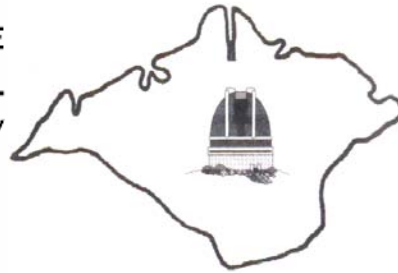


THE NEW ZENITH

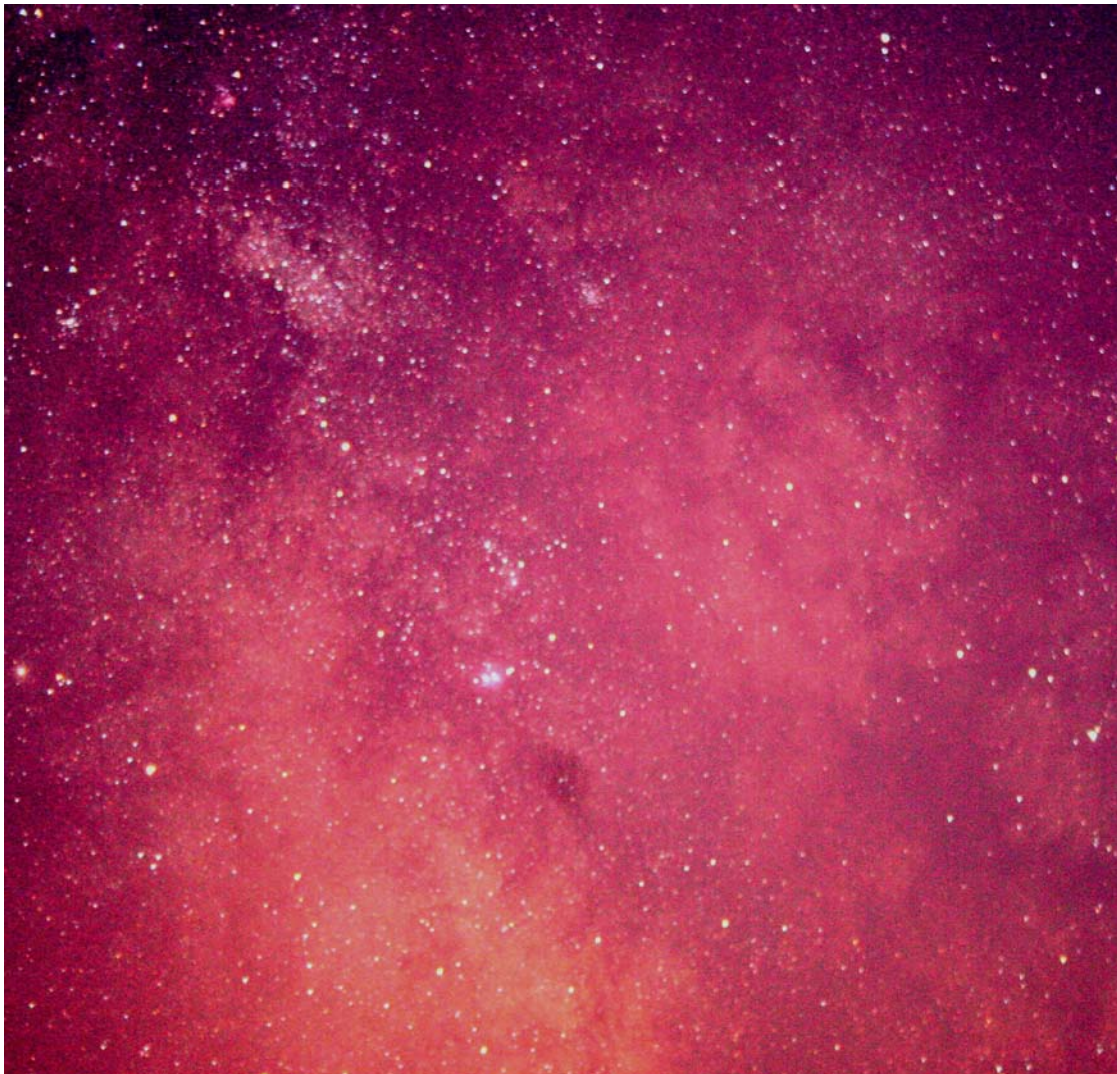
THE MONTHLY
MAGAZINE OF THE
VECTIS ASTRONOMICAL
SOCIETY



VOLUME 14 No 6

JULY 2006

SURPRISE, AS ISLAND ASTRONOMERS DISCOVER CLOUDS NOT COMPULSORY!



Of course some clouds are more desirable than others, I'm still waiting to photograph noctilucent clouds, and as we move into the solstice season I am out most nights looking north (nothing yet though)

This wide angle shot of the Sagittarius Star Cloud is full of deep space objects, and perhaps you could spend a while seeing how many Messiers you could find? At any rate it does show that even though it doesn't truly get dark at the moment, there is plenty to see if the early hours are accessible to you. And anyway who can sleep in this heat?

Come out to Newchurch observatory on a Thursday evening and see if you can take better shots.

FROM THE *TEMPORARY* EDITOR

Dear Readers

Hello to all,

John is otherwise disposed for this month and so I am having a crack at the Editor lark. It's not as easy as I thought it might be so I apologise straight out to those who notice a change in the ordinarily high standards of the New Zenith.

As I write this we are just at the longest day and I for one am looking forward to some darker evenings. It seems strange to wish the summer away and I don't do so lightly, it's just that I don't seem to have had the 'scopes out since last year. Such has been the bad weather thus far. I even missed the fragmented comet show and that's been around forever! Still it's clear now and Jupiter looms large. (although low) as the front cover shows the summer milky way is an easy target for photography too.

In fact the front cover sets the theme for this issue, which is club photography. All of the images in this issue are taken by club members, and mostly from the observatory at Newchurch.

Come on! Get that camera out!

Bill Johnston

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**NEXT MONTH'S
LECTURE**

**Constellations and
Myths**

By

Peter Burgess

In the Parish Hall
Town Lane
Newport
at 7:30 pm

July Subscriptions

Will the following members please note that their subscriptions are due. As usual, cheques should be made payable to Vectis Astronomical Society and sent to my Winford address.

Thank you.

**John W Smith, 27 Forest Road,
Winford, Sandown,
IoW. PO36 0JY**

253	Mr W. Cotton	£13
254	Mrs J. Cotton	£13
259	Miss H. Clark	£17
260	Miss D. Watson	£7
294	Mr P.K.A. Clark	£13
296	Mr S. Morgan	£17
405	Mr S. Barsdell	£17
406	Mr P. Gondhaleckar	£13

MORE OPEN DAYS

After the success of the last 3 day event it has been decided to have more open days at the Observatory. The first of these events will be the weekend of the Garlic festival in August, so start thinking about how you can get involved, either with manning the observatory, demos and lectures or marshalling the main event, which will as usual earn the club money. If you have ideas or wish to get involved talk to a committee member.

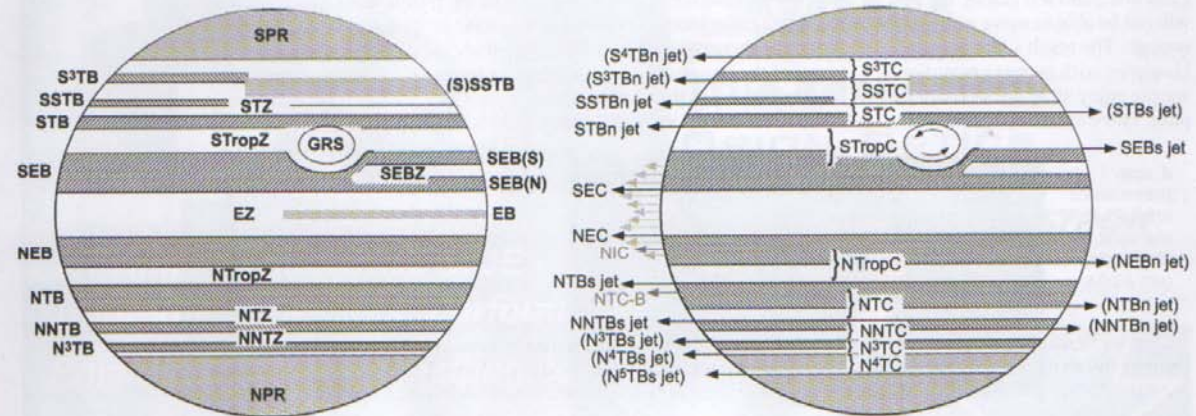
The Planet Jupiter
Dr. John Rogers
BAA Jupiter Section Director



Everything visible to the naked eye on Jupiter is clouds. The rotation rate of 10 hours – the fastest planet in the solar system – causes huge coriolis forces that create the belts and zones in the atmosphere. The belts and patterns of winds are basically fixed with currents between the belts giving rise to the large ovals. Apparently chaotic motion resolves into jet streams that flow along the edges of the belts at fixed latitudes.

lier record by Cassini in 1665 was probably a different feature). It rotates with a period of about 4.5 days although it appears to be speeding up – Voyager recordings indicate a period of 6 days. The turbulent cyclonic storms in contrast are unstable disturbances that have been shown to be thunderstorms: night time images from Galileo of the storms exhibit lightning flashes. The dark projections in the equatorial belts are cloud free regions.

The composition of the atmosphere is still in debate and the colours observed are not fully understood. The upper clouds are a haze above a region of ammonia ice then a layer of other ices and water clouds at 4-6 times Earth atmospheric pressure and a temperature of 280K. The white ovals are the tops of columns of cloud extending up from lower in the atmosphere. Attempts to model Jupiter’s atmosphere have used comparisons with weather systems on Earth. Jupiter generates as much heat internally as it receives from the sun and it is this energy that drives the circulation. Simple models of the atmosphere indicate that the white ovals (anticyclones) should spiral round each other and merge. This doesn’t always happen however and it has been observed that they often remain separated by a cyclonic region. One group of recently merged white ovals has been observed to contain a red ring suggesting it may evolve into a larger feature – another red spot?



Schematic showing the standard nomenclature for the different belts, zones and currents of Jupiter's atmosphere. North is at the bottom of the drawing. © British Astronomical Association.

The great red spot rotates anticlockwise and is therefore an anticyclone or high pressure region. Many of the other white spots are also anti-cyclonic but some are cyclones – low pressure regions. There are three major types of circulation within the atmosphere: Anti-cyclonic ovals such as the great red spot, cyclonic turbulence seen as rifts in the equatorial belts and equatorial waves, dark projections on the equatorial belts. The great red spot is a long lived anti-cyclonic vortex first recorded in 1831. (An ear-

The Voyager and Galileo missions to Jupiter have provided many photographic images of the atmosphere and it is now possible to see how the circulation operates by running sequences of these images as movies. The region around the great red spot for instance appears chaotic but material can be seen flowing around the anti-cyclone and either being absorbed or moving on downstream.

July Skies

John W Smith

The Planets:

Mercury. Becomes a morning apparition at the end of the month.

Venus is becoming more prominent as its altitude increases and may be viewed in the north east some 40 minutes before sunrise.

Mars sets before midnight and may be seen about ½ a degree above the bright star Regulus on the 22nd/23rd of the month.

Jupiter has now passed its best for brightness as it moves further from Earth and slowly fades over the coming months but will still be visible in the constellation of Leo .

Saturn is in conjunction with the Sun so is not visible.

Uranus lies to the left in Aquarius. See map for details.

Neptune may be found in the area of Capricornus. See map for details.

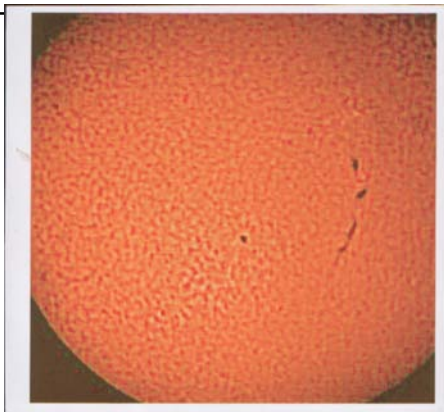
Meteor Showers:

There are three showers that peak this month.

- *1 The alpha Cygnids reach a favourable maximum on the 21st.
- *2 The Capricornids reach their maximum on the 8th, 15th & 16th.
On the 28th the delta Aquarids reach a peak of around 20 per hour.

Moon Phases:

New	1st Quarter	Full	Last Quarter
25th	3rd	11th	17th



Deep Sky Objects for small telescopes and binoculars

M57 NGC6720. This planetary nebula lies about 5000 light years away. It is popularly known as the “Ring Nebula” due to its appearance as a doughnut in space. I prefer to think of it as “The Mint with Hole”! The central star is of the 14th magnitude is best seen with a larger instrument.

M71 NGC6838. A globular cluster in Aquarius and easily seen with a small telescope. A large telescope is needed to resolve its nucleus of stars.

M11 NGC6705. This open cluster is often referred to as the “Wild Duck Cluster” due to its resemblance to a flock of geese in flight. Low power will resolve some of the stars but a large instrument is needed to get a better view of the 200 or so stars.

M27 NGC6853. This planetary is the famous “Dumbbell Nebula”. This bright object is about 3,500 light years away and is an excellent object for all instruments. Although it resembles a dumbbell, I prefer the name of “Apple Core” given to it by our member Bert Paice.

Co-ordinates:

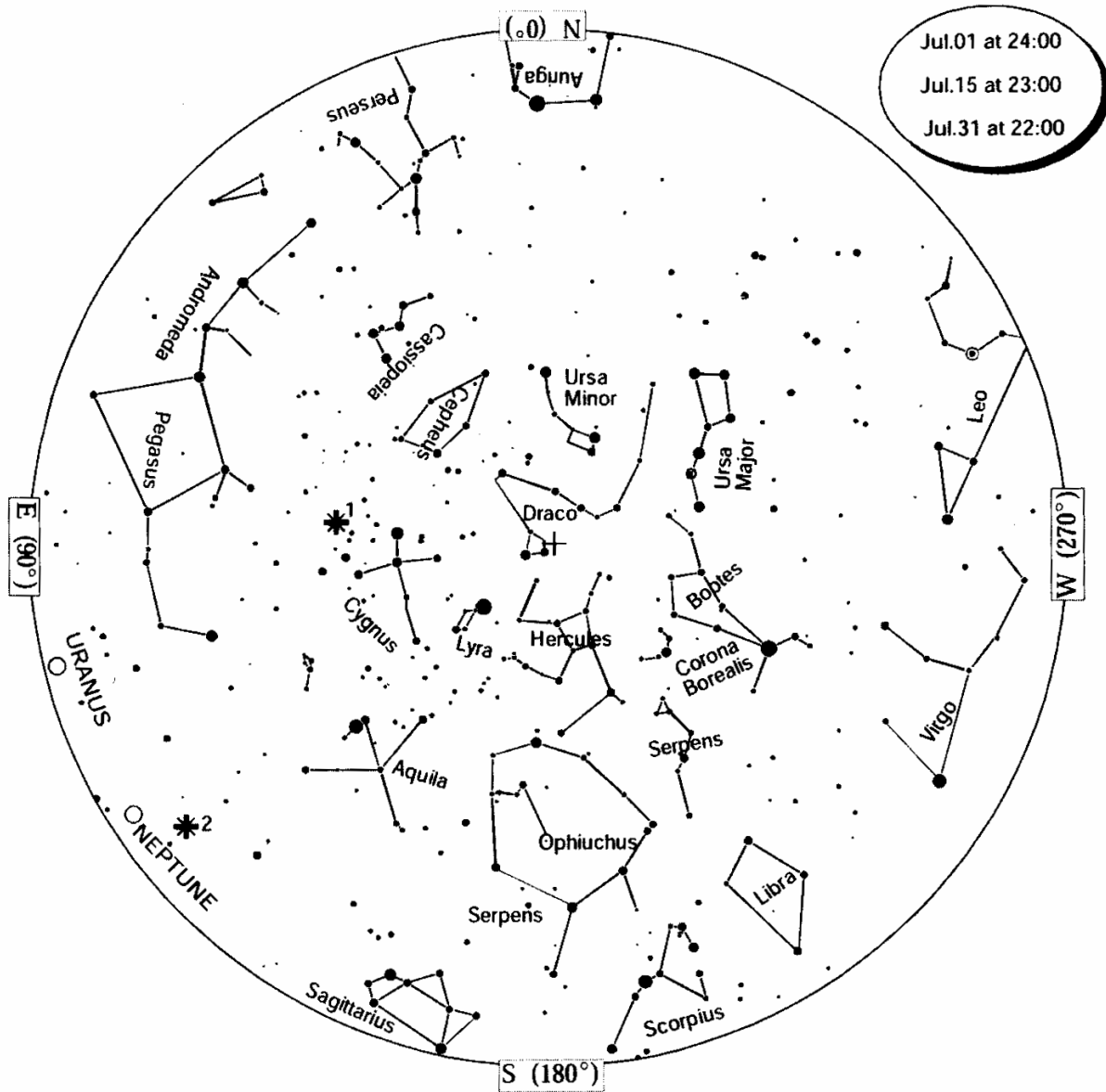
Object	RA	dec	mag	size
M11	18h 50m	-06deg 18m	7	10 arc minutes
M27	19h 59m	+22deg 40m	8	8 x 4 arc minutes
M57	18h 53m	+33deg 01m	9	83 x 59 arc seconds
M71	19h 53m	+18deg 44m	7	6.1 arc minutes



Above an image of M27 taken by Roger Hayward last July showing the distinctive “apple core” shape.

On the left an image of the suns surface and a sunspot in H-Alpha using a Corona PST, taken by Tony Plucknett

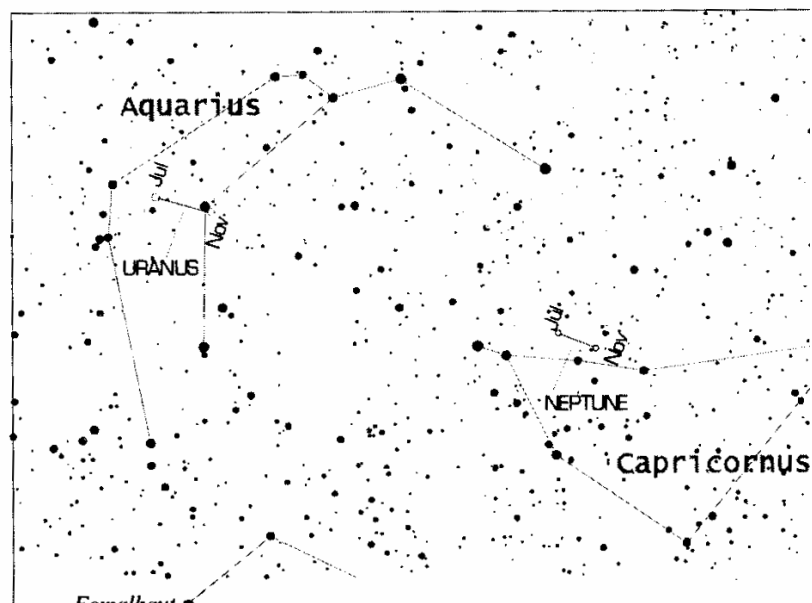
The sky for July

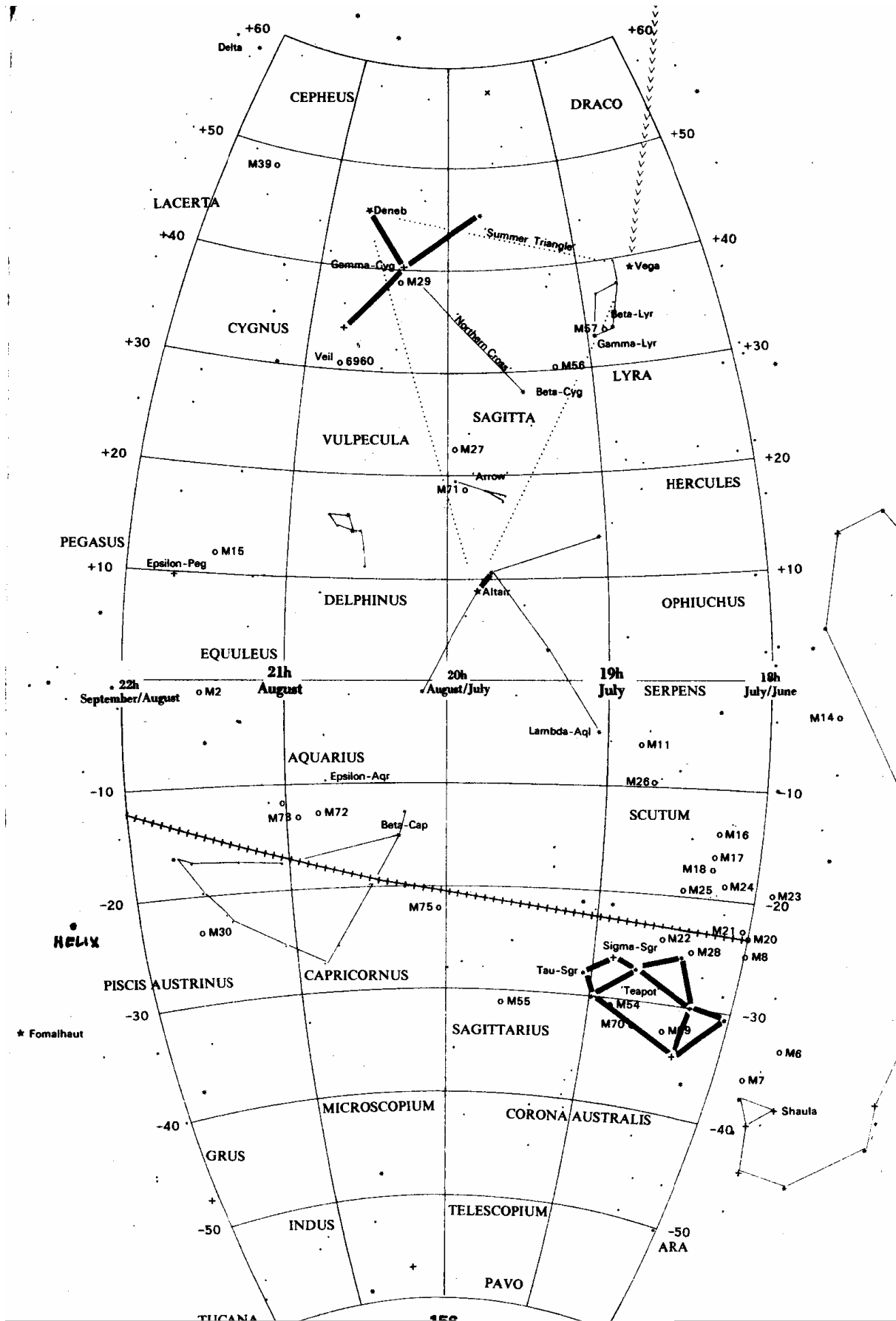


URANUS and NEPTUNE

Uranus and Neptune move slowly against the background stars of Aquarius and Capricornus respectively.

The bright star *Fomalhaut* can be found low down due south in the early morning and is a prominent object in Autumn skies. Careful observation of the same area every week or so will reveal each planet's sedentary pace but wait until the bright Moon is out of the way before observing to get the darkest skies possible.





Astronomical Clock Appeal

The VAS has been donated this fine but unfinished instrument, which is currently residing at the observatory.

It is the product of one mans labours, and was passed to the society by his son through John Smith, however very little is known of it.

It is not clear if the clock, which features tide indicator, eclipse predictors, Planisphere and of course a clock, is a copy of another which exists now or may have existed once. Or maybe is made from plans or even from the engineers mind (difficult to see where one might begin—but everything was someone's idea once).

Anyway with a membership of 150 it is highly likely that one of us may have some or all of the answers that we seek. The photos here may help with the identification, the face is about 28 inches diameter, and the whole thing is motor driven.

If you think you can shed some light on this, please contact a committee member and let us know.

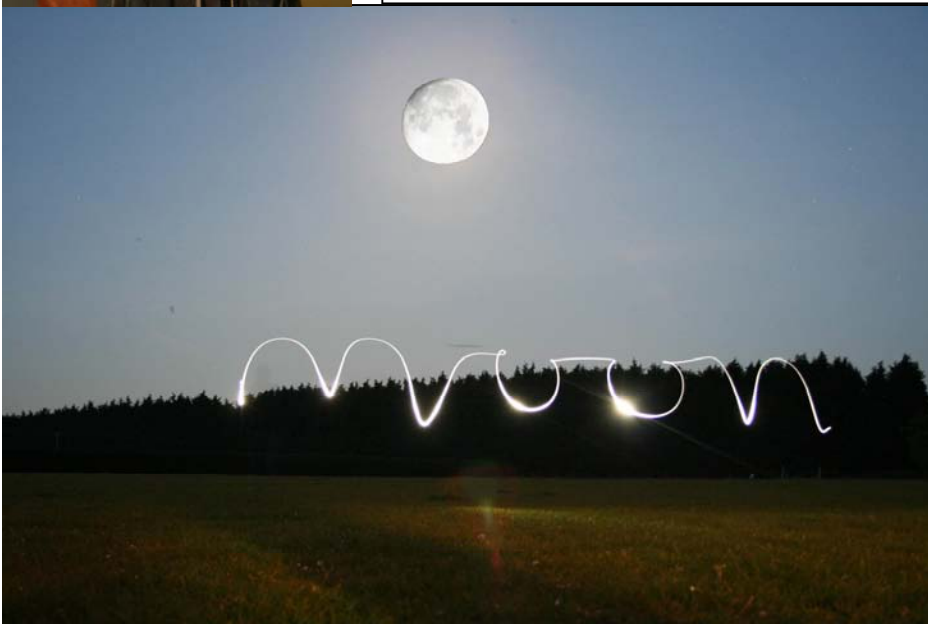


Another New Crater on the Moon.

Astronomers at NASA's Marshall Space Flight Centre in Alabama, have captured real time images of a crater being formed on the Moon once again.

On 1st May, a video camera attached to a 10-inch telescope recorded a 7th-magnitude flash at 19.6° west, 24.3° south, in Mare Nubium.

Scientists say the impacting object was probably a sporadic meteoroid about 1 foot diameter and about 40 pounds in mass. It is thought to have been travelling at around 121,000 mph . The impact created an explosion equivalent to 4 tons of TNT and produced a crater at least 40 feet across.



Lunar Labels

Writing in the sky with a light and long exposure photography combine to produce this light hearted montage of the moon while waiting for darkness to descend.

Thanks to Matt for his spelling and coordination.

Practical Astronomer Review

As John Langley mentioned in last months New Zenith, a new publication is born.

At a time when there are many established magazines available on every aspect of space, space science and astronomy, one might wonder if there was room for another?

At £3.45 Astrum Publishing have launched Practical Astronomer under the editorial leadership of Eddie Guscott.

Practical astronomer differs from other magazines currently on the newsstand by focusing on the hobby elements of astronomy. Both visual and photographic disciplines are given equal page space and the pitch of the articles, as the publication title suggests, appears aimed squarely at the hands-on amateur.

Product tests are in evidence, however instead of the more usual comparative reviews, readers are treated to a stand alone assessment of equipment that can comment on strengths and flaws in equipment design or build quality without watering down findings by mere comparison to other equipment that the reader may be unfamiliar with.

The first review is of the Sky Watcher ED80 and at nine pages long, including interferograms, star test images and several examples of images taken with the instrument, it is a thorough grilling of a telescope that the reader may have already had an opinion of. The wealth of information in the article could not leave one in any doubt of the capabilities or limitations of the test piece.

There is a guide to Star Party Etiquette in the first issue that is probably something to be printed out and nailed to the wall in every observatory, and printed on every star party poster.

Also featured is a Photoshop master class on combining layers in the style of the Hubble imaging team, an observing guide to Jupiter, a webcam imaging guide in three parts, an introduction to understanding optics (a regular feature in bite sized chapters), a beginners

guide to astrophotography with digital cameras, the usual group of star charts, compiled with Stellarium, and a feature on "Spiegelteam" a duo of German amateur astronomers who have built an observatory in Namibia for their astrophotography.

In short there is something to interest everyone no matter what their particular bent.

There are only two criticisms I can levy at this publication, the first is that not all of the articles are credited and there is no "introduction to the team" piece so that the reader might find it more difficult to connect with the anonymity of the text.

The second is that many of the articles have been fragmented through the magazine and it can make

them awkward to read, I even found myself missing one whole article because I was jumping back and forth.

I don't understand why that style of layout (continued on... and ...continued from) is still used, very distracting.

There are, at least, not as many adverts as might have been expected and this helps to keep the content flowing.

Over all the magazine is well constructed and very well presented, in times when most of our information is gleaned from TV or the Internet, competition for our attention is keen, so it is heartening to see a new publication finding a niche and digging in.

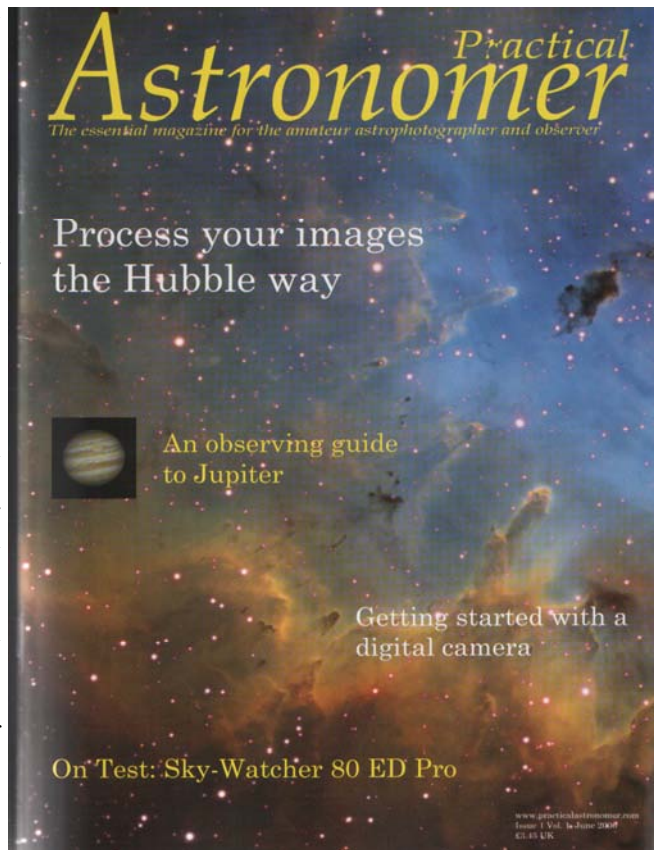
Issue two is being advertised on the back page and it promises classes on finishing CCD images, the use of filters and photographs of comet Schwassmann-Wachmann 3.

Equipment reviews are on the Losmandy GM8 equatorial mount and Celestron's X-Cel eyepieces.

The magazine is a subscription only production, sign up is available from their website at www.practicalastronomer.com

Incidentally the web site is a terrific publication in its own right with a download area that enables the reader to interact with the magazine articles.

I for one have signed up. And I wish the team at Practical Astronomer good luck with their venture.



Classifieds (private sales)



Helios 200mm reflector telescope.

Comes with Celestron CG5 German Equatorial RA driven mount on tripod, 10mm & 20mm Plossl eyepieces, polar alignment scope, T-adaptor and 2" eyepiece adapter.

Selling price £250.

Contact Jerry on 07801 054121



For Sale

10" LXDS5 SN10 with UHTC and Autostar

£650 ovno

Contact Bill Johnston

Mobile phone - 07881601172

E-Mail – bill.johnston@wight365.net

I have used this scope for two years and have been constantly amazed by its optical quality

Optical Design:	Schmidt-Newtonian
Clear Aperture:	254mm (10")
Focal Length, Focal Ratio:	1016mm; f/4
Resolving Power (arc secs.):	0.45
Optical Coatings:	MgF2; std aluminium
Ultra-High Transmission Coatings:	Fitted
Limiting Visual Magnitude:	14.5
Limiting Photographic Magnitude:	17
Image Scale (degs./inch):	1.42"/inch
Maximum Practical Visual Power:	600x



Important !

Would the owner of the small GoTo reflector that has been in the store room at the observatory for about 18 months, please contact a member of the club or committee and re-submit your details.

We know that the scope is for sale (@£250) but all other details are lost.



MEADE ETX 125 EC 125mm Maksutov-Cassegrain UHTC.

This computer controlled telescope includes:

Autostar Handbox #497

26mm Super Plossl Eyepiece,

combi-adapter to connect camera via T-mount,

electric focuser,

field tripod and hard case.

Selling price £700.

Contact Jerry on 07801 054121

INTERESTING FACTS, PART 22

Texas is the only state that permits residents to cast absentee ballots from space. The first to exercise this right to vote while in orbit was astronaut David Wolf, who cast his vote for Houston mayor via e-mail from the Russian space station Mir in November 1997.

Website of the Month

http://www.eclipticenterprises.com/gallery_rocketcam.php

Go take a ride on a spaceship!!

LAST WORDS

Well It's finished. I am surprised at how much hard work it was, and it gives me a greater appreciation of the work that John Langley puts into the New Zenith each month.

It has also made me more aware of the team that makes this possible every issue. Eighty percent of each publication is produced by three people, John Langley, John Smith and Roger Young. With the remaining being donated by the rest of the membership. There is also a team involved in the printing, distributing and mailing of the finished product.

There is an eleven member committee all active in the running of the society, and another half dozen people who's contributions to the society are essential to its day to day operation.

We have a steady membership of one hundred and fifty, and a bank balance that doesn't have a minus sign in front of it.

And of course we have a purpose built and well appointed observatory at a dark(ish) sky site!

A group of us went to the SAGAS meeting at Chichester a few weeks ago, and some of the tales of woe from our neighbouring societies highlight how fortunate we really are to have this list of assets.

It is easy to see our success as natural if we have little or no appreciation of the efforts of others who made it possible. And it's easily lost if it's not nurtured.

Which brings me full circle. It has been a fun task to edit for this month, there are other opportunities coming up for members to get more involved with the club. Next month has the AGM followed closely by at least two open days, the magazine has always got space for another article or two and the observatory is always in need of painting and decorating.

If you get more involved you will get more out of it, guaranteed!

I've enjoyed this so much, I might do it again one day

Editor

Submissions to the NEW ZENITH are very welcome and should be sent to the the following address

The Editor NEW ZENITH
'Keepers Lock', Youngwoods Way
Alverstone Garden Village
Sandown PO36 0HF
Tele: 01983 407098

E Mail: john@vlangley.freeserve.co.uk (any attached files in Word Document format, preferably)

FIND VAS ON THE INTERNET

Members should note the Vectis Astronomical Society Website address:

<http://www.vectis-astro.org.uk/>

MATERIAL FOR THE NEXT ISSUE TO BE RECEIVED BY THE 6TH OF THE MONTH

The Vectis Astronomical Society and the Editor of the New Zenith accept no responsibility for advice, information or opinion expressed by contributors