

Globular Clusters Photographed with the 19-inch reflector  
at the David Dunlap Observatory (1936-1957)

NGC 4590 .... 2	NGC 6366 ... 19
NGC 5272 .... 3	NGC 6402 ... 20
NGC 5694 .... 4	NGC 6544 ... 21
NGC 5904 .... 5	NGC 6626 ... 22
NGC 6093 .... 7	NGC 6656 ... 24
NGC 6121 .... 9	NGC 6712 ... 26
NGC 6205 ... 11	NGC 6715 ... 28
NGC 6218 ... 12	NGC 6779 ... 29
NGC 6229 ... 13	NGC 6838 ... 31
NGC 6254 ... 14	NGC 7078 ... 33
NGC 6266 ... 15	NGC 7089 ... 34
NGC 6273 ... 16	NGC 7099 ... 35
NGC 6293 ... 18	

For each observation, the following information is listed:  
plate number, date, Eastern Standard Time (EST) of the  
beginning and end of the exposure, and Julian date at the  
time of mid-exposure. Note: EST + 5 hours = GMT.

NGC 4590

12<sup>h</sup> 37.<sup>m</sup>3 -26° 32'

○

1064 1954  
May 25 21 39 21 47 243+  
4888.613

○

○

$13^{\text{h}} 40.4^{\text{m}} +28^{\circ} 35'$ 

	1940					242+
29	June 3	14 37	14 47			9784.638
	1946					243+
56	May 29	13 26	12 31			1970.603
		E.S.T.				
62	June 22	21 47	21 51			1994.617
	1947					
173	June 11	21 37	21 47			2348.612
178	" 11	23 47	23 52			.701
183	" 16	21 31	21 35			53.606
188	" 16	23 29	23 34			.689
193	" 17	23 00	23 04			54.668
197	" 21	22 11	22 15			58.634
	1951					
649	May 15	23 16	23 26			3782.681
659	" 25	22 36	22 42			92.652
671	" 30	21 56	22 02			97.624
694	June 6	22 18	22 24			804.640
725	July 6	22 45	22 50			3834.658
	1952					
845	June 11	21 45	21 53			4175.617
855	" 12	21 23	21 28			76.560
867	" 17	22 05	22 09			81.630
888	" 25	21 38	21 46			89.613
917	July 23	21 11	21 19			217.593
933	" 24	21 14	21 18			18.594
	1954					
1060	May 23	22 22	22 30			4886.643
1065	" 25	22 06	22 14			88.632
1103	June 18	21 26	21 32			912.603
1110	" 23	21 31	21 39			17.608
1132	" 28	21 48	21 49			22.615
1145	July 1	21 24	21 32			25.603
	1955					
1357	June 16-7	21 57	22 05			5275.626

14<sup>h</sup> 37.<sup>m</sup>3 -26° 22'

1072 1954  
May 26 22 20 22 28 243+  
4889.642

15<sup>h</sup> 16<sup>m</sup>.5 +02° 14'

1946				243+	1952				243+		
53	May	28	13 28	12 33	1969.600	1016	Aug.	22	20 31	20 37	47.565
58	June	4	14 32	14 37	76.626	1030	"	23	21 18	21 24	48.598
			E.S.T.			1039	"	24	21 17	21 25	49.598
62	"	22	21 47	21 51	94.618		1954				
69	"	25	21 40	21 45	97.613	1061	May	23	23 20	23 28	4886.683
75	"	27	21 40	21 45	99.613	1066	"	25	23 16	23 24	88.681
78	"	30	22 56	23 00	2002.665	1104	June	18	21 43	21 51	912.616
144	Aug.	13	21 17	21 22	46.597	1111	"	23	22 02	22 10	17.629
	1947					1120	"	26	21 55	22 05	20.625
169	June	8	21 30	21 40	2345.608	1144	"	29	21 27	21 35	23.605
174	"	11	22 05	22 10	48.630	1146	July	1	21 43	21 50	25.615
179	"	12	00 07	00 12	.715	1199	"	23	21 40	21 48	47.614
184	"	16	21 42	21 47	53.614	1237	Aug.	2-3	20 51	20 59	58.580
191	"	17	22 15	22 20	54.637		1955				
198	"	21	22 30	22 35	58.648	1364	June	17-8	21 33	21 41	5276.609
201	"	23	23 49	23 53	60.702	1382	"	21-2	21 38	21 46	80.612
202	July	7	22 33	22 40	2374.650	1407	July	10-1	21 30	21 38	99.607
	1948					1435	"	22-3	21 28	21 36	311.606
223	June	14	22 06	22 10	2717.631	1459	Aug.	11-2	20 45	20 53	31.576
291	July	27	22 31	22 35	60.648		1956				
	1951					1507	June	12-3	23 39	23 47	637.697
646	May	14	01 34	01 42	3780.776	1515	July	28-9	21 14	21 19	83.595
650	"	15	23 41	23 51	82.699		1957				
660	"	25	22 58	23 04	92.667	1552	May	28	23 26	23 34	987.688
669	"	29	00 49	00 57	95.745	1560	June	4-5	21 30	21 36	94.606
672	"	30	22 16	22 22	97.638	1565	"	7-8	20 53	22 59	97.663
682	"	31	23 32	23 38	98.691	1572	"	8-9	23 40	23 46	98.694
684	June	5	23 03	23 09	803.671	1573	"	17-8	22 21	22 27	6007.641
695	"	6	22 34	22 40	04.651	1580	"	29-30	23 05	23 11	19.672
706	"	23	23 32	23 37	21.691	1588	June	30-1	23 15	23 21	20.679
714	July	5	21 30	21 35	33.606		Jul.				
724	"	6	22 30	22 35	3834.648	1597	July	1-2	22 29	22 35	21.649
733	"	20	21 41	21 47	48.614	1607	"	6-7	00 27	00 31	26.728
743	"	24	21 49	21 55	52.619	1608	"	6-7	00 48	00 53	.743
754	"	25	21 17	21 23	too weak	1615	"	15-6	22 05	22 09	35.629
760	"	28	22 34	22 40	56.651	1623	"	16-7	21 30	21 35	36.605
772	Aug.	4	21 30	21 36	63.606	1631	"	17-8	21 32	21 36	37.606
789	"	5	22 00	22 06	64.627	1641	"	18-9	21 21	21 25	38.599
802	"	8	22 03	22 08	67.629	1651	"	19-20	21 31	21 35	39.606
821	"	23	21 16	21 20	82.596	1659	"	20-1	21 26	21 30	40.602
	1952					1669	"	23-4	21 23	21 27	43.600
846	June	11	22 04	22 10	4175.630	1679	"	24-5	21 33	21 37	44.607
856	"	12	21 42	21 48	76.615	1695	"	30-1	21 37	21 42	50.610
868	"	17	22 23	22 27	81.628	1702	July	31/	22 02	22 06	51.627
889	"	25	22 34	22 42	89.651		Aug.				
897	"	30	21 33	21 39	94.608	1712	Aug.	1-2	22 06	22 10	52.630
904	July	1	21 21	21 29	95.601	1720	"	2-3	21 52	21 56	53.620
918	"	23	21 28	21 34	217.605	1727	"	4-5	21 54	21 59	55.622
934	"	24	21 25	21 29	18.602	1730	"	5-6	23 39	23 44	56.695
949	"	25	21 19	21 25	4219.599	1737	"	16-7	21 11	21 15	67.592
970	"	27	21 50	21 54	21.619	1748	"	18-9	21 29	21 33	69.604
983	Aug.	18	20 38	21 48	43.572	1764	"	19-20	22 19	22 23	70.639
995	"	19	20 52	21 00	44.585	1771	"	20-1	20 54	20 59	71.580
1002	"	21	20 37	20 43	46.569	1775	"	21-2	20 43	20 47	72.572

1787 Aug.22-3 21 48 21 52 73.618

16<sup>h</sup> 14.<sup>m</sup>7 -22° 53'

	1946				243+		1952				243+
70	June 25	22 07	22 13	1997.632	919	July 23	21 52	22 04	217.624		
79	" 30	23 27	23 35	2002.688	936	" 24	21 45	21 53	18.617		
	1947				951	" 25	21 41	21 49	19.614		
170	June 8	22 06	22 12	2345.631	972	" 27	22 11	22 15	21.634		
175	" 11	22 26	22 32	48.645	984	Aug. 18	20 56	21 06	43.584		
185	" 16	22 00	22 06	53.627	996	" 19	21 08	21 16	44.592		
195	" 19	22 21	22 27	56.642	1003	" 21	20 47	20 57	46.578		
199	" 21	22 47	22 53	58.660	1017	" 22	20 41	20 49	47.573		
	1948				1031	" 23	21 29	21 35	48.606		
250	July 3	23 45	23 51	2736.700	1040	" 24	21 31	21 43	49.609		
265	" 14	22 03	22 07	47.628		1954					
276	" 23	23 36	23 40	56.693	1062	May 24	00 05	00 13	4886.709		
283	" 26	21 31	21 39	59.608	1067	" 25	23 42	23 50	88.699		
303	" 30	23 52	000 00	63.706	1073	" 26	23 41	23 49	89.698		
319	Aug. 1	22 36	22 42	65.652	1082	" 31	00 00	00 08	93.708		
450	Sept. 13	19 59	20 03	2808.542	1092	June 7	00 41	00 49	900.740		
451	" 13	20 07	20 13	.549	1105	" 18	22 02	22 10	12.629		
	1949				1106	" 22	22 38	22 46	16.654		
471	July 4	22 25	22 30	3102.644	1112	" 22	22 25	22 33	17.645		
476	" 14	21 32	21 38	12.608	1121	" 26	22 24	22 32	20.644		
484	" 15	21 38	21 44	13.612	1133	" 28	22 04	22 12	22.631		
491	" 19	21 33	21 39	17.608	1147	July 1	21 58	22 06	25.626		
503	" 22	21 29	21 34	20.606	1164	" 8	22 05	22 13	32.631		
522	" 25	21 28	21 34	23.605	1192	" 18	21 16	21 24	42.597		
530	" 28	21 32	21 38	26.608	1197	" 23	21 09	21 17	47.592		
546	" 31	21 15	21 20	29.595	1216	" 26-7	21 18	21 26	50.599		
572	Aug. 15	20 53	20 59	44.581	1231	" 30-1	21 29	21 41	54.608		
597	" 24	20 52	20 57	53.579	1238	Aug. 3-4	21 05	21 13	58.590		
607	" 25	20 38	20 44	54.571	1253	" 5-6	21 25	21 33	60.603		
	1951				1261	" 6-7	21 02	21 10	61.588		
651	May 16	00 07	00 17	3782.717	1275	" 16-7	20 48	20 56	71.577		
661	" 25	23 18	23 24	92.681	1280	" 17-8	20 42	20 50	72.574		
673	" 30	22 34	22 40	97.651	1311	" 27-8	20 18	20 26	82.556		
683	" 31	23 54	00 00	98.706	1330	Sept. 20-19	33 19 41	5006.526			
685	June 5	23 18	23 24	803.681		1955					
696	" 6	22 49	22 55	04.661	1365	June 17-8	21 49	21 57	276.620		
713	July 2	22 50	22 55	30.661	1383	" 21-2	21 53	22 01	80.623		
716	" 5	23 21	23 26	33.683	1408	July 10-1	21 46	21 54	99.618		
723	" 6	22 15	22 20	34.637	1419	" 18-9	21 37	21 45	307.612		
738	" 23	22 42	22 48	51.656	1425	" 19-20	21 32	21 40	08.608		
746	" 24	22 43	22 51	52.658	1443	" 24-5	21 21	21 29	13.601		
761	" 28	22 52	22 58	56.663	1491	Sept. 7-8	20 08	20 16	58.550		
773	Aug. 4	21 42	21 48	63.615		1956					
788	" 5	21 41	21 49	64.615	1529	Aug. 10-1	20 40	20 48	696.572		
820	" 23	21 03	21 09	82.588		1957					
	1952				1553	May 28	23 58	00 06	987.708		
847	June 11	22 25	22 35	4175.646	1566	June 7-8	23 14	23 20	997.678		
857	" 12	21 57	22 05	76.626	1581	" 29-30	23 25	23 31	6019.686		
869	" 17	22 35	22 43	81.652	1589	" 30/	23 44	23 52	20.700		
890	" 25	22 57	23 17	89.672		Jul. 1					
898	" 30	21 44	21 54	94.617	1598	" 1-2	22 44	22 53	21.659		
905	July 1	21 38	21 52	95.615	1609	" 6-7	01 15	01 21	26.762		

	1957				243+	
1616	July 15-6	22	20	22	26	35.640
1624	" 16-7	21	44	21	50	36.615
1632	" 17-8	21	45	21	51	37.616
1642	" 18-9	21	32	21	38	38.607
1652	" 19-20	21	43	21	49	39.614
1660	" 20-1	21	38	21	44	40.611
1670	" 23-4	21	25	21	41	43.609
1680	" 24-5	21	45	21	51	44.616
1681	" 24-5	22	00	22	06	.627
1688	" 29-30	21	11	21	17	49.593
1700	" 30/1	21	36	21	42	51.610
1713	Aug. 1-2	22	20	22	26	52.640
1738	" 16-7	21	23	21	29	67.601
1749	" 17-8	21	49	21	55	68.619
1758	" 18-9	21	15	21	21	69.595
1772	" 20-1	21	12	21	18	6071.593
1777	" 21-2	21	13	21	19	72.594
1785	" 22-3	21	14	21	20	73.595



16<sup>h</sup> 21.<sup>m</sup>2 -26° 25'

1948				243+		1952				243+	
293	July	28	21 33	21 39	2761.608	964	July	26	23 09	23 17	20.676
318	Aug.	1	22 15	22 21	65.638	985	Aug.	18	21 12	21 24	43.596
1949											
466	July	2	21 58	22 04	3100.626	1004	"	21	21 01	21 15	46.589
470	"	4	22 12	22 16	02.635	1018	"	22	20 53	21 03	47.582
475	"	14	21 23	21 27	12.601	1041	"	24	21 48	21 56	49.619
483	"	15	21 28	21 32	13.604	1046	"	26	20 26	20 42	51.565
490	"	19	21 24	21 28	17.601	1063	1954				
502	"	22	21 19	21 23	20.598	1068	May	24	00 26	00 34	4886.729
514	"	23	21 21	21 25	21.599	1074	"	26	00 19	00 27	88.724
521	"	25	21 17	21 22	23.598	1083	"	27	00 00	00 08	89.711
529	"	28	21 22	21 27	26.600	1093	"	31	00 18	00 28	93.724
537	"	30	21 49	21 53	28.619	1098	June	7	00 59	01 07	900.752
545	"	31	21 06	21 10	29.589	1107	"	8	01 58	02 06	01.793
559	Aug.	12	20 55	20 59	41.581	1113	"	22	22 54	23 02	16.665
573	"	15	21 06	21 11	44.589	1122	"	23	22 41	22 49	17.656
579	"	18	21 38	21 42	3147.611	1134	"	26	22 41	22 49	20.656
589	"	20	20 51	20 55	49.578	1148	"	28	22 19	22 27	22.641
596	"	24	20 39	20 43	53.570	1165	July	1	22 19	22 27	25.641
606	"	25	20 27	20 32	54.561	1193	"	8	22 20	22 28	32.642
1951											
647	May	14	02 45	02 53	3780.826	1198	"	18	21 31	21 39	4942.608
662	"	15	23 39	23 45	92.696	1217	"	23	21 24	21 32	47.603
674	"	30	22 49	22 55	97.661	1239	"	26-7	21 34	21 42	50.610
686	June	5	23 34	23 40	803.692	1254	Aug.	2-3	21 19	21 27	58.599
697	"	6	23 34	23 40	04.692	1262	"	5-6	21 40	21 48	60.614
707	"	23	23 51	23 57	21.707	1276	"	6-7	21 18	21 26	61.599
709	"	24	22 46	22 51	22.659	1281	"	16-7	21 22	21 30	71.601
710	"	25	23 55	24 00	23.707	1312	"	17-8	20 58	21 06	72.585
715	July	5	22 50	22 55	33.661	1335	"	27-8	20 32	20 40	82.567
722	"	6	22 00	22 05	34.627	1344	Sept.	22-31	19 37	19 49	5008.530
732	"	20	21 25	21 31	48.603	1350	1955				
736	"	23	22 05	22 11	3851.631	1358	June	14-5	22 22	22 30	273.643
741	"	24	21 19	21 25	52.599	1366	"	15-6	22 03	22 11	74.630
755	"	28	21 15	21 21	56.596	1376	"	16-7	22 16	22 24	75.639
770	Aug.	4	21 05	21 11	63.589	1384	"	17-8	22 02	22 10	76.629
785	"	5	21 03	21 08	64.587	1403	"	20-1	00 08	00 16	79.717
799	"	8	21 25	21 31	67.603	1409	"	21-2	23 15	23 23	80.680
819	"	23	20 34	20 38	82.567	1420	July	9-10	22 17	22 27	98.640
1952											
842	June	3	01 50	02 00	4166.788	1426	"	10-1	21 59	22 07	5299.627
848	"	11	22 43	22 51	75.658	1431	"	18-9	21 53	22 01	307.623
858	"	12	22 17	22 23	76.639	1444	"	19-20	21 45	21 53	08.617
870	"	17	22 49	22 55	81.661	1449	"	21-2	21 20	21 28	310.600
874	"	17	23 49	23 55	.703	1455	"	24-5	21 34	21 42	13.610
885	"	22	22 59	23 07	86.669	1460	"	25-6	21 13	21 21	14.595
891	"	25	23 25	23 29	89.685	1475	Aug.	7-8	20 50	20 56	27.579
899	"	30	21 57	22 05	94.626	1530	"	11-2	21 03	21 11	31.588
906	July	1	21 58	22 08	95.627	1561	"	21-2	20 27	20 35	41.563
920	"	23	22 14	22 20	217.637	1567	1956				
937	"	24	22 02	22 08	18.628	1582	Aug.	10-1	21 00	21 08	696.586
952	"	25	21 54	22 00	4219.623	1582	1957				
							June	4-5	22 23	22 31	994.644
							"	7-8	23 52	23 58	97.704
							"	29-30	23 44	23 50	6019.700

	1957					243+
1590	June 30/1	00	02	00	10	20.712
1599	July 1-2	23	02	23	10	21.670
1625	" 16-7	22	00	22	06	36.627
1633	" 17-8	21	59	22	05	6037.626
1643	" 18-9	21	56	22	02	38.624
1653	" 19-20	21	56	22	02	39.625
1661	" 20-1	22	56	22	03	40.625
1671	" 23-4	22	00	22	06	43.627
1699	" 31/1	21	23	21	29	6051.601
1710	Aug. 1-2	21	10	21	16	52.592
1739	" 16-7	21	38	21	44	67.611
1757	" 18-9	21	01	21	07	69.586
1773	" 20-1	21	25	21	31	71.602
1776	" 21-2	21	02	21	08	72.586
1784	" 22-3	21	03	21	09	73.588

16<sup>h</sup> 40<sup>m</sup>.3 +36° 32'

	1936				242+		1952			243+
5	July 24	19 30	19 48	9815.653	1038	Aug. 24	20 20	20 26		49.558
	1940					1954				
30	July 4	17 08	17 18	9815.653	1075	May 27	00 20	00 28		889.725
	1946			243+	1085	" 31	01 28	01 36		93.772
54	May 28	13 49	13 54	1969.615	1123	June 26	23 00	23 08		920.669
55	" 28	15 20	15 25	.678	1135	" 28	22 36	22 44		22.653
57	" 29	14 27	14 32	70.641	1149	July 1	22 39	22 47		25.655
60	June 18	15 52	15 57	90.650	1166	" 8	22 38	22 46		32.654
61	" 18	16 10	16 15	.663	1180	" 10-1	02 11	02 19		34.802
71	" 25	22 34	22 39	97.650	1195	" 18	22 08	22 16		42.633
81	July 1	21 59	22 04	2003.626	1200	" 23	21 10	21 18		47.635
139	Aug. 11	21 25	21 29	44.602	1240	Aug. 3-4	21 35	21 43		58.610
143	" 13	21 00	21 05	46.585	1282	" 17-8	21 19	21 27		72.599
146	" 18	21 06	21 11	51.589						
150	" 23	20 44	20 49	56.574						
	1947									
171	June 8	22 27	22 32	2345.646						
172	" 9	22 10	22 20	46.635						
176	" 11	22 41	22 46	48.655						
186	" <del>July</del> 16	22 19	22 29	53.642						
207	1948	<del>23 17</del>	<del>23 33</del>	<del>84.684</del>						
224	June 14	22 22	22 28	2717.642						
230	" 15	22 23	22 29	18.643						
241	" 25	22 30	22 36	28.648						
275	July 23	23 16	23 22	56.680						
286	" 27	00 41	00 45	59.738						
304	" 30	00 12	00 16	63.718						
388	Aug. 27	00 40	00 44	90.738						
	1951									
653	May 16	01 27	01 37	3782.772						
663	" 26	00 45	00 51	92.742						
670	" 29	01 06	01 14	95.757						
677	" 31	00 23	00 29	97.726						
687	June 5	23 50	23 56	803.703						
698	" 6	23 48	23 54	04.702						
712	" 29	21 25	21 30	27.602						
717	July 5	23 36	23 41	33.693						
729	" 10	22 25	22 30	38.644						
730	" 10	22 50	22 55	.661						
742	" 24	21 35	21 41	52.610						
757	" 28	21 51	21 56	56.621						
787	Aug. 5	21 29	21 33	64.605						
	1952									
841	June 3	01 24	01 32	4166.769						
850	" 11	23 42	23 50	75.699						
862	" 12	23 16	23 22	76.680						
871	" 17	23 13	23 17	81.677						
921	July 23	22 37	22 41	217.652						
935	" 24	21 35	21 39	18.609						
950	" 25	21 32	21 36	4219.607						
971	" 27	22 01	22 05	21.627						
1001	Aug. 21	20 23	20 29	46.560						
1015	" 22	20 20	20 26	47.558						



16<sup>h</sup> 45<sup>m</sup>.9 +47° 36'

	1946					243+	
63	June	22	22	20	22	28	1994.642
64	"	22	22	44	22	52	.658
72	"	25	22	47	22	55	97.660
76	"	29	22	25	22	35	2001.646
80	July	1	21	37	21	45	03.612
86	"	3	21	32	21	42	05.609
87	"	5	21	30	21	40	07.608
89	"	6	21	42	21	50	08.615
95	"	9	21	27	21	35	11.605
97	"	10	22	16	22	24	12.639
99	"	15	21	21	21	29	17.601
101	"	16	21	20	21	27	18.612
103	"	16	22	05	22	13	.631
104	"	17	21	28	21	36	19.606
107	"	18	22	20	22	28	20.642
108	"	23	22	31	22	39	25.649
111	"	24	22	31	22	43	26.651
112	"	25	21	15	21	25	27.597
115	"	27	22	06	22	16	29.633
116	"	28	22	19	22	29	30.642
122	"	31	21	32	21	42	33.609
125	Aug.	2	22	20	22	30	35.642
130	"	6	21	00	21	10	39.587
131	"	6	21	17	21	27	39.599
136	"	7	20	48	20	54	40.577
138	"	11	21	05	21	12	44.589
145	"	13	21	37	21	45	46.612
147	"	18	21	24	21	32	51.603
151	"	23	20	59	21	07	.585
	1947						
168	May	26	22	55	23	05	2332.667
177	June	11	23	26	23	34	48.688
187	"	16	23	07	23	15	53.674
192	"	17	22	32	22	40	54.650
194	"	19	21	51	21	59	56.622
	1948						
257	July	8	00	14	00	22	740.721
258	"	8	00	37	00	44	.736
261	"	8	23	00	23	08	41.669
264	"	11	00	39	00	47	43.738
274	"	23	22	58	23	05	56.668
287	"	27	00	59	01	05	59.751
292	"	28	21	14	21	22	61.596
312	"	31	00	33	00	41	64.734
387	Aug.	27	00	12	00	18	2790.719
	1951						
654	May	16	02	04	02	14	3782.797
664	"	26	01	11	01	17	92.760
678	"	31	00	52	00	58	97.746
688	June	6	00	55	01	01	803.748

16<sup>h</sup> 55<sup>m</sup>.0 -04° 03'

1948				243+								
278	July	24	21 34	21 40	2757.609	1109	June	22	23 36	23 44	916.694	
295	"	28	22 10	22 14	61.637	1115	"	23	23 12	23 20	17.678	
314	"	31	01 44	01 50	64.783	1151	July	1	23 17	23 25	25.681	
382	Aug.	26	22 08	22 14	90.633	1202	"	23	22 40	22 48	47.656	
1949						1242	Aug.	3-4	22 09	22 17	58.634	
467	July	2	22 21	22 25	3100.641	1264	"	6-7	21 50	21 58	61.621	
469	"	4	21 54	21 58	02.622		1955					
478	"	14	21 57	22 01	12.624	1345	June	14-5	22 41	22 49	5273.656	
496	"	19	22 29	22 32	17.646	1351	"	15-6	22 22	22 30	74.643	
506	"	22	22 12	22 16	20.635	1367	"	17-8	22 17	22 25	76.640	
516	"	23	21 44	21 47	21.616	1405	July	9-10	22 50	23 06	98.665	
523	"	25	21 41	21 45	23.613	1416	"	17-8	23 57	00 05	306.709	
532	"	28	22 00	22 04	26.626	1437	"	22-3	22 02	22 10	11.629	
538	"	30	21 57	22 01	28.624	1477	Aug.	21-2	20 56	21 04	41.583	
547	"	31	21 26	21 29	29.602	1496	Sept.	16-7	19 47	19 57	367.536	
553	Aug.	1	21 13	21 16	30.594	1504	"	18-9	19 58	20 08	69.544	
560	"	12	21 10	21 14	41.592		1956					
575	"	15	21 37	21 40	44.610	1509	June	12-3	00 12	00 20	637.719	
580	"	18	21 45	21 48	47.616	1520	Aug.	7-8	22 25	22 33	93.645	
590	"	20	21 01	21 05	49.585	1532	"	10-1	21 28	21 36	96.606	
598	"	23	21 03	21 07	53.587		1957					
609	"	25	21 00	21 04	54.585	1555	May	29	01 27	01 35	987.772	
618	Sept.	15	20 47	20 51	75.576	1558	June	2-3	00 10	00 16	92.717	
625	"	17	20 17	20 21	77.555	1563	"	4-5	23 58	00 04	94.709	
637	"	24	19 54	19 58	84.539	1569	"	7-8	00 58	01 04	97.750	
645	"	29	20 51	20 55	89.578	1575	"	17-8	23 27	23 33	6007.688	
1951						1585	"	29-30	01 40	01 46	18.779	
655	May	16	02 30	02 40	3782.816	1592	"	30/1	00 35	00 41	20.735	
666	"	26	02 01	02 07	92.794	1601	July	1-2	00 04	00 10	21.713	
676	"	30	23 39	23 45	97.696	1606	"	6-7	00 15	00 19	26.720	
690	June	6	01 30	01 36	803.773	1611	"	6-7	02 10	02 14	.780	
728	July	10	22 10	22 16	38.634	1618	"	15-6	23 00	23 04	35.668	
744	"	24	22 04	22 10	52.630	1627	"	16-7	22 38	22 44	36.653	
758	"	28	22 06	22 12	56.631	1635	"	17-8	22 34	22 40	37.650	
774	Aug.	4	21 56	22 00	63.624	1645	"	18-9	22 23	22 28	38.642	
790	"	5	22 14	22 19	64.636	1655	"	19-20	22 31	22 36	39.647	
801	"	8	21 53	21 57	67.622	1663	"	20-1	22 35	22 40	40.650	
823	"	23	21 48	21 52	82.618	1673	"	23-4	22 24	22 29	43.643	
1952						1683	"	24-5	22 31	22 36	44.647	
851	June	11-2	23 58	00 08	4175.710	1690	"	29-30	22 13	22 18	49.635	
860	"	12	22 42	22 48	76.656	1697	"	30-1	22 01	22 07	50.627	
873	"	17	23 37	23 41	81.694	1704	"	31/1	22 31	22 36	51.647	
924	July	23	23 20	23 26	217.683	1714	Aug.	1-2	22 32	22 38	52.649	
939	"	24	22 21	22 27	18.642	1719	"	2-3	21 38	21 43	53.611	
954	"	25	22 20	22 26	19.641	1731	"	5-6	23 57	00 02	56.708	
974	"	27	23 28	23 34	21.688	1741	"	16-7	22 11	22 16	67.634	
987	Aug.	18	21 52	22 00	43.622	1750	"	17-8	22 09	22 14	68.632	
1006	"	21	21 36	21 44	46.611	1756	"	18-9	20 42	20 48	69.572	
1020	"	22	21 24	21 30	47.602	1762	"	19-20	20 56	21 00	70.581	
1033	"	23	21 51	21 57	48.620	1781	"	21-2	22 36	22 42	72.652	
1954						1788	"	22-3	22 04	22 09	73.629	
1070	May	26	00 56	01 04	488.750							

$16^{\text{h}} 58^{\text{m}}.7 -30^{\circ} 04'$ 

	1949				243+
486	July 15	21 59	22 05	3113.626	
493	" 19	21 59	22 05	17.626	
505	" 22	21 56	22 04	20.625	
	1951				
667	May 26	02 34	02 40	3792.817	

17<sup>h</sup> 00.1<sup>m</sup> -26° 12'

1948				243+	1951				243+		
279	July	24	21 52	21 58	2757.622	771	Aug.	4	21 16	21 24	63.597
285	"	27	00 22	00 26	59.725	776	"	4	22 16	22 24	.638
296	"	28	22 20	22 26	61.641	786	"	5	21 13	21 21	64.595
300	"	30	21 34	21 40	63.609	800	"	8	21 35	21 43	67.610
310	"	31	00 03	00 09	64.712	822	"	23	21 28	21 36	82.606
320	Aug.	3	22 47	22 55	67.660		1952				
321	"	3	22 58	23 04	.667	843	June	3	02 25	02 35	4166.813
322	"	6	21 09	21 15	70.592	853	"	12	00 53	01 07	75.750
331	"	7	21 15	21 21	71.596	861	"	12	22 53	23 01	76.065
332	"	7	21 27	21 31	.603	875	"	17-8	00 14	00 20	81.720
340	"	8	21 03	21 09	72.588	878	"	18	00 53	01 03	.749
369	"	21	20 54	21 00	85.581	886	"	22	23 15	23 29	86.682
373	"	22	20 50	20 56	86.578	892	"	25-6	23 56	00 16	89.713
377	"	24	21 23	21 29	88.565	900	"	30	22 10	22 22	94.636
380	"	26	21 27	21 33	90.604	907	July	1	22 13	22 25	95.638
414	Sept.	2	20 50	21 00	97.580	923	"	23	23 04	23 14	217.673
452	"	13	20 21	20 27	808.558	940	"	24	22 32	22 38	18.649
	1949					955	"	25	22 32	22 40	19.650
472	July	4	22 39	22 45	3102.654	965	"	26	23 22	23 30	20.685
477	"	14	21 45	21 51	12.617	988	Aug.	18	22 06	22 20	43.634
485	"	15	21 49	21 55	13.619	1007	"	21	21 54	22 04	46.624
492	"	19	21 44	21 50	17.617	1021	"	22	21 34	21 44	47.610
504	"	22	21 40	21 45	20.613	1047	"	26	20 50	21 06	51.582
515	"	23	21 31	21 37	21.607		1954				
524	"	25	21 55	22 01	23.624	1071	May	26	01 13	01 21	888.762
531	"	28	21 43	21 51	26.616	1076	"	27	00 59	01 07	89.752
539	"	30	22 07	22 13	28.631	1084	"	31	00 56	01 04	93.750
548	"	31	21 34	21 40	29.609	1094	June	7	01 17	01 25	900.765
555	Aug.	1	21 38	21 44	30.612	1108	"	22	23 20	23 28	16.683
561	"	12	21 29	21 35	41.606	1116	"	23	23 40	23 48	4917.697
563	"	13	21 11	21 17	42.593	1124	"	26	23 25	23 33	20.687
566	"	14	21 17	21 23	43.597	1137	"	28	23 14	23 22	22.679
574	"	15	21 20	21 26	44.599	1152	July	3-4	00 17	00 25	27.723
581	"	18	21 56	22 02	47.624	1167	"	8	22 54	23 02	32.666
591	"	20	21 13	21 19	49.594	1179	"	10-1	01 26	01 34	34.771
600	"	24	21 28	21 34	53.605	1194	"	18	21 46	21 54	42.618
610	"	25	21 11	21 19	54.594	1203	"	23	23 01	23 09	47.670
619	Sept.	15	21 03	21 09	75.588	1212	"	25-6	23 14	23 24	49.680
626	"	17	20 36	20 42	77.569	1218	"	26-7	21 53	22 01	50.623
	1951					1224	"	28-9	23 13	23 25	52.680
648	May	14	03 06	03 14	3780.840	1243	Aug.	3-4	22 23	22 31	58.644
656	"	16	02 54	03 04	82.833	1255	"	5-6	21 55	22 03	60.624
668	"	26	02 57	03 03	92.833	1265	"	6-7	22 12	22 20	61.636
679	"	31	01 24	01 30	97.769	1269	"	7-8	22 13	22 21	62.637
691	June	6	01 51	01 57	3803.787	1277	"	16-7	21 37	21 45	71.612
699	"	6	23 48	23 54	04.702	1283	"	17-8	21 37	21 45	72.612
708	"	23	0 50	0 55	21.745	1303	"	26-7	20 20	20 28	81.558
726	July	10	21 39	21 45	38.612	1313	"	27-8	20 57	21 05	82.584
737	"	23	22 27	22 33	51.646	1324	Sep.	19-20	19 32	19 40	5005.525
745	"	24	22 31	22 37	52.649	1331	"	20-1	19 55	20 03	006.541
756	"	28	21 35	21 43	56.610	1336	"	22-3	19 55	20 03	08.541
762	"	28	23 06	23 14	.674						



	1955								
1346	June	14-5	23	01	23	09	243+	273.670	
1352	"	15-6	22	38	22	46		74.654	
1359	"	16-7	22	32	22	40		75.650	
1368	"	17-8	22	42	22	50		76.657	
1377	"	20-1	00	24	00	32		79.728	
1385	"	21-2	23	31	23	39		80.691	
1395	"	27-8	22	07	22	15		86.633	
1406	July	9-10	23	12	23	20		98.678	
1410	"	10-1	22	12	22	20		99.636	
1421	"	18-9	22	08	22	16		307.633	
1427	"	19-20	22	09	22	17		08.634	
1432	"	21-2	21	34	21	42		10.610	
1438	"	22-3	22	16	22	24		311.639	
1445	"	24-5	21	49	21	57		5313.620	
1450	"	25-6	21	27	21	35		14.605	
1456	Aug.	7-8	21	04	21	12		27.589	
1461	"	11-2	21	18	21	26		31.599	
1467	"	15-6	21	43	21	53		35.617	
1478	"	21-2	21	11	21	19		41.594	
1487	Sep.	6-7	20	03	20	13		57.547	
1499	"	17-8	20	04	20	12		68.547	
	1956								
1510	June	12-3	00	28	00	36		637.731	
1533	Aug.	10-1	21	44	21	52		96.617	
	1957								
1547	May	21	02	03	02	11		979.796	
1556	"	29	02	16	02	24		87.806	
1559	June	2-3	00	29	00	37		92.731	
1564	"	4-5	01	16	01	24		94.764	
1570	"	7-8	01	30	01	36		97.772	
1576	"	17-8	00	07	00	13		6007.715	
1593	"	30/1	01	00	01	06		20.752	
1602	July	1-2	00	27	00	33		21.729	
1619	"	15-6	23	20	23	26		35.682	
1628	"	16-7	22	54	23	00		36.664	
1636	"	17-8	22	51	22	56		37.661	
1646	"	18-9	22	37	22	42		38.652	
1656	"	19-20	22	43	22	48		39.656	
1664	"	20-1	22	48	22	54		40.660	
1674	"	23-4	22	35	22	41		43.651	
1689	"	29-30	21	49	21	56		49.619	
1701	"	31/1	21	48	21	54		51.618	
1711	Aug.	1-2	21	28	21	34		52.604	
1740	"	16-7	21	58	22	04		67.626	
1751	"	17-8	22	29	22	35		68.647	
1778	"	21-2	21	25	21	31		72.602	
1786	"	22-3	21	25	21	31		73.603	

17<sup>h</sup> 07.<sup>m</sup>7 -26° 31'

	1948					243+
316	Aug.	1	21 23	21 27	2765.	601
317	"	1	21 55	22 03		.624

17<sup>h</sup> 25<sup>m</sup>.6 -05° 03'

	1951					243+
680	May 31	01 43	01 53			3797.783
692	June 6	02 15	02 27			803.806
700	" 7	00 28	00 48			04.735
	1954					
1077	May 27	01 19	01 27			889.766
1086	" 31	01 50	01 58			93.788
1117	June 23	23 59	00 07			917.710
1125	" 26	23 46	23 54			20.701
1138	" 28	23 32	23 40			22.692
1153	July 3-4	00 35	00 43			27.735
1172	" 9-10	01 25	01 33			33.770
1188	" 12-3	02 27	02 35			36.813
1204	" 23	23 31	23 39			47.691
1220	" 26-7	22 50	22 58			50.662
1244	Aug. 3-4	22 39	22 47			58.655
1256	" 5-6	22 09	22 17			60.634
1288	" 19-20	22 45	22 53			74.659
1298	" 22-3	22 11	22 19			77.635
1314	" 27-8	21 14	21 22			4982.596
1325	Sep. 19-20	19 48	19 56			5005.536
	1955					
1360	June 16-7	23 05	23 13			272.673
1411	July 10-1	22 34	22 42			99.651
1417	" 17-8	00 13	00 21			306.720
1439	" 22-3	22 51	22 59			11.663
1446	" 24-5	22 11	22 19			13.635
1451	" 25-6	21 50	21 58			14.621
1462	Aug. 11-2	21 34	21 44			31.610
1479	" 21-2	21 35	21 43			41.610
1492	Sep. 7-8	20 37	20 45			58.570
1495	" 12-3	20 16	20 24			63.556
1497	" 16-7	20 04	20 16			67.549
1505	" 18-9	20 16	20 26			69.556
	1956					
1511	June 12-3	00 53	01 01			637.748
1521	Aug. 7-8	22 46	22 58			93.661
1534	" 10-1	22 06	22 18			5696.633

17<sup>h</sup> 35.5<sup>m</sup> -03° 15'

	1957					243+
1691	July 29-30	22 40	22 50	60	49.656	
1698	" 30-1	22 23	22 29		50.640	
1705	" 31/1	22 42	22 48		51.656	
1715	Aug. 1-2	22 55	23 01		52.665	
1722	" 2-3	22 14	22 20		53.636	
1742	" 16-7	22 24	22 30		67.643	
1752	" 17-8	22 48	22 54		68.660	
1765	" 19-20	22 33	22 39		70.650	
1782	" 21-2	23 22	23 28		72.684	
1789	" 22-3	22 15	22 21		73.638	

18<sup>h</sup> 04.<sup>m</sup>9 -25° 01'

	1949					243+	
508	July	22	22	35	22	43	3120.652
517	"	23	21	57	22	05	21.626
	1951						
681	May	31	02	36	02	46	797.820
693	June	6	02	44	02	56	803.826

18<sup>h</sup> 22<sup>m</sup>.1 -24° 54'

1948				243+								
266	July	14	22 23	22 27	2747.642	876	June	18	00 30	00 38	81.732	
280	"	24	22 11	22 15	57.634	901	"	30	22 43	22 53	94.658	
288	"	27	01 19	01 23	59.765	908	July	1	22 50	23 04	95.665	
297	"	28	23 19	23 23	61.681	914	"	17	00 54	01 06	4210.750	
301	"	30	23 01	23 05	63.669	926	"	23	23 55	00 05	17.708	
305	"	30	00 27	00 31	63.728	941	"	24	22 56	23 04	18.667	
311	"	31	00 18	00 22	64.722	956	"	25	22 51	22 59	19.663	
333	Aug.	7	21 42	21 46	71.614	966	"	26	23 37	23 43	20.694	
341	"	8	21 18	21 22	72.597	977	"	31	23 47	23 57	25.703	
370	"	21	21 12	21 16	85.593	989	Aug.	18	22 34	22 44	43.652	
374	"	22	21 26	21 30	86.603	1008	"	21	22 09	22 17	46.634	
381	"	26	21 47	21 51	90.617	1022	"	22	21 52	22 00	47.621	
453	Sept.	13	20 41	20 46	808.572							
1949												
468	July	2	22 33	22 39	3100.650	1078	May	27	01 38	01 46	4889.779	
473	"	4	22 53	22 57	02.663	1087	"	31	02 07	02 15	93.799	
479	"	14	22 08	22 13	12.632	1095	June	7	01 36	01 44	900.778	
487	"	15	22 25	22 30	13.644	1118	"	23	00 15	00 23	17.722	
494	"	19	22 10	22 15	17.633	1126	"	26	00 04	00 12	20.714	
500	"	21	23 20	23 26	19.683	1139	"	28	23 52	00 00	22.706	
509	"	22	22 49	22 54	20.661	1154	July	3-4	00 57	01 05	27.751	
518	"	23	22 18	22 24	21.640	1160	"	7-8	02 25	02 33	31.812	
525	"	25	22 16	22 22	23.638	1168	"	8-9	23 21	23 29	32.684	
533	"	28	22 12	22 18	26.635	1173	"	9-10	01 40	01 48	33.781	
540	"	30	22 18	22 24	28.639	1181	"	10-1	02 32	02 40	34.817	
549	"	31	21 52	21 57	29.621	1185	"	12-3	01 26	01 34	36.771	
556	Aug.	1	21 48	21 53	30.618	1196	"	18-9	23 20	23 28	42.683	
564	"	13	21 26	21 31	42.603	1205	"	23-4	23 53	00 01	47.706	
567	"	14	21 30	21 35	43.606	1210	"	23-4	01 34	01 42	.776	
582	"	18	22 18	22 23	47.639	1213	"	25-6	23 39	23 47	49.697	
592	"	20	21 27	21 32	49.604	1219	"	26-7	22 11	22 19	50.635	
601	"	24	21 38	21 44	53.612	1225	July	28-9	23 33	23 43	52.693	
611	"	25	21 25	21 31	54.603	1232	Aug.	2-3	00 45	00 57	57.744	
612	"	25	21 36	21 44	.611	1245	"	3-4	23 01	23 09	58.670	
621	Sept.	15	21 29	21 35	75.606	1250	"	3-4	00 33	00 45	.735	
627	"	17	20 56	21 02	77.583	1257	"	5-6	22 23	22 40	60.650	
638	"	24	20 12	20 18	84.552	1266	"	6-7	22 27	22 35	61.647	
						1270	"	7-8	22 30	22 38	62.649	
						1278	"	16-7	21 53	32 01	71.623	
657	May	16	03 26	02 36	3782.855	1284	"	17-8	22 16	22 24	72.639	
701	June	7	01 14	01 20	804.762	1289	"	19-20	23 03	23 11	74.672	
734	July	20	21 55	22 01	48.624	1294	"	21-2	22 48	23 00	76.662	
739	"	23	23 15	23 23	51.680	1299	"	22-3	22 32	22 40	77.650	
747	"	24	22 58	23 05	52.668	1304	"	26-7	20 35	20 43	81.569	
764	"	28	23 32	23 40	56.701	1315	"	28-9	21 28	21 36	83.606	
779	Aug.	4	23 04	23 10	63.672	1326	Sep.	19-20	20 03	20 11	5005.547	
792	"	5	22 41	22 49	64.656	1332	"	20-1	20 17	20 25	06.556	
806	"	8	23 06	23 14	67.674	1337	"	22-3	20 11	20 19	08.552	
826	"	23	22 28	22 36	82.647	1339	"	26-7	20 30	20 38	12.565	
1952												
844	June	3	02 47	02 57	4166.828	1347	1955	June	14-5	00 05	00 13	273.715
854	"	12	01 18	01 32	75.767	1353	"	"	15-6	23 36	23 44	74.694
863	"	12	23 31	23 39	76.691	1361	"	"	16-7	23 21	23 29	75.684

1955						243+
1369	June 17-8	23	40	23	48	76.697
1378	" 20-1	00	41	00	49	79.740
1386	" 21-2	23	49	23	57	80.703
1391	" 26-7	01	59	02	07	85.794
1396	" 27-8	22	31	22	39	86.649
1399	" 28-9	02	12	02	20	87.803
1412	July 10-1	22	52	23	00	99.664
1422	" 18-9	22	23	22	31	307.644
1428	" 19-20	22	24	22	32	08.644
1433	" 21-2	21	50	21	58	10.621
1440	" 22-3	23	14	23	22	11.679
1447	" 24-5	22	38	22	46	13.654
1452	" 25-6	22	10	22	18	14.635
1457	Aug. 7-8	21	20	21	28	27.600
1463	" 11-2	22	01	22	09	31.628
1468	" 15-6	22	01	22	11	35.629
1471	" 18-9	22	30	22	38	38.649
1480	" 21-2	21	52	22	00	41.622
1483	" 23-4	21	06	22	14	43.590
1488	Sep. 6-7	20	24	20	32	57.561
1500	" 17-8	20	19	20	27	68.558
1956						
1512	June 12-3	01	09	01	17	637.759
1516	July 28-9	22	38	22	46	83.654
1522	Aug. 7-8	23	18	23	28	93.683
1535	" 10-1	22	27	22	35	96.647
1957						
1548	May 21	02	37	02	45	979.820
1571	June 7-8	01	53	01	59	.788
1577	" 17-8	00	38	00	44	6007.737
1586	" 29-30	02	24	02	30	19.810
1594	" 30/1	01	26	01	32	20.770
1603	July 1-2	00	44	00	52	21.741
1612	" 6-7	02	27	02	33	26.812
1620	" 15-6	23	41	23	47	35.697
1629	" 16-7	23	16	23	26	36.681
1637	" 17-8	23	07	23	12	37.672
1647	" 18-9	22	58	23	03	38.666
1657	" 19-20	22	57	23	03	39.666
1665	" 20-1	23	01	23	06	40.668
1675	" 23-4	23	01	23	06	43.669
1684	" 24-5	23	08	23	15	44.674
1707	" 31/1	23	16	23	22	51.679
1718	Aug. 1-2	23	32	23	38	52.690
1724	" 2-3	22	50	22	56	53.661
1743	" 16-7	22	36	22	42	67.652
1754	" 17-8	23	17	23	23	68.680
1761	" 18-9	22	29	22	35	69.647
1766	" 19-20	22	59	23	05	70.668
1779	" 21-22	21	37	21	43	72.610
1790	" 22-3	22	28	22	33	73.646

18<sup>h</sup> 33<sup>m</sup>.9 -23° 58'

1948				243+	1952				243+		
271	July	23	21 57	22 01	2756.624	957	July	25 23 08	23 12	19.674	
289	"	27	01 46	01 50	59.783	967	"	26 23 47	23 51	20.701	
302	"	30	23 13	23 17	63.677	978	Aug.	1 00 03	00 09	25.713	
313	"	31	00 51	00 55	64.745	990	"	18 22 48	22 56	43.664	
383	Aug.	26	22 27	22 31	90.645	1009	"	21 22 29	22 35	46.647	
413	Sept.	2	20 27	20 31	97.562	1023	"	22 22 09	22 15	47.633	
1949				1954				1955			
474	July	4	23 01	23 06	3102.669	1079	May	27 01 54	02 02	889.790	
480	"	14	22 18	22 22	12.639	1088	"	31 02 32	02 40	93.817	
488	"	15	22 40	22 44	13.654	1127	June	26 00 24	00 32	920.728	
495	"	19	22 18	22 22	17.639	1140	"	28 00 21	00 29	22.726	
501	"	21	23 33	23 38	19.691	1155	July	3-4 01 11	01 19	27.760	
510	"	22	22 57	23 00	20.666	1161	"	7-8 02 40	02 48	31.822	
519	"	23	22 30	22 34	21.647	1169	"	8-9 23 36	23 44	32.694	
526	"	25	22 28	22 32	23.646	1174	"	9-10 01 53	02 01	33.790	
534	"	28	22 23	22 29	26.642	1189	"	12-3 02 46	02 54	36.826	
541	"	30	22 29	22 33	28.647	1206	"	23-4 00 09	00 17	47.717	
550	"	31	22 00	22 04	29.626	1221	"	26-7 23 08	23 16	50.675	
557	Aug.	1	21 57	22 01	30.624	1226	"	28-9 23 45	23 57	52.702	
565	"	12	21 46	21 50	42.617	1233	Aug.	2-3 01 05	01 17	57.758	
568	"	14	21 42	21 46	43.614	1246	"	3-4 23 15	23 23	58.680	
583	"	18	22 27	22 30	47.645	1258	"	5-6 22 46	22 54	60.660	
593	"	20	21 42	21 46	49.614	1285	"	17-8 22 31	22 39	72.649	
602	"	24	21 49	21 53	53.619	1290	"	19-20 23 18	23 26	74.682	
613	"	25	21 47	21 51	54.617	1295	"	21-2 23 06	23 16	76.674	
620	Sept.	15	21 15	21 19	75.595	1300	"	22-3 22 46	22 54	77.660	
628	"	17	21 14	21 18	77.594	1316	"	28-9 21 44	21 52	83.617	
639	"	24	20 20	20 24	84.557	1327	Sept	19-20 20 25	20 33	5005.562	
1951				1955				1955			
658	May	16	03 48	03 54	3782.869	1348	June	14-5 00 21	00 29	273.726	
702	June	7	01 48	01 54	804.785	1354	"	15-6 23 51	23 59	74.705	
719	July	5-6	01 25	01 30	33.769	1362	"	16-7 23 38	23 46	75.696	
731	"	10	33 40	33 50	38.698	1370	"	17-8 23 57	00 05	5276.709	
735	"	20	22 07	22 12	48.632	1379	"	20-1 00 55	01 03	79.749	
740	"	24	00 38	00 44	51.737	1387	"	21-2 00 04	00 12	80.714	
748	"	24	23 10	23 16	52.676	1392	"	26-7 02 14	02 22	85.804	
763	"	28	23 20	23 26	56.683	1397	"	27-8 22 45	22 53	86.659	
780	Aug.	4	23 15	23 20	63.679	1400	"	28-9 02 24	02 23	87.811	
793	"	5	22 54	22 59	64.664	1413	July	10-1 23 07	23 15	99.674	
805	"	8	22 54	23 00	67.665	1423	"	18-9 22 45	22 53	307.659	
813	"	22	21 40	21 45	81.613	1429	"	19-20 22 38	22 46	08.654	
827	"	23	22 46	22 51	82.659	1434	"	21-2 22 04	22 12	10.631	
1952				1955				1955			
864	June	12	23 49	23 55	4176.703	1441	"	22-3 23 27	23 35	11.688	
877	"	18	00 45	00 49	81.741	1448	"	24-5 22 52	23 00	13.664	
894	"	27	01 28	01 42	90.775	1453	"	25-6 22 24	22 32	14.644	
895	"	27	02 11	02 25	.804	1464	Aug.	11-2 22 14	22 22	31.638	
902	"	30	22 57	23 03	94.667	1469	"	15-6 22 18	22 28	35.641	
909	July	1	23 10	23 18	95.676	1472	"	18-9 22 45	22 53	38.659	
915	"	17	01 12	01 22	210.761	1481	"	21-2 22 05	22 13	41.631	
925	"	23	23 44	23 50	17.699	1484	"	23-4 21 22	21 30	43.601	
942	"	24	23 08	23 12	18.674	1489	Sep.	6-7 20 36	20 46	57.570	
						1501	"	17-8 20 35	20 43	68.569	



	1956					243+
1513	June 12-3	01	24	01	32	637.769
1517	July 28-9	22	52	23	00	83.664
1523	Aug. 7-8	23	34	23	44	93.694
1536	" 10-1	22	40	22	48	96.656
	1957					
1549	May 21	03	20	03	28	979.850
1578	June 17-8	01	05	01	11	6007.756
1587	" 29-30	02	47	02	53	19.826
1595	" 30/1	01	44	01	50	20.782
1596	" 30/1	02	19	02	25	.800
1604	July 1-2	01	02	01	10	21.753
1605	" 6-7	23	56	24	00	26.707
1613	" 6-7	02	40	02	44	.820
1621	" 15-6	23	54	23	58	35.705
1630	" 16-7	00	25	00	30	36.711
1638	" 17-8	23	18	23	22	37.680
1648	" 18-9	23	12	23	16	38.676
1658	" 19-20	23	09	23	13	39.674
1666	" 20-1	23	12	23	16	40.676
1676	" 23-4	23	11	23	15	43.675
1685	" 24-5	23	20	23	24	44.681
1692	" 29-30	23	06	22	13	49.674
1708	" 31/1	23	26	23	32	51.686
1717	Aug. 1-2	23	24	23	29	52.684
1723	" 2-3	22	35	22	40	53.647
1733	" 5-6	00	36	00	40	56.734
1744	" 16-7	22	53	22	57	67.663
1753	" 17-8	23	05	23	11	68.672
1760	" 18-9	22	19	22	23	69.639
1767	" 19-20	23	09	23	13	70.674
1780	" 21-22	21	54	21	58	72.622
1791	" 22-3	22	38	22	42	73.653

18<sup>h</sup> 50<sup>m</sup>.8 -08° 46'

1949				243+							
482	July	14	22 41	22 47	3112.656	1089	May	31	02 47	02 55	93.827
489	"	15	22 52	22 58	13.663	1096	June	7	02 32	02 40	900.817
512	"	22	23 22	23 28	20.684	1099	"	8	02 34	02 42	01.818
527	"	25	22 37	22 43	23.653	1100	"	9	02 15	02 23	02.802
535	"	28	22 32	22 38	26.649	1119	"	23	00 33	00 41	17.734
543	"	30	22 51	22 57	28.662	1128	"	26	00 55	01 03	20.749
551	"	31	22 11	22 17	29.635	1141	"	28-9	00 38	00 46	22.738
569	Aug.	14	22 02	22 08	43.629	1156	July	3-4	01 39	01 47	27.780
584	"	18	22 35	22 41	47.651	1162	"	7-8	02 56	03 04	31.833
594	"	20	21 50	21 56	49.620	1170	"	8-9	23 50	23 58	32.704
603	"	24	21 59	22 05	53.626	1175	"	9-10	02 08	02 16	33.800
614	"	25	21 58	22 04	54.626	1182	"	10-1	02 49	02 57	34.828
622	Sept.	16	21 40	21 46	75.613	1186	"	12-3	01 41	01 49	36.781
640	"	24	20 29	20 35	84.564	1207	"	23-4	00 25	00 33	47.728
644	"	29	20 38	20 41	89.569	1214	"	25-6	23 55	00 03	49.708
	1951					1222	"	26-7	23 26	23 34	50.688
703	June	7	02 04	02 10	3804.797	1227	"	28-9	00 12	00 22	52.720
782	Aug.	4	23 41	23 49	63.698	1234	Aug.	2-3	01 43	01 51	57.783
794	"	5	23 09	23 17	64.676	1247	"	3-4	23 32	23 40	58.692
803	"	8	22 20	22 30	67.642	1251	"	3-4	00 55	01 05	.750
809	"	8	23 42	23 51	.699	1259	"	5-6	23 01	23 09	60.670
815	"	22	22 06	22 16	81.633	1267	"	6-7	22 40	22 48	61.656
828	"	23	23 00	23 07	82.669	1271	"	7-8	22 45	22 53	62.659
831	"	23	23 45	23 53	.701	1286	"	17-8	22 48	22 56	72.661
	1952					1291	"	19-20	23 37	23 45	74.695
865	June	13	00 03	00 11	4176.713	1296	"	21-2	23 43	23 51	76.699
866	"	13	01 00	01 06	.752	1301	"	22-3	23 09	23 17	77.676
879	"	18	01 39	01 47	81.780	1305	"	26-7	20 49	20 57	81.578
882	"	18	02 37	02 45	.820	1317	"	28-9	22 02	22 10	83.629
887	"	22	23 38	23 52	86.698	1328	Sept.	19-20	20 40	20 48	5005.572
896	"	27	02 40	03 00	90.826	1333	"	20-1	20 32	20 40	06.567
903	"	30	23 08	23 22	94.677	1340	"	26-7	20 49	20 57	12.578
910	July	1	23 25	23 39	95.689		1955				
927	"	21	00 10	00 24	217.720	1349	June	14-5	00 38	00 46	273.738
930	"	21	01 22	01 36	.770	1355	"	15-6	00 08	00 16	74.717
943	"	21	23 18	23 28	18.683	1363	"	16-7	23 58	00 06	75.710
946	"	25	00 24	00 34	.729	1371	"	17-8	00 19	00 27	76.724
958	"	25	23 17	23 25	19.681	1388	"	21-2	00 39	00 47	80.738
960	"	26	00 25	00 33	.729	1393	"	26-7	02 31	02 39	85.816
968	"	27	00 14	00 22	20.721	1398	"	27-8	23 08	23 16	86.675
979	Aug.	1	00 14	00 26	25.722	1401	"	28-9	02 37	02 45	87.820
991	"	18	23 17	23 31	43.683	1414	July	10-1	23 21	23 29	99.684
997	"	19	21 26	21 36	44.605	1418	"	17-8	01 55	02 03	306.749
1010	"	21	22 40	22 50	46.656	1424	"	18-9	23 00	23 08	07.669
1024	"	22	22 19	22 29	47.642	1442	"	22-3	23 43	23 51	11.699
1027	"	22	23 12	23 22	.680	1454	"	25-6	22 39	22 47	14.655
1034	"	23	22 28	22 38	48.648	1465	Aug.	11-2	22 33	22 41	31.651
1042	"	24	22 15	22 29	49.640	1470	"	15-6	22 35	22 43	35.652
1044	"	24	23 09	23 23	.678	1473	"	18-9	22 59	23 07	38.669
1048	"	26	21 16	21 30	51.599	1482	"	21-2	22 20	22 28	41.642
	1954					1485	"	23-4	21 38	21 46	43.612
1080	May	27	02 19	02 27	889.808	1490	Sept.	6-7	20 54	21 06	57.583

	1955				243+	
1493	Sept. 7-8	20	59	21	07	58.585
1498	" 16-7	20	28	20	38	67.565
1502	" 17-8	21	05	21	13	68.590
	1956					
1514	June 12-3	01	40	01	48	637.781
1518	July 28-9	23	06	23	14	83.674
1524	Aug. 7-8	23	51	23	59	93.705
1537	" 10-1	22	54	23	02	96.665
	1957					
1639	July 17-8	23	47	23	53	6037.701
1649	" 18-9	23	34	23	40	38.692
1667	" 20-1	23	47	23	51	40.700
1677	" 23-4	23	24	23	30	43.685
1686	" 24-5	23	31	23	37	44.690
1694	" 29-30	00	21	00	27	49.725
1706	" 30/1	22	57	23	03	51.666
1716	Aug. 1-2	23	10	23	16	52.675
1725	" 2-3	23	10	23	17	53.669
1728	" 4-5	22	35	22	41	55.651
1745	" 16-7	23	09	23	15	67.675
1755	" 17-8	23	32	23	38	68.690
1768	" 19-20	23	29	23	35	70.688
1783	" 21-2	23	45	23	51	72.700
1792	" 22-3	22	58	23	05	73.668

$18^{\text{h}} 52^{\text{m}}.6 -30^{\circ} 31'$ 

481	1949					243+	
513	July	14	22	28	22	34	3112.647
542	"	22	23	33	23	39	20.692
	"	30	22	39	22	45	28.654

19<sup>h</sup> 15.<sup>m</sup>0 +30° 06'

	1938				242+		1948						243+
23	Sept. 24	22	33	22	48	9166.653	251	July 4	00	15	00	21	36.721
	1946					243+	254	" 4	23	34	23	40	37.692
65	June 22	23	36	23	40	1994.693	255	" 7	00	40	00	46	39.738
68	" 23	23	53	23	59	5.706	262	" 10	23	12	23	18	43.677
73	" 25-6	23	59	00	03	7.709	267	" 14	22	44	22	50	47.658
77	" 30	22	02	22	07	2002.628	270	" 14	23	48	23	54	.702
82	July 1	22	32	22	36	3.649	272	" 23	22	09	22	15	56.633
88	" 5	21	53	21	57	7.622	282	" 24	23	00	23	06	57.669
90	" 6	22	00	22	04	8.626	284	" 26	21	52	21	53	2759.620
96	" 9	21	55	21	59	11.623	290	" 27	01	59	02	03	.792
98	" 10	22	53	22	57	12.663	306	" 30	00	40	00	44	63.738
100	" 15	21	39	21	43	17.612	355	Aug. 14	02	14	02	20	77.803
102	" 16	21	40	21	44	18.614	371	" 21	21	38	21	42	85.611
105	" 17	22	12	22	16	19.635	378	" 24	21	23	21	29	86.601
106	" 18	21	34	21	38	20.608	386	" 26	23	50	23	56	90.703
109	" 23	23	02	23	08	25.670	416	Sept. 3	22	48	22	56	98.661
110	" 24	21	53	21	59	26.622	429	" 9-10	01	03	01	09	804.754
113	" 25	21	47	21	53	27.618	440	" 11-2	01	06	01	12	06.756
114	" 27	21	22	21	29	29.601		1949					
117	" 28	22	41	22	47	30.656	604	Aug. 24	22	13	22	18	3153.635
123	" 31	22	04	22	10	33.630		1951					
124	Aug. 2	21	29	21	35	25.606	705	June 7	03	05	03	11	804.839
132	" 6	22	03	22	09	39.629	711	" 25	01	33	01	38	23.775
133	" 6	22	14	22	20	.637	721	July 5	03	15	03	21	33.846
137	" 7	21	10	21	16	40.592	750	" 24	23	53	23	59	3852.706
140	" 11	21	54	21	59	44.622	766	" 29	00	09	00	15	56.717
141	" 11	22	01	22	07	.628	778	Aug. 4	22	52	22	56	63.663
142	" 13	20	40	20	46	46.572	796	" 5	23	42	23	46	64.697
148	" 19	20	28	20	30	52.562	807	" 8	23	22	23	26	67.683
149	" 23	20	28	20	34	56.563	824	" 23	21	59	22	05	82.626
152	Sept. 3	20	01	20	07	67.544		1952					
156	" 10	19	47	10	53	74.535	880	June 18	01	55	02	03	4181.791
157	" 11	19	40	19	46	75.530	893	" 27	00	55	01	05	90.750
159	" 12	18	47	18	53	76.493	911	July 2	01	23	01	33	95.769
160	" 13	18	50	18	56	77.495	928	" 24	00	30	00	40	217.733
161	" 14	18	49	18	55	78.490	944	" 24	23	49	23	55	18.703
165	" 16	19	02	19	08	80.503	959	" 26	00	09	00	15	19.717
166	" 17	19	12	19	16	81.510	975	" 27-8	23	58	00	04	21.709
167	" 18	18	57	19	03	82.500	980	Aug. 1	00	34	00	42	25.735
	1947						992	" 18	23	42	23	50	43.699
180	June 12	00	41	00	45	2348.738	998	" 19	21	45	21	55	44.618
189	" 16	23	45	23	50	53.700	1011	" 21	23	00	23	08	46.669
196	" 19	22	46	22	51	56.659	1025	" 22	22	36	22	44	47.653
200	" 21	23	25	23	31	58.686	1035	" 23	22	45	22	53	48.659
203	July 12	23	33	23	43	79.693		1954					
204	" 12	23	44	23	56	.702	1081	May 27	02	04	02	12	889.839
205	" 13	23	30	23	45	80.693	1090	" 31	03	05	03	13	93.840
206	1948	17	22	17	27	84.460	1101	June 9	02	36	02	42	902.819
208	" 14-20	23	57	23	00	86.469	1129	" 26	01	24	01	32	96.769
217	June 1	23	24	23	28	2704.685	1157	July 3-4	01	59	02	07	27.794
221	" 13	22	41	22	45	16.655	1176	" 9-10	02	43	02	51	33.824
225	" 14	22	40	22	44	17.654	1190	" 12-3	03	08	03	16	36.842
235	" 15	23	36	23	40	18.693	1208	" 23-4	00	56	01	04	47.750
237	" 17	00	23	00	29	19.726	1228	" 28-9	00	48	00	56	52.744
243	" 25	23	30	23	36	28.688							

1248	1954 Aug. 3-4	23 49	23 57	243+ 58.703
1321	Sept. 6-7	21 34	21 42	92.610

19<sup>h</sup> 51.<sup>m</sup>9 +18° 41'

1949				243+	1954					
511	July	22	23 08	3120.674	1036	Aug.	23	22 59	23 09	48.669
520	"	23	22 44	21.657	1043	"	24	22 38	22 50	49.656
528	"	25	22 42	23.656	1045	"	24	23 33	23 45	.694
536	"	28	22 49	26.661	1049	"	26	21 57	22 11	51.629
544	"	30	23 14	28.678	1050	"	28	20 48	20 52	53.
552	"	31	22 26	29.644		1954				
558	Aug.	1	22 06	30.631	1091	May	31	03 19	03 27	893.849
562	"	12	21 51	41.620	1097	June	7	02 51	02 59	900.830
570	"	14	22 17	43.638	1102	"	9	02 57	03 03	02.833
577	"	15	22 19	44.640	1130	"	26	01 41	01 49	20.781
585	"	18	22 45	47.658	1142	"	28-9	01 26	01 34	22.771
595	"	20	22 06	49.631	1158	July	3-4	02 17	02 25	27.806
605	"	24	22 26	53.644	1163	"	7-8	03 11	03 19	31.844
615	"	25	22 13	54.636	1171	"	8-9	00 32	00 40	32.733
616	Sept.	1	21 33	61.608	1177	"	9-10	03 00	03 08	33.836
623	"	15	21 51	75.621	1183	"	10-1	03 06	03 14	34.840
629	"	17	21 35	77.609	1187	"	12-3	02 00	02 08	36.794
641	"	24	20 42	84.573	1209	"	23-4	01 14	01 22	47.762
643	"	29	20 26	89.563	1215	"	25-6	00 11	00 19	49.719
	1951				1223	"	26-7	23 40	23 48	50.697
704	June	7	02 50	804.828	1229	"	28-9	01 05	01 13	52.756
720	July	5-6	02 55	33.831	1235	Aug.	2-3	02 06	02 14	57.799
751	"	21	00 06	52.715	1249	"	3-4	00 16	00 24	58.722
767	"	29	00 23	56.727	1260	"	5-6	23 18	23 26	60.681
781	Aug.	4	23 25	63.686	1268	"	6-7	22 56	23 04	61.667
784	"	5	00 07	.715	1272	"	7-8	23 03	23 13	62.672
795	"	5	23 25	64.686	1279	"	16-7	22 09	22 17	71.634
804	"	8	22 41	67.656	1287	"	17-8	23 08	23 16	72.675
808	"	8	23 31	.690	1292	"	19-20	00 05	00 13	74.715
814	"	22	21 54	81.623	1297	"	21-2	00 01	00 09	76.712
817	"	22	22 49	.662	1302	"	22-3	23 29	23 37	77.690
825	"	23	22 12	82.635	1306	"	26-7	21 15	21 23	81.597
830	"	23	23 28	.688	1318	"	28-9	22 18	22 26	83.640
	1952				1322	Sept.	6-7	21 49	21 57	92.620
881	June	18	02 10	4181.801	1329	"	19-20	20 54	21 02	5005.582
883	"	18	02 56	.833	1334	"	20-1	20 46	20 54	06.576
912	July	2	02 09	95.801	1338	"	22-3	20 34	20 42	08.568
916	"	17	01 30	210.772	1341	"	26-7	21 07	21 15	12.591
929	"	24	01 06	17.758		1955				
932	"	24	02 00	.795	1356	June	15-6	02 04	02 12	274.797
945	"	25	00 10	18.718	1390	"	21-2	02 34	02 42	80.818
948	"	25	00 52	.747	1394	"	26-7	02 46	02 54	85.826
961	"	26	00 44	19.742	1402	"	28-9	02 51	02 59	87.830
963	"	26	01 55	.791	1430	July	19-20	22 58	23 06	308.668
969	"	27	00 27	20.729	1458	Aug.	7-8	21 40	21 48	27.614
976	"	28	00 14	21.720	1466	"	11-2	22 48	22 56	5331.661
981	Aug.	1	00 54	25.750	1474	"	18-9	23 15	23 23	38.680
993	"	18-9	23 56	43.709	1486	"	23-4	21 54	22 02	43.624
999	"	19	22 10	44.635	1494	Sept.	7-8	21 14	21 22	58.596
1012	"	21	23 14	46.680	1506	"	18-9	20 36	20 44	69.569
1014	"	22	00 04	.715		1956				
1026	"	22	22 48	47.662	1525	Aug.	7-8	00 08	00 16	93.717
1028	"	22	23 32	.692						

	1957				243+	
1579	June 17-8	02	12	02	19	6007.802
1614	July 6-7	02	57	03	03	26.833
1622	" 15-6	00	11	00	16	35.718
1640	" 17-8	00	13	00	18	37.718
1650	" 18-9	23	54	23	59	38.705
1668	" 20-1	00	11	00	16	40.717
1678	" 23-4	23	40	23	46	43.696
1687	" 24-5	23	52	23	58	44.705
1693	" 29-30	23	42	23	48	49.697
1709	" 31/1	23	40	23	46	51.696
1726	Aug. 2-3	23	25	23	33	53.686
1729	" 4-5	23	09	23	15	55.675
1732	" 5-6	00	23	00	29	56.726
1746	" 16-7	23	22	23	28	67.684
1769	" 19-20	23	41	23	47	70.697
1793	" 22-3	23	15	23	21	73.679



21<sup>h</sup> 28.<sup>m</sup>1 +12° 00'

163	1946 Sept. 14	19 53	19 58	243+ 2078.578
1526	1956 + Pallas Aug. 8-9	00 05	00 09	5694.713
1527	+ Pallas " 8-9	00 12	00 14	.717
1528	+ Pallas " 9-10	22 23	22 25	95.642



$21^{\text{h}} \quad 38^{\text{m}}.1 \quad -23^{\circ} \quad 22'$ 

	1948					243+
269	July 14	23	23	23	39	2747.692
299	" 28	23	50	23	56	61.703
308	" 30	01	22	01	28	63.767
315	" 31	02	02	02	08	64.795
385	Aug. 26	23	18	23	24	90.681
428	Sept. 9-10	00	47	00	53	04.743
442	" 11-2	01	45	01	55	06.785