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OBSERVATIONS OF SUSPECTED VARIABLES IN THE FORNAX CONSTELLATION

In a 5x5 degree field centered on the dwarf spheroïdal galaxy Fornax (2^h38^m -34°39' [1950]) there is no known variable stars. This field contains, however, three stars listed in the 1982 edition of the New Catalogue of Suspected Variable Stars (NSV). They are no. 863, 917 and 919.

During the course of a photographic survey of the red variables of the Fornax system; twenty one UK Schmidt IIaD + GG495 plates, were measured with the APM in Cambridge UK. Because the three above suspected variables are on our plate, we investigated their variability.

We therefore present our findings for these three stars. The newly determined coordinates are accurate to 2 arc seconds. The quoted (B-V) colors are based on only one B measure.

NSV #863 RA = $2^h38^m28.^s0$ dec = -34°51'25" (1950)

Identification with CoD -35 886 is confirmed. This star is a low amplitude Population II Cepheid with a period P = 7.60146 days $\langle V \rangle$= 11.31 (B-V) = 0.4. Its light curve is presented in Fig. 1 and its visual magnitudes are listed in the Table I.

TABLE I

V Magnitudes of Suspected Variables

JD	NSV 863	NSV 917?	NSV 919
2440000.0+			
4458.20	11.25	16.92	9.81
4482.23	11.31	16.98	9.95
4511.17	11.16	16.93	9.89
4844.29	11.35	16.96	9.98
4869.25	11.16	16.93	9.90
4931.15	11.29	17.04	9.97
4940.02	11.46	17.01	9.93
4956.95	11.46	17.07	9.98
4967.97	11.22	17.02	9.97
5194.29	11.24	16.91	9.97
5202.29	11.19	16.94	9.95
5212.28	11.27	16.98	9.91
5280.07	11.18	17.03	9.99
5641.11	11.38	16.87	9.79
5664.02	11.41	16.91	9.89
5676.98	11.37	17.02	9.94
5695.98	11.25	17.01	9.92
5915.28	11.35	17.03	9.85
6019.05	11.43	16.88	9.91
6047.00	11.26	16.93	9.86
6074.96	11.44	17.07	9.98

NSV #917 = HV 11094 no magnitudes given

This star was discovered by Mayall (1951) who gives a spectral type Me and calls it a long period variable. A note states: "South preceding CoD -36 1043". The arrow on the finding chart points toward this CoD star and there is no obvious south preceding star (which should be, if

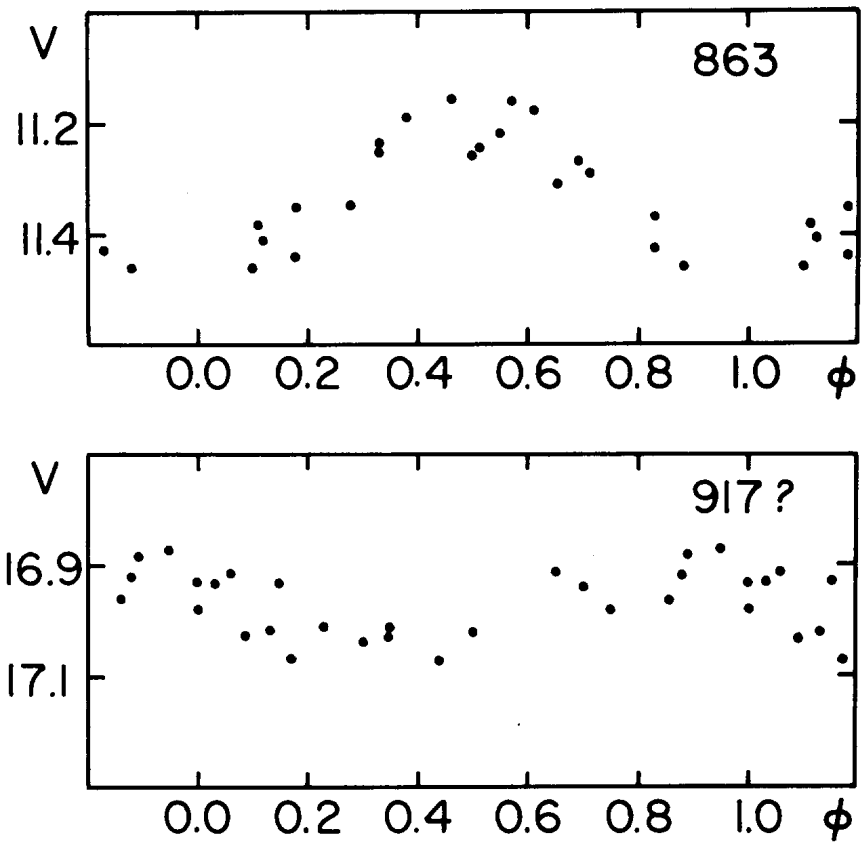

Figure 1

present, under the arrow). All the stars on Mayall finding chart have been measured on our plates. The reddest star in this small field is 109" southwest of CoD -36 1043. This "south preceding" star has an apparent visual magnitude of 17 and it appears, to us, very unlikely that the Harvard 10-inch objective prism patrol would have picked up such a faint object. We therefore cannot confirm that this faint star is indeed #917. This red star shows very low amplitude variations, a period P = 194.8775 days fits the data. The light curve is shown in Fig. 1. Its position is: RA = $2^h42^m59.^s7$ dec = -36°29'2" (1950) $\langle V \rangle$ = 16.97 (B-V) = 1.6

NSV #919 = CoD -36 1043 RA = $2^h44^m4.^s0$ dec = 36°27'27" (1950)

V= 9.92 (B-V) = 0.1

A search in the interval $0.15^d < P < 100^d$ did not yield a period for this star. Our photographic photometry shows that this star does not vary more than the other 10^{th} magnitude stars in the field. If this star is at all variable, its amplitude is below our detection threshold. We, therefore, cannot confirm Bloomer's (1971) observations.

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References:

Bloomer, R. 1971, IBVS #586.

Mayall, M.W. 1951, Harvard Bull. no. 920, 32.