



# *Finding the Andromeda Galaxy from Melbourne*

(Alfred's Draft November 2013)

Did you know that from Australia you can easily see four naked eye galaxies in the sky? These are our "Milky Way", the "Large Magellanic Cloud", the "Small Magellanic Cloud" and the "Andromeda Galaxy" (Messier Catalogue No. 31) you see in the astronomy books.

The Andromeda Galaxy (M31) is well in the northern part of the sky and many people think that you can not see it from Australia. In fact it can be seen fairly easily from anywhere on the mainland; the further north the better. Even from Hobart it can be seen, but only very low above the horizon and you have to pick your date and time very carefully.

On the back of this sheet is an example for 1 December around 9:30 pm from Melbourne. You get that view around 1 November near 11:30 p.m. or 1 October 1:30 am (all DST). Earlier in the year mornings: 1 September 2:30, 1 August 4:30 (no Daylight Saving Time). After December viewing becomes much more difficult due to twilight.

Further north in Australia the Andromeda Galaxy is higher in the sky and much easier to see. Every year the stars will be in the same position on the same dates.

To find the Andromeda Galaxy, look North and first find the "Great Square of Pegasus". The sides of the square are about 14 degrees, a bit more than a closed fist at arm's length (check the lower diagram). Once you found the Square, follow the lines to M31.

The Andromeda Galaxy is only about 10 degrees above the horizon. That is the width of a closed fist held at arm's length (diagram). If at first you cannot readily see it, wait a bit for your eyes to adapt to the dark. That can take 10 or 20 minutes. When you have seen this galaxy once you will be surprised how easy it is to find it again later.

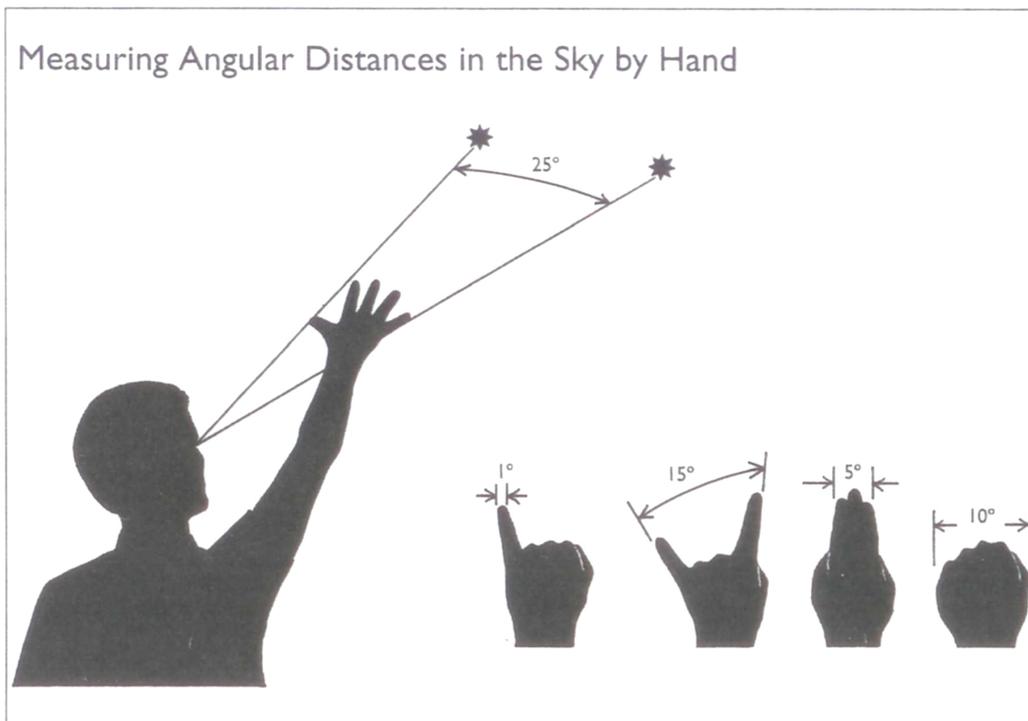
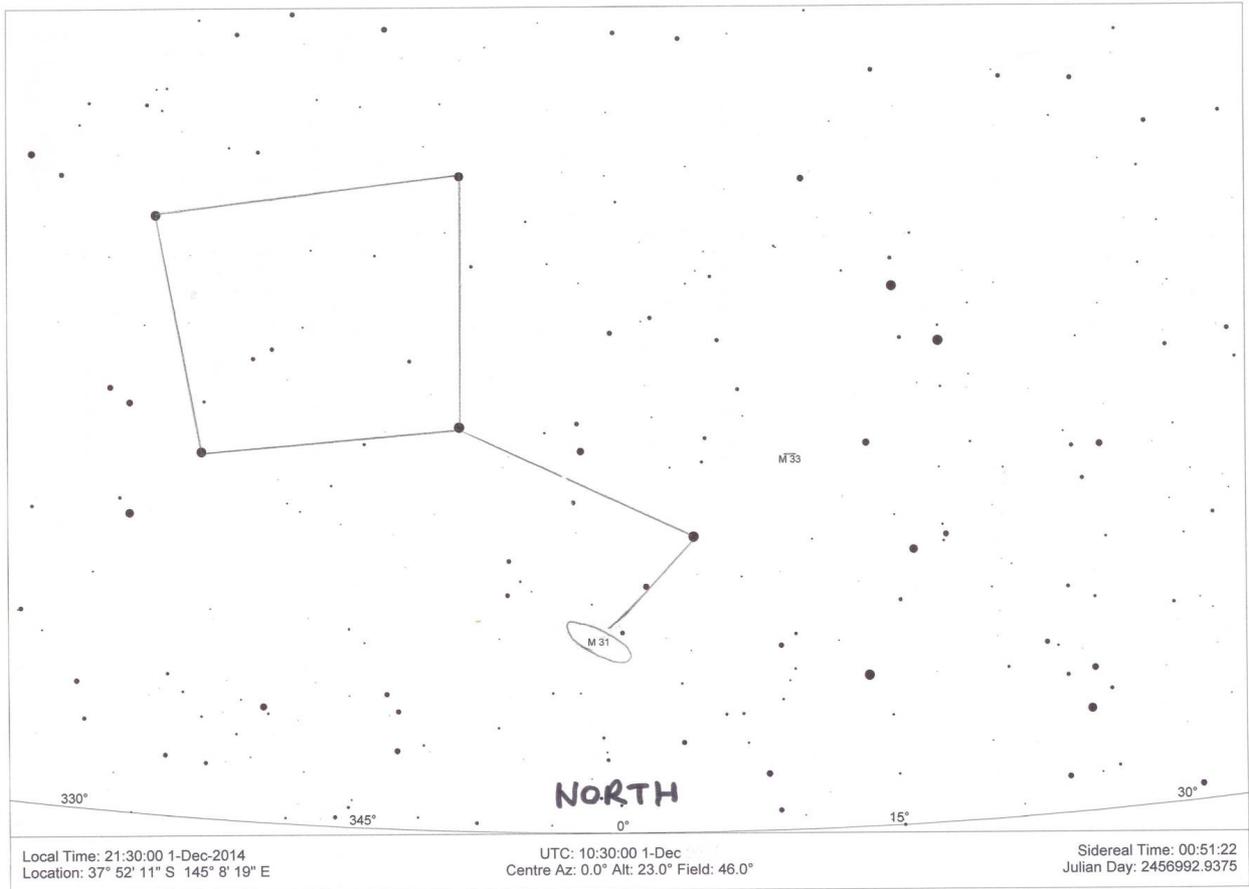
Some important information:

- The Andromeda Galaxy ("Messier 31") is very large, many times the size of the Moon
- But it is also very faint so that you need a good dark sky to see it easily
- Therefore it is best seen when there is no bright Moon in the sky
- If you can get away from the city, find a place with a low dark sky to the north
- Begin with your naked eyes. Also try binoculars, look for a large fuzzy blob
- Binoculars are excellent and you can also try a telescope at very low power

Once you have found the Andromeda Galaxy you may like to think about its enormous distance from us. Please compare:

- The Southern Cross outer 'pointer' star Alpha Centauri is about 4 light years from us
- The main stars in the Southern Cross itself are about 100 - 300 light years from us
- The Andromeda Galaxy is about 2,500,000 light years from us
- So the Andromeda Galaxy is 10,000 times further than the bright stars we see

It is pretty amazing that we can see so far, just with our own eyes.....



The above diagram is from *The Australian Guide to Stargazing* by Gregg Thompson, a well known amateur astronomer in Brisbane. Published by New Holland Publishers in 2001 (now out of print)