

# Saturn is adding brilliance to August nights

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## NIGHT SKY

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By MALCOLM MILLER

**T**HOSE of us who scan the sky after dark and before it gets too cold to be outside will be able to spot Mars and Jupiter low in the west and about to disappear from our night sky.

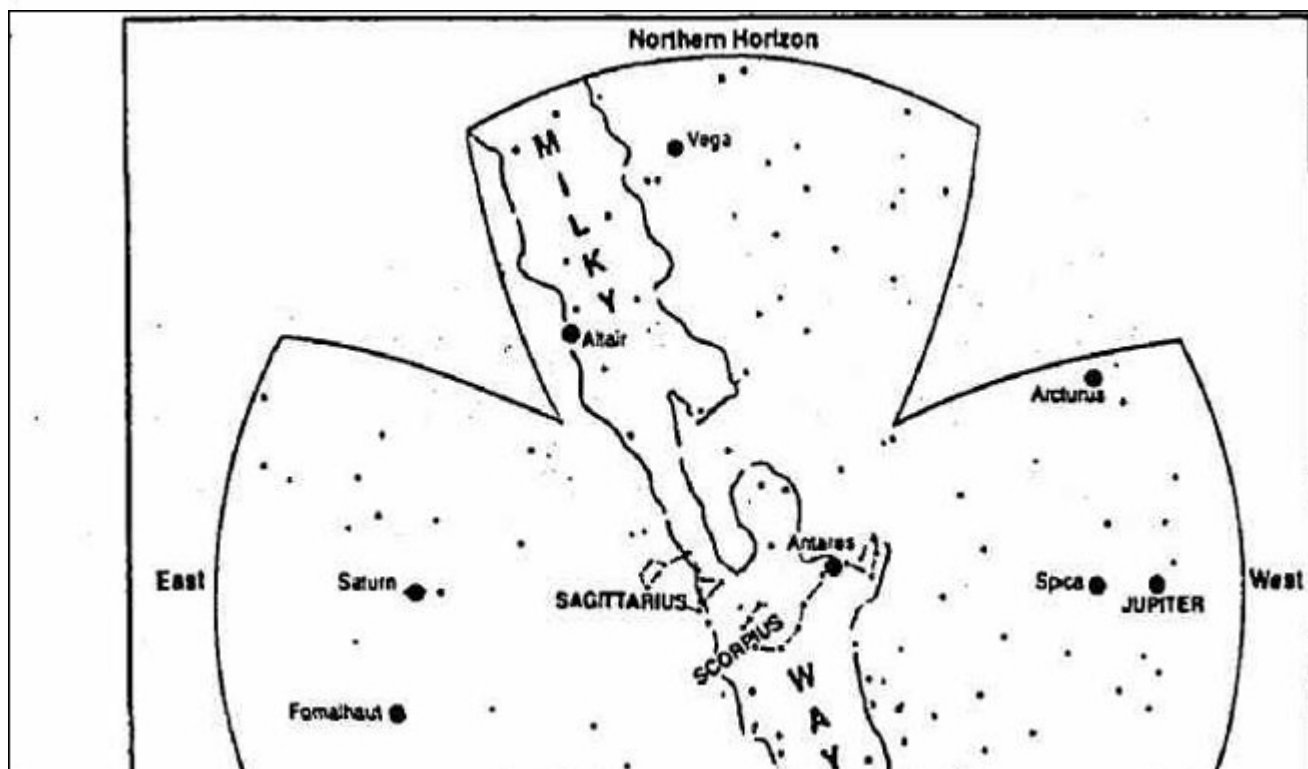
In the east, Saturn with its uniquely brilliant ring system will be rising. A bit higher in the sky, adjacent to the teapot-shaped constellation of Sagittarius, the distant and almost invisible planets Neptune and Uranus will continue to lie apparently unmoving.

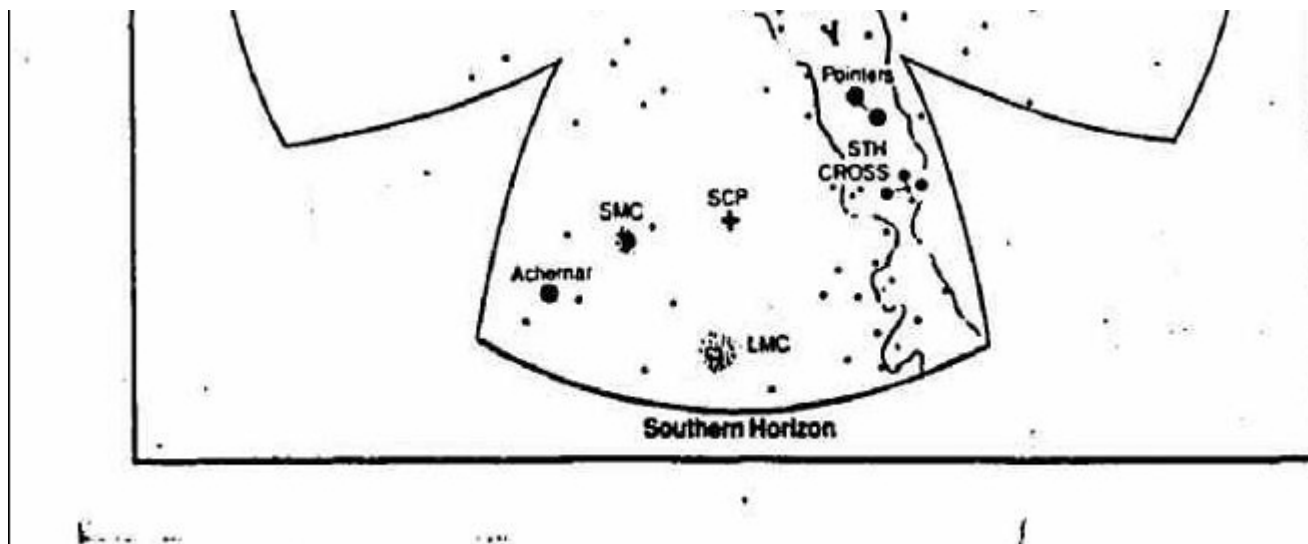
Remember that these planets were both discovered since the invention of the telescope, so we can't expect to see them with the unaided eye, though Uranus is just bright enough and can be found

bright enough, and can be found with binoculars if you know just where to look.

Mercury and Venus are both early morning objects in the north-east sky. I often see Venus from my bedroom window in the frosty hour before dawn. It is very bright, and this year again there were the usual reports and home videos of it as an "unidentified flying object". But UFOs don't show at the same time and place in the sky every day for weeks. We wouldn't be fooled, would we?

In July I was at a meeting of New Zealand and Australian astronomers in Christchurch and I was very impressed by the quality and enthusiasm evident in the work of astronomy students from our universities.





Under the tutelage of veterans such as Dr John Whiteoak, who started here at Mount Stromlo, these young men and women will be our next generation of space scientists, working from places like the Antarctic Plateau for optical telescopes and the far side of the moon as the best site we know for radio instruments. There couldn't be a more exciting time to take up astronomy as a profession, with revolutionary new instruments about to come on line.

If you wonder why anyone would want to do astronomy from the vicinity of the South Pole, there are some real advantages.

The plateau is one of the driest places on earth; the dust content of the air is; very low; it is extremely cold, an advantage for infra-red measurements, and the polar day-night cycle means that extended observations can be made, for hundreds of hours if necessary.

Testing for a South Pole obser-

**Testing for a South Polar observatory has already begun. The**

map shows the August sky as it appears in the middle of the month at 8.30pm. It shows the sky — as it appears when we look up, and that's why east and west seem to be reversed — hold the map above your head and they'll be correct.

The Milky/ Way crosses from north-east to south-west, and most interesting objects lie along it, which is to be expected, because the Milky Way traces the outline of the main bulk of our galaxy, filled with star clusters, gas clouds, stars and glowing nebulae.

The Galactic Centre is directly overhead; if you lay on your back and look straight up you will be looking straight at the nucleus of the galaxy, which may hold a giant black hole as massive as 10,000 suns. There is too much material in the way for anything but radio and infra-red rays to reach us from the centre, and detailed study of it is still in its infancy.

Along the Milky Way we are able to see the Southern Cross, Centaurus, the constellation of the Pointers, Scorpius with its red giant star Antares, and near to it, Sagittarius (the Teapot). Further north are Altair and Vega.

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The South Celestial Pole is marked with a cross and the letters SCP, while nearby are the Large and Small Magellanic Clouds, LMC and SMC, two of the 13 known small satellite galaxies of our big Milky Way galaxy.

### MOON PHASES

The following table shows the phases of the moon, with dates and times of occurrence for the next two months. The 24-hour clock is used to avoid ambiguity.

Full moon	Aug 2	23.10
Last quarter	Aug 11	02.19
New moon	Aug 18	06.28
First quarter	Aug 24	20.57
Full moon	Sep 1	13.33
Last quarter	Sep 9	17.26
New moon	Sep 16	14.10
First quarter	Sep 23	06.32