



This image of the Moon's surface was taken and converted to GIF format by Dave Knisely using a DAK Video Digitizer. In coming month's you'll see more of Dave's work.

The Prairie Astronomer

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A Note From Lee...

Prairie Astronomy Club members who subscribe to DEEP SKY and TELESCOPE MAKING have by now received word that Kalmbach Publishing Company is discontinuing these magazines. Apparently this decision occurred after the year-end renewal process was started, otherwise we could have avoided a lot of hassles.

The club was not notified of this change. Apparently, Kalmbach is going to deal with each subscriber on an individual basis to either refund your money or apply your unused subscription on a prorated basis to an ASTRONOMY subscription. So, when you receive anything from Kalmbach concerning DEEP SKY or ASTRONOMY, don't just chuck it in the wastebasket as you have in the past, assuming that the club will take care of it.

Two other developments: Kalmbach apparently decided that "Odyssey", the junior astronomy magazine, was also too much hassle or had too small a circulation, so they spun it off to another publisher. Therefore, Odyssey, at least, survives. Also, note that in the current issue of ASTRONOMY, Richard Berry announced his resignation (?) as Editor-in-Chief. Now, if this were the broadcasting industry, with

which I am intimately familiar, reading between the lines of all these coincidentally timed announcements would lead me to suspect a Major Housecleaning, probably motivated by the well-known Urge to Make A Profit. But, that's probably just a broadcaster's paranoia.

A Note From The Editor...

There are probably a few things you'll notice about the newsletter this month. First of all, it's LATE!!! As things go, the last two weeks have been a bit hectic for me in terms of travel. I did not make it back to Omaha on the day that I had planned, and thus, you receive this a week later than you should. Please accept my sincere apologies.

Next, you'll notice that I have gone back to using legal size paper. This comes about because I now have a legal size paper tray for my HP Laserjet III printer, and the copier I use will now accept a legal size tray. I hope the size change does not interfere with your newsletter storage mechanism.

Finally, you'll notice that I'm using a bit different page layout. For Christmas I bought myself an additional 150 type faces and a new Windows wordprocessor. Although I didn't have time to really get fancy this time, I'm hoping to take the time next month to play with some new design ideas.

JANUARY 10, 1992

ECLIPSE "ROUND UP"

On January 4th, Southern Californians were treated to a spectacular display in the sunset sky. For 6 minutes, the Moon slid its black disk in front of the Sun to produce a rare annular eclipse. During mid-eclipse the Moon blocked out 91% of the Sun, leaving a good-sized ring of sunlight — at least for those who could see it. Those situated farther south had the best places to see this "ring of fire." But clouds obscured the sight for most viewers, including the 10,000 waiting at Los Angeles's Griffith Observatory, whose director was dressed in a tuxedo for the occasion. Californians turned out in droves to see the event, packing beaches and restaurants and causing traffic jams along the coast. Viewers in Washington, Nevada, Hawaii, and Japan were able to see a partial eclipse. For the record, an annular eclipse at sunset will not be seen in Southern California for another 20,000 years.

MAGELLAN MALFUNCTION

There's bad news from Venus. On January 4th, Magellan's radar mapping stopped because its primary transmitter failed. This occurred less than two weeks before the spacecraft would have finished its second mapping circuit of the planet. Engineers at the Jet Propulsion Laboratory in Pasadena, California, are assessing the problem and its affect on the mission. Although the primary transmitter may be dead, data can still be sent through its backup. However, the quality of signal tends to degrade because it's prone to overheating. Mapping will probably resume on January 24th with intermittent use of the backup to keep its temperature down.

EXTRASOLAR PLANETS?

In this week's issue of the Journal NATURE, two scientists report that they have detected the presence of two planets in orbit around a pulsar some 1,300 light-years away. The planets have masses at least three times that of Earth, and they circle the pulsar every 67 and 98 days, in orbits roughly as far away as Mercury is from the Sun. The discoverers, Alexander Wolszczan and Dale Frail, detected the planets by the Doppler effect they created on radiation coming from the pulsar at the center of their solar system.

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JANUARY 17, 1992

SCRATCH ONE PLANET

On the heels of last week's announcement of twin planets orbiting around a distant pulsar, comes a correction to a similar claim made last July. Andrew Lyne of Manchester University admitted in the January 16th issue of Nature that the planet he thought he discovered orbiting another pulsar, apparently does not exist. His original published examination of the star's radio signal did not properly account for the Earth's elliptical orbit. Astronomers attending last week's American Astronomical Society (AAS) meeting in Atlanta say they are more confident with the recent dual-planet find, as the mistake by Lyne does not apply.

HST NEWS

Other news from Atlanta include exciting results from the Hubble Space Telescope. Among the revelations were evidence that a black hole, with a mass of more than 2.6 billion suns, lurks at the center of the giant elliptical galaxy M87. In another study, HST's measurements of deuterium may support the Big Bang theory and suggest that there isn't enough mass to "close the universe," thus sentencing it to expand forever. The space telescope also found a group of globular star clusters near the nucleus of the galaxy NGC 1275. The finding is startling because the stars appear young, when in all other cases, the stars in globular clusters are very old. Furthermore, NGC 1275's globulars are among the most massive and compact ever seen.

MAGELLAN RETURNS

Back in our galaxy, NASA scientists say that the Magellan spacecraft will resume mapping the surface of Venus on January 24th. When the spacecraft's primary transmitter permanently failed on January 4th, it left a temperamental backup transmitter as the only way to beam back radar imagery. Cycling power on and off through the backup causes the data's quality to degrade. To counter this problem, engineers have instructed Magellan to keep the transmitter on continuously, to maintain a stable temperature, and to cut the data rate in half. Consequently, only half the previous amount of data will be collected during each orbit. Once mapping resumes, the first task will be to make stereo images of Venus' highest peak, Maxwell Montes.

Observing Chairman's Report

by Dave Knisely

THE NEXT SCHEDULED STAR PARTIES WILL BE JANUARY 31st AND FEBRUARY 7th AT THE ATLAS SITE. These cold winter evenings are still worth getting out your telescopes for some spectacular sights. Way up north in Camelopardalis is the large spiral galaxy NGC 2403, located about a degree west of the faint star 51 Camelopardalis. Visible in a good pair of binoculars, this galaxy is moderate to large in size, but shows little detail in small apertures other than its slightly brighter core. An eight inch reveals it as a large oval patch with some vague diffuse light and dark detail. This object has several stars on its face making observing faint detail a bit difficult.

Farther south in Gemini are an interesting pair of open star clusters, M35, and its faint companion, NGC 2158. M35 is visible to the unaided eye on a good night if you look about one degree north and 1.25 degrees east of 1 Geminorum. It does show some of its stars when viewed in binoculars, and the sight in a telescope is beautiful. Two arcs of bright stars in the cluster are visible in moderate apertures, but the core is a bit sparse. Less than a half degree to the southeast is the small faint cluster NGC 2158. Visible in a four inch, this object will show some of its faint stars in a six inch at high magnification, but to resolve it well requires at least an eight inch.

Also in Gemini is the famous "Eskimo" nebula, NGC 2392, located about 1.5 degrees east and a half north of 56 Geminorum. Visible in a 2.4" refractor as a fuzzy star, this planetary will easily show its two-shelled structure and central star when viewed in a six inch. A ten or twelve inch equipped with a nebular filter will often make the outer shell look patchy, while the inner shell becomes more oval. Another planetary in Gemini is NGC 2371, located about 2.3 degrees south and 3/4 degrees west of Rho Geminorum. It is



much fainter than the Eskimo, appearing in a six inch as a faint pair of diffuse fuzzy patches which are nearly touching. Nebular filters and larger apertures will show a faint connection between the patches, almost making them look like a dumbbell.

The Rosette Nebula, NGC 2244, is one object that, until recently, was considered difficult to observe. Located two degrees east and slightly north of Epsilon Monocerotis, this nebula surrounds a faint open cluster, and is quite large, being over a degree across. I have seen it on a good night with a pair of 10x50 binoculars as a hazy area on top of the cluster. Large telescopes show only the cluster and a faint haze around it. Using a nebular filter like the Lumicon UHC or OIII, makes an enormous difference, with the nebula becoming obvious, although it still isn't very bright. RFT instruments with filters work the best, with a ten inch revealing some interesting dark detail, including some of the globules seen in photographs.

An interesting open cluster is NGC 2301, located two degrees south and one east of 18 Monocerotis. It is an elongated group of 15 to 20 stars in a "Y" shaped formation that is beautiful in an eight inch. Down south in southern Canis Major is a favorite cluster of mine, NGC 2362, which is on top of the star Tau Canis Majoris. Tau lies at the center of the group, which consists of 15 to 20 faint stars, all clustered tightly around Tau. An eight inch makes the cluster look like 30 to 40 fireflies swarming around a yard light in the summer. Tau itself has several close companion stars, and is considered to be part of the cluster itself.