

# BBSAG Bulletin 51

1980 December 6

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

The following table lists 319 visual minima obtained mainly during 1980 October and November by the observers

- MA Maria Andrakakou, Athens, Greece
- GB Guy Boistel, Ornault, France
- AB Alberto Buzzoni, Ferrara, Italy
- RD Roger Diethelm, Flüh, Switzerland
- DE Demetrius P. Elias, Penteli, Greece
- RG Robert Germann, Wald, Switzerland
- DL Didier Leyman, Leval - Trahegnies, Belgium
- RLe Robert Leyman, Leval - Trahegnies, Belgium
- KL Kurt Locher, Grüt, Switzerland
- GM George Mavrofridis, Athens, Greece
- EN Edmond Nezry, Beer - Sheva, Israel
- IN Ioulia Nikolaou, Pireas, Greece
- APa Aristos Parris, Larisa, Greece
- HP Hermann Peter, Otelfingen, Switzerland
- PR Philippe Ralincourt, Tunis, Tunisia
- NS Nikolaos Stoikidis, Larisa, Greece
- GT Gilles Troispoux, Fleury les Aubrais, France

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.

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(footnotes to page 2 :)

\* GCVS 1969 period erroneous, O-C according to the GCVS 1976: +.010 +.014

\*\* not contained in the GCVS 1969, O-C according to the GCVS 1976: +.069 +.065 +.071 +.086 +.072 +.074

\*\*\* no period given by the GCVS 1969, O-C according to the GCVS 1974: +.092 +.081 +.084 +.091 +.092 +.094

§ § ambiguous minimum orders due to lack of recent observations: As judged from the O-C, § should be secondary and §§ primary, but as judged from the estimated brightness, reversely.

cur- rent no.	star	minimum or- der	JD hel 244...	0-C	n ser- ver	ob- ser- ver	cur- rent no.	star	minimum or- der	JD hel 244...	0-C	n ser- ver	ob- ser- ver
16159	RT	And	I 4490.320	-.005	7	GM	16212		I 4555.386	+.014	6	KL	
16160			I 4503.514	-.019	9	GM	16213		I 4569.285	+.012	8	RG	
16161			I 4512.318	-.020	8	RG	16214		I 4569.299	+.027	6	KL	
16162			I 4541.255	-.014	8	RG	16215	CZ	Aqr	I 4528.422	+.014	7	GM
16163			I 4551.299	-.033	7	GM	16216		I 4566.380	+.010	7	KL	
16164	TT	And	I 4540.337	-.055	8	HP	16217	00	Aql	I 4487.413	-.049	7	GM
16165	TW	And	I 4561.414	+.033	7	KL	16218		I 4488.426	-.050	7	GM	
16166	UU	And	I 4529.294	+.120	7	KL	16219		I 4489.440	-.050	7	GM	
16167			I 4529.303	+.130	7	DE	16220		I 4490.452	-.051	9	GM	
16168			I 4566.453	+.122	6	KL	16221		I 4491.464	-.052	6	GM	
16169	WX	And	I 4555.394	-.391	7	KL	16222		I 4492.478	-.053	8	GM	
16170	WZ	And	I 4552.318	-.027	6	KL	16223		I 4493.491	-.052	7	GM	
16171			I 4556.488	-.032	4	KL	16224		I 4517.319	-.045	6	GM	
16172			I 4561.362	-.027	6	KL	16225		I 4523.384	-.060	6	NS	
16173	XZ	And	I 4541.310	-.045	10	RD	16226		I 4523.386	-.058	13	KL	
16174			I 4541.311	-.043	8	HP	16227		I 4525.444	-.028	7	HP	
16175	AB	And	II 4516.582	+.033	9	RG	16228		II 4533.274	-.053	8	RG	
16176			I 4533.338	+.029	9	RG	16229		II 4567.224	-.058	7	RG	
16177			I 4539.311	+.027	7	RG	16230		II 4569.265	-.044	11	RG	
16178			I 4539.318	+.034	8	RD	16231	V 343	Aql	I 4565.236	-.012	6	KL
16179			I 4540.307	+.028	8	RD	16232		I 4565.238	-.010	9	HP	
16180			I 4540.308	+.029	7	RG	16233	V 346	Aql	I 4539.353	-.018	9	RD
16181			I 4541.298	+.030	9	RD	16234		I 4569.227	-.014	10	RG	
16182	BL	And	I 4512.356	-.025	7	HP	16235	SS	Ari	II 4539.326	-.106	9	RD
16183	EP	And	I 4516.410	*	9	KL	16236	AR	Aur	II 4548.345	-.005	5	GM
16184			I 4561.270	*	6	KL	16237	CL	Aur	I 4533.659	+.029	7	KL
16185	EX	And	I 4566.284	-.440	7	KL	16238	TU	Boo	I 4563.668	-.001	6	KL
16186	GZ	And	II 4528.325	**	6	KL	16239	ZZ	Boo	I 4341.388	+.007	36	AB
16187			I 4531.219	**	8	KL	16240	SV	Cam	I 4489.480	-.008	6	GM
16188			II 4531.378	**	5	KL	16241		I 4498.366	-.017	5	GM	
16189			I 4566.316	**	6	KL	16242		I 4501.347	-.002	7	GM	
16190			II 4566.455	**	5	KL	16243		I 4517.340	-.021	6	GM	
16191			I 4566.609	**	7	KL	16244		I 4523.278	-.014	11	KL	
16192	RY	Aqr	I 4539.324	-.121	7	HP	16245		I 4523.280	-.012	7	NS	
16193			I 4539.329	-.115	9	RG	16246		I 4524.475	-.004	5	GM	
16194			I 4541.281	-.130	10	RD	16247		I 4542.267	-.004	8	NS	
16195			I 4541.289	-.122	8	HP	16248		I 4552.331	-.022	8	RG	
16196			I 4541.294	-.116	8	RG	16249		I 4552.346	-.007	4	GM	
16197			I 4543.248	-.129	8	HP	16250		I 4559.470	.000	7	GM	
16198	XZ	Aqr	I 4490.403	***	6	KL	16251	RZ	Cas	I 4443.364	+.001	36	AB
16199			I 4527.457	***	11	IN	16252		I 4462.491	+.003	46	EN	
16200			I 4527.460	***	11	MA	16253		I 4462.495	+.008	27	PR	
16201			I 4527.467	***	14	DE	16254		I 4468.462	-.001	37	PR	
16202			I 4527.468	***	7	GM	16255		I 4468.464	.000	56	EN	
16203			I 4527.470	***	12	KL	16256		I 4486.392	.000	23	GB	
16204	AT	Aqr	§ 4529.376	+.042	7	KL	16257		I 4486.395	+.003	23	DL	
16205			§ 4529.382	+.048	7	DE	16258		I 4486.395	+.003	15	RLe	
16206			§ 4566.323	+.042	6	KL	16259		I 4498.347	+.002	55	GB	
16207	AU	Aqr	I 4528.303	+.012	6	KL	16260		I 4498.347	+.002	12	GT	
16208	CR	Aqr	I 4525.300	+.180	26	DE	16261		I 4517.472	+.004	60	GB	
16209	CX	Aqr	I 4516.467	+.013	6	KL	16262		I 4517.473	+.005	7	GM	
16210			I 4525.368	+.019	8	HP	16263		I 4541.375	+.002	43	GB	
							16264		I 4559.303	+.001	6	GM	
							16265		I 4565.278	.000	9	RG	
							16266		I 4565.279	.000	9	GM	

cur- rent no.	star	minimum or- der	JD hel 244...	O-C	ob- n ser- ver	cur- rent no.	star	minimum or- der	JD hel 244...	O-C	ob- n ser- ver
16268		I	4515.439	-.041	9 GM	16312	V 370 Cyg	I	4541.292	+.042	10 RD
16269		I	4524.519	-.024	9 GM	16313	V 387 Cyg	I	4567.297	+.060	7 HP
16270		I	4564.396	-.025	8 GM	16314	V 456 Cyg	I	4518.343	+.026	10 HP
16271	CW Cas	I	4540.303	+.072	8 RD	16315		I	4543.296	+.025	11 HP
16272	IS Cas	I	4543.317	-.015	9 HP	16316		I	4567.366	+.033	10 HP
16273	V 523 Cas	I	4533.336	*	6 KL	16317	V 477 Cyg	I	4541.314	-.019	11 RD
16274		II	4565.235	*	7 KL	16318		I	4541.325	-.009	6 RG
16275	U Cep (n)	I	4561.548	+.047	9 KL	16319	V 548 Cyg	I	4523.261	-.108	6 RG
16276	ZZ Cep	I	4540.243	-.008	7 RG	16320		I	4541.319	-.102	6 RG
16277	BR Cep	I	4516.401	-.098	6 KL	16321		I	4541.350	-.071	10 HP
16278	EG Cep	I	4540.319	+.023	7 RG	16322	V 700 Cyg	II	4539.346	-.053	8 RD
16279		I	4541.410	+.024	7 HP	16323	V 728 Cyg	I	4565.365	+.064	16 HP
16280		I	4564.292	+.032	7 RG	16324	W Del	I	4496.424	+.150	10 GM
16281		I	4565.373	+.024	9 HP	16325	TT Del	I	4543.348	+.061	15 HP
16282	TW Cet	II	4516.567	-.020	8 RG	16326	TY Del	I	4541.270	+.022	7 RG
16283		I	4523.370	-.030	15 KL	16327	FZ Del	I	4525.368	-.011	7 HP
16284		I	4523.374	-.025	6 NS	16328		I	4569.228	-.010	6 KL
16285		I	4523.379	-.020	10 APa	16329	RR Dra	I	4534.361	+.182	8 KL
16286		II	4526.385	-.024	8 NS	16330	RZ Dra	I	4543.346	-.013	6 HP
16287		I	4555.366	-.035	7 KL	16331	UZ Dra	I	4541.290	-.039	8 RG
16288	TX Cet	I	4486.514	-.004	6 KL	16332	AI Dra	I	4460.485	+.020	17 PR
16289	} <i>neu</i>	I	4555.428	+.011	6 KL	16333		I	4466.471	+.012	9 PR
16290		I	4567.293	+.023	7 KL	16334		I	4496.436	+.006	37 GB
16291	VY Cet	II	4555.395	**	8 KL	16335		I	4544.384	-.007	37 GB
16292	AA Cet	I	4526.452	***	6 KL	16336	S Equ	I	4524.393	+.023	7 GM
16293		I	4555.416	***	6 KL	16337		I	4555.322	+.027	10 HP
16294	UZ Cyg	I	4513.08	-.68	6 HP	16338	YY Eri	I	4516.552	-.011	8 RG
16295	ZZ Cyg	I	4526.378	-.036	10 NS	16339	AM Eri	I	4527.563	****	9 KL
16296		I	4528.269	-.031	12 NS	16340		I	4527.577	****	9 IN
16297		I	4533.295	-.034	6 KL	16341		I	4528.515	****	6 KL
16298		I	4533.300	-.029	8 HP	16342		I	4566.501	****	6 KL
16299		I	4555.302	-.029	7 HP	16343	<sup>(part) neu</sup> CK Gem	I	4566.530	-.004	6 KL
16300	BR Cyg	I	4512.424	+.021	8 HP	16344	RX Her	I	4512.326	-.028	7 RG
16301	CG Cyg	I	4501.397	-.023	8 NS	16345		I	4569.248	-.020	7 RG
16302		I	4503.285	-.028	9 APa	16346	SZ Her	I	4499.401	+.039	8 NS
16303		I	4503.291	-.023	9 NS	16347	<sup>44513.312</sup>	I	4513.278	+.039	9 NS
16304		I	4515.283	-.023	8 NS	16348		I	4517.401	+.040	8 NS
16305		I	4537.413	-.021	8 NS	16349		I	4540.296	+.029	10 RG
16306		I	4539.263	-.025	7 RG	16350	DH Her	I	4540.314	-.053	11 HP
16307		I	4539.266	-.023	7 HP	16351	V 338 Her	I	4533.329	+.106	10 HP
16308		I	4542.424	-.020	8 NS	16352		I	4567.269	+.097	12 HP
16309	KR Cyg	I	4498.349	+.017	7 GM						
16310		I	4503.387	-.015	8 GM						
16311		I	4514.387	-.002	9 GM						

\* not contained in the GCVS 1969, O-C according to the GCVS 1976: +.002 +.002

\*\* GCVS 1969 period erroneous, O-C according to the GCVS 1976: -.004

\*\*\* not contained in the GCVS 1969, O-C according to the GCVS 1974: -.025 -.014

\*\*\*\* O-C according to the GCVS exceeds many periods, O-C according to the elements of BBSAG Bulletin 50, page 5: -.006 +.008: -.004 -.007

(n) not disturbed according to the criteria of Crawford and Olson, PASP 91, page 413, 1979

cur- rent no.	star	minimum or- der	JD hel 244...	O-C	n ser- ver	ob- serv	cur- rent no.	star	minimum or- der	JD hel 244...	O-C	n ser- ver	ob- serv
16353	SW Lac	I	4523.259	-.133	6	RG	16395	AT Peg	I	4525.336	-.101	10	HF
16354		I	4539.297	-.131	7	RG	16396		I	4526.476	-.107	9	HF
16355		I	4548.293	-.116	10	GM	16397		I	4541.378	-.105	9	HF
16356		II	4550.365	-.128	10	GM	16398	BY Peg	I	4516.452	+.076	7	KL
16357		I	4554.369	-.134	10	GM	16399		II	4569.296	+.092	6	KL
16358		I	4558.232	-.119	8	GM	16400	CW Peg <sup>new</sup>	I	4513.304	-.264	6	KL
16359		II	4561.257	-.141	7	RG	16401	DI Peg	I	4497.486	-.017	8	GM
16360		II	4562.252	-.109	8	GM	16402		I	4517.416	-.018	7	GM
16361		I	4564.314	-.131	7	RG	16403		I	4524.534	-.018	10	GM
16362		I	4565.272	-.135	7	RG	16404		I	4567.242	-.020	10	HF
16363		II	4569.276	-.140	6	RG	16405		I	4567.245	-.017	7	RC
16364	VX Lac	I	4564.345	-.072	8	HP	16406	ER Peg	II	4541.269	-.066	7	RC
16365	CM Lac	I	4485.348	-.012	8	GM	16407	Z Per	I	4528.398	+.014	6	GM
16366		I	4493.372	-.012	8	GM	16408	RT Per	I	4564.363	-.068	7	HF
16367		I	4501.410	+.003	6	GM	16409	RV Per	I	4541.414	+.019	9	HF
16368		I	4517.450	-.005	10	GM	16410		I	4543.392	+.024	12	HF
16369		I	4525.473	-.005	7	GM	16411	ST Per	I	4515.512	-.024	11	GM
16370		I	4567.210	+.011	7	RG	16412	WY Per	I	4528.415	-.049	6	KL
16371	T LMi	I	4533.675	-.134	8	KL	16413	XZ Per	I	4539.342	+.010	9	RC
16372	RS Lep	I	4552.514	-.004	11	GM	16414		I	4555.467	+.012	6	KL
16373	SX Lyn	I	4563.708	-.337	6	KL	16415	KW Per	I	4516.426	+.041	7	KL
16374	TZ Lyr	I	4525.283	+.032	6	HP	16416		I	4517.357	+.041	9	NE
16375		I	4543.272	+.042	7	HP	16417		I	4556.467	+.038	6	KL
16376		I	4561.247	+.036	9	RG	16418	LX Per <sup>new</sup>	I	4540.303	+.323	10	RC
16377	EW Lyr	I	4533.370	+.078	10	HP	16419	QU Per	I	4555.489	**	5	KL
16378	$\beta$ Lyr	I	4540.28	*	5	RG	16420	$\beta$ Per	I	4566.271	-.126	9	RC
16379		I	4553.22	*	5	RG	16421	Y Psc	I	4524.336	+.159	15	KL
16380	BM Mon	I	4528.537	+.008	6	KL	16422		I	4524.352	+.175	8	GM
16381	GO Mon <sup>new</sup>	I	4566.440	-.217	6	KL	16423	X PsA <sup>new</sup>	II	4566.302	+.009	6	KL
16382	HM Mon	I	4528.583	+.061	7	KL	16424	RW PsA	II	4567.231	-.069	7	KL
16383	<sup>new</sup>	I	4563.638	+.068	7	KL	16425	RZ Pyx	I	4563.700	+.210	6	KL
16384		I	4566.516	+.092	6	KL	16426	U Sge	I	4503.303	+.025	5	GM
16385	U Oph	II	4442.380	-.002	30	AB	16427	RT Scl	I	4567.388	-.133	8	KL
16386	V 451 Oph	I	4443.378	+.014	39	AB	16428	RW Tau	I	4543.452	-.084	11	HP
16387	V 508 Oph	I	4533.294	+.015	8	HP	16429	AS Tau	I	4563.646	+.271	7	KL
16388	ER Ori	I	4516.546	-.020	8	RG	16430	V Tri	I	4533.398	+.015	7	HP
16389	FK Ori	I	4564.597	+.319	6	KL	16431		I	4543.355	+.023	6	HP
16390		I	4566.526	+.301	7	KL	16432		I	4567.347	+.022	10	HP
16391	FL Ori	I	4528.552	+.090	6	KL	16433	X Tri	I	4488.534	-.046	9	GM
16392	U Peg	II	4548.288	-.017	6	GM	16434		I	4489.508	-.044	10	GM
16393		II	4554.280	-.022	10	GM							
16394	UX Peg	I	4526.435	-.022	10	HP							

\* Because the O-C according to the linear elements exceeds one whole period, the quadratic term is exceptionally included to get: -.10 -.10

\*\* no period given by the GCVS, O-C according to the elements of BBSAG Bulletin 42, page 3: -.120

cur- rent no.	star	minimum or- der	JD hel 244...	0-C	n ser- ver	ob- serv	cur- rent no.	star	minimum or- der	JD hel 244...	0-C	n ser- ver	ob- serv
16435		I	4490.480	-.043	5	GM	16460		I	4566.573	-.001	6	KL
16436		I	4491.452	-.042	5	GM	16461	UX UMa	I	4533.638	.000	6	KL
16437		I	4492.424	-.042	6	GM	16462	AC UMa	I	4564.374	+.294	6	KL
16438		I	4493.397	-.041	6	GM	16463	Z Vul	I	4501.456	+.023	5	GM
16439		I	4494.362	-.048	9	GM	16464		I	4511.274	+.022	7	GM
16440		I	4495.336	-.045	4	GM	16465		I	4533.360	+.024	10	HP
16441		I	4496.313	-.039	7	GM	16466		I	4565.272	+.011	9	HP
16442		I	4524.489	-.038	10	GM	16467	AW Vul	I	4540.301	-.023	8	RD
16443		I	4525.459	-.039	7	HP	16468	AX Vul	I	4525.374	+.004	10	HP
16444		I	4527.400	-.042	5	GM	16469		I	4527.392	-.003	6	GM
16445		I	4559.462	-.040	9	GM	16470	AY Vul	I	4516.422	+.029	8	KL
16446		I	4561.405	-.040	8	KL	16471		I	4533.312	+.032	9	HP
16447		I	4564.322	-.038	9	RG	16472	BE Vul	I	4525.407	+.017	9	HP
16448		I	4565.293	-.039	9	RG	16473		I	4539.379	+.020	9	HP
16449		I	4567.235	-.040	7	KL	16474	BU Vul	I	4565.319	+.006	11	HP
16450		I	4567.241	-.033	9	RG	16475	CD Vul	I	4567.264	-.014	9	HP
16451	RV Tri	I	4540.300	-.023	9	RD	16476	GP Vul	I	4569.242	-.035	7	KL
16452		I	4543.316	-.021	9	HP	16477	NO Vul	II	4561.237	*	6	KL
16453		I	4555.372	+.025	9	HP	* not contained in the GCVS 1969, 0-C according to the GCVS 1976: +.004						
16454	RW Tri	I	4491.441	-.003	17	IN							
16455		I	4516.486	-.001	19	MA							
16456		I	4516.486	-.001	14	IN							
16457		I	4516.486	-.001	26	DE							
16458		I	4516.486	-.001	7	KL							
16459		I	4526.459	+.001	24	DE							

## G O Monocerotis

## The Minimum Brightness

is unknown according to the GCVS 1969-71-74-76 but fainter than 14.7 photographic magnitude. In the lack of calibrated comparison magnitudes I compared the minimum of JD 2444566 to my familiar comparison stars used for TV Mon, HM Mon, and IU Mon, and referring to their roughly known minimum brightnesses through notes from previous observations I obtain

$$m_{v \min I} = 15.2 \pm .3$$

K. Locher