KG
11365
436

1879phae.proj..437D

Absolute Work
Star List
See index

FINAL
LIST OF-
DATES OF OBSERVATION

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KG-11365.436

1873phrate.proj..4549

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Cases where dates are
& (E.g.) April 19/20

John A Dunne
at Observatory
1883–1909

19
May 11 1903

5, rejected

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1879phae.proj..437D

Cases where dates are
± (E.g.) April 19/20

1) if one day is already entered add second day.
2) if neither date is in enter 19/20 and count as one date.

19 mar 1903

Zn 25, rejected

Make new curve ½ scale first column.

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1879phae.proj..437D

Star List

May 19 1903 Examined dates added in red from Nos 25, rejected
not
~~as~~ of Ns in Ast Nachs.

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Description of Li… in 1879–1882

List of obs. 1879 1882. How obtained

This book co… stars observed in … with their dates of observe… obtained by comparing … stars. (see M 25 List of … obs. 1879). with the observatio… 882. given in Series I … h Readings of Stars & Sun… d in Series G. 1–8 (Chronogr… laris only)

Comparison of M 25 with I

From the … ppears that 168 of the 250 stars mentioned in M 25 (in which Polaris was included) had been observed in 1879–1882, and that one star 67 Ceti (No 353 of Dr Auwers's List of 539 Fundamental Stars) not given in M 25 had also been observed. This List of 169 stars in which Polaris & 67 Ceti are included is here called Class I. and is arranged in order of Right Ascension. From the above comparison (M 25 with I & G) it also appeared that thirteen stars not given in M 25. & not found in Dr Auwers's List, that is, not included in Class I. had been incidentally observed.

Class I pp 2–75 88–161

class II pp 76–79

These 13 stars are here called Class II. & they are also arranged in order of R A. 165 stars of Class I are designated in the margin by the Catalogue Number

Desig. of class I by numbers

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1879phae.proj..437D

No. obs.
" diff dates

Description of [illegible] in 1879-1882

List of obs. 1879 1882. How obtained

This book co[illegible] stars observed in [illegible] with their dates of obser[illegible] obtained by comparin[illegible] stars. (see M 25 List of [illegible] for 1879). with the observatio[illegible]882. given in Series F [illegible]h Readings of Stars & Sun[illegible]d in Series G. 1-8 (Chronog[illegible] Polaris only)

Comparison of M 25 with F

From th[illegible] appears that 168 of the 250 stars mentioned in M 25 (in which Polaris was included) had been observed in 1879-1882, and that one star 67 Ceti (No 353 of Dr Auwers's List of 539 fundamental Stars) not given in M 25 had also been observed.

Class I pp 2-75 88-161

This List of 169 Stars in which Polaris & 67 Ceti are included is here called Class I. and is arranged in order of Right Ascension. From the above comparison (M 25 with F & G) it also appeared that thirteen stars not given in M 25, & not found in Dr Auwers's List, that is, not included in Class I, had been incidentally observed.

Class II pp 76-79

These 13 Stars are here called Class II. & they are also arranged in order of R A. 165 Stars of Class I are designated in the margin by the Catalogue Number

Desig. of Class I by numbers

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Nos. obs.
" diff. dates

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Description of List of Stars observed in 1879-1882

List of obs. 1879 1882.

This book contains a list of the stars observed in the years 1879-1882 with their dates of observation.

How obtained

The List was obtained by comparing an old List of 250 stars. (see M 25 List of Fundamental Stars for 1879). with the observations made in 1879-1882. given in Series F Nos. 67-88. (Chronograph Readings of Stars & Sun for these years) and in Series G. 1-8 (Chronograph Readings of Polaris only)

Comparison of M 25 with F

From this comparison it appears that 168 of the 250 stars mentioned in M 25 (in which Polaris was included) had been observed in 1879-1882, and that one star 67 Ceti (No 353 of Dr Auwers's List of 539 Fundamental Stars) not given in M 25 had also been observed.

Class I pp 2-75 88-161

This List of 169 stars in which Polaris & 67 Ceti are included is here called Class I. and is arranged in order of Right Ascension. From the above comparison (M 25 with F & G) it also appeared that thirteen stars not given in M 25. & not found in Dr Auwers's List, that is, not included in Class I. had been incidentally observed.

Class II pp 76-79

These 13 stars are here called Class II. & they are also arranged in order of R A. 165 stars of Class I are designated in the margin by the Catalogue Number

Desig. of Class I by numbers

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in Dr Auwers List of 622 Fundamental Stars, originally 539. (See Publ. XIV, XVII of the Astr. Gesell.).

Desig. of Class I by letters.

The four remaining stars of Class I which are not found in Dr Auwers List, but are included in M 25 are designated by the letters a b c d.

Desig. of Class II. by letters only.

All the Stars of Class II are designated by letters in order of observation from e to p, omitting m.

Of Mercury p80

Mercury is designated by M and the Sun by S.

Of Sun. p/p 82-85

The dates of observation are given for each.

Details of desig. of Class I.

The Mean Places & the Apparent Places for every 10 days for 145 Stars of Class I are given in the 539 Star Lists for 1879-1882; The Haupt-Sterne are numbered from 1 to 336, and the Zusatz Sterne from 337 to 539. The Catalogue Numbers for the twenty stars numbered from 540 to 622 have been taken from Publ XVII. The Mean Places may be found for these stars by carrying the Publ. XVII places forward.

No mean or Apparent Places are given for any of the lettered Stars of either Class I or Class II.

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List of Stars Observed for
Absolute Positions in the years
1879 1880 1881 and
Dates of Observations pp 2 — 161

Contents.

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1879phae.proj..437D

Class. I.

see p 88 No. in Fund Cat = Jahrbuch No.	Star List. Name of Star.	Absolute Work. Mean RA 1880. Mean Decl. 1880. from the 539 Star List.	
1	α Androm.	$0^h\ 2^m\ 11.^s167$ $+28°\ 25'\ 40.''50$	Haupt. Sterne Berliner Jahrb. Ann. Ephem. apl.
2	β Cassiop.	0 2 46.846 +58 29 15.28	Hauptsterne
3	γ Pegasi	0 7 3.439 +14 30 58.30	Hauptsterne Berliner Jahrb. Ann. Ephem. apl.
13	γ Cassiop.	0 49 28.536 +60 3 58.47	Hauptsterne
19	α Ursæ Min.	1 14 45.486 +88 40 9.36	Hauptsterne Berliner Jahrb. Ann. Ephem. Hauptsterne

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1879phae..proj..4370

1879

Dates of Observations from F 67–88.

Year		Total on each line
1879	Apr 13 Apr 15 Apr 20 Apr 21 Apr 26 Apr 30 May 1 May 6 May 31 June 16 June 18	11
	June 26 Oct 15 Oct 19 Oct 26 Oct 27 Oct 29 Oct 30 Nov 10 Nov 16 Nov 17	10
	Nov 24 Nov 25 Nov 29 Dec 12	4
		25

1879	Apr 13 Apr 15 Apr 20 Apr 30 May 1 May 6 May 31 June 8 June 18 June 19 June 26	11
	Oct 15 Oct 19 Oct 26 Oct 27 Oct 29 Oct 30 Nov 10 Nov 16 Nov 24 Nov 25	10
	Nov 26 Nov 29 Nov 30 Dec 12 Dec 26	5
		26

1879	May 7 May 8 May 10 lc May 12 lc May 13 lc May 14 lc May 14 May 29 May 31 lc May 31 June 1 June 4 lc	12
	June 4 June 5 lc June 8 lc June 12 June 16 June 17 June 18 lc June 19 June 19 June 21	10
chf.	June 22. June 27. Aug 19	3
		25

1879 Feb 15 Feb 16 Feb 21

Total 74

LCs entered from M 25 throughout this Book. & are to be checked by comparison with F Books.

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1879phae.proj..437D

Star List. Absolute Work.

Mean R.a 1850. Mean Decl. 1850.

Jahrbuch No.	Name of Star.	from the 539 Star List.	Hauptsterne
19	α Urs. Min.		

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1879phae..proj..437D

Dates of Observation from J67 – J88.

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1879phae.proj..437D

Star List. Absolute Work.
Mean RA 1880. Mean Decl 1880.
from the 539 Star List.

Jahrbuch No.	Name of Star.	Hauptsterne
19	α Urs. Min.	

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1879phae.proj..437D

Dates of Observation from J67 – J88.

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1879phae.proj..437D

Star List. Absolute Work.
Mean RA 1880. Mean Decl. 1880
Jahrbuch No Name of Star. from the 539 Star List.
19 α Urs. Min. Hauptsterne

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1879phae.proj..437D

Dates of Observation from 767 – 788.

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1879phae.proj..437D

vie p 96

Star List. Absolute Work.

Mean RA 1880. Mean Decl. 1880.

Jahrbuch No.	Name of Star.	from the 539 Star List.		
" 20	δ Cassiop.	1 17 58.647	+ 59 36 39.39	Haupt Sterne
" 30	β Arietis.	1 48 0.735	+ 20 13 14.78	Hauptsterne Ann. Ephem. apl.
" 32	γ Androm.	1 56 32.143	+ 41 45 10.72	Hauptsterne
" 33	α Arietis	2 0 24.621	+ 22 53 39.23	Haupt Sterne. Berliner Jahrb. Ann. Ephem. apl.
" 353	67 Ceti	2 10 59.885	− 6 58 33.97	Zusatz Sterne

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1879phae..proj..437D

1879

Dates of Observation from F 67 – F 88.

		Total
1879	May 7 May 8 l.c. May 8 May 12 l.c. May 13 l.c. May 14 l.c. May 14 May 29 May 31 l.c. May 31 June 1	11
	June 4 l.c. June 5 l.c. June 7 June 8 l.c. June 8 June 12 June 16 June 17 June 18 l.c. June 19 l.c. June 19	11
	June 21 June 22 Aug 19	3
		25
1879	Aug 19 Aug 24 Sept 8 Sept 14 Sept 23 Sept 29 Dec 1 Dec 4 Dec 7 Dec 9 Dec 15	11
	Dec 17 Dec 18 Dec 21 Dec 23	4
		15
1879	June 7 June 8 June 21 June 22 June 23 June 24 June 26 June 30 July 2 July 3 July 8	11
	July 10 Aug 19 Aug 24 ~~Sept 29 Dec 4 Dec 7 Dec 9 Dec 15 Dec 16~~	3
		14
1879	Feb. 21. Feb 23 Mar 5 Mar 10 Apr 8 Apr 14 ~~Apr 19~~ Apr 20 ~~Apr 20~~ Apr 21 May 6 May 8 May 29	11
	June 1 June 7 June 8 June 16 June 17. June 18 June 19 June 21 June 22 June 24 June 30	11
	July 1 July 2 July 3 July 8 July 10 Aug 19 Aug 24 Sept 8 Sept 14 Sept 23 ~~Sept 29~~	11
3 stel	~~Dec 4 Dec 7 Dec 9 Dec 15 Dec 16~~ Dec 17 Dec 18 ~~Dec 21~~ Dec 23 Dec 27 Dec 29	10
	Dec 30	1
1879	Dec 1 Dec 29	44
		2
		2
		3
		101

* Dates entered in Red are taken from M 25. are wrong Unless Confirmed as Ds in Ser 7 Vols. + marked ✓ May 18-19 1903 Cabot.

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1879phae.proj..437D

see p 98

Star List. Absolute Work.

Mean RA 1880. Mean Decl. 1880.

Jahrbuch No.	Name of Star.	from the 539 Star List.		
" 36	ε Cassiop.	$2^h\ 19^m\ 11^s.596$	+ 66° 51′ 40″.70	Hauptsterne v Am. Ephem. apl.
" 358	47 H Cephei	2 50 11.810	+ 78 56 30.07	Zusatz
" 47	α Ceti	2 56 0.409	+ 3 37 3.53	Hauptsterne Berliner Jahrb. v Am. Ephem. apl.
" 48	ζ Persei	2 56 6.799	+ 53 2 5.70	Hauptsterne
" 360	48 H. Cephei	3 5 8.956	+ 77 17 27.60	Zusatz v Am. Ephem. apl.

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1879phae.proj..437D

1879

Dates of Observation from I 67 – I 88.

		Total '79
1879	Feb. 22	1
1879	Sept 8 Dec 1	2
1879	Feb. 21. Feb 24. Mar 5 Mar 10 Mar 11 Mar 12 Apr 20 Aug 24 Sept 8 Sept 14	10
	Dec 1 Dec 7 Dec 15 Dec 17 Dec 18 Dec 29	6
		16
1879	June 24 June 26 June 30 July 1 July 5	5
1879	Feb. 16.	1
		25

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1879phae.proj..437D

see p 100

Star List. Absolute Work.

Jahrbuch No.	Name of Star.	Mean RA 1880. from the 539 Star List.	Mean Decl. 1880.	
" 52	α Persei	3. 15 45.708	+ 49 25 56.29	Hauptsterne Berliner Jahrb. Am. Ephem.
" 56	ε Eridani	3 27 16.599	− 9 57 56.55	Hauptsterne
" 363	Groombr. 716	3 31 45.168	+ 62 49 32.61	Zwartz
" 57	δ Persei	3 34 23.055	+ 47 24 7.23	Hauptstern Am. Ephem.
" [550	δ Eridani]	Approximate RA & Decl. 3 37	− 10 10	

Brackets indicate no Ephemeris, these stars are not in 539 List see Pub XVII + Intro Mus folk

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1879phae.proj..437D

1879

Dates of Observation from I67 – I88.

		Total '79
1879	June 16 June 18 June 19 June 22 June 23 June 24 June 26 June 30 July 1	9
1879 Feb 21	Feb. 27 Mar 5 Mar. 11 Aug 20 Aug 24 Sept 8 Sept 14 Dec 4 Dec 15 Dec 17 Dec 18 Dec 29	10 2 13
1879	Feb. 16. Feb. 22.	2
1879	July 1 July 9 July 10	3
1879	Feb. 21. Feb 24 Feb 27 Mar 5 Mar. 10 Mar. 11 Aug 20 Sept 8 Sept 14 Dec 4 Dec 7 Dec 15 Dec 17 Dec 18 Dec 29	11 4 15
		42

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1879phae.proj..437D

Zu p 102

Star List. Absolute Work.

Mean RA 1880. Mean Decl. 1880.

Jahrbuch No	Name of Star.	from the 539 Star List.		
" 61	η Tauri	$3^h\ 40^m\ 21^s.123$	$+23^\circ\ 43'\ 57''.54$	Hauptsterne Am. Ephem. apl.
" 63	ξ Persei	3 46 35.457	+31 31 32.05	Hauptsterne Am. Ephem. apl
" 365	9 H. Camelop.	3 46 54.869	+60 45 19.62	Zusatz
" [552	γ Eridani]	approx 3 52	approx −13 51	Am. Ephem apl.
" 73	α Tauri	4 29 2.136	+ 16 15 59.83	Hauptsterne Berliner Jahrb. Am. Ephem. apl.

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1879phae.proj..437D

1879

Dates of Observation from I 67 – I 88.

1879	June 30 July 9 July 10 Dec 4 Dec 7 Dec 15 Dec 17 Dec 18 Dec 29	72 9
1879	June 30 July 1 July 9 July 10 Aug 20 Sept 8 Sept 14 Dec 4 Dec 7 Dec 15 Dec 17 Dec 18 Dec 29	10 3 13
1879	Feb. 27.	1
1879	Feb. 21. Feb. 24. Feb 27. Mar 5 Mar. 10 Mar. 11 *	6
1879	June 23 June 24 June 26 July 8 July 9 July 10 Aug 12 Aug 20 Aug 23 Sept 10 Sept 11 Sept 14	10 2 12
		41

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1879phae.proj..437D

See p 104

Star List. Absolute Work.

Mean RA 1880. Mean Decl. 1880.

Jahrbuch No.	Name of Star.	from the 539 Star List.		
" 76	9 Camelop.	4h 42m 7.518	+66° 8′ 10.″77	Hauptsterne ✓ Ann. Ephem. apl.
" 79	c Aurigæ	4 49 10.784	+ 32 58 27.63	Hauptsterne ✓ Ann. Ephem. apl.
" 80	10 Camelop.	4 52 44.967	+ 60 15 51.67	Hauptsterne
" 84	β Eridani	5 1 57.026	− 5 14 34.22	Hauptsterne
" 86	α Aurigæ	5 7 49.572	+45 52 25.87	Hauptsterne Berliner Jahrb. ✓ Ann. Ephem. apl.

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1879

Dates of Observation from I 67 – I 88.

		Total 79
1879	Feb. 22, Mar. 1. Mar. 2. Mar 3 2c Mar 11 2c	5
1879	July 1 July 9 Aug 12	3
1879	Feb. 22. Feb. 23. Mar. 1 Mar 2 Mar 3. 2c Mar 11 2c	6
1879	Mar. 2 Mar 3 Mar 20 Apr 2 Apr 20 Aug 23 Sept 10 Sept 11 Sept 14 Sept 15 Sept 16 Sept. 17	10 1 11
1879	May 29 May 30 June 1 June 8 June 23 June 26 June 30 July 1 July 8 Aug 12	10
		35

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1879phae.proj..437D

see p 206

Star List. Absolute Work.

Mean RA 1880. Mean Decl. 1880.

Jahrbuch No	Name of Star.	from the 539 Star List.		
" 87	β Orionis	5 8 46.285	-8 20 30.73	Hauptsterne Berliner Jahrb. Am. Ephem. apl.
" 91	ζ Orionis	5 18 41.722	+6 14 21.82	Hauptsterne
" 90	β Tauri	5 18 42.406	+28 30 14.42	Hauptsterne Berliner. Jahrb. Am. Ephem. apl.
" 375	17 Camelop.	5 18 50.170	+62 57 51.17	Zusatz
" 93	δ Orionis	5 25 52.658	-0 23 22.99	Hauptsterne Am. Ephem. apl.

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1879phae.proj..437D

1879

Dates of Observations from F67 – F88.

		Total
1879	Feb. 15. Feb. 16 Feb 23 Feb 24. Feb 26 Mar. 2 Mar 3 Mar 20 Apr 2 Apr 7 ~~Apr 16~~ Sept 15	10
	Apr. 16. Apr. 20. Apr 22. Apr 24 May 3. July 9 Aug 23 Sept 11 Sept 14 Sept 16	10
	Sept 17 Sept 20	2
		22
1879	Feb. 15. Feb 16. Feb. 23. Feb. 24. Feb 26 Feb. 27. Mar 2 Mar 3. Mar 8. Mar 9.	10
	Mar 20 Mar 25 Apr 2 Apr 8	4
		14
1879	Apr 7 Apr 14 Apr 16 Apr 20 Apr 22 Apr 23 Apr 24 ~~Apr 30~~ June 30 Aug 23 Sept 10	10
	Sept 11 Sept 14 Sept 15 Sept 16 Sept 17 ~~Sept 19~~ Sept 20 Sept 24 Sept.	5
		15
1879	Mar. 11 Mar. 12 Mar 12	3
		3
1879	Feb. 15. Feb. 16. Feb. 23. Feb. 24. Feb. 26. Feb. 27. Mar 2. Mar 3. Mar. 8. Mar 9.	10
	Mar. 11 Mar 12 Apr 2 Apr 6 Apr 7 Apr 8 Apr 14 Apr 20 Apr 23 Apr 24	10
	Sept 10 Sept 11 Sept 14 Sept 15 Sept 16 Sept 17 Sept 20 Sept 24	7
		27
		81

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1879phae.proj..437D

See p108

Star List. Absolute Work.

Mean Ra 1880. Mean Decl. 1880.

Jahrbuch No	Name of Star.	from the 539 Star List. approx. h m s	approx. ° ′ ″	
" [556	α Leporis]	5 27 23.7	−17.54	5 27 23.7
				✓ Am. Ephem. apl.
" 96	ι Orionis	5 29 33.834	−5 59 24.30	Hauptsterne
" 97	ε Orionis	5 30 7.514	−1 16 48.53	Hauptsterne
				✓ Am. Ephem. apl.
" [a	ζ Orionis]	approx. 5 34 39.	approx. −2 0	from Z 2 Apr. 7 1879
" [b	α Columba]	approx. 5 35	approx. −34 8	
				✓ Am. Ephem. apl.

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1879phae.proj..437D

1879

Year Dates of Observations from F67 to F88.

1879	Mar. 19 Mar 20 Apr 2 Apr 7 Apr 8 Sept 10 Sept 14 Sept 15 Sept 16 Sept 17 Sept 20 Sept 24	Total 12 10 1 11
1879	Apr. 2 Apr 14 Apr 20 Sept 11 Sept 14 Sept 15 Sept 16 Sept 17 Sept 20 Sept 24 Sept 27	10 10
1879	Feb. 23. Feb. 24. Feb. 26 Feb 27 Mar. 3 Mar 2 ✓ Mar 8 Mar 9 Mar. 11 Mar 16.	10 9 7 10 8 7
1879	Apr 6 Apr 7 Apr 8 Apr 14 Apr 16 Apr. 20 Apr 22 Apr 23 Apr 24 Sept 10 Sept 11 Sept 14 Sept 15 Sept 16 Sept 17 Sept 20 Sept 24 Sept 27 Oct 7	10 8 9 18
1879	Feb. 15 Feb. 24. Feb. 27. Mar 3 Mar 8 Mar. 9 Mar. 11 Mar 12 Mar 16 Mar 19	10 10 60 59 58

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1879phae.proj..437D

see p 110

Star List. Absolute Work.

Mean RA 1880. Mean Decl. 1880.

from the 539 Star List.

Jahrbuch No.				
" 100	K Orionis	5 42 3.910	−9 42 49.28	Hauptsterne
" 102	α Orionis	5 48 40.530	+7 22 58.50	Hauptsterne Berliner Jahrb. ✓ Ann. Ephem. apl.
" 103	β Aurigæ	5 50 43.668	+44 55 58.97	Hauptsterne
" 381	36 Camelop.	6 0 26.473	+65 44 20.07	Zusatzsterne
" 383	22 H. Camelop.	6 5 37.138	+69 21 32.29	Zusatz ✓ Ann. Ephem. apl.

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1879

Dates of Observation from I 67 — I 88.

1879 Feb. 15. Feb. 24. Feb. 26. ~~Mar 2~~ Mar. 3 Mar 5 Mar 8 Mar 9 Mar. 11 Mar 12 Mar 16
Mar 18 Mar 19. Mar 20 Apr 2 Apr 6 Apr 7 Apr 8 Apr 14 Apr. 16 Apr. 20
Apr 21 Apr 23 Apr 24 Sept 10 Sept 11 Sept 14 ~~Sept 15~~ Sept 16 Sept 17 Sept 20 Sept 24
Sept 27 Oct 7

1879 Feb. 15. Feb. 24. Feb 26. Feb 27. Mar 3 Mar 5. Mar. 8 Mar 9 Mar. 11 Mar 12 Mar 13
Mar 16 Mar 18 Mar 19 Mar 20 Mar 25 Apr 2 Apr 6. Apr 7 Apr 8 Apr 14
Apr 16 Apr 20 Apr 22 Apr 23 Apr 24 June 3 June 8 July 3 July 9 Aug 23
Sept 10 Sept 11 Sept 14 ~~Sept 15~~ Sept 16 Sept 17 Sept 20 Sept 24 Sept 27 Oct 7

1879 June 30

1879 Mar 19 Mar 20 Mar 25

1879 Mar 19 Mar 20 Apr 2

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1879phae.proj..437D

see p 112 Star List. Absolute Work.

Mean RA 1880. Mean Decl 1880.

Jahrbuch No.	Name of Star.	from the 539 Star List.		
" 106	μ Geminor.	$6^h\ 15^m\ 42^s.073$	$+ 22^\circ\ 34'\ 24''.43$	Hauptsterne
				✓ Am. Ephem. afl.
" 107	ζ Geminor.	6 30 46.755	+ 16 29 59.88	Hauptsterne
				✓ Am. Ephem. afl.
" [564	α Can. Maj.]	approx 6 39	approx. − 16 33	Berliner Jahrb. ✓ Am. Ephem. afl.
" 111	51 H. Cephei	6 43 46.685	+ 87 13 44.53	Hauptsterne
				✓ Am. Ephem. (afl not done)
" [566	ε Can. Maj.]	approx. 6 53	approx. − 28 40	A ✓ Am. Ephem afl.

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1879phae.proj..437D

1879

Dates of observations from I 67 – I 88.

		Total
1879	Mar 26 Apr 2 Apr 6 Apr 7 Apr 14 Apr 16 Apr 20 Apr 21 Apr 22 Apr 24	10
	Sept 10 Sept 11 Sept 14 ~~Sept 15~~ Sept 16 Sept 20 Sept 24 Sept 27 Oct 1 Oct 7 Oct 20	10
		20
1879	Mar 25 ~~Mar 26~~ ~~Sept 15~~ Apr 6 Apr 7 Apr 14 Apr 16 Apr 20 Apr 21 Apr 22 Apr 24	10
	Sept 14 Sept 16 Sept 17 Sept 20 Sept 24 Sept 25 Sept 27 Oct 1 Oct 4 Oct 7 Oct 20	11
		21
1879	Feb 23. Feb 27 Mar 3 Mar 5 Mar 8 Mar 9 Mar 11 Mar 13 Mar 16 Mar 18	10
		10
1879	Mar 25 Mar 26 Apr 2 Apr 7 Aug 13 Aug 14 Aug 19 Aug 21 Aug 23 Sept 6	10
	Sept 8 Sept 9 Sept 23 Sept 27 Sept 30 Oct 2 Oct 4 Oct 4 Oct 5 Oct 7 Oct 7	11
	Oct 8 Oct 12 Oct 14 Oct 20	4
		25
1879	Feb 23. Feb 27 Mar 3 Mar 5 Mar 8 Mar 9 Mar 10 Mar 11 Mar 16 Mar 18	10
	Oct 20	1
		11
		87

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1879phae.proj..437D

see p 114

Star List. Absolute Work.

Mean RA 1880. Mean Decl. 1880.

From the 539 Star List.

Jahrbuch No.	Name of Star.	approx.	approx.	
" [568	δ Can. Maj.]	7 3	-26 12	
				~ Ann. Ephem. ope.
" 116	Groombr. 1308	7 18 22.770	+68 42 28.38	Hauptsterne
				~ Ann. Ephem. ope
" 118	β Can. Min.	7 20 38.570	+ 8 31 46.76	Hauptsterne
" 119	α Geminor.	7 26 56.274	+ 32 9 0.16	Hauptsterne Berliner Jahrb. ~ Ann. Ephem. ope.
" 120	α Can. Min.	7 33 1.137	+ 5 31 52.85	Hauptsterne Berliner Jahrb. ~ Ann. Ephem. ope.

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1879phae..proj..437D

1879 Dates of Observation from I 67 – I 88.

		Total
1879	Feb 23. Feb 27 Mar 3 Mar 5 Mar 8 Mar 9 Mar 10 Mar 11 Mar 16 Mar 18	10
	Oct 20	1
		11
		1
1879	Oct 14 Oct 14	2
		2
1879	Mar 8 Mar 9. Mar 10 Mar 13 Mar 18. Apr 1 Apr 2 Apr 6 Apr 8 Apr 9 [illegible]	10
	Apr 14 Apr 16 Apr 20 Apr 21 Apr 22 Apr 24 Sept 11 Sept 14 Sept 24 Oct 1	10
	Oct 4 Oct 7 Oct 14 Oct 20	4
		24
1879	Apr 1 Apr 6 Apr 8 Apr 9 Apr 14 Apr 16 Apr 20 Apr 21 Apr 22 Apr 24	10
	Sept 9 Sept 11 Sept 14 Sept 17 Sept 24 Sept 27 Sept 30 Oct 1 Oct 4 Oct 7	10
		20
1879	Mar 8 Mar 9 Mar 10 Mar 13 Mar 18 Apr 1 Apr 2 Apr 6 Apr 8 Apr 9 Apr 14.	11
	Apr 16 Apr 20 Apr 21 Apr 22 Apr 24 July 2 July 9 Sept 9 Sept 11 ~~Sept 15~~ Sept 16	10
	Sept 17 Sept 24 Sept 25 Sept 27 Sept 29 Oct 1 Oct 4 Oct 7 Oct 13 Oct. 14	10
	Oct 20	1
		32
		89

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1879phae.proj..437D

see p 116 Star List. Absolute Work.

Mean R.A. 1880. Mean Decl. 1880.

Jahrbuch No.	Name of Star.	from the 539 Star List.		
" 122	β Geminor.	7 37 58.284	+28 18 51.99	Hauptsterne Berliner Jahrb. Am. Ephem. apl.
		approx.	approx.	
" [570	ι Argus]	8 2	- 23 57	
				Am. Ephem. apl.
" 125	o Urs. Maj.	8 20 16.971	+61 7 1.45	Hauptsterne
" 413	ρ Urs. Maj.	8 51 42.154	+68 5 43.70	Zusatzsterne
" 415	σ^2 Urs. Maj.	8 59 48.755	+67 37 11.30	Zusatz
				Am. Ephem. apl.

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1879phae.proj..437D

1879 Dates of Observations from F67 – F88.

		Total
1879	Mar 26 Apr 1 Apr 2 Apr 6 Apr 8 Apr 9 Apr 12, Apr 16 Apr 20 Apr 21	10
	Apr 22 ~~Apr 30~~ June 30 July 2 Sept 9 Sept 10 Sept 11 Sept 14 ~~Sept 15~~ Sept 16 Sept 24 Sept 29	10
	Sept 30 Oct 1 Oct 4	3
		23
1879	Mar 13 Mar 18 Mar 19 Mar 26 Apr 1 Apr 2 Apr 6 Apr 8 Apr 9 Apr 14	10
	Oct 20	1
		11
1879	Apr 21 Apr 24 Nov 5 Nov 10	4
		4
1879	Nov 5 Nov 10	2
		2
1879	Nov 5 Nov 10	2
		2
		42

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1879phae.proj..437D

see p 118

Star List. Absolute Work.

Mean RA 1880. Mean Decl. 1880.

Jahrbuch No.	Name of Star.	from the 539 Star List.		
" 138	α Hydræ	9h 21m 41.°421	−8° 8′ 21.″68	Hauptsterne Berliner Jahrb. Am. Ephem. ape.
" 139	h Urs. Maj.	9 22 2.987	+63 35 6.68	Hauptsterne
" 418	d Urs. Maj.	9 23 50.831	+70 21 22.90	Zusatz Ster. Ephem. ape.
" 140	θ Urs. Maj.	9 24 49.279	+52 13 22.18	Hauptsterne Berliner Jahrb. Am. Ephem. ape.
" 420	Groombr. 1564.	9 31 56.760	+69 46 55.47	Zusatz

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1879phae.proj..437D

1879

Dates of Observation from Y67 - Y88.

		Total
1879	Mar 26 Apr 1 Apr 8 Apr 9 Apr 16 Apr 20 Apr 21 Apr 22 Apr 23 Apr 24	10
	Apr 30 May 1 May 5 May 7 May 8 Sept 4 Oct 7 Oct 12 Oct 13 Oct 19	10
	Oct 23 Oct 26 Oct 29 Nov 24	4
		24
1879	Nov 10 (LC)	1
		1
1879	Nov 16 (LC)	1
		1
1879	Apr 30 May 1 May 5 May 7 May 8	5
		5
1879	Nov 10 Nov 15 (LC) Nov 16 (LC) Nov 24 (LC) Nov 24 Nov 25 (LC)	6
		6
		37

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1879phae.proj..437D

see p 120

Star List. Absolute Work.
Mean RA 1880. Mean Decl. 1880.
From the 539 Star List.

Jahrbuch No.	Name of Star.			
142	ε Leonis	9h 39m 2.247	+24° 19′ 32.91″	Hauptsterne Am. Ephem. apl.
421	Groombr. 1586.	9 47 37.104	+73 26 55.80	Zusatz
146	α Leonis.	10 1 58.792	+12 33 10.77	Hauptsterne Berliner Jahrb. Am. Ephem. apl.
148	ζ Leonis	10 10 0.803	+24 0 53.35	Hauptsterne
	[c ζ' Leonis]	Approx 10° 13	approx. +20 27	~~Berliner Jahrb.~~ Am. Ephem. apl.

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1879phae.proj..437D

1879

Dates of Observation from I 67 – I 88.

Year		Total
1879	Mar 26 Apr 1 Apr 8 Apr 9 Apr 16 Apr 20 Apr 21 Apr 22 Apr 23 Apr 24	10
	Apr 30 May 1 May 8 Sept 25 Sept 28 Sept 29 Sept 30 Oct 1 Oct 7 Oct 8 Oct 12	11
	Oct 23 Oct 26 Oct 29	3
		24
1879	Nov 10 Nov 15 Nov 16 Nov 24 Nov 24 Nov 25 Nov 30 Nov 30	8
		8
1879	Mar. 19 Mar 26 Apr 1 Apr 8 Apr 9 Apr 14 Apr 16 Apr 20 Apr 21 Apr 22	10
	Apr 23 Apr 24 Apr 30 May 1 May 5 May 8 Aug 24 Sept 9 Sept 24 Sept 25	10
	Sept 28 Sept 29 Sept 30 Oct 1 Oct 7 Oct 13 Oct 20 Oct 23 Oct 26 Oct 29 Oct 30	11
		31
1879	Mar 26 Apr 1 Apr 9 Apr 14 Apr 16 Apr 20 Apr 21 Apr 22 Apr 23 Apr 24	10
	Apr 30 May 1 May 5 May 6 May 7 May 8 Sept 24 Oct 1 Oct 7 Oct 13 Oct 14	11
	Oct 20 Oct 26 Oct 29 Oct 30 Nov 10 Nov 15	6
		27
1879	Mar 26 Apr 1 Apr 9 Apr 14 Apr 16 Apr 20 Apr 21 Apr 22 Apr 23 Apr 24	10
	Apr 30 May 1 May 5 May 6 May 7 May 8 Sept 24 Sept 25 Sept 28 Sept 30 Oct 1 Oct 7	11
	Oct 13 Oct 14 Oct 20 Oct 23 Oct 25 Oct 26	6
		28
		118

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1879phae.proj..437D

see p 122

Star List. Absolute Work.

Jahrbuch No.	Name of Star.	Mean RA 1880. from the 539 Star List.	Mean Decl. 1880.	
149	μ Urs. Maj.	$10^h\ 15^m\ 10.^s519$	$+42^\circ\ 6'\ 7.''78$	Hauptsterne
424	30 H. Urs. Maj.	10 15 27.712	+66 10 19.26	Zusatz
425	30 H. Camelop.	10 16 18.471	+83 10 4.51	Zusatz
150	9 H. Draconis	10 24 51.400	+76 19 48.30	Hauptsterne
				Am. Ephem. ape.
429	35 H. Urs. Maj.	10 34 27.526	+69 42 10.77	Zusatz

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1879phae.proj..437D

1879

Dates of Observation from Y67 – Y88.

		Total
1879	May 1 May 5 May 6 May 7 May 8 May 14	6
1879	Nov 24 Lc Nov 24 Nov 25 Nov 26 Lc Nov 30 Nov 30	6
1879	Nov 15	1
1879	Nov 15 Nov 16 Lc Nov 24 Nov 25 Nov 26 Lc Nov 30 Nov 30	7
1879	Nov 15 Lc Nov 16	2
		22

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1879phae.proj..437D

see p 124

Star List. Absolute Work.

Jahrbuch No.	Name of Star.	Mean RA 1880. Mean Dec. 1880. from the 539 Star List.		
" 153	B Urs. Maj.	10h 54m 35.s471	+57° 1′ 29.″76	Hauptsterne
" 154	α Urs. Maj.	10 56 18.625	+62 23 53.53	Hauptsterne Berliner Jahrb. Am. Ephem. opl.
" 155	γ Urs. Maj.	11 2 54.662	+45 8 55.86	Hauptsterne
" 156	δ Leonis	11 7 43.479	+21 10 50.52	Hauptsterne Berliner Jahrb. Am. Ephem. opl.
" 436	Groombv. 1771	11 15 42.353	+64 59 12.17	Zusatz

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1879phae.proj..437D

1879

/

Dates of Observation from I 67 – I 88.

		Total
		79
1879	Apr 30 May 1 May 5 May 6 May 8 May 10 May 13 May 14	8
		8
1879	Apr 30 May 1 May 5 May 6 May 7 May 8 May 10 May 13 May 14 Nov 15 Nov 26	11
	Nov 30 Dec 7	2
		13
1879	Apr 30 May 1 May 5 May 6 May 7 May 8 May 10 May 13 May 14	9
		9
1879	Apr 1 Apr 9 Apr 14 Apr 22 Apr 23 Apr 30 May 1 May 5 May 7 May 8	10
	May 10 May 13 May 14 Oct 12 Oct 13 Oct 20 Oct 26 Oct 28 Oct 29 Oct 30	10
	Nov 9 Nov 15 Nov 30	3
		23
1879	Dec 7	1
		1
		54

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1879phae.proj..437D

see p 126

Star List. Absolute Work.

Jahrbuch No.	Name of Star.	Mean RA 1880. from the 539 Star List.	Mean Decl. 1880.	
162	λ Draconis	11h 24m 15.s762	+69° 59' 34.''86	Hauptsterne Am. Ephem. ape.
164	β Leonis	11 42 56.267	+15 14 33.99	Hauptsterne Berliner Jahrb. Am. Ephem. ape.
166	γ Urs. Maj.	11 47 30.809	+54 21 42.33	Hauptsterne Berliner Jahrb. Am. Ephem. ape.
[582	ε Corvi]	approx. 12 3	approx. −21 56	
[584	δ Corvi]	approx. 12 23	approx. −15 50	

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1879phae.proj..437D

1879

Dates of Observation from 767 – 788.

Total 179

~~Dec~~ 1879 Dec 7 — 1

1

1879 Apr 1 ~~Apr 9~~ Apr 14 Apr 22 Apr 23 Apr 27 Apr 30 May 1 May 5 May 6 — 9
May 7 May 8 May 10 May 13 May 14 May 29 June 1 Oct 12 Oct 13 ~~Oct 19~~ ~~Oct 20~~ (cub) no 86. — 10
Oct 22 Oct 26 Oct 28 Oct 29 Oct 30 Nov 9 Nov 16 Dec 8 — 8

2 ~~7~~ 6

1879 May 12 May 13 May 14 May 29 June 1 — 5

5

1879 Apr 1 Apr 6 Apr 8 Apr 14 Apr 22 Apr 27 May 1 May 5 May 6 May 7 May 8 — 11
Nov 25 Nov 29 Dec 4 Dec 8 Dec 17 Dec 20 Dec 31 — 7

18

1879 Mar 5 Mar 13 Mar 18 Mar 19 Mar 23 Apr 1 Apr 6 Apr 8 Apr 14 Apr 19 — 10
Nov 16 Nov 25 Dec 4 Dec 8 Dec 15 Dec 17 Dec 20 Dec 31 — 8

18

68

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1879phae.proj..437D

see p 128

Star List. Absolute Work.

Mean RA 1880. Mean Decl. 1880.

Jahrbuch No.	Name of Star.	from the 539 Star List. approx.	approx.	
"	[585 β Corvi]	12 28	−22 43	
				v Am. Ephem.
"	172 γ Virginis'	12 35 34.808	−0 47 28.62	Hauptsterne Berliner Jahrb.
"	173 ε Urs. Maj.	12 48 44.780	+56 36 39.71	Hauptsterne
"	174 δ Virginis	12 49 33.541	+4 2 58.98	Hauptsterne
"	176 ε Virginis	12 56 12.170	+11 36 15.95	Hauptsterne

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1879phae.proj..437D

1879

Dates of Observation from F 67 — F 88.

Total 79

1879 Mar 13 Mar 19. Mar 23 Mar 30 Apr 1. Apr 6 Apr 8. A 14 Apr 19 Apr 20 — 10
Nov 29 Dec 1 Dec 8 Dec 15 Dec 17 — 5
15

1879 Mar 5 Mar 13 Mar 18 Mar 19 Mar 23 Mar 30 Apr 1 Apr 6. Apr 8. Ap 13 — 10
Apr 14 Apr 19 Apr 20 Apr 22 Apr 23 May 1 May 5. May 6 May 7 May 8 — 10
May 10 May 12 May 14 May 31 June 1 June 5 June 8 June 20 Nov 16 Nov 25 Nov 29 — 11
Dec 1. Dec 2 Dec 4 Dec 8. Dec 15 Dec 17 Dec 20 Dec 31 — 8
39

1879 ~~May 1~~ May 6 May 7 May 8 — 4
4

1879 Feb. 24 Mar 2 Mar 5 Mar 8 Mar 13 Mar 18 Mar 19 Mar 23 Mar 30 Apr 1 Apr 6 — 10
Apr 8 Apr 13 Apr 14 Apr 19 Apr 20 May 5 May 29 June 1 July 10 Nov 9 Nov 16 — 11
Nov 29 Dec 1 Dec 2 Dec 3 Dec 4 Dec 8 Dec 15 Dec 17 Dec 20 Dec 31 — 10
31

1879 Feb. 24 Mar 2 Mar 5. Mar 8 Mar 13 May 18 Mar 19. Mar 23 Mar 30 Apr 1 Apr 6 Apr 8. — 10
Apr 13 Apr 14 Apr 19 Apr 20 Apr 22 Apr 23 May 1 May 5 May 6 May 7 — 10
May 8 May 12 May 13 May 14 June 1 June 4 June 5 June 8 June 18 June 20 July 10 — 11
Nov 9 Nov 16 Nov 25 Nov 29 Dec 1 Dec 2 Dec 3 Dec 8 Dec 15 Dec 17 Dec 20 — 11
Dec 25 Dec 31 — 2
45

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1879phae.proj..437D

see p 130

Star List. Absolute Work.

Mean RA 1880. Mean Decl. 1880.

Jahrbuch No.	Name of Star.	from the 539 Star List. approx.	approx.	
[587	α Virginis]	13 18	− 10 31	Berliner Jahrb. ✓ Ann. Ephem. apl.
181	η Ursae Maj.	13 42 48.686	+ 49 54 45.24	Hauptsterne Berliner J. B ✓ Ann. Ephem apl.
182	η Bootis	13 48 58.240	+ 18 59 59.26	Hauptsterne Berliner Jahrb. ✓ Ann. Ephem. apl.
183	ι Virginis	13 55 32.373	+ 2 7 31.99	Hauptsterne
184	α Draconis	14 1 8.465	+64 56 58.48	Hauptsterne ✓ Ann. Ephem apl.

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1879phae.proj..437D

1879

Dates of Observation from 767 – 788.

Mar 2 in A20 omitted 767 Sheet not traced?

		Total
1879	Mar 13 Mar 18 Mar 19 Mar 23 Mar 30 Apr 1 Apr 6 Apr 8 Apr 13	9
	Apr 14 Apr 19 Apr 20 Apr 22 Apr 23 May 1 May 5 May 6 May 7 May 29	10
	June 1 June 22 June 23 June 24 June 25 June 30 July 1 July 2 July 6 July 9	10
	July 10 Aug 20 Sept 5 Sept 10 Sept 25 Oct 30 Nov 9 Nov 16 Nov 25 Nov 29	10
	Dec 2 Dec 3 Dec 4 Dec 6 Dec 15 Dec 31	6
1879	May 29 May 31 June 1 June 4 June 5 June 8 June 18 June 20 June 21 June 22 June 23	10
		55

1879	May 29 May 31 June 1 June 4 June 5 June 8 June 18 June 20 June 21 June 22 June 23	10
	Oct 21 Oct 25 Oct 28 Oct 29 Nov 9 Nov 10 Nov 25 Dec 6 Dec 20	9
		19

1879	Feb. 15. Feb. 22 Mar 8 May 29 May 31 June 1 June 4 June 5 June 8 June 18 June 20	10
	June 21 June 23 June 24 June 25 June 26 July 6 July 9 Nov 25	8
		18

1879	Feb. 22.	1
		1

98

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1879phae.proj..437D

see p 132

Star List. Absolute Work.

Mean RA 1880 Mean Decl. 1880.

Jahrbuch No.	Name of Star.	from the 589 Star List.		
187	α Bootis	$14^h\ 10^m\ 11^s.264$	$+19°\ 48'\ 28''.68$	Hauptsterne Berliner Jahrb. ✓ Am. Ephem. apl.
193	ζ Bootis	14 27 14.854	+38 50 1.07	Hauptsterne
[d	ε Bootis]	approx. 14 39	approx. +27 35	✓ Am. Ephem. apl.
[589 590	α² Librae]	approx. 14 44	approx. − 15 32	Berliner Jahrb. ✓ Am. Ephem apl.
198	β Urs. Min.	14 51 4.109	+74 38 44.05	Hauptsterne Berliner Jahrb. ✓ Am. Ephem. apl.

The name of this star is changed from 589 α² Librae to 590 α² Libra see p 172 ✓

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1879phae.proj..437D

1879

Dates of Observation from I 67 – I 88.

Total 179

1879 Feb. 22 Mar. 8 May 29 May 31 June 4 June 5 June 8 June 18 June 19 June 20 June 20 — 10

June 22 Aug 20 Aug 22 Sept 5 Sept 11/12 Sept 19 Oct 7 Oct 8 Oct 13 Oct 14 — 10

Oct 16 Oct 20 Oct 25/26 Oct 27 — 4

24

1879 May 31 June 4 June 8 June 18 June 19 June 20 June 21 June 22 June 24 June 25 June 26 — 10

June 30 — 1

11

1879 May 31 June 4 June 8 June 9 June 18 June 19 June 20 June 21 June 23 June 24 June 25 June 26 — 10

Aug 20 Sept 5 Sept 8 Sept 19 Oct 7 Oct 7 Oct 20 Oct 26 Nov 9 Nov 10 Nov 25 — 11

21

1879 Feb. 15. Feb. 22. June 4 June 8 June 8 June 9 June 16 June 18 June 19 June 19 — 10

June 21 June 22 June 22 June 23 June 23 June 24 June 25 June 26 June 26 June 30 — 10

June 30 July 1 July 1 July 2 July 2 July 3 July 3 July 5 July 5 July 6 July 8 July 9 — 12

July 10 Sept 14 Sept 15 Dec 15 Dec 17 Dec 17 Dec 18 Dec 18 Dec 29 — 8

40 40

This Book, & also Note Book p 12.

96 97

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1879phae.proj..437D

see p 134

Star List. Absolute Work.

Mean RA 1880. Mean Decl. 1880.

Jahrbuch No.	Name of Star.	from the 539 Star List.		
" 199	β Bootis	$14^h\ 57^m\ 25.^s545$	$+40^\circ\ 51'\ 51.''67$	Hauptsterne
				✓ Am. Ephem. apl.
" " 200	β Librae	15 10 33.028	− 8 56 20.75	Hauptsterne
				✓ Am. Ephem. apl.
" " 201	δ Bootis	15 10 39.953	+ 33 45 48.06	Hauptsterne
" " 203	g Urs. Min.	15 20 56.070	+ 72 15 39.57	Hauptsterne
				✓ Am. Ephem. apl.
" " 209	α Cor. Bor.	15 29 36.434	+ 27 7 10.64	Hauptsterne Berliner Jahrb. ✓ Am. Ephem. apl.

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1879phae..proj...437D

1879

Dates of Observation from F 67 – F 88.

		Total
1879	June 4 June 8 June 9 June 18 June ~~19~~ ~~June 20~~ June 21 June 22 June 23 June 24 June 25	179 10
	June 26	1
		11
1879	Feb. 15. Feb. 22. June 4 June 8 June 9 June 19 June 23 June 30 July 1 July 3 July 5	11
	Sept 5 Sept 11 Sept 15 Dec 15	4
		15
1879	June 18 June 21 June 22 June 25 June 26 July 2 July 6 July 9	8
		8
1879	~~Feb 15~~ Feb. 15. Feb. 16.	2
		2
1879	June 9 June 17 June 18 June 19 June 21 June 23 June 24 June 25 June 26 June 30	10
	Sept 5 ~~Sept 5~~ Sept 11 Sept 15 Sept 25 Sept 26 Oct 1 Oct 2 Oct 19 Oct 20 Oct 21	10
		20
		56

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1879phae.proj..437D

see p 136

Star List. Absolute Work.

Mean RA 1880. Mean Decl 1880.

Jahrbuch No.	Name of Star.	from the 539 Star List.		
212	α Serpentis	15h 38m 21.s443	+6° 48′ 15.″20	Hauptsterne Berliner Jahrb. Ast. Ephem. apl
217	ζ Urs. Min.	15 48 22.047	+78 9 46.13	Hauptsterne Berliner Jahrb. Ast. Ephem. apl.
[594	δ Scorpii]	approx. 15 53	approx. − 22 16	Ast. Ephem. apl
[595	β Scorpii]	approx. 15 58	approx. − 19 28	Ast. Ephem. apl.

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1879phae.proj..437D

1879

Dates of Observation from F67 – F88.

Total

1879 Feb. 15. Feb. 16. Feb 22. June 9 June 17 June 18 June 19 June 21 June 23 June 24 — 10
June 25 June 26 June 30 July 1 July 3 July 9 Sept 8 Sept 11 Sept 19 Sept 24 — 10
Oct 1 Oct 19 Oct 20 Oct 26 Nov 25 Dec 15 — 6

26

1879 Feb. 15. Feb. 18 — 2

2

1879 Feb. 15. Feb 22 Sept 25 — 3

3

1879 Feb. 15. Feb 18. Feb 22. Feb 23. Sept 25 Sept 26 — 6

6

37

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1879phae.proj..437D

see p 138

Star List. Absolute Work.

Mean RA 1880 Mean Decl. 1880.
from the 539 Star List.

Jahrbuch No.	Name of Star.						
" 222 1879	δ Ophiuchi	16h	8m	0.3 / 3.483	− 3°	22′ 57″ / 23′ 3.19	Hauptsterne
							✓ Ann. Ephem. apl.
" 472 1879	19 Urs. Min.	16	14	17.6 / 14 8.49	+ 76°	10.53 / 10 43.74	Zusatz
" [596]	α Scorpii	16	21		− 26°	9	
							Berliner Jahrb. ✓ Ann. Ephem. apl
" 226 1879	η Draconis. seq.	16	22	21.4 / 22.266	+ 61°	47′ 19 / 10.48	Hauptsterne
							✓ Ann. Ephem. apl.
" 228 1879	β Herculis	16	25	1.1 / 3.702	+ 21°	45′ 17 / 45 8.80	Hauptsterne

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1879phae.proj..437D

1879

Dates of Observation from F67—F88.

Total

1879 Feb. 15. Feb. 18. Feb. 22. Feb 23 ~~Mar 11~~ June 24 June 25 June 26 July 1 July 3. 10
July 9 Sept 12 Sept 25 Sept 26 Sept 30 Oct 1 6
15

1879 Feb. 18. Feb. 23. Feb 24 Mar. 11 4
4

~~1879 Feb. 18.~~
1879 Feb. 18 Feb 22. Feb 23. Mar. 1. Mar 3 Mar 11 Sept 25 Sept 26 Sept 30 Oct 1 10
~~Oct 5~~ Oct 7 Oct 8 Dec 15 3
13

1879 Feb. 15. June 30 July 1 July 2 July 3 July 8 July 9 Sept ~~7~~ Sept 14 ~~2x~~ LC 9
~~Sept 11 Ex~~ Ci reads wmyt
9

1879 June 30 July 1 July 2 July 9 Sept 12 Sept 19 Sept 26 Oct 1 Oct 2 Oct 7 10
Oct 8 1
11

58 3

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1879phae.proj..437D

see p 140

Star List. Absolute Work.

Mean RA 1880. Mean Decl. 1880.

Jahrbuch No.	Name of Star.	from the 539 Star List.		
		approx.	approx.	
" [597	ξ Ophiuchi]	16 30	-10 19	
				✓ Am. Ephem. apl.
" 232	η Herculis	16 38 46.966	+39 9 4.53	Hauptsterne
				✓ Am. Ephem. apl.
" 235	ε Urs. Min.	16 58 18.922	+82 13 55.61	Hauptsterne
				✓ Am. Ephem. apl.
		approx.	approx.	
" [598	ν Ophiuchi]	17 3	-15 34	
" 237	α Herculis	17 9 10.559	+14 31 41.92	Hauptsterne Berliner Jahrb. ✓ Am. Ephem. apl.

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1879phae.proj..437D

1879

Dates of Observation from F67–F88.

Total 179

1879 Feb 15. Feb 18. Feb 22 Feb 23 Mar 1 Mar 3 Mar 11 Mar 12. June 30 Sept 7 — 10
Sept 19 Sept 25 Sept 26 Oct 1 Oct 2 Oct 7 Oct 8 — 7

17

1879 June 30 July 1 July 2 — 3

3

1879 ~~Feb 15~~ LC UC 15 Feb 22 Feb 23 LC Feb 23 Feb 27 Mar 1 Mar 2 Mar 3 LC UC Mar 3 Mar 11 Aug 13 — 11

11

1879 Feb 23 (Mar 1 Obs) Mar 3 Mar 11 Sept 7 Sept 19 Sept 25 Sept 26 Sept 30 Oct 1 Oct 2 — 10 10
Oct 7 — 1

11 11

1879 June 30 July 1 July 2 July 6 July 8 Aug 12 Aug 13 Aug 20 Sept 7 Sept 19 Sept 25 — 10
~~Sept 30~~ Obs Sept 26 Oct 1 Oct 2 Oct 5 Oct 7 Oct 8 — 6

16

58 5 8

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1879phae.proj..437D

see p 142

Star List. Absolute Work.

Mean of Ra 1880 Mean Decl. 1880.

Jahrbuch No	Name of Star.	from the 539 Star List.		
" 240	β Draconis	17h 27m 43°.266	+52° 23′ 26″.03	Hauptsterne Berliner Jahrb. ✓ Am. Ephem. ape.
" 241	α Ophiuchi	17 29 21.832	+12 38 55.34	Hauptsterne Berliner Jahrb. ✓ Am. Ephem. ape.
" 484	γ Draconis	17 44 4.368	+72 12 25.88	Zusatz ✓ Am. Ephem. ape.
" 252	ζ Draconis	17 53 49.244	+51 30 12.00	Hauptsterne Berliner Jahrb. ✓ Am. Ephem ape.
" 485	35 Draconis	17 54 49.110	+76 58 38.82	Zusatz

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1879phae.proj..437D

1879

Dates of Observation from 767 – 788.

Total 179.

1879	Aug 12 Aug 13 Aug 14 Aug 19	4
1879	Feb. 15. Feb. 22. Feb 23. Mar. 1. Mar 11. Mar 12 July 2 obf Aug 13 Aug 14 Aug 19 Aug 20 = 10 Sept 7 Sept 19 Sept 26 Oct 1 Oct 2 Oct 5 Oct 7 Oct 8	18
1879	Mar 25 Apr. 2 Lc	2
1879	Aug 13 Aug 14 Aug 19	3
1879	Mar 1 Mar 20 Apr 2 Oct 7 Oct 8 Oct 20 Lc Mar 20 Lc in A20 not traced in 767	6
		34

1879phae.proj..437D

see p 144

Star List. Absolute Work.

Mean RA 1880 Mean Decl 1880.

Jahrbuch No	Name of Star.	from the 539 Star List.		
256	δ Urs. Min.	18h 11m 2.180	+86° 36′ 32.″20	Hauptsterne Berliner Jahrb. v Am. Ephem. apl. partially dows
257	η Serpentis	18 15 5.995	−2 55 42.98	Hauptsterne v Am. Ephem. apl.
489	φ Draconis	18 22 28.860	+71 16 24.62	Zusatz
259	χ Draconis	18 23 12.972	+72 40 49.34	Hauptsterne
260	α Lyrae	18 32 52.531	+38 40 22.01	Hauptsterne Berliner Jahrb. v Am. Ephem apl.

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1879phae.proj..437D

1879

Dates of Observations from 767–788.

		Total
1879	Mar. 2 in A20 not read in 767 Mar. 1, Mar 5 Mar 8, Mar 12. Mar 13 Lc Mar 16 Mar 17 Mar 18 Mar 19 Mar 20 Lc	10
	Mar 25 Lc Apr 2 Apr 6 Apr 7 Apr 20 Lc Aug 14 Aug 19 Aug 20 Aug 23 Sept 6	10
	Sept 9 Lc Sept 24 Sept 27 Sept 30 Oct 2 Lc Oct 5 Oct 7 Oct 7 Oct 8 Oct 14	10
	Oct 20 Lc	1
		31 2
1879	Mar. 1 Mar. 4 Mar 17 Apr 2 Aug 13 Aug 14 chf. Aug 19 Aug 20 Aug 21 Aug 23 Sept 6	10
	Sept 9 Sept 30 Oct 2 Oct 5 Oct 7 Oct 8	6
		16
1879	Apr 2.	1
		1
1879	Mar. 20 Lc Mar 25 Lc Oct 7 Lc Oct 8 Oct 20 Lc	5
		5
1879	Aug 13 Aug 14 Aug 19 Aug 21 Aug 23 Sept 6 Sept 8 Sept 9 Sept 17 Sept 30	10
		10
		63 4

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1879phae.proj..437D

see p 146

Star List. Absolute Work.

Mean RA 1880. Mean Decl. 1880.

Jahrbuch No.	Name of Star.	from the 539 Star List.		
		h m s	° ′ ″	
" 491	Groomb. 2640	18 35 50.254	+65 22 50.08	Zusatz
		approx.	approx.	
" [603	σ Sagittarii]	18 47	−26 26	
				Am. Ephem. apl.
" 493	υ Draconis	18 55 51.705	+71 8 11.26	Zusatz
" 270	ζ Aquilæ	18 59 53.598	+13 41 9.90	Hauptsterne
				Am. Ephem. apl.
" 269	λ Aquilæ	18 59 52.838	−5 3 40.29	Hauptsterne

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1879phae.proj..437D

1879

Dates of Observation from F 67 – F 88.

		Total '79
1879	Mar 20 lc. Apr 7	2
	2	
1879	Apr. 2 Apr 7 Sept 27 Sept 30 Oct 2 Oct 4 Oct 5 Oct 7 Oct 8 Oct 12	10
	10	
1879	Apr 7 Oct 7 lc Oct 14 lc	3
	3	
1879	Apr 7 ~~Apr 27~~ Aug 13 Aug 19 Aug 20 Aug 21 Aug 23 ~~Aug 24~~ Sept 6 Sept 8 Sept 9 Sept 17 Oct 7 Oct 8 ~~Oct 14~~ ~~Sept 27~~	11
	11	
1879	Mar 17 Apr 2 ~~Apr 21~~ ~~Sept 23~~ clf. Sept 27 Oct 2 . Oct 4 Oct 5 Oct 7 Oct 8 Oct 12 *+23 Oct 14.	10
	10	
	31	

* A 23 Oct 14 1879 S Aguilae, should be λ, the S is that of R. an abbrev. to question of its Reads shows it also.

1859 30 – 5 14 L m s

Dates in red are entered from M 25.

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1879phae.proj..437D

zu p 148

Star List. Absolute Work.

Mean RA 1880. Mean Decl. 1880.

Jahrbuch No.	Name of Star.	from the 539 Star List.		
" 271	δ Draconis	19 12 31.410	+67 27 0.61	Hauptsterne Am. Ephem. apl.
" 273	ι Draconis.	19 17 51.056	+73 7 56.01	Hauptsterne Am. Ephem. apl.
" 275	β Cygni	19 25 52.934	+27 42 31.19	Hauptsterne
" 497	Groomb. 2900	19 28 55.291	+79 21 39.42	Zusatz
" 277	γ Aquilæ	19 40 33.275	+10 19 18.53	Hauptsterne Berliner Jahrb. Am. Ephem. apl.

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1879phae.proj..437D

1879

Dates of Observation from ♃67 – ♃88.

		Total '79
1879	Apr 2 Apr 7 Apr 8 Apr 21 Oct 7 Oct 8 Oct 14 Oct 20	8
		8
1879	Apr 2 Oct 8 Oct 20	3
		3
1879	Apr 7 Apr 20 Apr 21 Aug 13 Aug 21 Aug 23 Aug 24 Sept 6 Sept 8 Sept 20	10
	Sept 23	1
		11
1879	Oct. 14	1
		1
1879	Feb 23 not read in ♃67 Mar. 1 Mar 2 Mar 4 Mar 11 Mar 15 Mar 18 Mar 19 Apr 2 Apr 7 Apr 8	10
	Apr 19 Apr 20 Apr 21 Apr 23 Aug 23 Aug 24 Sept 8 Sept 20 Sept 23 Sept 25	10
	Sept 27 Sept 29 Oct 18 Oct 19 Oct 21 Oct 25	6
		26
		49

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1879phae.proj..437D

see p 150

Star List. Absolute Work.

Mean RA 1880. Mean Decl. 1880

Jahrbuch No	Name of Star.	from the 539 Star List.		
280	α Aquilæ	19h 44m 55.s703	+8° 33′ 8.″75	Hauptsterne Berliner Jahrb. Am. Ephem apl.
284	λ Urs. Min.	19 44 11.816	+88 56 37.13	Hauptsterne Am. Ephem. apl.
282	ε Draconis	19 48 34.318	+6[*]9 57 43.18	Hauptsterne Am. Ephem. apl.
283	β Aquilæ	19 49 25.107	+6 6 29.37	Hauptsterne Berliner Jahrb. Am. Ephem. apl.
287	θ Aquilæ	20 5 6.755	−1 10 34.92	Hauptsterne.

[*] Dec. is 69° in Ledger and in Am Ephem.

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1879phae.proj..437D

1879

Dates of Observation from F 67 – F 88.

		Total
1879	Feb 26 Mar 1 Mar 2 Mar 4 Mar 11 Mar 15 Mar 18 Mar 19 Apr 7 Apr 8	10
	Apr 19 Apr 20 Apr 21 Apr 23 May 1 Aug 23 Aug 24 Sept 6 Sept 8 Sept 20	10
	Sept 23 Sept 25 Sept 27 Sept 29 Oct 4 Oct 15 Oct 18 Oct 19 Oct 21 Oct 25	10
		30
1879	Apr 1	1
		1
1879	Apr 7 Apr 8 Apr 9 Apr 20 Apr 24 Oct 20 Oct 21	7
		8
1879	Mar 2 Mar 4 Mar 19 Apr 2 Apr 20 Apr 21 Apr 23 May 1 Aug 23 Aug 24	10
	Sept 6 Sept 8 Sept 20 Sept 23 Sept 25 Sept 27 Sept 29 Oct 4 Oct 18 Oct 19	10
	Oct 25	1
		21
1879	Mar 4 Apr 1 Apr 7 Apr 8 Apr 19 Apr 20 Apr 21 Apr 23 May 1 Aug 23	10
	Sept 6 Sept 20 Sept 23 Sept 25 Sept 27 Sept 29 Oct 4 Oct 7 Oct 15 Oct 18	10
	Oct 19	1
		21
		81

Entries in red are made from M 25

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1879phae.proj..437D

am p 152

Star List. Absolute Work.

Mean RA 1880. Mean Decl. 1880.

Jahrbuch No.	Name of Star.	from the 539 Star List.		
" [606 = 607	21 α² Capricorni]	h m s Approx 20 11	° ′ Approx − 12 55	approx
				Berliner Jahrb. ✓ Am. Ephem. afl
" 502	K Cephei	20 12 54.003	+77 20 56.67	Zusatz. ✓ Am. Ephem. Ephem. afl
" 289	ϑ Cygni	20 17 55.312	+39 52 23.93	Haupt-Sterne
" 291	ϑ Cephei.	20 27 33.935	+62 35 27.84	Hauptsterne
" 504	73 Draconis	20 33 4.357	+74 32 34.36	Zusatz

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1879phae.proj..437D

1879

Dates of Observation from Y67–Y88.

Total

1879 Apr. 1 Apr 2 Apr 7 Apr 8 Apr 20 Apr 23 May 1 May 5 Sept 20 Sept 23 Sept 25 — 11
Sept 27 Sept 29 Oct 4 Oct 7 Oct 15 Oct 18 Oct 19 — 7
18

1879 Apr 9 Apr 21 Nov 5 Nov 10 — 4
4

1879 May 5 ~~May 6~~ May 8 — 2 3 2 3 1
1

1879 Apr 7 Apr 8 Apr 9 Apr 19 Apr 20 Apr 20 Apr 21 Apr 23 Nov 5 Nov 10 — 10
10

1879 Nov 10 — 1
1

35 ~~35~~ 36

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1879phae.proj..437D

see p 154

Star List. Absolute Work.

Mean RA 1880. Mean Dec. 1880.

Jahrbuch No.	Name of Star.	from the 539 Star List.		
294	α Cygni	20 37 20.444	+44 51 7.49	Hauptsterne Berliner Jahrb. v Am. Ephem. afl.
298	ε Cygni	20 41 21.374	+33 31 17.29	Hauptsterne
299	γ Cephei	20 42 50.848	+61 22 22.56	Hauptsterne
303	ζ Cygni	21 7 49.832	+29 44 7.91	Hauptsterne v Am. Ephem. afl.
510	77 Draconis	21 7 52.434	+77 38 20.66	Zusatz

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1879phae.proj..437D

1879

Dates of Observations from ♃67–♃88.

		Total '79
1879	May 1. May 5. May 8	3
		3
1879	May 1. May 5. May 8	3
		3
1879	Nov 5. Nov 10	2
		2
1879	Apr 12 Apr 14 Apr 19 Apr 20 Apr 21 Apr 23 May 1 May 5. May 6 May 8	10
	Oct 4 Oct 7 Oct 12 Oct 13 Oct 14 Oct 15 Oct 18 Oct 19 Oct 23 Oct 29	10
	Nov 5	1
		21
1879	Nov 10	2
		2
		38

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1879phae.proj..437D

see p 156

Star List. Absolute Work.

Jahrbuch No.	Name of Star.	Mean Ra 1880. from the 539 Star List.		
" 306	a Cephei	21h 15m 42.s881	+62° 4' 37."40	Hauptsterne Berliner Jahrb. v Am. Ephem. apl.
" 307	β Aquarii	21 25 14.450	−6 5 54.48	Hauptsterne v Am. Ephem. apl.
" 308	β Cephei	21 27 6.357	+70 2 1.30	Hauptsterne Berliner Jahrb. v Am. Ephem. apl.
" 309	ε Pegasi	21 38 17.503	+ 9 19 32.02	Hauptsterne v Am. Ephem. apl.
" 516	11 Cephei	21 40 9.590	+70 45 32.04	Zusatz v Am. Ephem. apl.

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1879phae.proj...437D

1879

Dates of Observation from I 67 – I 88.

Total 179

1879 Lc. May 1 Lc. May 1 Lc. May 5 ~~Lc.~~ Lc. May 5 Lc. May 6 Lc. May 7 Lc. May 8 Nov 5 Nov 10 Nov 16 — 10

10

1879 Apr 1 Apr 7 Apr 12 Apr 19 Apr 20 Apr 21 Apr 23 May 1 May 5 May 8 — 10
Oct 4 Oct 7 Oct 12 Oct 13 Oct 14 Oct 19 Oct 20 Oct 29 Oct 30 Nov 10 — 10

20

1879 ~~May 5~~ Lc. May 5 Lc. May 6 Nov 10 Lc. Nov 10 Nov 15 Nov 16 Lc. Nov 24 Nov 25 — 8

8

1879 Apr 1 Apr 7 Apr 12 Apr 14 Apr 20 Apr 21 Apr 23 May 1 May 5 May 6 May 8 — 11
Oct 4 Oct 7 Oct 12 Oct 13 Oct 14 Oct 15 Oct 19 Oct 20 Oct 26 Oct 27 — 10
Oct 29 — 1

22

1879 Lc. May 5 Lc. Nov 10 Nov 15 Lc. Nov 15 Nov 16 Nov 24 Lc. Nov 24 Nov 25 — 8

8

68

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1879phae.proj..437D

see p. 158

Star List — Absolute Work.

Mean RA 1880. Mean Decl. 1880.

Jahrbuch No.	Name of Star.	from the 539 Star List.		
311	α Aquarii	21h 59m 37.193	−0° 54′ 8.″03	Hauptsterne Berliner Jahrb. Am. Ephem. apl.
520	20 Cephei	22 1 21.455	+62 12 0.43	Zusatz
521	24 Cephei	22 7 29.875	+71 45 0.16	Zusatz
525	31 Cephei	22 32 48.111	+73 1 72.67	Zusatz
322	η Pegasi	22 37 22.706	+29 35 38.52	Hauptsterne

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1879phae.proj..437D

1879

Dates of Observations from F67–F88.

		Total
1879	Apr 12 Apr 19 Apr 20 Apr 21 Apr 23 May 1 May 5 May 6 Oct 4 Oct 7	10
	Oct 12 Oct 13 Oct 14 Oct 15 Oct 19 Oct 20 Oct 26 Oct 27 Oct 29	9
	Oct 30 Nov 15 Nov 16 Nov 24 Nov 25	5
		24
1879	Nov 10 Nov 15 lc Nov 16 Nov 24 Nov 24 lc Nov 25 Nov 30 Nov 30 lc	8
		8
1879	~~Nov 10~~ Nov 15 Nov 16 Nov 24 Nov 24 lc Nov 25 Nov 26 Nov 30 Nov 30 lc	8 9
		8
1879	Nov 24 lc Nov 25 lc Nov 26 Nov 30 Nov 30 lc Dec 7	6
		6
1879	~~March~~ June 1 Oct 15 Oct 19 Oct 26 Oct 27 Oct 29 Oct 30 Nov 26 Nov 30 Dec 7	10
		10
		57

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1879phae.proj..437D

see p 160 | Star List. | Absolute Work. Mean RA 1880. Mean Decl. 1880. from the 539 Star List.

Jahrbuch No.	Name of Star.			
" 325	ε Cephei	22h 45m 24.606	+65° 34′ 8.″97	Hauptsterne Am. Ephem. apl.
" [619	α Psc. Aust.]	approx. 22. 50	approx. — 30 15	Berliner Jahrb. Am. Ephem. apl.
" 329	α Pegasi	22 58 47.052	+14 33 36.23	Hauptsterne Berliner Jahrb. Am. Ephem. apl.
" 529	π Cephei	23 4 5.018	+74 44 19.42	Zusatz
" 533	η Cassiop.	23 19 30.719	+61 37 26.50	Zusatz

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1879 Star List - Absolute Work.
Dates of Observation from Y67 - Y88.

			Total 179
1879	Nov 15 Nov 16 Nov 26 Nov 30 Dec 7	5	5
1879	Oct 19 Oct 26 Oct 27 Oct 29 ~~Oct 31~~ Oct 30 ✓ Nov 16 Nov 26 Nov 30 Dec 7	9	9
1879	Apr 7 Apr 13 ~~Apr 19~~ Apr 23 May 6 May 8 May 29 June 1 June 8 Oct 15 Oct 19 Oct 26 Oct 27 Oct 29 Oct 30 Nov 15 Nov 16 Nov 26 Nov 30 Dec 7	10 9	19
1879	Dec 7	1	1
1879	Dec 7	1	1
			35

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1879phae.proj..437D

Class II.

~~Mr Pickering~~

Star List. Non Fundamentals.

Mean R.A. 1880.0 Mean Decl. 1880.0

No.	Name of Star	h m s	° ′
h χ 1	Pearlies Star	0 42 15	+70 31
o ~~ψ~~	Davidsons Star	1 58 40	−12 26
l χ	Halls No 5	2 10 3	+56 25
m ~~ξ~~	Halls No 12	2 11 33	+56 46
p ~~π~~	Tupmans Star	4 37 28	+51 48
q	Tupmans Star	4 50 59	+54 4
r	" "	4 52 38	+54 11

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Dates of Observations from I 67 – I 88.

Year				Total
1880 ~~1879~~	Apr. 5	Apr. 7	Apr. 10	3
1881 1880	Dec 30	1881 Jan. 1.	Jan. 3. Jan 8.	1 3 4
1880 1881	Dec. 9.	Dec. 16	Dec. 22. Dec. 23 Dec 28 Dec 30	1881 Jan. 1 Jan 3 Jan 8 Jan 12. 6 4 10
1880 1881	Dec 9	Dec 16	Dec 22 Dec 23 Dec 28 Dec 30.	1881 Jan 1 Jan 3 Jan 8 Jan 12. 6 4 10
1881	Oct. 11.	~~Oct 11~~	~~Oct 11~~ Oct 16	~~Oct 16~~ ~~Oct 16~~ 2 2
1881	Oct 11	Oct 16		2
1881	Oct 11	Oct 16		2
				2
				16 ~~33~~ 17

Total 33

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Star List Non-Fundamentals.

		Ra	Decl.
to	Name of Star		
g	No Name	7h 45m 54s	+ 30° 59′
f	(Comp Star of 123)	10 41 49	+ 1 15
k	(Comp. Star of 112)	11 19 34	+ 1 46
i	(Comp. Star of 112)	11 23 6	+ 1 23
j	(Comp. Star of 112)	11 29 37	+ 0 52
e	Safford's	20 16 42	+ 88° 46′

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Dates of Observations from I 67 - I 88

Year		I Total '79 '80 '81
1880	Apr. 1. Apr 8	2
1879	Apr. 22 Apr 23 May 1 May 5	4
1880	Apr 26 Apr 26/27	2
1880	Apr 12 Aug 26	2
1880	Apr 12	1
1879	Apr 1 Apr 6 Apr 7 Apr 8	4
		15

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Star List. Mercury.

RA Decl.

So Same

Mer Mercury

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1881

Dates of Observations from I 67 — I 88.

Year										Total '81
1881	Mar. 24.	Apr. 3.	Apr. 7.	Apr 10.	Apr 18.	Apr 20	Apr 24	May 2.	May 10.	May 23/24	10

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Star List. Sun. 1879

R.a Decl.

No Name

S Sun

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1879

Dates of Observations from F67—F88.

Year ~~17 Feb 15~~

1879 Feb 16. Feb 19. Feb 21. Feb 23 Feb 24 3 Feb. 25. Feb 26. Feb 27 Mar. 2 Mar. 3 10

Mar. 4 Mar. 5 Mar. 7 Mar. 12 Mar 13 Mar 18 Mar 19 Mar 20 Mar 23 Mar 24 10

Mar 25 Apr 1 Apr 2 Apr 3 Apr 6 Apr 8 Apr 9 Apr 13 Apr 14 Apr 16 ~~Apr 17 20~~ 10

Apr 19/20 Apr 20/21 Apr 21/22 Apr 22/23 Apr 23/24 Apr 26/27 ~~Apr 28/29~~ May 1 May 2 May 4/5 ~~10~~ 9

May 5/6 May 6/7 May 8/9 May 10/11 May 11/12 May 12/13 May 13/14 May 14/15 May 28/29 May 29/30 10

~~May 31~~ June 1 June 2 June 4/5 June 7/8 June 9/10 June 13 June 17 June 19 June 20 June 22 June 23 11

June 24 June 25 June 26 June 26/27 June 28 June 30 July 1 July 2 July 3 July 4 10

July 6 July 9 July 10 July 11 Aug 12 Aug 13 Aug 14 Aug 15 Aug 19 Aug 20 10

Aug 21 Aug 22 Aug 24 Sept 5 Sept 7 Sept 8 Sept 8/9 Sept 9/10 Sept 10/11 Sept 11/12 10

Sept 14/15 Sept 16/17 Sept 17/18 Sept 18/19 Sept 20/21 Sept 22/23 Sept 23/24 Sept 24/25 Sept 25/26 9

Sept 27/28 Sept 28/29 Sept 29/30 Sept 30/Oct 1 Oct 1/2 Oct 2/3 Oct 4/5 Oct 6/7 Oct 7/8 Oct 12/13 10

Oct 13/14 Oct 14/15 Oct 19/20 Oct 20/21 Oct 25/26 Oct 26/27 Oct 28/29 Oct 29/30 Oct 30/31 9

Nov 6/7 Nov 9/10 Nov 10/11 Nov 15/16 Nov 16/17 Nov 23/24 Nov 25/26 Nov 27 Nov 29/30 Nov 30/Dec 1 10

Dec 1/2 Dec 2/3 Dec 3/4 Dec 4/5 Dec 6/7 Dec 8/9 Dec 11/12 Dec 15/16 Dec 16/17 Dec 17/18 10

Dec 20/21 Dec 25/26 Dec 28/29 3

~~1~~ 142

* In Star List

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1879phae.proj..437D

Jan. 1880

Dates of Observation from Y67–Y68.

1880 1881

1880. Jan 1/2 Jan 2/3 Jan 3/4 Jan 4/5 Mar 1/2 Mar 2/3 Mar 3/4 Mar 8 Mar 9/10 Mar 11/12 Mar 16/17
Apr 10/11 Apr 11/12 Apr 12/13 Apr 13/14 Apr 14/15 Apr 18/19 Apr 20/21 Apr 21/22 Apr 22/23 Apr 24/25 Apr 26/27 Apr 27/28 Apr 28/29 Apr 29/30
May 24/25 May 26/27 May 30/31 June 9/10 June 10/11 June 12/13 June 13/14 June 15 June 15/16 June 17 June 18 June 18/19 June 19/20
July 4/5 July 5/6 July 6/7 July 7/8 July 8/9 July 13/14 July 18 July 18/19 July 20/21 July 24/25 July 28 July 28/29 July 29/30 July 31/ aug 1
Sept 1/2 Sept 2/3 Sept 4/5 Sept 5/6 Sept 11/12 Sept 12/13 Sept 16/17 Sept 18/19 Sept 19/20 Sept 20/21 Sept 21/22
Oct 7/8 Oct 9/10 Oct 10/11 Oct 11/12 Oct 12/13 Oct 13/14 Oct 17 Oct 17/18 Oct 18/19 Oct 19/20 Oct 20/21
Nov 13/14 Nov 15/16 Nov 18/19 Nov 20/21 Nov 21/22 Nov 22/23 Nov 23/24 Nov 29/30 Dec 1/2 Dec 6/7 Dec 8/9 Dec 13/14 Dec 14/15
1881. Jan 3/4 Jan 4/5 Jan 6/7 Jan 9 Jan 11/12 Jan 12/13 Jan 14/15 Jan 15/16 Feb 10/11 Feb 12/13 Feb 13/14 Feb 14/15
Mar 26/27 Mar 27/28 Mar 28/29 Mar 31/Apr 1 Apr 2/3 Apr 3/4 Apr 4/5 Apr 5/6 Apr 6/7 Apr 7/8 Apr 10/11 Apr 16/17 Apr 17/18
May 4/5 May 9/10 May 10/11 May 11/12 May 12/13 May 22 May 22/23 May 23/24 May 24/25 May 25/26 May 26/27
July 3/4 July 4/5 July 6/7 July 7/8 July 8/9 July 12/13 July 13/14 July 14/15 July 15/16 July 19/20 July 20/21
Aug 26/27 Aug 28/29 Aug 29/30 Aug 30/31 Aug 31/32 Sept 7/8 Sept 8/9 Sept ? Sept 13/14 Sept 14/15 Sept 16/17
Sept 29/30 Sept 30/31 Oct 4/5 Oct 5/6 Oct 6/7 Oct 7/8 8/9 Oct 9/10 Oct 10/11 Oct 11/12 Oct 12/13 Oct 13/14
Oct 27/28 Nov 5/6 Nov 8/9 Nov 9/10 Nov 10/11 Nov 12/13 Nov 13/14 Nov 15/16 Nov 16/17 Nov 19/20 Nov 21/22
Dec 20/21 Dec 23/24 1882. Jan 1/2 Jan 2/3 Jan 3/4 Jan 4/5 Jan 6/7 Jan 9/10

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1879phae.proj..437D

Apr 8 Apr 8/9
May 20/21 May 23/24
June 30/ July 1/ July 3/4
Aug 23/24 Aug 29/30

	1880	81	82	Total
Mar 17/18 Mar. 22 Mar. 23 Mar. 24 Mar. 25 Mar. 26 Mar. 30 Apr 1 Apr. 2 Apr. 3/4 Apr. 4/5	23			23
May 2/3 May 3/4 May 4/5 May 5/6 May 6/7 May 8/9 May 9/10 May 10/11 May 16/17 May 18/19 May 19/20	27			27
June 20/21 June 21/22 June 22/23 June 23/24 June 24/25 June 26/27 June 27/28 June 28/29 June 29/30	24			24
Aug 1/2 Aug 2/3 Aug 4/5 Aug 5/6 Aug 8/9 Aug 9/10 Aug 10/11 Aug 15 Aug 15/16 Aug 17/18 Aug 21/22	27			27
Sept 22/23 Sept 23/24 Sept 27 Sept 29 Sept 29/30 Oct 30/1 Oct 2/3 Oct 4 Oct 5/6	20			20
Oct 23/24 Oct 24/25 Oct 27/28 Nov 1/2 Nov 2/3 Nov 6/7 Nov 7/8 Nov 8/9 not Entered Nov 9/10 Nov 11/12 not Entered	21			21
Dec 15/16 Dec 16/17 Dec 18/19 Dec 19/20 Dec 21/22 Dec 22/23 Dec 24/27 not Entered Dec 29/30 Dec 30/31	22			22
Feb 16/17 Feb 19/20 Feb 22 Feb 23/24 Feb 24/25 Mar 14/15 Mar 21/22 Mar 22/23 Mar 23/24		21		21
Apr 18/19 Apr 19/20 Apr 20/21 Apr 24 Apr 24/25 Apr 27/28 Apr 30/31 May 1/2 May 2/3 May 3/4		23		23
June 14/15 June 15/16 June 16/17 June 20/21 June 22/23 June 24/25 June 27/28 June 29/30 July 1/2 July 2/3		21		21
July 24/25 July 27/28 July 31/32 Aug 8/9 Aug 10/11 Aug 21 Aug 21/22 Aug 24/25 Aug 25/26		21		21
Sept 17/18 Sept 18/19 Sept 19/20 Sept 20/21 Sept 21/22 Sept 22/23 Sept 24/25 Sept 26/27 Sept 28/29		20		20
Oct 15/16 Oct 18/19 Oct 19/20 Oct 20/21 Oct 22/23 Oct 24/25 Oct 25/26 Oct 26/27		20		20
Nov 24 Dec 7/8 Dec 8/9 Dec 9/10 Dec 10/11 Dec 15/16 Dec 16/17 Dec 17/18 Dec 18/19 Dec 19/20		21		21
		2	6	8
Total	164	149	6	319

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1879phae.proj..437D

Continued from p2 Dates of Observation

1880.

1 α Aurigæ
h m
0 2 +28° 25′

1880 May 16 May 20 May 27 May 29 May 31 June 9 June 12 June 15 June 17 Nov 2 Nov 8
1881 Nov 14 Nov 15 Nov 16 Nov 20 Nov 22 Dec 17 ~~Dec 18~~

+28° 25′

2 β Cas
h m
0 2
+58° 29′

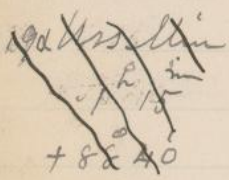
1880 Apr. 26 May 2 May 3 May 4 May 6 May 11 May 11 May 16 May 23 May 23 May 24
Dec 22 Dec 23. 1881 May 2 May 3 ~~May 3~~ ~~May 4~~ May 4 May 24 May 24 Dec 17

3 γ Pegasi
h m
0 7
+14° 31′

1880. Apr. 27 May 20 May 25 May 27 May 27 May 31 June 9 June 10 June 12 June 13
Dec 23 1881 Apr 30 May 2 May 11 May 24 Nov 15 Nov 20 Nov 22 Nov 24

13 γ Cassiopeiæ
h m
0 49
+60° 4′

1880. Apr. 24 May 2 May 3 May 4 May 6 May 6 May 11 May 11 May 16 May 20 May 23 May 23
Dec 16 Dec 16 Dec 18 Dec 18 Dec 19 Dec 22 Dec 22 Dec 28 Dec 29 Dec 30
1881 Feb 19 Feb 22 Feb 23 Feb 25 Feb 26 Mar 6 Mar 7 Mar 8 Mar 24 Mar 25 Apr 1
May 11 May 24 May 24 May 26 May 26 May 30 May 31 June 4 June 11 June 15 June 16
Oct 4 Dec 17 Dec 18 Dec 20 Dec 20 1882 Jan 7



+8° 40′

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1879phae.proj...437D

1880 1881

space

1880 1881 1882 Total

Nov 11 Nov 14 Nov 16 Nov 18 Nov 25 Nov 30 Dec ~~22~~ ~~23~~ 1881 Apr 16 Apr 30 May 11 18 3 6 X 9 28

18 18

lc
May 25 May 26 June 10 June 12 June 13 June 16 Dec 16 *lc Dec 16 Dec 18 Dec 19 Dec 22 ✓ 22 ✓
Dec 18 2 10 ✓ 34

24 10

June 15 June 17 Nov 2 Nov 8 Nov 11 Nov 14 Nov 16 Nov 18 Nov 25 Nov 27 Dec 7 Dec 9 22
Dec 17 ~~Dec 18~~ 1 9 32

23 9

May 25 lc May 25 May 26 ~~June 3~~ June 9 lc June 9 June 12 June 13 June 15 June 16 Nov 2 Nov 11 23
1881 Jan 1 lc Jan 3 lc Jan 12 Feb 11 Feb 13 Feb 13 Feb 15 Feb 16 Feb 16 Feb 17 10 10
Apr 2 Apr lc 21 Apr lc 23 Apr 27 Apr 30 May 2 May 3 May lc 3 May lc 4 ~~May 7~~ May lc 10 1 22
June 17 June 19 June 21 June 23 June 25 June 29 July 3 July 8 July 10 July 14 July 17 22

33 5 1 93

98 8 6 1 92 18 5

* Is this lc yes

1879phae.proj..437D

Continued from p 2

19 Mrs Mhin 1880
h m
1 15
88° 40'

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1879phae.proj..437D

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19 α Urs. Min.
3h 1m 15s
+ 88° 40'

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19 α Ursæ Min.
$1^h\ 15^m$
$+88^\circ\ 40'$

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1879phae.proj..437D

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1879phae.proj..437D

Continued from p 10

Dates of Observation from 767–788

1880. 1881. 1882.

20 δ Cassiop. 1880. Apr. 24 May 2 May 11 May 16 May 22 May 25 May 25 May 26 June 9 June 12
1h 1m 18 1881. Jan 1 Jan 2 Jan 2 Jan 3 Jan 3 Jan 6 Jan 7 Jan 8 Jan 12 Jan 12 Jan 16
+59° 37′ Feb 19 Feb 21 Feb 22 Feb 23 Feb 25 Feb 26 Mar 7 Mar 8 Apr 24 Apr 28 May 2
May 30 May 31 June 4 June 6 June 11 June 14 June 15 June 17 June 18 June 19 June 21
Oct 4 Dec 7/8 Dec 9 Dec 10 Dec 15 Dec 15 Dec 16 Dec 17 Dec 18 Dec 18 Dec 19 Dec 20

30 β Arietis 1880. May 20 June 2 June 18 June 19 June 26 June 28 June 30 July 3 July 6 July 7 July 9
1h 48m Dec 22 Dec 23 Dec 30 1881 Jan 17 Jan 18 Jan 20 Feb 11 Feb 14 Feb 17 Feb 19
+20° 13′ Dec 15 Dec 17 Dec 18 Dec 19

32 γ Androm. 1880 May 25 June 2 June 18 June 19 June 24 June 26 June 28 July 3 July 6 July 7 July 9
1h 57m Dec 28 Dec 30 1881 Jan 29 Feb 2 Feb 3 Feb 4 Feb 5 Feb 7 Feb 11 Feb 14
+41° 45′ June 14 June 15 June 19 June 29 Dec 15 Dec 17 Dec 19

33 α Arietis 1880. Jan 3 May 20 May 24 June 18 June 19 June 21 June 24 June 26 June 28 July 3
2h 0m Dec 16 Dec 18 Dec 22 Dec 23 Dec 28 1881 Jan. 1 Jan 2 Jan 3 Jan 8 Feb 7 Feb 11
+22° 54′ Dec 19

353 67 Ceti
2h 15m
−6° 59′

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1879phae..proj...437D

1880 1881 1882

	1880	1881	1882	Total 1880/81
June 13 June 13 June 16 Nov 30 Dec 22 Dec 22 Dec 23 Dec 27 Dec 28 Dec 29 Dec 30	21			21
Jan 17 Jan 18 Jan 20 Feb 11 Feb 13 Feb 13 Feb 14 Feb 15 Feb 16 Feb 16 Feb 17		22		
May 3 May 4 May 10 May 13 May 22 May 23 May 23 May 24 May 26 May 26		21		
June 23 June 28 June 29 July 1 July 3 July 8 July 13 July 14 July 17 Sept 20 Sept 30		22		43
Dec 24 Dec 30 Dec 30 Dec 31 Jan 2 Jan 4 Jan 7 Jan 9 Jan 10		18	5	
July 14 Aug 15 Sept 28 Oct 5 Oct 11 Nov 22 Nov 29 Dec 7 Dec 9 Dec 16 Dec 18	22			
Feb 22 Feb 24 Mar 7 Apr 7 June 5 June 14 June 15 June 19 June 29 July 1 Aug 22	3	18		
		4		
		6		
				25 22
July 14 Aug 15 Oct 3 Nov 22 Nov 29 Dec 7 Dec 9 Dec 16 Dec 18 Dec 22 Dec 23	22			
Feb 17 Feb 22 Feb 24 Feb 25 Mar 7 Mar 23 Apr 7 May 10 June 1 June 5	2	18		
		7		
				24 26
July 6 July 7 July 9 July 17 July 18 July 29 Aug 5 Aug 15 Nov 22 Nov 29 Dec 7 Dec 9	22			
Feb 13 Feb 22 Feb 24 Feb 26 Mar 8 Apr 7 May 10 Dec 15 Dec 17 Dec 18	5	16		
		1		
				27 16
			462	6 8
			5	9 14
				147

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1879phae.proj..437D

continued from p 12

1880 - 1881

Dates of Observation from F67 - F88

36 ε Cassiop.
2h 19m
+66° 52'

358 47 H Cephei
2h 50m
+78° 56'

47 α Celt
2h 56m
+3° 37'
1880. Jan 21 July 27 July 29 July 31 Aug 1 Aug 15 Aug 17 Aug 18 Aug 22 Dec 28 Dec 30

48 γ Persei
2h 56m
+53° 2'
1880 June 15 June 16 June 26 June 28 July 4 July 17 Dec 16 1881 Jan 2 Jan 3 Jan 8

360 48 H Cephei
3h 5m
+77° 17'

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1879phae.proj...437D

	1880	1881	Total.
1881. Jan 1 Feb 14 Feb 17 Feb 22 Mar 16 Aug 21 Dec 15 Dec 19		11	8
			11 8
Jan 15 Jan 16 Feb 24 (Dec 17 not entered)		7	7
			7 7
			18 15

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1879phae.proj..437D

continued from p 141

1880 1881

Dates of Observation from 767– 788.

52 α Persei
3h 16m
+49° 26′

1880. June 9. June 10 June 22 June 30 July 4 July 7 July 17 July 18 July 27 July 31 Aug 5
Feb 17 Feb 22 Feb 24 Mar 15 Aug 21

56 ε Eridani
3h 27m
9° 52′

1880. Jan 7 Aug. 17 Aug 18 Aug 22 Aug 23 Sept 2 Sept 5 Sept 21 1881 Jan 8

363 Groombridge 716
3h 32m
+62° 50′

57 δ Persei
3h 34m
+47° 24′

1880 June 15 June 16 June 30 July 4 July 7 July 17 July 27 July 29 Aug 15 Aug 17 Aug 18
Mar 15 Mar 16 Mar 21 Aug 21 Aug 22

(550 δ Eridani)
3h 37m
−10° 10′

1880. Jan 7 July 27 July 28 July 29 Aug 17 Aug 22 Aug 23 Sept 2 Sept 5 Sept 21

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1879phae.proj..437D

12 (? in A.27 according to sheet

	1880	1881	Total
Aug 13) Aug 18 Aug 23 Sept 5 Dec 28 1881 Jan 1 Jan 3 Jan 8 Jan 15 Feb 13	~~16~~ 7	5 ✓	
	—	5	~~16~~ 7 10
Jan 15 Feb 13 Feb 22	8	4	8 4
Aug 22 Aug 23 Sept 2 Sept 5 Sept 21. 1881 Jan 8 Jan 15 Feb 13 Feb 22 Feb 24	16	5	
	—	5	16 10
1881 Jan 8 Jan 15 Feb 13 Feb 22 Feb 24 Aug. 21	10	6	10 6
			~~50~~ 51 30

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1879phae.proj..437D

Continued from p 16

1880 1881 Dates of Observation from F67–F88.

61 η Tauri
3h 40m
23° 44′
1880. Jan 31 June 16 June 30 July 7 July 17 July 18 July 27 July 29 Aug 1 Aug 13 Aug 17
Mar 16 Mar 28 Aug 21 Aug 22

63 ζ Persei
3h 47m
+31° 32′
1880 June 15 July 17 July 18 July 28 July 29 July 31 Aug 1 Aug 13 Aug 17 Aug 18 Aug 22
Aug 21 Aug 22

365 g H Camelop.
3h 47m
+60° 45′

[552 g Eridani]
3h 52m
−13° 51′
1880 July 27 July 28 Aug 1 Aug 5 Aug 17 Aug 22 Aug 23 Sept 2 Sept 5 Sept 21

η Draconis 226
4h 27m
+118° 13′
16d 22h
1881. Feb 14 Feb 15 Feb 17 Feb 19 Feb 23 Feb 24 Sept 12 Oct 11 Oct 16

73 α Tauri
4h 29m
+16° 16′
1880. Mar 2 Apr 16 Apr 23 June 15 June 16 June 22 June 27 July 7 Aug 15 Aug 17
1881 Feb 23 Mar 15 Mar 21 Mar 28 Apr 17 Apr 31 Aug 9 Sept 7 Sept 12 Sept 13 Oct 11

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1879phae..proj...437D

	1880	1881	Total
Aug 18 Aug 23 Sept 2 Sept 5 Sept 21. 1881 Jan 15 Feb 22 Feb 23 Feb 24 Mar 15	16	5	
	—	4	
		16	9
Sept 2 Sept 5 Sept 21 1881 Jan 15 Feb 22 Feb 24 Mar 15 Mar 16 Mar 28	14	6	
	—	2	
		14	8
1881 Feb 19 Feb 22 Feb 23 Feb 24 Aug 21 Aug 22	10	6	
		10	6
Aug. 18 Sept 2 Sept 5 Sept 21 1881 Feb 13 Feb 14 Feb 15 Feb 17 Feb 19 Feb 22	14	6	
	—	14	
		14	14
		54	40

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1879phae.proj..437D

continued from p 18.

1880. 1881. Dates of Observations from J67 – J88.

\# 76 q Camelop. 1881. Oct 11 Oct 16
h m
4 42
+66° 8'

79 α Aurigæ 1880. ~~July 17~~ July 18 July 28 Aug 1 Aug 15 Aug 17 Aug 28 Sept 2 Sept 5 Sept 21
4 49 Aug 21 Aug 22 Sept 7 Sept 12 Sept 13 Oct 11
+32 58

80 10 Camelop.
h m
4 53
+60° 16'

84 β Eridani 1880. ~~Feb 17~~ Mar 1 Mar 2 Mar 8 Mar 17 Mar 18 Mar 30 Apr 8 Apr 12 Apr 18 Apr 22 Aug 15
h m Feb 17 Feb 19 Feb 22 Feb 26 Mar 15 Mar 16 Mar 28 Apr 3 Apr 7 Aug 21 Aug 22
5 2
−5° 15'

86 α Aurigæ 1880 Apr 22 Apr 25 June 15 June 22 June 27 July 29 Aug 5 Sept 5 Sept 15 Sept 16 Sept 21
h m Mar 16 Mar 23 Mar 24 Mar 28 Apr 7 Apr 11 Aug 9 Aug 21 Aug 22 Sept 7 Sept 12
5 8
+45° 52'

\# See Note Book pp 45, 46, 47. on identity of this star. "Given α Camel. in N A 1881." AW

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1879phae..proj..437D

1880 1881 Total
'80 '81

2

2

1881 Feb 13 Feb 15 Feb 17 Feb 19 Feb 22 Mar 15 Mar 16 Mar 28 Apr 3 Apr 17 9 10

6

9 16

Sept 2 Sept 5 Sept 15 Sept 16 Sept 21 Sept 29 1881 Feb 13 Feb 14 Feb 15 3
Sept 7 Sept 12 Sept 13 Sept 19 Oct 5 Oct 16

17

20

Sept 23 Sept 25 Sept 29 1881 Feb 15 Feb 17 Feb 19 Feb 22 Feb 26 Mar 15 14 6
Sept 13 Sept 17 Sept 19 Oct 5 Oct 16

16

14 22

60

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1879phae.proj..437D

Sep 20 1880 – 1881

1880 – 1881

Dates of Observations from 767 – 788.

87 β Orionis
5h 9m
−8° 20′
1880 ~~Feb 29~~ Mar 1 Mar 2 Mar 8 Mar 15 Mar 30 Apr 1 Apr 12 Apr 14 Apr 18 Apr 23 Aug 15
1881 Feb 13 Feb 14 Feb 15 Feb 19 Feb 22 Mar 15 Mar 16 Mar 21 Mar 23 Mar 24

91 ζ Orionis
5h 19m
+6° 14′
1880 Mar 2 Mar 8 Mar 15 Mar 30 Apr 1 Apr 12 Sept 5 Sept 11 Sept 15 Sept 21
Aug 22 Sept 12 Sept 13 Sept 25 Sept 26 Sept 28

90 β Tauri
5h 19m
+28° 30′
1880 Apr 9 Apr 14 Apr 18 Apr 22 Apr 23 Sept 25 ~~July 28~~ July 29 Aug 1 Aug 5 Aug 15 Aug 21
Mar 28 ~~Mar 31~~ Apr 1 Apr 7 Apr 24 Apr 31 ~~Sept~~ Aug 21 Aug 30 Sept 7 Sept 17 Sept 19

375 17 Camelop.
5h 19m
+65° 58′

93 δ Orionis
5h 26m
−0° 23′
1880 Mar 2 Mar 8 Mar 30 Apr 1 Apr 8 Apr 9 Apr 12 Aug 1 Aug 21 Sept 2 Sept 4 Sept 5
Feb 15 Feb 17 Feb 19 Feb 22 Feb 26 Mar 15 Mar 16 Mar 21 Mar 24 Mar 25 Mar 28
Sept 20 Sept 25 Sept 26 Sept 28 Oct 5 Oct 16

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1879phae.proj..437D

1880 – 1881

	1880	1881	Total
Aug 21 Sept 2 Sept 5 Sept 11 Sept 15 Sept 16 Sept 21 Sept 23 Sept 29	20		
Mar 28 Apr 11 Aug 22 Aug 30 Sept 7 Sept 12 Sept 13 Sept 19. Oct 5		19	
	20	19	
Sept 23 Sept 25 1881 Feb 13 Feb 14 Feb 15 Feb 17 Feb 19 Feb 22 Feb 26 Apr 11	12	8	
		6	
	12	14	
Aug 23 Sept 2 ~~15~~ Sept 16 Sept 29 1881 Mar 15 Mar 16 Mar 21 Mar 24	15	4	
Oct 5 Oct 16		12	
	15	16	
Sept 11 Sept 15 Sept 21 Sept 22 Sept 23 Sept 25 Sept 29. 1881 Feb 13 Feb 14	19	2	
Mar 31 / Apr 1 Apr 11 Aug 21 Aug 21 22 Aug 30 Sept 7 Sept 12 Sept 13 Sept 17 Sept 19		27 2	
		6	
	19	30	
	19	29	
	66	78 9	

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1879phae.proj..437D

Continued from p 22.

1880 1881

Dates of Observation from J 67 to J 88.

[536 α Leporis] 1880. Mar 2 Mar 8 Mar 15 Sept 4 Sept 5 Sept 21 Sept 22 Sept 23 Sept 25 Sept 29
5h 27m Mar 28 Apr 11 Sept 12 Sept 13 Sept 19 Sept 20 Sept 26 Sept 28 Oct 5 Oct 16
−17° 54′

96 c Orionis 1880. Apr. 1 Apr. 12 July 29 Aug 1 Sept 4 Sept 16 Sept 21 Sept 22 Sept 23 Sept 25
5h 30m 1881 Sept 19 Sept 25 Sept 26 Sept 28 Oct 5 Oct 16
−5° 5·9′

97 ε Orionis 1880 Mar 2 Mar 8 Mar 15 Mar 30 Apr 22 Apr 25 Aug 15 Aug 21 Aug 28 Sept 2 Sept 5
5h 30m Mar 21 Sept 12 Sept 13 Sept 19 Sept 20 Sept 26 Sept 28 Oct 5 Oct 16
−1° 17′

[a ζ Orionis] 1880. Mar 15 Apr 9 Apr 11 Apr 12 Apr 18 Apr 23 Apr 25 Aug 15 Aug 21 Aug 28 Sept 2
5h 34m Apr 11 Apr 17 May 1 Aug 21 Aug 22 Sept 12 Sept 13 Sept 19 Sept 25 Sept 26
−2° 0′

[b α Colomb.] 1880 Mar 2 Mar 8 Sept 21 Sept 22 Sept 23 Sept 25 Sept 29. 1881 Feb 13
5h 35m Sept 20 Sept 28 Oct 5 Oct 16
−34° 8′

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1879phae.proj..437D

	1880	1881	Total
1881 Feb 14 Feb 15 Feb 17 Feb 19 Feb 22 Mar 15 Mar 16 Mar 24 Mar 25	10	9	
		10	
			10 19

Sept 29 1881 Mar 15 Mar 21 Mar 24 Mar 25 Mar 28 Mar 31/1 Apr Apr 3 Apr 7 Apr 11 Aug 22	11	10	
		6	
			11 16

Sept. 11 1881. Feb 13 14 Ch4 Feb 15 Feb 17 Feb 19 Feb 22 Feb 26 Mar 15 Mar 16	12	8	
		9	12 17

Sept 4 Sept 5 Sept 10 Sept 16 Sept 28 1881 Mar 25 Mar 28 Mar 31/1 Apr 3 Apr 7	15	5	
		11	
			15 16

Feb 14 Feb 15 Feb 17 Feb 19 Feb 22 Feb 26 Mar 15 Mar 16 Mar 24 Sept 19	7	11	
		4	
			7 15

55 80

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1879phae.proj..437D

Continued from p 24

1880-1881-2 Dates of Observation from F67–F88.

100 K Orionis
122. 5h 4m
-9° 43'
1880. Mar 8 Mar 15 Mar 30 Apr 1 Apr 22 Apr 25 Sept 2 Sept 5 Sept 11 Sept 21.
F 26 Mar 15 Mar 16 Mar 24 Mar 25 Mar 28 Apr 7 Aug 21 Aug 22 Aug 23 Sept 13 Sept 12

Same as F75 or A25 probably α Orionis.

102 α Orionis
5h 49m
+7° 23'
1880. Mar 8 Mar 15 Mar 17 Mar 30 Apr 1 Apr 8 Apr 12 Apr 14 Apr 18 Apr 22 Apr 23
1881 Feb 19 Feb 22 Feb 26 Mar 16 Mar 23 Mar 24 Mar 25 Mar 28 Apr 3 Apr 6 Apr 11

103 β Aurigæ
5h 51m
+44° 56'

381 36 Camelop.
6h 1m
+65° 44'

383 H. Camelop.
6h 6m
+69° 22'

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1879phae.proj...437D

1880_ 1881_

1880	1881	Total
14	6	
	6 ✓	
	15	
		2
14	21	

Sept 22 Sept 23 Sept 25 Sept 29. 1881 Feb 13 Feb 14 Feb 15 Feb 17 Feb 19 Feb 22
Sept 19 Sept 20 Sept 28 Oct 5

Apr. 25 Sept 2 Sept 4 Sept 5 Sept 11 Sept 21 Sept 22 Sept 23 Sept 25 Sept 29 20 ✓
Aug 21 Aug 22 Aug 23 Sept 12 Sept 13 Sept 19 Sept 20 Sept 25 Sept 28 Oct 5 20

21 20

35 41 2

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1879phae.proj..437D

Continued from p 26

1880 1881

Dates of Observation from 767 - 788.

106 μ Geminor 1880. Mar. 15. Mar. 30. Apr. 1 Apr. 12 Apr. 14 Apr. 18 Apr. 22 Apr. 30 Sept 11 Sept 11 Sept 15
6h 16m Apr 4 Apr 7 Apr 11 Apr 17 Apr 21 Aug 21 Aug 22 Sept 13 Sept 19 Sept 20 Sept 25
+22° 34′

107 ζ Geminor. 1880 Mar. 30 Apr. 1 Apr. 8 Apr. 11 Apr. 12 Apr. 14 Apr. 18 Apr. 22 Apr. 25 Apr. 30 Sept 11 Sept 15 nor. ecl.
6h 31m Mar 22 Mar 24 Apr 3 Apr 4 Apr 6 Apr 7 Apr 11 Apr 19 Apr 31 May 1 Aug 21 Aug 22 Sept 6
+16° 30′

[564 α Can Maj] 1880. ~~Feb 29~~ Mar. 1 Mar. 2 Mar. 8 Mar. 30 Apr. 1 Apr. 12 Apr. 18 Apr. 22 Apr. 25 Apr. 30 Aug 31
6h 39m Mar 21 Mar 22 Mar 24 Apr 1 Apr 3 Apr 4 Apr 7 Apr 11 Apr 17 Apr 19 Aug 10 Aug 21
−16° 33′

111 51 H Cephei 1880. Mar. 4 Mar. 21 Apr. 4 Apr. 11 Apr. 26 Aug (?) 12 Aug 17 Aug 23 Aug 28 Sept 2 Sept 4
6h 44m Apr 7 Apr 10 Sept 8 Sept 12 Sept 17 Sept 20 Oct 4 Oct 5 Oct 6 Oct 10 Oct 13
+87° 14′

[566 ε Can Maj] 1880. ~~Feb 29~~ Mar. 1 Mar. 4 Mar. 21 Mar. 25 Mar. 30 Apr. 1 Apr. 8 Apr. 12 Apr. 22 Sept 25
6h 53m Mar 21 Mar 22 Mar 26 Apr 4 Apr 11 Apr 17 Apr 19 Aug 21 Aug 22 Sept 20 Sept 25
−28° 40′

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1879phae.proj..437D

		1880	1881	Total
Sept 21 Sept 22 Sept 23 ~~Sept 25~~ Sept 29.	1881 Mar 14 Mar 24 Mar 25 Mar 28 April Apr 3	15	6	
Sept 28 Oct 5		4	13	
			15	19
Sept 21 Sept 22 Sept 25 Sept 28 Sept 29 Sept 30	1881 Mar. 14 Mar 21 Mar 22	18	3	
Sept 12 Sept 13 Sept 20 Sept 25 Oct 4 Oct 5		3	18	
			18	21
Sept 4 Sept 11 Sept 21 Sept 22 Sept 23 Sept 25 Sept 28 Sept 30	1881 Mar 14	19	1	
Aug 22 Sept 6 Sept 12 Sept 13 Sept 20 Sept 25 Oct 4 Oct 5 Oct 13		3	21	
			19	22
Sept 11 Sept 18 Sept 29 Oct 7.	1881 Mar 14 Mar 21 Mar 22 Mar 26	15	4	
		2	11	
			15	15
Sept 28 Sept 29 Sept 30 Oct 2 Oct 6 Oct 9	1881 Mar 14 Mar 15	16	2	
Oct 3 Oct 4 Oct 5 Oct 9		5	15	
			16	17
			83	94

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1879phae.proj..437D

Continued from p 28

1880 1881

Dates of Observation from F67 – F68.

[568 δ Can Maj'] 1880. Mar. 4 Mar. 8 Mar. 21 Mar. 22 Mar. 25 Apr. 1 Sept 21 Sept 22 Sept 25 Sept 30
7h 3m Mar 26 Apr 4 Apr 7 Apr 11 Apr 19. Aug 21 Aug 22 Sept 20 Sept 25 Oct 3 Oct 4 Oct 5
– 26° 12'

116 Groomb. 1308
7h 18m
+ 68° 42'

118 B Can Min 1880. Mar. 4. Mar. 8 Mar. 21 Mar. 22 Mar 25 Apr 1 Apr 8 Apr. 22 Apr. 30 May 6 Sept 21
7h 21m Mar 21 Mar 22 Mar 26 Apr 7 Apr 11 Apr 17 Apr 19 Aug 21 Sept 1 Sept 20 Sept 25
+ 8° 32'

119 α Geminor. 1880. Mar. 4 Mar. 21 Mar. 25 Apr. 1 Apr. 13 Apr. 22 Apr. 30 May 6 May 9 May 10 Sept 2 Sept 11
7h 27m 1881 Mar 14 Mar 15 Mar 21 Mar 22 Mar 26 Apr 7 Apr 11 Apr 17 Aug 21 Aug 22
+ 32° 9'

120 α Can Min 1880. Mar. 4 Mar. 8 Mar. 17 Mar. 21 Mar. 22 Mar. 25 Mar. 28 Apr. 1 Apr. 8 Apr. 22 May 6
7h 33m Oct 6 Oct 9 Oct 14. 1881 Mar. 14 Mar 15 Mar 21 Mar 22 Mar 26. Apr 2
+ 5° 32' Oct 9 Oct 10 Oct 13 Oct 18 Oct 20

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1879phae.proj..437D

		1880	1881	Total
Oct 2 Oct 6 Oct 7 Oct 9 Oct 14 1881. Mar 14 Mar 15 Mar 21 Mar 22 Oct 9		15	4 3 12	
			15	17
Sept 28 Sept 30 Oct 2 Oct 6 Oct 7 Oct 9 Oct 14. 1881. Mar 14 Mar 15 Oct 3 Oct 4 Oct 5 Oct 9 Oct 10 Oct 13 ~~Oct 16~~		18	2 ~~1~~ 8 ✓	
			18	20 ~~19~~
Sept. 21 Sept 22 Sept 25 Sept 28 Sept 29 Oct 2 Oct 6 Oct 9 Oct 14 Aug 30 Sept 6 Oct 3 Oct 4 Oct 5 Oct 9 Oct 10 Oct 13 Oct 16		21	20 ~~19~~	
			21	20
May 9 May 10 Sept 2 Sept 11 Sept 21 Sept 22 Sept 25 Sept 28 Sept 29 Oct 2 Apr 7 Apr 17 Apr 19 Apr 21 Aug 21 Aug 22 Aug 30 Sept 6 Oct 3 Oct 4 Oct 5		21	3 17 5	
			24	22
			78	9 ~~8~~

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1879phae.proj..437D

Continued from p 30

1880 1881

Dates of Observations from Z67 - Z88.

122 B Geminor. 1880. Mar 4 Mar 17 Mar 21 Mar 22 Mar 25 Apr 1 Apr 13 Apr 22 May 9 May 10 Sept 2.
7h 38m 1881 Mar 14 Mar 15 Mar 22 Mar 26 Apr 2 Apr 7 Apr 19 Apr 21 Aug 21 Aug 22
+28° 19'

[570 c Argus] 1880. Mar 4 Mar 17 Mar 21 Mar 22 Mar 25 Apr 7 Apr 8 Apr 13 Oct 6 Oct 13 Oct 14
8h 2m Apr 2 Apr 4 Apr 9 Apr 17 Apr 19 Apr 21 Oct 3 Oct 4 Oct 5 Oct 9 Oct 18
- 23° 57'

125 o Urs. Maj
8h 20m
+61° 7'

413 p Urs. Maj.
8h 52m
+68° 6'

415 o^2 Urs Maj
9h 0m
+67° 37'

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1879phae.proj..437D

Sept 21 Sept 22 Sept 25 Sept 28 Sept 29 Oct 2 Oct 6 Oct 9 Oct 14 — 20
Aug 30 Sept 6 Oct 3 Oct 4 Oct 5 Oct 9 Oct 10 Oct 18 Oct 20 — 13 14 (20)

20 14 (20)

Oct 17 Oct 24 Oct 28. 1881 Mar 14 Mar 15 Mar 21 Mar 26 Mar 28 — 14 5
11 11

14 16

34 35 (6)

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1879phae.proj..437D

Continued from p 32.

1880-1881 Dates of Observations from F67 - F88.

138 α Hydrae
9h 22m
- 8° 8'

1880. Mar 17 Mar 25 Mar 31 Apr 1 Apr 5 Apr 7 Apr 10 Apr 12 Apr 13 Apr 18 Apr 20
Oct 28 Oct 31 Nov 1 Nov 2 Nov 7. 1881 Mar 26 Mar 28 Apr 2 Apr 3 Apr 4
Oct 12 Oct 25 Oct 26 Oct 27 Nov 6 Nov 10

139 h Ursæ Maj
9h 22m
+ 63° 35'

418 d Ursæ Maj
9h 24m
+ 70° 21'

140 e Ursæ Maj
9h 25m
+ 52° 13'

1880. May 10 May 24 June 11 June 22 Sept 16 Sept 23 Sept 29 Sept 30 Oct 7
Apr 3 Apr 4 Apr 8 Apr 9 Apr 11 Apr 18 Apr 19 Apr 20 Apr 21 Sept 20 Sept 22 Sept 25

420 Groombr. 1564
9h 32m
69° 47'

B Cephei 308
9h 27m
109° 58'

1881 Mar 26 Lc Mar 28 Lc Apr 2 Lc Apr 3 Lc Apr 4 Lc Apr 9 Lc Apr 11 Lc Apr 18 Lc

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1879phae.proj..437D

	1880	1881	Total
Apr. 21 Apr. 22 Sept 16 Sept 22 Sept 23 Sept 28 Sept 29 Sept 30 Oct 13 Oct 24	21		
Apr 8 Apr 9 Apr 11 Apr 18 Apr 19 Apr 20 Apr 21 Apr 23 Sept 25 Oct 3 Oct 4 Oct 6	5	17	
		6	
	26	23	

Oct 12 Oct 24 Oct 28 Oct 31 Nov 1 Nov 2 ~~Nov 5~~ 1881 Mar 24 Mar 28 Apr 2	15	3	
Oct 3 Oct 6 Oct 12 Oct 25 Oct 26 Oct 27 Nov 6 Nov 15	[illegible]	20	
	15	23	
	41	46	

Apr 20 dc

Lc Lc Lc Lc Lc Lc Lc

Apr 19 Apr 20 Apr 21 Apr 23 Oct 9 Oct 10 Oct 25 See p 156

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1879phae.proj..437D

(continued from p 34.

Dates of Observation from 767 – 788.

	1880.	1881.
142 ε Leonis	1880 Mar. 17 Mar. 25 Mar. 30 Mar. 31 Apr. 1 Apr. 5 Apr. 7 Apr. 10 Apr. 12 Apr. 13 Sept 16	
9h 39	Nov 1.	1881 Mar 28 Apr 2 Apr 4 Apr 8 Apr 9 Apr 11 Apr 18 Apr 19 Apr 20 Apr 21
+24 20		

421 Groombr. 1586
h m
9 48
° ′
+73 27

146 ι Leonis	1880. Mar. 10 Mar. 25 Mar. 31 Apr. 1 Apr. 5 Apr. 7 Apr. 10 Apr. 12 Apr. 13 Apr. 18 Sept 22	
h m		(3)
10 2	1881. Apr 9 Apr 11 Apr 16 Apr 18 Apr 19 Apr 20 Apr 21 Apr 23 Apr 25 Apr 28 Sept 21	
12° 33′	Nov 13 Nov 15	

148. ζ Leonis	1880 Mar. 10 Mar. 17 Mar. 25 Mar. 31 Apr. 1 Apr. 5 Apr. 10 Apr. 12 Apr. 13 Apr. 18 Sept 22	
h m		
10 10	Apr 16 Apr 18 Apr 19 Apr 20 Apr 21 Apr 23 Apr 25 Apr 28 Oct 3 Oct 6 Oct 9 Oct 10	
+24° 1′		

[ξ Leonis]	1880 Mar. 17 Mar. 31 Apr. 1 Apr. 5 Apr. 7 Apr. 10 Apr. 12 Apr. 13 Apr. 18 Apr. 20 Apr. 21 * Sept 22	
h m		
10 13	Nov 18.	1881 Apr 9 Apr 11 Apr 16 Apr 18 Apr 19 Apr 20 Apr 21 Apr 23 Apr 25
+20° 27′		

* The name of the month is omitted in Ledger it comes consecutively under Mid Nov the Sept 22

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1879phae.proj..437D

	1880	1881	Total
Sept 22 Sept 23 Sept 28 Sept 29 Sept 30 Oct 13 Oct 14 Oct 26 Oct 31	20		
Sept 22 Sept 25 Oct 3 Oct 4 Oct 6 Oct 12 Oct 26 Nov 6	1	17	18
			21 18
Sept 23 Sept 25 Sept 28 Sept 29 Sept 30 Oct 13 Oct 14 Nov 7 Nov 15	20		
Sept 25 Sept 26 Oct 3 Oct 4 Oct 6 Oct 9 Oct 10 Oct 12 Nov 9 Nov 10		21	
		2	
			20 23
Sept 29 Sept 30 Oct 6 Oct 13 Nov 7 Nov 11 Nov 15 Nov 18 1881 Apr 9 Apr 11	18	2	
Oct 12 Oct 13 Nov 5 Nov 9 Nov 10 Nov 13 Nov 15		19	
			19 21
Sept 23 Sept 25 Sept 28 Sept 29 Sept 30 Oct 6 Nov 7 Nov 11 Nov 15	21		
Apr 28 Sept 25 Oct 3 Oct 5 Oct 6 Oct 9 Oct 10 Oct 12 Oct 13 Nov 9 Nov 10		20	
			22 20
			81 82

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1879phae.proj..437D

Continued from p 36

Dates of Observation from 767–788.

1880. 1881.

149 u Urs Maj. 1880. May 25 May 26 June 11 June 22 Sept 22 Sept 23 Sept 29 Sept 30 Oct 6 Oct 7
10h 15m Apr 20 Apr 21 Apr 23 Apr 25 Apr 28 Sept 25 Oct 3 Oct 5 Oct 6 Oct 7/8 Oct 9
+42° 6′

424 30 H. Urs Maj.
10 15
+66 10

425 30 H. Camelop.
10h 16m
+83° 10′

150 9 H. Draconis 1880. Apr. 20
10h 25m
+96° 20′

429-35 H. Urs. Maj.
10h 34m
+69° 42′

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1879phae.proj..437D

		1880	1881	1882
				Comm. 7. 1880-81
Oct 13 Oct 17 Nov 11 Nov 13 Nov 18.	1881 Apr 9 Apr 11 Apr 16 Apr 18. Apr 19	10	5	
Oct 10 Oct 13 Nov 5 Nov 9			15	
				15 20

1

16 20

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1879phae.proj..437D

Continued from p 38

1880 1881 Dates of Observation from 767–788.

153 β Urs Maj.
10h 55m
+57° 1'

1880 May 24 May 25 May 26 May 27 June 11 June 22 Oct 6 Oct 9 Oct 11 Oct 12
Oct 25 Oct 31 Nov 1 Nov 2 Nov 3 Nov 6 Nov 11 Nov 11 Nov 15 Nov 16 Nov 18
Apr 21 Apr 23 Apr 25 Apr 28 May 3 May 4 May 5 May 5 May 9 Oct 9 Oct 10
Nov 22

154 α Urs. Maj.
10h 56m
+62° 24'

1880 May 23 May 24 May 25 May 26 May 27 June 10 June 11 June 22 June 22 June 25
Oct 18 Oct 19 Oct 20 Oct 20 Oct 24 Oct 25 Oct 31 Nov 1 Nov 3 Nov 6 Nov 8
1881 Apr 18 Apr 20 Apr 21 Apr 23 Apr 25 Apr 28 May 3 May 4 May 5 May 7
Nov 15 Nov 15 Nov 16 Nov 19 Nov 20 Nov 22 Nov 22

155 ν Urs. Maj.
11h 3m
+45° 9'

1880. May 20 May 23 May 25 May 26 May 27 June 10 June 11 June 22 June 27 Oct 11
Apr 20 Apr 21 Apr 23 Apr 25 Apr 28 May 4 Oct 9 Oct 10 Oct 13 Oct 18 Oct 25

156 δ Leonis
11h 8m
+21° 11'

1880. Mar. 10 Mar. 17 Mar. 25 Apr. 5 Apr. 7 Apr. 10. Apr. 20 Apr. 25 May 2 May 3 Oct 6 Oct 9
Apr 20 Apr 21 Apr 23 Apr 25 Apr 28 May 3 May 4 May 5 May 7 May 9 Oct 9 Oct 13

436 Groombr. 1771
11h 16m
+64° 59'

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1879phae.proj...437D

	1880	1881	Total
Oct 13 Oct 13 Oct 14 Oct 17 Oct 18 Oct 18 Oct 19 Oct 20 Oct 24 Oct 24	20		
Nov 18 Nov 21 Dec 9 Dec 14 Dec 18 Dec 22 Dec 23 1881 Apr 18 Apr 20	18	2	
Oct 13 Oct 25 Oct 27 Nov 5 Nov 6 Nov 14 Nov 15 Nov 16 Nov 19 Nov 20 Nov 22		2	
	1		
			38 25
Oct 6 Oct 9 Oct 9 Oct 11 Oct 12 Oct 13 Oct 13 Oct 14 Oct 17 Oct 18	20		
Nov 11 Nov 11 Nov 14 Nov 15 Nov 16 Nov 18 Nov 18 Nov 21 Dec 9 Dec 18 Dec 22 Dec 23	23		
May 9 Oct 9 Oct 10 Oct 13 Oct 20 Oct 25 Oct 26 Oct 27 Nov 5 Nov 9 Nov 14		21	
	7		
			43 28
Oct 12 Oct 13 Oct 17 Oct 18 Oct 19 Oct 20 Oct 24 Nov 1. 1881 Apr 18	19	1	
Oct 27 Nov 5 Nov 9 Nov 16 Nov 17 Nov 22	17		
			19 18
Oct 11 Oct 12 Oct 13 Oct 17 Oct 18 Oct 19 Oct 20 Nov 1 1881 Apr 18	2	1	
Oct 18 Oct 20 Oct 25 Oct 27 Nov 5 Nov 9 Nov 17	19		
			2 20
	121		2

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1879phae.proj..437D

Continued from p 40

Dates of Observation from 767 - 788.

	1880	1881
762 λ Draconis 11h 24m +69° 59′		
764 B Leonis 11h 43m +15° 15′	1880. Mar. 10 Mar. 17 Mar. 25 Apr. 5 Apr. 7 Apr. 10 Apr. 12 Apr. 20 Apr. 26 May 3 Oct 17 May 26 Oct 20 Oct 26 Oct 27 Nov 9 Nov 21	
[766 γ Urs. Maj. 11h 47m +54° 22′	1880. May 2 May 3 May 9 May 10 May 11 May 16 May 20 May 22 May 23 May 24 Nov 3 Nov 8 Nov 11 Nov 15 Nov 16 Nov 18 Nov 18 Nov 25 Nov 30 Dec 12 Dec 13 Dec 16 Oct 26 Oct 27 Nov 9 Nov 15 Nov 15 Nov 20 Nov 21 Nov 22 Nov 24	
[782 ε Corvi] 12h 3m −21° 56′	1880. Mar. 10 Mar. 25 Apr. 5 Apr. 7 Apr. 10 Apr. 12 Apr. 20 Apr. 24 ~~27 31~~ Nov 29 Dec 7 Dec 12	
[784 δ Corvi] 12h 23m −15° 50′	1880. Mar. 10 Mar. 25 Mar. 31 Apr. 5 Apr. 7 Apr. 10 Apr. 12 Apr. 20 Apr. 24 Apr. 26 ~~May 27 31~~ Nov 29 May 24 May 26 Dec 18	

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1879phae.proj...4370

1880 1881 Total '80 '81

Oct 18 Oct 19 Oct 24 Oct 25 Dec 15 Dec 16 Dec 18 Dec 19. 1881 May 23 May 24 9 18 2

6

19 8

Oct 17 Oct 18 Oct 18 Oct 19 Oct 20 Oct 20 Oct 24 Oct 24 Oct 25 Nov 2 20

Dec 18 Dec 18 Dec 19 Dec 21. 1881 May 23 May 24 May 26 Oct 20 Oct 25 16 5

9

36 14

Dec 13 Dec 19 Dec 21 Dec 22. 1881 May 26 Dec 15 Dec 18 15 3

15 3

Dec 7 Dec ~~X~~ Dec 13 Dec 15 Dec 16 Dec 18 Dec 19 Dec 21 Dec 22 1881 May 23 20 1

3

20 4

29

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1879phae.proj..437D

Continued from p 42

Dates of Observation from J 67 – J 88.

1880. 1881. 1882

[585 B Corvi]
12h 28m
– 22° 43′
1880. Mar. 10 Mar. 25 Mar. 31 Apr. 5 Apr. 7 Apr. 10 Apr. 12 Apr. 20 Apr. 24 May 2 Nov 29
May 26 Dec 15 Dec 18

172 γ Virginis
12h 36m
– 0° 47′
1880. Mar. 10 Mar. 17 Mar. 25 Apr. 5 Apr. 7 Apr. 10 Apr. 12 Apr. 20 Apr. 24 May 2 May 3
Nov 29 Dec 8 Dec 13 Dec 15 Dec 16 Dec 18 Dec 19 Dec 21 Dec 22. 1881 May 23

173 ε Urs. Maj.
12h 49m
+ 56° 37′
1880 May 8 May 9 May 10 May 15 May 17 May 20 May 21 May 24 June 18 June 22
Nov 30 Dec 7 Dec 8 Dec 9 Dec 12 Dec 15 Dec 16 Dec 18 Dec 18 Dec 19 Dec 21 Dec 22
July 13 July 21 July 25 Aug 1 Sept 19 Sept 20 Sept 21 Sept 26 Sept 27 Sept 29 Sept 30
Dec 9 Dec 10 Dec 15 Dec 15 Dec 16 Dec ~~17~~ Dec 19 Dec 21 Dec 24
1882. Jan 9 Jan 10

174 δ Virginis
12h 50m
+ 4° 3′
1880 Mar. 10 Mar. 17 Mar. 25 Mar. 31 Apr. 5 Apr. 7 Apr. 10 Apr. 12 Apr. 20 June 10 Dec 15.

176 ε Virginis
12h 56m
+ 11° 36′
1880. Mar. 10 Mar. 17 Mar. 25 Mar. 31 Apr. 5 Apr. 7 Apr. 10 Apr. 12 Apr. 20 May 2 May 3
June 9 June 19 Nov 18 Nov 20 Nov 21 Dec 15 Dec 16 Dec 18 Dec 19 Dec 21 Dec 22 Dec 29
Dec 15 Dec 17 Dec 18 Dec 20

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1879phae.proj...437D

1880 1881 Total

Dec 7 Dec 13 Dec 15 Dec 16 Dec 18 Dec 19 Dec 21 Dec 22 1881 May 23 May 24 19 2

3

19 5

May 8 May 9 May 10 May 11 May 15 May 17 May 20 May 21 May 22 May 23 June 10 22

May 24 May 26 ~~July 13~~ Dec 15 Dec 18 9 5

31. 5.

Sept 30 Nov 15 Nov 16 Nov 18 Nov 18 Nov 20 Nov 21 Nov 22 Nov 25 Nov 25 Nov 29 Nov 29 22

Not entd

Dec 22 Dec 23 Dec 28 Dec 29 Dec 30 1881 Jan 1 Jan 2 Jan 20 Apr 16 May 23 17 5

Oct 1 Oct 6 Oct 10 Oct 12 Oct 26 Nov 14 Nov 15 Nov 19 Nov 20 Nov 22 Nov 24 24

8 2

40 36

Dec 21. 12 12

May 8 May 9 May 10 May 11 May 15 May 16 May 21 May 22 May 23 May 24 May 25 22

1881. Jan. 10 Feb 16 May 10 May 24 May 26 June 11 June 15 June 17 June 21 12 9

3

34 13

'80 '81 '82

136 135 582

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1879phae.proj..437D

Continued from p 44.

Dates of Observation from Z67–Z88.

1880 1881

[587 α Virginis] 1880. Mar. 1 Mar. 8. Mar. 17 Mar. 25 Mar 31 Apr. 5 Apr. 10 Apr. 20 Apr. 24 May 8 May 15
13h 18m 1881 Jan. 10 Feb 16 Mar 24 June 16 Dec 11 Dec 15 Dec 18 Dec 19
−10° 31′

181 η Urs. Maj. 1880 May 22 May 25 June 9 June 10 June 13 June 17 June 18 June 19 June 22 June 23 ~~26~~
13h 43m Sept 22 Sept 25 Oct 13/14 Oct 22/23 1881 Jan 10 Jan 12 Feb 13 Feb 16 Feb 21
+49° 55′ Nov 10 Nov 15 Dec 11 Dec 20

182 η Bootis 1880 May 22 May 25 June 9 June 10 June 13 June 17 June 18 June 19 June 22 June 23 ~~26~~
13h 49m Nov 23 Nov 29 1881 Jan 12 Feb 13 Feb 16 Feb 21 Mar 28 June 18 Nov 15 Dec 11
+18° 59′

[183 I Virginis 1880 May 22 May 25 June 9 June 10 June 13 June 17 June 22 June 23 ~~26~~ June 27 June 30
13h 56m
+2° 8′

[184 α Draconis 1881. Feb 21 Aug 22 ~~Sept 12~~ Sept 13 Nov 12 Dec 15 Dec 19
14h 1m
+64° 57′

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1879phae.proj...437D

	1880	1881	Total
Nov 7 Nov 8/9 Nov 11 Nov 18 Nov 20 Nov 21 Nov 22 Nov 23 Nov 25 Nov 29	21		
	8	7	
			21 8
June 27 July 26 July 30 July 31 Aug 18 Sept 2 Sept 3 Sept 5 Sept 12 Sept 16 Sept 17	2		
Feb 23 Mar 28 Apri May 7 May 13 June 6 June 11 June 18 Aug 23 Aug 28/29 Sept 17	4	16	
	4		
			6 25 20
June 27 July 18 July 26 July 30 July 31 Aug 18 Sept 2 Sept 3 Sept 6 Oct 14 Nov 22 Dec 19	21		
	2	9	
			23 9 23 9
July 18 July 30 Aug 18 1881 Jan 3 Jan 10 Jan 12 Feb 13 Feb 16 Feb 21	13	6	
			13 6
	6		
			6
			3 50 82 49

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1879phae.proj..437D

Continued from p 46

Dates of Observation 767 – 788.

1880. 1881.

187 α Bootis
14h 10m
19° 48′

1880. Mar. 1 Mar. 8 May 25 June 9 June 10 June 13 June 17 June 22 June 24 June 29 June 30
Aug 30 Aug 31 Sept 13 Nov 12

193 ζ Bootis
14h 27m
+38° 50′

1880. May 22 June 9 June 10 June 13 June 17 June 21 June 22 June 24 June 29 June 30
Feb 21 Aug 22 Aug 30

[d ε Bootis]
14h 39m
+27° 35′

1880 June 9 June 10 June 13 June 16 June 17 June 21 June 22 June 24 June 30 July 4
Feb 21 Aug 30 Sept 13

[~~589~~ 590 α² Librae]
14h 44m
−15° 32′

1880. Mar. 1 June 9 June 10 June 13 June 16 June 17 June 21 June 22 June 24 June 26

198 B Ursae Min
14h 51m
+74° 39′

1880 ~~May 31~~ June 10 June 13 June 15 lc June 16 June 16 June 17 June 17 lc June 19 June 21 lc June 21
July 7 July 8 July 14 July 16 July 17 lc July 18 July 18 lc July 19 July 29 July 31 lc Aug 1
Sept 28 Sept 29 Sept 30 Dec 13 Dec 14 Dec 16 Dec 16 Dec 19 Dec 21 Dec 22 Dec 22
Jan 16 Feb 13 Feb 14 Feb 16 Feb 17 Feb 21 F22 Feb 24 Mar 15 Aug 21 Aug 22

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1879phae.proj...437D

	1880	1881	Total 80 '81
July 26 Aug 18 Sept 5 Sept 17 Oct 19, Nov 28 1881 Jan 6 Jan 12 Feb 13 Feb 16 Aug 22	7	5	
		4	
		5	
			17. 9
Aug 18 Sept 3 Sept 5 Sept 17 Sept 24 Dec 30. 1881 Jan 15 Feb 13 Feb 16	16	3	
		3	
			16 6
Aug 18 Sept 5 Sept 17 Sept 24 Sept 26 Sept 29 Nov 2 1881 Feb 13 Feb 16	17.	2	
		3	
			15 5
June 29. 1881 Jan. 10 Jan 12 Feb 13 Feb 16 Feb 21 Aug 22	14	6	
			11 6
June 22 June 24 June 26 June 26 June 28 June 29 June 30 June 30 July 4 July 4 July 7	21		
Aug 1 Aug 15 Aug 15 Aug 17 Aug 18 Aug 18 Aug 22 Aug 22 Sept 17 Sept 24 Sept 26	22		
Dec 27 Dec 28 Dec 30 Dec 30 1881. Jan 1 Jan 2 Jan 3 Jan 3 Jan 8 Jan 15 Jan 15	15	7	
Sept 13 Dec 15 Dec 15 Dec 17 Dec 18	16		
			58 23
			120
			49 49

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1879phae.proj..437D

Continued from p 134

Dates of Observation from 767 – 788

1880. 1881.

197 β Bootis
14h 57m
+40° 52′
1880. ~~May 31~~ June 9 June 10 June 13 June 16 June 17 June 21 June 22 June 26 June 29 June 30 July 8
Feb 16 Feb 21 Aug 22 Aug 30 ~~Sept 12~~ 13

200 β Librae
15h 11m
−8° 56′
1880. Mar. 21 Apr. 8 June 13 June 17 June 22 June 29 July 7 July 8 July 15 or 16 July 18 Sept 17
15 or 16 both dates given in 127

201 δ Bootis
15h 11m
+33° 46′
1880. June 9 June 10 June 16 June 21 June 24 June 26 June 27 June 28 ~~July 3~~ July 4 July 14 ~~Aug 16~~ Aug 18

203 g Ers Min
~~or mag?~~
15h 21m
+72° 16′
1881. Feb 13 Feb 16 Feb 17 Feb 21 Feb 22 Feb 24 Aug 21 Aug 22 Aug 30 Sept 6

209 α Cor. Bor
15h 30m
+27° 7′
1880. Mar. 21 Mar. 30 Apr. 8 June 21 June 22 June 26 June 28 July 7 July 8 July 13 Aug 18
Feb 21 Aug 22 Aug 30 Sept 6 Sept 8 Sept 15 Sept 19 Sept 25

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1879phae.proj...437D

	1880	1881	Total
Sept 5 Sept 17 Sept 24 Sept 29 Sept 30 Dec 14 Dec 16 Dec 27 1881 Feb 13	19	1	
		5	
			19 5
Sept 21 Sept 24 1881 Jan 3 Jan 12 Feb 13 Feb 16 Feb 21 ~~Sept 16~~ Sept 7 Sept 15	13	8	
			13 8
Sept 29 Sept 30 Oct 3 Nov 7 Dec 16 Dec 21 Dec 22 1881 Aug 22 Aug 30	17	2	
			17 2
Sept 8 Sept 15		12	
			12
Sept 3 Sept 5 Sept 17 Sept 21 Sept 24 Sept 28 Sept 29 Sept 30 1881 Feb 16	19	1	
		8	
			19 9
			68 35

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1879phae.proj..437D

Continued from p 50

Dates of Observation from F67 – F88.

1880. 1881.

212 α Serpentis
15h 38m
+6° 48′
1880. Mar. 1 Mar. 21 Mar. 30 Apr. 8 June 21 June 22 June 26 June 28 July 7 July 8 July 13
Oct 3 Oct 6 Dec 30. 1881 Feb 13 Feb 16 Feb 21 Mar 21 Aug 22 Aug 30 ~~Sept 6~~

211

217 ζ Ursæ Min
15h 48m
+78° 10′

[594 δ Scorpii]
15h 53m
−22° 16′
1880 Mar. 1 Mar. 21 Mar. 30 Apr. 8 ~~May 31~~ ~~June 3~~ June 26 July 7 July 8 July 13 July 16 Aug 18 Sept 3
Feb 21 Mar 21 Aug 22 Aug 30 Sept 8 Sept 15 Sept 19 Sept 21 Oct 7

[595 β Scorpii]
15h 58m
−19° 28′
~~May 31~~ ~~June 3~~
1880 Mar. 1 Mar. 21 Mar. 30 Apr. 8 June 28 July 7 July 8 July 13 July 14 July 16 Aug 18 Sept 3
1881
Sept 8 Sept 15 Sept 19 Sept 21

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1879phae.proj..437D

	1880	1881	Total '80 '81
July 14 July 16 Aug 18 Sept 5 Sept 17 Sept 21 Sept 24 Sept 28 Sept 30 Oct 1	21		
Sept 7 Sept 8 Sept 15 Sept 19 Sept 21 Sept 26 Oct 7 Oct 10	3		
	24		
Sept 5 Sept 17 Sept 21 Sept 24 Sept 26 Sept 30 Oct 3. 1881 Feb 13 Feb 16	18	2	
		9	
	18	11	
Sept 5 Sept 21 Sept 30 Oct 6 1881 Feb 16 Feb 21 Mar 21 Aug 22 Aug 30 Sept 7	16	6	
		4	
	16	10	
	58	35	

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1879phae.proj..437D

Continued from p 52

Dates of Observation from 767 - 788.

1880. 1881.

222 δ Ophiuchi
16h 8m
− 3° 23′
1880. Mar. 1 Mar. 21 Mar. 30 Apr. 8 ~~June 3~~ June 28 July 7 July 8 July 13 July 16 July 19 ~~Sept 5 17~~ Sept 21
Mar 21 Aug 22 Sept 8 Sept 15 Sept 19 Sept 21 Oct 7

472 19 Ursæ Min
16h 14m
+ 76° 11′

[596 α Scorpii]
16h 21m
− 26° 9′
1880 Mar. 1 Mar. 21 Mar. 30 Apr. 8 June 28 July 7 July 13 July 14 July 16 July 19 Sept 2
1881. Feb 13 Feb 16 Feb 21 Mar 14 Mar 21 Aug 22 Sept 15 Sept 19 Sept 21

226 η Draconis reg
16h 22m
+ 61° 47′
1880. Aug 1 Sept 5 Sept 12 Sept 21 Sept 21c (not entered) Sept 23. 1881 Feb 13 Feb 14
Sept 12 Sept 13 Sept 15 Sept 19 Sept 21 Oct 7 Oct 11 Oct 16

228 β Herculis
16h 25m
+ 21° 45′
1880. Mar. 21 Mar. 30 Apr. 8 June 28 July 7 July 14 July 16 July 18 Sept 2 Sept 3 Sept 17
Mar 21 Aug 22 Aug 30 ~~Sept 6~~ Sept 7 Sept 8 Sept 13 Sept 15 Sept 19 Sept 21

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1879phae.proj..437D

	1880	1881	Total
Sept 24 Sept 26 Sept 29 Oct 1 Oct 3 Oct 6. 1881 Feb 13 Feb 16 Feb 21	17	3	
		7	
			17 10
Sept 3 Sept 12 Sept 17 Sept 21 Sept 24 Sept 26 Sept 29 Oct 3 Oct 7 Oct 10	19		
		11	
			19 11
Feb 15 Feb 16 Feb 17 Feb 19 Feb 21 Feb 23 Feb 24 Mar 14 Aug 30 ~~Sept 6~~ Sept 7 Sept 8	6	13	
		8	
			6 21
Sept 23 Sept 24 Sept 26 Sept 29 Oct 1 Oct 3. 1881. Feb 13 Feb 16 Feb 21	17	3	
		~~10~~ 7	
			17 ~~13~~ 10
			59 ~~57~~ 54

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1879phae.proj..437D

Continued from p. 54

Dates of Observation from F 67 – F 88.

	1880.	1881.
[597 ζ Ophiuchi] 16h 30m −10° 19′	1880. Mar. 1 Mar. 2. Mar. 21 Mar. 30 Apr. 8 June 28 July 7 July 13 July 14 July 16 July ~~18~~ 19	Feb 16 Feb 21 ~~23~~ chf Mar 14 Mar 21 Aug 22 Sept ~~6~~ 7 Sept 8 Sept 15 Sept 19 Sept 21 ~~Oct 6~~ chf
232 η Herculis 16h 39m +39° 9′	1880. Mar. 6. Mar. 21 Mar. 30 Apr. 8 June 28 July 7 July 13 July 14 July 16 July 17 Sept 2.	1881 Feb 13 Feb 16 Feb 21 Mar 14 Mar 21 Aug 22 Sept 7 Sept 8 Sept 13 Sept 15
235 ε Urs. Min. 16h 58m +82° 14′		
[598 η Ophiuchi] 17h 3m −15° 34′	1880. Mar. 1 Mar. 2. Mar. 3. Mar. 6 Mar. 21 Mar. 30 Apr. 8 July 13 July 16 July 17 Sept 2.	Mar 14 Mar 21 Sept 7 Sept 8 Sept 13 Sept 15 Sept 19 Sept 21 Sept 26 Oct 6 Oct 7
237 α Herculis 17h 9m 14° 32′	1880. Mar. 3 Mar. 21 Mar. 30 Apr. 8 July 13 July 16 July 17 July 28 July 31 Aug 1 Aug 15	Mar 21 Sept 7 Sept 8 Sept 12 Sept 13 Sept 15 Sept 19 Sept 21 Sept 26 Oct 6

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1879phae.proj..437D

	1880	1881	Total
Sept 2 Sept 3 Sept 5 Sept 12 Sept 21 Sept 23 Sept 26 Oct 1 1881 Feb 13 Oct 7	~~20~~ 19	1 3 17	~~20~~ 19 ~~43~~ 17
Sept 3 Sept 12 Sept 19 Sept 21 Sept 23 Sept 26 Sept 29 Oct 1 Oct 3 Sept 19 Sept 21 Oct 3 Oct 6 Oct 7	20	15	20 15
Sept 3 Sept 5 Sept 12 Sept 21 Sept 23 Oct 3 1881 Feb 16 ~~Feb 19~~ Feb 21 Feb 23	17	11	17 ~~5~~ 17
Aug 16 Sept 3 Sept 5 Sept 12 Sept 21 ~~23~~ Oct 3. 1881 Feb 14 Feb 21 Feb 23 Mar 14 Oct 7	17	4 11	17 15
			~~4~~ ~~8~~ 73 56

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1879phae.proj..437D

Continued from p 56

Dates of Observation from Z 67 – Z 88.

	1880.	1881.
240 β Draconis 17h 28m + 52° 23′	1880. July 13 July 17 July 18 July 31 Aug 1 Aug 9 Aug 10 Aug 12 (2 obs not cut) Aug 15 Aug 16 Aug 17	Mar 22 Mar 23 Aug 31 Sept 1 Sept 12 Sept 19 Sept 21 Sept 26 Sept 29 Oct 6
241 α Ophiuchi 17h 29m + 12° 39′	1880 Mar 2 Mar 3 Mar 21 Mar 30 July 13 July 28 July 31 Aug 1 Aug 9 Aug 10 Aug 12 not cut Aug 15	Mar 21 Mar 22 Mar 23 Aug 31 Sept 1 Sept 12 Sept 19 Sept 21 Sept 26 Oct 6
484 ψ Draconis 17h 44m + 72° 12′		
252 g Draconis 17h 54m + 51° 30′	1880. July 13 July 17 July 18 July 28 July 31 Aug 1 Aug 9 Aug 10 Aug 11 Aug 12 Aug 15 Aug 16	Mar 22 Mar 23 Mar 24 Mar 28 Apr 3 Apr 4 Aug 31 Sept 1 Sept 12 Sept 19 Sept 21
485 35 Draconis 17h 55m + 76° 59′		

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1879phae.proj...437D

	1880	1881	Total '80 '81
Aug 23 Sept 1 Sept 23 Sept 29 Oct 3. 1881 Feb 14 Feb 21 Mar 14 Mar 21 Oct 21 Oct 26	16	4	
	12	12	
	16	16	
Aug 16 ~~17~~ Aug 23 Sept 1 Sept 23 Sept 29 Oct 3. 1881 Feb 14 Feb 21 Mar 14 Oct 26	18	3	
	11	11	
	18	14	
Aug 22 Aug 23 Sept 1 Sept 2 Sept 4 Sept 21 Sept 29 Nov 7 1881 Mar 14 Sept 26 Sept 29 Oct 2 Oct 21 Oct 26 Oct 27	20	1	
	17	17	
	20	18	
	54	48	

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1879phae.proj..437D

Continued from p 58

Dates of Observation from F 67 – F 88.

			1880.	1881.
21	256	δ Ursæ Min h m 18 11 + 86° 37′	1880. Mar. 15 Mar. 28 Apr. 4 July 31 Aug 9 Aug 10 Aug 12 Aug 22 Aug 23 Aug 28 ~~31~~	Mar 23 Mar 24 Mar 24 Mar 25 Mar 28 Mar 28 Apr 1 Apr 3 Apr 4 Apr 6 Apr 7 Apr 10
2	257	ζ Serpentis h m 18 15 − 2° 56′	1880. Mar. 22 Mar. 29 Mar. 30 Apr. 4 July 31 Aug 10 Aug 12 Aug 15 Aug 22 Aug 23 Aug 28.	Mar 28 Apr 3 Apr 4 Apr 7 Apr 10 Aug 31 Sept 1 Sept 8 Sept 12 Sept 15 Sept 29
4	4·89	φ Draconis h m 18 22 + 71° 16′		
2	259	χ Draconis h m 18 23 + 72° 41′		
4	260	α Lyræ h m 18 33 38° 40′	1880. Apr. 11 Apr. 21 Apr. 28 July 31 Aug 9 Aug 10 Aug 12 Aug 15 Aug 17 Aug 21 Aug 22	Mar 24 Mar 28 Mar 29 Apr 3 Apr 4 Apr 7 Apr 9 Apr 10 Aug 20 Aug 31 Sept 1

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1879phae.proj..437D

	1880	1881.	Total
Sept 1 Sept 2 Sept 4 Sept 11 Sept 21 Sept 21 Sept 22 Sept 23 Sept 29. 1881 Mar 14	22	1	
Aug 31 Sept 7 Sept 8 Sept 12 Sept 17 Sept 28 Sept 29 Oct 5 Oct 6	24	20	
	22	27	
Sept 1 Sept 2 Sept 4 Sept 11 Sept 29 Nov 7. 1881 Mar 22 Mar 23 Mar 24	17	3	
Oct 6 Oct 11 Oct 27	17	8	
Aug 23 Aug 28 Sept 1 Sept 2 Sept 4 Sept 11. 1881 Feb 14 Mar 14 Mar 23	17	3	
Sept 8 Sept 12 Sept 15 Sept 29 Oct 6 Oct 11 Oct 13 Oct 26 Oct 27	28	4	
	53	62	

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1879phae.proj..437D

Continued from p 60

Dates of Observation from 767 – 788.

1880 1881

491 Groombr. 2640
h m
18 36
+65° 23′

[603 σ Sagitt.]
h m
18 47
– 26° 26′
1880. Mar. 22 Mar. 29 Mar. 30 Apr. 4 Apr. 11 Apr. 21 Aug. 12 Aug 17 Aug 28 Sept 1 Sept 2
Apr 4 Apr 7 Apr 9 Apr 10 Apr 17 Apr 18 Apr 20 Sept 8 Sept 12 Sept 17 Oct 1

493 ν Draconis
18 56
+71 8

270 ζ Aquilæ
h m
19 0
+13° 41′
1880. Apr. 11 Apr. 21 Apr 26 ~~Apr 28~~ Aug 17 Aug 28 Sept 1 Sept 2 Sept 4 Sept 11 Oct 4 Oct 10
Sept 26 Oct 1 Oct 6 Nov 11

269 λ Aquilæ
h m
19 0
– 5° 4′
1880. Mar. 2 Mar. 23 Mar. 29 Mar. 30 Apr. 1 Apr. 4 Apr. 6 Apr. 28 ~~Aug 17~~ Sept 18 Sept 23 Sept 25
Apr 4 Apr 9 Apr 17 Apr 20 Sept 17 Sept 19 Sept 20 Oct 3 Oct 5 Oct 11 Oct 29

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1879phae..proj...487D

		1880	1881	Total
Sept 4 Sept 11 Sept 23 Sept 25 Sept 29 Oct 3 Oct 6 Oct 11 Oct 25 Oct 26 Oct 27	1881 Mar 14 Mar 23 Apr 3	17	3	
		"	16	
				17 19
~~Nov 7~~ 1881 Mar 14 Mar 20 Apr 3 Apr 7 Apr 16 Apr 18 Sept 1 Sept 8 Sept 12		11	9	
		"	4	
				11 13
Sept 29 Sept 30 Oct 3 Oct 9 Nov 7	1881 Mar 23 Mar 24 Mar 28	16	3	
		"	12	
				16 14
				44 46

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1879phae.proj..437D

Continued from p 62

1880. 1881. Dates of Observation from J 67 – J 88

4 271 δ Draconis
h m
19 13
+67° 27′

4 273 ι Draconis
h m
19 18
+73° 8′

4 275 β Cygni
h m
19 26
+27° 43′
1880. Mar. 30 Apr. 1 Apr. 4 Apr. 6 Apr. 11 Apr. 21 Apr. 26 Aug 28 Sept. 14 Sept. 11 Sept. 18
Mar 28 Mar 31 Apr 4 Apr 9 Apr 10 Apr 17 Apr 18 Sept 12 Sept 13 Sept 14 Sept 19

2 497 Groombr. 2900
h m
19 29
+79° 22′

2 277 g Aquilæ
h m
19 41
+10° 19′
1880. Feb 29 Mar. 22 Mar 23 Mar. 24 Mar 29 Mar. 30 Apr. 1 Apr. 4 Apr. 11 Apr 21 Apr. 26
Nov 3. 1881. Mar 20 Mar 31 Apr 2 Apr 10 Apr 18 Apr 20 Apr 21 Apr 23
Nov 6

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1879phae.proj..437D

	1880	1881	Total
Sept 23 Sept 25 Sept 30 Oct 1 Nov 7 1881 Mar 20 Mar 23 Mar 25	16	3	
Sept 20 Sept 26 Oct 3 Oct 5 Oct 25 Nov 11	17		
	16	20	
Apr. 28 Aug 28 Sept 4 Sept 11 Sept 16 Sept 23 Sept 25 Sept 30 Oct 2 Oct 13	21		
Apr 25 Sept 12 Sept 13 Sept 17 Sept 19 Sept 20 Sept 26 Oct 3 Oct 5 Oct 27	1	18	
	22	20	
	38	40	

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1879phae.proj..437D

Continued from p 64

Dates of Observation from 767–788.

1880. 1881.

280 α Aquilæ
19h 45m
+ 8° 33′

1880. Feb 29. Mar 3. Mar 11. Mar 17 Mar 18 Mar 22 Mar 23 Mar 24 Mar 25 Mar 29 Mar 30
Oct 2 Oct 12 Nov 3. 1881 Mar 20 Mar 23 Mar 24 Mar 28 Apr 2 Apr 4
Oct 3 Oct 5 Oct 27 Nov 6 Nov 11 Nov 20

not entered

284 λ Aql. Min.
19h 44m
+ 8° 57′

282 Σ Draconis
19h 49m
+ 60° 58′

283 β Aquilæ
19h 49m
+ 6° 6′

1880. Mar 21 Mar 22 Mar 25 Mar 29 Mar 30 Apr 1 Apr 4 Apr 6 Apr 11 Apr 21 Aug 28
1881 Mar 20 Mar 23 Mar 24 Mar 28 Apr 3 Apr 4 Apr 7 Apr 10 Apr 17 Apr 20 Apr 21
Oct 27 Nov 6 Nov 20

287 θ Aquilæ
20h 5m
− 1° 11′

1880. Mar 22 Mar 25 Mar 29 Mar 30 Apr 1 Apr 4 Apr 6 Apr 11 Apr 21 Apr 26 Apr 27
Oct 9 Oct 11 1881 Mar 23 Mar 31 Apr 3 Apr 4 Apr 7 Apr 10 Apr 17 Apr 18
Sept 25 Oct 1 Oct 3 Nov 16 Nov 20

* This Decl. is +6.9 in Ledger in abe Book & in Obs. Ephem. see Note Book p 38

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1879phae.proj..437D

1880 1881 Total

Apr. 1 Apr 4 Apr. 6 Apr. 11 Apr. 21 Apr. 26 Apr. 28 Aug 28 Sept 11 Sept 23 Sept 25 Sept 30 22
Apr 7 Apr 10 Apr 17 Apr 18 Apr 20 Apr 21 Sept 12 Sept 17 Sept 19 Sept 20 Sept 25 3 18

6

25 28

Sept 4 Sept 11 Sept 23 Sept 25 Sept 30 Oct 2 Oct 12 Oct 13 Nov 3 Nov 7 21
Apr 24 Sept 12 Sept 13 Sept 17 Sept 19 Sept 20 Sept 25 Oct 1 Oct 3 Oct 5 21

3

24

May 2 Sept 4 Sept 11 Sept 16 Sept 23 Sept 25 Sept 30 Oct 2 Oct 4 Oct 5 21
Apr 20 Apr 21 Apr 23 Apr 24 Apr 25 Sept 12 Sept 13 Sept 17 Sept 19 Sept 20 2 18

5

23 23

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1879phae.proj..437D

Continued from p 66

Dates of Observation from 767 - 788.

1880. 1881.

607 α^2 Capricorni
20h 11m
- 12° 55'
1880. Mar. 21 Mar. 29 Mar. 30 Apr. 4 Apr. 6 Apr. 11 Apr. 21 Apr. 26 Apr. 27 May 2 Sept 4
1881 Mar 23 Mar 31 Apr 3 Apr 7 Apr 17 Apr 18 Apr 20 Apr 23 Apr 24 Apr 25 Sept 12

502 K Cephei
20h 13m
+ 77° 21'

289 χ Cygni
20h 18m
+ 39 52
1880 Mar. 21 Apr. 21 Apr. 26 Apr. 27 May 2 May 4 Sept 4 Sept 11 Sept 16 Sept 25
Apr 4 Apr 7 Apr 10 Apr 17 Apr 18 Apr 20 Apr 21 Apr 24 Sept 13 Sept 17 Sept 19
Sept 20 Oct 1 Oct 3 Oct 25 Oct 26 Nov 6 Nov 16 Nov 20

291 θ Cephei
20h 28m
+ 62° 35'

504 73 Draconis
20h 33m
+ 74° 33'

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1879phae.proj..437D

Almak conjunct read.

	1880	1881	Total
Sept. 11 Sept 16 Sept 23 Sept 25 Sept 30 Oct 2 Oct 4 Oct 5 Oct 6 Oct 9 Oct 11	22		
Sept 13 Sept 17 Sept 19 Sept 20 Sept 25 Oct 1 Oct 3 ex Nov 6 Nov 16	20		
	22	20	

Oct 2 Oct 4 Oct 5 Oct 6 Oct 9 Oct 11	1881 Mar 23 Mar 31 Apr 3	16	3
			10
			8
		16	22
		38	42

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1879phae.proj..437D

Continued from p68

Dates of Observation from Z67 – Z88.

1880. 1881.

294 ε Cygni
20h 37m
+44° 51'
1880 Apr. 21 Apr. 26 Apr. 27 Apr. 28 May 4 May 9 May 11 Sept 11 Sept 25 Sept 30
1881 Apr 4 Apr 7 Apr 10 Apr 17 Apr 18 Apr 20 Apr 24 Oct 1 Oct 3 ~~Oct 25~~ Oct 26

298 E Cygni
20h 41m
+33° 31'
1880. Mar. 21. Apr. 21 Apr 26 Apr. 27 Apr. 28 May 2 May 4 May 5 May 6 May 11 Sept 11
1881 Mar 20 Apr 2 Apr 4 Apr 7 Apr 10 Apr 17 Apr 18 Apr 20 Apr 24 Apr 25

299 η Cephei
20h 43m
+61° 22'

303 ζ Cygni
21h 8m
+29° 44'
1880. Mar. 17 Mar. 21 Apr. 20 Apr. 21 Apr. 26 Apr. 27 May 2 May 4 May 5 May 11 May 12
1881 Mar 14 Mar 20 Mar 21 Mar 23 Mar 24 Apr 17 Apr 18 Apr 20 Apr 23 Apr 24

510 77 Draconis
21h 8m
+77° 38'

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1879phae.proj..437D

1880 1881 Total
180 81

Oct 2 Oct 4 Oct 5 Oct 6 Oct 9 Oct 13 Nov 3. 1881 Mar. 20 Mar 31. Apr 2 17 3
Oct 27 Nov 5 Nov 6 Nov 16 Nov 20 5
18
17 18

Sept 16 Sept 25 Oct 2 Oct 4 Oct 5 Oct 6 Oct 9 Oct 13 Nov 3 20
Oct 1 Oct 3 Oct 26 Oct 27 Nov 5 Nov 6 Nov 20 17
20 17

Sept 25 Oct 2 Oct 4 Oct 5 Oct 6 Oct 7 Oct 9 Oct 12 Oct 13 20
May 3 Oct 1 Oct 3 Oct 13 Oct 26 Oct 27 Nov 16 Nov 20 18
20 18

57 53

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1879phae.proj..437D

Continued from p 70

Date of Observation from F 67 – F 88.

1880. 1881.

306 α Cephei
21h 16m
+62° 5'
1880 Apr. 21 Apr. 22 Apr. 26 Apr. 27 May 2 May 4 May 5 May 6 May 11 May 12 May 26
Oct 24 Oct 25 Oct 31 Nov 1 Nov 2 Nov 7 Nov 7 Nov 8 Nov 15 Nov 16
Apr 8 Apr 9 Apr 11 Apr 17 Apr 18 Apr 18 Apr 20 Apr 20 Apr 21 Apr 23 Apr 23 Apr 24
Nov 16 Nov 20 Nov 22

307 β Aquarii
21h 25m
−6° 6'
1880. Mar. 21 Apr. 20 Apr. 21 Apr 22 Apr. 26 May 24 May 26 ~~Oct 4~~ Oct 5 Oct 7
Mar 23 Apr 3 Apr 17 Apr 18 Apr 20 Apr 24 Apr 25 Apr 27 Apr 30 Oct 3 Oct 13

1880 Oct 4

308 β Cephei
21h 27m
+70° 2'
1881 Mar. 20 Mar 21 Mar 26 Mar 28 Apr 2 Apr 3 Apr 4 Apr 9 Apr 11 Apr 17 Apr 18
Oct 3 Oct 9 Oct 10 Oct 13 Oct 25 Oct 26 Oct 27 Nov 6 Nov 15 Nov 22

309 ε Pegasi
21h 38m
+9° 19'
1880. Apr. 20 Apr. 21 Apr. 26 Apr. 27 May 2 May 4 May 5 May 6 May 12 May 15 May 24
1881. Mar 20 Mar 21 Mar 23 Mar 24 Apr 18 Apr 20 Apr 27 Apr 30 May 2 May 3

516 11 Cephei
21h 40m
+70° 46'

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1879phae..proj...437D

1880 1881 Total '80 '81

Sept 25 Oct 2 Oct 4 Oct 5 Oct 6 Oct 7 Oct 9 Oct 12 Oct 13 Oct 14 Oct 18 22
1881 Mar 14 Mar 20 Mar 21 Mar 23 Mar 24 Mar 26 Mar 28 Apr 2 Apr 3 Apr 4 10 10
Apr 25 Apr 27 Apr 30 May 2 May 3 Oct 1 Oct 3 Oct 13 Oct 26 Oct 27 Nov 15 23 23
3
36

Oct 9 Oct 12 Oct 13 Oct 14 Oct 18 Oct 25 Oct 31. 1881 Mar 20 Mar 24 2
Oct 26 Oct 27 Nov 20 Nov 24 15 15
17

1
Apr 18 Apr 19 Apr 20 Apr 20 Apr 21 Apr 23 Apr 24 Apr 25 Apr 27 Apr 30 May 2 22
Nov 24 11
33

Oct 5 Oct 7 Oct 9 Oct 12 Oct 13 Oct 14 Oct 18 nor Eut Oct 25 Oct 31 Nov 2 2
May 4 Oct 13 Oct 26 Oct 27 Nov 16 Nov 20 Nov 22 Nov 24 8
18
104

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1879phae.proj..437D

Continued from p 72.

1880 1881

Dates of Observations from 767 – 788.

311 α Aquarii
21h 59m
− 0° 54′

1880. Apr. 21 Apr. 22 Apr. 24 Apr. 26 Apr. 27 May 6 May 15 May 24 May 26 Oct 7 Oct 9
Apr 27 May 2 May 3 May 4 ~~May 11~~ Oct 27 Nov 6 Nov 16 Nov 17 Nov 24

520 20 Cephei
22h 1m
+ 62° 12′

521 24 Cephei
22h 7m
+ 71° 45′

525 31 Cephei
22h 33m
+ 73° 1′

322 η Pegasi
22h 37m
+ 29° 36′

1880. Apr. 24 Apr. 26 May 5 ~~5~~ May 15 May 16 May 24 May 25 May 26 Oct 9 Oct 13 Oct 14
Apr 20 May 11 May 24 Oct 23 Oct 26 Nov 6 Nov 24

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1879phae.proj..437D

1880 1881 Total '80 '81

Oct 12 Oct 13 not Enter'd Oct 14 Oct 18 Oct 23 Oct 25 Nov 2 1881 Mar 20 Mar 23 Apr 7 — 8 3 9 10 — 18 12

Oct 18 Oct 20 Oct 23 Oct 24 Oct 25 Oct 31 Nov 2 Oct 1881 Mar 23 Apr 4 Apr 7 — 17 3 7 — 17 10

35 22

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1879phae.proj..437D

Continued from p 74.

Dates of Observation from 767 – 788.

1880 1881

325 ι Cephei
22h 45m
+ 65° 34′

[619 α Psc. dust] 1880. May 15 Oct 9 ~~Oct 13~~ Oct 14 Oct 18 Oct 20 Oct 25 Oct 31 Nov 3 Nov 11
22h 50m
– 30° 15′

329 α Pegasi 1880. Apr. 7 Apr. 11 Apr. 21 Apr. 22 Apr. 24 May 3 May 4 May 15 May 24 May 25 Oct 9
22h 39m 1881. Apr 18 Apr 30 May 24 Oct 23 Nov 6 Nov 15 Nov 24
+ 14° 34′

529 π Cephei
23h 4m
+ 74° 44′

533 4 Cassiop.
23h 20m
+ 61° 37′

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1879phae.proj..437D

1880 1881 Total

1881. Oct 26 Nov 14 Nov 17 Nov 20 Nov 22 ~~7~~ ~~18~~ 5

10
~~9~~ 5

Oct 13 Oct 13 Oct 14 Oct 18 Oct 20 Oct 24 Oct 25 Nov 3 Nov 11 Nov 18. ~~Nov 30~~ 2 ~~28~~

7

2
~~27~~ 7

2
~~39~~ 12

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Class I
Count of Observations

Cat. No.	Name of Star	R.A. 1880	Decl. 1880	No. of Observations 1879	1880	1881 +1882	1882	Total
1	N.a. α Androm.	h m 0 2	+28° 25	25	18	~~49~~		~~53~~ 52
2	β Cassiop.	0 2	+58 29	--	24	10		34
3	N.a. γ Pegasi	0 7	+14 30	26	23	9		58
13	γ Cassiop.	0 49	+60 3	23	33	58	1	115
19	N.a. α Urs. Min.	1 14	+88 40					
20	δ Cassiop.	1 17	+59 36	25	21	~~82~~ 84	5	~~134~~ 135
30	N.a. β Arietis	1 48	+20 13	~~15~~ 16	25	22		~~77~~ 63
32	N.a. γ Androm.	1 56	+41 45	14	24	26		64
33	α Arietis	2 0	+22 53	~~44~~ 46	~~27~~ 26	16		~~87~~ 88
353	67 Ceti	2 10	-6 58	2	—	—		2
36	N.a. ι Cassiop.	2 19	+66 51	1	—	—		1
358	47 H. Cephei	2 50	+78 56	2	—	—		2
47	N.a. α Ceti	2 56	+3 37	16	11	8		35
48	N.a. γ Persei	2 56	+53 2	5	7	7		19
360	N.a. 48 H. Cephei	3 5	+77 17	1	—	—		1
52	N.a. α Persei	3 15	+49 25	9	~~18~~ 17	10		~~35~~ 36
56	ε Eridani	3 27	-9 51	13	8	4		25
363	Groombr. 716	3 31	+62 46	2	—	—		2
57	N.a. δ Persei	3 34	+47 24	3	16	10		29
[550	N.a. δ Eridani]	3 37 approx.	-10 10	15	10	6		31
61	N.a. η Tauri	3 40	+23 43	9	16	9		34
63	N.a. ζ Persei	3 46	+31 31	13	14	8		35
365	g H Camel.	3 46	+60 45	1	—	—		1
[552	N.a. γ Eridani]	3 52	-13 51	6	10	6		22
~~225~~ 226*	~~η~~ Draconis	4 22	+118 13	see 16h		10		10
73	N.a. 2 Tauri	4 29	+16 15	12	14	~~18~~ 18		~~48~~ 44
25								
Totals by columns				~~285~~ 280	317	~~318~~ +330	6	~~927~~ 936

* Entered at 16h 22m p 52.

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No.	Name of Star	RA 1880. h m	Decl 1880. ° ′	No. of Observations. 1879	1880	1881	~~1882~~	Total.
*76	9 Camelop.	4 42	+66 8	5	—	2	7	
79	i Aurigæ	4 49	+32 58	3	9	16	28	
80	10 Camelop.	4 52	+60 15	6	—	—	6	
84	β Eridani	5 1	−5 14	11	~~1~~ 8	20	~~48~~ 49	
86	α Aurigæ	5 7	+45 52	10	14	22	46	
87	β Orionis	5 8	−8 20	22	20	19	61	
91	γ Orionis	5 18	+6 14	14	12	14	40	
90	β Tauri	5 18	+28 30	~~15~~ 16	15	16	~~46~~ 47	
375	17 Camelop.	5 18	+62 57	3	—	—	3	
93	δ Orionis	5 25	−0 23	27	19	~~29~~ 30	~~75~~ 76	
[556	α Leporis]	5 27	approx. −17 54	11	10	19	40	
96	ε Orionis	5 29	−5 59	10	11	16	37	
97	ε Orionis	5 30	−1 16	~~9~~ 10	12	17	~~38~~ 39	
[α	γ Orionis]	5 34	appr. −2 0	~~15~~ 19	15	16	~~49~~ 50	
[b	α Columbæ]	5 35	approx. −34 8	10	7	15	32	
100	κ Orionis	5 42	−9 42	~~32~~ 33	14	~~27~~ 29	~~67~~ 69	
102	α Orionis	5 48	+7 22	~~40~~ 41	21	20	~~81~~ 82	
103	β Aurigæ	5 50	+44 55	1	—	—	1	
381	36 Camelop.	6 0	+65 44	3	—	—	3	
383	22 H. Camelop.	6 5	+69 21	3	—	—	3	
106	ν Geminor.	6 15	+22 34	20	15	19	54	
107	ξ Geminor.	6 30	+16 29	21	18	21	60	
[564	α Can. Maj.]	6 39	approx. −16 33	10	19	22	51	
111	51 H. Cephei	6 43	+87 13	25	15	15	55	
[566	ε Can. Maj]	6 53	approx. −28 40	11	16	17	44	
25	Total by Columns.			340 ~~345~~	~~279~~ 280	358 ~~359~~	~~975~~ 983	

* See Note Book pp 45 48 on identity of this star. It is given α in N. A. 1881.

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1979phae.proj..427D

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1879phae.proj..437D

Date No.	Name of Star.	RA 1880 h m approx.	Decl 1880 ° ' approx.	No. of Observations. 1879	1880	1881	1882	Total
Nra [568	δ Can. Maj.]	7 3	−26 12	11	15	17	43	
Nra .116	Groombr. 1308	7 18	+68 42	2	—	—	2	
.118	β Can. Min.	7 20	+8 31	24	18	~~19~~ 20	6~~4~~ 2	
Nra .119	α Geminor.	7 26	+32 9	20	21	20	61	
Nra .120	α Can. Min.	7 33	+5 31	32	24	22	78	
Nra .122	β Geminor.	7 37	+28 18	23	20	~~19~~ 20	6~~4~~ 3	
Nra [570	c Argus]	8 2 approx.	−23 57	11	14	16	~~41~~	
.125	o Urs. Maj.	8 20	+61 7	4	—	—	4	
+413	ρ Urs. Maj.	8 51	+68 5	2	—	—	2	
Nra .415	σ^2 Urs. Maj.	8 59	+67 37	2	—	—	2	
Nra .138	α Hydrae	9 21	−8 8	24	26	23	73	
.139	h Urs. Maj	9 22	+63 35	1	—	—	1	
Nra .418	d Urs. Maj	9 23	+70 21	1	—	—	1	
Nra .140	θ Urs. Maj	9 24	+52 13	5	15	23	43	
.420	Groombr. 1564	9 31	+69 46	6	—	—	6	
Nra .142	ε Leonis	9 39	+24 19	24	21	~~18~~ 9	6~~3~~ 4	
.421	Groombr. 1586	9 47	+73 26	8	—	—	8	
Nra .146	α Leonis	10 1	+12 33	3~~1~~ 2	2~~0~~ 1 (11)	23	7~~6~~ 5	
.148	ζ Leonis	10 10	+24 0	27	19	21	67	
Nra [C ζ' Leonis]		10 13 approx.	+20 27	28	22	20	70	
.149	μ Urs. Maj.	10 15	+42 6	6	15	20	41	
.424	30 H. Urs. Maj.	10 15	+66 10	6	—	—	6	
.425	30 H. Camelop.	10 16	+83 10	1	—	—	1	
Nra .150	η H. Draconis	10 24	+76 19	7	1	—	8	
.429	35 H. Urs. Maj.	10 34	+69 42	2	—	—	2	
25								
				30~~8~~ 9	25~~1~~ 2	26~~3~~ 4	82~~1~~ 54	

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1879phae.proj..437D

No	Name of Star	Ra 1880 h m	Dec 1880 ° ′	No. of Observations. 1879	1880	1881	1882	Total
[153	β Urs. Maj.	10 34	+57 1	18	38	25		77
Nra 154	α Urs Maj	10 56	+62 23	13	43	28		84
155	γ Urs Maj.	11 2	+45 8	9	20 18	18		45
Nra 156	δ Leonis	11 7	+21 10	23	22	20		65
436	Groombr 771.	11 153	+64 59	1	—	—		1
Nra 162	λ Draconis	11 24	+69 59	1	—	—		1
Nra 164	β Leonis	11 42	+15 14	26	19	8		53
Nra 166	ζ Urs Maj.	11 47	+54 21	5	36	14		55
[582	ε Corvi]	12 3	approx. −21 56	18	15	3		36
[584	δ Corvi]	12 23	approx. −15 50	18	21	4		43
Nra [585	β Corvi]	12 28	approx. −22 43	15	19	5		39
172	γ Virginis	12 35	− 0 47	39	31	5		75
173	ε Urs Maj.	12 48	+56 36	4	39 40	35	2	80
174	δ Virginis	12 49	+ 1 2	31	12 3	—		43
176	ε Virginis	12 56	+11 36	45	34	13		92
Nr [587	α Virginis]	13 18	approx. −10 31	45 7	21	8		74
Nra 181	η Urs Maj.	13 42	+49 54	10	25 6	21		57
Nr 182	η Bootis	13 48	+18 59	19	23	9		51
183	ζ Virginis	13 55	+ 2 7	18	13	6		37
Nr 184	α Draconis	14 1	+64 56	1	—	6		7
Nra 187	α Bootis	14 10	+19 48	24	17	9		50
193	ζ Bootis	14 27	+38 50	11	16	6		33
Nra [d	ε Bootis]	14 39	approx. +27 35	21	18	5		44
*590 Nra [589	α Libra]	14 44	approx. − 15 32	—	11	6		17
Nra 198	β Urs. Min.	14 51	+74 38	14 1	58	23		122
25								
Total by Columns				446 8	554 5	278 8	2	1269 8 2

* See Note Book p 12.

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1879phae..proj...437D

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1879phae.proj..437D

No.	Name of Star	RA 1880 h m	Decl 1880 ° ′	No of Observations. 1879	1880	1881	1882	Total
Nra 199	β Bootis	14 57	+40 51	11	19	5		35
Nra 200	β Librae	15 10	− 8 56	15	13	~~1~~ 9		~~35~~ 37
201	δ Bootis	15 10	+33 45	8	14	2		27
Nra 203	ζ Urs. Min.	15 20	+72 15	2	—	12		14
Nra 209	α Cor. Bor.	15 29	+27 7	20	19	9		48
Nra 212	α Serpentis	15 38	+ 6 48	26	24	~~12~~ 5		~~62~~ 65
Nra 217	ζ Urs. Min	15 48	+78 9	2	—	—		2
Nra [594	δ Scorpii]	15 53	− 22 16	approx. 3	18	11		32
Nra [595	β Scorpii]	15 58	− 19 28	approx. 6	16	10		32
Nra 222	δ Ophiuchi	16 8	− 3 22	~~15~~ 16	17	10		~~41~~ 43
472	η Urs. Min.	16 14	+76 10	4	—	—		4
Nra [596	α Scorpii]	16 21	−26 9	approx. 13	19	11		43
Nra 226	η Draconis	16 22	+61 47	9	6	21		36
228	β Herculis	16 25	+21 45	11	17	~~18~~ 13		~~46~~ 41
Nra [597	ζ Ophiuchi]	16 36	−10 19	approx. 17	~~14~~ 20	~~18~~ 13		~~48~~ 50
Nra 232	η Herculis	16 38	+ 39 9	3	20	15		38
Nra 235	ε Urs. Min.	16 58	+82 13	11	—	—		11
[598	η Ophiuchi]	17 3	−15 34	approx. ~~12~~ 14	17	~~14~~ 15		~~42~~ 46
Nra 237	α Herculis	17 9	+14 31	16	17	15		48
Nra 240	β Draconis	17 27	+52 23	4	16	16		36
Nra 241	α Ophiuchi	17 29	+ 12 38	~~15~~ 19	18	14		~~47~~ 51
Nra 484	γ Draconis	17 44	+72 12	2	—	—		2
Nra 252	ζ Draconis	17 53	+51 30	3	20	18		41
485	35 Draconis	17 54	+76 58	~~6~~ 7	—	—		~~6~~ 7
	Total by columns			~~235~~ 240 ✓	~~312~~ 313 ✓	~~228~~ 234 ✓		~~775~~ 787 ✓

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1879phae..proj..437D

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No	Name of Star	Ra 1880 h m	Decl 1880 ° ′	No of Observations. 1879	1880	1881	Total 1882	1882
Nra 256	δ Ursæ Min.	18 11	+86 36	3~~1~~ 2	~~19~~ 22	21	7~~6~~ 5	
Nra 257	η Serpentis	18 15	− 2 55	16	17	1~~7~~ 8	5~~4~~ 1	
489	φ Draconis	18 22	+71 16	1	—	—	1	
259	χ Draconis	18 23	+72 40	5	—	—	5	
Nra 260	α Lyræ	18 32	+38 40	10	17	2~~1~~ 4	5~~4~~ 1	
491	Groombr 2640	1835	+68 22	2	—	—	2	
Nra [603	σ Sagittarii]	18 47	−26 26 approx.	10	17	19	46	
493	υ Draconis	18 55	+71 8	3	—	—	3	
Nra 270	ζ Aquilæ	18 59	+13 41	11	11	13	35	
269	λ Aquilæ	18 59	− 5 3	1~~0~~ 1	16	14	4~~3~~ 1	
Nra 271	δ Draconis	19 12	+67 27	8	—	—	8	
Nra 273	ε Draconis	19 17	+73 7	3	—	—	3	
275	β Cygni	19 25	+27 42	11	16	2~~0~~ 1	4~~7~~ 8	
497	Groombr 2900	19 28	+79 21	1	—	—	1	
Nra 277	ζ Aquilæ	19 40	+10 19	26	22	20	68	
Nra 280	α Aquilæ	19 44	+ 8 33	3~~0~~ 2	25	2~~7~~ 4	8~~5~~ 1	
Nra 284	λ Ursæ Min.	19 44	+~~88~~ 56	1	—	—	1	
Nra 282	ε Draconis	19 48	+~~68~~ 69 * 57	8	—	—	8	
Nra 283	β Aquilæ	19 49	+ 6 6	21	2~~0~~ 2	24	6~~7~~ 7	
284	θ Aquilæ	20 5	− 1 10	21	2~~3~~ 4	23	6~~7~~ 8	
[606 Nra	α¹ Capricorni	20 11	−12 56 approx.	18	22	20	60	
[607 Nra 502	α² Capricorni] κ Cephei	20 12	+77 20	4	—	—	4	
289	ζ Cygni	20 17	+39 52	3~~1~~ 3	16	22	4~~3~~ 1	
291	σ Cephei	20 27	+62 35	10	—	—	10	
504	73 Draconis	20 33	+74 32	1			1	
25								
Total by Columns.				26~~1~~ 9	24~~2~~ 7	2~~5~~ 63	7~~5~~ 79	0

* This Decl must be wrong: it is 69° in Ledger & in N.A.

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Cat. No	Name of Star	Ra 1880	Decl. 1880	No. of Observations 1879	1880	1881	1882	Total
Na 294	α Cygni	20h 37m	+44° 51′	3	17	18		38
298	ε Cygni	20 41	+33 31	3	21	17		41
299	ν Cephei	20 42	+61 22	2	—	—		2
Na 303	γ Cygni	21 7	+29 44	21	20	18		59
510	γ Draconis	21 7	+77 38	2	—	—		2
Na 306	α Cephei	21 15	+62 4	10	33	36		79
Na 307	β Aquarii	21 25	− 6 5	20	18	17		55
Na 308	β Cephei	21 27	+70 2	8	1	33		42
Na 305	ε Pegasi	21 38	+ 9 19	22	21	18		61
Na 576	11 Cephei	21 40	+70 45	8	—	—		8
Na 311	α Aquarii	21 59	− 0 54	24	18	12		54
520	20 Cephei	22 1	+62 12	8	—	—		8
521	24 Cephei	22 7	+71 45	8	—	—		8
525	31 Cephei	22 32	+73 1	6	—	—		6
322	η Pegasi	22 37	+29 35	10	14	10		34
Na 325	ε Cephei	22 45	+65 34	5	—	—		5
Na 619	α Piscis Austr.	22 50	−30 15	9	10	5		24
Na 329	α Pegasi	22 58	+14 33	19	21	7		47
529	π Cephei	23 4	+74 44	1	—	—		1
533	4 Cassiop.	23 19	+61 37	1	—	—		1
19	Total by Columns.			190	198	191		579

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Class II
Non Fundamentals.

Cat. No	Name of Star	approx. Places from Z Books RA 1880 ?	Decl 1880 ?	No. of Observations. 1879	1880	1881	1882	Total
h	Searle's	0h 42m 15s	+70° 31′		3	—		3
o	Davidson's	1 58 40	−12 26		1	3		4
l	Hall's No. 5	2 10 3	+56 25		6	4		10
n	Hall's No 12	2 11 33	+56 46		6	4		10
p	Lupman's	4 37 28	+51 48		—	2		2
q	Lupman's	4 50 59	+54 4		—	2		2
r	Lupman's	4 52 38	+54 11		—	2		2
g	No name	7 45 54	+30 59		2	—		2
f	Comp. ✱ of 123	10 41 19	+1 15	4	—	—		4
k	Comp. ✱ of 112	11 19 34	+1 46	—	2	—		2
i	Comp. ✱ of 112	11 23 6	+1 23	—	2	—		2
j	Comp. ✱ of 112	11 29 37	+0 52	—	1	—		1
e	ε Safford's	20 16 42	+88 46′	4	—	—		4
f3	[illegible]			—	—	1		1
Total by columns				8	23	17		48
M Mercury				—	—	10		10
S Seen				141	164	149	6	

Total number of Observations of Stars in Class I — 61 ~~72~~ 74

" " " " " " " II 48

" " " " " Stars

" " " " " Seen 460

" " " " " Mercury 10

Tot. no. Stars = 182 ✓

" " Sets = 700 or 800 ?

" " Obs Stars = 6172 ?

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Dm
+70° 53

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Almanac Stars

Listed by Nos. in N.A. (Pub XIV + XVII) 102 Stars

1	140	260	[568]
3	142	270	[670]
19	146	271	[585]
30	150	273	[587]
33	154	277	[590]
36	156	280	[594]
47	162	282	[595]
52	164	283	[596]
57	166	284	[597]
61	181	294	[603]
63	182	303	[607]
73	184	306	[619]
76	187	307	[C]
79	198	308	[d]
86	199	309	
87	200	311	102
90	203	325	
93	209	329	
97	212	360	
102	217	583	
106	222	415	
107	226 232	418	
111	237	484	
116	240	502	
119	241	516 535	
120	252	[552]	
122	256	[556]	
138	257	[564] [566]	

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List by Pub XIV + XVII Nos Not in N.A. So Stars

Cobbs Pl Comp. v Bk I	2	II 275	II 525	
"	13	" 287	III 529	III also to contain 188 2 Hrs of
"	20	" 289	III 533	13 J Cass
"	32	" 291	I [550]	20 S "
"	48	" 298	" [582]	173 E Ursa Maj
"	57	" 299	" [584]	
"	80		II [598]	
"	84	" 322	I [a]	
"	91	I 353	II e	
"	96	" 358	I f	
"	100	" 363	" g	
"	103	" 365	" h	
"	118	" 375	" i	
"	125	" 381	" j	
"	139	" 413	" k	
"	148	" 420	" l	
"	149	" 421	" m	
"	153	" 424	" o	
"	155	" 425	" p	
II	172	" 429	" q	
"	173	" 436	" r	
"	174	II 472	485 II	
"	176	" 491	489 II	
"	183	" 493		
"	193	" 497		
"	201	" 504		
"	228	" 510		
"	259	" 520		
"	269	" 521		

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