ASTRONOMISCHE NACHRICHTEN.

№ 2707.

Auszug aus einem Schreiben von Hrn. J. M. Thome, Director der Sternwarte in Cordoba.

betr. Bestimmungen von Vergleichsternen.

With regard to the determination of southern comparison stars, mentioned in your letter of 16th Sept., I may say that I shall be glad to undertake any southern observations that do not conflict too much with the regular work of the observatory. We have begun a Durchmusterung extending from Prof. Schönfeld's limit to the pole, and are also making meridian determinations of carefully selected stars for those regions where the Cordoba Catalogues lack completeness, with the hope of ultimately securing a net work of fixed points for each 3^m of RA. and 10′ of Decl. south of 23°.

National Observatory, Cordoba 1885 Dec. 2.

John M. Thome.

Catalogue No. 2 of Nebulae discovered at the Warner Observatory.

I wish to add the following remarks to No. 19 of Catalogue No. 1, A. N. 2683, which by an oversight was omitted. It was found 1885 Apr. 6, while searching for Tempel's Comet. On the 8th it was missing, the evening of the 7th having been cloudy prevented a search for it. A most determined effort to re-find it was made on the evening of the 8th and also on the 10th and 13th but in vain. Neither could it be found at Harvard College Observatory. It was very faint, and in several sweeps was overlooked, but when once found could be seen without difficulty. It was of course a Comet, but I thought at the time that the Decl. was too great to be Tempel's. No. 19 must therefore be struck out, and, with great probability No. 29 of this Catalogue also.

No.	Date of discov.	α 1885.0	δ 1885.0	Descriptions and remarks
1	1885 Sept. 20	$0^h\ 0^m23^s$	+31° 50′ 2″	e F; v S; e E; B * s; v F * v nr.
2	» » 20	0 0 52	+32 17 40	e F; v S; R; bet. 2 st.
3	» » 20	0 2 22	+31 52 47	e F; c E; v S; one of 5 st. which point to it is p nr.
4	» » 20	0 3 30	+32 12 47	e e F; l E; in center of 3 v F st. forming an equilatoral triangle, two of them double.
5	» » 20	0 3 42	+32 34 17	e F; S; l E.
6	» » 7	0 8 45	+47 36 30	e e F; p L; R; e diff. 1st of 3.
7	» » 7	0 8 55	+47 37 0	e e e F; S; R; middle one of 3 in a line. 2nd of 3.
8	» » 7	0 9 5	+47 36 45	p F; p S; R; B M. 3rd of 3.
9	» » 17	0 20 50	+31 4 15	e F; v S; R; forms right angle triangle with 2 st.
10	» » 17	0 42 50	+31 19 45	e F; v S; R; v diff.
11	1885 Oct. 1	0 51 40	+43 11 25	e e F; l E; p S; i R; D * close f; v diff.
12	1885 Sept. 6	1 1 30	+39 6 33	e F; e S; R; * nr.
13	» » 17	1 36 10	+12 0 50	p B; p L; v E; nearly bet. 2 p B st. If this is Stephan's No. 1 of his Catalogue of 60 nebulae, A. N. 2390, then his description is wrong in every particular.
14	» » 17	1 41 10	+12 32 37	e F; p S; R; bet. a D * and a * with a distant companion.
15	» » 12	1 50 50	+44 21 30	v F; p S; l E; several st. nr.
16	1885 Oct. 9	1 56 50	— 0 38 45	e e F; p S; R; s of 2.
17	» » 9	1 56 50	— 0 41 0	e e F; S; R; n. of 2.
18	1885 Sept. 20	1 57 10	+37 43 10	e F; p S; i R; D * close f; v diff.
19	» » 7	1 57 45	+30 16 45	e e F; v S; R; l b M; v diff.
20	» » 11	2 20 10	+45 27 5	e F; e S; R; 1 or 2 e F * close; e diff. Powers 132, 200 and 265.
21	» » 11	2 21 50	+45 24 0	e F; e S; R; B * nf; e diff. Powers 132, 200 and 265.

No.	Date of discov.	α 1885.0	δ 1885.0	Descriptions and remarks
22	1885 Sept. 18	$2^h 21^m 50^s$	+19° 4′ 29″	p B; p S; R; p. a p B * 6^s
23	1885 Aug. 16	2 38 50	+39 36 38	v F; p L; E.
24	» » 20	2 40 48	+40 46 2	v F; p S; D * nr.
25	1885 Sept. 6	2 45 23	+41 44 0	v F; p S; R; * nr n.
26	» » 12	2 56 35	+42 57 0	p F; p S; R.
27	» » 12	2 58 35	+43 36 45	p F; c E; p S; sev. v F st. nr.
28	1885 Aug. 20	3 3 43	+40 56 0	e F; v S; R. Components of a nr D * point to it.
29	» » 20	4 5 12	+27 24 30	v F; p L; R; l b M. Vid. Note.
30	1884 Nov. 24	5 1 5	− 3 29 45	Nebulous *; e F; p S; R; p. G. C. 1005 5^s and is about 1′.5 n. of it. G. C. 1005 is also a nebulous * = H. V32, which Auwers describes as being nr. and s. f. a B *. This B * is the above nova.
31	—	6 24 11	+ 5 7 32	p B; v v L; l E; H. VII; 2 near = G. C. 1424. Vid. Note.
32	1885 Sept. 7	8 1 35	+73 56 11	p B; p L; l E; l b M; * nr. Edward.
33	» » 7	8 8 0	+74 19 11	e e F; p S; R; sev. B st. nearly surround it.
34	» » 7	8 11 0	+74 22 11	e e F; p S; c E; bet. an e F *, and an unequal D *.
35	» » 7	8 11 30	+73 46 41	p F; v S; R.
36	1885 June 14	13 45 50	+38 51 20	e e F; p S; R; v diff.; 2 B st. nr.
37	1885 Aug. 5	15 32 5	+56 50 10	e S; R; stellar.
38	» » 5	15 32 45	+56 50 12	e e F; v S; R; l b M. In field with G. C. 4114-15.
39	1885 July 8	16 8 15	+70 12 29	v F; v S; R; * nr n.
40	—	16 15 33	+62 12 45	p F; v S; E; * nr.
41	1885 Aug. 3	16 29 45	+59 51 30	v F; p S; l E; v coarse D * nr., forming with it an equilatoral triangle.
42	1883 Oct. 30	16 30 0	+58 40 55	v F; p S; R; F * nr.
43	1885 Aug. 16	16 41 30	+61 47 54	p B; v S; R.
44	» » 11	16 47 0	+70 33 0	e e F; p L; R; bet. a B * and 3 st. in a line; v diff.
45	» » 13	16 56 40	+59 6 45	e F; p S; R.
46	» » 13	16 59 0	+59 8 15	e F; p S; R; * nr f; 2 B st. nearly point to it. n. of 2.
47	» » 13	16 59 0	+59 6 15	e e F; e S; R. s. of 2.
48	1885 July 8	17 1 10	+61 12 3	e F; E; sev. v F st. nr.; v diff.
49	» » 8	17 2 5	+62 11 5	p B; p S; R; bet. 2 st.; sp. of 2.
50	1885 Aug. 1	17 2 10	+62 11 10	v F; e S; R; bet. 2 st.; nf. of 2.
51	1885 July 8	17 6 11	+60 52 5	v F; v S; l E. Close to 4278. sp. of 2.
52	» » 8	17 6 28	+61 7 30	p F; v E; 3 st. in line point to it; nf. of 2.
53	1885 Aug. 1	17 16 30	+61 54 10	v F; v S; R; forms are of circle with 2 st., neb. between.
54	1885 Sept. 11	17 19 40	+29 29 45	p F; v S; R; F * close; stellar.
55	1883 Aug. 17	17 36 20	+68 13 35	e e F; e S; R; e diff. n. of 2.
56	» » 17	17 36 20	+68 6 50	e e F; e S; R; e e diff. s. of 2.
57	» » 1	17 36 40	+68 7 20	e F; p S; R; nearly bet. a F and a B *.
58	» » 1	17 37 10	+68 13 20	e e F; v S; R; * nr. east; v diff.
59	1885 Aug. 5	17 37 10	+70 3 0	v F; p S; R.
60	1885 July 16	17 41 55	+53 35 13	v F; p S; R; l b M.
61	1884 July 1	17 42 30	+18 37 0	v F; v S; B * f. 8^s; bet. 2 st.
62	1885 July 12	18 9 30	−19 55 1	A nebulous D *; p F; sf. of 2. A D * in center of a p F, p L circular atmosphere, each * of the 8.5 mag. and about 20″ distant. A wonderful object, not diff.
63	1885 July 12	18 9 28	−19 50 1	Another D * in center of an e F, p L nebulosity; np. of 2. Except the inequality of the stars and the excessive faintness of the nebula, it would resemble the preceding.
64	» » 14	18 13 15	+22 11 18	v F; e S; e E; forms S. equilatoral triangle with 2 F st.
65	1885 Aug. 11	18 13 40	+68 13 57	v F; p S; R; s. of 2. Double.
66	» » 11	18 13 40	+68 14 7	v F; p S; R; forms an e close double with the preceding. Very difficult to separate with a power of 265. Well seen.
67	1883 Sept. 11	18 25 45	+67 56 15	v F; v S; R; 2 st. range with it.
68	1885 July 14	18 29 45	+22 39 33	p B; p S; R; m b M; bet. 2 st. Larger and b than 5918.
69	1883 Sept. 11	18 30 50	+67 54 15	v F; p L; l E; v F D * nr.
70	1884 June 17	18 39 30	+59 15 45	e e e F; in vacancy p L; sev. B st. f. and p. it; e diff.

No.	Date of discov.	α 1885.0	δ 1885.0	Descriptions and remarks
71	1883 Aug. 6	$18^h 41^m 45^s$	$+60° 32' 17''$	p B; p S; v E; F * close to f. end.
72	1885 Aug. 5	18 45 45	+47 31 5	v F; p S; R; l b M.
73	1885 Sept. 10	18 58 50	+59 0 15	v F; v S; R.
74	1884 Aug. 15	19 2 25	+55 32 12	p F; v E; 3 v F st. curiously placed in it on the line of major axis which also point to a D *.
75	1884 Apr. 30	19 4 30	+63 44 50	e F; v E. s. of 2.
76	1883 Aug. 30	19 4 30	+63 45 20	e F; v S; c E; F * nr; D * in field. n. of 2.
77	1885 July 4	19 5 20	+50 44 53	p F; p L; c E; sev. v F st. involved.
78	1885 Sept. 10	19 14 20	+60 13 0	e e e F; p S; 4 st. in semi circle sf.; e diff.
79	1885 July 5	19 19 45	+60 55 17	v F; p S; v E in meridian.
80	1885 Aug. 5	19 21 15	+53 23 25	F; v S; R; * v nr; in field with 51 Draconis.
81	1885 Sept. 10	19 35 45	+62 7 45	e e F; p S; l E; a curve of st. w. like Northern Crown.
82	1884 Sept 18	19 41 0	+63 47 30	e F; v S; F * nr.; v diff. Edward.
83	1884 Aug. 26	20 0 5	+65 55 15	p B; R; p S; 2 B st. and it form an arc of a circle.
84	1885 June 9	20 18 30	+66 22 10	e F; L; l b M; p B * nr.
85	1885 Sept. 14	20 35 35	+65 42 12	p B; p L; l E. Discovered many years ago with $4\frac{1}{2}$ inch.
86	» » 14	20 36 28	+65 21 42	e e e F; p L; R; e e diff.
87	» » 11	21 0 10	+11 0 50	p F; p S; R; l b M.
88	1884 Oct. 10	21 30 45	+12 15 54	Nebulous *; B *; in e e F nebulosity; v diff.; nearly pointed to by 3 st. in a line. Vid. Note.
89	» » 18	21 42 0	+ 9 42 20	v F; p L; l E; bet. 2 st.; 5 st. w. ? in form of a pyramid. My memory locates the stars east of the nebula.
90	1884 Nov. 9	21 58 2	+12 6 40	v F; S; R; l b M; s. of 2.
91	» » 9	21 58 2	+12 7 40	e e F; R; v diff.; n. of 2.
92	» » 18	22 35 10	— 5 0 34	v F; p S; R.
93	» » 15	22 47 0	— 9 51 32	e F; p L; mistaken for Barnard's Comet 1884 II.
94	1885 Oct. 31	22 52 37	+13 41 22	e e F; L; R; F * nr nf.; v diff. Nearly in finder field with α Pegasi.
95	1884 Oct. 14	22 55 20	+ 6 7 42	e e e F; p L; R; e diff.; np. of 2.
96	» » 14	22 55 30	+ 6 40 42	e F; c E; p S * nr p. Found while searching for Encke's Comet 1885 I.
97	» » 14	22 55 40	+ 6 7 40	e e F; p L; R; * nr. sf. of 2.
98	1885 Oct. 31	23 3 5	+11 25 49	e F; l E; S; 9^m * close nf.
99	1884 Oct. 10	23 6 30	+30 29 43	B; p L; R; B M. Easy in presence of a half moon.
100	1885 Oct. 31	23 21 40	+11 45 4	e F; p S; R; v diff.; G.C. 4966 near; H. is wrong and h. right as to brightness of a 4966.

Notes.

No. 29. Resembles a Comet. Moonlight and clouds prevented verification until Sept. 6, when it could not be found. Am certain of its place, and of its configuration with 4 stars. Have examined the place three times and am certain of its absence. Seeing on one occasion as good as when discovered.

No. 31. This remarkable object was discovered many years ago while sweeping for Comets, but until 1881 I supposed it was a well known nebula. Like the Merope nebula it requires a low power and a large field to see it well, and, like it, is also much obscured by a cluster of bright stars. It slightly precedes and is a little north of the cluster, and at first would naturally be mistaken for a glow from it.

Through ordinary telescopes it appears to have no visible boundaries, but through my 16 inch refractor it once under excellent seeing conditions presented outlines sharp and distinct of an exact ellipse, with a pretty large easily seen nebula at each foci. I know of but two nebulae visible from this latitude that surpass it in size, viz. the Orion and Andromeda nebulae.

Prof. Barnard has often seen it, at first like myself thought it might be a comet. At my request he re-observed it on Oct. 31, and the above place is as determined by him. He estimates it to be one degree in length by a half degree in breadth.

No. 88. This is a prototype of G. C. 4634 and several others, and, of No. 7 of my Catalogue No. 1, A. N. 2683, which differ from most neb. st. by being exactly in the center of circular nebulous atmospheres of uniform brightness.

Warner Observatory, Rochester N. Y., 1885 November. *Lewis Swift.*