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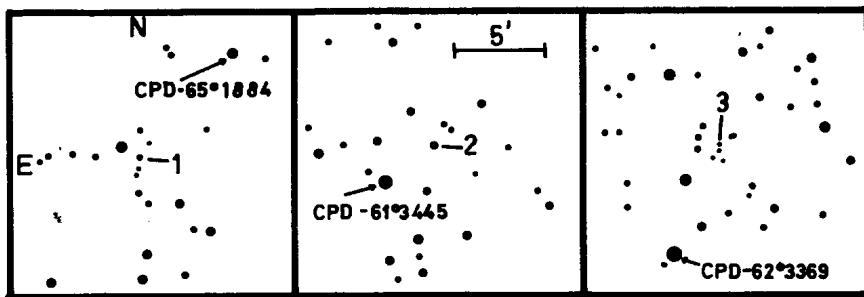
THREE FLARE STARS FOUND SPECTROSCOPICALLY

Inspection of a series of Kodak IIaO objective-prism plates taken with the Warner and Swasey Observatory uv prism (580 Å/mm at H gamma) attached to the Curtis Schmidt telescope on Cerro Tololo in Chile has revealed three flare stars in the region of the Coal Sack which appear to be previously unknown. Each star is identified as a flare star on the basis of the emergence of the Balmer series and the K-line (Ca II) in emission at a single epoch and the complete absence of any emission on a plate of similar depth taken at one other epoch.

In the case of star 1, the 0.2 mm trailed with of the spectrum during a 60 minute exposure permitted actual time resolution of the flare which had a duration of about 20 minutes. A very strong enhancement of the continuum is also obvious in this spectrum. For stars 2 and 3 the duration of the flares must have exceeded the respective exposure times of 30 and 11 minutes, since the emission lines are of nearly uniform strength across the widened spectra. Star 3 was found by Dr. C.B. Stephenson on a plate which is part of a collection being used in an OB star survey of the southern Milky Way.

The coordinates are given in the table. The fourth

Star	(1900)	t (J.D.)	m_{pg}
1	12 ^h 25 ^m .2 -65°17'	2,439,914.780	14.7
2	12 59.4 -61 40	921.763	12.7
3	13 27.5 -62 43	912.781	15.5



column gives the starting time of the exposure during which the flare was detected. The last column contains estimates of the quiescent magnitudes of the stars obtained by measuring image diameters on a chart of the southern (Mt. John Observatory) extension of the Lick Sky Atlas which Dr. C. D. Shane kindly furnished to us in advance of publication. The SA 134 sequence of Neuhäuser (1) was used for calibration. The probable errors of these values are about ± 0.5 mag.

The continuum in the quiescent spectrum of star 2 appears to be that of a late-type star although a spectral plate covering the red region (103aF) shows that it is not of M-type.

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(1) Atlas of Selected Areas (Harvard-Groningen), Southern Part, 1966.