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PREDISCOVERY LIGHTCURVE OF NOVALIKE  
 OBJECT KUWANO IN VULPECULA

Sonneberg Sky Patrol plates, taken by H. Huth, show that the rise to maximum of this object, which was discovered by Kuwano at  $20^{\text{h}}19^{\text{m}}0 + 21^{\circ}25'$  (1950) (IAUC 3344), was well underway in the spring of 1978 already. The following estimates could be made on the exposures mentioned :

Date	J.D.	$m_{pg}$	$m_{bv}$
1978 UT	244...		
March 8.13	3575.63	$>14^{\text{m}}0$	$>13^{\text{m}}0$
April 7.08	3605.58	13.5	$>12.5$
July 27.91	3717.41	-	$>11.0$ poor plate
July 30.97	3720.47	11.4	11.2
Aug. 6.90	3727.40	-	$>10.0$ poor plate
Aug. 28.89	3749.39	11.1	10.6
Oct. 7.86	3789.36	10.2	9.9
Nov. 1.77	3814.27	-	10.2
Dec. 4.72	3847.22	-	9.55

(> means: invisible fainter than)

Comparison stars	B	V	Reference
HDE 351704	$9^{\text{m}}.4$	$9^{\text{m}}.3$	Die Sterne <u>43</u> ,21
HDE 351584	10.0	9.8	"
USNO 17569	11.2	10.8	Hoag Catalogue

The Tri-X brightness of  $10^{\text{m}}$  on 1978 Aug. 21.52 UT of Honda (IAUC 3348) fits to our series.

By comparing the two overlapping fields 276 and 1608 of the POSS at the given position a variable object can easily be identified which with high probability is the pre-outburst phase of the star.

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