
MEAN POSITIONS OF STARS

OBSERVED WITH THE

MADRAS MERIDIAN CIRCLE

IN THE YEAR

1863

REDUCED TO JANUARY 1 OF THAT YEAR

Observed with the Madras Meridian Circle in that Year

Number	Star	In Right Ascension			In Polar Distance			Number ⁿ B A C
		Annual Precession	Secular Variation	Proper Motion	Annual Precession	Secular Variation	Proper Motion	
		s	s	s		"		
1	21 Andromedæ α	+ 3 0760	+ 0 0182	+ 0 009	- 20 056	+ 0 013	+ 0 15	1
2	47371 Lalande	+ 3 0711	+ 0 0004		- 20 053	+ 0 015		
3	88 Pegasi γ	+ 3 0311	+ 0 0100	0 000	- 20 049	+ 0 022	+ 0 02	26
4	48 Taylor	+ 3 0730	+ 0 0030		- 20 034	+ 0 030		57
5	41 Piscium δ	+ 3 0823	+ 0 0066	- 0 002	- 20 020	+ 0 036	- 0 01	66
6	44 Piscium	+ 3 0743	+ 0 0035	- 0 002	- 19 991	+ 0 045	+ 0 02	87
7	12 Ceti	+ 3 0809	+ 0 0008	- 0 002	- 19 955	+ 0 055	+ 0 01	112
8	670 Lalande	+ 3 0616	+ 0 0054		- 19 954	+ 0 054		113
9		+ 3 0716	+ 0 0039		- 19 897	+ 0 065		
10	15 Ceti	+ 3 0681	+ 0 0029		- 19 872	+ 0 069		163
11	1097 Lalande	+ 3 0755	+ 0 0043		- 19 823	+ 0 076		
12	1123 Lalande	+ 3 0755	+ 0 0044		- 19 814	+ 0 079		
13	16 Ceti β	+ 2 9997	- 0 0055	+ 0 013	- 19 799	+ 0 080	- 0 02	196
14	1198 Lalande	+ 3 0761	+ 0 0045		- 19 779	+ 0 083		
15	60 Piscium	+ 3 0966	+ 0 0063		- 19 746	+ 0 087		216
16	235 Taylor	+ 3 0912	+ 0 0066		- 19 733	+ 0 089		
17	63 Piscium ο	+ 3 1009	+ 0 0079	+ 0 003	- 19 727	+ 0 090	+ 0 05	222
18		+ 3 0758	+ 0 0047		- 19 727	+ 0 089		
19	20 Ceti	+ 3 0633	+ 0 0034	- 0 004	- 19 653	+ 0 097	+ 0 01	242
20	0 806 W B E	+ 3 0775	+ 0 0051		- 19 643	+ 0 099		
21	2 Ursæ Minoris	+ 6 7971	+ 1 2756	+ 0 060	- 19 570	+ 0 225	+ 0 01	262
22	1638 Lalande	+ 3 0773	+ 0 0052		- 19 569	+ 0 107		
23	1639 Lalande	+ 3 0789	+ 0 0054		- 19 568	+ 0 107		
24	1784 Lalande	+ 3 0819	+ 0 0058		- 19 482	+ 0 110		
25	71 Piscium ε	+ 3 1124	+ 0 0087	- 0 002	- 19 464	+ 0 119	0 00	288
26	26 Ceti	+ 3 0757	+ 0 0053		- 19 444	+ 0 118		295
27	1879 Lalande	+ 3 0812	+ 0 0058		- 19 424	+ 0 120		
28	0 1031 W B E	+ 3 0833	+ 0 0061		- 19 394	+ 0 123		
29	29 Ceti	+ 3 0799	+ 0 0058		- 19 352	+ 0 126		324
30	80 Piscium ζ	+ 3 1025	+ 0 0077	- 0 021	- 19 343	+ 0 128	+ 0 19	328
31	1 15 W B E	+ 3 0869	+ 0 0065		- 19 304	+ 0 130		
32	2089 Lalande	+ 3 0836	+ 0 0062		- 19 294	+ 0 131		
33	33 Ceti	+ 3 0830	+ 0 0062	- 0 003	- 19 292	+ 0 131	+ 0 02	344
34	1 101 W B E	+ 3 0862	+ 0 0066		- 19 187	+ 0 139		
35		+ 3 0879	+ 0 0068		- 19 140	+ 0 142		

Mean Positions of Stars for 1862 January 1st,

Number	Star	Magnitude	Est n at oms	Mean Right Ascension			Mean Polar Distance			Observations	Fraction of Year
				h	m	s					
36	89 Piscium <i>f</i>	60		1	10	40 96	87	6	47 0	13	0 77
37	43 Ceti	65		1	15	31 44	91	10	21 1	8	0 77
38	45 Ceti θ	46		1	17	7 40	98	00	47 6	4	0 86
39	93 Piscium <i>p</i>	50		1	15	49 25	71	32	40 3	1	0 77
40	465 Taylor	70	1	1	19	23 61	91	7	28	3	0 84
41	98 Piscium μ	50		1	22	07 40	84	34	7 6	7	0 69
42	99 Piscium η	47		1	21	6 16	75	22	0 7	7	0 79
43	514 Taylor	60	2	1	28	27 04	73	16	27 3	2	0 92
44	106 Piscium ν	46		1	34	15 12	85	12	43 7	22	0 73
45	590 Taylor	70		1	41	17 19	87	0	18 3	4	0 70
46	111 Piscium	55		1	16	24 71	87	29	43 4	5	0 70
47	6 Arietis β	29		1	47	1 30	69	52	6 3	15	0 80
48	13 Arietis α	20		1	59	23 90	67	11	31 7	11	0 84
49	21 Arietis	67	2	2	7	53 29	65	30	55 3	3	0 90
50	67 Ceti	61		2	10	6 01	97	3	36 0	6	0 89
51	22 Arietis θ	59		2	10	27 15	70	41	20 3	1	0 77
52	68 Ceti o Val 1	57	2	2	12	22 52	93	36	22 1	3	0 83
53	73 Ceti ξ	44		2	20	49 52	82	9	38 1	6	0 89
54	26 R P L	80		2	21	7 59	3	33	29 5	3	0 86
55	31 Arietis	55		2	29	6 59	79	9	11 1	2	0 92
56	32 Arietis ν	60		2	30	59 20	60	35	16 1	1	0 69
57	86 Ceti γ	40		2	06	9 11	87	20	52 1	4	0 91
58	42 Arietis π	57		2	11	30 56	7	6	15 1	1	0 69
59	48 Arietis ϵ	53		2	51	19 09	69	12	50 5	2	0 51
60	92 Ceti α	23		2	50	4 01	06	27	11 0	2	0 86
61	33 R P L	57		3	0	16 90	0	30	17 0	2	0 92
62	57 Arietis σ	11		3	3	41 61	70	47	53 6	2	0 80
63	53 Arietis ζ	03		3	6	58 39	69	09	11 3	2	0 92
64		80	1	0	12	18 91	130	56	40 2	1	0 91
65	33 Piscium α	26		3	11	29 21	40	06	1 0	1	0 91
66	17 Tauri	40		3	06	11 23	66	19	20	0	0 50
67		80	1	3	38	1 93	136	13	1 0	1	0 11
68	20 Tauri η	37		3	39	17 10	66	10	29 0		0 92
69	34 Indani γ	30		0	51	35 46	103	51	11 5	2	0 10
70		100	1	3	53	0 15	128	25	4 0	1	0 11

— 27

51
5777

52—Min. Ceti Val 1 — Period 331 days — Range 2nd to 0th magnitude
66—Electra
68—Aloyone

Observed with the Madras Meridian Circle in that Year

Number	Star	In Right Ascension			In Polar Distance			Number in B A C
		Annual Precession	Secular Variation	Proper Motion	Annual Precession	Secular Variation	Proper Motion	
		s	s	s				
36	69 Piscium <i>f</i>	+ 3 0921	+ 0 0072	- 0 000	- 19 109	+ 0 146	+ 0 02	388
37	43 Ceti	+ 3 0632	+ 0 0053		- 18 976	+ 0 153		406
38	40 Ceti <i>θ</i>	+ 3 0029	+ 0 0018	- 0 007	- 18 931	+ 0 154	+ 0 22	420
39	93 Piscium <i>ρ</i>	+ 3 2206	+ 0 0163		- 18 912	+ 0 160		427
40	405 Taylor	+ 3 0810	+ 0 0006		- 18 864	+ 0 161		433
41	98 Piscium <i>μ</i>	+ 3 1171	+ 0 0089	+ 0 019	- 18 755	+ 0 169	+ 0 18	448
42	99 Piscium <i>η</i>	+ 3 1973	+ 0 0112	0 000	- 18 720	+ 0 176	0 00	453
43	511 Taylor	+ 3 2235	+ 0 0151		- 18 560	+ 0 150		477
44	106 Piscium <i>ν</i>	+ 3 1167	+ 0 0091	- 0 004	- 18 383	+ 0 191	+ 0 04	515
45	590 Taylor	+ 3 1020	+ 0 0063		- 18 128	+ 0 202		551
46	111 Piscium	+ 3 0983	+ 0 0083	- 0 002	- 17 931	+ 0 210	+ 0 08	74
47	6 Arctis <i>β</i>	+ 3 2926	+ 0 0153	+ 0 002	- 17 905	+ 0 226	+ 0 11	577
48	13 Arctis <i>α</i>	+ 3 15	+ 0 0203	+ 0 012	- 17 395	+ 0 252	+ 0 10	618
49	21 Arctis	+ 3 3902	+ 0 0210		- 17 013	+ 0 200		613
50	67 Ceti	+ 2 9620	+ 0 0049	+ 0 003	- 16 900	+ 0 212	+ 0 11	704
51	22 Arctis <i>θ</i>	+ 3 0222	+ 0 0179	- 0 002	- 16 910	+ 0 200	+ 0 01	707
52	65 Ceti <i>σ</i> Var 1	+ 3 0260	+ 0 0001	- 0 003	- 16 801	+ 0 215	+ 0 23	720
53	73 Ceti	+ 3 1751	+ 0 0117	+ 0 001	- 16 387	+ 0 276	+ 0 02	760
54	26 R P L	+ 3 5555	+ 3 5726		- 16 329	+ 1 321		
55	31 Arctis	+ 3 2119	+ 0 0137		- 15 955	+ 0 291		795
56	32 Arctis <i>ν</i>	+ 3 3922	+ 0 0193	- 0 002	- 15 855	+ 0 310	+ 0 02	805
57	66 Ceti <i>γ</i>	+ 3 1110	+ 0 0091	- 0 011	- 15 573	+ 0 291	+ 0 19	837
58	42 Arctis <i>π</i>	+ 3 3351	+ 0 0103	- 0 002	- 15 273	+ 0 322	- 0 02	870
59	43 Arctis <i>ε</i>	+ 3 4170	+ 0 0195	- 0 001	- 14 711	+ 0 313	+ 0 02	921
60	92 Ceti <i>α</i>	+ 3 1292	+ 0 0095	- 0 002	- 14 153	+ 0 320	+ 0 11	941
61	33 P I I	+ 12 7101	+ 1 5752	0 000	- 14 161	+ 1 32	+ 0 05	960
62	57 Arctis <i>δ</i>	+ 3 4060	+ 0 0171	+ 0 010	- 13 915	+ 0 301	+ 0 00	956
63	58 Arctis <i>ς</i>	+ 3 1022	+ 0 0176	- 0 006	- 13 680	+ 0 273	+ 0 07	999
64		+ 2 2050	+ 0 0011		- 13 395	+ 0 216		
65	33 Piscium <i>α</i>	+ 4 2110	+ 0 0163	+ 0 002	- 13 209	+ 0 17	+ 0 05	1013
66	17 Lami	+ 3 5171	+ 0 0150	0 000	- 11 710	+ 0 421	+ 0 01	1147
67		+ 1 5360	+ 0 0014		- 11 610	+ 0 203		
68	25 Lami <i>η</i>	+ 3 5011	+ 0 0177	- 0 001	- 11 555	+ 0 130	+ 0 06	1166
69	34 Eridani <i>γ</i> ¹	+ 2 7916	+ 0 0047	+ 0 002	- 10 657	+ 0 350	+ 0 12	1234
70		+ 2 1690	+ 0 0030		- 10 563	+ 0 271		

52 Proper motion adopted from the *British Association Catalogue*
 53 Proper motion deduced from the *Nautical Almanac for 1862*

Mean Positions of Stars for 1862 January 1st,

Number	Star	M _p magnitude	Estimations	Mean Right Ascension			Mean Polar Distance			Observations	Fraction of Year
				h	m	s					
71	35 Tauri λ Var 1	15		3	53	2 16	77	51	105	1	0 90
72	57 Tauri A ¹	4 7		3	56	32 17	68	17	55 7	2	0 92
73		9 0	1	4	3	39 17	146	56	47 4	1	0 91
74	71 Tauri ε	3 7		4	20	33 75	71	7	45 3	4	0 89
75	87 Tauri α	1 0		1	8	0 29	73	46	18 5	1	0 93
76	3 Aurigae δ	1 0		4	18	0 67	57	3	21 5	2	0 91
77	109 Tauri η	6 0	1	5	10	59 17	68	3	0 1	1	0 93
78	112 Tauri β	2 0		5	17	5 120	61	30	19 0	2	0 89
79	40 R P L	6 2		5	18	5 12	1	53	10 3	1	0 93
80	123 Tauri γ	1 0		5	29	23 99	68	56	43 2	1	0 85
81		9 5		5	49	21 27	63	50	15 9	1	0 93
82	43 R P I	6 6		5	51	7 35	3	14	23 0	1	0 91
83	13 Gemmaorum μ	3 4		6	14	56 60	67	25	9 7	1	0 91
84	24 Gemmaorum γ	2 6		6	29	41 37	73	29	12 6	?	0 91
85	68 Gemmaorum	5 4		7	25	43 71	73	52	50 3	1	0 91
86	81 Gemmaorum g	4 9		7	38	7 86	71	9	21 2	2	0 91
87	70 R P L	6 5		9	45	55 84	5	25	14 4	1	0 76
88	72 R P L	5 9		10	9	0 70	5	3	2 7	10	0 80
89	79 R P L	7 7		10	51	55 00	1	36	45 1	1	0 82
90	89 R P L	6 3		11	57	44 99	3	38	53 0	3	0 82
91	2 Corvi ε	3 0		12	3	1 82	111	51	8 3	3	0 12
92	92 R P I	6 7		12	12	50 01	2	47	49 5	1	0 87
93	93 R P L	6 5		12	11	20 31	1	32	7 6	1	0 81
94	21 Virginis q	6 0		12	26	39 19	98	41	26 0	1	0 13
95	9 Corvi β	2 3		12	27	8 56	112	38	0 6	3	0 12
96	67 Virginis α	1 0		13	17	55 63	100	26	25 9	2	0 17
97	103 R I L	7 3		13	20	20 74 ^{19 75}	4	31	28 7	1	0 85
98	79 Virginis δ	4 1		13	27	39 51	89	53	22 6	2	0 13
99	95 Ursae Majoris η	2 3		13	42	6 02	39	58	49 7	1	0 44
100	3 Bootis η	3 0		13	48	6 75	70	51	33 0	2	0 43
101	93 Virginis τ	1 3		13	51	37 51	87	47	10 4	1	0 15
102	108 R P L	7 3		14	4	11 79	3	31	5 12	1	0 43
103	16 Bootis α	1 0		14	9	27 08	70	5	51 8	4	0 15
104	100 Virginis λ	5 3		14	11	36 72	102	14	2 4	1	0 14
105	25 Bootis ρ	4 0		14	25	52 89	59	1	17 7	5	0 13

71 — λ Tauri Var 1 — Period 3 95 days — Range 3 4 to 4 3 magnitude

75 — Aldebaran 96 — Spica 103 — Aicurus

81 — Observed in mistake for the planet Uranus

Observed with the Madras Meridian Circle in that Year

Number	Star	In Right Ascension			In Polar Distance			Number in B A C
		Annual Precession	Secular Variation	Proper Motion	Annual Precession	Secular Variation	Proper Motion	
		s	s	s				
71	35 I n n i λ V n λ 1	+ 3 3158	+ 0 0115		- 10 550	+ 0 416		1241
72	37 T a u r i A ¹	+ 3 5298	+ 0 0153	+ 0 004	- 10 988	+ 0 410	+ 0 09	1257
73		+ 1 2763	+ 0 0290		- 9 719	+ 0 167		
74	74 T a u r i ε	+ 3 4866	+ 0 0120	+ 0 005	- 8 439	+ 0 468	+ 0 03	1376
75	87 T a u r i α	+ 3 4302	+ 0 0097	+ 0 004	- 7 886	+ 0 464	+ 0 17	1120
76	3 A n t i g o i	+ 3 3959	+ 0 0141	- 0 003	- 6 197	+ 0 514	+ 0 09	1520
77	109 T u r i n *	+ 3 3986	+ 0 0078	+ 0 001	- 4 955	+ 0 400	- 0 00	1637
78	112 I n n i β	+ 3 7851	+ 0 0082	+ 0 003	- 6 93	+ 0 515	+ 0 20	1681
79	40 R P L	+ 15 1530	+ 0 6965		- 3 613	+ 2 619		1662
80	123 I n n i 5	+ 3 5622	+ 0 0050	0 000	- 2 671	+ 0 519	+ 0 00	1767
81		+ 3 7253	+ 0 0031		- 0 930	+ 0 513		
82	13 L I I	+ 26 6712	+ 0 3267		- 0 777	+ 3 588		1679
83	13 C o m m o r u m μ	+ 3 6768	- 0 0003	+ 0 005	+ 1 979	+ 0 597	+ 0 14	2047
84	24 C o m m o r u m γ	+ 3 1650	- 0 0015	+ 0 001	+ 2 95	+ 0 500	+ 0 01	2163
85	68 C o m m o r u m	+ 3 4317	- 0 0066	- 0 004	+ 7 329	+ 0 463	0 00	2186
86	81 C o m m o r u m J	+ 3 1812	- 0 0056	- 0 005	+ 5 325	+ 0 109	+ 0 05	2556
87	70 R P L	+ 0 8518	+ 1 5994		+ 16 720	+ 0 867		
88	72 R P L	+ 10 1116	- 1 6770	- 0 079	+ 17 719	+ 0 677	+ 0 00	3195
89	79 R P L	+ 16 3813	- 9 8553		+ 19 251	+ 0 662		
90	89 R P I	+ 3 2779	- 0 5296		+ 9 005	- 0 004		1070
91	2 C o r v i ε	+ 3 0791	+ 0 0112	- 0 005	+ 20 054	- 0 016	- 0 01	1097
92	92 R P I	+ 1 5196	+ 0 0007	+ 0 115	+ 20 004	- 0 022	+ 0 00	4150
93	93 R P I	- 0 0472	+ 1 1509	- 0 152	+ 20 016	- 0 009	- 0 07	1165
94	21 V n g i n i s η	+ 3 0908	+ 0 0000	- 0 009	+ 19 920	- 0 062	0 00	4230
95	9 C o r v i β	+ 3 1379	+ 0 0160	- 0 006	+ 19 915	- 0 061	+ 0 07	1231
96	67 V n g i n i s α	+ 3 1513	+ 0 0100	- 0 000	+ 18 905	- 0 103	+ 0 01	4490
97	103 R I L	- 2 7310	+ 0 9931		+ 14 556	+ 0 199		1199
98	79 V n g i n i s 5	+ 0 710	+ 0 0064	- 0 019	+ 18 606	- 0 106	- 0 06	4532
99	85 U r s M η η	+ 2 3502	- 0 0103	- 0 012	+ 18 098	- 0 109	+ 0 03	4607
100	8 B o o t i s η	+ 2 5617	- 0 0006	- 0 004	+ 17 866	- 0 199	+ 0 36	1648
101	93 V n g i n i s τ	+ 3 0472	+ 0 0064	+ 0 001	+ 17 599	- 0 222	+ 0 07	1672
102	108 R P I	- 7 9419	+ 2 5361		+ 17 182	+ 0 591		
103	16 B o o t i s α	+ 2 8130	+ 0 0004	- 0 079	+ 16 914	- 0 227	+ 1 93	4729
104	100 V n g i n i s λ	+ 3 2362	+ 0 0140	- 0 002	+ 16 836	- 0 264	- 0 02	4743
105	25 B o o t i s ρ	+ 2 5944	- 0 0015	- 0 008	+ 16 127	- 0 233	- 0 14	4008

- - + 0 575

Mean Positions of Stars for 1862 January 1st,

Number	Star	Magnitude	Estimations	Mean Right Ascension			Mean Polar Distance			Observations	Fraction of Year
				h	m	s					
106	5 Librae	6.2		14	38	21.39	101	52	32.9	1	0.44
107	36 Bootis ε	2.3		14	38	57.60	62	20	33.2	3	0.14
108	9 Librae α	3.7		14	43	14.77	105	27	57.9	2	0.42
109	7 Ursa Minoris β	2.8		14	51	8.66	15	16	51.0	2	0.49
110	43 Bootis ψ	5.0		14	58	32.03	62	30	46.3	3	0.42
111	24 Librae ι	5.3		15	4	21.52	109	16	1.6	2	0.44
112	111 R P L	6.9		15	5	58.11	5	31	0.0	2	0.44
113	27 Librae β	2.0		15	9	31.85	98	52	17.1	3	0.45
114	32 Librae δ	5.7		15	20	28.65	106	13	57.1	2	0.44
115	114 R P L	6.9		15	23	16.62	2	11	37.9	1	0.92
116	5 Corona Borealis α	2.0		15	28	50.78	62	19	8.3	6	0.15
117	24 Serpentis α	2.3		15	37	26.25	83	8	16.4	2	0.16
118	115 R P L	6.9		15	49	0.57	4	43	35.0	1	0.43
119	16 Ursa Minoris δ	4.0		15	49	1.15	11	46	58.0	1	0.55
120	7 Scorpii	4.0		15	52	10.41	112	13	32.7	1	0.57
121	8 Scorpii β ¹	3.0		15	57	25.00	109	25	29.2	13	0.51
122	1 Ophiuchi δ	3.0		16	7	6.90	93	20	13.0	1	0.14
123	21 Scorpii α	1.3		16	20	57.00	116	7	20.7	8	0.52
124	5 Ophiuchi Var. 3			16	26	18.98	106	52	3.1	1	0.9
125	40 Hercules δ	2.7		16	56	5.06	55	8	41.0	9	0.55
126	27 Ophiuchi κ	3.7		16	51	8.21	80	24	27.6	9	0.55
127	22 Ursa Minoris ε	4.1		17	0	11.52	7	44	31.3	2	0.91
128	R Ophiuchi Var. 2			16	59	50.59	105	54	20.1	3	0.56
129	61 Hercules α Var. 1	3.0		17	8	21.1	75	26	55.6	5	0.55
130	42 Ophiuchi θ	5.6		17	17	32.07	111	51	29.0	4	0.53
131	45 Ophiuchi δ	5.0		17	15	2.65	119	41	17.1	2	0.55
132	55 Ophiuchi α	2.0		17	28	31.73	77	20	12.9	8	0.55
133	— Scorpii κ	3		17	32	56.53	125	57	16.5	3	0.57
134		8.5		17	37	31.75	126	27	14.9	2	0.56
135		8.0		17	9	35.46	127	11	31.1	1	0.56
136	56 Hercules μ	3.5		17	11	3.46	62	11	17.5	3	0.53
137	8282 Taylor	7.0	1	17	47	59.40	131	41	31.9	2	0.57
138	7499 Lacaille	7.0		17	48	6.97	129	4	36.1	1	0.55
139	7504 Lacaille	7.0		17	48	23.68	129	6	46.3	2	0.57
140	33 Diaconis γ	2.3		17	53	24.35	38	29	38.2	1	0.47

107 — Mizar 116 — Alpheia 123 — Antares
 121 — S Ophiuchi Var. 3 — Period 234 days — Range 9th magnitude to invisibility
 127 — R Ophiuchi Var. 2 — Period 302 days — Range 7.5 magnitude to invisibility
 129 — α Hercules Var. 1 — supposed to vary irregularly between 3rd and 4th magnitudes
 134 135 138 139 Comparison stars for Donati's comet of 1858

Observed with the Madras Meridian Circle in that Year

Number	Star	In Right Ascension			In Polar Distance			Number in B A C
		Annual Precession	Secular Variation	Proper Motion	Annual Precession	Secular Variation	Proper Motion	
		s	s	s				
106	5 Libræ	+ 3 2977	+ 0 0152	- 0 003	+ 15 456	- 0 314	+ 0 01	4868
107	36 Bootis ε	+ 2 6240	- 0 0001	- 0 005	+ 15 422	- 0 252	- 0 01	4876
108	9 Libræ α	+ 3 2137	+ 0 0154	- 0 007	+ 15 179	- 0 324	+ 0 06	4695
109	7 Urs Min β	- 0 2520	+ 0 1022	- 0 005	+ 14 719	+ 0 018	+ 0 08	4936
110	43 Bootis ψ	+ 2 5880	+ 0 0010	- 0 013	+ 14 267	- 0 232	0 00	4909
111	24 Libræ	+ 3 4087	+ 0 0171	- 0 002	+ 13 909	- 0 364	+ 0 04	4995
112	111 R P L	- 6 9685	+ 1 1915		+ 13 507	+ 0 731		5022
113	27 Libræ β	- 3 2256	+ 0 0117	- 0 009	+ 13 576	- 0 353	+ 0 01	5034
114	32 Libræ γ ¹	- 3 3707	+ 0 0145		+ 12 358	- 0 384		5089
115	114 R P L	- 23 3779	+ 7 8320		+ 12 671	+ 2 638		5140
116	5 Coronæ Bor α	+ 2 5291	+ 0 0023	+ 0 009	+ 12 259	- 0 297	+ 0 07	5143
117	24 Serpentis α	+ 2 9412	+ 0 0062	+ 0 009	+ 11 653	- 0 354	+ 0 05	5196
118	115 R P L	- 8 1427	+ 1 0281		+ 10 348	+ 0 991		
119	16 Urs Min γ	- 2 3195	+ 0 2031	- 0 005	+ 10 515	+ 0 276	+ 0 08	5285
120	7 Scorpii δ	+ 3 5356	+ 0 0159	- 0 001	+ 10 611	- 0 443	- 0 01	5303
121	8 Scorpii β ¹	+ 3 1776	+ 0 0112	- 0 002	+ 10 293	- 0 441	+ 0 02	5399
122	1 Ophiuchi δ	+ 3 1406	+ 0 0051	- 0 006	+ 9 183	- 0 408	+ 0 13	5414
123	21 Scorpii α	+ 3 6672	+ 0 0150	- 0 001	+ 8 100	- 0 491	+ 0 03	5495
124	5 Ophiuchi Var 3	+ 3 1139	+ 0 0109		+ 7 972	- 0 464		
125	40 Hercules γ	+ 2 2962	+ 0 0033	- 0 034	+ 7 187	- 0 316	- 0 45	5604
126	27 Ophiuchi κ	+ 2 8561	+ 0 0013	- 0 022	+ 5 936	- 0 401	- 0 02	5708
127	R Ophiuchi Var 2	+ 3 4400	+ 0 0077		+ 5 204	- 0 187		
128	22 Urs Min ε	- 6 4307	+ 0 3030	+ 0 009	+ 5 170	+ 0 904	- 0 01	5780
129	64 Hercules α Var 1	+ 2 7336	+ 0 0035	- 0 003	+ 4 181	- 0 391	- 0 04	5821
130	42 Ophiuchi θ	+ 3 6797	+ 0 0050	- 0 003	+ 4 039	- 0 528	- 0 02	5841
131	45 Ophiuchi δ	+ 3 8221	+ 0 0091		+ 3 675	- 0 551	+ 0 18	5881
132	55 Ophiuchi α	+ 2 7774	+ 0 0030	+ 0 004	+ 2 745	- 0 402	+ 0 20	5911
133	— Scorpii κ	+ 4 1451	+ 0 0079	0 000	+ 2 362	- 0 601	+ 0 01	5970
134		+ 4 1684	+ 0 0085		+ 1 963	- 0 605		
135		+ 4 0844	+ 0 0060		+ 1 785	- 0 594		
136	86 Hercules μ	+ 2 3694	+ 0 0025	- 0 026	+ 1 656	- 0 345	+ 0 74	6021
137	8282 Taylor	+ 4 2604	+ 0 0016		+ 1 051	- 0 621		6061
138	7499 Lacaille	+ 4 1511	+ 0 0042		+ 1 040	- 0 605		
139	7504 Lacaille	+ 4 1577	+ 0 0042		+ 1 015	- 0 606		
140	33 Draconis γ	+ 1 3914	+ 0 0030	0 000	+ 0 577	- 0 203	+ 0 04	6091

119 — The Proper Motion in R. A. deduced from the *Nautical Almanac for 1862*126 — The Proper Motions deduced from the *Nautical Almanac for 1862*

Mean Positions of Stars for 1862 January 1st,

Number	Star	Magnitude	Estimations	Right Ascension			Polar Distance			Observations	Fraction of Year
				h	m	s					
141	— Sagittarii γ^1	4.3		17	56	12.29	119	34	55.1	1	0.59
142	8305 Taylor	5.7		17	56	51.17	133	25	38.2	3	0.56
143		9.0	1	18	1	5.18	131	43	35.8	2	0.60
144	13 Sagittarii μ	4.7		18	5	30.59	111	5	27.2	1	0.67
145	7622 Lacaille	7.0		18	5	53.33	133	12	18.2	1	0.62
146	7644 Lacaille	6.5		18	8	43.12	132	20	3.0	1	0.54
147	8461 Taylor	6.0		18	14	13.56	134	9	26.8	1	0.62
148	22 Sagittarii λ	4.1		19	19	27.12	115	29	37.1	1	0.67
149		9.0		18	22	42.21	135	15	52.6	1	0.62
150	3 Lyrae α	1.0		18	32	15.74	51	20	33.6	2	0.64
151		7.5		18	35	26.69	136	44	13.5	2	0.60
152		7.5	1	18	35	39.84	137	11	6.6	1	0.64
153	R Scuti Var 1	4.4		18	40	6.76	95	51	0.9	2	0.62
154	7872 Lacaille	6.0		18	42	11.14	136	45	9.1	1	0.64
155	7878 Lacaille	7.0		18	42	44.15	136	44	45.1	1	0.62
156	10 Lyrae β Var 1	3.9		18	44	59.09	56	47	41.3	5	0.60
157	13 Lyrae Var 2			18	51	8.15	46	14	3.2	3	0.60
158	17 Aquilae ζ	3.5		18	59	4.00	76	20	20.6	5	0.61
159	41 Sagittarii π	4.4		19	0	33.07	111	14	22.0	1	0.67
160		9.0	1	19	8	9.62	129	49	15.9	1	0.64
161		7.5		19	9	59.73	123	31	8.8	3	0.61
162	20 Aquilae ω	5.8		19	11	20.16	78	30	3.4	2	0.63
163	41 Sagittarii ρ^1	4.1		19	13	39.87	108	6	13.0	1	0.67
164		7.5	1	19	16	26.29	129	52	50.0	1	0.64
165	30 Aquilae δ	3.6		19	18	32.33	87	9	26.7	3	0.61
166		8.5	1	19	24	47.69	129	56	11.3	1	0.64
167	51 Sagittarii h^1	6.0		19	27	36.72	115	1	4.1	1	0.68
168	52 Sagittarii h	5.3		19	28	18.28	115	11	4.6	3	0.62
169		9.0		19	34	15.31	127	17	18.3	1	0.64
170	50 Aquilae γ	3.0		19	39	41.75	79	43	14.6	2	0.60
171		7.5		19	43	56.66	122	19	35.6	2	0.60
172	53 Aquilae α	1.3		19	44	2.95	81	20	36.2	2	0.64
173	60 Aquilae β	4.2		19	48	32.02	83	56	7.1	2	0.64
174	9208 Taylor	5.3		19	55	34.10	122	26	2.1	3	0.56
175	5 Capricorni α^1	4.0		20	9	59.76	102	55	54.8	1	0.68

142 145 151 152 154 155 — Comparison stars for Donati's comet of 1858
 150 — Vega 153 — R Scuti Var 1 — Period 71 days — Range—5th to 8.5 magnitude
 156 — β Lyrae Var 1 — Period 12.9 days — Range—3.5 to 4.5 magnitude
 157 — 13 Lyrae Var 2 — Period 46 days — Range—4.2 to 4.6 magnitude
 161 — Comparison star for Pandora 172 — Altair

Observed with the Madras Meridian Circle in that Year

Number	Star	In Right Ascension			In Polar Distance			Number in B A C
		Annual Procession	Secular Variation	Proper Motion	Annual Procession	Secular Variation	Proper Motion	
		s	s	s				
141	— Sagittarii γ^1	+ 3 8310	+ 0 0022		+ 0 333	- 0 559		6107
142	8555 Tylor	+ 4 3378	+ 0 0021		+ 0 270	- 0 632	+ 0 13	6112
143		+ 4 2040	+ 0 0011		- 0 095	- 0 622		
144	13 Sagittarii μ	+ 3 5875	+ 0 0009	- 0 004	- 0 452	- 0 523	+ 0 01	6168
145	7622 Lacaille	+ 4 3275	- 0 0002		- 0 516	- 0 651		
146	7614 Lacaille	+ 4 2592	- 0 0010		- 0 770	- 0 622		
147	8161 Tylor	+ 4 3678	- 0 0028	- 0 007	- 1 218	- 0 635	- 0 05	6228
148	22 Sagittarii λ	+ 3 7073	- 0 0013	- 0 005	- 1 701	- 0 537	+ 0 24	6263
149		+ 4 4148	- 0 0039		- 1 951	- 0 610		
150	3 Lyrae α	+ 2 0130	+ 0 0016	+ 0 017	- 2 514	- 0 290	- 0 98	6355
151		+ 4 1757	- 0 0100		- 3 089	- 0 614		
152		+ 1 1977	- 0 0103		- 3 108	- 0 617		
153	R Scuti V _u 1	+ 3 7070	- 0 0011		- 3 192	- 0 458		
154	7872 Lacaille	+ 1 1695	- 0 0122		- 3 670	- 0 639		
155	7876 Lacaille	+ 4 1685	- 0 0124		- 3 719	- 0 634		
156	10 Lyrae β V _u 1	+ 2 2137	+ 0 0015	- 0 002	- 3 912	- 0 315	+ 0 03	6129
157	13 Lyrae V _u 2	+ 1 9232	+ 0 0008	- 0 001	- 1 136	- 0 257		6175
158	17 Aquilae ζ	+ 2 7575	+ 0 0003	- 0 006	- 5 112	- 0 57	+ 0 07	6528
159	41 Sagittarii π	+ 3 5731	- 0 0057	- 0 004	- 5 322	- 0 500	+ 0 03	6513
160		+ 4 1379	- 0 0146		- 5 873	- 0 574		
161		+ 3 9167	- 0 0115		- 6 0 9	- 0 512		
162	25 Aquilae ω	+ 2 8161	- 0 0003	- 0 003	- 6 143	- 0 358	- 0 02	6595
163	41 Sagittarii ρ	+ 3 4866	- 0 0061	- 0 003	- 6 336	- 0 180	- 0 03	6619
164		+ 4 1277	- 0 0164		- 6 566	- 0 515		
165	30 Aquilae δ	+ 3 0094	- 0 0016	+ 0 014	- 6 710	- 0 110	- 0 10	6646
166		+ 4 1157	- 0 0181		- 7 252	0 557		
167	51 Sagittarii h^1	+ 3 6510	- 0 0100	- 0 009	- 7 185	- 0 191	0 00	6704
168	52 Sagittarii h^2	+ 3 6516	- 0 0102	+ 0 002	- 7 534	- 0 190	- 0 02	6706
169		+ 4 0054	- 0 0179		- 8 017	- 0 533		
170	50 Aquilae γ	+ 2 8520	- 0 0011	+ 0 001	- 8 152	- 0 373	0 00	6772
171		+ 3 6325	- 0 0160		- 8 757	- 0 193		
172	3 Aquilae α	+ 2 8917	- 0 0014	+ 0 036	- 8 795	- 0 371	- 0 34	6802
173	60 Aquilae β	+ 2 9157	- 0 0033	+ 0 00	- 9 116	- 0 373	+ 0 17	6833
174	9208 Tylor	+ 3 6161	- 0 0175		- 9 690	- 0 183		6877
175	5 Cygnorum α^1	+ 3 3316	- 0 0054	- 0 009	- 10 775	- 0 106	0 00	6972

142 147 — Proper motions adopted from Mr Stone's list in Vol 49 *Memoirs of the Royal Astronomical Society*

Mean Positions of Stars for 1862 January 1st,

Number	Star	Magnitude	Estimations	Mean Right Ascension			Mean Polar Distance			Observations	Fraction of Year
				<i>h</i>	<i>m</i>	<i>s</i>					
176	6 Capricorni α	5.0		20	10	23.66	102	58	11.7	3	0.67
177	39095 Lalande	8.0	1	20	14	34.16	106	15	51.4	3	0.61
178		8.5	1	20	16	43.30	121	12	10.2	1	0.64
179	11 Capricorni ρ	5.0		20	20	59.04	108	16	2.0	4	0.64
180		8.0	1	20	26	13.37	121	13	3.2	1	0.64
181	14 Capricorni τ	5.7		20	31	33.07	105	26	10.2	1	0.58
182		8.0	1	20	35	48.56	123	58	55.6	1	0.64
183	50 Cygni α	1.7		20	36	43.61	45	12	41.5	5	0.62
184		8.0	1	20	43	29.30	124	58	32.5	1	0.64
185	32 Vulpeculae	4.7		20	48	40.75	62	27	56.8	2	0.62
186		8.0	1	20	51	28.75	126	38	27.9	1	0.64
187	23 Capricorni θ	5.3		20	53	11.12	107	46	42.4	1	0.60
188		8.5	1	20	59	31.54	129	1	55.3	1	0.64
189	13 Aquarii ν	4.8		21	2	4.41	101	55	42.3	3	0.64
190	64 Cygni 5	3.6		21	7	3.74	60	20	15.7	5	0.72
191		8.0	1	21	10	53.55	129	32	25.0	1	0.64
192	22 Aquarii β	3.2		21	24	17.53	96	10	36.2	4	0.75
193		9.0		21	29	47.18	98	25	59.4	2	0.58
194	23 Aquarii ϵ	5.3		21	30	24.03	98	28	16.2	2	0.65
195	8 Pegasi ϵ	3.3		21	37	24.43	80	45	21.5	5	0.73
196	49 Capricorni δ	3.7		21	39	25.10	106	45	5.5	1	0.63
197	16 Pegasi	5.5		21	46	47.11	61	43	22.2	6	0.76
198	31 Aquarii σ	4.7		21	56	10.36	92	49	12.8	1	0.76
199	31 Aquarii α	3.0		21	58	41.53	90	59	20.4	7	0.72
200	43 Aquarii θ	5.0		22	9	32.95	90 28	8.3		5	0.75
201	35 Aquarii 5	5.0		22	21	43.40	90	43	28.4	1	0.83
202		9.0		22	21	45.03	100	38	23.4	2	0.64
203	150 R P L	5.5		22	23	45.67	4	35	19.1	8	0.77
204	62 Aquarii η	4.3		22	28	15.85	90	40	40.3	16	0.77
205	153 R P L	7.6		22	29	50.56	2	37	14.5	5	0.85
206	42 Pegasi ζ	4.7		22	34	34.73	79	53	16.6	10	0.75
207	XXII 844 W B E	9.0		22	40	23.04	87	49	19.8	1	0.79
208	24 Piscis Australis α	1.3		22	50	1.02	120	21	10.1	13	0.77
209		9.3		22	51	44.47	85	27	8.7	1	0.73
210	4 Piscium β	4.7		22	56	51.16	86	55	20.0	2	0.72

Observed with the Madras Meridian Circle in that Year

Number	Star	In Right Ascension			In Polar Distance			Number B A C
		Annual Precession	Secular Variation	Proper Motion	Annual Precession	Secular Variation	Proper Motion	
		s	s	s				
176	6 Capricornus α^3	+ 3 3314	- 0 0034	+ 0 001	- 10 806	- 0 403	0 00	6974
177	3909 Lalande	+ 3 3969	- 0 0100		- 11 113	- 0 403		
178		+ 3 7420	- 0 0191		- 11 267	- 0 447		
179	11 Capricorn ρ	+ 3 4324	- 0 0115	- 0 006	- 11 575	- 0 403	+ 0 01	7042
180		+ 3 7230	- 0 0200		- 11 944	- 0 431		
181	14 Capricorn τ	+ 3 3631	- 0 0105	- 0 002	- 12 317	- 0 382	+ 0 03	7127
182		+ 3 7723	- 0 0231		- 12 608	- 0 423		
183	50 Cygni α	+ 2 0432	+ 0 0021	- 0 002	- 12 671	- 0 226	0 00	7171
184		+ 3 7733	- 0 0217		- 13 115	- 0 410		
185	32 Vulpecula	+ 2 5554	+ 0 0026	- 0 002	- 13 164	- 0 270	0 00	7256
186		+ 3 8001	- 0 0272		- 13 644	- 0 400		
187	23 Capricorn θ	+ 3 3775	- 0 0128	+ 0 004	- 14 068	- 0 344	+ 0 05	7322
188		+ 3 6399	- 0 0306		- 14 155	- 0 390		
189	13 Aquarii ν	+ 3 2699	- 0 0098	+ 0 001	- 14 309	- 0 328	+ 0 01	7344
190	64 Cygni ζ	+ 2 5504	+ 0 0036	- 0 003	- 14 612	- 0 248	+ 0 07	7368
191		+ 3 8146	- 0 0320		- 14 839	- 0 368		
192	22 Aquarii β	+ 3 1628	- 0 0071	- 0 001	- 15 002	- 0 282	0 00	7478
193		+ 3 1928	- 0 0082		- 15 900	- 0 276		
194	23 Aquarii ξ	+ 3 1929	- 0 0083	+ 0 001	- 15 933	- 0 276	+ 0 04	7514
195	8 Pegasus ϵ	+ 2 9452	- 0 0005	+ 0 003	- 16 208	- 0 242	0 00	7561
196	49 Capricorn δ	+ 3 3037	- 0 0128	+ 0 011	- 16 399	- 0 270	+ 0 28	7580
197	16 Pegasus	+ 2 7253	+ 0 0050	+ 0 001	- 16 763	- 0 210	+ 0 01	7627
198	31 Aquarii σ	+ 3 10 9	- 0 0051		- 17 200	- 0 226		7672
199	34 Aquarii α	+ 3 0836	- 0 0041	- 0 003	- 17 312	- 0 219	+ 0 02	7698
200	43 Aquarii θ	+ 3 1612	- 0 0075	+ 0 006	- 17 771	- 0 205	+ 0 03	7773
201	55 Aquarii ζ	+ 3 0791	- 0 0033	+ 0 009	- 18 210	- 0 178	- 0 03	7832
202		+ 3 1765	- 0 0085		- 18 210	- 0 189		
203	10 R I I	- 3 7192	- 1 1627	+ 0 018	- 18 313	+ 0 229	- 0 05	78 1
204	62 Aquarii η	+ 3 0795	- 0 0031	+ 0 003	- 18 470	- 0 166	+ 0 06	7868
205	153 R P L	- 8 1315	- 3 7919		- 18 525	+ 0 462		
206	42 Pegasus γ	+ 2 9851	+ 0 0023	+ 0 001	- 18 690	- 0 149	0 00	7908
207	XXII 844 W B E	+ 3 0547	- 0 0012		- 18 860	- 0 143		
208	24 Piscis Aust α	+ 3 3073	- 0 0210	+ 0 022	- 19 128	- 0 135	+ 0 18	7992
209		+ 3 0408	+ 0 0005		- 19 172	- 0 122		
210	4 Piscium β	+ 3 0524	+ 0 0001	+ 0 001	- 19 300	- 0 112	+ 0 02	8031

Mean Positions of Stars for 1862 January 1st,

Number	Star	Magnitude	Estimations	Mean Right Ascension			Mean Polar Distance			Observations	Fraction of Year
				<i>h</i>	<i>m</i>	<i>s</i>					
211	3 Pegasi β Var 1	2 5		22	57	5 33	62	39	53 5	1	0 85
212	54 Pegasi α	2 0		22	57	53 25	70	32	12 5	16	0 75
213	6 Piscium γ	4 2		23	10	0 65	87	28	16 2	18	0 78
214		9 3		23	10	59 ⁴² 17	127	28	13 4	1	0 78
215		8 0	1	23	11	30 98	129	58	31 4	1	0 76
216		8 0	1	23	12	6 44	127	25	28 9	1	0 78
217	8 Piscium κ	5 7		23	19	51 44	89	29	58 5	12	0 79
218	10 Piscium θ	5 0		23	20	58 00	84	22	42 9	1	0 61
219	158 R P L	5 7		23	27	50 26	3	27	14 0	2	0 78
220	17 Piscium ι	4 5		23	32	51 16	85	7	16 6	10	0 80
221	9583 Lacaille	8 0	1	23	38	43 99	128	44	33 2	1	0 84
222		8 5	1	23	40	57 87	128	47	18 4	1	0 75
223	— Sculptoris δ	4 3		23	41	43 91	118	53	36 1	7	0 78
224		8 5		23	41	51 93	142	5	4 4	1	0 82
225	R Cassiopeæ Var 3	6 0	1	23	51	24 70	39	22	48 8	2	0 83
226		9 3		23	51	52 94	143	16	38 8	1	0 82
227	28 Piscium ω	4 3		23	52	13 54	83	54	2 2	9	0 80

211 — Scheat — Supposed to vary irregularly between 2 2 and 2 7 magnitudes

212 — Markab

225 — R Cassiopeæ Var 3 — Period 426 days — Range — 5th magnitude to invisibility

59 43

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Observed with the Madras Meridian Circle in that Year

Number	Star	In Right Ascension			In Polar Distance			Number in B A C
		Annual Precession	Secular Variation	Proper Motion	Annual Precession	Secular Variation	Proper Motion	
		<i>s</i>	<i>s</i>	<i>s</i>				
211	53 Pegasi β Var 1	+ 2 8848	+ 0 0117	+ 0 016	- 19 305	- 0 106	- 0 17	8032
212	54 Pegasi α	+ 2 9797	+ 0 0056	+ 0 003	- 19 323	- 0 107	+ 0 02	8034
213	6 Piscium γ	+ 3 0592	+ 0 0005	+ 0 047	- 19 581	- 0 087	+ 0 01	8105
214		+ 3 2892	- 0 0264		- 19 598	- 0 093		
215		+ 3 3073	- 0 090		- 19 608	- 0 098		
216		+ 3 2840	- 0 0263		- 19 618	- 0 087		
217	8 Piscium κ	+ 3 0699	0 0000	+ 0 005	- 19 748	- 0 069	+ 0 12	8169
218	10 Piscium θ	+ 3 0498	+ 0 0026	- 0 011	- 19 765	- 0 067	+ 0 06	8177
219	158 R P L	- 0 0268	- 0 4971	+ 0 084	- 19 853	+ 0 010	- 0 01	8213
220	17 Piscium ι	+ 3 0584	+ 0 0030	+ 0 025	- 19 916	- 0 042	+ 0 15	8233
221	9583 Lacalle	+ 3 1715	- 0 0248		- 19 969	- 0 034		
222		+ 3 1611	- 0 0241		- 19 987	- 0 029		
223	—Sculptoris δ	+ 3 1307	- 0 0161	+ 0 003	- 19 992	- 0 026	+ 0 07	8275
224		+ 2 078	- 0 0108		- 19 993	- 0 028		
225	R Cassiop Var 3	+ 3 0110	+ 0 0364		- 20 041	- 0 007		
226		+ 3 1856	- 0 0402		- 20 042	- 0 007		
227	28 Piscium ω	+ 3 0671	+ 0 0047	+ 0 010	- 20 044	- 0 005	+ 0 13	8331

211 — Proper Motions adopted from the *British Association Catalogue*

223 — Proper Motions deduced from '*Nautical Almanac for 1862*'