

BBSAC Bulletin 31

1977 January 6

64th List of Minima of Eclipsing Binaries

The following table lists 170 minima obtained visually mainly during 1976 November and December by the observers

- RD Roger Diethelm, Reinach, Switzerland
- RG Robert Germann, Wald, Switzerland
- ZH Zoltan Hevesi, Kaposvar, Hungary
- KL Kurt Locher, Grüt, Switzerland
- HP Hermann Peter, Otelfingen, Switzerland
- EP Ennio Foretti, Arconate, Italy
- FT Franco Travaglino, Vigevano, Italy
- VT Vince Tuboly, Debrecen, Hungary
- NZ Nicola Zaccaria, Pisa, Italy

The O-C values refer to the linear elements of the GCVS 1969, disregarding improved elements in the 1971, 1974, and 1976 supplements to the GCVS. Reductions were made mainly using the tracing paper method.

current no.	star	minimum order	JD hel 244...	O-C	observer	current no.	star	minimum order	JD hel 244...	O-C	observer
10963	RT And	I	3112.324	-0.014	11 KL	10980		II	3126.461	*	10 RD
10964		I	3112.333	-0.005	8 RG	10981		II	3135.362	*	6 RD
10965		I	3129.306	-0.014	5 KL	10982		II	3139.395	*	6 KL
10966		I	3134.339	-0.011	9 RG	10983	CX Aqr	I	3109.253	-0.002	7 RG
10967		I	3139.372	-0.010	4 KL	10984	V 346 Aql	I	3092.238	-0.008	8 RG
10968	XZ And	I	3143.318	-0.022	8 RG	10985	TT Aur	I	3116.424	+0.017	7 KL
10969		I	3143.326	-0.013	7 KL	10986	WW Aur	II	3102.440	+0.011	24 EP
10970	AB And	I	3086.288	+0.024	7 RG	10987		I	3126.426	+0.009	25 EP
10971		I	3088.276	+0.021	8 RG	10988	AR Aur	II	3105.361	+0.008	18 EP
10972		I	3092.260	+0.022	7 RG	10989		I	3107.429	+0.009	19 EP
10973		II	3112.335	+0.018	8 RG	10990	EP Aur	I	3135.368	-0.055	7 RD
10974		II	3133.251	+0.025	7 RG	10991	HL Aur	I	3110.717	-0.003	11 KL
10975		II	3136.233	+0.019	14 KL	10992		I	3139.354	-0.002	7 KL
10976	BX And	I	3086.294	-0.003	7 RG	10993	SV Cam	I	3134.311	-0.008	6 RG
10977	EP And	II	3086.468	*	10 KL	10994	RY Cnc	I	3127.433	-0.041	6 KL
10978		I	3088.294	*	7 KL						
10979		II	3094.526	*	6 KL						

* GCVS 1969 period erroneous, O-C according to the GCVS 1976: 0.000 +0.008
-0.024 -0.013 -0.003 -0.011

cur- rent no.	star	minimum or- JD hel der 244...	O - C	ob- n ser- ver	cur- rent no.	star	minimum or- JD hel der 244...	O - C	ob- n ser- ver
10995	YZ CVn	I 3127.666	*	6 KL	11036	CG Cyg	I 3088.269	-0.020	6 KL
10996	AK CMi	I 3101.672	+0.017	6 KL	11037		I 3088.275	-0.015	7 HP
10997	RZ Cas	I 3041.341	+0.003	15 FT	11038		I 3112.250	-0.022	8 HP
10998		I 3059.279	+0.008	29 EP	11039		I 3136.239	-0.018	15 KL
10999		I 3090.359	+0.016	27 EP	11040	V401 Cyg	I 3127.252	+0.044	9 HP
11000		I 3097.532	+0.017	45 EP	11041	V456 Cyg	I 3143.203	-0.007	8 KL
11001		I 3102.297	+0.001	19 FT	11042	DM Del	I 2957.426	***	9 RG
11002		I 3102.308	+0.012	35 EP	11043		I 2958.401	***	7 RG
11003		I 3102.309	+0.013	29 NZ	11044	RZ Dra	I 3086.281	-0.009	6 RG
11004		I 3108.267	-0.004	10 ZH	11045	YY Eri	II 3133.315	-0.010	7 RG
11005		I 3108.285	+0.013	17 EP	11046		II 3134.274	-0.016	14 KL
11006		I 3139.340	-0.009	20 VT	11047	WW Gem	I 3135.378	+0.012	8 RD
11007		I 3139.351	+0.003	6 KL	11048	YY Gem	I 3131.328	-0.003	5 RD
11008	TV Cas	I 3134.244	-0.026	15 KL	11049	AF Gem	I 3116.436	-0.011	7 KL
11009		I 3143.316	-0.018	7 RG	11050	BD Gem	I 3101.633	+0.040	7 KL
11010	AB Cas	I 3091.723	+0.006	7 KL	11051		I 3109.719	+0.043	6 KL
11011		I 3127.259	+0.004	9 HP	11052	BO Gem	I 3101.697	+0.008	6 KL
11012	BM Cas	I 3130.1	-3.4	5 RD	11053	BT Gem	I 3127.408	-0.051	6 KL
11013	IV Cas	I 3088.281	+0.069	10 KL	11054	CK Gem	I 3139.477	-0.012	5 KL
11014	U Cep	I 3090.648	+0.042	12 KL	11055	GW Gem	I 3103.702	-0.024	7 KL
11015		I 3140.506	+0.039	7 KL	11056	HR Gem	I 3090.592	+0.004	6 KL
11016	VW Cep	II 3059.330	-0.003	22 EP	11057	UX Her	I 3109.272	-0.051	13 KL
11017		I 3060.301	-0.086	17 EP	11058	WY Hya	II 3091.670	+0.010	10 KL
11018		II 3061.277	-0.084	20 EP	11059	SW Lac	II 3112.237	-0.111	7 RG
11019		I 3062.255	-0.081	11 EP	11060		II 3112.252	-0.097	8 HP
11020		I 3109.253	-0.118	7 RG	11061		I 3131.327	-0.105	6 RD
11021	EG Cep	I 3083.340	+0.001	9 RG	11062		I 3133.249	-0.107	6 RG
11022		I 3088.356	+0.016	12 HP	11063		I 3134.222	-0.097	12 KL
11023		I 3136.284	+0.018	12 KL	11064	AU Lac	I 3143.252	-0.072	10 KL
11024	GK Cep	I 3068.446	-0.052	26 EP	11065	CM Lac	I 3134.212	+0.001	12 KL
11025		I 3069.388	-0.046	19 EP	11066	RW Leo	I 3139.654	+0.040	8 KL
11026		II 3090.446	-0.052	18 EP	11067	UV Leo	II 3103.690	-0.001	7 KL
11027		I 3098.400	-0.056	35 EP	11068	VZ Leo	I 3143.471	-0.156	6 KL
11028		I 3099.338	-0.054	30 EP	11069	BL Leo	I 3129.714	-0.002	6 KL
11029		I 3100.279	-0.049	18 EP	11070		I 3139.502	-0.002	6 KL
11030		II 3107.302	-0.047	18 EP	11071	TZ Lyr	I 3129.714	+0.030	10 KL
11031	SS Cet	I 3135.342	-0.053	24 RG	11072	RW Mon	I 3094.633	-0.012	6 KL
11032	TW Cet	I 3134.371	-0.036	10 RG					
11033	AA Cet	I 3088.455	**	7 KL					
11034	W Crv	I 3139.717	-0.003	8 KL					
11035	BR Cyg	I 3109.236	+0.022	11 KL					

* no period given by the GCVS, O - C according to the elements of BBSAG Bulletin 27, page 7 : -0.004

** not contained in the GCVS 1969, O - C according to the GCVS 1974: -0.005

*** GCVS period erroneous, O - C according to the elements of BBSAG Bulletin 27, page 5 : 0.000: -0.025:

cur- rent no.	star	minimum or- JD hel der 244...	O - C	n ser- ver	ob- server	cur- rent no.	star	minimum or- JD hel der 244...	O - C	n ser- ver	ob- server
11073		I 3140.394	-0.003	10	KL	11104	RZ Tau	I 3126.484	+0.018	9	RD
11074	BO Men	I 3140.439	+0.142	6	KL	11105	AC Tau	I 3088.539	+0.069	7	KL
11075	V508 Oph	I 3088.269	+0.012	8	HP	11106		I 3127.362	+0.068	13	HP
11076	EQ Ori	I 3109.381	-0.071	7	KL	11107	AP Tau	II 3109.402	*	6	KL
11077		I 3123.349	-0.071	7	KL	11108		I 3127.371	**	6	KL
11078	ER Ori	II 3086.509	-0.021	6	KL	11109	CT Tau	I 3126.463	+0.020	8	RD
11079		I 3127.374	-0.014	10	HP	11110	ET Tau	I 3131.294	-0.016	6	RD
11080		I 3133.292	-0.024	7	RG	11111	V Tri	I 3135.353	+0.024	8	RG
11081	FK Ori	I 3127.301	+0.239	10	KL	11112	X Tri	I 3126.445	-0.030	8	RD
11082	FL Ori	I 3109.415	+0.092	7	KL	11113		I 3127.418	-0.037	9	HP
11083		I 3123.272	+0.090	5	KL	11114		I 3131.300	-0.041	8	RD
11084		I 3126.469	+0.085	8	RD	11115		I 3133.246	-0.030	9	RG
11085		I 3140.441	+0.078	6	KL	11116		I 3134.219	-0.037	15	RG
11086	V640 Ori	I 3127.387	-0.005	6	KL	11117		I 3134.222	-0.033	7	KL
11087	DI Peg	I 3112.291	-0.013	11	RG	11118	RW Tri	I 3092.258	-0.002	6	KL
11088		I 3134.360	-0.011	8	RG	11119		I 3109.416	-0.003	4	KL
11089	RT Per	I 3090.655	-0.056	6	KL	11120		I 3127.272	-0.001	4	KL
11090	KW Per	I 3090.671	+0.037	10	KL	11121	K3II 5959 Tri	3135.396	**	8	RD
11091		I 3103.712	+0.041	6	KL	11122	TX UMa	I 3123.442	-0.009	20	EP
11092		I 3135.374	+0.040	8	RD	11123	UX UMa	I 3139.633	+0.002	5	KL
11093	Y Psc	I 3127.222	+0.145	10	KL	11124	VV UMa	I 3143.476	+0.061	6	KL
11094	SZ Psc	I 3107.267	-0.008	20	EP	11125	XZ UMa	I 3101.638	-0.072	7	KL
11095	RW PsA	II 3092.269	-0.057	8	KL	11126	VV Vir	I 3139.738	***	7	KL
11096		II 3127.228	-0.062	6	KL	11127	AH Vir	I 3091.710	+0.038	9	KL
11097	AY Pup	II 3090.584	+0.055	6	KL	11128	BH Vir	I 3109.706	-0.002	7	KL
11098		I 3139.595	+0.059	6	KL	11129	Z Vul	I 3092.299	-0.006	9	RG
11099	RZ Pyx	I 3091.672	+0.196	14	KL	11130	BU Vul	I 3109.262	+0.002	7	RG
11100		I 3139.537	+0.204	6	KL	11131	CD Vul	I 3088.320	-0.016	6	KL
11101	V505 Sgr	I 3088.274	-0.034	10	KL	11132		I 3127.297	-0.013	9	HP
11102	RT Scl	I 3143.215	-0.103	6	KL						
11103	AO Ser	I 3110.718	-0.004	7	KL						

* GCVS 1969 elements incomplete, O - C according to the GCVS 1976: -0.050 -0.070

** period unknown

*** GCVS elements too inaccurate for reasonable reduction, O - C according to the elements of page 5 of this issue: +0.003

S 9 6 3 2 H e r c u l i s

either : not an eclipsing variable

or : a visually insoluble case
because of variability of indispensable closed-by comparison stars

This star was recently described by Thänert (Veröffentlichungen Sonneberg Band 8, Heft 4, p.227) as an eclipsing variable of amplitude 1^m.1 and unknown period. My survey in 25 nights of 1976 confirms the amplitude and the rather rapid light variation, but I found it distinctly impossible to attribute any period, so that I doubt its nature as an eclipsing binary provided that my 2 comparison stars are constant.

But this constancy is very hard to test because the 3 stars form a compact group far detached from suitable further stars. Any (except long focus) photographic investigator would meet these same difficulties.

K. Locher

Theta¹ Orionis A

From visual observations covering 4 hours in the descending branch of the minimum JD 43144 I obtain the limit

$$O - C \leq -0.04^d$$

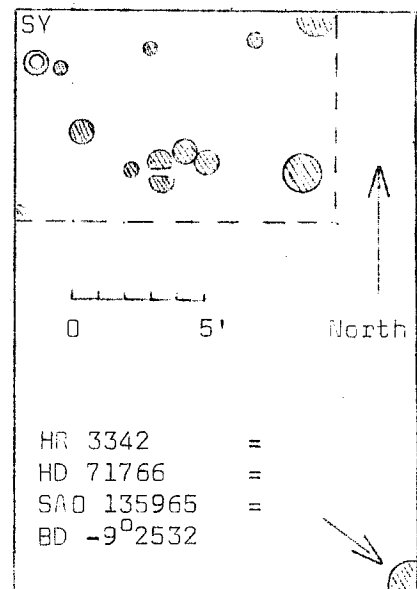
where C is calculated from Bertle's epoch (IAU Circular 2905) and Baldwin's period (IAU Circular 3004).

K. Locher

A Finding Chart
for S Y Hydrae

We now continue publishing finding charts hardly accessible in literature by the adjacent one for SY Hya.

K. Locher



V V Virgini s :

Evidence for a Double Roundover against the GCVS Ephemeris

Apparently the eclipsing binary VV Vir has not been surveyed during 28 years between Tsessevitsh's 1944-1945 study (reference 1, x symbols in figure 35) and mine (reference 2, + symbols). As the plot of all their O-C values shows in figure 35, it was mere chance to meet the star near zero O-C when I started watching it in 1974, the O-C being in fact not zero but 2 periods.

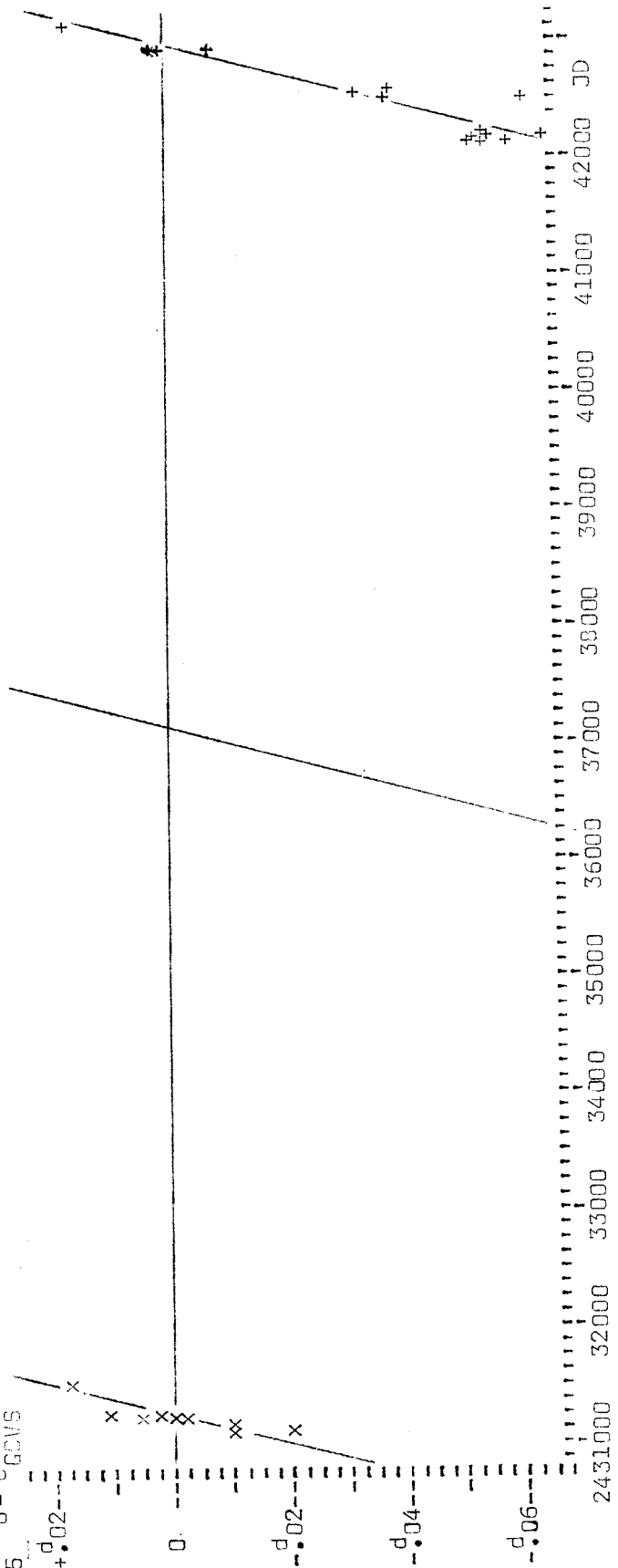
Since the $E=0$ epoch of the GCVS (1969/71/74/76) elements (2431221.218 + .44610184 E) is based on one of these Tsessevitsh's minima, it can be taken unaltered for the new elements

$$2431221.218 + .44613577 E$$

The O-C values against these new elements may be read from figure 35 as the vertical offsets from the oblique lines.

K. Locher

Fig. O-C GCVS 35



- (1) В.П.Цесевиц, Известия Астрономической Обсерватории Одессы 4, выпуск 3, :58
- (2) BBSAG minima 6057, 6247-6252, 6477, 7976-7977, 8240, 8771, 10336-10338