PERTH OBSERVATORY
Department of Conservation and Land Management

Perth Observatory Volunteer Newsletter
November 1997
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A warm welcome to all the new volunteers at Perth Observatory! We hope you find your time at Perth Observatory as enjoyable and rewarding as the previous year has been for the rest of us. This newsletter should arrive monthly to give you news and information on what's happening in the sky and at the observatory and some tips to help you on the night tours.

Highlights For November

Venus and **Mars** have made an interesting pair moving quickly through Scorpius and Ophiuchus over the last month. They will remain near each other for the next month as well. **Mercury** is visible low in the west in the evening sky this month, following the path Venus and Mars took earlier through the "head" of Scorpius. **Jupiter** and **Saturn** remain in their respective positions, both being visible at the end of twilight. Jupiter appears overhead as the sky darkens and sets towards midnight, whereas Saturn is visible for most of the night.

Towards December, all the planets will be positioned in the evening sky. Uranus and Neptune will be there, in Capricorn and Sagittarius respectively, and Pluto will be hidden in the twilight on the Ophiuchus/Scorpius border .

Volunteer Practice Nights

Practice nights for volunteers are held on the first Monday after the Wednesday Deep Sky tour. If you would like to attend one these nights please ring **Vic Levis** on 9293 5392 to confirm your place. Attendance is recommended for the new Night Tour Volunteers. We would like volunteers to ring beforehand to avoid overcrowding at the telescopes. Practice will be conducted on the following nights: 1/12/97, 29/12/97, 23/2/98, 23/3/98. There will no practice nights in January or April 1998.

Night Tour Dates

Enclosed with this newsletter is a Perth Observatory Tours brochure. All the dates for the night tours for the 1997/98 tour season are in here so if you haven't got to the observatory for a while, maybe because your rostered night was cloudy and got cancelled, and you haven't put your name down for the next month or two, you can ring up and let someone know on which nights you would like to assist. Volunteers are needed for both the Night Sky Explorer Tours and the Deep Sky Tours. Please note that there will be no night tours on Friday December 5th and Saturday December 6th because of the Summer Lecture and the Astrofest.

Astronomy Field Nights

Non-probationary Night Tour Volunteers should remember to check the clipboard near the sign-on sheets if they want to participate in this off-site star viewing activity.

Astrofest

The 2nd annual Astrofest will be held at the Joondalup Arena on Saturday 6th December from 2-10 PM. **Volunteers are required** to help out in 1-2 hour shifts and will get free entry and a visit to the VIP lounge to meet world renowned astrophotographer David Malin, so don't forget to bring your book to get signed. Please ring Jamie Biggs to put you name down if you can help.

Summer Lecture "Under the Stars"

On Friday 5th December at 8 PM astrophotographer David Malin will give a talk and slide show at Perth Observatory. Volunteers are required to help out on the night. If you give at least 30 minutes of assistance

you will get free entry for you and one guest (tickets required for entry). Please ring Jamie Biggs to put your name down if you can help.

1998 Astronomy Handbooks

The 1998 Astronomy Handbooks will be available from December 1st. Each volunteer will receive a free copy. Extra copies can be purchased from the Observatory at $15 each.

Observatory News

- Ralph Martin is in Holland for 2 weeks for a workshop on microlensing
- An American astronomer is arriving from the Lowell Observatory on the 21st of November to observe several comets on the 24" telescope. He will be here for 3 weeks.
- Carmel is back from her 7 week holiday in the northern hemisphere.
- Joerge Sanner, from Germany, has returned home after a month measuring plates here.
- Tom has had a busy time with field nights recently. He had two good nights in Kambalda and one night in Menzies where he reckoned the whole town turned out for the night. The children linked up with Peter Birch and Ted Bull on the radio to ask Peter lots of questions. He then drove 800 km back to do a field night at Roleystone! Tom estimates he saw 740 people over the week.
- The new 16" telescope has been a great success, giving excellent views of Jupiter and Saturn and finding objects quickly for night tours. But only 3 volunteers know how to use it so far! Are you one of those three? If not, please come to a practice night to get some practice on it.
- Perth Observatory received a grant from the Commonwealth Department of Industry, Science & Tourism in order to fund the conduct of an "Open Day" during the Bickley Valley Harvest Festival scheduled for Sunday, 1998 May 3 (volunteers will be required to assist).

The Messier Catalogue and M42

Some of the objects used on the Night Tours are known by "M" numbers, such as M42 and M7. The "M" tells us that this object is listed in the Messier Catalogue, a list of 109 deep sky objects compiled by Frenchman Charles Messier over the years between 1758 and 1781 AD The catalogue actually goes to 110, but M102 is a duplicate mistake of M101.

Charles Messier was an astronomer who was known for his comet discoveries, finding 21 during his lifetime. In searching the sky inch by inch he came across an object which looked like a comet, being fuzzy looking, but did not move from night to night. He decided to compile a list of similar objects, to aid himself and others in searching for comets. This first object, M1, was what we know as the Crab Nebula, in Taurus, a supernova remnant. From here the list grew over the years. The catalogue has endured today as it encompasses most of the brighter deep sky objects that are easy to see.

M42, the Great Orion Nebula, was a part of his original catalogue. It is one of the most photographed and studied regions of the sky and one of the closest nebulas to our solar system, at only 1300 light years away. Inside the nebula is a group of four stars known as the Trapezium. These stars are the beginning of a new cluster of stars which is being born inside the nebula. Energy put out by these stars excites the hydrogen in the region to give it's characteristic red glow in photographs. Our eyes can't see any colour when we look through a telescope , except green or grey, as our eyes are made for bright sunshine and strong colours. The light arriving from the nebula is not strong enough for us to discern any colour from it. Taking a photograph or image of the nebula exposes a film or receptor to light arriving over many minutes and eventually the colour will build up to form a colourful image.