# Astronomical Society of Frankston Inc

APRIL 1985

## The Whirlpool galaxy M 51

The Whirlpool galaxy M 51 in Canes Venatici (the Hunting Dogs) is 37 million light years distant and has an apparent diameter of 10′. It is linked by one arm with a smaller galaxy. The spiral structure is visible with a larger telescope.

# ASTRONOMICAL SOCIETY OF FRANKSTON INC.

## NEWSLETTER - APRIL, 1985

### Meeting, Wednesday May 22nd

The Society's meeting for the month of May will be held on Wednesday, May 22nd commencing at 8 p.m. Our meeting place will be in Room F.6 of the Upper School, Peninsula School, Mt. Eliza. Please refer to map enclosed in March Newsletter for further directions to this room.

The speaker for this meeting will be Bruce Tregaskis, who will be showing, and discussing, a variety of slides of astronomical objects taken by French amateur astronomers from locations in the Pyrenees Mountains, between France and Spain.

### Observing Night for May

An observing night for the month of May will be held on Saturday, May 18th at the Observatory site, Peninsula School and commencing at 7 p.m. As for previous observing nights, should the Saturday night be clouded out then the following night, Sunday May 19th, will become the Observing Night for the month.

These two nights will be close to the time of New Moon and will provide a good opportunity to search for galaxies in the Virgo and Coma Berenices cluster situated at around 40 million light years distance. Please bring portable telescopes, the larger the better, for this night.

### Society News

The talk at the Society's March meeting was given by Barry Adcock, Director of the Lunar and Planetary Section, Astronomical Society of Victoria, who spoke on various aspects of telescope design and how these affect the final image viewed in the eyepiece of the telescope.

Barry described the ideal telescope design for

formation of a perfect image as one having no central obstruction in the form of a secondary mirror or supports, and with a closed tube to avoid atmospheric turbulence. He reviewed different telescope designs against this standard and discussed a number of unusual designs, including the "Schiefspiegler" of which Barry has made two instruments. A variety of slides of astronomical objects taken through his 30cm aperture Schiefspiegler were shown, and members were impressed with the high quality of the detailed images of Jupiter and Mars produced by this telescope.

At the March Meeting the election of office bearers and Committee for the forthcoming year was held, with the following result:-

| | | |
|---|---|---|
| President | - | Peter Norman |
| Vice-President | - | Ken Bryant |
| Secretary | - | Clive Nicholls |
| Treasurer | - | Peter Brown |
| Committee Members: | - | Doug Corke |
| | | Jim Drewery |
| | | Tony Hales |
| | | Don Leggat |
| | | John Palmer |

Bruce Tregaskis volunteered for the position of Minute Secretary, this position not to involve actual membership of the Committee.

A successful Observing Night was held on Saturday, March 30th at the Observatory site, Peninsula School. Portable instruments were brought along by members including Newtonian telescopes of 15cm, 20cm, and 25cm apertures, on standard equatorial mountings, and in addition Tony Hales' 30cm Newtonian reflector mounted on a Dobsonian type mounting and towed to the site by trailer. Clear skies allowed the identification of a number of deep sky objects in the various instruments despite the presence of a First Quarter Moon, and members present were especially impressed by the views of deep sky objects such as the Keyhole Nebula in Tony Hales' large Dobsonian.

The high quality views seem to confirm not only the high quality optics of Tony's telescope, but also the good choice made of an Observatory site for re-location of the Society Observatory and the R. J. Smith telescope.

## Sky Notes

The evening sky in May shows the Milky Way extending from the eastern to the western horizons and passing near the zenith where the constellations of Centaurus, the half-man, half-horse creature of mythology, and Scorpius the Scorpion, blaze brilliantly high in the sky. Below Scorpius, toward the eastern horizon, is Sagittarius, the Archer, site of the centre of our Milky Way Galaxy, some 30,000 light years away.

In the northern half of the sky are the constellations of Virgo and Coma Berenices, with Leo sinking in the west in the late evening. This area of the sky offers the greatest concentration of galaxies accessible to amateur telescopes in the clusters of galaxies in Virgo and Coma Berenices, and in nearby Leo.

In Leo can be found two pairs of galaxies, M65 and M66 at mean position R.A. 11h 17m, Dec. + 13° 20, and M95 and M96 at R.A. 10h 41m Dec. + 11° 58 and R.A. 10h 44m Dec. + 12° 05 respectively. In the case of M65 and M66 both galaxies can be seen in the same low power telescope field, whilst M95 and M96 are separated by 42' of arc, rather more than the diameter of the Full Moon.

The so-called "Realm of the Galaxies" in nearby Virgo and Coma Berenices contains many galaxies within the reach of amateur telescopes and a number of these are located close enough to teach other to be seen in the same telescope field. Although none of these galaxies are very bright visually the cluster represents the largest grouping of bodies at distances as great as 40 million light years which can be seen by the amateur observer.

One of the brightest galaxies in the Virgo cluster is the giant elliptical galaxy M87, NGC4486 at R.A. 12h 28m

Dec. + 12°40'. This galaxy is a source of radio waves referred to as "Virgo A" and is also notable for a jet extending from the nucleus of the galaxy. The visual magnitude of M87 is +10.1 and it is seen as a nebulous patch in the telescope field.

## Planets

Venus and Mercury are conspicuous objects in the early morning sky in April and May with Venus reaching a maximum brightness of -4.2 during late May.

Saturn with its ring system is now visible in the evening sky and is located in the constellation of Libra, the Balance. Through the telescope a number of satellites of Saturn may usually be seen, the most conspicuous being Titan, a body about the size of Mercury which is a satellite in Saturn's system. Further eastward in Capricornus, Jupiter is rising before midnight at the end of May and will be well placed for observation later in the year.

## The Moon

| | | |
|---|---|---|
| New Moon | April 20 | May 19 |
| First Quarter | April 28 | May 27 |
| Full Moon | May 4 | June 3 |
| Last Quarter | May 11 | Jun 10 |

## Total Eclipse of the Moon - May 5th

Eclipse begins 4.17 a.m. and totality between 5.22 a.m. and 6.30 a.m.

## News Notes

A recently discovered asteroid, numbered 1984QA, has an orbit which periodically crosses that of the Earth and Venus and approaches Mars. Calculations indicate that the gravitational influences of the planets on this asteroid, which has a diameter estimated at around 1km, will have one of two effects within about the next

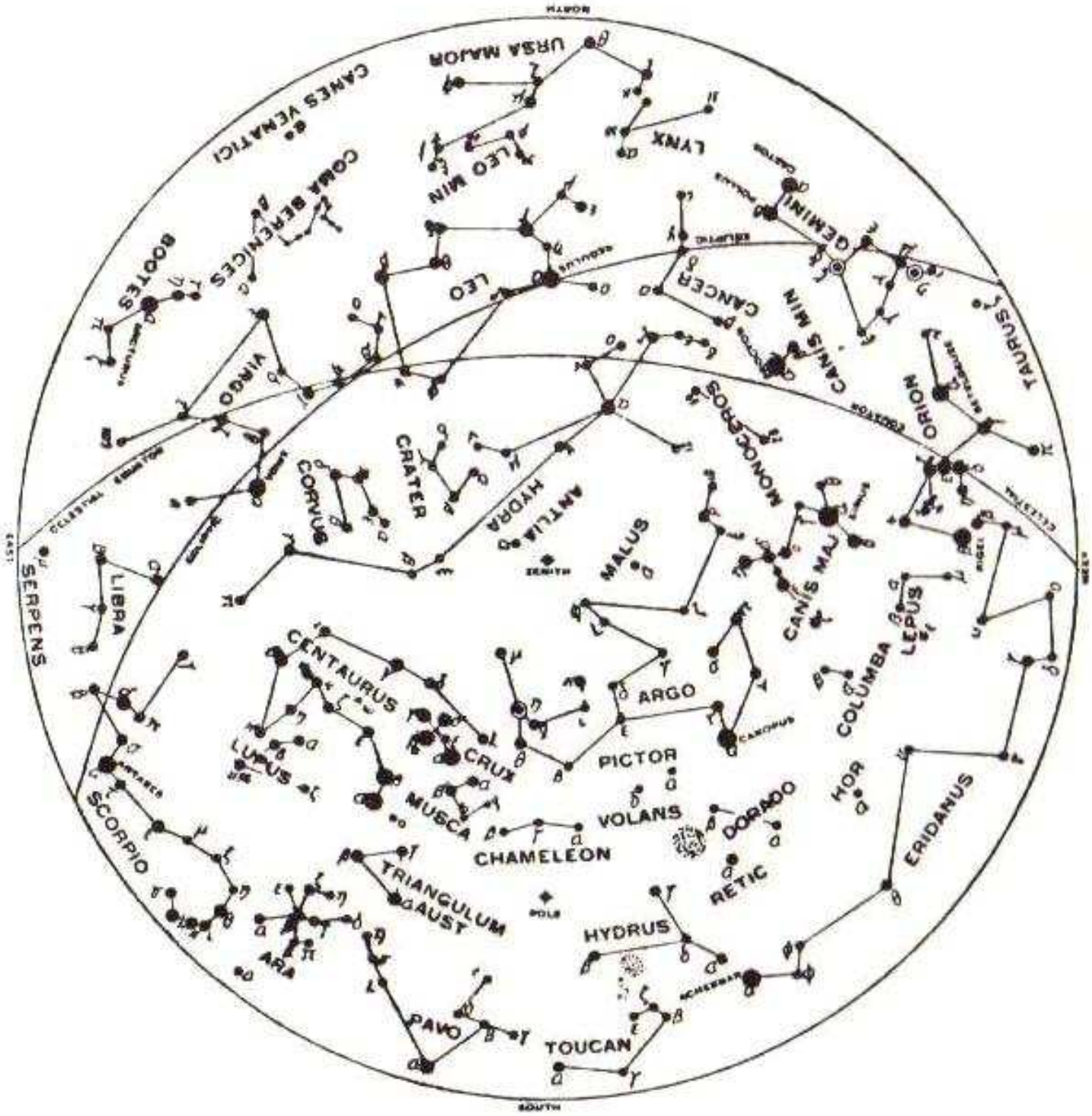
10,000 years - it will either be ejected from the Solar System entirely, or will impact one of the planets, possibly the Earth.

"Astronomy" magazine, February 1985.

The first ever fly past of an asteroid by a space-craft is due to take place in December 1986 as part of the "Galileo" mission to Jupiter, scheduled for launch on May 21st, 1986. The fly past results from a computer study of possible asteroid encounters en route to Jupiter, which showed the opportunity for a fly past of 200km diamter Amphitrite. The instrumentation on board "Galileo" should allow photography of surface features as small as 200m across.

"Sky and Telescope", February 1975.

# *Star Groups for April and May*




## MAP 3

### APRIL AND MAY

| | | | | | |
|---|---|---|---|---|---|
| April | 1 | 9·23 p.m. | May | 1 | 7·24 p.m. |
| | 11 | 8·43 | | 11 | 6·45 |
| | 21 | 8·04 | | 21 | 6·05 |
| | 30 | 7·28 | | 31 | 5·26 |