

## Skynotes Junes 2009

### MONTH HIGHLIGHTS

Winter is here, so it's time to rug up and take advantage of the crisp, dark evenings to do some stargazing. **Saturn** is the only planet visible after sunset and it is shining brightly in the northern sky. However, at this time of year it's best to look towards the south. There the *Southern Cross* sits high in the sky and if you are away from city lights, you'll find the glorious *Milky Way* stretching across the sky.

In the early hours of the morning there are many planets to be found. **Jupiter** sits high in the north-west, **Venus** and **Mars** are together in the north-east and **Mercury** is low to the eastern horizon.

### WINTER SCHOOL HOLIDAYS

Scienceworks is opened daily from 10am – 4:30pm. During the school holidays (27th June – 12th July) planetarium session times are:

11am & 1pm: **Tycho to the Moon**

12pm, 2pm & 3pm: **Search for Life: Are we alone?**

See the Melbourne Planetarium's [What's On](http://museumvictoria.com.au/planetarium/whatson/) (<http://museumvictoria.com.au/planetarium/whatson/>) listing for more details.

### SUNRISE & SUNSET TIMES

	Rise	Set
Monday 1st	7:26	5:09
Thursday 11th	7:32	5:07
Sunday 21st	7:36	5:08
Tuesday 30th	7:37	5:11

### MOON PHASES

Full Moon	Monday 8th
Last Quarter	Tuesday 16th
New Moon	Sunday 23rd
First Quarter	Monday 29th

The Moon will be at perigee (closest to Earth) on **Sunday 23rd**, at a distance of 358 017 km.

The Moon will be at apogee (furthest from Earth) on **Thursday 11th**, at a distance of 405 785 km.

### LET THE MOON BE YOUR GUIDE

The Moon can be used as a pointer to find other objects in the sky.

- After sunset on the 1st the waxing gibbous Moon sits above **Saturn**.
- On the 3rd the Moon is near **Spica**, the brightest star in the constellation *Virgo*.
- After sunset on the 7th the **Full Moon** rises in the east, sitting just below the red supergiant star **Antares** (*Scorpius*).
- On the night of the 13th the waning gibbous Moon rises around 10pm near **Jupiter**.
- During the early hours of the 19th the waning crescent Moon sits to the left of **Venus** and **Mars**.
- Low to the north-east horizon on the morning of the 21st, the crescent Moon can be found below the star cluster **Pleiades** and to the left of **Mercury**.
- During the early evening of the 28th the waxing crescent Moon sits above **Saturn**.
- On the 30th the Moon is close to **Spica** (*Virgo*).

### PLANETS

**Mercury** appears in the early morning sky, towards the eastern horizon. By the end of the month Mercury sits near the triangle of stars that marks *Taurus*, the bull. On the morning of the 21st the thin crescent **Moon** lies to the left of Mercury and the red giant star **Aldebaran** lies to the right.

**Venus** is now the morning star, shining brightly in the north-east. It starts the month sitting above **Mars** but by the 26th it sits directly to the right of the red planet. The crescent **Moon** sits to the left of Venus and Mars on the 19th.

**Earth** experiences the **Winter Solstice** at 3:45pm on Sunday 21st. This is the moment when the **Sun** reaches

its northern-most point in the sky. It also brings about the shortest day of the year, when here in Melbourne we have just 9 hours and 32 minutes of daylight.

**Mars** can be found in the morning sky with bright **Venus**.

**Jupiter** is high in the north-west at sunrise. It sits to the right of the **Moon** on the morning of the 13th.

**Saturn** is the only planet visible at sunset. It lies towards the north and is the brightest object in that part of the sky. To the left of Saturn is the constellation of *Leo, the lion* which includes the bright star **Regulus**. The **Moon** sits above Saturn on the 1st and then again on the 28th.

## METEORS

There are a number of meteor showers occurring in *Scorpius* and *Sagittarius* this month. Although low in number (less than 10 per hour) the shower members can often be spectacular, appearing slow and bright with many displaying a yellow/orange colour. The best time to see meteors is after midnight.

## STARS & CONSTELLATIONS

Low in the west we have our last look at the brightest star in the night sky, **Sirius**, before the constellation of *Canis Major (the great dog)* disappears from our sky for the winter. Above and to the south of Sirius is the second brightest star in the night sky, **Canopus** in *Carina (the keel)*. Looking further south and low to the horizon you may be able to identify the bright star **Achernar** in *Eridanus (the river)* at its lowest point in the sky. Directly above Achernar, the *Southern Cross* reaches its highest point and remains there majestically during the winter months.

Looking eastward, the bright red star **Antares**, in the constellation of *Scorpius (the scorpion)*, can be seen. Below it lies the teapot shape of *Sagittarius (the archer)*. The region around Sagittarius is a rich area of the sky to explore with binoculars. It points towards the centre of our **Milky Way Galaxy**, which lies 26 000 light years away and contains a supermassive black hole.

## INTERNATIONAL SPACE STATION

From Earth, the ISS appears as a bright star that steadily moves across the sky. It can often be seen from Melbourne, for example at:

6:24pm – 6:28pm, Sunday 14th June.

The Station will first appear above the north-west horizon and travel past **Saturn** before disappearing in the east.

Predictions of when to see the ISS can be obtained from the [Heaven's Above website \(http://www.heavens-above.com\)](http://www.heavens-above.com).

## ON THIS DAY

1st 2002, the Czech Republic becomes the first country to ban light pollution.

6th 1799, the first standard metre and kilogram of the metric system are made in France.

6th 1971, *Soyuz 11* (USSR) was launched. It carried the first people to a space station (Soviet *Salyut 1*).

11th 1985, a balloon (from *Vega 1*, USSR) is used to explore another planet, **Venus**.

14th 1965, *Mariner 4* (USA) returns the first close-up images of **Mars**.

15th 1999, a near-miss for the *International Space Station* as space debris passes just 7 km from the station.

16th 1963, Valentina V. Tereshkova (USSR) launched on *Vostok 6* becomes the first woman in space.

18th 1983, Sally Ride is the first US woman in space (on the space shuttle *Challenger*).

20th 1939, Germany launches the first liquid-fuel rocket plane.

22nd 1978, Dr James W. Christy (USA) discovers Pluto's satellite **Charon**.

23rd 1971, the *Soyuz 11* (USSR) three-man crew die upon re-entry to Earth.

30th 1908, a meteor explodes over Tunguska, Russia, destroying 2,200 km<sup>2</sup> of forest.