

A Variable Star hop around the Arrow

Gary Poyner

V339 Del



V Sge/PU Vul



FG Sge

η Sge

γ Sge

WZ Sge



RZ Vul

QW Sge



RZ Sge



AW Sge



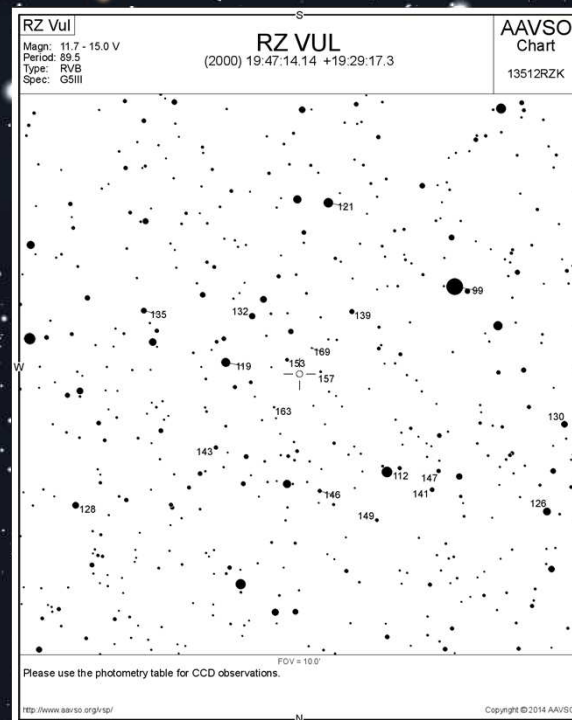
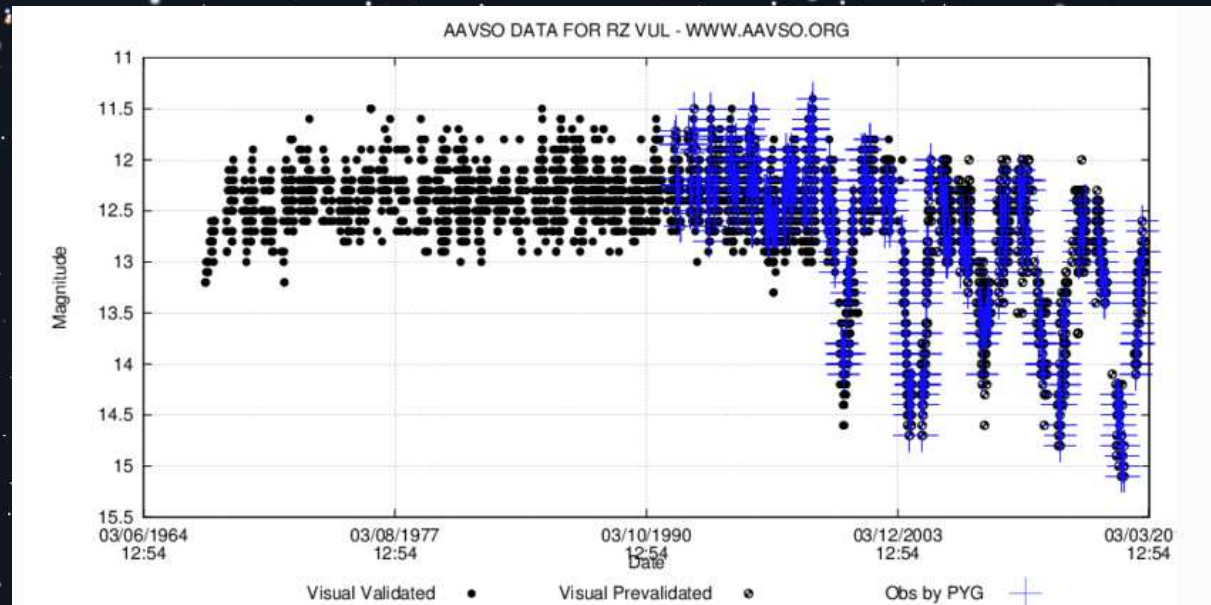
HM Sge



N
1 degree W

RZ Vul

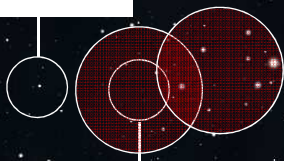
- First noted 1906 –
Von & Wolf
- Ignored for 60 years
- 1966 IBVS 135
UG/NL
- 1977 IBVS 1371
RVB
- 1986 B. Schaefer
RCB
- VSX Type RVB
11.7-15.0 V p85d



Field 1.8d

Stellarium

V339 Del



V Sge/PU Vul

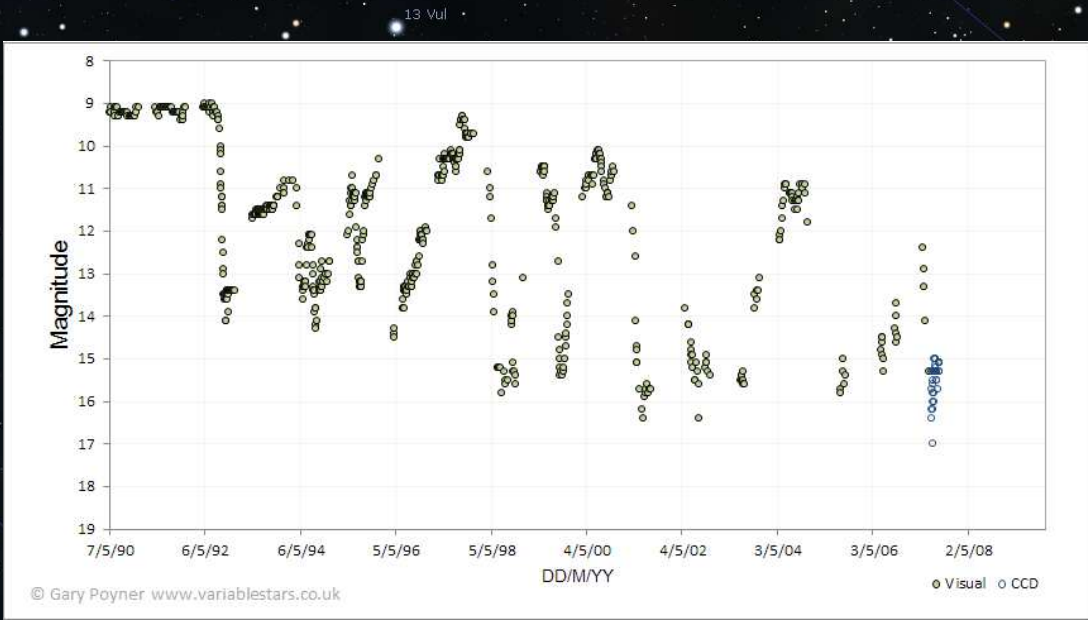
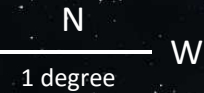
FG Sge

n Sge

WZ Sge

RZ Sge

AW Sg



FG Sge	FG Sge	AAVSO Chart
Magn: 8.7 - 23.0 V	(2000) 20:11:56.06 +20:20:04.2	X160698HA
Period:		
Type: FF		
Spec: B4Ieq-K2Ib		

FOV = 3.00'

Please use the photometry table for CCD observations.
VSP Note: 12.3 Vmag, companion 8" to the East and 17.2 Vmag, companion 4" to the NE (see VSX image)

<https://www.aavso.org/vsp/>

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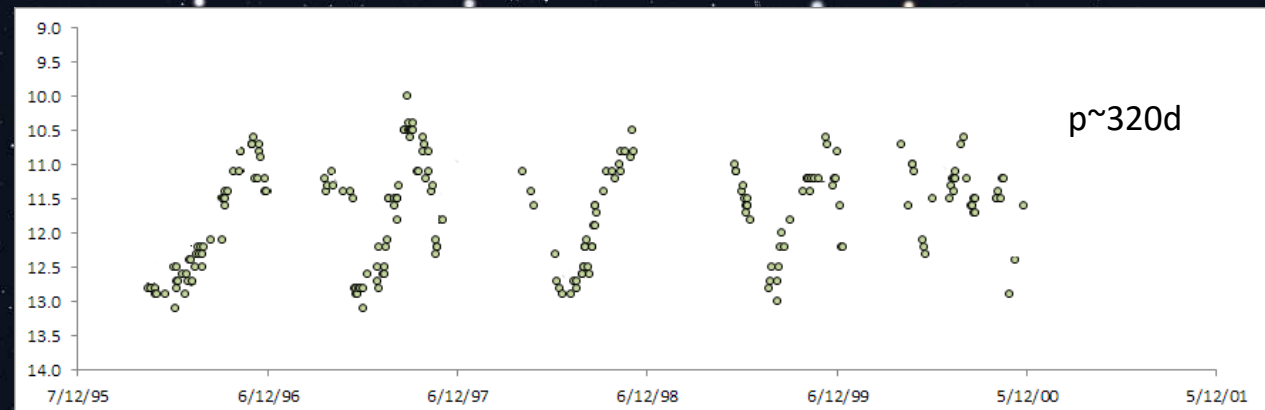
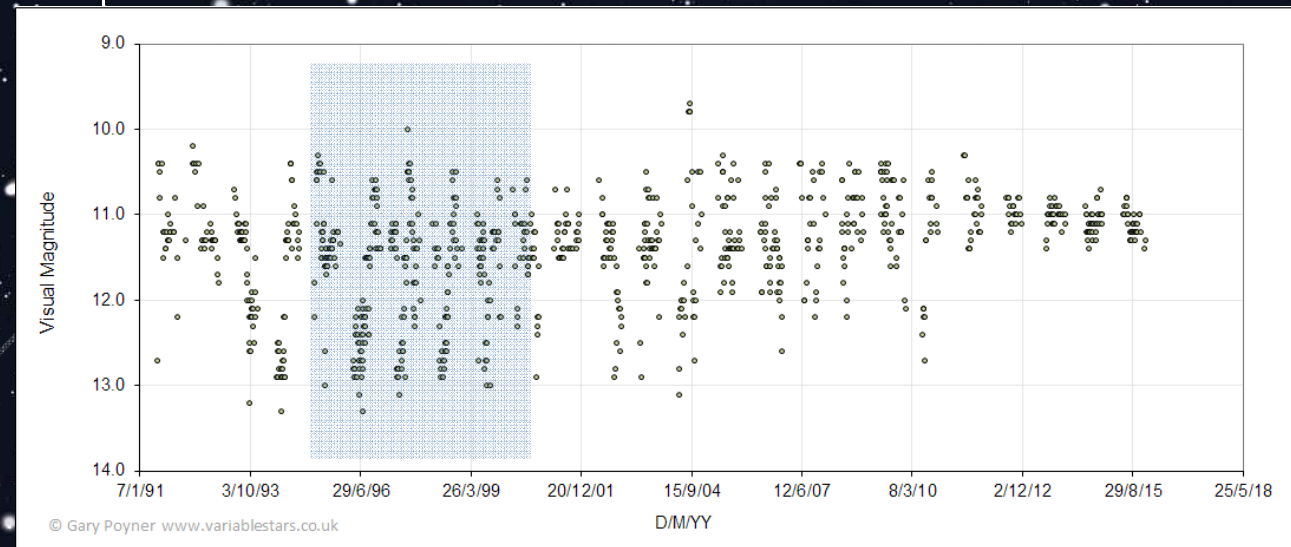


Henize 1-5

HM Sge

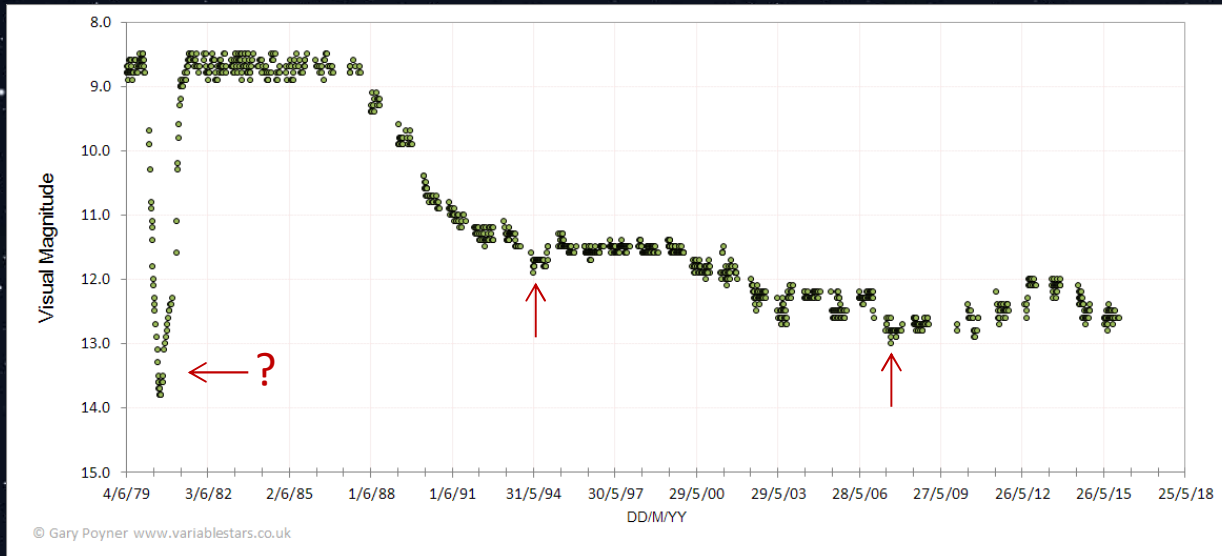
V Sge

- Type CBSS (*close binary supersoft source*) /V+E
- Mass transfer to WD?
Secondary wind
Envelope
- Range 8.6-13.9V
3 mag flares
Variations over days
Intra day variations
~320d period
high/low state
- 12.5hr p_{orb}
decreasing ~70yrs
- Eclipses vary 0.6-1.3V
- Visual amplitude decreasing

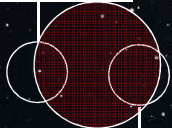


PU Vul

- Type Symbiotic Nova
- Kuwano
- Apr 05 1979 at 9.0p
- Honda
- Aug 21 1978 10.0p
- Range 8.7-16.6p
- p_{orb} 13.4yrs
Eclipses
- Three emission components
Outbursting WD
Nebula
Red Giant



V339 Del



V Sge/PU Vul



FG Sge

η Sge

γ Sge

WZ Sge



RZ Sge



AW Sge

ϵ Sge

δ Sge

λ Sge

RZ Vul



QW Sge



HM Sge



13 Vul

12 Vul

9 Vul

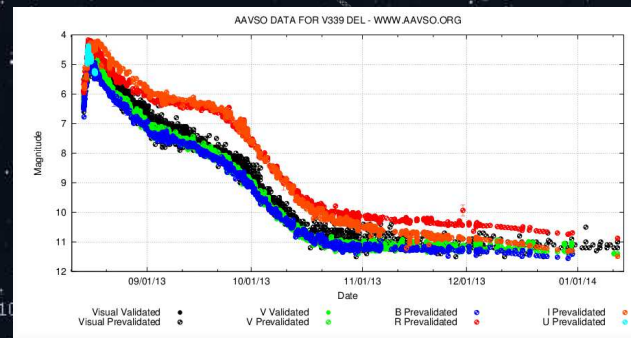
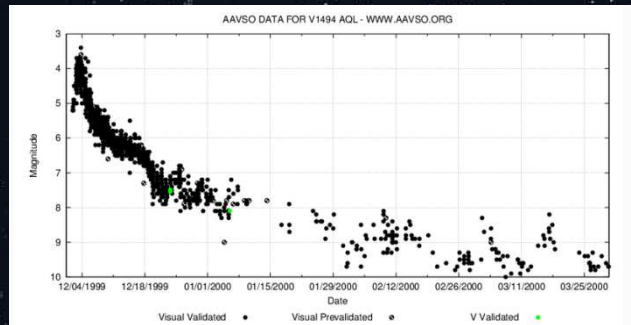
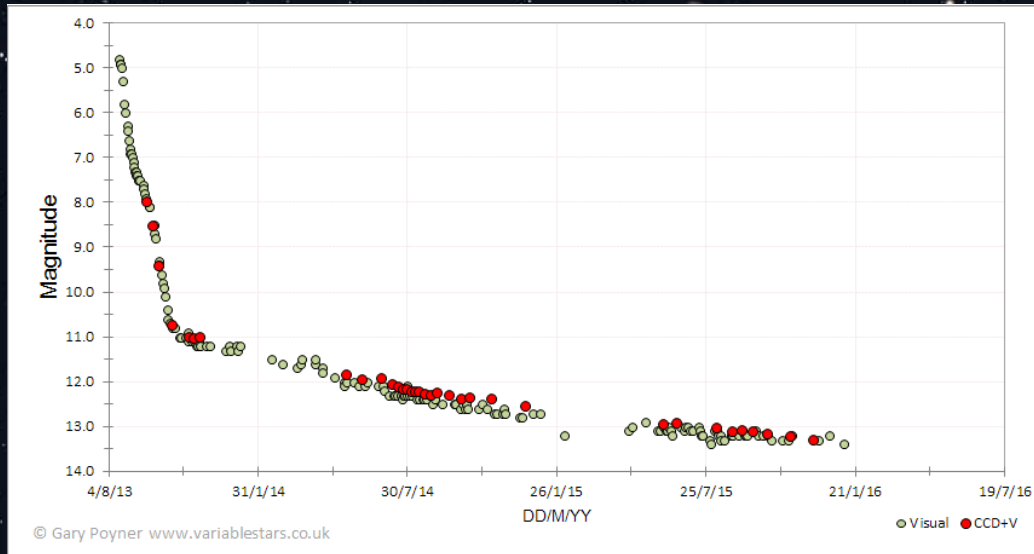
Sham

β Sge

N

W

1 degree



V339 Del Nova Del 2013

Koichi Itagaki
August 14.584UT 2013

First NE Nova since
N Aql 1999#2
V1494 Aql

Beryllium/Lithium
detection

Type NA
fast classical Nova

t2 13d t3 30d

Few observers...

Dryden Boyd
Hull Johnston
Hurst Pickard
Poyner

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RZ Vul



QW Sge



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