

The Prairie Astronomer

Astronomy Day 1989

by *Dave Knisely*

Once again, it's time to get out your telescopes, pictures, computers, video tapes, and models for the 1989 edition of "Astronomy Day", Saturday, April 29th. This year it will again be held in the expanded Mueller Planetarium lobby on the University of Nebraska, Lincoln, city campus. Setup time will be around 8:00am in the morning, and the event will run until around 4:30 pm (or whenever Jack Dunn throws us out). We have more room this year, so feel free to offer whatever you can to our display. Even if you don't have anything to bring, we still need you to man the the display, so please sign up at the March meeting. At present, all time slots are available. We also need long tables and a few chairs, plus posters, extension cords, tape, rope, and materials to make a few signs. This is one of the few chances we have to get some public exposure and attract new members, so please think about helping us with this year's display. Thank you.

The Reviewer

by *Dave Knisely*

Uranometria Vol. 1 & 2

by Wil Tirion, Barry Rappaport, and
George Lovi

Most amateur astronomers have some sort of star atlas or field guide for finding things in the night sky. Many advanced amateurs with large instruments have been a bit handicapped by the magnitude or object limits imposed by atlases like

Skalnate-Pleso or Sky-Atlas 2000. Those amateurs now can get what is probably the best atlas available anywhere in the world, Uranometria 2000.0. It is a complete set of highly detailed charts in two hardbound volumes covering the entire sky and containing nearly all the objects visible in amateur and smaller professional instruments.

Volume one covers the sky from the north celestial pole to a declination of -6 degrees in 259 separate charts. The first volume also contains a brief introduction and a history of celestial cartography. Volume two also has the same

introduction and an errata list for volume one. It covers the sky from +6 degrees declination to the south celestial pole in 259 charts, although there is a 45 chart overlap with Volume 1 for the region +6 degrees to -6 degrees. Each chart covers a relatively small area of the sky in very high detail. At the equator, the charts cover one hour of right ascension and 12 degrees of declination, with coverage becoming somewhat smaller at higher declinations. The projection used reduces distortion to a bare minimum and provides for a small overlap between adjacent charts. Each chart is marked with a right-ascension and declination grid which, along with the small plastic overlays in the back of the book, allow the user to determine positions to an accuracy of better than five minutes of arc! This is SIX TIMES better than that of the old Skalnate-Pleso atlas I have used for so many years. Each chart will show stars down to magnitude +9.5, with a selected few stars plotted which are even fainter. This is far better than most atlases and allows users to locate most of the same stars they see in their finders. Also included are nebulae, star clusters, lots and lots of galaxies, quasars, radio sources, double stars, and a few specialty objects like the 50 nearest stars or the 25 stars with the largest proper motion. Many objects are named on the chart, especially a number of dwarf galaxies that have no NGC numbers. A large number of variable stars are also shown with approximate maximum and minimum brightness circles. Almost anything the amateur wants to find is in this atlas.

There are a few things that detract from the effectiveness of this work. There are a number of errors in positioning and labeling in both volumes. The errors for volume 1 are listed in volume 2, but no such errata is yet available for the second volume. A number of objects which are visible in ten inch are missing from the atlas. Most notable of these is an emission nebula on the Cassiopeia-Cepheus border which I call "the fingers" and which is plotted on Skalnate-Pleso atlas. The faintness limit for galaxies plotted is not listed in the atlas. Some of the distant galaxy clusters such as the Coma Berenices and Perseus groups have so many members plotted that it is impossible to identify individual galaxies. The atlas has a useful master chart of the sky showing which areas are covered by which maps, but unfortunately, this master chart is placed at the end of the book instead of at the beginning as is done in Sky-Atlas 2000. The individual charts are placed on each page in order of increasing right ascension, which means that if you open the book, the chart on the left page is NOT the eastward continuation of the chart on the right page. This makes using the atlas a bit confusing to those who were brought up with the Skalnate or Tirion atlases. Still, by and large, these defects do not seriously detract from the overall usefulness of the atlas.

This work is for the advanced amateur only. The beginner will only be confused by its complexity and thus should probably stay away from it for a while. But for those of us who are reaching for the limits of deep-sky viewing, Uranometria 2000.0 is a life-saver. It probably should be on every serious amateur's bookshelf and should be taken to every star party.

The Prairie Astronomer is published monthly by the Prairie Astronomy Club, Inc., and is free to all club members. Membership status and expiration date are listed on the mailing label. Membership dues are: Junior Members and Newsletter Only Subscribers...\$10/yr; Regular Members... \$24/yr; Family Memberships...\$27/yr; Address all new memberships, renewals, or questions to THE PRAIRIE ASTRONOMY CLUB, INC., P.O. BOX 80553, LINCOLN, NE 68501. For other club information contact one of the following officers: Ron Debus(Pres)435-5688, Dave Knisely (V.Pres)223-3968, Kim Ellen Owen (Sec)423-7440, Lee Thomas(Tres)483-5639, Jack Dunn(2nd V.Pres)475-3013. All newsletter comments and articles should be sent to Newsletter Editor JOHN LORTZ, 9255 CADY AVE #14, OMAHA, NE 68134 no later than 7 days before monthly club meetings. Club meetings are held the last Tuesday of each month at Hyde Observatory in Lincoln, NE.

Observing Chairman's Report

by Dave Knisely

THE NEXT SCHEDULED STAR PARTY IS FRIDAY, APRIL 7TH AT THE ATLAS SITE. Spring skies are loaded with just one thing: GALAXIES. Many observers feel that galaxies cannot be observed effectively with small telescopes. This is decidedly not the case. There are at least 30 galaxies in the entire sky that can be seen in a 60mm refractor under good conditions, and using a four inch aperture ups that number to nearly 100. During the last week of February, a 12th magnitude supernova appeared in M66, and both the galaxy and the supernova could have been seen in a three inch refractor. Small telescopes may not reveal much detail in these faint objects, but they will at least show them. But just what do we mean when we say "small" telescopes? For amateur use, I generally refer to instruments less than four inches in aperture as "small", apertures from four to nine inches as "moderate", apertures from ten to 16 inches as "large", and anything over 16 inches I consider to be "very large".

A good pair of galaxies for the small telescope can be found in western Ursa Major, namely, M81 and M82. M81 is a spiral that can be found about two degrees west and 3/4 degrees south of 24 Ursa Majoris. Visible in binoculars, this galaxy appears as a faint fuzzy oval in small instruments, with large instruments showing faint indications of the spiral arms. Less than a degree north of M81 is the peculiar galaxy M82. A 60mm refractor shows M82 as a faint fuzzy cigar shaped patch of light, with a six inch showing a dark band near the center. Eight or ten inch telescopes will show some additional dark detail.

Leo offers a number of interesting galaxies. NGC 2903 is about 1.5 degrees south of Lambda

Leonis and should just be visible in a 2.4". A six inch will show the small nuclear region and irregular outer haze, while a ten inch reveals extensive mottling with vague overall spiral structure. In the back leg of Leo are a trio of fairly bright galaxies, M65, M66, and NGC 3628. M65 can be found about 2.5 degrees south and one east of Theta Leonis. This object appears as a faint fat fuzzy cigar shaped patch of light with a brighter middle when observed in a 2.4" refractor. Large telescopes bring out the nuclear region and hint of a dark lane along the east side. In the same field to the east is the odd spiral M66. Visible in a 2.4", this galaxy shows some detail in an eight inch aperture, with a ten inch showing extensive mottling and one of the two spiral arms. Also in the field to the north is the edge-on spiral galaxy, NGC 3628. A four inch will show this object as a faint fuzzy streak of light, while an eight inch will show a dark lane along the south edge. Another interesting galaxy is NGC 3521, located about half a degree east of 62 Leonis. It is just visible in a three inch as a faint fuzzy oval patch. An eight inch shows the galaxy as a medium sized fairly bright and rather elliptical fuzzy patch with a small bright nucleus and two faint outer fans of haze extending out east and west of the nucleus.

In western Corvus lies the "Ringtail Galaxy", NGC 4038-9, a possible pair of colliding galaxies. To find this object, look 1.3 degrees south and 3.4 degrees west of Gamma Corvi. A six inch will show the galaxy as a fairly small very faint diffuse oval of light with a slight protrusion on one end. An eight inch under good conditions will make the protrusion on one end. An eight inch under good conditions will make the protrusion into a notable "hook", while a ten inch will show hints of a patchy ring in the main galaxy. The entire object looks a bit like a shrimp to me.

At The Last Meeting

by Ellen Owen

The meeting was called to order at 7:30 by President Ron Debus. Six visitors were introduced, including the youngest member Jack ("Slug") Winemiller.

The Secretary's report from the last meeting was read and approved.

Since the Treasurer was not present (Now it's your turn to get HIM, folks!), there was no treasurer's report. Doorprizes were awarded instead--sets of pictures and audio demonstration tapes. Eighteen lucky people were winners.

During Old Business, the library was again the topic of discussion. Ced Gibb is the only volunteer who has picked up his books to store. Other volunteers need to make arrangements with Rick Johnson to pick up their books and magazines. Ced brought some of the extra magazines and calendars, hoping someone would give them a good home. He also made a list of the materials that he is storing for the club; this is available from him.

Earl Moser asked if there had been any further discussion concerning a name for the Atlas Site. Nothing further has been done in this regard, but naming the site for Jess Williams was again mentioned. Earl stated that the Omaha club calls their site "Astropark", and suggested "Star Field". Members are urged to make a list of names for consideration and submit them to the club, (Del Motycka suggested this) and Ron Veys suggested a possible contest.

During New Business, Doc Manthe brought up the subject of Astronomy Day, which should be held on April 29. Ron Debus suggested offering mini-classes on such things as telescope-making, computer programs, plotting of planets and stars, etc. throughout the day to make the program more interesting to all participants.

Ron Debus displayed the "bulls-eye" circles he made for his Telrad out of a heavy plastic overlay material. He then uses this as an overlay on his star atlas. Rick Johnson said that his Telrad came which such circles, but that he made like size rings out of solder material, and that this does not blow away quite so easily.

Ron also brought the magazine "Signals" and displayed a glow-in-the-dark poster of the universe and sweatshirt. More information about these is available from him.

Earl Moser moved to adjourn the meeting, and the meeting was dissolved at 8:05.

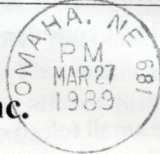
Following the meeting was a program on the CosmoSphere, presented by Jack Dunn.

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Next PAC Meeting March 28, 1989