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MISIDENTIFIED AND MISSING SOUTHERN ECLIPSING BINARIES

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As described in Dvorak (2004), a set of 442 eclipsing binaries was selected from the GCVS catalog (Kholopov 2003) that had declination < 0 , minimum magnitude brighter than 13.0, and no published times of minima later than JD 2440000 available through the NASA ADS service. Analysis of this data in Dvorak (2004) revealed that 327 stars (74.0%) matched the information in the GCVS catalog reasonably well. Another 85 stars (19.2%) were identified correctly but had radically different periods.

Of the remaining 30 stars, no match in the ASAS-3 data was found for 20 stars (4.5%). All stars within 10' radius of the position listed in the online GCVS catalog that had at least 100 observations and were no more than 1.5 magnitudes fainter than the GCVS maximum were examined. These stars are listed in Table 1, and are also available electronically on the IBVS web server.

An additional 7 stars (1.6%) were mis-classified in the GCVS catalog. Examination of the light curves from the ASAS-3 data revealed that these objects were not eclipsing binaries: 4 were RR Lyraes and 3 were tentatively identified as semi-regular variables. These stars are listed in Table 2 and again are available electronically from the IBVS web site.

The remaining 3 stars (0.7%) are mis-identified in the GCVS catalog. The positions listed for these stars in the GCVS are incorrect; the correct stars were determined by searching a 10' radius around the published position for a star matching the range and period listed in the GCVS. This data is listed in Table 3 and available from the IBVS web site.

Table 1. Missing eclipsing binaries.

Star Name	GCVS Range	GCVS Period(d)	GCVS Type
YY Car	10.0-11.5	2.64264	EA/SD
BP Car*	11.5-12.5	9.64492	EA/DS
CD Car	12.0-12.9	2.96756	EA
FS Car*	10.8-11.5	2.146587	EB
GG Car	9.1-9.5	62.086	EB/GS
GV Car*	8.92-9.32	4.294621	EA/DM
RR Col	10.2-10.7	11.305	EA
RS Crt	11.21-11.9	0.8168	EA
AY Mus	10.51-10.8	3.205558	EA/DM
SW Nor	10.5-12.0	29.6349	EA/DS
SX Nor*	12.1-12.2	3.74008	EA
TT Nor	12.6-12.9	37.246	EA/D
UW Nor*	12.0-12.7	8.48601	EA/DS:
VV Nor	12.1-12.3	1.10175	EA
CY Oph*	10.8-11.7	24.5	EA/DS:
V0604 Sco*	12.1-12.4	1.53789	EA/D:
V1108 Sgr*	11.6-12.8	46.5816	EA/DS
V1721 Sgr*	10.4-10.6	1.788564	EA/DM
EP TrA*	9.4-9.9	2.14165	EA/D
CK Vel	10.0-10.6	35.009	EA

*Notes on individual stars:

BP Car = rich star field

FS Car = close to bright star - photometry suspect; Nearby variables: BC Car (ASAS 103732-5900.6) LPV: 10.5-11.5; VV Car (ASAS 103826-5912.4) Irr 11.3-12.5

GV Car = rich field; close companion to GCVS star

SX Nor = matched star is 13.3mag; light curve noisy

UW Nor = matched star mag = 13.4

CY Oph = close companion to GCVS star

V0604 Sco = Nearby variable: V0610 Sco (ASAS 170642-3952.3) SR: 11.6-12.1 p 100d

V1108 Sgr = Nearby variable: ASAS 191203-1758.6 SR 11.7-11.9 p 85d

V1721 Sgr = close companion to GCVS star

EP TrA = nearby EO TrA has almost identical period - probably a duplicate entry

Table 2. Incorrectly classified variable stars.

Star Name	GCVS Range	GCVS Period(d)	GCVS Type	ASAS Period(d)	ASAS Epoch	ASAS Range (V)	New Type
FL Car	12.5-12.8	0.92576	EA	204:		11.6-12.0	SR
V0746 Cen	11.5-12.5	5.21035	E/SD:	0.5514	3087.73	10.2-10.9	RRAB
AW Gru	10.5-11.0	120	E:	80:		8.30-8.90	SR
BF Gru	11.2-11.8	55.8	E:	75:		10.5-11.5	SR
HH Nor	10.3-11.5	8.58313	EA/DS	0.598275	2093.53	8.6-9.0	RRAB
RU Sex*	10.6-11.4	13.07	EB:	0.350225	2226.834	10.6-11.1	RRAB
V1643 Sgr	11.8-12.1	0.679456	EW:	0.33956	2721.85	11.9-12.3	RR

*Notes on individual stars:

RU Sex = previously identified as an RR Lyrae by Brelstaff and Isles (1986) and Williams (1993)

Table 3. Incorrectly identified eclipsing binaries.

Star Name	GCVS		Updated		ASAS-3 (V mag)		GSC ID
	Range	Period(d)	Period(d)	Epoch	Pri Range	Sec Range	
V0673 Cen	10.3-10.5	0.932792	0.93266	2038.641	10.0-10.4	10.0-10.1	8271-688
EV Lup	9.8-12.5	15.312	15.31	2033.65	10.9-12.5	< 0.1	7834-1571
V3886 Sgr	11.5-12.3	1.407685	1.4077	2171.579	11.3-12.6	11.3-11.5	7492-3038

Acknowledgements: This research has made use of NASA’s Astrophysics Data System Bibliographic Services, and the All Sky Automated Survey database (<http://www.astroww.edu.pl/~gp/asas/asas.html>).

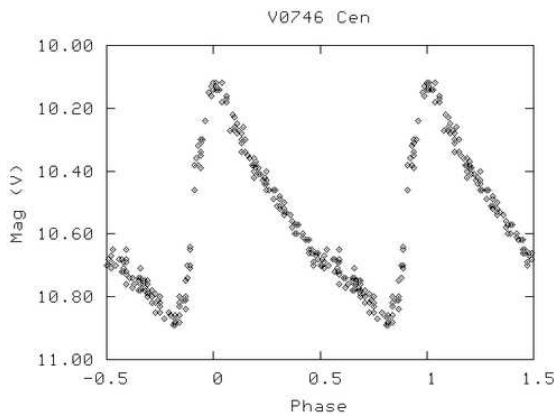


Figure 1.

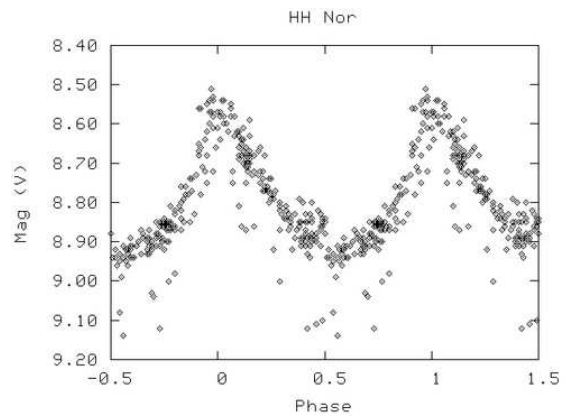


Figure 2.

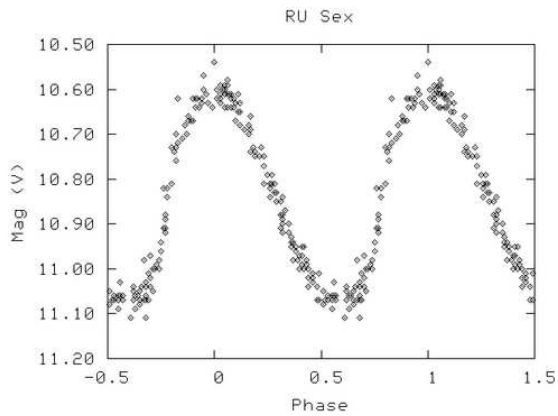


Figure 3.

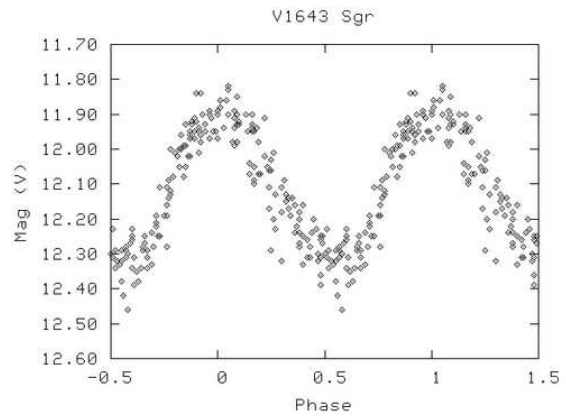


Figure 4.

References:

- Brelstaff, T.J., and Isles, J.E., 1986, *J. Brit. Astron. Assoc.*, **97**, 23
 Dvorak, S.W., 2004, *IBVS*, 5542
 Kholopov, P.N. et al., 2003, *General Catalogue of Variable Stars version 1.4*, **Vol. IV**,
<http://www.sai.msu.su/groups/cluster/gcvs/gcvs/>
 Williams, D.B., 1993, *Journal of the AAVSO*, **22**, 116

ERRATUM FOR IBVS 5549

There is a typographical error in the GSC identification of V3886 Sgr as listed in IBVS 5549. The article identified the variable as GSC 7492 3038. The correct identification is GSC 7942 3038.

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