

# BBSAG Bulletin 17

1974 October 11

## 50<sup>th</sup> List of Minima of Eclipsing Binaries

The following table lists 360 minima obtained visually mainly during 1974 August and September by the observers

PC	Paolo Carnevali, Roma, Italy
RD	Roger Diethelm, Wetzikon, Switzerland
AF	Alain Figer, Paris, France
RG	Robert Germann, Wald, Switzerland
KL	Kurt Locher, Grüt, Switzerland
NM	Nicolas Mauron, St.Rémy, France
HP	Hermann Peter, Otelfingen, Switzerland
PR	Philippe Ralin-court, Nantes, France
JR	Joseph Remis, St.Avoid, France
RR	Raymond Rolland, Rennes, France
CR	Claudio Romoli, Altopascio, Italy
GZ	György Zajàcz, Debrecen, Hungary

The O-C values refer to the linear elements of the GCVS 1969, disregarding improved elements in the 1971 first supplement to the GCVS. Reductions were made using the tracing paper method by RD, AF, RG, KL, HP, and JR.

cur- rent no.	star	minimum or- der	JD hel 244...	O-C	n	ob- ser- ver	cur- rent no.	star	minimum or- der	JD hel	O-C	n	ser- der
6489	RT And	I	2266.411	-0.015	16	RG	6513			2291.474	*	6	KL
6490		I	2288.431	-0.007	5	KL	6514			2296.503	*	6	KL
6491		I	2290.315	-0.010	14	RG	6515			2302.448	*	6	KL
6492	XZ And	I	2266.510	-0.016	12	KL	6516			2303.497	*	8	KL
6493		I	2289.588	-0.012	10	RD	6517			2318.461	*	10	KL
6494	AB And	I	2262.533	+0.024	8	RD	6518	RY Aqr	I	2299.372	-0.072	12	HP
6495		I	2262.533	+0.024	6	KL	6519		I	2303.305	-0.072	11	RG
6496		II	2263.366	+0.026	6	RG	6520	AM Aqr	I	2272.523	-0.068	7	KL
6497		I	2275.475	+0.021	11	HP	6521	CX Aqr	I	2267.496	+0.003	6	KL
6498		I	2275.482	+0.029	9	RG	6522		I	2296.411	+0.006	8	RD
6499		I	2290.403	+0.015	9	RG	6523		I	2296.413	+0.009	12	HP
6500		I	2296.385	+0.022	8	RD	6524		I	2296.413	+0.009	10	KL
6501		I	2302.361	+0.024	8	HP	6525		I	2301.421	+0.013	6	KL
6502		I	2302.368	+0.031	7	RG	6526	CZ Aqr	I	2289.573	+0.011	6	RD
6503		I	2303.347	+0.014	10	RG	6527		I	2289.575	+0.013	6	KL
6504		I	2303.356	+0.023	8	RD	6528		I	2296.481	+0.016	8	KL
6505		I	2304.346	+0.018	8	RG	6529		I	2303.379	+0.013	6	RD
6506	ADS 1693 A And		2263.594	*	10	KL	6530		I	2303.379	+0.013	6	KL
6507			2266.615	*	8	KL	6531	DX Aqr	I	2296.446	+0.027	11	RD
6508			2273.487	*	5	KL	6532		I	2296.461	+0.041	13	KL
6509			2274.554	*	8	KL	6533	EE Aqr	I	2261.607	+0.009	5	KL
6510			2275.613	*	7	KL	6534		I	2304.378	+0.025	5	KL
6511			2280.589	*	5	KL	6535		I	2305.354	+0.013	4	KL
6512			2290.557	*	6	KL							

\* not contained in the GCVS, O-C according to Walker's 'I' (in bracket) and 'II' (following the bracket) elements IBVS 855 (cf. page 5 of this issue):

(-0.025)+0.038	(-0.032)+0.009	(+0.018)+0.006
(-0.061)+0.009	(+0.058)+0.022	(+0.001)+0.003
(-0.067)+0.017	(+0.034)+0.007	(-0.019)-0.015
(-0.071)+0.017	(+0.033)+0.009	(-0.037)+0.002

current no.	star	minimum or-der	JD hel 244...	O - C	n	ob- server
6536	YZ Aql	I	2296.409	+0.035	16	KL
6537	KO Aql	I	2262.565	-0.002	8	RD
6538	OO Aql	I	2261.588	-0.036	6	KL
6539		II	2263.367	-0.030	7	RG
6540		II	2266.414	-0.025	12	HP
6541		II	2267.499	-0.033	11	RD
6542		II	2296.293	-0.047	8	RD
6543		II	2296.306	-0.033	9	RG
6544		II	2296.311	-0.028	8	KL
6545		II	2302.381	-0.040	10	RG
6546		II	2303.381	-0.054	9	RG
6547		II	2303.392	-0.043	6	KL
6548		II	2303.400	-0.034	8	RD
6549		II	2304.406	-0.042	6	RG
6550		II	2304.412	-0.036	10	HP
6551		I	2318.340	-0.045	7	RG
6552	V 343 Aql	I	2272.413	+0.007	11	KL
6553		I	2296.381	-0.004	12	HP
6554	V 346 Aql	I	2302.311	+0.010	8	RG
6555		I	2303.396	-0.011	14	HP
6556		I	2303.399	-0.008	8	RD
6557		I	2303.408	0.000	6	KL
6558	V 803 Aql	I	2273.408	-0.031	4	KL
6559	AD Boo	I	2275.417	+0.040	10	HP
6560		I	2303.335	+0.030	8	RD
6561	SV Cam	I	2262.500	-0.003	10	KL
6562		I	2272.386	-0.013	7	KL
6563		I	2275.537	-0.013	6	KL
6564		I	2287.408	-0.004	22	AF
6565		I	2291.563	0.000	6	KL
6566		I	2296.293	-0.015	5	KL
6567		I	2296.300	-0.007	5	RD
6568		I	2300.449	-0.010	13	AF
6569		I	2300.450	-0.008	14	JR
6570		I	2312.314	-0.006	7	KL
6571		I	2314.678	-0.015	9	KL
6572	WW Cam	I	2303.365	+0.066	8	RD
6573	TY Cap	I	2272.518	-0.082	10	KL
6574	WZ Cap	II	2273.454	-0.005	5	KL
6575	RZ Cas	I	2154.467	+0.002		RR
6576		I	2160.442	+0.001		RR
6577		I	2185.544	+0.003		RR
6578		I	2203.473	+0.003		RR
6579		I	2246.500	+0.002		RR
6580		I	2258.455	+0.004		RR
6581		I	2264.434	+0.006		RR
6582		I	2270.415	+0.009	11	GZ
6583		I	2275.383	+0.003	9	GZ
6584		I	2276.385	+0.005	13	AF
6585		I	2276.388	+0.008	10	NM
6586		I	2276.392	+0.012	18	CR
6587		I	2277.576	0.000	29	CR
6588		I	2277.579	+0.003	16	PR
6589		I	2277.587	+0.011	15	AF
6590		I	2288.331	-0.001	9	RG

current no.	star	minimum or-der	JD hel 244...	O - C	n	ob- server
6593	TV Cas	I	2280.522	-0.010	12	AF
6594		I	2280.524	-0.008	22	CR
6595		I	2280.538	+0.006	13	NM
6596		I	2289.580	-0.015	11	RD
6597	CW Cas	I	2273.428	+0.008	10	RD
6598		I	2275.333	-0.001	7	RD
6599		I	2296.375	-0.003	9	RD
6600	IV Cas	I	2273.493	+0.060	10	RD
6601		I	2273.496	+0.063	8	KL
6602		I	2274.499	+0.068	7	KL
6603	PV Cas	II	2296.455	+0.063	16	RD
6604	K3II 5867 Cas	I	2266.536	*	6	KL
6605		I	2267.463	*	10	KL
6606		II	2272.503	*	5	RD
6607		II	2273.431	*	7	KL
6608		II	2273.435	*	9	RD
6609		I	2275.406	*	8	RD
6610		I	2308.365	*	7	KL
6611		I	2312.339	*	6	KL
6612	U Cep	I	2270.407	+0.012	12	GZ
6613		I	2275.417	+0.035	17	RG
6614		I	2275.420	+0.038	7	RD
6615		I	2275.422	+0.041	12	KL
6616		I	2285.378	+0.024	12	HP
6617		I	2290.360	+0.021	19	RG
6618		I	2290.376	+0.036	5	KL
6619	VW Cep	II	2262.515	-0.074	7	KL
6620		II	2263.603	-0.099	11	KL
6621		II	2288.398	-0.075	10	KL
6622		I	2291.590	-0.083	12	KL
6623		II	2305.369	-0.081	10	KL
6624	CW Cep	I	2275.364	-0.045	7	RD
6625	EG Cep	I	2266.532	+0.024	6	KL
6626		I	2298.662	+0.021	5	KL
6627	RW Cet	I	2299.602	-0.031	9	KL
6628	TW Cet	II	2274.520	-0.018	10	KL
6629		I	2276.578	-0.019	14	KL
6630		II	2285.607	-0.020	8	KL
6631		I	2289.562	-0.026	7	RD
6632		I	2289.563	-0.025	10	KL
6633		I	2299.554	-0.016	11	KL
6634		I	2301.605	-0.023	7	KL
6635		I	2303.511	-0.019	7	KL
6636	VY Cet	II	2269.582	**	10	KL
6637		I	2273.511	**	5	KL
6638		I	2274.524	**	10	KL
6639		I	2275.550	**	11	KL

\* not contained in the GCVS, O - C according to the elements by Häussler  
 IBVS 887: +0.014 +0.005 +0.022  
 +0.014 +0.019 +0.004 +0.012  
 +0.013

\*\* see next page's footnote

cur- rent no.	star	minimum or- der	JD hel 244...	0 - C	n	ob- ser- ver	cur- rent no.	star	minimum or- der	JD hel 244...	0 - C	n	ob- ser- ver
6640		I	2276.572	**	15	KL	6685	RR Dra	I	2266.464	+0.100	16	HP
6641		II	2285.613	**	8	KL	6686	RZ Dra	I	2261.605	-0.023	6	KL
6642		I	2288.503	**	7	KL	6687		I	2266.571	-0.015	6	KL
6643		I	2289.529	**	11	KL	6688		I	2275.381	-0.019	10	RG
6644		I	2290.546	**	5	KL	6689		I	2275.381	-0.019	8	RD
6645		I	2291.562	**	12	KL	6690		I	2275.387	-0.013	10	HP
6646		II	2296.510	**	6	KL	6691		I	2296.309	-0.024	7	RD
6647		II	2299.579	**	14	KL	6692		I	2296.322	-0.011	7	KL
6648		II	2301.614	**	9	KL	6693		I	2296.346	+0.013	7	RG
6649		I	2302.480	**	7	KL	6694		I	2302.370	-0.023	9	RG
6650		II	2302.645	**	7	KL	6695		I	2302.388	-0.005	11	HP
6651		I	2303.489	**	7	KL	6696		I	2318.340	-0.028	8	RG
6652		I	2304.516	**	5	KL	6697	TW Dra	I	2272.541	-0.032	8	RD
6653		I	2306.568	**	5	KL	6698		I	2303.403	-0.046	13	HP
6654		I	2318.506	**	12	KL	6699	S Equ	I	2318.415	+0.003	19	HP
6655	XY Cet	I	2289.565	-0.023	10	RD	6700		I	2318.420	+0.008	14	KL
6656	AA Cet	I	2289.559	*	8	RD	6701	RU Eri	I	2298.644	+0.009	5	KL
6657		I	2289.559	*	11	KL	6702	TZ Eri	I	2299.598	-0.038	10	KL
6658		I	2298.675	*	10	KL	6703	WX Eri	I	2266.583	+0.010	6	KL
6659		II	2301.620	*	8	KL	6704		I	2289.634	+0.009	8	RD
6660		I	2318.505	*	11	KL	6705		I	2289.637	+0.013	10	KL
6661	K3Π 7265	I	2288.418	***	8	KL	6706		I	2318.458	+0.019	10	KL
6662	CrB	II	2296.357	***	8	RD	6707	YY Eri	II	2301.612	-0.003	6	KL
6663		II	2296.371	***	7	KL	6708		I	2305.640	+0.006	7	KL
6664	UW Cyg	I	2299.378	-0.015	13	HP	6709		I	2306.594	-0.004	6	KL
6665	ZZ Cyg	I	2273.417	-0.031	10	HP	6710	RX Her	I	2303.367	-0.001	8	RD
6666		I	2302.330	-0.035	9	HP	6711		I	2303.378	+0.011	10	RG
6667	AE Cyg	I	2285.376	-0.005	7	KL	6712	SZ Her	I	2263.539	+0.027	10	KL
6668		I	2318.331	+0.008	10	KL	6713		I	2272.536	+0.024	8	RD
6669	BR Cyg	I	2304.358	+0.012	8	RG	6714		I	2273.365	+0.036	9	RG
6670	DK Cyg	I	2273.462	+0.008	11	KL	6715		I	2318.349	+0.025	11	HP
6671		I	2273.470	+0.016	6	RD	6716		I	2318.355	+0.030	10	KL
6672	V 456 Cyg	I	2263.619	+0.015	15	KL	6717	TT Her	I	2273.356	-0.021	7	RD
6673		II	2277.415	-0.003	8	HP	6718	TX Her	II	2252.527	-0.005	15	PC
6674		II	2302.392	+0.021	11	HP	6719	UX Her	I	2288.383	-0.045	10	RG
6675		II	2318.398	-0.015	16	HP	6720		I	2291.479	-0.047	5	KL
6676	V 548 Cyg	I	2288.391	-0.070	9	RG	6721		I	2302.319	-0.050	8	RG
6677	W Del	I	2266.411	+0.141	14	HP	6722		I	2302.319	-0.049	10	KL
6678	FZ Del	I	2267.370	-0.005	8	RD	6723	BO Her	I	2273.456	+0.040	18	HP
6679		I	2296.349	-0.005	7	RD	6724		I	2273.456	+0.040	10	RD
6680		I	2296.352	-0.002	6	KL	6725		I	2273.461	+0.045	10	KL
6681		I	2296.353	-0.001	7	RG	6726		I	2303.377	+0.051	15	HP
6682		I	2303.396	-0.007	8	RD	6727	GL Her	I	2304.366	+0.067	8	HP
6683		I	2303.403	0.000	15	HP	6728	SW Lac	I	2261.554	-0.063	7	KL
6684	Z Dra	I	2302.472	+0.001	11	HP	6729		I	2262.514	-0.065	6	RD

\*\* GCVS period erroneous, 0 - C according to the elements of BBSAG Bulletin 11: preceding page: -0.009 0.000 -0.009 -0.006

this page: -0.006 +0.003 +0.001 -0.001 -0.006 -0.012 -0.006 -0.004 -0.015  
-0.001 -0.006 -0.014 -0.010 -0.002 +0.007

\* not contained in the GCVS, 0 - C according to Bloomer's (new) elements IBVS 745: -0.003 -0.002 -0.001 -0.006 -0.010

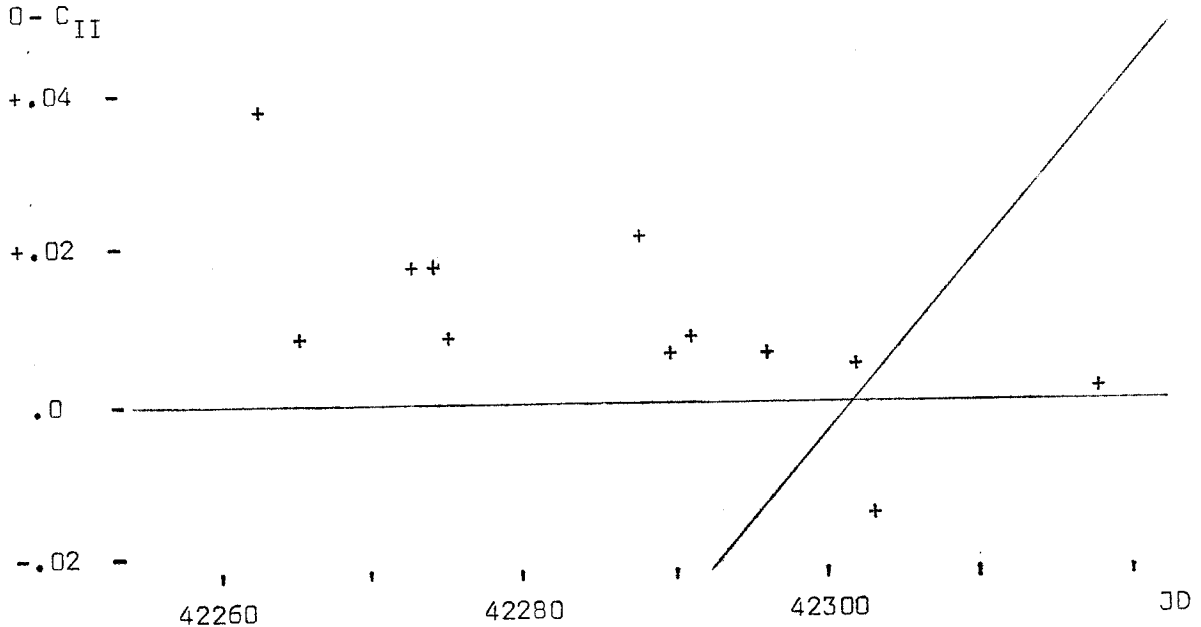
\*\*\* not contained in the GCVS, 0 - C according to the elements of Цесевич and

cur- rent no.	star	minimum or- der	JD hel 244...	0 - C	n	ob- ser- ver	cur- rent no.	star	minimum or- der	JD hel 244...	0 - C	n	ob- ser- ver
6730		I	2262.518	-0.061	6	KL	6785	RT Per	I	2302.410	-0.051	7	KL
6731		I	2266.364	-0.064	7	RG	6786	XZ Per	I	2262.565	+0.011	8	KL
6732		I	2273.411	-0.073	10	RG	6787	IQ Per	I	2262.576	*	6	RD
6733		II	2274.539	-0.068	12	KL	6788	IU Per	I	2289.592	+0.041	11	RD
6734		I	2275.343	-0.066	8	RG	6789	/β Per	I	2318.310	-0.053	13	KL
6735		II	2288.330	-0.068	8	RG	6790	UV Psc	I	2272.523	+0.017	6	KL
6736		I	2290.418	-0.065	10	RG	6791		I	2272.525	+0.019	6	RD
6737		II	2296.333	-0.083	6	RG	6792		I	2291.470	+0.021	6	KL
6738		II	2296.355	-0.061	8	KL	6793	RW PsA	I	2273.502	-0.055	5	RD
6739		II	2304.369	-0.066	7	RG	6794		I	2273.506	-0.051	6	KL
6740		II	2305.331	-0.066	10	KL	6795		II	2296.402	-0.043	10	KL
6741		II	2306.605	-0.075	7	KL	6796		II	2301.440	-0.052	5	KL
6742		I	2318.320	-0.066	8	RG	6797		I	2303.420	-0.054	10	KL
6743		I	2318.321	-0.065	10	HP	6798		II	2318.382	-0.052	10	KL
6744	TW Lac	I	2299.374	-0.057	11	HP	6799	U Sge	I	2275.452	+0.001	18	RG
6745		I	2302.415	-0.055	14	HP	6800		I	2275.463	+0.012	14	HP
6746	CM Lac	I	2285.333	+0.005	7	RG	6801	YY Sgr	I	2303.354	-0.003	8	RD
6747	UZ Lyr	I	2273.351	-0.010	8	RG	6802	V505 Sgr	I	2274.461	-0.031	15	HP
6748	FL Lyr	I	2290.350	+0.005	10	RG	6803	U Sct	I	2267.418	+0.015	6	KL
6749		I	2303.391	-0.023	13	HP	6804	RS Sct	I	2272.421	+0.016	11	KL
6750	U Oph	I	2269.378	-0.002	10	HP	6805		I	2288.370	+0.023	9	KL
6751		I	2274.403	-0.009	11	HP	6806		I	2296.330	+0.013	6	RD
6752		II	2290.345	-0.003	9	RG	6807		I	2296.335	+0.018	6	KL
6753	V449 Oph	I	2273.411	+0.046	11	HP	6808		I	2302.329	+0.034	7	RG
6754		I	2273.413	+0.048	8	RD	6809		I	2304.305	+0.016	10	KL
6755		I	2273.416	+0.051	10	KL	6810		I	2304.312	+0.024	10	RG
6756	V501 Oph	I	2266.423	+0.002	13	HP	6811		I	2308.298	+0.024	7	KL
6757		I	2296.422	-0.005	11	HP	6812		I	2318.258	+0.021	12	KL
6758		I	2299.332	+0.001	12	HP	6813	RZ Sct	I	2289.8:	+0.2:	4	KL
6759	V506 Oph	II	2273.492	+0.062	12	RD	6814	AO Ser	I	2257.424	-0.004	8	KL
6760	V508 Oph	I	2262.498	+0.017	6	KL	6815		I	2267.428	0.000	8	RD
6761		II	2263.376	+0.032	6	RG	6816		I	2275.340	-0.003	11	KL
6762		II	2266.461	+0.014	10	HP	6817		I	2275.343	+0.001	7	RD
6763		II	2275.416	+0.005	7	HP	6818	RW Tau	I	2289.621	-0.074	15	RD
6764		II	2303.342	+0.003	9	RD	6819		I	2289.628	-0.067	17	KL
6765		II	2303.349	+0.010	9	HP	6820	CT Tau	I	2289.599	+0.025	10	RD
6766	V839 Oph	II	2267.406	-0.004	11	RD	6821		I	2291.604	+0.030	11	KL
6767		I	2272.548	+0.026	6	RD	6822		I	2299.608	+0.029	7	KL
6768		I	2275.395	+0.010	8	RD	6823	X Tri	I	2273.442	-0.031	10	HP
6769	V1010 Oph	I	2210.526	-0.037	12	RR	6824		I	2273.442	-0.031	9	RD
6770		I	2216.464	-0.052	6	RR	6825		I	2274.411	-0.033	9	HP
6771		I	2232.350	-0.041	7	PC	6826		I	2304.532	-0.030	4	KL
6772		I	2267.384	-0.063	6	KL	6827		I	2308.416	-0.032	7	KL
6773		I	2267.385	-0.062	9	RD	6828	V Tri	I	2299.670	+0.015	6	KL
6774		I	2273.348	-0.052	9	RG	6829		I	2318.409	+0.027	10	KL
6775		I	2318.300	-0.078	11	RG	6830	VV UMa	I	2277.402	+0.066	26	CR
6776		I	2318.302	-0.076	10	KL	6831	Z Vul	I	2262.548	+0.000	8	KL
6777	U Peg	II	2303.349	-0.013	5	RD	6832		I	2262.555	+0.015	10	RD
6778	AW Peg	I	2275.501	+0.041	8	KL	6833		I	2272.383	+0.023	6	KL
6779	BN Peg	I	2288.318	-0.295	5	KL	6834		I	2289.547	+0.003	7	RD
6780		I	2303.301	-0.291	7	RD	6835		I	2289.547	+0.003	7	KL
6781	DI Peg	I	2289.427	-0.016	12	HP	6836		I	2299.380	+0.016	13	HP
6782		I	2304.376	-0.015	7	RG	6837	RS Vul	I	2202.393	-0.002	9	PC
6783	EF Peg	I	2286.524	-0.061	11	RM	6838		I	2211.383	+0.033	5	PC
							6839	BE Vul	I	2273.375	+0.006	9	RD
							6840	BI Vul	II	2272.503	+0.054	7	KL
							6841	BO Vul	I	2276.544	-0.050	6	KL
							6842	BS Vul	I	2275.371	-0.003	8	RD

A D S 1 6 9 3 A A n d

Observations favour alternative I I  
of Walker's elements (IBVS 855)

figure 17



Observations of this probable EW binary have been reported in the minimum lists of BBSAG Bulletin 13, 14, and 17. Whereas the few 1973 results first seemed to favour Walker's I elements (IBVS 855), figure 17 shows now quite clearly the grouping of the O-C<sub>II</sub> residuals near zero. If Walker's I elements (or: period) were correct, the dots should cluster on (or: parallel to, respectively) the oblique line. This diagram contains all 1974 results hitherto obtained.

K. Locher

C U A n d

note on minimum brightness, totality, and O-C

The 1969 and 1971 issues of the GCVS give  $m_{pg \text{ min}} = 13.6$  and  $d=0$  for this EA type binary. My observation of the minimum of JD 2442318 however has yielded rather different values: While the maximum brightness seems to agree near 12.5, I obtained by comparison to the AAVSO sequence for Z And

$$m_v \text{ min} = 14.9 \pm .2$$

whence, assuming a subgiant secondary suggested by the large amplitude,

$$m_{pg \text{ min}} \approx 16$$

Totality began near UT 2<sup>h</sup>10<sup>m</sup> and lasted until dawn, so that the following limits can be stated:

$$d > 85 \text{ minutes}$$

$$O-C_{GCVS \ 1969} > +0.04^d$$

K. Locher

(continued from page 4 :)

cur- rent no.	star	minimum or- der	JD hel 244...	O - C	n ser- ver
6844		I	2273.412	+0.001	10 HP
6845		I	2273.419	+0.008	7 RD
6846		I	2285.363	+0.004	10 KL
6847		I	2318.362	+0.001	12 HP
6848	CD Vu1	I	2303.374	-0.023	5 RD
6849		I	2303.382	-0.014	6 KL

\*no period given by the GCVS,  
O - C according to Dischof's  
elements ICVS 673: +0.004

The Duration of Totality of YZ Aql

The 1969 and 1971 issues of the GCVS giving no 'd' value for this large amplitude EA binary, I would like to supply here that I obtained

$$d = (3.2 \pm .2) \text{ hours} \quad \text{or} \quad (.029 \pm .002) \text{ period}$$

observing the minimum of JD 24442296.

K. Locher

Note on the Minimum Brightness of BO Her

The 1969 and 1971 issues of the GCVS give  $12^{mV}.7$  for the minimum magnitude of this large amplitude EA binary. After the observation of the minimum of JD 2442273 by both of us we presume that this value might have been obtained by insufficient separation from the closer (western) companion and suggest it to be replaced by

$$13^{mV}.8 \pm .2$$

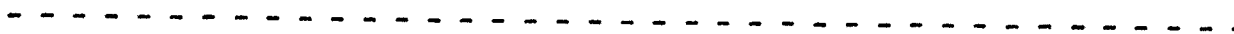
from comparison to the nearby AAVSO sequence for RZ Herculis.

R. Diethelm & K. Locher

Erratum

BBSAG Bulletin 16, page 3

V 913 Oph: The minimum no. 6448 is an erroneous repetition of no. 5459 of Bulletin 11



NOTE TO NEW ADDRESSEES

IF THIS ISSUE IS YOUR FIRST RECEIPT OF THE BBSAG BULLETIN AND IF YOU ARE ALREADY ADDRESSEE OF THE 'BAV RUND BRIEF', THIS WILL BE A RESULT OF A RECENT MUTUAL COMPLETION OF THE ADDRESS REGISTERS OF BAV AND BBSAG.

A SUBSEQUENT DELIVERY WITH NO.<sup>S</sup> 1 TO 16 WILL BE POSSIBLE ONLY EXCEPTIONALLY.

