

# Ted Kurkowski's Interesting Variable Stars for the Northern Hemisphere

<http://home.earthlink.net/~tkurkowski/index.html>

Name	SAO #	Constellation	RA			Dec			Type	Mag Max	Mag Min	Period Days	Description
			h	m	s	D	M	S					
SU And		Andromeda	0	4	36.4	+	43	33	5 LC	8	8.5		Red Carbon Star
VX And		Andromeda	0	19	54	+	44	42	34 SRA	7.8	9.3	369	Red Carbon Star
Z And		Andromeda	23	33	40	+	48	49	6 ZAND	8	12.4		The Original Symbiotic Variable, a binary where the secondary is pulling material from the outer envelope of the primary.
R And	53860	Andromeda	0	24	1.9	+	38	34	37 M	5.8	14.9	409.33	Pulsating Mira-type red giant
AQ And		Andromeda	0	27	31.7	+	35	35	15 SR	9.9	11.8	346	
RY Aqr		Aquarius	21	20	16	-	10	48	8 EA/SD:	8.8	10.1	1.966594	Eclipsing binary
R Aqr	165849	Aquarius	23	43	49.5	-	15	17	4 M	5.8	12.4	386.96	Pulsating (Mira-type) red giant. A spectroscopic binary - companion is a variable subdwarf. Thus the system as a whole has irregular variability.
V Aql	142985	Aquila	19	4	24.2	-	5	41	5 SRB	6.6	8.4	353	Red Carbon Star
R Aql	124266	Aquila	19	6	22.3	+	8	13	48 M	5.5	12	284.2	Mira-type pulsating red giant. The variability is a bit of an optical illusion - its light output is shifting from visible to infrared as it cools; the actual energy output is only dropping one magnitude. At minimum its temperature has dropped from 2350°K to 1890°K; one of the coolest stars known.
Eta Aql	125159	Aquila	19	52	28.4	+	1	0	20 DCEP	3.48	4.39	7.176641	One of the brightest Cepheid variables.
Epsilon Aur	39955	Auriga	5	1	58.1	+	43	49	24 EA/GS	2.92	3.83	9892	White supergiant eclipsing binary. Every 27 years the companion eclipses the primary for about a year, dropping the magnitude to 3.8; the next eclipse is due in 2009. The companion has never been seen, and seems to be a star surrounded by a shell of obscuring dust.
Zeta Aur	39966	Auriga	5	2	28.7	+	41	4	33 EA/GS	3.7	3.97	972.16	Orange giant eclipsing binary.
TX Aur		Auriga	5	9	5.5	+	39	0	8 LB	8.5	9.2		Red Carbon Star; near SAO 57755.
UV Aur		Auriga	5	21	48.9	+	32	30	43 M	7.4	10.6	394.42	Red Carbon Star
UU Aur		Auriga	6	36	32.8	+	38	26	44 SRB	7.83	10	234	Red Carbon Star
U Cam		Camelopardalis	3	41	48.2	+	62	38	54 SRB	11	12.8		
ST Cam		Camelopardalis	4	51	13.3	+	68	10	8 SRB	9.2	12	300	Red Carbon Star
X Cnc	98230	Cancer	8	55	22.9	+	17	13	53 SRB	5.6	7.5	195	
Y CVn, La Superba	44317	Canes Venatici	12	45	7.8	+	45	26	25 SRB	7.4	10	157	Red Carbon Star. Named "La Superba" by the 19th century astronomer Pietro Secchi. An enormous star whose diameter is 1 billion miles (outside the orbit of Saturn)!
W CMa	152427	Canis Major	7	8	3.4	-	11	55	24 LB	6.35	7.9		Red Carbon Star
RT Cap		Capricornus	20	17	6.5	-	21	19	4 SRB	8.9	11.7	393	Red Carbon Star
ST Cas		Cassiopeia	0	17	32.1	+	50	17	14 SR	11.6	12.4		Red Carbon Star, actually mag 9 at maximum.
RZ Cas	12445	Cassiopeia	2	48	55.5	+	69	38	3 EA/SD	6.18	7.72	1.195247	Eclipsing binary: varies from mag 6.2 to 7.7 in a single 4-hour period every 1.19 days - variation should be visible in one evening.
R Cas	35938	Cassiopeia	23	58	24.9	+	51	23	20 M	4.7	13.5	430.46	Long-period Mira-type variable (pulsating cool red giant). Variability occurs as its light output shifts to infrared.
T Cen	204739	Centaurus	13	41	45.6	-	33	35	51 SRA	5.5	9	90.44	
U Cep		Cepheus	1	2	18.4	+	81	52	32 EA/SD	6.75	9.24	2.4930475	Eclipsing binary.
T Cep	19229	Cepheus	21	9	31.8	+	68	29	27 M	5.2	11.3	388.14	Red giant Mira-type variable.
S Cep	10100	Cepheus	21	35	12.8	+	78	37	28 M	7.4	12.9	486.84	One of the reddest stars in the sky. Mira-type pulsating red giant; first observed by Lelande in 1789.
V V Cep	19753	Cepheus	21	56	39.1	+	63	37	32 EA/GS+S RC	4.8	5.36	7430	A semi-regular variable red supergiant. Also an eclipsing binary, being eclipsed by a smaller blue companion - this period is 20 years but the magnitude variation due to the eclipse is slight. The primary may be the largest star in the sky, with a diameter of 1621 times the Sun, which is outside the orbit of Saturn!
MU Cep, Herschel's Garnet Star	33693	Cepheus	22	23	38.6	+	57	40	51 CEP	12.7	14.1	3.76782	Supergiant star and one of the reddest naked-eye stars in the sky; Mars' North Star. Irregular variable; perhaps a billion miles in diameter; thus its outer atmosphere is cool enough to contain water vapor as steam!

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Delta Cep	34508	Cepheus	22	29	10.3	+	58	24	55	DCEP	3.48	4.37	5.366341	Yellow supergiant and the original of the Cepheid (pulsating) Variables, which have a variable period related to their luminosity so their magnitudes were used to determine interstellar distances in the 1920s.
Omi Cet, Mira	129825	Cetus	2	19	20.8	-	2	58	40	M	2	10.1	331.96	Mira - the first variable star discovered, by David Fabricius in 1596. A red giant which at maximum is one of the largest stars in the sky (500X the size of the Sun).
UV Cet, Luyten's Flare Star		Cetus	1	39	1.4	-	17	57	2	UV	6.8	12.95		A binary of magnitude 12.5 and 13 red dwarf stars. With a combined mass of 0.08 times the sun, they are among the least massive stars yet identified. With their low luminosity (0.00007 x the sun), the only reason they can be seen at all is because they are only 9 ly away, the sixth closest star. However, B is "Luyten's Flare Star", discovered by W. J. Luyten at the University of Minnesota in 1949; it flares up to magnitude 6 occasionally. The flare only lasts a few minutes and is a solar flare similar to the sun's, but is much more dramatic because of the star's low intrinsic luminosity.
R CrB	84015	Corona Borealis	15	48	34.4	+	28	9	24	RCB	5.71	14.8		Yellow supergiant 7,000 ly away. Irregular variable, discovered in 1795. Every few years it fades with no predictable pattern, to at least mag 7 and as low as mag 15, for a few weeks.
T CrB, Blaze Star		Corona Borealis	15	59	30.2	+	25	55	13	NR	2	10.8	29000	One of the few recurrent novae known. Normally mag 10 but flared up to mag 2 in 1866 and 1946. A very close binary consisting of a white dwarf and red giant.
R Cyg	31822	Cygnus	19	36	49.4	+	50	11	59	M	6.1	14.4	426.45	Long-period Mira-type variable (pulsating cool red giant).
TT Cyg		Cygnus	19	40	57	+	32	37	6	SRB	10.2	11.9	118	Red Carbon Star
Chi Cyg	68943	Cygnus	19	50	33.9	+	32	54	51	M	3.3	14.2	408.05	One of the first stars to be identified as a variable, by Gottfried Kirch in 1686.
RY Cyg		Cygnus	20	10	23.4	+	35	56	49	LB	8.5	10.3		Red Carbon Star
P Cyg	69773	Cygnus	20	17	47.2	+	38	1	59	SDOR	3	6		Blue supergiant evolving into a red supergiant. Erratic variable; varies from mag 3 to mag 6, but it has been gradually brightening since the 18th century.
U Cyg		Cygnus	20	19	36.6	+	47	53	39	M	5.9	12.1	463.24	Red Carbon Star
V460 Cyg	71613	Cygnus	21	42	1.1	+	35	30	37	SRB	5.57	7	180	An unresolved binary believed to harbor a Black Hole.
SS Cyg		Cygnus	21	42	42.8	+	43	35	10	UGSS	7.7	12.4	49.5	An unusual "cataclysmic" variable that is a binary pair of dwarf stars. The system is normally at mag 11 - 12, but approximately every 25 days it flares up 4 magnitudes for a few days, then returns to its former magnitude.
RY Dra	15945	Draco	12	56	25.9	+	65	59	40	SRB:	6.03	8	200	Variable red giant
R Dra	17137	Draco	16	32	40.2	+	66	45	18	M	6.7	13.2	245.6	Long-period Mira-type variable (pulsating cool red giant).
UX Dra	9404	Draco	19	21	35.5	+	76	33	35	SRA:	5.94	7.1	168	Red Carbon Star
Eta Gem	78135	Gemini	6	14	52.7	+	22	30	24	SRA+EA	3.15	3.9	232.9	A red giant semi-regular variable. Also a binary - the secondary is mag 8.8 with a separation of only 1.4".
Zeta Gem	79031	Gemini	7	4	6.5	+	20	34	13	DCEP	3.62	4.18	10.15073	One of the brightest Cepheid variables.
U Gem		Gemini	7	55	5.2	+	22	0	5	UGSS+E	8.2	14.9	105.2	An extremely close (a few hundred thousand miles, center-to-center) binary system and a cataclysmic variable: normally at mag 14 but brightens to mag 9 unpredictably, in a period varying from 62 to 257 days.
Alpha Her, Ras Algethi	102680	Hercules	17	14	38.9	+	14	23	25	SRC	2.74	4		The primary is a semiregular (average period of 90 days) pulsating red supergiant and one of the largest naked-eye stars known, at 400X to 600X the sun's diameter. It has a companion - a close (blue) binary, mag 5.4, with a separation of 4.8" and an orbital period of 3,600 years. The primary is surrounded by an expanding shell of very tenuous gas, which engulfs the companion.

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Y Hya	178088	Hydra	9	51	3.7	-	23	1	2 SRB	8.3	12	302.8	Red Carbon Star
U Hya	156110	Hydra	10	37	33.3	-	13	23	4 SRB	7	9.4	450	Red Carbon Star
R Hya	181695	Hydra	13	29	42.8	-	23	16	53 M	3.5	10.9	388.87	Mira-type pulsating red giant (the red color is most visible at minimum). The fourth variable star to be discovered, by the Italian astronomer Maraldo in 1704. Its period has been shortening.
R Leo, Peltier's Variable Star	98769	Leo	9	47	33.5	+	11	25	44 M	4.4	11.3	309.95	The variable that started Leslie Peltier on his career in 1918. Mira-type pulsating red giant. At maximum one of the largest stars in the sky, with a diameter of Jupiter's orbit. Because of its size and proximity (600 ly) the Hubble actually was able to image this star, and shows it to have an oval shape!
R Lep, Hind's Crimson Star	150058	Lepus	4	59	36.3	-	14	48	23 M	5.5	11.7	427.07	Discovered by John Hind of London in 1845. Mira-type pulsating red giant.
Sigma Lib	183139	Libra	15	4	4.2	-	25	16	55 SRB	3.2	3.46	20	Irregular variable.
T Lyr		Lyra	18	32	20.1	+	36	59	56 LB	7.84	9.6		Red Carbon Star
HK Lyr		Lyra	18	42	50	+	36	57	31 LB	7.8	9.6		Red Carbon Star
Beta Lyr	67451	Lyra	18	50	4.8	+	33	21	46 EB	3.25	4.36	12.913834	Quadruple-star system; the primary is an eclipsing binary of two giant stars almost touching each other (and consequently having ovoid shapes).
RR Lyr	48421	Lyra	19	25	27.9	+	42	47	4 RRAB	7.06	8.12	0.56686776	Prototype "cluster variable" star, because large numbers of them are found in many globular clusters, and their identical luminosities helps in determining the distance to these GCs. Much of RR Lyrae's variability can be seen in one night.
V Oph	159916	Ophiuchus	16	26	43.7	-	12	25	36 M	7.3	11.6	297.21	Red Carbon Star
X Oph	123744	Ophiuchus	18	38	21.1	+	8	50	3 M	5.9	9.2	328.85	Mira-type pulsating red giant.
W Ori	112406	Orion	5	5	23.7	+	1	10	39 SRB	8.2	12.4	212	Red Carbon Star
U Ori		Orion	5	55	49.2	+	20	10	31 M	4.8	13	368.3	Mira-type pulsating red giant.
BL Ori	95659	Orion	6	25	28.2	+	14	43	19 LB	7.9	9.7		Red Carbon Star
FU Ori		Orion	5	45	22.4	+	9	4	11 FU	9.6	16.5		Increased from mag 16 to mag 9 in 1937, and has remained there. A yellow supergiant that at the time was assumed to be a nova but now is thought to be a star that exhibited early stages of development. Nine other "FUor" variables have since been discovered.
AG Peg	107436	Pegasus	21	51	2	+	12	37	32 NC	6	9.4		Symbiotic Variable" (Z-Andromeda type variable), a binary where the secondary - in this case a compact blue subdwarf - is pulling material from the outer envelope of the red giant primary.
Rho Per	56138	Perseus	3	5	10.6	+	38	50	25 SRB	3.3	4	50	
Beta Per, Algol	38592	Perseus	3	8	10.1	+	40	57	20 EA/SD	2.12	3.39	2.8673043	Prototypical Eclipsing Binary - "The Demon Star" [from Arabic - the Demon's Head - the head of Medusa being held up by Perseus]. It is an eclipsing binary, eclipsing for 10 hours about every 3 days. The 5-hour magnitude drop can often be viewed during a night of observing. The two stars are only 6 million miles apart, center-to-center.
Y Per		Perseus	3	27	42.4	+	44	10	36 M	8.1	11.3	248.6	Red Carbon Star
UU Psc	109087	Pisces	0	14	58.8	+	8	49	15 ELL/DW:	6.01	6.05	0.841678	Algol-type eclipsing binary
Z Psc	74593	Pisces	1	16	5	+	25	46	10 SRB	8.8	10.1	144	Red Carbon Star
TX Psc		Pisces	23	46	23.5	+	3	29	13 LB	4.79	5.2		Red Carbon Star; semi-regular variable.
PV Pup	153363	Puppis	7	45	28.7	-	14	41	9 EA/DM	6.88	7.32	1.660728	The secondary of this binary star is itself an eclipsing binary and thus gives the system a slight variability (mag 6.9 to 7.3 with a period of 40 hours).
U Sge	104711	Sagitta	19	18	48.5	+	19	36	37 EA/SD	6.45	9.28	3.38061933	Eclipsing binary; drops from mag 6.4 to 9, for 1 hr 40 min every 3 days 9 hours.
X Sge		Sagitta	20	5	5.3	+	20	38	54 SR	7	9.7	196	Red semi-variable.

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WZ Sge		Sagitta	20	7	36.7	+	17	42	15	UGSU+E +ZZ	7	15.53	11900	"Cataclysmic Variable" (dwarf nova); normally at magnitude 15.5, but every ~30 years it flares up dramatically. The last outburst was in 2001, when it reached magnitude 8.2. Believed to be a binary with an orbital period of about 80 minutes!
FG Sge		Sagitta	20	11	56	+	20	20	7	*	9.45	13.6		A variable star (mag 13.7 to 9.1, then back to 15) within planetary nebula He 1-5; it has evolved into an orange supergiant within the last 100 years. Stellar evolution events that occur within the span of a human lifetime are exceptionally rare.
V1492 Sgr	162465	Sagittarius	18	4	15.2	-	29	52	18	E	15.2	15.9	0.51	Irregular variable.
RU Sgr	229959	Sagittarius	19	58	42.9	-	41	50	58	M	6	13.8	240.49	
RT Sgr		Sagittarius	20	17	43.9	-	39	6	45	M	6	14.1	306.46	Long-period Mira-type variable (pulsating cool red giant).
Delta Sco	184014	Scorpius	16	0	20	-	22	37	18	GCAS	1.86	2.32		In July, 2000, Delta brightened and has since fluctuated to as high as mag 1.6
R Scl	193122	Sculptor	1	26	58.1	-	32	32	34	SRB	9.1	12.9	370	Red Carbon Star
R Sct	142620	Scutum	18	47	29.1	-	5	42	17	RVA	4.2	8.6	146.5	A pulsating yellow supergiant of the class RV Tauri stars; discovered in 1797. Varies between magnitude 5 and 6, but every 4th or 5th cycle it drops to magnitude 8.
S Sct	142674	Scutum	18	50	20	-	7	54	27	SRB	9.63	10.9	148	Red Carbon Star
R Ser	101771	Serpens	15	50	41.7	+	15	8	3	M	5.16	14.4	356.41	Mira-type pulsating red giant.
T Tau		Taurus	4	21	59.2	+	19	32	7	INT	9.3	13.5		Within NGC 1555 (Hind's Variable Nebula). T Tauri's brightness and spectrum change erratically, thought to be caused by the conflict between the last stages of gravitational contraction and the first stages of hydrogen fusion in its core.
RV Tau		Taurus	4	47	6.8	+	26	10	44	RVB	9.8	13.3	78.731	A pulsating yellow supergiant; prototype of this class of variables.
Y Tau		Taurus	5	45	39.4	+	20	41	42	SRB	6.5	9.2	241.5	Red Carbon Star
R Tri	55687	Triangulum	2	37	2.2	+	34	15	54	M	5.4	12.6	266.9	Long-period Mira-type variable (pulsating cool red giant).
R UMa	15273	Ursa Major	10	44	38.8	+	68	46	33	M	6.5	13.7	301.62	Long-period Mira-type variable (pulsating cool red giant).
VY UMa	15274	Ursa Major	10	45	3.9	+	67	24	41	LB	5.87	7		Red Carbon Star
SS Vir		Virgo	12	25	13.7	+	0	46	12	SRA	6	9.6	364.14	Red Carbon Star