ASTRONOMICAL SOCIETY OF FRANKSTON, INC.

NEWSLETTER - JULY 1985

Meeting, Wednesday August 28th

Jim part of the Astronomical Society of Victoria, will give an illustrated talk about the Crab Nebula, including its structure and history as a supergiant star prior to exploding as a supernova hundreds of years ago, resulting in an expanding shell of gas and a central pulsar. The meeting will commence at 8 p.m. in Room F6 of the Upper School of Peninsula School, Wooralla Drive, Mt. Eliza.

Meeting, Wednesday September 25th

Bruce Tregaskis will lead a discussion concerning the "International Halley Watch Amateur Observer's Manual for Scientific Comet Studies." This handbook has been prepared for use by amateurs around the world, under the auspices of NASA. At least 10 Society members have a copy of the manual and the discussion will be something of a training session for the months ahead.

Observing Nights for August and September

The next observing night in the grounds of Peninsula School will be held on Saturday, August 17th, or, if clouded, on Sunday, 18th commencing at 7 p.m.

An observing night will also be held either on Saturday, September 14th or Sunday, 15th, depending on the weather.

Society News

The talk at the June meeting was given by Peter Lowe and was about the use of microcomputers in amateur astronomy. His excellent address was helped by the use of an "Apple" MacIntosh computer in demonstrating the storage, computing and graphics facilities for use by astronomers.

Members will be pleased to hear of Peter Brown's rapid recovery from major surgery due in large measure to his courage and determination and to the careful nursing given by his wife Jan.

Unfortunately, Steve and June Malone had to return from Darwin by plane when their youngest son, Peter, suffered serious injuries in a motorcycle accident. Peter is slowly recovering in the Austin Hospital and we send best wishes to Peter, June and Steve.

Membership Fees Reminder

Members of the Society who have not yet paid their Annual Membership Fees for 1985 are asked to forward the relevant amount to Society Treasurer, Peter Brown, 7 Kiandra Crt., Frankston.

Adult Member	- $12.00
Member & Associate	- 20.00
Pensioner Member	- 8.00
Junior Associate	- 8.00

Book Review

Our librarian, Doug Corke, has written the following review upon receipt of a complimentary copy of the book:-

'Colours of the Stars' by David Malin and Paul Murdin

Malin is a photographic specialist at the Anglo-Australian Observatory and Murdin is the chief optical astronomer at the new U.K. telescopes in the Canaries. Together they have produced a most attractive book that splendidly enlarges the limited range of colours that can be seen by the eye of the amateur astronomer and displays a magnificent series of some sixty colour photographs.

These cover, for instance, blue reflection nebulae lighted by stars to produce skylight on a light-year scale and star-filled clouds illuminated by the red recombination glow of ionized hydrogen, with dark foreground dust veiling the entire scene. The nebular regions of Orion, the

Trifid Nebula, the enigmas of the active galaxy Centaurus and the Magellan Clouds at different scales are among the many marvels displayed. It is a pity that our human eyes can never hope to see such scenes directly because they cannot store and build up such images, but this book, with its masterly range of pictures, can be enjoyed each time it is opened.

It is not just a picture book alone; it covers the technicalities of colour vision, red shifts and blue shifts in the spectral colours of moving stars, redder if the distance is increasing, large manipulation, and additive colour photography from Clerk Maxwell to the present day. At just under $30.00 it cannot be said to be expensive, and the reviewer can only find one picture, Fig. 24 of the Antares region, that shows image defects that appear to have slipped past the block maker's vetting.

(D. M. Corke).

Advertisement No. 1.

The Committee decided to advertise the services of Mr. W. A. Slee as a token of gratitude for his donation of an alternator for use by Society members in the Observatory Arthur Higginson personally recommends Mr. Slee's work.

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Sky Notes

Constellations. Over the period from late July until late August, the large and prominent constellation of Scorpius, the scorpion, is crossing the meridian high in the southern sky in the evening. Antares (Alpha Scorpii), the brightest star in the constellation, mentioned last month, is not the only bright double star in Scorpius. Beta Scorpii, the northernmost of the three bright stars in the scorpion's head, has two bright components of about magnitude 2.5 and 5 separated by 13".7 (in 1958). The brighter component also has a close companion of about magnitude 9.5 at a distance of 0".5 (in 1959).

Antares has two globular clusters nearby. The brighter one, M4 is about 7th magnitude and a little over 1^{o} to the west (preceding side) of Antares. The fainter globular, of about 10th magnitude, is NGC 6144, which is even nearer, being a little over $\frac{1}{2}^{o}$ NW of Antares. An open cluster, 40' in diameter, containing about 200 stars, is close to the spot where the tail of the scorpion commences its main curve. The cluster is known as H12.

Last month, the recently discovered Comet Machholz, 1985e, (note amandments) was mentioned. It was expected to be visible through binoculars or a small telescope in Leo, the lion, low in the west immediately after sunset by about the middle of July, 1985. Unfortunately, at the time of writing (12th July) no trace of it could be found in the expected position, using 10 x 50 binoculars on 10th and 12th July. Further information may be available regarding the comet at the next meeting.

By August, Leo is vanishing in the dusk, with the second magnitude, Denebola, being the last significant star to be seen at the eastern end of the constellation.

The small but obvious constellation of Corvus, the crow, is now approaching the west. The four brightest stars, Beta, Gamma, Delta and Epsilon (Alpha is fainter than these), form a naked eye quadrilateral somewhat similar in shape to the much smaller and fainter "Trapezium" in the Orion nebula, M42, observable through a small telescope.

About 15° to the east of Corvus is the first magnitude star Spica (Alpha Virginis). The remaining stars in Virgo, the virgin, are not particularly prominent but this constellation and the adjacent Coma Berenices, Berenice's Hair, further to the north-west, contain a large number of galaxies, many of which can be readily picked up by sweeping a telescope through this area.

Also in the north-west, about 30° below and somewhat to the east of Spica, is the orange coloured first magnitude star Arcturus (Alpha Boötis). The remainder of Boötes, the bear driver, runs down below the horizon.

The constellation of Hercules is low in the north. It contains the fairly bright and large asterism of four stars known as the "Keystone", in which is located the the large and bright (magnitude 5.7) globular cluster M13. At its highest, it is about 10° above our northern horizon, but spoilt by the glow of Melbourne. It is the best globular for northern hemisphere observers, but for us in the south it doesn't compare with the magnificence of Omega Centauri, the finest globular in the entire heavens. The latter is now high in the southern sky above the two pointers, Alpha and Beta Centauri, and is visible to the naked eye as a fuzzy fourth magnitude small round object.

Vega, Alpha Lyrae, is a first magnitude star low in the north to the east of Hercules. Another first magnitude star is Altair, Alpha Aquilae, with its two fainter outriders, each about 2° away on either side of it. It is higher than and further to the east of Vega.

The small fairly compact group of stars about 15° to the east of and slightly lower than Altair is the small constellation of Delphinus, the dolphin. On 8th July, 1967 an English amateur astronomer, G.E.D. Alcock, discovered a nova at magnitude 5.6 in this constellation. The nova remained at naked eye level for about a year, but fluctuated considerably, reaching its peak of magnitude 3.5 in December 1967. It was one of the brightest and best observed novae in recent years. Nova Delphini 1967 is now known as HR Delphini and has faded below naked eye level.

The Milky Way runs up from the north-east past Delphinus, through Aquila, the eagle, and Scutum, the shield, to Sagittarius, the archer. Sagittarius is the constellation containing the bright asterism known as the "Teapot" because of its resemblance to that humble humble household item. There are many fine telescopic and astrophotographic objects in this area, including M17, known variously as the Swan Omega or Horseshoe nebula, the impressive M20, the Trifid nebula and the nearby open star cluster, M21.

Continuing on from Sagittarius, the Milky Way passes overhead through Scorpius (mentioned previously) and into the southern half of the sky. It then passes through Ara, the altar, Norma, the level, Lupus, the wolf and into Centaurus, the centaur, which contains the well-known "pointers" Alpha and Beta Centauri.

High in the southern sky following (to the east of) the "pointers" is the easily recognized Triangulum Australe, the southern triangle which contains NGC 6025, a 10' diameter open cluster of about 30 stars from the seventh magnitude down.

The "pointers" point to Crux, the southern cross, through which the Milky Way passes. Crux is now past its highest elevation in the southern sky and is turning on its side to the west of south. Near Crux is NGC 3918, a little known eighth magnitude planetary nebula which resembles Uranus. Its position is at R.A. $11^{h}\ 47^{m}.8$, Dec. $-56^{\circ}\ 54'$ (1950.0). It may be found fairly readily by extending the short arm of the cross downwards from Beta through Delta the same distance again into Centaurus, below the cross.

Carina, the keel, and Vela, the sails, are also in the Milky Way but are now lower than the cross, towards the southwest.

The large and small Magellanic Clouds are in the southern sky on the opposite side of the South Celestial Pole from the cross and the pointers. As the latter drop lower down towards the southwest, the former rise higher

to the east of south and will become better placed as the months pass by, with the small cloud preceding the large one.

The last object to be mentioned is Canopus, Alpha Carinae, which is the second brightest star in the sky. With a good clear southern horizon it may be seen very low down and it is due south, at lower culmination, at about 9 p.m. in mid-August. However, it is very much reduced in brightness due to atmospheric extinction.

The Planets

Mercury has been easily visible as an evening object in the west in Leo in July, but by the second week in August it will be setting with the Sun. For the remainder of August it will be poorly placed in the east in the dawn. Venus is a brilliant morning object in Taurus in July, passing into Gemini in August, where by the end of the month it will be in line with Castor and Pollux as dawn breaks. Mars is too close to the Sun for observation at present. Jupiter is an all night object, excellently placed in Capricornus and its four brightest satellites with their ever changing phenomena provide endless interest. Saturn, in Libra, is also excellently placed for observation in the evening. Its rings are now open nearly 23^{o} and its brighter satellites are visible in small telescopes. Saturn will be 3^{o} north of the Moon at about 8 p.m. on 26th July. Uranus, in Ophiuchus, at magnitude 5.5 and a diameter of nearly 4", and Neptune, in Sagittarius, at a magnitude of 7.7 and a diameter just over 2" are both well placed in the evening sky. Pluto, at nearly 14th magnitude is in Virgo and setting about midnight.

The Moon

New Moon	Aug 16	Sep 15
First Quarter	Jul 25	Aug 23
Full Moon	Aug 1	Aug 30
Last Quarter	Aug 9	Sep 7

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