TRANSITS

1960

WITH THE PLANETS

by

Geoffrey Gaherty, Jr

JUPITER IN 1960

Rotation Periods. When the 368 transit observations are plotted on graph paper, 105 of them provide usable drifts for sixteen Jovian marks. In the table below, the columns give the reference number of the mark; the type of mark (D-dark, W-bright, p-preceding, c-centre, f-following); the dates when it was first and last observed; the longitudes on those dates, the longitude at opposition with brackets indicating an extrapolated value; the number of observations; the drift in longitude relative to the standard reverence system in thirty days; and the rotation period (computed from critical tables in Peek's The Planet Jupiter). The letters in the "Transits" column indicate the surname initials of the observers whose transits were used (Brasch, Gaherty, Wedge).

No	Mark	Limiting Dates	Limiting L. ° °	L. °	Transits	Drift °	Period h m s
South Temperate Current (S edge STB, STeZ), System II:							
B	Wp	Aug. 12 - Sep. 22	354 - 330	(27)	3 (BG)	-18.0	9 55 16
C	Wf	Aug. 25 - Sep. 8	19 - 348	(58)	3 (B)	-26.0	9 55 5
D	Wp	June 7 - Sep. 26	229 - 148	219	5 (BG)	-22.0	9 55 11
E	Wf	June 7 - Sep. 26	244 - 167	235	7 (BGW)	-20.4	9 55 13
F	Wp	June 10 - Oct. 10	304 - 199	296	5 (BG)	-25.8	9 55 5
A	Wf	June 22 - Oct. 28	310 - 212	(307)	8 (BG)	-24.5	9 55 7
		Mean Rotation Period: 9h 55m 10s					
Red Spot (STrZ), System II:							
1	p	June 8 - Sep. 22	332 - 336	333	12 (BG)	1.4	9 55 43
2	c	June 8 - Aug. 17	342 - 348	343	10 (BG)	2.8	9 55 44
3	f	June 8 - Sep. 8	353 - 354	353	10 (BG)	1.6	9 55 43
		Mean Rotation Period: 9h 55m 43s					
North Equatorial Current (S edge NEB, EZn), System I:							
1	Dp	May 20 - Aug. 18	206 - 212	208	6 (BGW)	1.3	9 50 32
2	Dc	May 20 - Sep. 17	217 - 220	217	8 (BGW)	0.8	9 50 31
3	Df	May 20 - Aug. 18	226 - 218	223	6 (BGW)	-1.3	9 50 28
4	Dc	May 20 - Aug. 25	244 - 257	250	7 (BGW)	2.8	9 50 34
5	Df	May 20 - Aug. 25	251 - 260	254	5 (BGW)	2.5	9 50 33
6	Wc	May 20 - Sep. 22	261 - 274	264	5 (BG)	2.3	9 50 33
7	Dp	Jul. 8 - Sep. 22	275 - 282	(272)	5 (B)	3.2	9 50 34
		Mean Rotation Period: 9h 50m 32s					

The six marks in the South Temperate Current are the p and f ends of the three long-lasting ovals called BC, DE, and FA by Reese. The period for the Red Spot is a bit uncertain due to its peculiar motion during the latter part of the apparition while in the vicinity of BC. The marks in the North Equatorial Current are rather smaller in number than had been hoped because of some unfortunate gaps in our records.

Satellite Phenomena. Space does not permit reporting the twenty-two timings of satellite phenomena in full, so I will offer a few general statistics instead. The mean value of the differences between the observed contact times and the predicted contact times (O-C) was -1.6 minutes; the most extreme values of (O-C) were 4.5 and -6.6 minutes; the standard deviation was 8.4.

In conclusion, I wish to thank all who contributed observations. Since we did so well in a most unfavourable apparition, think what we should be able to do this coming year.

As the disk of Mars is now becoming too small for useful work, March 8 will be the last Wednesday planetary meeting until Jupiter is with us again.

21/5/60

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Jupiter - C. M. Transits

Observations by Geoffrey Gaherty, Jr, with an 8-inch Cave Reflector at 180x:

Serial No	Description of Feature	Transit Time U.T.	Longitude I	Longitude II
May 6, 1960. S - 2, T - 4:				
1	Dp tall proj S edge NEB	05:22	123	-
2	Dc tall proj S edge NEB	05:31	128	-
3	Df tall proj S edge NEB	05:39	133	-
4	Dp sect SSTB	06:07	-	122
5	Dc cond SSTB	06:23	-	131
6	Dp low proj S edge NEB	06:30	164	-
May 20, 1960. S - 1, T - 3-1 (patchy clouds 06:30-07:00):				
7	Dp low proj S edge NEB	06:13	206	-
8	Dc low proj S edge NEB	06:30	217	-
9	Df low proj S edge NEB	06:45	226	-
10	Wc bay S edge NEB	06:53	231	-
11	Dp low proj S edge NEB	07:08	240	-
12	Dc low proj S edge NEB	07:15	244	-
13	Df low proj S edge NEB	07:26	251	-
14	Wc spot on S edge NEB	07:43	261	-

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Jupiter - C. M. Transits

Serial No	Description of Feature	Transit Time U.T.	Longitude I	Longitude II
Geoffrey Gaherty, Jr; 8" Reflector:-				
June 4, 1960; 180x-240x; S - 1-3; T - 3-4 (Clouds near 04:30):				
15	Wc bay S edge NEB	03:55	333	-
16	Dp proj S edge NEB	04:03	338	-
17	Dc proj S edge NEB	04:11	342	-
18	Wp spot on S edge NEB	05:05	15	-
19	Dc patch in S part of NEB	05:11	19	-
20	Wc spot on S edge NEB	05:12	20	-
21	Dp proj on S edge NEB	05:18	23	-
22	Wf spot on S edge NEB	05:20	24	-
23	Dc proj on S edge NEB	05:26	28	-
24	Df proj on S edge NEB	05:35	34	-
25	Wc bay on S edge NEB	05:49	42	-
Jim Low; 4" Reflector:-				
May 21, 1960; 130x; S - 6; T - 4:				
1	Dc Spot on north part of NEB	05:42	-	203
June 4, 1960; 130x-167x; S - 6; T - 4:				
2	Dp (cond.) S. edge NEB[x]	05:34	33	-
3	Dc (cond.) S. edge NEB[x]	05:38	35	-
4	Df (cond.) S. edge NEB[x]	05:43	38	-
5	Dp (cond.) N. edge NEB	07:27	-	211
6	Dc (cond.) N. edge NEB	07:30	-	213
7	Df (cond.) N. edge NEB	07:34	-	216

[x] These transits probably refer to the shadow of Io which was on C.M. at about this time. G.G.

George Wedge; 6½" Refractor:-				
June 4, 1960; 100x; S - 3; T - 2-1:				
1	Dp low proj on S edge NEB	04:46	4	-
2	Df low proj on S edge NEB	04:55	9	-
3	Dc low proj on S edge NEB	05:08	17	-

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Jupiter - C. M. Transits

Serial No	Description of Feature	Transit Time U.T.	Longitude I	Longitude II
Geoffrey Gaherty, Jr; 8" Reflector:-				
June 22, 1960; 240x; S - 1-0; T - 3:				
91	Dc (proj.) S edge NEB (p base loop fest.)	04:51	331	-
92	Wc (bay) S edge STB	04:54	-	306
93	Wp (notch) S edge NEB	04:57	335	-
94	Wf (bay) S edge STB	05:00	-	310
95	Dp (veil) STeZ	05:00	-	310
96	Wc (notch) S edge NEB	05:02	338	-
97	Wf (notch) S edge NEB	05:10	343	-
98	Dp (RS) STrZ	05:39	-	333
99	Dc (RS) STrZ	05:52	-	341
100	Df (RS) STrZ	06:07	-	350
July 4, 1960; 240x; S - 4-2; T - 4:				
101	Dc (proj.) S edge NEB	02:57	358	-
102	Df (proj.) S edge NEB	03:06	3	-
103	Dp (cond.) SEBs (f end fest. SEBZ)	03:10	-	248
104	Dc (cond.) SEBs	03:14	-	250
105	Df (cond.) SEBs	03:19	-	253
106	Dc (proj.) S edge NEB	03:42	25	-
107	Df (proj.) S edge NEB	03:49	28	-
108	Wp (bay) S edge STB	04:12	-	285

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20/6/60

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Jupiter - C. M. Transits

Serial No	Description of Feature	Transit Time U.T.	Longitude I	Longitude II
Klaus R. Brasch; 8" Reflector:-				
June 11, 1960; 165x; S - 3-4; T - 3-3:				
1	Wc (oval) S edge NEB	05:28	56	-
2	Wf (oval) S edge NEB	05:45	66	-
3	Wp (oval) S edge NEB	05:45	66	-
4	Wc (oval) S edge NEB	06:00	75	-
5	Dp (cond.) S edge NEB	06:15	84	-
6	Wf (oval) S edge NEB	06:18	86	-
7	Wp (gap) [redacted] SEBn	06:18	86	-
8	Df (cond.) S edge NEB	06:26	91	-
9	Dp (loop fest.) S edge NEB	06:26	91	-
10	Wp (gap) STB	06:28	-	148
11	Dc (loop fest.) S edge NEB	06:35	96	-
12	Wc (gap) STB	06:38	-	154
13	Dc (low proj.) S edge NEB	06:43	101	-
14	Df (loop fest.) S edge NEB	06:50	106	-
15	Wf (gap) STB	06:50	-	162
June 13, 1960; 165x (blue filter altern.); S - 3-2; T - 3:				
16	Dp (RS) STrZ	03:15	-	333
17	Dc (RS) STrZ	03:35	-	345
18	Wf (oval) S edge NEB	03:42	307	-
19	Df (RS) STrZ	03:46	-	351
20	Dp (proj.) S edge NEB	03:58	317	-
21	Df (proj.) S edge NEB	04:15	327	-
22	Dp (fest.) S edge NEB	04:15	327	-
23	Dc (loop fest.) S[redacted] edge NEB	04:34	339	-
24	Df (loop fest.) S edge NEB	04:48	347	-
Geoffrey Gaherty, Jr; 8" Reflector:-				
June 7, 1960; 240x; S - 4-5; T - 5:				
26	Dc (p proj in double proj) S edge NEB	04:55	123	-
27	Wc (notch in double proj) S edge NEB	05:03	128	-
28	Dc (low proj.) S edge STB	05:06	-	217
29	Dc (f proj in double proj) S edge NEB	05:11	133	-
30	Wp (oval) S edge NEB	05:20	138	-
31	Df (low proj.) S edge STB	05:23	-	228
32	Wp (bay) S edge STB	05:25	-	229
33	Wc (oval) S edge NEB	05:28	143	-
34	Wf (oval) S edge NEB	05:34	147	-
35	Wc (bay) S edge STB	05:36	-	236
36	Dp (proj.) S edge STB	05:43	-	240
37	Dp (loop fest.) S edge SEBn	05:46	154	-

Serial No	Description of Feature	Transit Time U.T.	Longitude I	Longitude II
38	Wf (bay) S edge STB	05:50	-	244
39	Dp (small cond.) SEBs (f end fest.)	05:57	-	248
40	Dc (proj.) S edge STB	05:58	-	249
41	Dc (small cond.) SEBs	06:01	-	251
42	Df (small cond.) SEBs	06:05	-	253
43	Wc (oval enclosed by loop fest.) SEB	06:13	171	258
44	Dp (tall proj.) S edge NEB	06:16	173	-
45	Df (loop fest.) S edge SEBn	06:25	178	-
46	Dc (tall proj.) S edge NEB	06:32	182	-
47	Df (tall proj.) S edge NEB	06:42	188	-
48	Wc (deep notch) S edge NEB	06:48	192	-
June 8, 1960; 180x; S - 2-3; T - 4:				
49	Dc (proj.) S edge NEB	04:05	251	-
50	Dp (RS) STrZ	04:07	-	332
51	Df (proj.) S edge NEB	04:10	254	-
52	Dc (RS) STrZ	04:23	-	342
53	Df (RS) STrZ	04:41	-	353
June 10, 1960; 240x; S - 5; T - 3:				
54	Dp (large proj.) S edge NEB	04:11	210	-
55	Dc (large proj.) S edge NEB	04:19	215	-
56	Df (indef. proj.) N edge SEB	04:21	217	-
57	Df (large proj.) S edge NEB	04:27	220	-
58	Wp (spot) NTrZ	04:40	-	293
59	Wc (spot) NTrZ	04:47	-	297
60	Wf (spot) NTrZ	04:52	-	300
61	Dc (proj.) S edge STB	04:56	-	302
62	Wp (bay) S edge STB	04:59	-	304
63	Df SSTB (indef.)	05:02	-	306
64	Wc (oval) EZn	05:05	244	-
65	Dp (proj.) S edge NEB (base fest.)	05:07	245	-
66	Dc (proj.) S edge NEB (base fest.)	05:15	250	-
67	Wc (bay) S edge STB (f end indef.)	05:16	-	315
68	Df (proj.) S edge NEB (base fest.)	05:23	254	-
69	Dc (cond.) STB	05:25	-	320
70	Dc (cond.) N edge NNTB	05:26	-	321
71	Df (cond.) N edge NNTB	05:30	-	323
72	Dp (indef. veil) [redacted] STeZ	05:32	-	324
73	Wc (oval enclosed by loop fest.) S edge NEB	05:39	264	-
74	Dp (RS) STrZ	05:40	-	329
75	Dc (RS) STrZ	06:02	-	342
76	Df (RS) STrZ	06:18	-	352
77	Wp (bay) S edge NEB	06:23	291	-
78	Wf (RSH) SEBs	06:25	-	356

Remarks:
04:12 - Much detail on S edge NEB. STeZ & SSTB visible in this longitude.
04:25 - I suspect SSTZ on preceding half of disk. NNTZ visible.

Serial No	Description of Feature	Transit Time U.T.	Longitude I	Longitude II
	04:32 - RS visible on f limb?			
	05:35 - RS has a decided pink tint. It appears broader and more elliptical than on June 8. It has a very narrow dark border all around.			
	05:50 - RSH faintly visible.			
June 13, 1960; 240x; S - 0-2; T - 4:				
79	Df (RS) STrZ	(E)03:52	-	355
80	Dp (proj.) S edge NEB (p base loop fest.)	04:11	325	-
81	Dc (proj.) S edge NEB (p base loop fest.)	04:18	329	-
82	Df (proj.) S edge NEB (p base loop fest.)	04:26	334	-
83	Wc (oval) S edge NEB(enclosed by loop fest.)	04:35	339	-
84	Dp (low proj.) S edge NEB	04:45	345	-
85	Dc (p base fest. STeZ) S edge STB	04:48	-	29
86	Dc (low proj.) S edge NEB	04:51	349	-
87	Wp (patch) STeZ	04:56	-	34
88	Df (low proj.) S edge NEB	04:58	353	-
89	Dc (f base fest. STeZ) N edge SSTB	05:00	-	36
	Remarks:			
	04:00 - RS just past C.M. when observations commenced. Transit of f end estimated as about 5 min. before 03:57. Looks very much like when last seen. Image boiling.			
	04:15 - Red colour of RS very plain.			
	04:45 - RS still plain. Loop fest. on S edge NEB is not visible over its full length, fading out p centre of enclosed oval.			
	04:52 - Fest. in STeZ: Oriented in NE-SW direction. STeZ p fest. much darker than STeZ f fest.			
June 17, 1960; 240x; S - 1-0; T - 3:				
90	Df (proj.) S edge NEB	03:49	223	-

Jim Low; 4" Reflector:-

June 11, 1960; 130-167x; S - 4-6; T - 3-4:				
8	Wp (nodule) NTrZ	06:07	-	136
9	Wc (nodule) NTrZ	06:10	-	138
10	Dc (col.) EZ	06:13	83	-
11	Wf (nodule) NTrZ	06:15	-	141
12	Dp (cond.) N edge NEB	07:09	-	173
13	Dc (cond.) N edge NEB	07:12	-	175
14	Df (cond.) N edge NEB	07:14	-	176

Serial No	Description of Feature	Transit Time U.T.	Longitude I	II
George Wedge; 6½" Refractor:-				
June 11, 1960; 222x; S - 4-5; T - 2-3:				
4	Dc (low proj.) S edge NEB	04:25	17	-
5	Dp (low proj.) S edge NEB	05:00	38	-

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Jupiter - C. M. Transits

Serial No	Description of Feature	Transit Time U.T.	Longitude III	Longitude II
Klaus R. Brasch; 8" Reflector:-				
July 8, 1960; 165x; S - 3-2; T - 2:				
25	Dp (proj.) S edge NEB	03:05	275	-
26	Dc (proj.) S edge NEB	03:15	281	-
27	Df (proj.) S edge NEB	03:25	287	-
	Remarks: Above observations hampered by very bad seeing and consequently are not too accurate.			
July 11, 1960; 165x; S - 4-2; T - 2-3:				
28	Wc (nodule) S edge NEB	03:12	33	-
29	Wf (nodule) S edge NEB	03:20	37	-
30	Wp (oval) S edge NEB	03:20	37	-
31	Wc (oval) S edge NEB	03:35	47	-
32	Wf (oval) S edge NEB	03:50	56	-
	Remarks: Last two timings rather uncertain due to gradual drop in seeing conditions.			
July 15, 1960; 165x; S - 3-2-3; T - 4:				
33	Wp (oval) S edge NEB	01:55	258	-
34	Wc (oval) S edge NEB	02:08	266	-
35	Wf (oval) S edge NEB	02:18	272	-
36	Dp (proj.) S edge NEB	02:18	272	-
37	Dp (loop fest.) S edge NEB	03:48	326	-
38	Dc (loop fest.) S edge NEB	04:04	336	-
39	Df (loop fest.) S edge NEB	04:18	345	-
40	Dc (proj.) S edge NEB	04:18	345	-
	Remarks: Gap in observations due to poor seeing period and interference from nearby trees.			

Geoffrey Gaherty, Jr; 8" Reflector:-

July 11, 1960; 240x; S - 2-3; T - 3:

109	Dc (proj.) S edge NEB (p base loop fest.)	02:54	22	-
110	Wc (bay) S edge STB	02:59	-	214
111	Df (proj.) S edge NEB	03:03	28	-
112	Wf (bay) S edge STB	03:10	-	220
113	Wc (nodule) S edge NEB	03:12	33	-
114	Dp (proj.) S edge NEB	03:16	35	-

Serial No	Description of Feature	Transit Time U.T.	Longitude I	Longitude II
115	Dc (proj.) S edge NEB	03:23	40	-
116	Df (proj.) S edge NEB	03:32	45	-
117	Dc (proj.) S edge SEBn (base fest.)	03:46	54	242
July 15, 1960; 240x: S - 2; T - 3-4:				
118	Dp (proj.) S edge NEB	04:12	341	-
119	Wf (oval) S edge NEB	04:17	344	-
120	Dc (proj.) S edge NEB	04:26	350	-
121	Df (proj.) S edge NEB	04:38	357	-
122	Dc (indef. 6ond.) EZn	04:57	9	-
123	Dp (indef. cond.) N edge NNTB	04:59	-	168
124	Dc (indef. cond.) N edge NNTB	05:05	-	171
125	Dp (tall proj.) S edge NEB	05:09	16	-
126	Dc (tall proj.) S edge NEB	05:16	20	-

George Wedge; 6½" Refractor:-

July 4, 1960; 222x; S - 4-5; T - 4:

6	Dp (proj.) S edge NEB	02:26	339	-
7	Dp (rod) STB	02:32	-	225
8	Dc (proj.) S edge NEB	02:34	344	-
9	Df (proj.) S edge NEB	02:39	347	-
10	Dc (rod) STB	02:46	-	233
11	Dc (spot) NEB[x]	02:49	353	235
12	Df (rod) STB	02:52	-	237
13	Dc (spot) NEB[x]	03:11	2	248

[x] The observer was uncertain of the latitude of these marks. The longitude charts indicate that #11 at least was on the N edge of the belt, as it fits in very nicely with observations of ~~kkkm~~ a spot in this latitude by Jim Low on May 21 (#1) and June 4 (#'s 5, 6, & 7). G.G.

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12/8/60

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Jupiter - C. M. Transits

Serial No	Description of Feature	Transit Time U.T.	Longitude I	Longitude II
Klaus R. Brasch; 8" Reflector:-				
August 4, 1960; 165x; S - 3-2; T - 2-1:				
41	Wf (oval) S edge NEB	(E)01:40	167	-
42	Dp (festoon) S edge NEB	02:02	181	-
43	Wf (gap) S edge NEB	02:18	191	-
44	Df (festoon) N edge SEB	02:18	191	-
45	Dc (proj) S edge NEB	03:05	219	-
	Remarks: Above observations not too accurate due to extremely poor seeing conditions.			
Geoffrey Gaherty, Jr; 8" Reflector:-				
July 21, 1960; 180x; S - 2-0; T - 5:				
127	Dc (proj) S edge NEB	04:18	213	-
128	Dp (RS) STrZ	04:36	-	336
129	Dc (RS) STrZ	(E)04:53	-	346
July 24, 1960; 180x; S - 2; T - 5:				
130	Dp (RS) STrZ	02:03	-	334
131	Dc (proj) S edge NEB	02:18	253	-
132	Dc (RS) STrZ	02:24	-	347
	Remarks: 01:57 - Much detail on S edge NEB but impossible to time because of poor seeing and tube vibrations.			
July 29, 1960; 240x; S - 3; T - 3:				
133	Dp (proj) S edge NEB	03:40	13	-
134	Dc (proj) S edge NEB (f base loop fest)	03:48	18	-
135	Df (proj) S edge NEB	03:58	24	-
August 12, 1960; 180x; S - 2-4-2; T - 4-3:				
136	Dp (proj) S edge NEB	00:44	316	-
137	Dc (proj) S edge NEB (p base loop fest)	00:55	323	-
138	Dp (indef veil) STeZ	(E)00:55	-	268
139	Df (proj) S edge NEB	01:06	329	-
140	Wc (oval) S edge NEB (enclosed by loop fest)	01:13	334	-
141	Dp (proj) S edge NEB	01:24	340	-
142	Dc (proj) S edge NEB	01:31	345	-

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Serial No	Description of Feature	Transit Time U.T.	Longitude I	Longitude II
143	Df (proj) S edge NEB	01:40	350	-
144	Dc (indef veil) EZs	02:15	12	-
145	Dc (proj) N edge NEB	02:29	-	325
146	Dp (RS) STrZ	02:38	-	330
147	Df (indef veil) EZs	02:40	27	-
148	Dc (RS) STrZ	03:03	-	345
149	Dp (proj) S edge NEB	03:10	45	-
150	Wp (oval) STeZ	03:17	-	354
151	Dc (proj) S edge NEB	03:23	53	-
152	Df (RS) STrZ	03:27	-	0

Remarks:
01:58 - RS on f limb.
02:15 - Veil in EZs looks purplish.
02:23 - RS has intensity = 4.5
I suspect that #146 and #148 were several minutes early.

22/9/60

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Jupiter - C. M. Transits

Serial No	Description of Feature	Transit Time U.T.	Longitude I	Longitude II
Klaus R. Brasch; 8" Reflector:-				
August 5, 1960; 165x; S - 2-3; T - 3-4:				
46	Wf (oval) [illegible] S edge NEB	01:35	322	-
47	Wp (streak) [illegible] NEBn	01:40	-	328
48	Wc (streak) NEBn	01:49	-	329
49	Wf (streak) NEBn	02:02	-	337
50	Dp (RS) STrZ	02:04	-	338
51	Wp (oval) S edge NEB	02:16	347	-
52	Dc (RS) STrZ	02:22	-	349
53	Wc (oval) S edge NEB	02:34	358	-
54	Df (RS) STrZ	02:41	-	0
55	Wf (oval) S edge NEB	02:52	9	-
56	Wf (bay) STB	03:12	-	19
57	Wc (oval) S edge NEB	03:20	26	-
August 7, 1960; 165x; S - 3-5; T - 3-2:				
58	Wc (oval) S edge NEB	01:15	266	-
59	Wf (oval) S edge NEB	01:25	272	-
60	Wp (oval) STeZ	01:25	-	255
61	Wf (oval) STeZ	01:46	-	268
62	Df (festoon) NNTeZ	02:00	-	276
63	Wp (oval) S edge NEB	02:02	294	-
64	Wf (oval) S edge NEB	02:18	304	-
65	Wp (streak) NEBn	03:02	-	315
66	Wc (streak) NEBn	03:12	-	320
67	Wf (streak) NEBn	03:23	-	326
68	Wp (oval) S edge NEB	03:30	348	-
69	Dp (RS) STrZ	03:42	-	338
70	Wc (oval) S edge NEB	03:46	358	-
71	Dc (RS) STrZ	04:00	-	349
72	Wf (oval) S edge NEB	04:02	7	-
73	Dp (loop festoon) S edge NEB	04:10	12	-
74	Df (RS) STrZ	04:18	-	359
August 9, 1960; 165x; S - 3; T - 4:				
75	Dp (proj) S edge NEB	01:00	212	-
76	Dc (proj) S edge NEB	01:11	218	-
77	Df (proj) S edge NEB	01:18	223	-
78	Wp (oval) STeZ	01:22	-	184
79	Df (festoon) SEBn	01:32	232	-
80	Wf (oval) STeZ	01:36	-	202
81	Dc (proj) S edge NEB	02:13	257	-

Serial No	Description of Feature	Transit Time U.T.	Longitude I	Longitude II
August 11, 1960; 165x; S - 2-4; T - 4-5:				
82	Wf (oval) S edge NEB	01:33	188	-
83	Dp (proj) S edge NEB	02:13	212	-
84	Dc (proj) S edge NEB	02:23	217	-
85	Wc (nodule) S edge NEB	02:37	227	-
86	Wp (M oval) STeZ	02:40	-	181
87	Wf (oval) S edge NEB	02:54	237	-
88	Wf (oval) STeZ	03:05	-	196
89	Dc (proj) S edge NEB	03:20	253	-
August 17, 1960; 165x; S - 2-4; T - 2-3:				
90	Wc (oval) S edge NEB	00:46	27	-
91	Wf (oval) S edge NEB	00:55	32	-
92	Dp (proj) N edge NEB	01:14	-	310
93	Dc (proj) N edge NEB	01:23	-	316
94	Wc (streak) NEBn	01:34	-	328
95	Wc (oval) S edge NEB	01:43	61	-
96	Dp (RS) STrZ	02:00	-	338
97	Dc (proj) N edge NEB	02:02	-	339
98	Wp (oval) S edge NEB	02:12	79	-
99	Dc (RS) STrZ	02:16	-	348
100	Df (RS) STrZ	02:32	-	358
101	Wc (oval) S edge NEB	02:36	94	-
102	Wf (oval) N edge STB	(E)02:46	-	6
August 18, 1960; 165x; S - 4-1; T - 4-5:				
103	Wp (large oval) S edge NEB	00:46	184	-
104	Wc (large oval) S edge NEB	01:15	202	-
105	Wf (large oval) S edge NEB	01:26	209	-
106	Dp (proj) S edge NEB	01:26	209	-
107	Df (proj) S edge NEB	01:40	217	-
108	Wp (oval) S edge NEB	01:40	217	-
109	Wf (oval) S edge NEB	01:54	226	-

Remarks:
No. 103, 104, 105 are called "large" oval, as these appeared to be two smaller ovals within the large one, the division being 104.

August 19, 1960; 165x; S - 3-5; T - 4-5:				
110	Wc (oval) S edge NEB	(E)00:25	330	-
111	Wf (oval) S edge NEB	00:36	336	-
112	Wp (oval "loop fest") S edge NEB	00:48	343	-
113	Wp (oval) STeZ	00:57	-	242
114	Df (proj) N edge STB	00:57	-	242
115	Wc (oval) S edge NEB	01:00	351	-
116	Wf (oval) S edge NEB	01:11	357	-
117	Wf (oval) STeZ	01:20	-	254
118	Wc (nodule) S edge NEB	01:30	9	-
119	Dp (loop fest) NK S edge NEB	01:42	16	-

Serial No	Description of Feature	Transit Time U.T.	Longitude I	Longitude II
August 28, 1960; 165x; S - 1-3; T - 3-4:				
120	Wc (oval) S edge NEB	00:48	324	-
121	Wf (oval) S edge NEB	01:00	331	-
122	Wp (oval loop fest) S edge NEB	01:01	338	-
123	Wp (oval) STeZ	01:16	164	-
	Remarks: Above may not be too accurate due to very poor seeing.			
August 31, 1960; 165x; S - 4; T - 4:				
124	Wc (oval) S edge NEB	00:57	82	-
125	Wf (oval) STeZ	01:04	[illegible]	247
126	Dp (festoon) [illegible] N edge STB	01:04	-	247
127	Dc (proj) S edge NEB	01:10	90	-
128	Wp (oval) S edge NEB	01:57	119	-
September 5, 1960; 165x; S - 4-2; T - 4:				
129	Wf (oval) STeZ	00:11	-	246
130	Wp (oval) S edge NEB	00:26	132	-
131	Wf (oval) S edge NEB	00:52	148	-
132	Dc (proj festoon) S edge NEB	01:35	175	-
September 6, 1960; 165x; S - 2-1; T - 4:				
133	Dp (proj) S edge NEB	00:12	282	-
134	Df (proj) S edge NEB	00:19	286	-
	Remarks: Very poor seeing.			
September 8, 1960; 165x; S - 3-1; T - 2-3:				
135	Dp (RS) STrZ	00:09	-	335
136	Wp (oval) STB	00:13	-	337
137	Wf (oval) STB	00:30	-	348
138	Df (RS) STrZ	00:41	-	354

Geoffrey Gaherty, Jr; 8" Reflector:-

September 15/16, 1960; 180x; S - 1; T - 3:				
153	Dc (proj) S edge NEB	23:28	33	-
154	Dp (proj) S edge NEB	00:20	64	-
155	Dc (proj) S edge NEB	00:29	70	-

Serial No	Description of Feature	Transit Time U.T.	Longitude I	II
George E. Wedge;-				
August 18, 1960; 6" Refractor; 150x; S - 5-1; T - 4:				
14	Dp (low proj) S edge NEB	01:34	214	-
15	Dc (low proj) S edge NEB	01:38	216	-
16	Df (low proj) S edge NEB	01:41	218	-
August 19, 1960; 6.5" Refractor; 100x; S - 5-3; T - 3:				
17	Df (low proj) S edge NEB	00:15	323	-
18	Dp (low proj) S edge NEB	00:28	331	-
August 25, 1960; 6" Refractor; 150x; S - 2; T - 2:				
19	Df (low proj) S edge NEB	01:24	233	-
20	Dc (cond) NEB	01:54	251	97
21	Dc (low proj) S edge NEB	02:05	257	-
22	Df (low proj) S edge NEB	02:08	260	-

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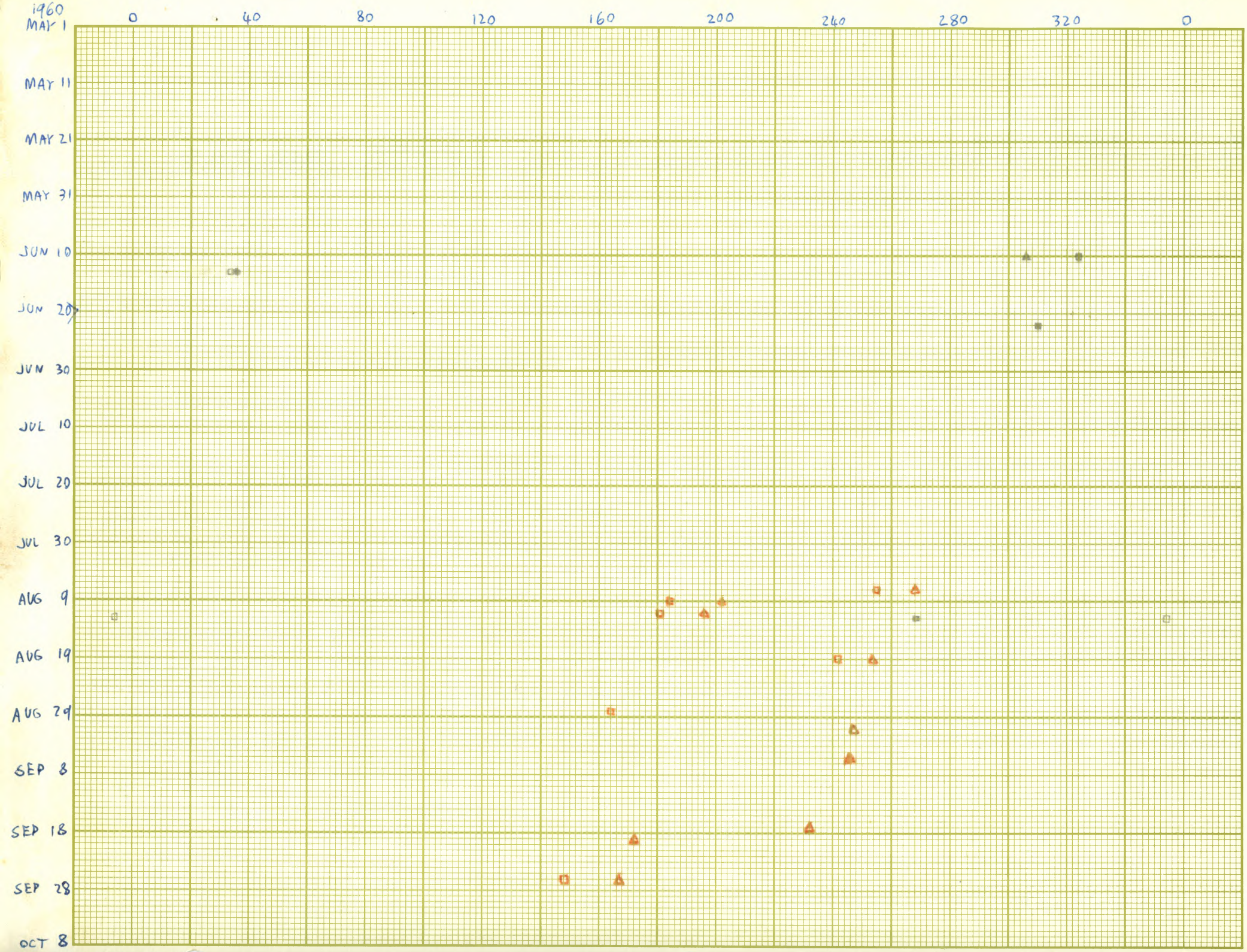
Montreal Centre

Jupiter - C. M. Transits

Serial No	Description of Feature	Transit Time U.T.	Longitude I	Longitude II
Klaus R. Brasch; 8" Reflector:-				
September 16/17, 1960; 165x; S - 0-3; T - 4-5:				
139	Wf (oval) STeZ	(E)23:45	-	232
140	Wp (oval) ~~NEB~~ S edge NEB	23:48	203	-
141	Wc (oval) S edge NEB	00:02	211	-
142	Dc (proj) S edge NEB	00:16	220	-
143	Wc (v large oval) S edge NEB	00:41	236	-
144	Dp (festoon) S edge NEB	01:08	251	-
September 18/19, 1960; 165x; S - 2-3; T - 4-5:				
145	Wf (oval) STeZ	(E)23:46	-	172
146	Wc (oval) S edge NEB	23:49	159	-
147	Dp (proj) S edge NEB	00:06	169	-
148	Df (proj) S edge NEB	00:22	179	-
September 21/22, 1960; 165x; S - 5-2; T - 4-2:				
149	Wc (oval) S edge NEB	23:53	274	-
150	Wf (oval) S edge NEB	00:05	282	-
151	Wp (oval) S edge NEB	00:57	313	-
152	Wc (oval) S edge NEB	01:09	320	-
153	Dp (festoon) S edge NEB	01:22	328	-
154	Wp (oval) S edge STB	01:36	-	330
155	Dp (RS) STrZ	01:48	-	336
September 25/26, 1960; 165x; S - 2-4; T - 4:				
156	Dp (base loop festoon) S edge NEB	23:02	155	-
157	Wc (oval) S edge NEB	23:22	167	-
158	Dp (festoon base) S edge NEB	23:36	176	-
159	Df (festoon base) S edge NEB	23:45	180	-
160	Wp (oval) STeZ	23:55	-	148
161	Wp (oval) S edge NEB	00:20	202	-
162	Wf (oval) STeZ	00:26	-	167
163	Wf (oval) S edge NEB	00:48	219	-
October 8, 1960; 165x; S - 2; T - 4:				
164	Dp (base fest) S edge NEB	23:24	58	-
165	Df (base fest) S edge NEB	23:38	66	-

Serial No	Description of Feature	Transit Time U.TT	Longitude I	Longitude II
October 10, 1960; 165x; S - 4-5; T - 2:				
166	Wp (oval) STeZ	22:48	-	199
167	Dp (base festoon) S edge NEB	22:54	355	-
168	Df (base festoon) S edge NEB	23:05	2	-
169	Wf (oval) STeZ	23:15	-	216
170	Wc (oval) S edge NEB	23:18	10	-
October 27, 1960; 165x; S - 4-1; T - 4-5:				
171	Wf (oval) STeZ	22:18	-	212
172	Wc (oval) S edge NEB	22:19	135	-
173	Wf (oval) S edge NEB	22:36	145	-
174	Wc (oval) S edge NEB	22:53	155	-
175	Dc (proj) S edge NEB	23:10	166	-
Geoffrey Gaherty, Jr; 8" Reflector:-				
October 17, 1960; 180x; S - 1-2; T - 3:				
156	Dc (proj : f base loop fest) S edge NEB	23:13	30	-
157	Df (proj : f base loop fest) S edge NEB	23:25	37	-

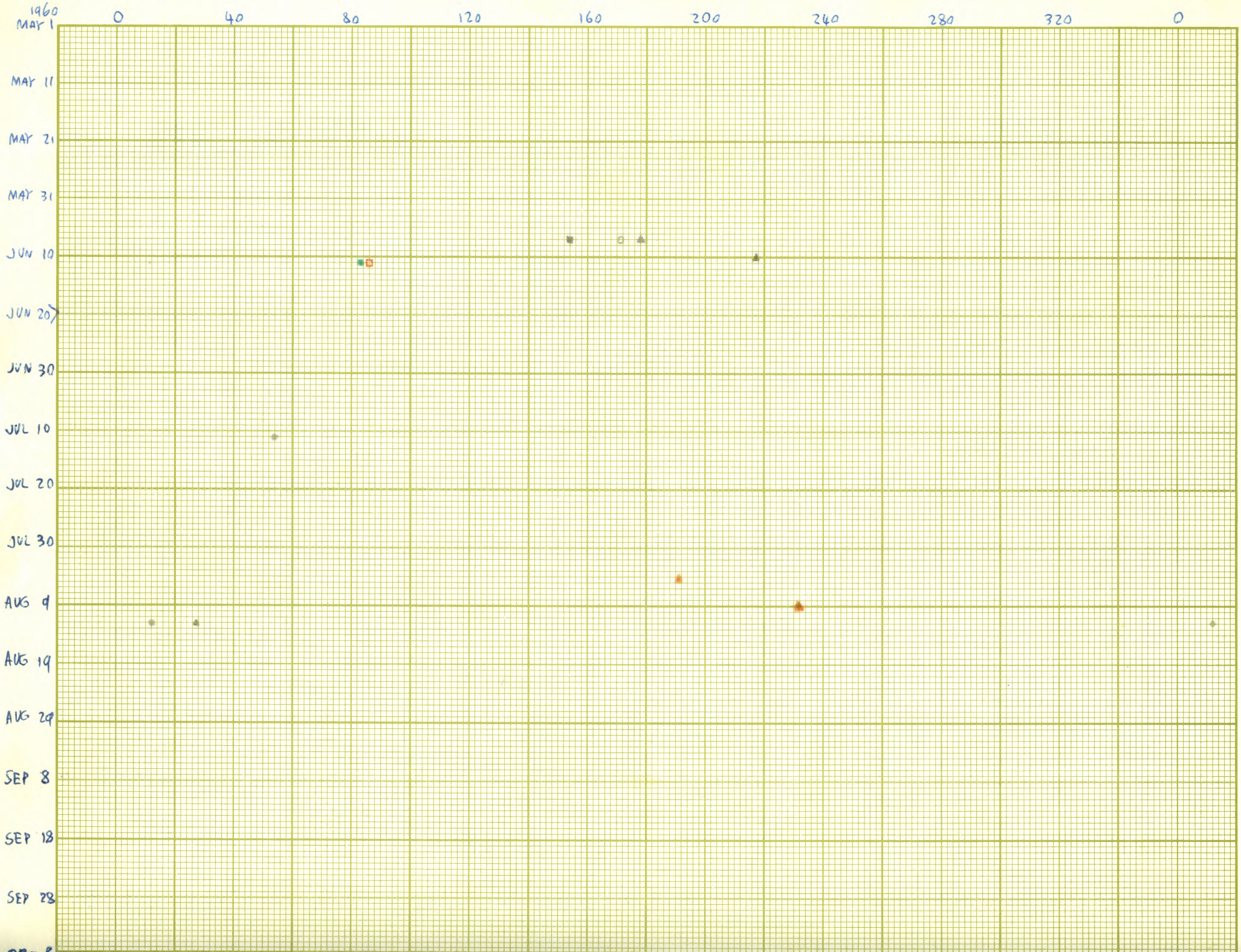
STeZ – SPR – SYSTEM II



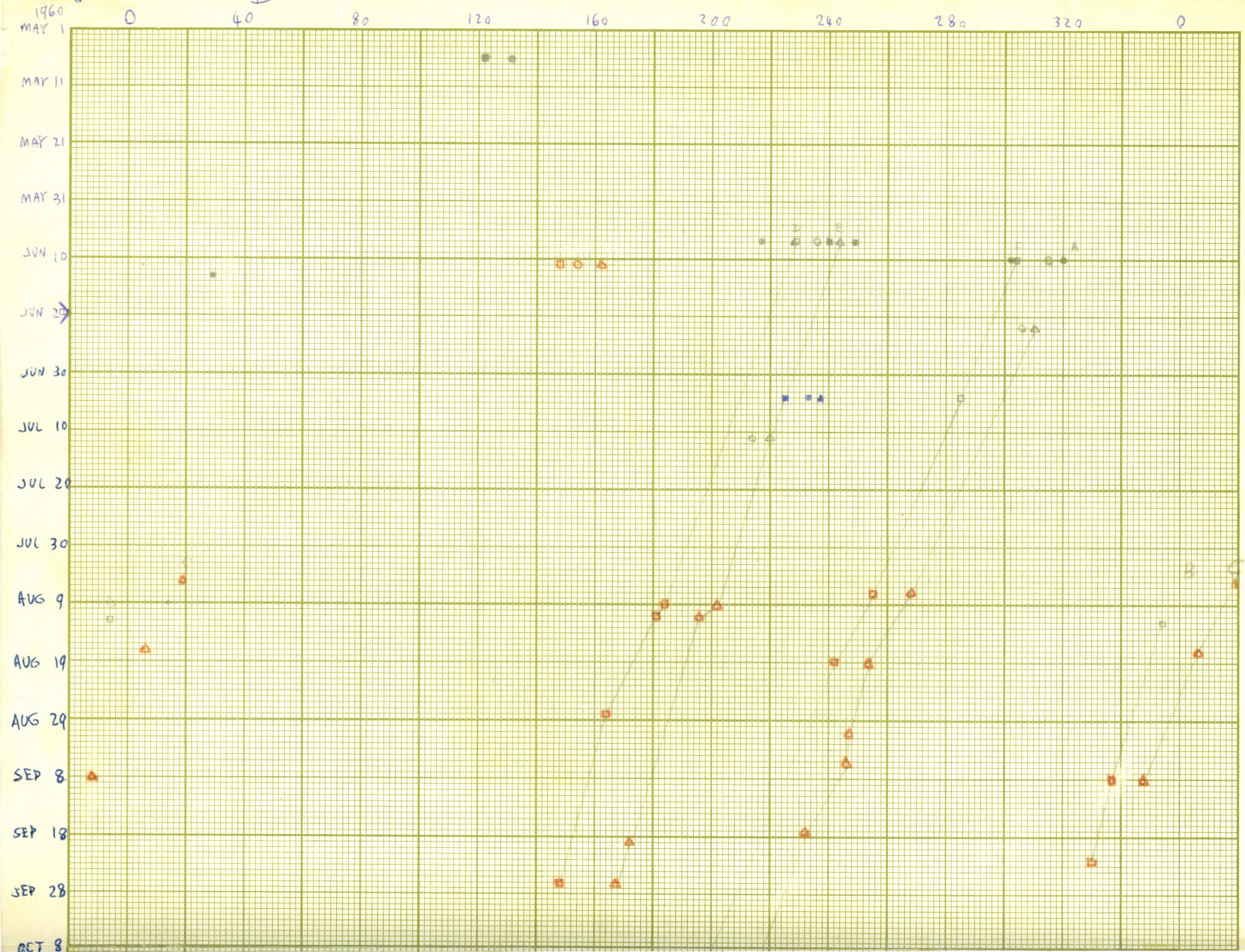
STrZ - SYSTEM III

SEBs - SYSTEM II

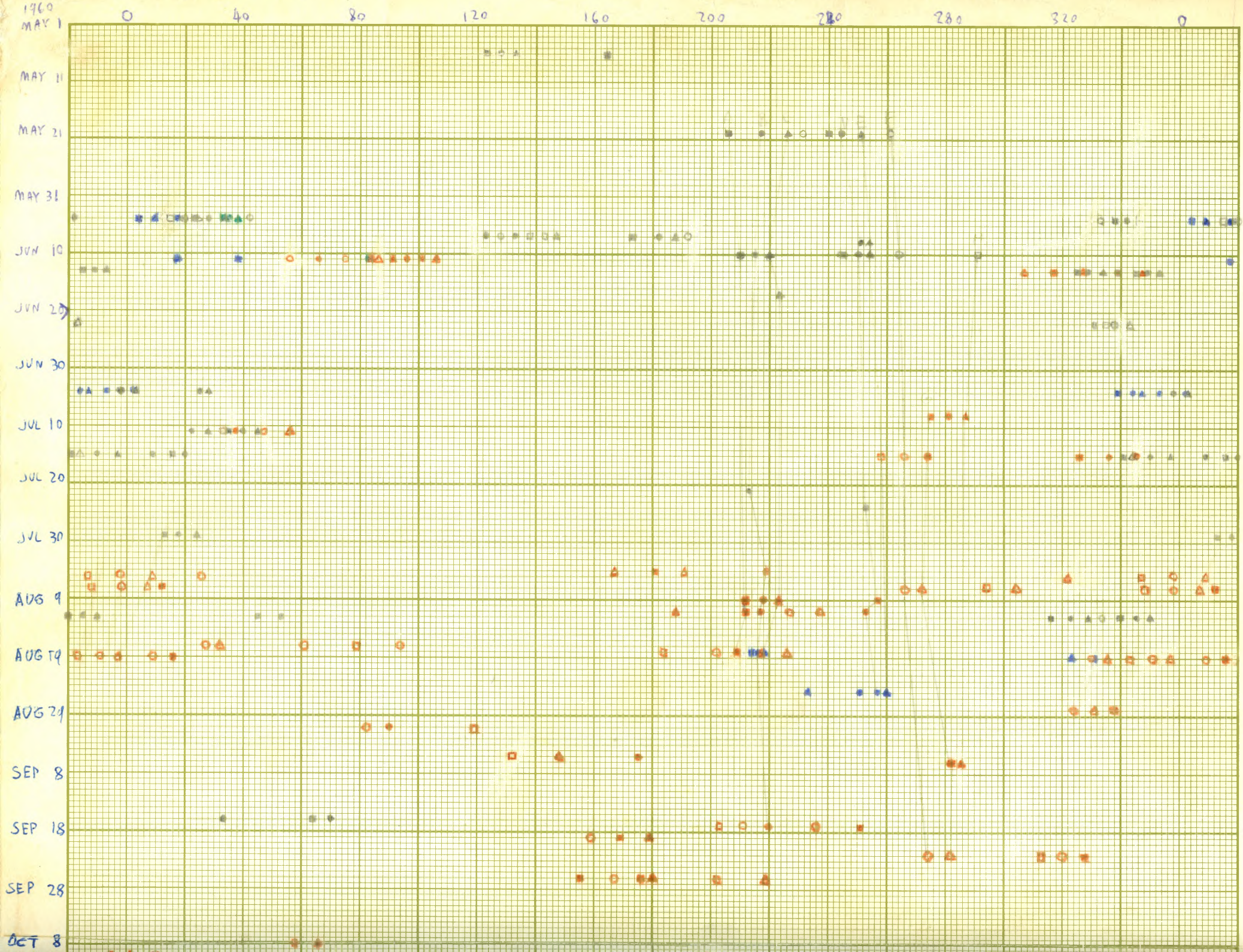
SEBN – SYSTEM I



STB – SYSTEM II

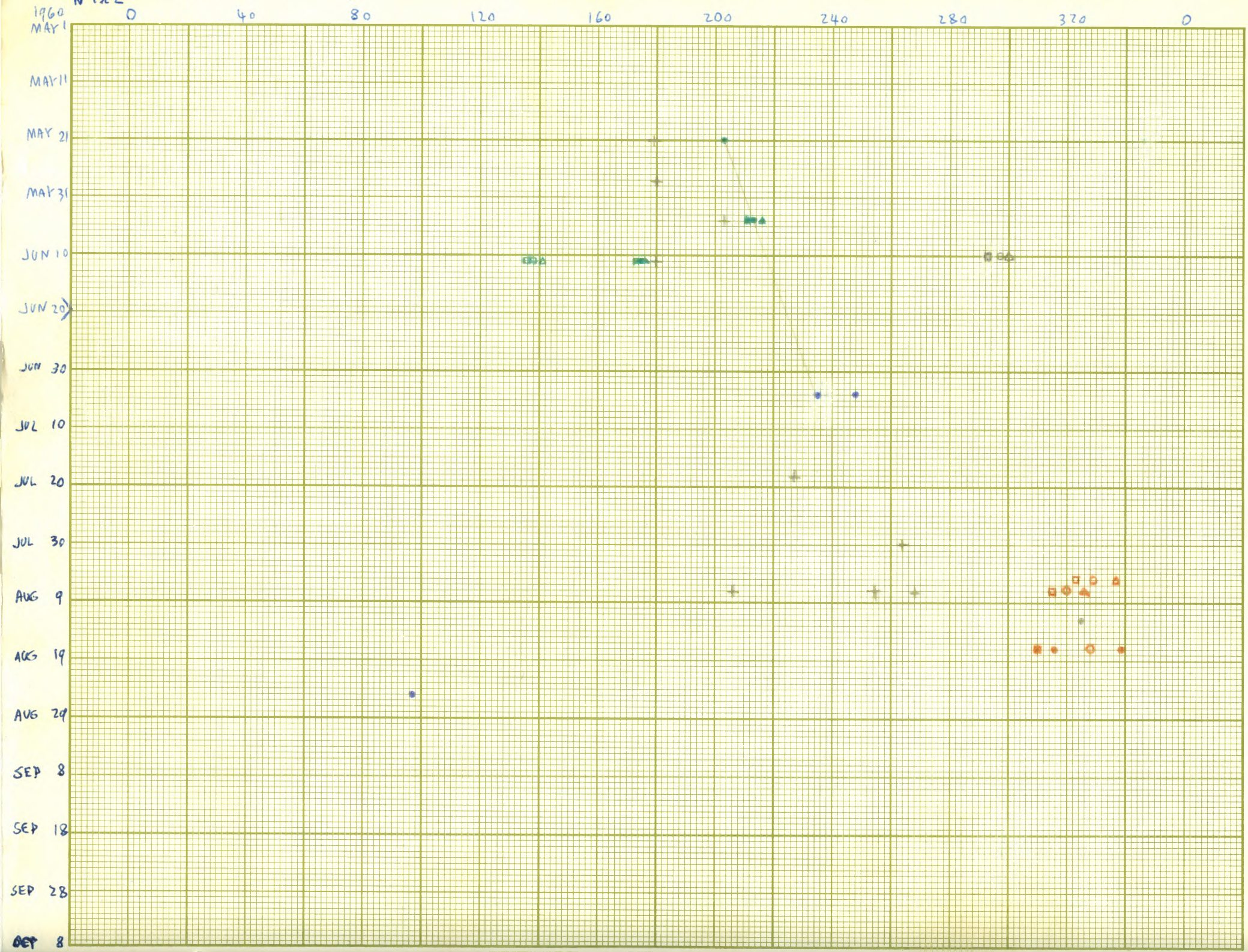


S EDGE NEB - SYSTEM I



N PART OF NEB - SYSTEM II

NTrZ



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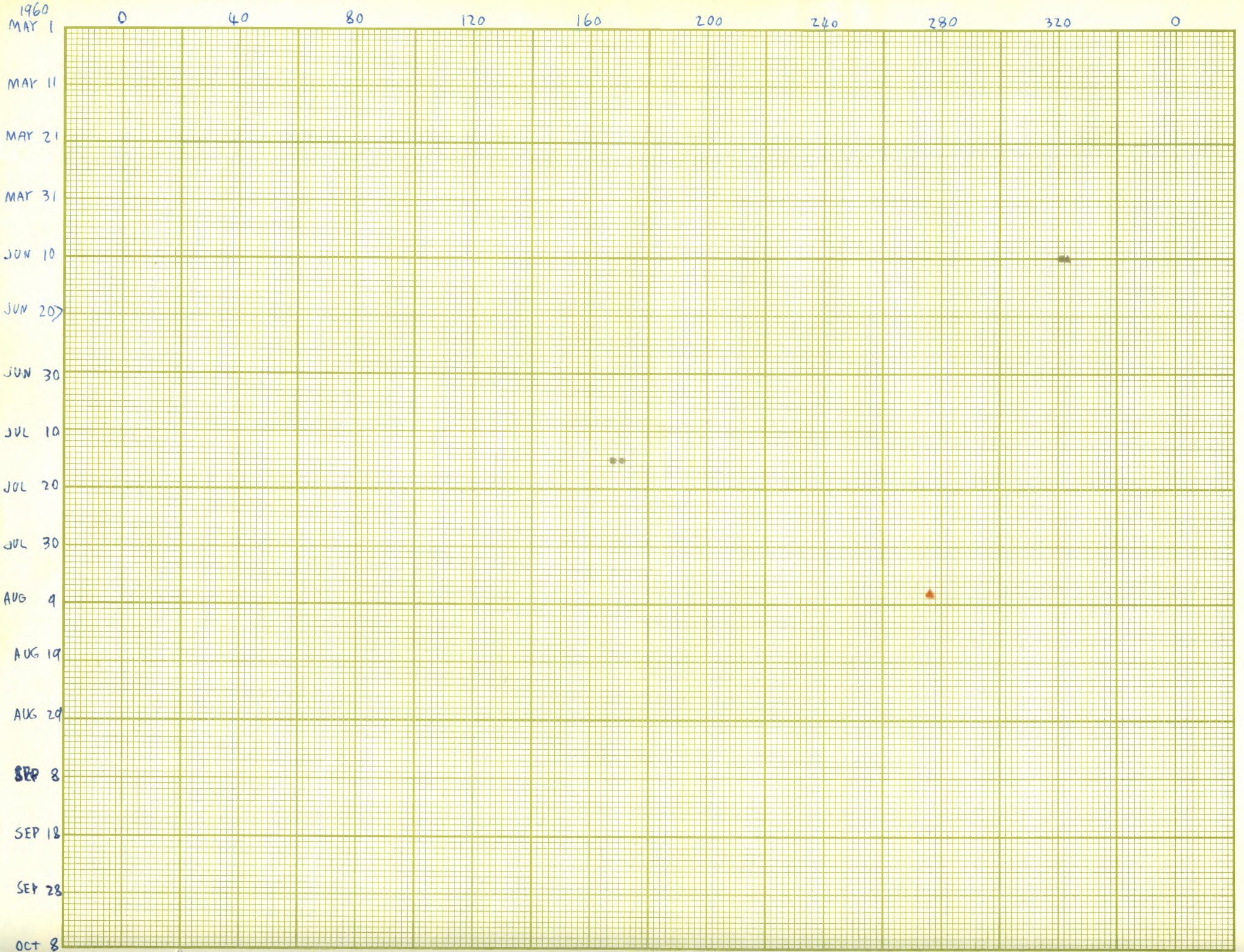

180 200 220 240 260 280 300 320 340 0 20 40 60 80 100 120 140 160 180

June 11

June 13

July 8

July 11

July 15

Aug. 4

Aug. 5

Aug. 9

Aug. 11

Aug 17

Aug 18

Aug. 19

Aug. 28

Aug. 31

Sept. 5

Sept. 6

17
Sept. 16

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Sep. 19

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Sep. 22

25
Sep. 26

Oct. 8-9

Oct. 10-11

27
Oct. 28