

COMMISSION 27 OF THE I. A. U.
INFORMATION BULLETIN ON VARIABLE STARS
Number 1912

Konkoly Observatory
Budapest
1981 January 19
HU ISSN 0374-0676

POSSIBLE HUBBLE-SANDAGE OBJECTS AMONG VARIABLES
DISCOVERED IN THE ANDROMEDA GALAXY

With the 2 meter telescope of the Bulgarian Academy of Sciences several plates of the central and south-west region of the Andromeda galaxy have been obtained in 1980. The limiting magnitude is about 21.2 and 22.0 magnitudes for plates of one and three hour exposure time, respectively.

Hubble (1929) observed Nova 36 with a constant magnitude of 18.7 during 11 years. (Hubble's magnitude scale is translated into Baade and Swope's (1964) system.) Nova 36 is also visible on our plates: its magnitude is $B=20.0$. Therefore, our data show that this star is not a nova.

Hubble also discovered the irregular variable stars H11, H20, H43 and H44. Baade and Swope observed two of these stars and classified H43 as an irregular variable ($20^m.70-21^m.30$) and H44 - as R CrB variable ($19^m.85-21^m.45$). H11 and H20, however, have not been investigated since 1928. Here we give the magnitudes of these stars:

J.D.	star	B(mag)
2444529	H11	21.2
2444529	H20	>21.2
2444530	H43	20.3
2444530	H44	20.0

The magnitudes of H11, H43 and H44 presented above are within the limits of their amplitudes as given by Hubble (1929) and Baade and Swope (1964). But H20 is with about 2^m weaker in comparison with its brightness in 1928 (now it is 21.2 in comparison with 18.5-19.5 in 1928).

It is quite possible that Nova 36 and H20 are irregular variable stars - Hubble-Sandage objects (S Dor variables). Nova 26 and Nova 39 were also observed by Hubble during several years,

but on our plates these stars are not visible ($B > 22$ mag).
They are also possible Hubble-Sandage objects.

A. S. SHAROV
Sternberg Astronomical
Institute, Moscow, USSR

G. R. IVANOV
Department of Astronomy
University of Sofia,
Sofia, Bulgaria

References:

- Baade, W., Swope, H., 1964, A.J. 70, 212
Hubble, E. 1929, Ap.J. 69, 103