



Volume 14, Issue 9

September 2009

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**President's Report: John Rombi**

Welcome to the September edition of Prime Focus.

**Last Month**

Our speaker Prof Geraint Lewis (Syd Uni) gave an intriguing view into the world of Dark Energy and Cosmology.

Like last year's presentation Geraint had us all memorised with the latest theories and thoughts on this (sometimes) controversial subject.

I have asked Geraint to return next year and continue the story.

Can't wait!

**Public Nights**

We've just completed our sixth public night of this year (August 29th).

Approx 100 members of the public turned up for another clear night.

With the advancement of the winter sky, we were treated to a ¾ Moon and

*(Continued on page 2)*

**Observing Dates**

September

12/09/09 Stargard  
19/09/09 The Forest  
21/09/09 General Meeting  
26/09/09 Public Night:  
Fred Watson

October

10/10/09 Stargard  
17/10/09 The Forest  
19/10/09 General Meeting  
24/10/09 Public Night

November

14/11/09 The Forest  
16/11/09 General Meeting  
21/11/09 Stargard  
28/11/09 Public Night

December

12/12/09 Stargard  
19/12/09 The Forest  
21/12/09 General Meeting



## President's Report:

John Rombi

our solar systems giant planet, Jupiter.

Double Stars, the brighter galaxies and globular clusters were the main fare.

Well Done Everyone.

### Fred Watson

Will be the key note speaker of the year at our next public night on Saturday 26th September. The presentation will be held in the Medical Building 30, UWS, Ground floor lecture theatre. The Topic will be "**Why is Uranus upside down**"

ALL members wishing to attend the presentation will have to book via our "What's On" page.

There will also be a major media blitz for this event. Please tell your friends, family and work colleagues, let's fill the place.

The link provided will take you to the UWS online booking section, please follow the directions within. Cost is \$5 per adult, \$2 per child under 18.

There will be a Public Observing Night following the talk at The Domes.

This is ONLY for people that have already pre-booked.

We will need as many scopes at The Domes as possible. I have asked Fred to pay us a visit at The Domes after his talk.

If the weather is uncooperative, details for the alternative will be placed on our website during the week.

This event will go ahead in some way, despite the weather.

### Stargard & The Forest

The Forest was mostly clouded out; this unfortunately had only a couple of members making the trip.

Stargard was a great success, with quite a few new members and long time absent members making an appearance.

The sky was clean & clear and offered great sights for all.

### What's on?

Keep an eye on our "What's on" link of our website for all the latest member information.

### Next Month

Chris Malikoff will present Part 2 of "**Imaging with Digital SLR**"

Saturday September 26th, Fred Watson will present "**Why is Uranus upside down**"

### Tonight.

Due to Chris Malikoff having to attend to personal matters, he has asked that his Part 2 of Digital Imaging be presented at the October meeting.

So.....tonight will be a "Get together" something that we don't get very often.

Bring along your telescopic or observational woes, I'm sure there will be many bits of advice being offered.

Until next time,

Clear Skies, John Rombi

## Secretary's Column:

Roger Powell

### Our Man in the Northern Hemisphere.

There is not much for me to report on this month, as I am currently on an unexpected visit to the UK. I missed the public observing night on 28th August, which I understand was another great success.

We did have a fairly frustrating time at Stargard on 22nd August, it was cloudy for much of the time – until we all packed up, when it seemed to clear for the rest of the night. I did manage to pick up five more Messier objects

during the brief starry intervals, to bring me to a total of 83 objects since I started using my new telescope less than a year ago. I hope the Stargard on 12th September was more successful.

I was treated to an interesting astronomical spectacle on the plane. My window seat faced west and from 11,000 metres, I was able to watch an unusually clear crescent moon, 'on it's back', sinking slowly towards an invisible

(Continued on page 3)



## Secretary's Column:

Roger Powell

horizon. It became unusually redder and redder as it approached. As it finally sank below the horizon, the Moon's centre disappeared first, leaving the two separate deep red 'horns' to sink on their own.

It was a very pretty sight to see and I wish I had my binoculars and camera handy. At this point, I wanted to ask the nice Emirates stewardess to turn off all of the cabin lights, so I could see some stars but I think I know what her answer would have been.

Professor Geraint Lewis returned to MAS last month to give a fascinating insight into the very latest thinking of what our Universe is made up of. It turns out that the Cosmos consists of only approx. 4% of what we call 'normal' matter. The rest is made up of the very mysterious Dark Matter (22% approx.) and Dark Energy (74% approx). These are both detectable by their large scale influence on the Universe but are not directly observable to us.

This was a great presentation by Geraint on cosmology, a subject very closely aligned with astronomy but needing a much higher level of understanding!

The Committee took Geraint to dinner before the meeting and the subject of conversation turned to relativity. Geraint answered one of my questions by mentioning 'the structure of space-time', a term that is consistently

referred to in cosmology books but is not easy to grapple with.

I asked him if he could describe to me, in layman's terms, what 'the structure of space-time' actually consisted of. His answer was that the structure exists "within the equations that he works with.....". Thoroughly enlightened by this response, I decided not to pursue that particular line of enquiry any further.

So here I am, 52.7°N and 1.8° W, seriously wanting to go observing. In the rush to pack, I threw in my binoculars, so I am able to do a little observing while I am here and maybe picking up some of those elusive Northern Messiers that are not visible from Sydney's latitude.

Unfortunately, the binoculars are not 'Goto' like my telescope, so I will have to work a bit harder to find anything! Not only that but it doesn't get dark here until quite late, due to the higher latitude. It seems to be cloudy a lot here too! So far the best skies have been fairly hazy and the light pollution is awful but I have been exploring Cassiopeia with the binoculars and have picked out M52 and M103.

My thanks to our very capable Vice-President, Trevor Rhodes, for volunteering to take over my duties, as well as his own, until I return.

## A Brief Note from the editor: Geoff Young

A conundrum. We have more contributions this month - thank you for the effort - but our resident columnists, John and Roger have been more concise than usual, and I now have this much larger chunk of white space to fill in.

In each issue, I allow pages 1 to 3 for the usual items on page 1 plus John's and Roger's Reports. These always come in last, so I start the remaining articles from page 4 as I prepare each issue. And now - I am left with all this space to fill in at the last minute - thanks guys!

The Public Nights have proved to be very successful in raising our community profile, and we have had more new members of late. It is very pleasing to see so many more experienced members of our Society offering to assist these less-experienced members with setting up and using their equipment. I know, when I was a new member, I really appreciated all the help I could get!

Still the other side of this to go - I think a nice photo would be good.



Space Shuttle *Discovery* being prepared for launch



## OBSERVING SEPTEMBER 2009

Sun, Moon and Planets Observing List, evening of 2009 Sep 12 at Stargard, The O.  
 Sunset 17:50, Twilight ends 19:10, Twilight begins 04:37, Sunrise 05:58, Moon rise  
 Completely dark from 19:10 to 01:34. Third Quarter Moon. All times local (GMT+10).  
 Listing All Classes visible above the perfect horizon and in twilight or moonlight aft  
 The minimum visual difficulty is: detectable.

Primary ID	Con	Mag	Rise
Jupiter	Cap	-2.80	15:07
Neptune	Cap	7.80	15:36
Uranus	Psc	5.70	18:01
Moon	Tau	-9.50	1:34
Mars	Gem	0.90	2:21
Venus	Leo	-4.00	4:39

And	Andromeda	Lac	Lacerta	Cir	Circinus	Pup	Puppis
Ant	Antlia	Leo	Leo	Col	Columba	Pyx	Pyxis
Aps	Apus	LMi	Leo Minor	Com	Coma Berenices	Ret	Reticulum
Aqr	Aquarius	Lep	Lepus	CrA	Corona Austrina	Sge	Sagitta
Aql	Aquila	Lib	Libra	CrB	Corona Borealis	Sgr	Sagittarius
Ara	Ara	Lup	Lupus	CrV	Corvus	Sco	Scorpius
Ari	Aries	Lyn	Lynx	CrT	Crater	Scl	Sculptor
Aur	Auriga	Lyr	Lyra	Cru	Crux	Sct	Scutum
Boo	Boötes	Men	Mensa	Cyg	Cygnus	Ser	Serpens
Cae	Caelum	Mic	Microscopium	Del	Delphinus	Sex	Sextans
Cam	Camelopardalis	Mon	Monoceros	Dor	Dorado	Tau	Taurus
Cnc	Cancer	Mus	Musca	Dra	Draco	Tel	Telescopium
CVn	Canes Venatici	Nor	Norma	Equ	Equuleus	Tri	Triangulum
CMa	Canis Major	Oph	Ophiuchus	Eri	Eridanus	TrA	Triangulum Australe
CMi	Canis Minor	Ori	Orion	For	Fornax	Tuc	Tucana
Cap	Capricornus	Pav	Pavo	Gem	Gemini	UMa	Ursa Major
Car	Carina	Peg	Pegasus	Gru	Grus	UMi	Ursa Minor
Cas	Cassiopeia	Per	Perseus	Her	Hercules	Vel	Vela
Cen	Centaurus	Phe	Phoenix	Hor	Horologium	Vir	Virgo
Cep	Cepheus	Pic	Pictor	Hy	Hydra	Vol	Volans
Cet	Cetus	Psc	Pisces	Hyr	Hydrus	Vul	Vulpecula
Cha	Chamaeleon	PsA	Piscis Austrinus	Ind	Indus		

Best and Brightest 200 Observing List, evening of 2009 Sep 12 at Stargard, The Oaks, NSW

Sunset 17:50, Twilight ends 19:10, Twilight begins 04:37, Sunrise 05:58, Moon rise 01:34, Moon set 11:28

Completely dark from 19:10 to 01:34. Third Quarter Moon. All times local (GMT+10).

Listing All Classes visible above the perfect horizon and in twilight or moonlight after 19:00 and before 01:31.

The minimum visual difficulty is: detectable.

Cls	Primary ID	Alternate ID	Con	Mag	Distance	Rise	Transit	Set
Open	NGC 3766	Collinder 248	Cen	4.6	7200 ly	-	12:10	-
Glob	NGC 4372		Mus	7.2	20000 ly	-	12:59	-
Open	Jewel Box	NGC 4755	Cru	5.2	6400 ly	-	13:27	-
Glob	Omega Centauri	NGC 5139	Cen	3.9	16000 ly	4:34	14:00	23:22
Gal	M 83	NGC 5236	Hya	7.8	15.0 Mly	6:29	14:10	21:47
Glob	M 5	NGC 5904	Ser	5.7	29000 ly	9:48	15:51	21:50
Glob	NGC 5986		Lup	7.6	46000 ly	8:01	16:19	0:33
Open	NGC 6025	Collinder 296	TrA	6	2500 ly	-	16:36	-
Open	NGC 6067	Collinder 298	Nor	6.5	4600 ly	5:28	16:46	4:00
Glob	M 80	NGC 6093	Sco	7.3	36000 ly	9:34	16:50	0:02
Open	NGC 6167	Harvard 11	Nor	6.6	3600 ly	7:17	17:07	2:53
Open	NGC 6178	Collinder 308	Sco	7.2	3300 ly	7:59	17:09	2:14
Open	NGC 6193	Collinder 310	Ara	5.4	3800 ly	7:36	17:14	2:49
Glob	M 12	NGC 6218	Oph	6.1	23000 ly	11:06	17:20	23:30
Glob	M 10	NGC 6254	Oph	6.6	23000 ly	11:10	17:30	23:45
Glob	M 62	NGC 6266	Oph	6.4	26000 ly	9:52	17:34	1:12
Glob	M 19	NGC 6273	Oph	6.8	23000 ly	10:08	17:35	0:59
Open	NGC 6322	Collinder 326	Sco	6.5	3200 ly	9:02	17:51	2:36
Open	NGC 6383	Collinder 335	Sco	5.4	3200 ly	10:15	18:07	1:56
Glob	NGC 6388		Sco	6.8	42000 ly	9:07	18:09	3:07
Glob	M 14	NGC 6402	Oph	7.6	23000 ly	11:53	18:10	0:23
Open	Butterfly Cluster	M 6	Sco	4.6	1600 ly	10:22	18:13	2:00
Glob	NGC 6397		Ara	5.3	6500 ly	7:15	18:13	5:08
Open	M 7	NGC 6475	Sco	3.3	980 ly	10:24	18:26	2:25
Open	M 23	NGC 6494	Sgr	5.9	2000 ly	11:27	18:29	1:28
Open	M 20	NGC 6514	Sgr	5.2	2700 ly	11:19	18:35	1:47
Neb	Lagoon Nebula	M 8	Sgr	5		11:16	18:36	1:53
Open	M 21	NGC 6531	Sgr	7.2	3900 ly	11:23	18:37	1:47





## OBSERVING SEPTEMBER 2009

Best and Brightest 200 Observing List, evening of 2009 Sep 12 at Stargard, The Oaks, NSW							
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Glob	M 19	NGC 6273	Oph	6.8	23000 ly	10:08	0:59
Open	NGC 6322	Collinder 326	Sco	6.5	3200 ly	9:02	2:36
Open	NGC 6383	Collinder 335	Sco	5.4	3200 ly	10:15	1:56
Glob	NGC 6388		Sco	6.8	42000 ly	9:07	3:07
Glob	M 14	NGC 6402	Oph	7.6	23000 ly	11:53	0:23
Open	Butterfly Cluster	M 6	Sco	4.6	1600 ly	10:22	2:00
Glob	NGC 6397		Ara	5.3	6500 ly	7:15	5:08
Open	M 7	NGC 6475	Sco	3.3	980 ly	10:24	2:25
Open	M 23	NGC 6494	Sgr	5.9	2000 ly	11:27	1:28
Open	M 20	NGC 6514	Sgr	5.2	2700 ly	11:19	1:47
Neb	Lagoon Nebula	M 8	Sgr	5		11:16	1:53
Open	M 21	NGC 6531	Sgr	7.2	3900 ly	11:23	1:47
Glob	NGC 6541		CrA	6.3	13000 ly	9:47	3:31
PNe	Blue Racquetball	NGC 6572	Oph	8	3500 ly	12:58	0:30
Open	Star Queen	M 16	Ser	6.5	5700 ly	12:08	1:34
Open	M 18	NGC 6613	Sgr	7.5	4200 ly	11:56	1:45
Glob	M 28	NGC 6626	Sgr	6.9	16000 ly	11:35	2:15
Open	NGC 6633	Collinder 380	Oph	5.6	1200 ly	13:13	0:46
Open	M 25	IC 4725	Sgr	6.2	2000 ly	12:05	2:03
Glob	M 22	NGC 6656	Sgr	5.2	9800 ly	11:50	2:24
Open	IC 4756	Collinder 386	Ser	5.4	1600 ly	13:21	1:01
Glob	M 70	NGC 6681	Sgr	7.8	65000 ly	11:24	3:03
Open	Wild Duck Cluster	M 11	Sct	6.1	6100 ly	13:02	1:45
PNe	Ring Nebula	M 57	Lyr	9.4	2600 ly	15:03	23:48
Open	NGC 6716	Collinder 393	Sgr	7.5	2600 ly	12:25	2:28
Glob	M 54	NGC 6715	Sgr	7.7	55000 ly	11:44	3:07
Glob	NGC 6723		Sgr	6.8	33000 ly	11:20	3:39
Glob	Pavo Globular	NGC 6752	Pav	5.3	20000 ly	-	-
Glob	M 55	NGC 6809	Sgr	6.3	20000 ly	12:31	3:54
PNe	Little Gem	NGC 6818	Sgr	10	7300 ly	13:32	3:00
Glob	M 71	NGC 6838	Sge	8.4	16000 ly	15:14	1:38
PNe	Dumbbell	M 27	Vul	7.3	1100 ly	15:32	1:31
PNe	Saturn Nebula	NGC 7009	Aqr	8.3	3200 ly	15:00	4:12
Glob	M 15	NGC 7078	Peg	6.3	42000 ly	16:31	3:33
Glob	M 2	NGC 7089	Aqr	6.6	49000 ly	15:59	4:12
Glob	M 30	NGC 7099	Cap	6.9	39000 ly	15:00	5:25
PNe	Helix	NGC 7293	Aqr	6.3	530 ly	15:57	6:06
Gal	NGC 55	MCG -7-1-13	Scl	8.5	4.9 Mly	16:25	9:08
Glob	47 Tucanae	NGC 104	Tuc	4	20000 ly	-	-
Gal	Sculptor Galaxy	NGC 253	Scl	7.9	13.0 Mly	17:59	8:38
Gal	Small Magellanic Cloud	NGC 292	Tuc	2.8	200000 ly	-	-
Glob	NGC 362		Tuc	6.8	39000 ly	-	-
Gal	M 77	NGC 1068	Cet	9.7	70.0 Mly	21:09	9:18
Open	Pleiades	M 45	Tau	1.5	490 ly	23:23	9:13
Open	Hyades	Collinder 50	Tau	0.8	150 ly	23:37	10:18
Glob	NGC 1851		Col	7.1	55000 ly	21:18	14:14
Gal	Large Magellanic Cloud	ESO 56 115	Dor	0.8	200000 ly	-	-
Neb	Great Orion Nebula	M 42	Ori	4		23:47	12:29
Neb	Tarantula Nebula	NGC 2070	Dor	8.3		-	-
Open	NGC 2451	Collinder 161	Pup	3.7	720 ly	0:01	16:34

These lists were produced using SkyTools v3. If members have any changes they would like made, please let me know at [editor@macastro.org.au](mailto:editor@macastro.org.au)



## Writing an Article:

David M Jones

We are frequently encouraged to submit short articles to Prime Focus. In the process, we are reminded that it is 'our magazine' and if we don't support the magazine, there will be little to read. That's fairly obvious; but writing to order is not everyone's cup of tea. So what might we do about it?

For many people, writing a shopping list is the extent of their adult writing experience. Letter writing is becoming a lost art as SMS and email take its place. These modern methods of communication do little to encourage fluid expression of opinion, or to assist the development of a natural writing style. Other obvious disincentives are lack of time, lack of inclination, or simple lack of confidence.

Writing is not an art that 'comes naturally' – to some it may be less of a chore than others, but nevertheless, writing still requires a certain level of practice and fortitude.

Writers, per se, are habitually 'strange people' who regularly seek isolation whilst muttering interminably to themselves, the computer screen, or even a stark white page! Not only that, writers often write pages, and then, when they have finished, simply read what they have written and delete half of it! Writers also sometimes have strange nocturnal experiences; halfway through an apparently good night's sleep, they are awoken by surreal ideas. They then feel a mad urge to leap out of bed to write the brainwave down before it vanishes forever from their sleepy minds.

However, there is hope; you do not have to be slightly eccentric to write a short article, all you need in the first place is a small idea! That idea may be anything that takes your fancy – but as we are an astronomy club, I would not suggest a cooking recipe! We have the whole universe to talk about; however, your own astronomical interests are the most obvious path to follow.

Information that resides inside your head, or information gleaned from a small amount of reading or research will give you plenty of information for an article of five hundred to a thousand words – as a guide, that is only one or two pages on the word processor. Ideas are funny things – they grow exponentially – take on a life of their own – and excite the brain. Once you start on the ideas path, your article will grow of its own accord. Writing is strangely therapeutic and confidence building in its own right. If this still seems too intimidating, simply write a 'Letter to the Editor', which by definition, may feel less daunting.

Once you have your idea – start small – write a few notes alongside your idea and use them as mental sub headers for your paragraphs. For example, an article on

the Moon could in fact turn into a book, but all you want is a small article. So restrict yourself to a topic about the Moon – for example, how the craters got their names. Even this simple idea could, if you wanted, run into many pages, especially if one explored all the characters behind the crater names.

Your main idea becomes your short introductory passage and subsequent paragraphs are developed from your small list of sub headers, i.e. the craters you wish to name and enlighten everyone about.

I think the biggest threat to anyone wishing to reveal themselves to a reading audience is the fear that spelling and grammar may not be up to scratch. This is where we are lucky – this is not a test, and the audience is exclusive and forgiving. The more members, who submit articles will encourage others to try their hand. Our esteemed editor, Geoff Young, can always be relied upon to offer his editorial expertise, and if needed a small draft could be proffered before submitting your final exposé.

I hope these few words will encourage a few more members to share their ideas and experiences with the rest of us. We ARE an interesting bunch, and should not be afraid to share our thoughts with each other.

Who knows – submitting articles to Prime Focus may even become yet another 'interest group' within an already varied selection of interest groups, with a central astronomy theme. For your information, this small article has a word count of seven hundred and twenty-two words.



**Hubble Image of NGC 3324**

This glowing nebula has been carved out by ultraviolet radiation and stellar winds from several hot, young stars, located well outside this image in the centre of the nebula.

<http://hubblesite.org/gallery/album/nebula/pr2008034a/>



# Star Hoping to the Messiers #16 M5, M11, M16 & M26:

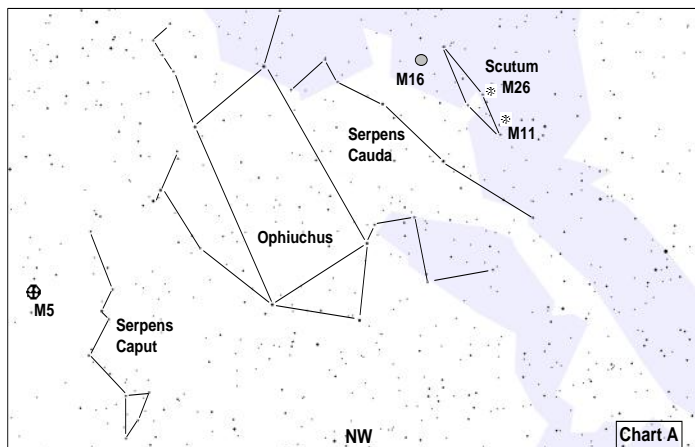
# Scutum and Serpens: Bob Bee

Scutum and Serpens are to the North-West and North respectively in September, though they are most favourably located in August. Each contains two Messier objects. Their details are given in the table below:

(BN = Bright Nebula; GC = Globular Cluster; OC = Open Cluster)

Messier No.	M5	M11	M16	M26
Constellation	Serpens	Scutum	Serpens	Scutum
Type	GC	OC	BN	OC
Size (arc-min)	17.4	14	35	15
Magnitude	5.8	5.8	6	8

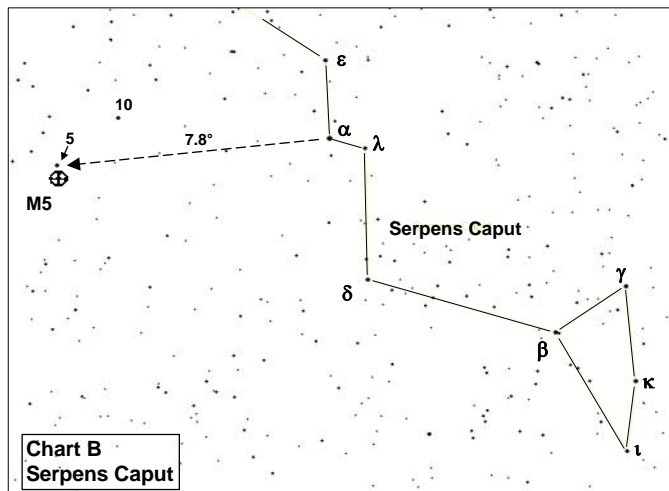
Serpens and Scutum are conveniently located adjacent to each other so it is handy to search for all for of their Messiers together. Chart A below shows their general locations. You'll note that M11 and M26 are quite close to M16 while M5 is on its lonesome on the opposite side of Ophiuchus.



## Serpens: M5 and M16

Serpens is a strange constellation in that it is split in two, like a snake cut by a train's wheel. It is 'coiled' around the neck of the healer, Ophiuchus. The two halves are named 'Serpens Caput' (the snake's head) which is on the western side of Ophiuchus and 'Serpens Cauda' (the snake's tail) which is on the eastern side near Scutum. Let's find M5 first, near the snake's head. Refer to Chart B below. To help you locate the snake's stars as shown on Chart B, this table gives their magnitudes:

Star	α	β	γ	δ	ε	ι	κ	λ	5	10
Mag	2.7	3.7	3.9	3.8	3.7	4.5	4.1	4.4	5.0	5.2



Locate the oddly shaped snake head by eye. (Here's a tip: it's about 8° south of Corona Borealis and 23° south-west of the Keystone in Hercules.) Then follow the zig-zag up to α Ser, the constellation's brightest star at mag. 2.7. That's where you'll hop from. Centre your f/s on α.

Now you'll be looking for two 5<sup>th</sup> mag. stars to the west of α. They are 5 and 10 Ser. shown on the chart. 5 Ser. is about 8° west of α in the direction shown. If you can locate ε Ser. (above α), the line from α to 5 Ser. is at right angles to the ε-α line. In your f/s, move in that direction about two FoV lengths. 5 Ser. and M5 should be in the centre of your FoV.

To find M16, there are (at least) two approaches but it's probably easiest to navigate from Scutum. Firstly, though, let's do it from Serpens Cauda, whose stars are a bit brighter than Scutum's. See Chart C below.

First you need to find the stars of Serpens Cauda. The shape of the snake's tail which lies to the east of Ophiuchus actually contains a star from Ophiuchus (ν Oph.).

Star	ν	ξ	ο	ν Oph	η
Mag	4.3	3.5	4.3	3.3	3.3

When you identify that star, centre your f/s on it. Now move the scope at right angles to the η - ν Oph. line in the direction shown. Go 6.8° (about 1 ¼ FOVs) to land on M16. Check your main eye piece.

(Continued on page 8)





# Star Hoping to the Messiers #16 Scutum and Serpens: Bob Bee



M5

M16

Chart D below.

After locating the kite-shaped stars of Scutum's shield, locate the top star  $\gamma$ . If you move northwards (at a 90° angle from the  $\alpha - \gamma$  line) by half a f/s FoV (2.5°), this should land you on **M16**.

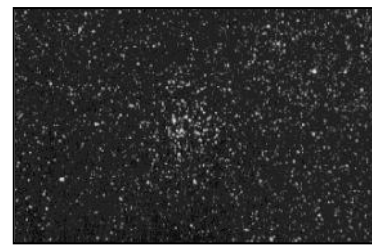
### Scutum: M11 and M26

Now move down from  $\gamma$  Sct to  $\delta$  Sct. While you're at it, identify  $\alpha$  Sct. opposite  $\delta$ . Now  $\alpha$  and  $\delta$  are only 2° apart. If you extend the line from  $\alpha$  through  $\delta$  by 0.8°, you will land on **M26**.  $\alpha$ ,  $\delta$  and M26 will be well inside your f/s FoV. Simple!

Now move to  $\beta$  Sct. at the bottom end of Scutum. Centre your f/s on it. Now move 'up' (south) by 1.8° (about 1/3 a FoV) in a direction 45° from the  $\delta - \beta$  line. **M11** should be in your scope's main eye piece.



M11



M26

Good Hopping.

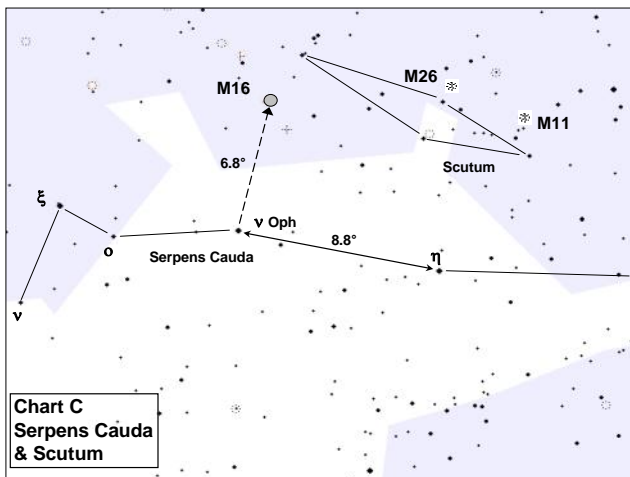


Chart C  
Serpens Cauda  
& Scutum

Alternatively, use the star hopping tips below for Scutum. The stars of Scutum are generally a magnitude fainter than Serpens Cauda's (see the next table) but provide easier hopping points to M16, M26 and M11. You can find Scutum approx. midway between Aquila and Sagittarius. To find M16, M26 and M11, refer to

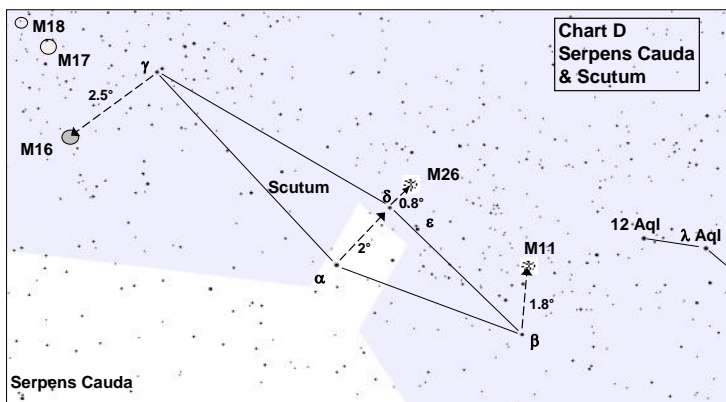


Chart D  
Serpens Cauda  
& Scutum

## New Take on Schroedinger's Cat Paradox.

(Courtesy of contribution to SMH 'Column 8' 1st Sep 09):

Supplied by Bob Bee

A cop pulls over a car over, and after looking at the driver's licence says, 'Dr Schroedinger, I noticed you were driving erratically. Do you mind if I search your car?' Dr Schroedinger gives him permission. After searching, he comes back to the driver's window. 'Dr Schroedinger, are you aware that there's a dead cat in your boot?' Dr Schroedinger says 'Well, there is now.'

Star	$\alpha$	$\beta$	$\gamma$	$\delta$	$\epsilon$
Mag.	3.9	4.2	4.7	4.7	4.9





# A Skywatcher's Pronunciation Guide

Compiled by: Sandburg Center for Sky Awareness

The following Guide to Pronunciations was submitted by Chris Malikoff, and will prove useful for beginning astronomers and those of us who have become careless with our pronunciation.

PRONOUNCING THE CONSTELLATIONS (A-Ch)		PRONOUNCING THE CONSTELLATIONS, cont. (C-I)	
NAME	PRONUNCIATION	NAME	PRONUNCIATION
Andromeda	an-DROM-eh-dah	Circinus	SUR-sih-nuss
Antlia	ANT-lee-ah	Columba	koh-LUM-bah
Apus	AY-puss	Coma Berenices	KOH-mah BARE-ah-NYE-seez
Aquarius	ah-KWARE-ee-us	Corona Australis	koh-ROH-nah oss-TRAH-liss
Aquila	AK-weh-lah	Corona Borealis	koh-ROH-nah BOH-ree-AL-liss
Ara	AY-rah	Corvus	KOR-vuss
Aries	AIR-ee-eez	Crater	KRAY-ter
Auriga	oh-RYE-gah	Crux	KRUX
Bootes	boh-OH-teez	Cygnus	SIG-nuss
Caelum	SEE-lum	Delphinus	del-FIE-nes
Camelopardalis	kah-MEL-oh-PAR-dal-iss	Dorado	doh-RAH-doh
Cancer	KAN-sir	Draco	DRAY-koh
Canes Venatici	KAY-nee-z veh-NAT-ih-sigh	Equuleus	eh-KWOO-lee-us
Canis Major	KAY-niss MAY-jer	Eridanus	ih-RID'n-us
Canis Minor	KAY-niss MY-ner	Fornax	FOR-naks
Capricornus	KAP-rih-KOR-nus	Gemini	JEM'n-eye
Carina	kah-REE-nah	Grus	GRUSS
Cassiopeia	KASS-ee-oh-PEE-uh	Hercules	HUR-kyuh-leez
Centaurus	sen-TAUR-us	Horologium	HOR-uh-LOW-jee-em
Cepheus	SEE-fee-us	Hydra	HY-drah
Cetus	SEE-tes	Hydrus	HY-druss
Chamaeleon	kah-MEE-lee-un	Indus	INN-duss
PRONOUNCING THE CONSTELLATIONS, cont. (L-Pi)		PRONOUNCING THE CONSTELLATIONS, cont. (Pi-Z)	
NAME	PRONUNCIATION	NAME	PRONUNCIATION
Lacerta	lah-SUR-tah	Piscis Austrinus	PIE-siss oss-TRI-nuss
Leo	LEE-oh	Puppis	PUP-iss
Leo Minor	LEE-oh MY-ner	Pyxis	PICK-sis
Lepus	LEE-pus	Reticulum	reh-TICK-yah-lum
Libra	LIE-brah	Sagitta	sa-JIT-tah
Lupus	LOO-puss	Sagittarius	SAJ-eh-TARE-ee-us
Lynx	LINKS	Scorpius	SKOR-pee-us
Lyra	LIE-rah	Sculptor	SKULP-ter
Mensa	MEN-sah	Scutum	SKOO-tem
Microscopium	MY-kroh-SKOH-pee-um	Serpens	SUR-penz
Monoceros	moh-NOSS-er-us	Sextans	SEX-tanz
Musca	MUSS-kah	Taurus	TAW-russ
Norma	NOR-mah	Telescopium	TEL-eh-SKOH-pee-um
Octans	OCK-tanz	Triangulum	tri-ANG-yah-lum
Ophiuchus	OFF-ee-YOO-kuss	Triangulum Australe	tri-ANG-yah-lum OSS-trah-lee
Orion	oh-RYE-un	Tucana	too-KAY-nah
Pavo	PAY-voh	Ursa Major	UR-sah MAY-jer
Pegasus	PEG-ah-suss	Ursa Minor	UR-sah MY-ner
Perseus	PURR-see-us	Vela	VEE-lah
Phoenix	FEE-nix	Virgo	VUR-go
Pictor	PICK-ter	Volans	VOH-lanz
Pisces	PIE-seez	Vulpecula	vul-PECK-yoo-lah

## PRONOUNCING THE 21 BRIGHTEST STARS IN THE NIGHT SKY

NAME	PRONUNCIATION	NAME	PRONUNCIATION
1. Sirius	SEAR-ee-us	12. Altair	al-TARE
2. Canopus	kah-NO-puss	13. Aldebaran	al-deb-ah-ran
3. Alpha Centauri	AL-fah sen-TAUR-eye	14. Acrux	AY-kruX
4. Arcturus	ark-TOOR-us	15. Antares	an-TARE-eez
5. Vega	VEE-gah	16. Spica	SPY-kah
6. Capella	kah-PELL-ah	17. Pollux	PAUL-ux
7. Rigel	RYE-j'l	18. Fomalhaut	foo-mal-HOUT
8. Procyon	PRO-see-on	19. Deneb	DEN-ebb
9. Achernar	A-ker-nar	20. Beta Crucis	BAY-tah KROO-sis
10. Betelgeuse	BET'l-jooz	21. Regulus	REG-yoo-luss
11. Beta Centauri	BEY-tah cen-TAUR-eye		

This is an e-mail via editor@macastro.org.au from  
Hugh Lovesy <hlovesy@littlefish.com.au>

Hi from Alice to you in South Western Sydney. Astronomy is one of my hobbies – I love the night sky. Where better than Alice!!

Thought you might like to see this below or that your members would get a lot out of seeing it.

Made a colour movie from black/white stills from NASA's Spirit Rover the morning after they were taken on Mars. Awe inspiring. A fair bit of work. Posted it for fun to YouTube. I know that you're busy people but have a look and pass it on! Enjoy!

[http://www.youtube.com/watch?v=O9ro60h1T\\_A](http://www.youtube.com/watch?v=O9ro60h1T_A)

Best Wishes, Hugh

## Prime Focus Article Submission

Deadline for article submissions for the August edition of Prime Focus is

**Monday 14th October 2009**

All Articles can be submitted via email [editor@macastro.org.au](mailto:editor@macastro.org.au)  
Or via snail mail to the MAS Postal address

**PLEASE NOTE THE CHANGE OF EMAIL ADDRESS  
FOR SUBMISSIONS!!!**