

COMMISSION 27 OF THE I. A. U.
INFORMATION BULLETIN ON VARIABLE STARS
Number 1476

Konkoly Observatory
Budapest
1978 September 26

THE BELATED DISCOVERY OF NOVA Cen 1973 AND
POSSIBLE NOVAE Car 1971 AND 1972

One certain and two possible novae have been found on objective-prism plates taken with the Curtis Schmidt telescope at Cerro Tololo, Chile. The plate-filter combination is IIa-F+RG 1 at a dispersion of 420 \AA/mm at $H\alpha$; the limiting red magnitude is about 12 for the continuum of a blue star.

Nova Cen 1973- position: $13^{\text{h}}10^{\text{m}}47^{\text{s}}.9$, $-57^{\circ}24'50''$ (1950).

The two plates of this field were taken on April 23 and 25, 1973. The spectra show little difference and are dominated by broad $H\alpha$ emission; the total width corresponds to a velocity range of about 1800 km/s. Other emission lines, faint and broad, are: 6678 of He I (trace), 6456 (int. 2), 6369 (int. 2), 6318 (int. 3), 6247 and 6148 (both int. 1), all of permitted Fe II multiplets 40 and 74, except for 6318 which is unclassified. The [O I] lines, 6300 and 6364, may be present but are blended with the iron lines. The continuum corresponds to V about 11. It was probably a slow nova taken while in the diffuse enhanced stage. Figure 1 is a chart of the region 10 arcmin on a side drawn by hand from a low-dispersion infrared plate. There are two infrared plates available, taken March 5, 1970 and April 6, 1972, reaching approximate infrared limiting magnitude 12.5 which show no image at the nova position. We have one other red prism plate of the region taken on June 2, 1968 which shows nothing at the position. W. Liller, Center for Astrophysics, informs us that Ms. L. Chaisson has searched Patrol plates taken in 1970 and in April 1978 and finds nothing at this position down to 15th magnitude. N. Sanduleak, Warner and Swasey Observatory, has examined the plate collection at that observatory and also reports nothing at this position.

Possible Nova Car 1971- position: $10^{\text{h}}37^{\text{m}}59^{\text{s}}$, $-62^{\circ}58'33''$ (1950).

This object shows only strong $H\alpha$ emission on a plate taken Feb. 18, 1971 but shows nothing in a deeper prism plate taken thirteen months later.

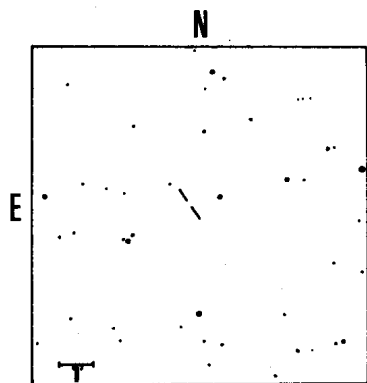


Figure 1. Identification chart for Nova Cen 1973 drawn by hand from a low-dispersion infrared plate. The bright star at the western edge is CoD-56^o 4842.

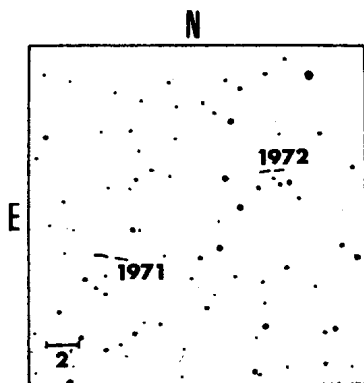


Figure 2. Identification chart for possible Novae Car 1971 and 1972 with characteristics of Fig. 1 except for the scale. The bright star in the NW corner is CoD-62^o470.

The total width of H α corresponds to a velocity range of about 1200 km/s. Its position is shown in Fig.2 which has the same characteristics as Fig. 1 except for the scale.

Possible Nova Car 1972- position: $10^{\text{h}}36^{\text{m}}35^{\text{s}}$, $-62^{\circ}52'52''$ (1950).

Figure 2 also shows the position of this object some 11 arcmin from the possible Nova Car 1971. It also shows only strong H α emission on a plate taken on March 22, 1972 but nothing on the Feb. 1971 plate mentioned above. The width of H α can be interpreted as a velocity range of about 1200 km/s. The deep, low-dispersion infrared plate from which Fig. 2 was made shows nothing at the position of either Carina object.

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