COMMISSION 27 OF THE I. A. U.
INFORMATION BULLETIN ON VARIABLE STARS
Number 2587

Konkoly Observatory
Budapest
17 September 1984
HU ISSN 0374 - 0676

INFORMATION ON SIX NOVAE IN SAGITTARIUS

In a project to locate several novae in Sagittarius for Dr. Hilmar W. Duerbeck of the Observatorium Hoher List of Bonn University, I collected data on five novae and present precise coordinates for each, photographic magnitudes for each (Table I), finding charts of those for which no finding chart is available, and some comments on each one. In addition, I enclose a note on V1944 Sgr.

Duerbeck (1984) is planning to publish a catalog which will include data on about 250 galactic novae.

V3645 Sgr

This was discovered on July 29, 1970 on an objective prism plate by Arhipova and Dokuchaeva (1970). A finding chart (with sequence stars) was published by Arhipova, et al (1971). The precise coordinates of V3645 as measured here at the Maria Mitchell Observatory are $18^h\ 32^m\ 53\overset{s}{.}39\ \pm 0\overset{s}{.}02$ and $-18^\circ\ 44'\ 25\overset{''}{.}7\ \pm 2\overset{''}{.}1$, epoch 1950. Magnitude estimates are provided.

V3889 Sgr

This was discovered by Kuwano (1975) on July 13, 1975. A plate was taken here at Maria Mitchell especially for this nova. The precise coordinates are $17^h\ 55^m\ 11\overset{s}{.}55\ \pm 0\overset{s}{.}10$ and $-28^\circ\ 21'\ 34\overset{''}{.}9\ \pm 3\overset{''}{.}3$, epoch 1950. A finding chart and magnitude estimates are provided.

V4021 Sgr

This was also discovered by Kuwano (1977) but on March 27, 1977. It is just to the northeast of the globular cluster M22 at $18^h\ 35^m\ 11\overset{s}{.}45\ \pm 0\overset{s}{.}15$ and $-23^\circ\ 25'\ 35\overset{''}{.}5\ \pm 1\overset{''}{.}2$, epoch 1950. A finding chart and magnitude estimates are provided.

V4027 Sgr

This was discovered by MacConnell (1968) on an objective prism plate taken May 17, 1968. The coordinates as published by MacConnell are $17^h\ 59^m\ 18\overset{s}{.}87$ and $-28^o\ 45'\ 23\overset{''}{.}8$, epoch 1950. A finding chart and magnitude estimates are provided.

Nova Sgr 1982

This was discovered by Honda (1982) on October 4, 1982. The coordinates as measured by Flynn and communicated by Candy (1982) are $18^h\ 31^m\ 32\overset{s}{.}75$ and $-26^o\ 28'\ 28\overset{''}{.}0$. There is a preliminary finding chart published by the AAVSO, but I have provided one that is more detailed. Magnitude estimates are also provided.

Note on V1944 Sgr

This was discovered by Apriamashvili (1960) at a magnitude of 13.0 on an objective prism plate taken May 24, 1960. No epoch was given for the coordinates published by Apriamashvili. However, It seems that the only way to reconcile the coordinates published by Apriamashvili and those published by Kukarkin et al (1970) is to assume that the epoch of those quoted by Apriamashvili is 1960. With this in mind then, I located the exact position of the nova on a photographic plate taken on June 16, 1960, 23 days after the nova's discovery. It appears that the area where V1944 should be is a very crowded star field and indications are that the image of V1944 is either partially or completely merged with one or more of the field stars. Unfortunately, the field of V1944 is near the edge of all the plates taken in June and July of 1960; as a result, the stars suffer significantly from the effects of coma. Even using the blink comparator technique of field comparison, no part of the blend of the images can be unambiguously ascribed to V1944 Sgr.

The area examined in the blink comparator included the region where the nova would have been if the epoch of Apriamashvili's coordinates had been 1900 or 1950. Nothing positive was discovered at these two locations either.

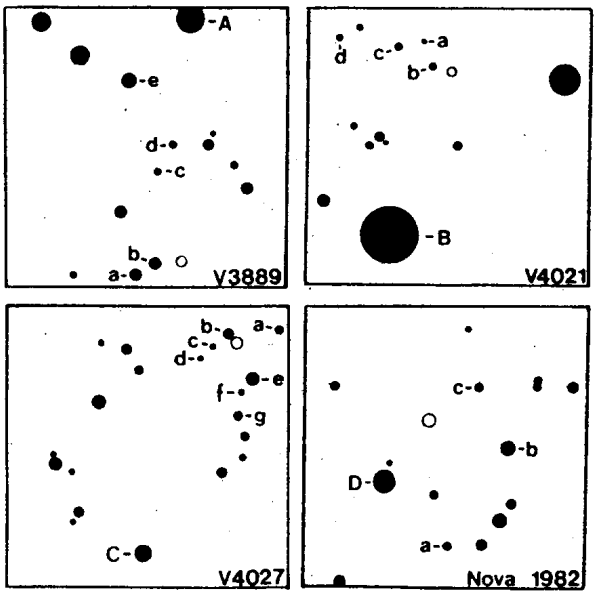

Fig. 1: Finding charts for the four novae in Sagittarius. Each chart is 15' by 15' with north at the top and west to the right. The lower case letters denote sequence stars whose photographic magnitudes are given in Table II. The capital letters denote SAO stars: A=SAO186010, B=SAO187080, C=SAO186160 and D=SAO187001.

Table I: Photographic magnitudes for the five novae. The dates in the table are JD-2400000. A left parenthesis means "fainter than".

V3645 Sgr

40418	(15.5	40735	14.7:
40474	13.6	40737	14.8::
40476	13.6	40746	15.0::
40477	13.6	40767	15.0::
40479	13.5	40799	15.1::
40493	13.4	40803	15.6::
40495	13.4	40806	15.6::

Table I : continued

V3889 Sgr	
42327	(14.4
42542	(13.0::
42623	12.0
42634	12.7
42934	15.0::
43044	(14.4

V4021 Sgr	
43044	(14.8:
43047	(14.3
43308	11.4
43314	11.7
43318	11.7
43340	11.8
43375	11.9
43417	12.0
43690	(14.5

V4027 Sgr	
39761	(14.6
40002	12.0
40003	12.0
40004	12.1
40028	14.1
40039	14.0:
40058	14.0:
40059	14.2:
40064	14.1:
40067	14.2
40068	14.2:
40084	14.2:
40087	14.1:
40092	14.2:
40114	14.3:
40120	14.2:
40382	14.6:
40417	14.9:

Nova Sgr 1982	
44510	14.3
44525	14.3
44757	14.2:
44782	14.3
44813	14.4:
44837	14.3:
45084	14.3
45144	14.2
45177	14.3
45223	(14.1
45232	9.6
45523	12.9
45549	12.9
45584	13.1
45602	13.2
45616	13.2
45879	14.1:
45902	14.1:
45913	14.0:
45930	14.1:
45934	14.2

Table II: This table lists the photographic magnitudes for each of the sequence stars in the four finding charts.

Sequence stars	V3889	V4021	V4027	Nova 1982
D	---	---	---	9.1
a	11.5	14.2	12.7	13.1
b	11.1	12.1	11.9	11.7
c	13.2	12.7	14.2	12.8
d	12.7	13.3	13.8	---
e	11.8	---	10.9	---
f	---	---	13.0	---
g	---	---	12.3	---

This work was done under the supervision of Dr. Emilia P. Belserene and was funded by NSF grant AST-8320491. I would like to thank Dr. Belserene for her assistance and the National Science Foundation for their support.

ATAOLLAH SARAJEDINI
Maria Mitchell Obs.
Nantucket, Mass. 02554
U. S. A.

References:

Apriamashvili, S. P. 1960, Astr. Tsirk. 222
Arhipova, V., Dokuchaeva, O. 1970, Infor. Bull. Var. Stars 494
Arhipova, V. P., Dokuchaeva, O. D., Nikulina, T. G. 1971, Peremennye Zvezdy, 18, 195
Candy, M. P. 1982, IAU Circular 3741
Duerbeck, H. W. 1984, Astrophys. and Sp. Sci., 95, 93
Kukarkin, B. V. et al. 1970, Third ed. General Cat. Var. Stars, Moscow
Kuwano, Y. 1975, IAU Circular 2805
Kuwano, Y. 1977, IAU Circular 3055
MacConnell, D. J. 1968, Infor. Bull. Var. Stars 1340