

Gems of summer

A sprinkling of summer jewels for you to observe.

BY JOE GRIDA



“I hope you do spend some time observing these gems, as I spilled blood to get this story to you.”

In previous articles during 2005, I explained that I find observing double stars an absorbing activity that I can engage in even with a very bright moon in the night sky.

I also discussed such items as separation between the components and the position angle. Refer to those past articles for a refresher of these terms if you need to.

The list of double stars in this article, and in previous ones too, is from *Hartung's Astronomical Objects for Southern Telescopes*. The list has been compiled with the small telescope user in mind. Those with telescopes of 100 mm aperture or greater will have no difficulty splitting these stars.

All observations were carried out using my Meade 300 mm (12-inch) LX200 Schmidt-Cassegrain telescope, with a Meade 26 mm Super Plössl eyepiece, yielding a magnification of 115 \times and a field of view of 27 arc minutes. My wife Lyn, and friend Dean Davidson also observe with me.

In preparation for this article I attempted to begin observing the highlighted stars in this list on Sunday evening November 20 2005 (having attended the Solar BBQ that afternoon). I hope you do spend some time observing these gems, as I spilled blood to get this story to you.

You see, as I began to setup for a night of observing, I inadvertently got the small finger of my right hand caught under one of the wheels of my dome. I won't horrify you with all the gory details, suffice to say that my white

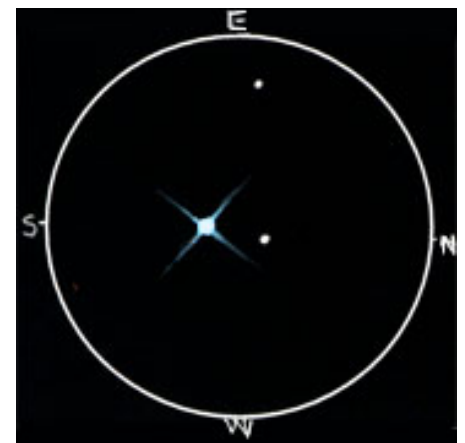
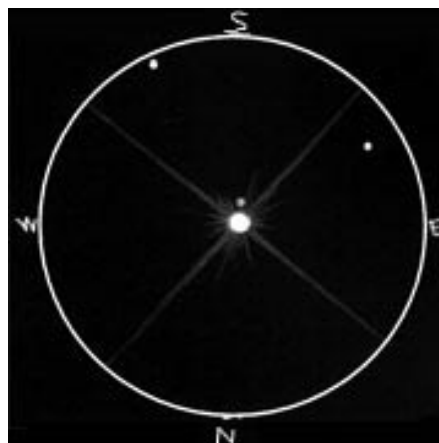
t-shirt was no longer white, but resembled more the colour of Hind's Crimson Star in Lepus. Many new, very bright stars appeared to be spinning around my head, and I heard myself utter words whose meaning I will refrain from revealing in this publication. That was the end of observing for that evening.

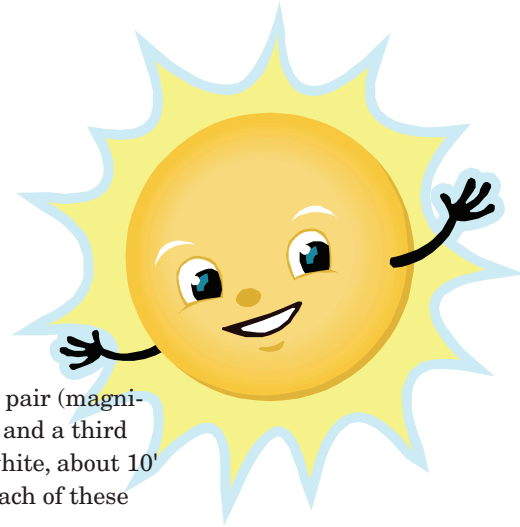
The next opportunity came on 28 November. Dean rang at 7.30 P.M. to check that we were cloud free. I advised him that all was indeed clear, and the dome was open with the telescope cooling down nicely. A week had passed, my finger was healing and I had already forgiven the dome for its indiscretion the week before. Dean arrived about 8.45 P.M. to announce that clouds covered 90% of the sky. Honest, it was completely clear a half-hour earlier! That was the end of observing for that evening.

I next rang Dean on Monday 5 December to see if he wanted to help me observe this list of doubles that night. The weather looked great. Dean arrived at 8.30 P.M. Everything was ready; but not quite dark enough yet. So we decided to have a coffee first and wait for the sky to get dark. My sore finger was barely a memory. Everything had healed perfectly. As the three of us made the walk from the house to the observatory, Dean noticed clouds appearing in the north-west. We hastily began our observing session.

There were only 10 pairs to observe, I thought. With a go-to telescope to help locate the stars, we could get to see all of these before the clouds moved in. Man and machine to could work

▼ The sketches below are of doubles stars (L to R) γ Aritis, Rigel & Mintaka., taken from the web site of Jeremy Perez at <http://www.perezmedia.net/beltofvenus/archives/000438.html>





together to beat nature. Wrong! We got to see less than half.

Panic! The Editor wants his article before the deadline on Wednesday otherwise he sends the heavies over to massage my other fingers! (*Oh I wouldn't! Ed.*) Tuesday night, the weather is cloudy yet again!

So, as I sit here writing this article on Tuesday 6 December, the information comes from notes and memories from earlier observations and various references in books and on the Internet.

γ ARIETIS

This almost identical pair of stars are quite a stunning sight. The spectral classifications of B and A suggests we should have seen white stars, but I saw a tinge of yellow in these stars. Dean said he saw them as white stars. This pair is regarded as one of the celestial showpieces.

β2 ERIDANI

A stunning pair of yellow and light blue stars. Another celestial showpiece! With a separation of 6.5", it is an easy object for smaller telescopes.

β TUCANAE

β Tucanae is made up of a bright pair (magnitudes 4.4 and 4.5) of white stars, and a third member of magnitude 5.2, also white, about 10' away to the south-east. In turn each of these stars has its own companion!

α2 ERIDANI

The last of the objects we got to see, before the clouds intervened. The yellow A component is separated from the white dwarf B by 83", so they are very easy to see. In turn, B is also double, with a separation of 9" from its 11th magnitude M-type companion.

We did wonder at the published separation of the main components. It certainly did not seem to be as wide as 83". The weather didn't co-operate; otherwise we could have checked with Dean's Astrometric eyepiece. Perhaps next time.

Do take the time to observe these summer gems. They will add serious sparkle to what otherwise may turn out to be a rather drab moonlit summer night. Happy observing! ★

No.		Name	Other names	R.A.	Dec.	Description	Const.
60	*	γ Ari	ADS 1507	01 53.5	+19 18	4.6 4.7 7".7 359° (1985) B9V A0p. Beautiful pair	Ari
161		γ Cae	Jc 9	05 04.4	-35 29	4.6 8.5 3".2 309° (1983) K2.5III G8IV. Orange pair	Cae
53		π Eri	D 5	01 39.8	-56 12	5.8 5.8 11".1 194° (1984) K1V K1V. Fine pair	Eri
115		Δ 16	f Eri	03 48.6	-37 37	4.9 5.4 8".1 214° (1986) B9V A1V. Very fine	Eri
119	*	32 Eri	ADS 2850	03 54.3	-02 57	4.8 6.1 6".5 350° (1983) G8III A2V. Beautiful	Eri
128		39 Eri	ADS 3079	04 14.4	-10 15	5.0 8.0 6".4 145° (1984) K3III. Fine pair	Eri
129	*	α2 Eri	ADS 3093, 40 Eri	04 15.2	-07 39	4.4 9.5 83" 104° K0V; BC 9.6 11.2 9".0 340° DA M4.5Ve	Eri
84		θ Eri	Pz 2, Acamar	02 58.3	-40 18	3.2 4.4 8".3 91° (1982) A4III A1Vp. Very fine	Eri
74		ω For	ADS 1954	02 33.8	-28 14	5.0 7.9 10".8 245° (1985) B9V A5V. Fine white pair	For
91		α For	ADS 2402	03 12.1	-28 59	4.0 7.0 4".2 298° (1990) F6IV G7V. Fine binary	For
171		ι Lep	ADS 3778	05 12.3	-11 52	4.5 9.9 12".7 337° (1933) B8V G8Vp. Fine white pair	Lep
220		γ Lep	ADS 4334	05 44.5	-22 27	3.7 6.2 97" 350° (1975) F6V K2V. Fine pair	Lep
176		β Ori	ADS 3823, Rigel	05 14.5	-08 12	0.1 6.8 9".5 203° (1979) B8Ia B5V+B5V. Brilliant	Ori
196		Δ Ori	ADS 4134, Mintaka	05 32.0	-00 18	2.2 6.3 53" 359° (1932) O9.5II B2V. Beautiful	Ori
204		ι Ori	ADS 4193	05 35.4	-05 55	2.8 7.3 11".4 141° (1973) O9III B7IIIp. Brilliant field	Ori
210		σ Ori	ADS 4241	05 38.7	-02 36	Multiple star in beautiful field	Ori
34		ζ Phe	Rmk 2	01 08.4	-55 15	3.9v 8.0 6".5 243° (1991) B6V+B8V A7V. Interesting	Phe
152		ι Pic	D 18	04 50.9	-53 28	5.6 6.5 12".5 58° (1975) F0V F4V. Fine pair	Pic
38		ζ Psc	ADS 996	01 13.7	+07 35	5.2 6.3 22".9 63° (1986) A7IV F7V+G7V. Wide pair	Psc
57		ε Scl	ADS 1394	01 45.6	-25 03	5.3 8.6 4".8 29° (1986) F1V K1V. Fine pair	Scl
12	*	β Tuc	Lac 119	00 31.5	-62 58	4.4 4.5 27".0 169° (1985) B9V A2V. Brilliant	Tuc
41		κ Tuc	h 3423	01 15.8	-68 53	5.0 7.4 5".1 326° (1987) F5V K1V. Fine pair	Tuc