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V 592 HERCULIS - SECOND ERUPTION OBSERVED

This object (V 592 Her = S 10376 = Nova Herculis 1968) was discovered by Richter (1968) who described it as a fast or even very fast nova between $12^m.3$ and [20^m. The 1985 edition of the GCVS gives the type NA. Duerbeck (1987) tentatively tried to identify the postnova on a CCD frame taken with the Calar Alto 2.2 m telescope. Using the insufficient finding chart published in the discovery paper, he found 2 stars near the position of V 592 Her with magnitudes 21^m and 22^m, respectively. But an inspection of the original Sonneberg plates showed that neither identification is correct: V 592 Her is between Duerbeck's stars 1 and 2. Therefore, the amplitude is > 9.5 mag.

210 plates of the 400 mm astrographs, taken since the 1968 outburst, shows that another eruption occurred in 1986. The following observations were obtained on ORWO ZU21 plates without filter:

JD	m
2446500+	
54.12	16.9::
63.54	13.6
91.48	17.5::
92.44	17.6::

Because the outburst lightcurves of a long cyclic eruptive variable are often remarkably similar, we tentatively combined the 1968 and 1986 lightcurves of V 592 Her, as can be seen in Figure 1.

397 sky patrol plates between 1929 and 1966 give no indication of further outbursts (Richter, 1986). Only on two very poor (!) Tachar plates faint traces of about 13^m (plate limit) are indicated (1948 March 29 and 1950 May 16), but probably they are plate faults.

The question arises whether V 592 Her is a recurrent nova (RN) or a dwarf nova (DN). The DN with the largest known amplitude is WZ Sge with 8.5 mag (according to the GCVS). But there are 2 RNe with A >9.5 mag: U Sco (10.6 mag) and V 394 CrA (10.5 mag). This fact speaks in favour of the RN hypothesis of V 592 Her. On the contrary, the lightcurves of all known RNe

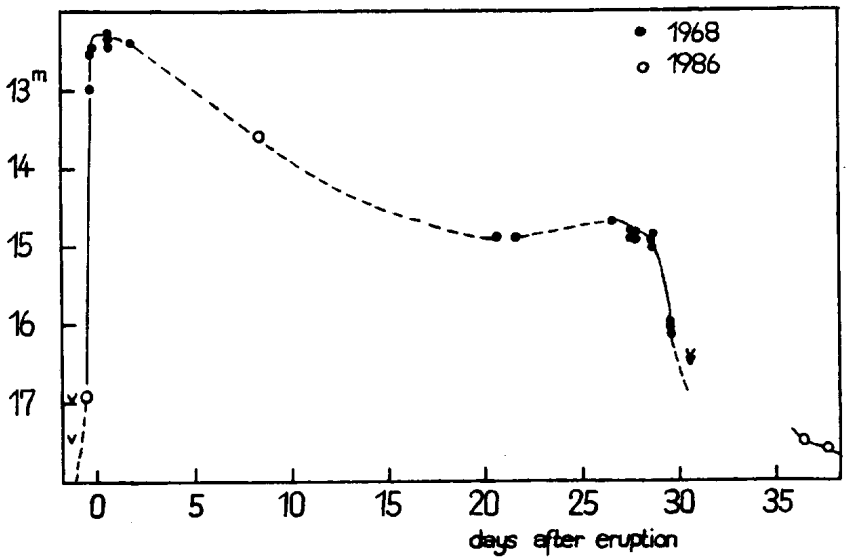

Figure 1

are rather smooth, those of the DN and V 592 Her are not. This, and the blue colour during outburst (Richter, 1968), speak in favour of DN. If so, V 592 Her is the dwarf nova with the largest known amplitude. According to the amplitude cycle-length relationship by Richter (1986), from A >9.5 mag follows C >10 000 days (27 years), which is not in contradiction to the fact that only 2 outbursts could be found between 1929 and 1990.

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