22 -8 34.4 6.5 7 35 171

P XX 2 20 3 2 +16 31.2 7 10 6" 13°

α^2 Capricorni 20 10 36 -12 57.5

- P XX 178 20 24 49 +10 48.5  invert

- 4 Aquarii 20 44 26 -6 7.5 6 8 0 45

~~P XX 3~~

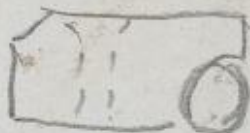
ϵ Equulei

λ Equulei 20 55 36 +6 39.3 6 6.5 3" 226

ϵ Bootis	14	39	6	+27	38.18	6.6				
δ Bootis	14	34	43	+14	29.5					
39 Bootis	14	45	9	+19	16.3	5.5	6.5	Sm	4"	44°
-18 Librae		51	39	-10	36.3	7	11	"	20	38
-5 Serp.	15	12	27	+2	16.8	5.5	10.5	"	10	40
A perhaps double.										
-P XV 76		20	3	+18	38.6	8	9.5	"	2"	326°
91		24	1	-19	42.3	7.5	9	"	12	283°
moving?										
-8 Serp.		28	24	+10	59.3	3	5	"	3	196°
P XV 220		50	33	+3	47.7	8	9	"	10	325°
-49 Serp.	16	7	3	+13	53.5	7	7.5	"	3	325°
ρ Ophi.		17	33	-23	8.1	5	7.5	"	4	0
-P XVI 88		21	34	-7	49.5	7.5	12	"	5	308
- η Drac.		22	8	+61	48.8				4"	
Discovered at Putkown.										
- η Herc.		38	18	+39	10.7	3	?		0"	?
46 Herc		39	45	+28	36.3	7.5	10		5"	167°
P XVI 236		49	11	-19	19.5	6.5	8		6"	220
56 Herc.		49	33	+25	56.9	6.5	13		15"	96°
20 Drac.		55	45	+65	14.6	7	7.5		1"	243°
η Ophi.	17	2	42	-15	33.5	2.5	13		269	260
39 Ophi.		9	51	-24	8.2	5.5	7.5		12	355
=8 Herc.		9	32	+25	0.0	4	8.5		25	180
ρ Herc		19	4	+37	16.3	4	5.5		4	310
α Ophi.		28	42	+12	39.6	2	9	wide		187
- μ Herc.		41	14	+27	48.3	4	10		30	241
P XVII 300		50	31	+18	20.9	7.5	8		2	115
comp. double (Clark)										
99 Herc										
Clark.										
73 Ophi	18	2	54	+3	58.4	6	7.5		2	260

19 440
22 58.0

3 14



30

3

117

1895phae.proj.1727.