XXIV. *A Catalogue of nearly all the principal fixed Stars between the zenith of Cape Town, Cape of Good Hope, and the South Pole, reduced to the 1st. of January, 1824. By the Rev.* FEARON FALLOWS, *M. A. F. R. S.*

Read Feb. 26, 1824.

THE following Catalogue of nearly all the principal fixed stars in the southern hemisphere, from the zenith of Cape Town to the South Pole, was deduced from observations made during the latter part of 1822 and the beginning of the present year. Its pretensions to accuracy will be easily estimated by stating the circumstances under which the observations were taken, the respective merits of the instruments used, and the attention, on the part of the observer, to do every justice to the means placed in his power. Immediately after my arrival in this colony (at the end of 1821,) I lost no time in personally examining different parts of the country, for the purpose of selecting one, which might be deemed eligible as a site for the intended Observatory about to be erected here. After many fruitless endeavours to accomplish the object of my wishes, I had the good fortune, at length, to find a situation in the vicinity of Cape Town, which, upon the whole, possessed more local advantages than any I had seen elsewhere. My Report, containing a description of this site, and a Map of the surrounding country, was forwarded to My Lords Commissioners of the Admiralty in the month of

March, 1822: since then I have had no reason to change my opinion upon the propriety of my choice.*

As a considerable period would likely intervene between the date of my Report, and the time when instructions would be received to commence the building of the Observatory, I was desirous of employing this interval in forming a Catalogue of fixed stars which might prove useful, when more extensive means of accomplishing the work with greater truth might be placed in my power, I therefore lost no time in requesting His Excellency Sir RUFANE DONKIN, the Acting Governor, to allow me a small wooden house, which could be easily converted into a temporary Observatory. My request was kindly granted; and the necessary alterations soon made for the reception of a portable transit instrument, a clock, and an altitude and azimuth circle.

It is not my intention to enter into any minute detail of the disposition of the instrument in this confined apartment, which would be tedious and uninteresting; but I think it right to give a short description of each instrument, and the methods employed for insuring a near approximation to accuracy.

The transit instrument by which the right ascensions in the following Catalogue were deduced is of very diminutive size, though excellent of its kind. It was made by Mr. DOLLOND, and fitted up in his usual manner with every conve-

* I am much indebted to the kindness of my learned friend Mr. COLEBROOKE, (then on a visit here), whose knowledge of the Cape is very extensive, and by whose advice and assistance I was enabled to make up my mind upon the advantages of *each spot* without much delay.

nience for the necessary adjustments, and for illuminating the wires in the eye-piece. The focal length of the object-glass is about 19½ inches; its diameter 1,62 inches. The frame work is made of cast-iron; the lower part of which is securely fastened to a block of stone, and this again strongly cemented to a firm brick pillar. The only defect which has yet been noticed in the frame is its liability to be affected by the variation of temperature. We obviate this in some measure, by constantly* levelling the axis of the telescope whenever an opportunity presents itself during a nights' observations.

The method of placing a transit in the plane of the meridian by a star near the Pole, so successfully employed in the northern, fails in the southern hemisphere, at least in *small* instruments; as I am not aware of any star within 12 degrees of the South Pole that can be classed higher than the fifth magnitude, and which of course can be very seldom observed at its superior and inferior culmination. I therefore deemed it advisable to take the transits of as many high and low Greenwich stars as possible, by which means, as is well known, the azimuthal error of the instruments may be easily ascertained, and the error of the clock to much nicety. Lest any change might take place in the *position* of the transit between two successive nights' observation (though correctly verified by a distant mark during the *day*), I determined the

* It is worth while to remark, that the lamp for illuminating the wires ought to be lighted some time *before* the axis is levelled, and the instrument prepared for work, as the heat of the lamp communicating with the metallic frame will derange the level, and consequently render the observations of no use. This remark applies only to portable transit instruments.

rate of the clock by the transits of stars near the zenith, as the azimuthal error would hardly be felt when the axis was correctly levelled. The rates thus obtained were proportioned to the intervals between the high and low Greenwich stars, and the error of position easily found; afterwards, the observed transits of other stars were corrected to the meridian according to their respective altitudes or declinations, by a method well known to all practical astronomers.

By uniting the results of several pairs of Greenwich stars taken in the same night, the error of position is more correctly found.

For example. Nov. 19, 1822.

	East.	
The azimuthal error =	$0^s,705$	by Fomalhaut and α Androm.
	0 ,804	Fomalhaut and α Arietis.
	0 ,711	Sirius and Capella.
Mean	0,74	East.

Nov. 26, 1822.

	East.	
The azimuthal error =	$0^s,05$	by Fomalhaut and α Androm.
	0 ,47	Fomalhaut and α Arietis.
	0 ,54	Sirius and Capella.

"The mean of the two last (viz. $0^s,50$) was preferred, as the lamp had only been lit a short time before the observation of α Andromedæ, and the level was found deranged."

Having briefly pointed out the plan by which the right ascensions in the following Catalogue were obtained, I shall now put down a few observations of two bright stars, as specimens of the rest, *corrected* for the error of the instrument,

the error and rate of the clock, but *uncorrected* for the effects of precession, aberration, lunar and solar *nutation*.

Apparent right ascensions of Achernar.

		H. M. S.
1823, Nov.	1	1 31 9,54
	7	1 31 9,39
	12	1 31 9,31
	15	1 31 9,38

Apparent right ascensions of Canopus.

		H. M. S.
1822, Oct.	30	6 20 2,91
Nov.	7	6 20 3,39
	15	6 20 3,27
	19	6 20 2,97
	28	6 20 2,93
1823, Jan.	24	6 20 3,00
	27	6 20 3,11
	23	6 20 3,66

The mean right ascension of Canopus, reduced to the 4th of January, 1822, by observations made at the beginning of the year, is $6^h\ 20^m\ 00^s,00$, and by those at the end of the year $6^h\ 19^m\ 59^s,95$.

The clock, which stands at a short distance from the transit, does not go so well as could be wished. After a great deal of lost labour, and by a careful examination of its parts, I succeeded in remedying several defects, and at length brought it to have a nearly equable rate. The dampness of the apartment, especially after rain, *may* have a sensible influence upon the going of the clock, which no artist could provide against.

The altitude and azimuth circle was made by Mr. RAMSDEN, and originally used as an equatorial instrument. The diameter of the vertical circle is 30 inches. The telescope, with two micrometers attached to the object and eye ends revolves, the circle itself being fixed to the upright axis. The frame is made of iron, and strongly screwed to a large block of stone (weighing about two tons) imbedded in the ground, and resting upon a rock. I have not yet had occasion to use the azimuth circle, except merely for reversing the face of the vertical circle. One cause of imperfection in this instrument is the slight manner in which the microscopes are connected with the telescope, the supports being too weak, and consequently liable to bend and be thrown out of adjustment in elevating or depressing the telescope to any given object. I have felt this defect severely, but could not get it *altogether* remedied here; still however I have some hopes (from the great care and caution in the management of the instrument) that the declinations in the following Catalogue will not be found very inaccurate.

The latitude of the Observatory was principally obtained from a great number of observations of α Aquilæ (this star having nearly the same zenith distance at Greenwich and the Cape), and compared with its north polar distance, as given by Mr. POND in the Nautical Almanack for 1822. I tried several other Greenwich stars, and found a slight difference of a few seconds in the results, some in excess, others in defect; but this is no doubt the fault of my circle: it is however satisfactory to know, that the mean of all agreed to nearly one second with that deduced from α Aquilæ. Whatever error I may hereafter find in my latitude will of course

effect the declinations in the Catalogue. I was compelled to use this method of finding the latitude, as it was impossible, with my present means, to discover the altitude of the Pole by observations of circumpolar stars at their superior and inferior transits.

A considerable number of the stars in the Catalogue are *double*: the place in the brighter is always given. I cannot find that M. DE LA CAILLE mentions a star of nearly the fourth magnitude accompanying α Crucis (see No. 139).

To the magnitudes, I have sometimes annexed the signs + or —; the meaning of which is this; that if a star appear hardly of the fourth magnitude we set it down 4 —; if a little greater than a fourth, 4 +; and so on of others.

It must be remarked, that the apparent altitudes of stars were always reduced to the true by Dr. YOUNG's tables of refractions, inserted in the Nautical Almanacks each year.

Formulæ, by which the apparent right ascensions and declinations were reduced to the beginning of the year,*

$$
\begin{aligned}
-\delta R = (&+ 3^{s},0678 - 1^{s},336 \text{ sin. R. tang. D}), t \\
&- 1,239 \text{ cos. R. sec. D. cos. } \odot \\
&- 1,350 \text{ sin. R. sec. D. sin. } \odot \\
&+ 0,643 \text{ cos. R. tang. D. cos. } \mathfrak{Q} \\
&+ 0,4788 \text{ sin. R. tang. D. sin. } \mathfrak{Q} \\
&- 1,103 \text{ sin. } \mathfrak{Q} \\
&+ 0,0289 \text{ sin. R. tang. D. sin. 2 } \odot \\
&+ 0,0265 \text{ cos. R. tang. D. cos. 2 } \odot \\
&- 0,06115 \text{ sin. 2 } \odot
\end{aligned}
$$

* The stars were all reduced to the beginning of the year in which the observations were made, and afterwards brought up to the 1st. of January, 1824, by the quantity of annual precession.

$$
\begin{aligned}
-\delta D = & -20'',044 \cos. R. , t \\
& -20,255 \cos. R. \sin. D. \sin. \odot \\
& +18,580 \sin. R. \sin. D. \cos. \odot \\
& -8,0659 \cos. D. \cos. \odot \\
& -9,648 \sin. R. \cos. \Omega \\
& +7,1822 \cos. R. \sin. \Omega \\
& +0,3982 \cos. R. \sin. 2 \odot \\
& -0,434 \sin. R. \cos. 2 \odot
\end{aligned}
$$

No.	Names and Magnitudes of Stars.		La Caille's Magnitudes.	Right Ascension. 1824, Jan. 1.	Annual Precession.	South Declination.* 1824, Jan. 1.	Annual Precession.
				h. m. s.	S.	° ′ ″	″
1	ε Phœnicis	4	4	0. 0.26.6	+3.13	46.43.10	—20.05
2	γ 3 Octantis	5	5	0. 1.46.2	+2.98	83.12.14	20.05
3	ζ Toucanæ	5	5	0.10.49.4	+2.93	65.56.32	20.03
4	β Hydri	3+	3	0.16.17.1	+2.61	78.14.45	20.00
5	κ Phœnicis	5	5	0.17.30.8	+2.96	44.39.30	19.99
6	α Phœnicis	2	2	0.17.33.6	+2.97	43.15.49	19.99
7	λ 1 Phœnicis	5	5	0.22.53.4	+2.91	49.45.50	19.95
8	β 1 Toucanæ	4	4	0.23.26.1	+2.79	63.56. 2	19.94
9	β 2 Toucanæ	4—	4	0.23.26.4	+2.80	63.56.24	19.94
10	β 3 Toucanæ	5—	5	0.24.40.1	+2.80	64. 0.11	19.93
11	μ Phœnicis	5	5	0.32.59.4	+2.86	47. 3. 1	19.84
12	σ Phœnicis	5	5	0.35.23.9	+2.74	58.25.46	19.81
13	β Phœnicis	3.4	4	0.58.12.9	+2.70	47.39.42	19.40
14	ζ Phœnicis	5	5	1. 0.57.7	+2.55	56.11.10	19.34
15	γ Phœnicis	3.4	3	1.20.42.5	+2.62	44.13.21	18.82
16	δ Phœnicis	4—	4	1.23.54.7	+2.50	49.59.14	18.72
17	Achernar	1	1	1.31. 8.6	+2.24	58. 8. 7	18.48
18	χ Eridani	4	4	1.49. 5.7	+2.27	52.29.25	17.82
19	σ 2 Hydri	4.5	5	1.50.28.8	+1.49	68.31. 1	17.76
20	α Hydri	3—	3	1.53.14.0	+1.86	62.25.35	17.65
21	φ Eridani	4	4	2.10.13.0	+2.14	52.19.53	16.90
22	δ Hydri	4	4	2.18.37.7	1.04	62.27.52	16.49
23	κ Eridani	4.5	5	2.20.30.0	2.20	48.29.59	16.40
24	σ Eridani	5	5	2.33. 5.0	2.28	43.39. 2	15.74
25	ι Eridani	4	4	2.33.40.9	2.37	40.36.50	15.70
26	ζ Hydri	5+	5	2.36.53.7	0.87	69. 1.26	15.53
27	θ Hydri	5	5	2.42.51.6	0.88	68.21.21	15.19
28	θ 1 Eridani	4	3	2.51.35.6	2.28	41. 0.53	14.69
29	θ 1 Hydri	5—	5	3. 1.57.2	0.03	72.35.16	14.05
30	*l* Eridani	4.5	4	3.12.52.0	2.12	43.45. 0	13.36
31	*y* Eridani	5+	5	3.30.47.1	2.15	40.51.26	12.15
32	*h* Eridani	5	5	3.36.16.7	2.23	37.52.23	11.76
33	β Reticuli	4	4	3.42. 1.2	0.67	65.21.55	11.35
34	*f* 2 Eridani	5+	4	3.42. 5.7	2.21	38. 9.52	11.35
35	*g* Eridani	5	4	3.42.52.5	2.25	36.44.20	11.29
36	*i* Eridani	5	5	3.46.55.3	+2.28	35.15.29	11. 0
37	γ Hydri	3—	3	3.50. 4.0	—1.06	74.46.42	10.76
38	δ Reticuli	5—	5	3.55.58.5	+0.92	61.53.45	10.33
39	γ Reticuli	5	5	3.58.20.6	0.84	62.39. 9	10.15
40	α Horologii	5+	5	4. 8.10.5	1.98	42.44. 1	9.40
41	X Eridani	3.4	4	4.11.14.0	2.26	34.14.10	9.16
42	γ Doradûs	4	4	4.11.24.7	1.55	51.56.27	9.15
43	α Reticuli	3.4	3	4.12.10.4	0.77	62.54.45	9.09
44	ε Reticuli	5+	5	4.13.27.6	1.03	59.43.46	8.99
45	θ Reticuli	5—	5	4.15.41.7	0.65	63.41. 2	8.81
46	*d* Eridani	5	4	4.17.25.5	2.25	34.25.57	8.68
47	σ Reticuli	5—	5	4.20. 0.6	0.61	63.48.21	8.47
48	δ Cœli Scalpt	5	5	4.25.26.0	+1.83	45.20.12	— 8.04
				h. m. s.		° ′ ″	

* N. B. All the declinations in my Catalogue must be diminished four seconds.

(Extract of a Letter from the Rev. F. FALLOWS, to JOHN BARROW, Esq. Sec. Admiralty, dated Cape Town, Jan. 10, 1824.)

No.	Names and Magnitudes of Stars.		La Caille's Magnitudes.	Right Ascension.	Annual Precession.	South Declination. *	Annual Precession.
				h. m. s.	S	° ′ ″	
49	α Doradûs	3	3	4.30.11.8	+1.28	55.24.39	— 7.66
50	α Cœli Scalpt.	5+	5	4.34.53.7	1.94	42.12.21	7.27
51	β Cœli Scalpt.	5	5	4.35.49.7	2.12	39.29.44	7.23
52	γ 1 Cœli Scalpt	5	5	4.58. 4.7	2.15	35.43.42	5.35
53	ε Columbæ	4	4	5.24.58.2	2.12	35.36.24	3.06
54	β Doradûs	4	4	5.32. 6.1	0.51	62.36.24	2.44
55	α Columbæ	2.	2	5.33.16.3	2.17	34.10.21	2.34
56	δ Doradûs	5	5	5.44.27.3	0.11	65.48. 9	1.36
57	β Columbæ	3	3	5.44.45.7	2.11	35.50.21	1.34
58	ε Doradûs	5	5	5.50. 3.3	—0.07	66.57. 3	0.87
59	γ Columbæ	4—	4	5.51.18.1	+2.15	38.18.31	0.77
60	σ Columbæ	5+	5	5.53.45.4	+1.83	42.49.53	0.55
61	θ Columbæ	5	5	6. 1.29.7	+2.06	37.14.13	+ 0.12
62	K Columbæ	5	5	6.10.17.8	2.13	35. 5.16	+ 0.89
63	Canopus	1	1	6.20. 2.6	1.33	52.36.21	+ 1.75
64	ν Argûs	3	3	6.32.22.2	1.83	43. 2.52	2.82
65	τ Argûs	4	4	6.45.34.0	1.48	50.24.32	3.96
66	α Equulei Pict.	4	4	6.46.22.7	0.63	61.45.19	4.03
67	A Argûs in pup.	5	5	7. 2.56.8	2.01	39.22.43	5.44
68	J Argus in pup.	5	5	7. 7.32.6	1.72	46.28.16	5.82
69	L 1 Argus in pup.	5	5	7. 7.57.6	+1.79	44.52.51	5.86
70	γ Piscis Volantis	5	5	7.10.12.1	—0.47	70.12.47	6.04
71	π Argûs	3	3	7.10.55.6	—2.12	36.47.19	6.11
72	δ Piscis Volantis	5+	5	7.16.53.5	—0.00	67.38. 3	6.60
73	σ Argûs	4+	4	7.23.39.3	+1.91	42.57. 4	7.16
74	c Argûs in pup.	5	5	7.38.59.3	2.13	37.32.56	8.39
75	P Argûs in pup.	4.5	5	7.43.52.5	1.83	45.56. 6	8.78
76	*a* Argûs in pup.	5	5	7.46.10.2	2.06	40. 7.38	8.96
77	*b* Argûs in pup.	5	5	7.46.25.3	2.12	38.24.52	8.98
78	R Argûs in pup.	5	5	7.48. 8.0	1.76	47.38.59	9.11
79	χ Argûs	3	4	7.52.18.1	1.53	52.30.58	9.44
80	ζ Argus	2—	2	7.57.24.3	2.11	39.30.51	9.82
81	γ 1 Argûs	5+		8. 4. 4.1	1.85	46.49.54	10.33
82	γ 2 Argûs	2	2	8. 4. 6.7	1.85	46.49.25	10.33
83	ε Piscis Vol.	5	5	8. 7.19.2	0.24	68. 6. 9	10.57
84	g Argûs in pup.	5	5	8.11.58.4	2.25	36. 7.15	10.91
85	ε Argûs	2—	2	8.18.53.7	+1.24	58.56.55	11.49
86	α Chamæleontis	5+	5	8.22.55.1	—1.40	76.21.47	11.70
87	σ Piscis Vol.	5—	5	8.23.33.8	—0.44	72.50. 2	11.75
88	β Piscis Vol.	5	5	8.23.47.7	—0.69	65.32.58	11.77
89	θ Chamæleontis	5—	5	8.25.43.5	—1.56	76.54.55	11.90
90	β Naut. Pixidis	5	5	8.33.13.0	+2.34	34.41.24	12.42
91	*b* Argûs in Velis	5	5	8.34.47.8	1.99	46. 1.39	12.53
92	*o* Argûs	4	4	8.35.15.4	1.72	52.18. 6	12.56
93	*d* Argus in Carina	5	5	8.36.43.4	1.33	59. 8.16	12.66
94	δ Argûs	3+	3	8.39.50.7	+1.65	54. 4.13	12.87
95	σ Chamæleontis	5	5	8.47. 4.2	—1.75	78.19.27	13.35
96	822 Chamæleontis	5—	6	8.48.57.9	—1.76	78.25.32	+13.47
				h. m. s.		° ′ ″	

* N. B. All the declinations in my Catalogue must be diminished four seconds. (Extract of a Letter from the Rev. F. FALLOWS, to JOHN BARROW, Esq. Sec. Admiralty, dated Cape Town, Jan. 10, 1824.)

No.	Names and Magnitudes of Stars.		La Caille's Magnitudes.	Right Ascension.	Annual Precession.	South Declination. *	Annual Precession.
				h. m. s.	S.	° ′ ″	
97	*b* 1 Argûs in Carina	5	5	8.52.39.9	+1.47	58.33.14	+13.71
98	*b* 2 Argûs in Carina	5	5	8.55. 5.1	1.50	58.24.51	13.86
99	*c* Argûs in Vel.	5	5	8.58. 5.7	2.07	46.24.12	14.05
100	*a* Piscis Vol.	5	5	8.59.38.5	0.97	65.41.49	14.15
101	λ Argûs	3+	3	9. 1.32.1	2.21	42.43.40	14.27
102	G. Argûs in Carina	5	5	9. 4.36.6	0.24	71.53.50	14.45
103	*a* Argûs in Carina	5	5	9. 6.19.9	1.58	58.15.14	14.56
104	*i* Argûs in Carina	5	5	9. 7.16.4	1.38	61.36. 0	14.61
105	β Argûs	2+	1	9.11.14.5	0.75	68.59.51	14.85
106	ι Argus	2	2	9.12.21.0	1.61	58.32.29	14.92
107	κ Argûs	3+	3	9.16.40.2	1.85	54.15.54	15.17
108	*n* Argûs in Carina	5	5	9.22.57.8	1.32	64.10.19	15.52
109	ψ Argûs	4—	4	9.23.46.0	2.37	39.42. 4	15.56
110	N Argûs in Vel.	5	5	9.25.51.3	1.82	56.15.47	15.68
111	*h* Argûs in Carina	5	5	9.29.20.7	1.74	58.27. 0	15.87
112	*l* Argûs in Carina	5	5	9.40.23.2	1.65	61.42. 1	16.44
113	υ Argûs	3.4	3	9.42.42.0	1.51	64.15.30	16.55
114	φ Argûs	4—	4	9.50.41.8	2.10	53.44. 5	16.94
115	*q* Argûs in Vel.	4—	4	10. 7.22.4	2.52	41.15.14	17.67
116	ω Argûs	4.5	4	10. 9.32.2	1.44	69.10.10	17.76
117	*q* Argûs in Carina	5	5	10.11.11.7	1.99	60.27.29	17.83
118	T Argûs in Vel.	5	5	10.14.21.2	2.21	55. 9.39	17.95
119	*r* Argûs in Vel.	5—	5	10.14.48.4	2.56	40.46.17	17.97
120	J Argûs in Carina	5	5	10.20.51.0	1.22	73. 8.24	18.20
121	*p* Argûs in Carina	4	4	10.25.47.9	2.11	60.47. 2	18.37
122	*p* Argûs in Velis	5+	5	10.29.55.7	2.51	47.18.58	18.52
123	γ Camæleontis	5	5	10.33.17.2	0.81	77.41.50	18.63
124	θ 1 Argûs	5		10.35.59.1	2.11	63.33. 0	18.71
125	θ 2 Argûs	2.3	3	10.36.40.2	2.12	63.28.27	18.73
126	σ Argûs	2	2	10.38.16.2	2.30	58.45.47	18.78
127	μ Argûs	3	3	10.39.13.1	2.55	48.29.19	18.81
128	δ 2 Chamæleontis	5	5	10.44. 0.3	0.69	79.36.53	18.95
129	μ Argûs in Carina	5	5	10.46.24.0	2.39	57.55.20	19.02
130	π Centauri	4	4	11.13. 0.2	2.70	53.31.51	19.62
131	λ Centauri	4+	4	11.27.41.2	2.71	62. 2.55	19.84
132	ε Chamæleontis	5	5	11.50.57.0	2.84	77.14.39	20.03
133	σ Crucis	4.5	5	11.57.47.0	3.04	63.38. 1	20.04
134	δ Centauri	3	3	11.59.17.2	3.06	49.44.40	20.04
135	ε Centauri	4	4	12. 2.28.7	3.09	51.23.31	20.04
136	δ Crucis	3—	3	12. 5.49.8	3.12	57.46.19	20.04
137	β Chamæleontis	5	5	12. 8.19.6	3.30	78.20.18	20.03
138	ε Crucis	4	4	12.11.54.0	3.19	59.25.48	20.02
139	α 1 Crucis	4—		12.16.46.4	3.25	62. 8.57	20.00
140	α 2 Crucis	1	1	12.16.51.6	3.25	62. 7.32	20.00
141	σ Centauri	5+	5	12.18.34.7	3.19	49.15. 6	19.98
142	γ Crucis	2.3	2	12.21.28.5	3.25	56. 7.29	19.96
143	γ Muscæ	4—	4	12.22. 6.8	3.44	71. 9.35	19.95
144	α Muscæ	4	4	12.26.48.5	+3.46	68. 9.51	+19.91
				h. m. s.		° ′	

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No.	Names and Magnitudes of Stars.		La Caille's Magnitudes.	Right Ascension.	Annual Precession.	South Declination. *	Annual Precession.
				h. m. s.	S.	° ′ ″	
145	τ Centauri	5+	5	12.28. 7.3	+3.25	47.34.14	+19.89
146	γ Centauri	3—	3	12.31.52.1	3.27	47.59.26	19.85
147	β Muscæ	4—	4	12.35.37.0	3.56	67. 8.36	19.80
148	β Crucis	2+	2	12.37.31.4	3.43	58.43.28	19.77
149	N Centauri	5+	5	12.43.44.7	4.18	39.13. 4	19.68
150	o Centauri	5	5	12.44.19.4	3.45	56.13.11	19.67
151	δ Muscæ	4—	4	12.50.18.6	3.89	70.35.49	19.56
152	ξ 2 Centauri	5	5	12.56.42.4	3.44	48.57.33	19.43
153	ι Centauri	3+	3	13.10.45.3	3.36	35.46.39	19.10
154	d Centauri	5	5	13.20.52.7	3.40	38.29.38	18.81
155	ε Centauri	3	3	13.28.48.8	3.73	52.33.59	18.55
156	ν Centauri	4	4	13.38.59.5	3.55	40.48.20	18.20
157	μ Centauri	4	4	13.39. 3.8	3.57	41.35.30	18.20
158	ζ Centauri	3	3	13.44.37.2	3.69	46.24.58	17.99
159	φ Centauri	4.5	5	13.47.37.1	3.60	41.14. 2	17.88
160	υ 1 Centauri	5	5	13.47.51.6	3.65	43.56.23	17.85
161	β Centauri	1	1	13.51.30.6	4.14	59.31. 3	17.71
162	χ Centauri	5	5	13.55.20.9	3.62	40.19.52	17.56
163	θ Centauri	3	3	13.56.21.8	3.53	35.29.57	17.52
164	δ Octantis	5	5	13.59.52.7	8.38	82.50.44	17.36
165	ι Lupi	4.5	5	14. 8.12.0	3.75	45.14.20	16.99
166	ψ Centauri	5+	5	14. 9.53.8	3.61	37. 4.11	16.91
167	a Centauri	5	5	14.12.14.3	3.65	38.42. 6	16.80
168	τ 1 Lupi	5	5	14.14.53.8	3.80	44.25. 3	16.77
169	τ 2 Lupi	5+	5	14.14.55.2	3.80	44.34.34	16.77
170	σ Lupi	5	5	14.20.49.9	3.97	49.40.10	16.37
171	σ Centauri	3+	3	14.24.22.9	3.76	41.22.38	16.20
172	ϱ Lupi	5	5	14.26. 7.4	3.97	48.39. 9	16.11
173	a Apodis	4.5	5	14.26.30.7	6.91	78.17. 4	16.09
174	α 1 Centauri	4+	4	14.27.45.0	4.46	60. 6.24	16.02
175	α 2 Centauri	1	1	14.27.46.9	4.46	60. 5.59	16.02
176	α Lupi	3	3	14.30.17.2	3.93	48.37.34	15.99
177	b Centauri	5	5	14.31. 3.8	3.69	37. 1.56	15.85
178	c 1 Centauri	5	5	14.32.57.0	3.63	34.24.26	15.75
179	o Lupi	5	5	14.40.12.1	3.87	42.50.22	15 34
180	β Lupi	3	3	14.47. 3.2	3.89	42.24.58	14.94
181	κ Centauri	4—	3	14.47.45.4	3.86	41.23.27	14.91
182	π Lupi	5	5	14.53.11.9	4.03	46.21.10	14.59
183	λ Lupi	5	5	14.57. 2.3	3.99	44.35.41	14.34
184	ζ Lupi	4	4	14.59.42.9	4.24	51.25.19	14.19
185	κ Lupi	5	5	14.59.45.1	4.12	48. 3.40	14.19
186	γ Trianguli	3	3	15. 2.38.4	5.44	68. 1. 6	14.01
187	β Circini	5	5	15. 3.50.3	4.61	58. 8. 5	13.93
188	μ Lupi	5	5	15. 6.21.1	4.12	47.13. 2	13.78
189	δ Lupi	4	4	15. 9.51.6	3.89	40. 0.13	13.53
190	ν Lupi	5	5	15. 9.55.8	4.13	47.16.45	13.54
191	φ 1 Lupi	5	5	15.10.39.9	3.78	35.36.53	13.50
192	ε Lupi	4.5	4	15.10.46.5	+4.02	44. 2.53	+13.49
				h. m. s.		° ′ ″	

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				h. m. s.	S.		
193	ε Trianguli	5+	5	15.20.44.7	+5.34	65.42.53	+12.83
194	γ Lupi	3	3	15.23.27.4	3.87	40.33.57	12.65
195	β Trianguli	3	3	15.39.44.6	5.20	62.52.23	11.52
196	σ Lupi	4	4	15.48.29.7	3.94	37.53.11	10.98
197	δ Normæ	5	5	15.54. 5.8	4.20	44.41. 9	10.47
198	θ Lupi	5+	5	15.55. 3.4	3.91	36.18.50	10.40
199	δ Trianguli	5+	5	15.59.31.7	5.36	63.13.20	10.05
200	γ 2 Normæ	5	5	16. 6.42.4	4.46	49.42.49	9.51
201	γ Apodis	5+	5	16. 6.48.7	8.84	78.28.47	9.50
202	β Normæ	5	5	16.24.49.0	3.92	34.53. 5	8.09
203	α Trianguli	2	2	16.30. 9.1	6.23	68.41.15	7.66
204	σ Aræ	4—	5	16.34.39.1	5.12	58.42.45	7.29
205	ε Scorpii	3	3	16.38.47.2	3.91	33.57.49	6.97
206	μ 1 Scorpii	3	3	16.39.58.6	4.04	37.43.57	6.86
207	μ 2 Scorpii	4	4	16.40.26.6	4.04	37.42.29	6.82
208	G Aræ	3.4	4	16.44. 6.3	4.92	55.41.57	6.52
209	ε Aræ	4.5	4	16.45.36.2	4.74	52.52.38	6.39
210	σ Scorpii	3.4	3	16.59.34.5	4.27	42.59.44	5.23
211	γ Aræ	3—	3	17.10.38.3	5.02	56.11.57	4.29
212	δ Aræ	4—	4	17.15.16.0	5.39	60.31.23	3.89
213	α Aræ	3+	3	17.18.15.8	4.62	49.43.31	3.62
214	υ Scorpii	3.4	4	17.18.49.4	4.06	37. 8.44	3.57
215	λ Scorpii	3+	3	17.21.40.5	4.06	36.58. 0	3.34
216	θ Scorpii	3+	3	17.24.41.6	4.29	42.52.27	3.08
217	σ Pavonis	4.5	5	17.28.30.3	5.86	64.37.21	2.75
218	κ Scorpii.	3	3	17.30.19.6	4.18	38.55.43	2.59
219	ι 1 Scorpii	3	3	17.35.17.0	4.17	40. 2.47	2.16
220	γ Telescopii	4	4	17.37.52.6	4.07	36.58.33	1.93
221	θ Aræ	4	4	17.52.56.8	4.66	50. 5.28	0.62
222	ε Telescopii	5	5	17.58.10.9	4.45	45.58.18	+ 0.16
223	β Telescopii	4	4	18. 5.43.4	4.07	36.48.17	— 0.50
224	ε Sagittarii	3	3	18.12.29.9	3.98	34.27.23	1.09
225	α Telescopii	4	4	18.13.55.9	4.45	46. 3.13	1.22
226	υ Pavonis	5	5	18.14.56.0	5.61	62.22.24	1.31
227	δ 1 Telescopii	5	5	18.18.43.9	4.45	46. 1.16	1.64
228	δ 2 Telescopii	5	5	18.19. 1.2	4.44	45.51.59	1.66
229	θ Coronæ	5	5	18.20.56.5	4.28	42.25.45	1.81
230	G Pavonis	4	4	18.22.27.4	7.05	71.33.35	1.96
231	1533 Pavonis	5+	6	18.28.10.1	5.91	65. 1.14	2.46
232	λ Pavonis	5	5	18.35.54.7	5.59	62.22.25	3.13
233	γ Coronæ	5+	5	18.54.30.8	4.06	37.18.15	4.72
234	ε Coronæ	5	5	18.56. 6.1	4.19	40.45.29	4.85
235	α Coronæ	4.5	5	18.57.30.3	4.09	38. 9.58	4.97
236	β Coronæ	5	5	18.57.54.7	4.14	39.36.23	4.87
237	β 1 Sagittarii	3.4	4	19. 9.58.0	4.33	44.46.38	6.02
238	β 2 Sagittari	4—	4	19.10.29.3	4.35	45. 7. 8	6.06
239	α Sagittarii	4	4	19.11.41.1	4.17	40.56.15	6.17
240	ε Pavonis	4	4	19.40. 4.1	+6.88	73.21.21	— 8.47
				h. m. s.		° ′ ″	

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				h. m. s.	S.	° ′ ″	
241	δ Pavonis	4—	4	19.51.22.3	+5.80	66.36.44	— 9.35
242	α Pavonis	2—	2	20.11.40.0	4.82	57.17.18	10.89
243	α Indi	3	3	20.25. 9.3	4.26	47.53.48	11.86
244	υ Pavonis	5—	5	20.25.39.8	5.65	67.22.11	11.90
245	β Pavonis	3	3	20.28.59.0	5.56	66.49.33	12.13
246	α Microscopii	5	5	20.38.56.7	3.77	34.25.22	12.81
247	β Indi	4	4	20.40.58.8	4.81	59. 6.23	12.95
248	γ Pavonis	3	3	21.11.46.0	5.10	66. 9.14	14.88
249	γ Indi	5	5	21.13.38.7	4.36	55.24.38	14.99
250	γ Gruis	3	3	21.43.14.5	3.66	38.11. 9	16.58
251	δ Indi	5	5	21.45.51.8	4.16	55.49.15	16.71
252	λ Gruis	5	5	21.55.28.1	3.66	40.23.15	17.16
253	α Gruis	2	2	21.57. 6.1	3.82	47.48.27	17.23
254	μ 1 Gruis	5	5	22. 4.58.2	3.65	42.13.12	17.57
255	α Toucanæ	3	3	22. 6.22.2	4.22	61. 7.48	17.63
156	δ Toucanæ	5	5	22.14.41.4	4.39	65.51.14	17.97
257	δ 1 Gruis	4.5	4	22.18.42.7	3.63	44.23.19	18.12
258	δ 2 Gruis	5	5	22.19.12.6	3.63	44.38.51	18.14
259	β Octantis	5	5	22.27.24.3	6.96	82.17.22	18.43
260	β Gruis	3	3	22.32. 6.9	3.62	47.48. 1	18.58
261	σ Gruis	5	5	22.34.45.8	3.75	54.25.22	18.68
262	ε Gruis	4	4	22.37.51.6	3.68	52.14.26	18.77
263	ζ Gruis	5	5	22.50.25.9	3.61	53.41.44	19.13
264	θ Gruis	5	5	22.56.55.6	3.43	44.28. 6	19.29
265	ι Gruis	5	5	23. 0.18.2	3.43	46.11.56	19.37
266	γ Toucanæ	4	4	23. 7. 5.0	3.58	59.12. 4	19.51
267	β App. Sculpt.	5—	5	23.23.30.4	3.24	38.47.31	19.79
268	ι Phœnicis	5	5	23.25.34.5	3.26	43.35.13	19.82
269	θ Phœnicis	5	5	23.29.58.5	3.26	47.36.51	19.87
270	γ 1 Octantis	5	5	23.41.24.5	3.96	82.59.47	19.98
271	γ 2 Octantis	5	5	23.47.32.4	3.68	83. 8.49	20.02
272	σ Toucanæ	5	5	23.48.15.9	3.22	65.17.10	20.02
273	ε Toucanæ	5	5	23.50.41.5	+3.20	66.33.16	—20.03
				h. m. s.		° ′ ″	

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