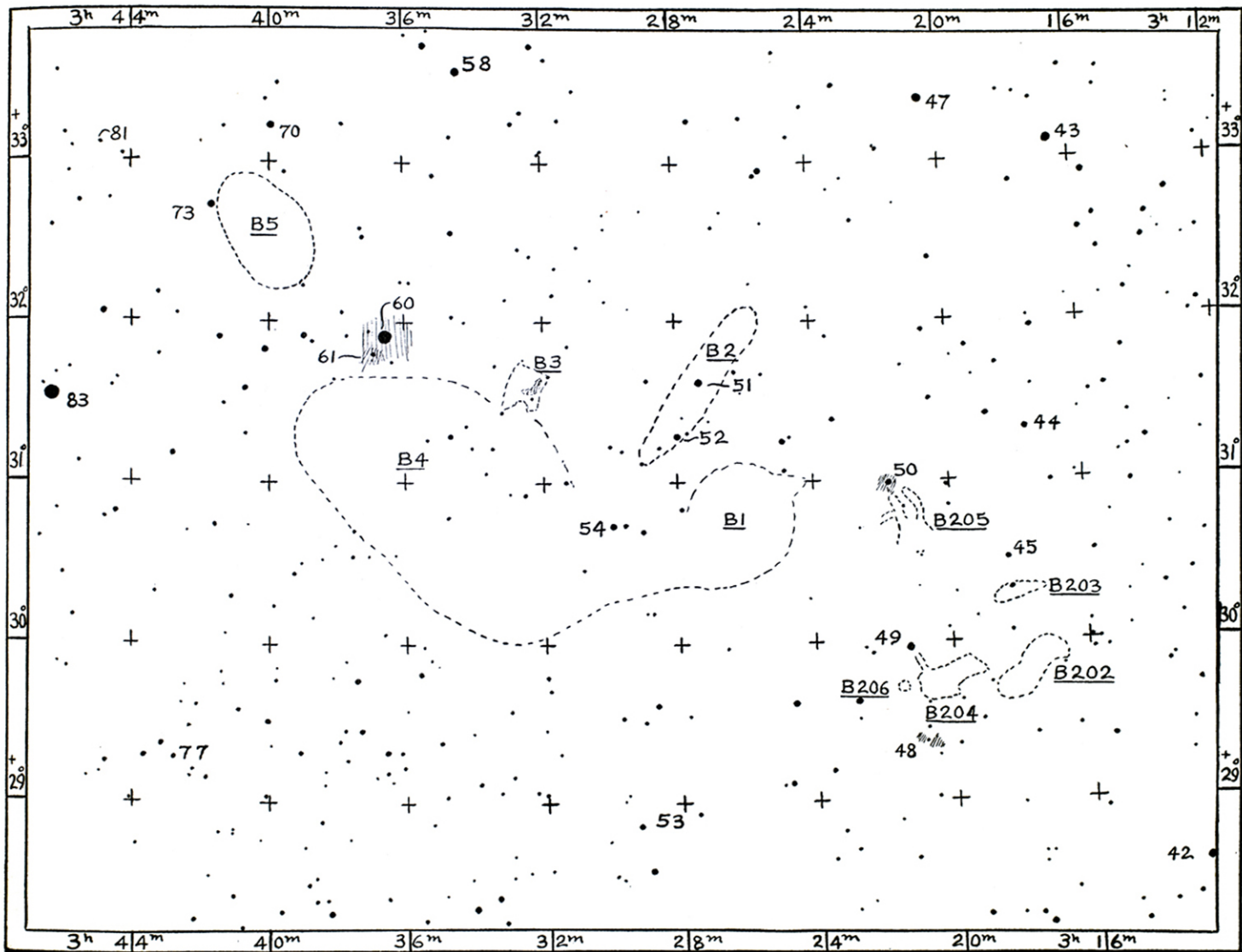


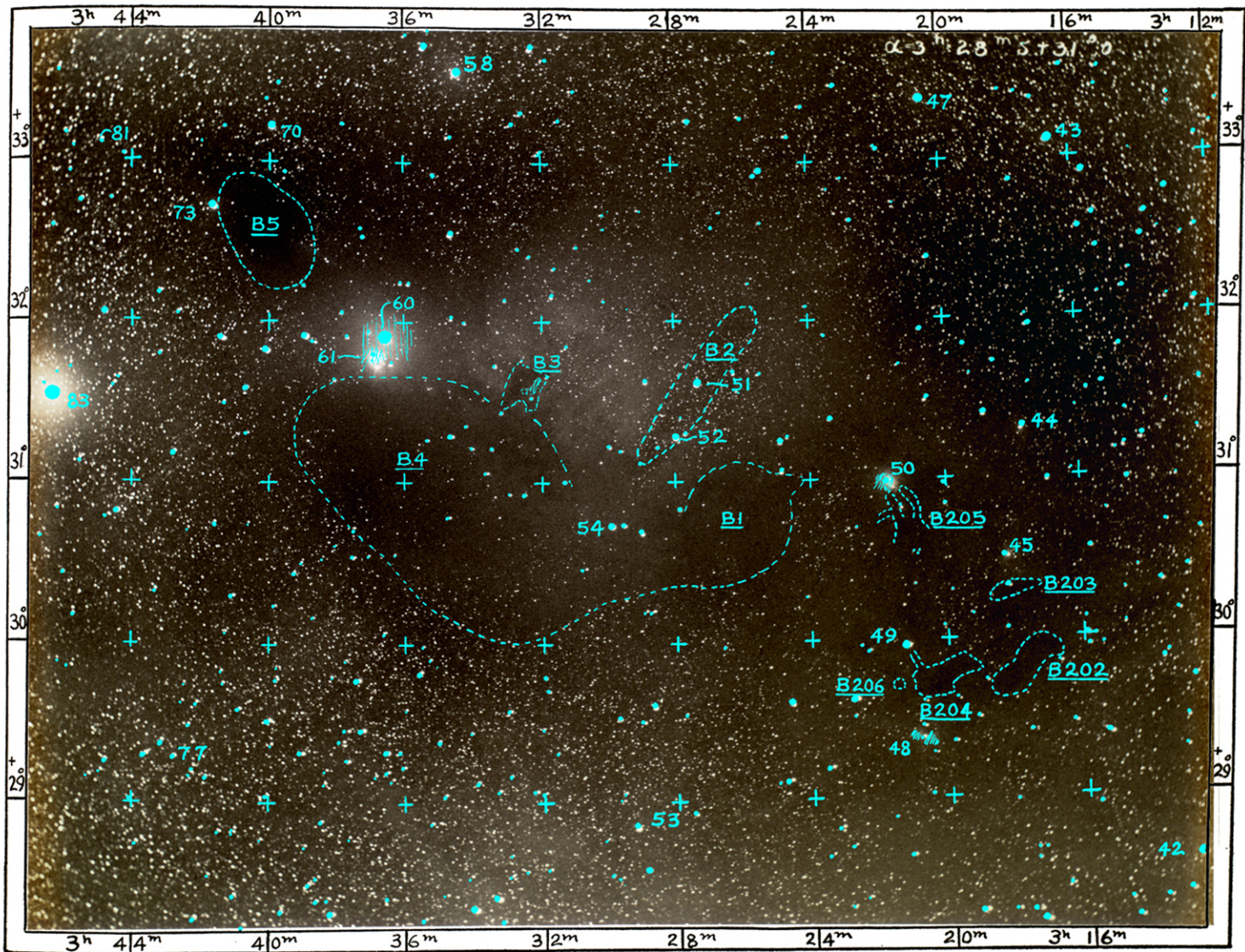
CHART 3



IN PERSEUS AND TAURUS

$\alpha = 3^{\text{h}}29^{\text{m}}30^{\text{s}}$ $\delta = +31^{\circ}0'$

CHART 3



IN PERSEUS AND TAURUS

$\alpha = 3^{\text{h}}29^{\text{m}}30^{\text{s}}$ $\delta = +31^{\circ}0'$

TABLE 3

OBJECTS ON PLATE 3 INDICATED ON CHART 3

No.	OBJECT	D.M. MAG.	α 1875.0		δ 1875.0		H.D. MAG.		SPEC- TRUM	REMARKS
							Ptm.	Ptg.		
42	B.D.+28°516	5.2	3 ^h 12 ^m 46 ^s .8	+28°35'6	4.72	5.90	K5			
43	B.D.+33°636	5.5	3 16 41.0	+33 5.5	5.64	5.64	A0			
44	B.D.+31°597	7.0	3 17 40.8	+31 17.3	7.49	8.49	K0		Nebulous	
45	B.D.+30°540	8.8	3 18 9.4	+30 29.3	....	....	...		Nebulous
47	B.D.+33°656	6.0	3 20 29.9	+33 22.4	5.60	5.60	A0			
48	B.D.+29°565	9.1	3 20 43.0	+29 21.8	....	....	...		Nebulous
49	B.D.+29°566	6.8	3 21 7.0	+29.56.4	7.06	6.89	B3			
50	B.D.+30°548	Neb.	3 21 37.4	+30 57.4	....	....	...		N.G.C. 1333
51	B.D.+31°616	6.5	3 27 14.1	+31 35.8	6.62	6.90	F0			
52	B.D.+31°619	7.0	3 27 51.5	+31 15.7	6.83	7.11	F0			
53	B.D.+28°548	6.8	3 29 1.1	+28 48.4	6.63	6.77	A5			
54	B.D.+30°558	7.1	3 29 44.8	+30 42.3	7.01	7.43	F5			
58	B.D.+33°698	4.8	3 34 27.5	+33 33.7	5.04	4.85	B2		40 Persei	
60	B.D.+31°642	3.8	3 36 29.0	+31 53.4	3.94	3.72	B1		38 o Persei	
61	B.D.+31°643	8.2	3 36 44.5	+31 45.9	....	....	...		Nebulous
70	B.D.+33°717	7.0	3 39 57.2	+33 12.6	6.36	6.19	B3			
73	B.D.+32°667	5.8	3 41 38.8	+32 42.4	5.10	5.16	A2		42 η Persei	
77	B.D.+29°632	7.8	3 42 27.2	+29 15.7	7.9	7.9	A0			
81	B.D.+33°731	8.5	3 45 2.1	+33 6.7	8.7	9.0	F2			
83	B.D.+31°666	3.0	3 46 16.7	+31 30.6	2.91	2.69	B1		ζ Persei	

DARK OBJECTS

B 202	3 ^h 18 ^m 0	+29°8	B 1	3 ^h 25 ^m 2	+30°7
203	3 18.2	+30.3	2	3 25.7	+31.9
204	3 20.8	+29.8	3	3 32.2	+31.6
205	3 20.8	+30.7	4	3 36.2	+31.4
206	3 21.5	+29.8	5	3 40.0	+32.5

PLATE 3

IN PERSEUS AND TAURUS

$\alpha = 3^{\text{h}} 29^{\text{m}} 30^{\text{s}}$, $\delta = +31^{\circ} 0'$
1914 November 21.701
Scale: 1 cm = 18'.2, or 1 inch = 46'.2

Galactic Long. = 127°, Lat. = -18°
Exposure = 6^h 41^m

This is a region of obscure and obscuring nebulosity, which lies mainly west and southwest of Omicron Persei,¹ but which also seems to affect the entire plate. This nebulosity is clearly shown by the relative blackness of the large spot 1° northeast of Omicron Persei. This spot (which is B 5 of the list of dark objects) is intensely black, so black indeed that every other portion of the plate is more luminous than it. It is 16' west of Eta Persei, of magnitude 5.8 (No. 73 in the list of stars). It resembles the spots B 48 and B 58 which are shown on Plate 16. I believe that a very long exposure with a great reflector will show the dark body.

A large nebulosity occupies the center of the plate, gradually merging into the large apparent vacancy south of Omicron. This apparent vacancy extends nearly to the western edge of the plate and although few stars are in it, it is filled with obscure matter. Nearly one degree west of Omicron and slightly south is a triangular dark spot, B 3, in the brighter nebulosity. Beginning at about $\alpha = 3^{\text{h}} 26^{\text{m}}$, $\delta = +32^{\circ} 5'$ and ending at $\alpha = 3^{\text{h}} 29^{\text{m}}$, $\delta = +31^{\circ} 0'$ there is apparently an opening in the visible nebulosity which shows some of the unobscured background of small stars beyond. This background of stars is more or less obscured by the nebulosity elsewhere, and entirely disappears in the darker regions. The dark or obscuring nebulosity extends to the limit of the plate to the south and southwest. To the right and below the center are many dark spots in the obscure nebulosity.

All of the southern part of the plate, up to at least $\delta = +30^{\circ}$, is noticeably covered with a film of faint nebulosity. At the lower edge, extending from $\alpha = 3^{\text{h}} 28^{\text{m}}$ to $\alpha = 3^{\text{h}} 37^{\text{m}}$, and as far north as $\delta = +29^{\circ}$, are seen some of the brighter portions of the nebulous wisps that originate about the Pleiades. In places they merge into the nebulosity of the present plate. In the

upper right corner, in $\alpha = 3^{\text{h}} 14^{\text{m}}$, $\delta = +33^{\circ} 20'$, there seems to be a large mass of diffused and faint nebulosity.

About 7' southeast of Omicron Persei is a small star (B.D. +31°643 of magnitude 8.2 = our No. 61) involved in dense nebulosity which extends faintly for 20' or more all about it, apparently enveloping Omicron. Closely south of this star are several very small nebulous stars from which the nebulosity extends in streams southward for 5' or 6'. A very small, bright nebula, like a nebulous star, is 7' east and slightly north of Omicron Persei. This is slightly west of and involves a small star not in the *Bonner Durchmusterung*.

Situated a degree and a half (2 inches) west of the center of the photograph is N.G.C. 1333 (No. 50) in which is the 9.5 magnitude star B.D. +30°549. The nebula (which also has the B.D. number +30°548) is round, 7' in diameter, with a brighter nebulous strip in it running southwest from the star. Another thin, short strip of nebulosity lies closely south of this one, extending northwest and southeast. About 55' northwest and at the same distance southwest of the nebula are the stars B.D. +31°597 (No. 44) and B.D. +30°540 (No. 45) of magnitudes 7.0 and 8.8 respectively. These stars seem to be closely involved in nebulosity, as they appear hazy. In the lower right part of the plate B.D. +29°565 (No. 48) of magnitude 9.1 (about 1½' south and slightly west of N.G.C. 1333) has a nebulous wing east and another west of it.

For a general description of the nebulosity in the region of Omicron Persei see the *Astrophysical Journal*, **41**, 253, 1915 and *Monthly Notices of the Royal Astronomical Society*, **60**, 261, 1900. The proof of the existence here, over a large part of the sky, of dark and partly dark obscuring matter is quite conclusive. The original negative, No. 933, was made at the Yerkes Observatory.

¹This is Flamsteed's 38 Persei, not to be confused with his 40, to which the Latin letter o was assigned.