

Further Observations of Comet Coddington (c 1898). By
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Having now brought my observations of this comet to a close, I herewith, in accordance with my promise, forward to you my second, and last, series of positions. The whole work of the two series embraces 102 nights, from 1898 June 15, to 1899 February 15, 768 comparisons, and 137 comparison stars. The observations made on June 22, 26, 29, July 3, 5, 6, 21, August 19, September 7, 10, 30, October 18, November 2, December 11, January 6, 16, 30, and February 14, 15, were more or less unsatisfactory. The comparisons of September 10 were especially so, for three reasons. The difference of north polar distance of the two objects was so great that they were with difficulty embraced within the square bar-micrometer; secondly, the comet was almost in contact with a 9th magnitude star, and therefore rendered faint; and, thirdly, the second reappearances of the comparison star, and the first disappearances of the comet at the edges of the micrometer bars, were almost simultaneous. On January 16 I could not find the comet as a separate object, but I noticed that a star of the 9th magnitude, close to its ephemeris-position, appeared slightly nebulous as it disappeared and reappeared at the edges of the bars. This star, which is identical with No. 247 of Zone -50° of the *Cape Photographic Durchmusterung*, was therefore observed for the comet. The adopted mean places of the comparison stars are throughout the means, with equal weights, from the catalogues cited. An error, however, exists in the determination of the mean R.A. of Star No. 19 in my former communication. The seconds should be $34^s.89$ instead of $34^s.78$, and the seconds of the apparent R.A. of the comet for July 5 will accordingly be $20^s.02$.

Observations of Comet Coddington (c 1898).

April 1899. of Comet Coddington (c 1898).

Dates, 1898 and 1899.	Windsor Mean Time.		Comet—Star.		No. of Comps.	Comet's Apparent		R.A. N.P.D.	Log. pΔ for N.P.D.	R.A. N.P.D.	Comp. Star.
	h m s	h m s	Δ R.A. m s	Δ N.P.D. ' "		R.A. h m s	N.P.D. ' "				
Oct. 31	8 15 48	8 15 48	+5 37.25	+ 1 47.3	4	15 7 23.14	168 47 1.6	0.353	0.625	93	
Nov. 2	8 20 16	8 20 16	-3 37.35	+ 4 22.9	2	15 20 25.63	169 42 14.1	0.391	0.616	94	
5	8 19 17	8 19 17	+3 25.12	- 6 3.2	5	15 44 38.45	171 2 43.2	0.463	0.562	95	
10	7 50 36	7 50 36	-1 34.70	+ 0 51.1	3	16 45 41.36	173 2 36.5	0.607	0.123	96	
14	8 53 39	8 53 39	-9 27.57	- 7 3.7	3	18 3 46.52	174 10 32.0	0.684	0.102	97	
Dec. 1	8 46 5	8 46 5	-2 40.71	+ 6 5.8	5	23 23 37.80	169 35 55.7	0.146	0.728	98	
2	9 7 11	9 7 11	+8 26.14	- 6 26.8	5	23 31 50.90	169 1 31.1	0.173	0.699	99	
8	8 56 31	8 56 31	-0 37.16	- 3 13.0	8	0 8 43.30	165 25 29.5	9.979	0.700	100	
8	10 11 53	10 11 53	-0 21.63	- 5 15.9	8	0 8 58.83	165 23 26.6	0.161	0.550	100	
9	9 2 53	9 2 53	+9 44.66	- 0 36.8	4	0 13 28.13	164 47 37.7	9.980	0.686	101	
10	9 22 42	9 22 42	+4 54.07	- 5 28.6	8	0 17 57.55	164 9 2.4	0.018	0.649	102	
11	9 33 57	9 33 57	+4 3.18	- 5 17.7	6	0 22 9.93	163 30 21.8	0.029	0.621	103	
13	9 17 33	9 17 33	-1 48.30	+ 7 27.2	8	0 29 45.61	162 13 9.8	9.956	0.636	104	
29	9 7 21	9 7 21	+1 59.07	+ 4 17.6	6	1 12 10.18	151 37 5.5	9.791	0.460	105	
Jan. 1	8 50 5	8 50 5	-0 16.88	- 1 28.5	10	1 18 2.10	149 37 55.7	9.734	0.450	106	
2	9 3 20	9 3 20	+3 48.07	+ 1 7.6	6	...	...	9.766	0.396	107
2	9 3 20	9 3 20	+4 6.35	+ 8 17.1	6	...	...	9.766	0.396	108
3	8 51 56	8 51 56	-0 45.86	+10 4.5	6	...	...	9.734	0.408	109
3	8 51 56	8 51 56	-2 24.94	- 0 5.3	6	...	...	9.734	0.408	110
4	9 8 29	9 8 29	-6 50.07	+ 7 22.3	8	1 23 36.90	147 38 41.5	9.772	0.335	111	
6	9 5 14	9 5 14	-0 26.38	- 9 28.9	10	1 27 6.91	146 19 58.1	9.759	0.297	112	
7	8 57 3	8 57 3	-2 59.45	- 4 40.6	3	1 28 49.34	145 41 8.0	9.738	0.301	113	

Dates, 1898 and 1899.	Windsor Mean Time.		Comet—Star.		No. of Comps.	Comet's Apparent		Log. $\rho\Delta$ for		Comp. Star.
	h	m s	Δ	Δ N.P.D.		R.A.	N.P.D.	R.A.	N.P.D.	
Jan. 7	8 57	3	-7 10.55	+ 1 9.9	3	1 28	49.58	145 41	4.0	114
9	9 24	41	-6 23.79	+ 7 36.8	10	1 32	12.78	144 22	37.0	115
12	9 40	7	+3 10.49	+ 5 47.6	7	...	...	...	...	116
12	9 40	7	-6 16.09	+ 8 11.5	7	1 37	6.33	142 26	42.2	117
13	8 51	7	+8 9.21	+11 24.9	2	1 38	37.98	141 49	49.8	118
14	9 19	33	+0 26.08	+ 2 5.5	10	1 40	13.85	141 11	12.8	119
14	9 19	33	-1 55.50	- 8 14.7	10	1 40	13.92	141 11	11.8	120
15	9 31	19	+4 7.20	+ 0 9.6	7	1 41	47.70	140 33	13.2	121
15	9 31	19	-1 1.26	- 2 30.6	7	1 41	47.51	140 33	11.5	122
15	9 31	19	-5 12.76	- 9 19.3	7	1 41	47.86	140 33	13.1	123
16	9 27	35	+2 31.30	- 3 51.5	4	...	...	...	...	124
30	9 0	17	+1 47.31	- 3 7.6	6	...	...	...	...	125
Feb. 1	9 11	19	+7 8.66	- 6 32.0	7	2 6	4.71	130 29	23.5	126
1	9 11	19	+6 57.91	- 7 23.2	7	2 6	5.08	130 29	22.6	127
2	9 10	48	+5 22.86	- 5 10.3	8	2 7	25.59	129 56	11.8	128
3	9 6	2	-6 31.68	- 3 12.7	6	2 8	45.89	129 23	25.5	129
3	9 6	2	-7 48.41	- 6 27.6	6	2 8	45.56	129 23	23.8	130
6	8 58	58	-7 11.84	- 0 38.8	6	2 12	44.54	127 46	48.8	131
6	8 58	58	-7 32.63	- 2 24.7	6	2 12	44.90	127 46	46.2	132
9	8 49	9	-4 6.46	- 7 51.1	7	2 16	40.05	126 12	40.9	133
10	8 38	32	+1 42.14	+ 7 28.6	10	2 17	56.73	125 42	4.3	134
13	9 33	38	-1 53.39	- 5 34.6	4	2 21	52.66	124 10	22.2	135
14	8 36	26	-2 52.27	+ 8 5.3	8	2 23	6.32	123 41	38.8	136
15	8 27	54	-3 31.78	+ 9 26.8	3	2 24	22.34	123 12	42.6	137

Mean Places of the Comparison Stars for the Beginning of the Year of Observation.

Comp. Star.	Mean R.A.			Red. to App. R.A.	Mean N.P.D.			Red. to App. N.P.D.	Authorities.
	h	m	s		°	'	"		
93	15	1	44.04	+1.85	168	44	56.4	+17.9	Argent. Gen. Cat. 20477; Stone, 8214.
94	15	24	0.57	+2.41	169	37	33.5	+17.7	Gilliss' Cat. 1850, 10985.
95	15	41	10.48	+2.85	171	8	29.3	+17.1	Gilliss' Cat. 1850, 11203.
96	16	47	10.75	+5.31	173	1	29.9	+15.5	Gilliss' Cat. 1850, 12063.
97	18	13	5.03	+9.06	174	17	23.5	+12.2	Gilliss' Cat. 1850, 13100.
98	23	26	11.59	+6.92	169	29	55.2	-5.3	Gilliss' Cat. 1850, 16397.
99	23	23	18.03	+6.73	169	8	3.1	-5.2	Gilliss' Cat. 1850, 16376.
100	0	9	15.18	+5.28	165	28	49.2	-6.7	Argent. Gen. Cat. 139; Stone, 68.
101	0	3	38.30	+5.17	164	48	21.1	-6.6	Argent. Gen. Cat. 45; Stone, 22.
102	0	12	58.47	+5.01	164	14	37.8	-6.8	Gilliss' Cat. 1850, 104.
103	0	18	1.87	+4.88	163	35	46.4	-6.9	Gilliss' Cat. 1850, 164.
104	0	31	29.30	+4.61	162	5	49.8	-7.2	Argent. Gen. Cat. 534.
105	1	10	7.37	+3.74	151	32	55.6	-7.7	Argent. Gen. Cat. 1170; Stone, 480; suspected double.
106	1	18	17.63	+1.35	149	39	13.0	+11.2	Argent. Gen. Cat. 1312; Stone, 534.
107	1	16	7	+1.29	148	56		+11.2	Equatorial. 9½ mag.
108	1	15	49	+1.29	148	49		+11.1	Equatorial. 9½ mag.
109	1	22	29	+1.31	148	8		+11.0	Equatorial. 9½ mag.
110	1	24	8	+1.32	148	18		+11.1	Equatorial. 9½ mag.
111	1	30	25.64	+1.33	147	31	8.2	+11.0	Argent. Gen. Cat. 1536; Stone, 627.
112	1	27	32.05	+1.24	146	29	16.1	+10.9	Argent. Gen. Cat. 1479.
113	1	31	47.55	+1.24	145	45	37.8	+10.8	Argent. Gen. Cat. 1559; Stone, 637.
114	1	35	58.85	+1.28	145	39	43.3	+10.8	Argent. Gen. Cat. 1635; Stone, 669.
115	1	38	35.34	+1.23	144	14	49.6	+10.6	Argent. Gen. Cat. 1681; Stone, 683.
116	1	33	55	+1.12	142	21		+10.3	Equatorial. 8¾ mag.
117	1	43	21.24	+1.18	142	18	20.3	+10.4	Argent. Gen. Cat. 1759; Stone, 711.
118	1	30	27.70	+1.07	141	38	14.7	+10.2	Argent. Gen. Cat. 1534.
119	1	39	46.66	+1.11	141	8	57.1	+10.2	Argent. Gen. Cat. 1696; Stone, 686.
120	1	42	8.30	+1.12	141	19	16.3	+10.2	Argent. Gen. Cat. 1733; Stone, 702.

Comp. Star.	Mean R.A.	Red. to App. R.A.	Mean N.P.D.	Red. to App. N.P.D.	Authorities.
	h m s	s	° ' "	"	
121	1 37 39.43	+1.07	140 32 53.5	+10.1	Argent. Gen. Cat. 1665; Stone, 677.
122	1 42 47.67	+1.10	140 35 32.0	+10.1	Argent. Gen. Cat. 1746.
123	1 46 59.49	+1.13	140 42 22.2	+10.2	Argent. Gen. Cat. 1816; Stone, 738.
124	1 40 45	+1.07	140 0	+10.0	Equatorial. 9 mag. = Cape Phot. Durch. -50°.239.
125	2 1 34	+0.93	131 39	+8.7	Equatorial. 8½ mag. = Cape Phot. Durch. -41°.192.
126	1 58 55.17	+0.88	130 35 47.2	+8.3	Argent. Gen. Cat. 2046.
127	1 59 6.29	+0.88	130 36 37.5	+8.3	Argent. Gen. Cat. 2053.
128	2 2 1.85	+0.88	130 1 13.8	+8.3	Argent. Gen. Cat. 2110; Stone, 835.
129	2 15 16.63	+0.94	129 26 29.7	+8.5	Argent. Gen. Cat. 2377; Stone, 926.
130	2 16 33.02	+0.95	129 29 42.9	+8.5	Argent. Gen. Cat. 2406.
131	2 19 55.46	+0.92	127 47 19.4	+8.2	Argent. Gen. Cat. 2485.
132	2 20 16.61	+0.92	127 49 2.7	+8.2	Argent. Gen. Cat. 2489; Stone, 959.
133	2 20 45.63	+0.88	126 20 24.2	+7.8	Argent. Gen. Cat. 2506.
134	2 16 13.74	+0.85	125 34 28.2	+7.5	Argent. Gen. Cat. 2399.
135	2 23 45.21	+0.84	124 15 49.5	+7.3	Argent. Gen. Cat. 2565; Stone, 981; Radcliffe, 1890, 577.
136	2 25 57.75	+0.84	123 33 26.3	+7.2	Argent. Gen. Cat. 2617; Stone, 999.
137	2 27 53.28	+0.84	123 3 8.7	+7.1	Yarnall, 1165; Argent. Gen. Cat. 2657.

Observatory: Peninsula, Windsor,
New South Wales, 1899 Feb. 27.

Observation of Tuttle's Comet (b 1899) made with the 30-inch Reflector of the Thompson Equatorial at the Royal Observatory, Greenwich.

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On March 14 a photograph of *Tuttle's* Periodical Comet was obtained with the 30-inch reflector, with exposures of 10^m and 6^m. The positions of the comet and of eight comparison stars, as shown by the 10^m exposure, were measured, and the following place of the comet was obtained:—

Date.	G.M.T.	Apparent R.A.	Apparent Decl.	Log Δ.	Corr. for R.A.	Parallax Decl.
	d h m s	h m s	° ' "		s	"
Mar. 14	7 37 17	1 50 19.23	+29 31 41.4	0.2480	+0.24	+3.1