



THE

Prairie Astronomer

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President's Message

by Dave Knisely

At our last meeting, we had some interesting competition between several members in a sort of mini-astrotrivia contest put on by Dave Scherping. I will not bore you with the details, except to say that the man with the biggest mouth won. This should give you a few hints as to what is in store at the convention we are hosting June 11-13th. We will need some help putting this on, so you may want to contact Dave and offer him some assistance. We still have lots of things you can help with concerning the convention activities. If you wish to do something, contact Ron Veys (486-1449). We need some sign making help, some people to help with registration, and some to just stand around and direct people to the right place. Please feel free to sign up. Also, don't forget to register for the convention, because if you are not, you will not be able to attend the paper sessions, or eat at the picnic for free.

In other matters, the site cleanup got rained out, and so did any hope of doing it the following weekend. Perhaps something can be done the week before the convention, but rumor has it that Steve Bornemeier is building an ark out at the site! *See you at the meeting.*

The Reviewer

by Rick Johnson

Finder Charts of BRIGHT TELESCOPIC OBJECTS

by Brent Watson

The club just received this book with the request that we review it and then donate it as a door prize at the Mid-States convention this spring. Obviously published on a laser printer this is a useful beginners guide to showpiece objects.

Printed on heavy laminated paper it is made for use right at the telescope. The charts are printed with black stars on white paper and lays perfectly flat. Each object has its own finder chart with the location of the object centered in a Telrad reticle. This is quite useful if you happen to own one of these highly recommended finders. The star charts are printed using the computer program THE_SKY and show all stars down to nearly 6th magnitude.

The guide helps you find 37 different objects, all showpieces every beginner should know. All types of objects are well represented, including double stars. Along with the finder chart there is a very short description of the object. The description is usually limited to the

physical characteristics of the object and not a visual description. This is probably so the beginners view isn't colored by the authors opinions. Though it could also result in the beginner finding the wrong object and not knowing it. This is especially true in the case of M46. While M46 is a showpiece cluster containing a large number of rather faint stars and a must know object it isn't what I'd call bright. At least not compared to the very nearby M47 which is made up of far fewer but far brighter stars. The resolution of the finder chart could easily cause a beginner to find M47 and then hunt in vain for the mentioned planetary nebula that is also mentioned.

The guide does point out some objects a beginner may skip that are really good objects such as NGC 253 and the double star Iota Cancer. NGC 253 is right at the top of the list of great galaxies and Iota Cancer is the winter equivalent of summer's Alberio (also on the list).

As its title suggests the objects are all bright ones. But bright is a relative term. I doubt that most beginners using a 4.5" or 6" telescope would consider M46 or M97 "bright" but they are both showpieces novice stargazers should become familiar with and so deserve a place in a beginners guide.

My only real quibble comes in the organization of the charts. Holyoke's Messier guide is the best laid out beginners guide. It is organized by season and then by area of the sky so the beginner exhausts one relatively small area of sky before moving on. Holyoke ignores constellation boundaries in doing this but it sure

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makes the guide a pleasure to use. Most similar guides since then have tried to do the same thing but never as well. This book is no exception. For instance starting from the double star Zeta Aquarii (probably the least of the objects in the guide in my opinion) the next one M41 is far to the east. Next comes M42 back to the west, then farther east to M44, back west to M45, now east to M46 and finally west again to Rigel. Now soak your poor bearings in cool oil. Ten objects separate the Ring Nebula from Epsilon Lyrae.

My only other complaints are with the way the charts are drawn. Stars are represented by very unequal ranges. For instance all stars brighter than second magnitude are one sized dot. While another size dot is reserved for 3.1 to 2.8 a range of only .3 magnitude. Yet all stars from 6th to 5th magnitude have one dot size. Binning stars this way always makes for some distortion but this can make some constellations nearly unrecognizable.

Every chart author connects the dots differently it seems but I'd never seen Corvus represented as an arrow before. I spent 10 minutes looking at it in the sky but failed to see it as anything but a trapezium.

Every experienced observer will find an object omitted from the charts that he thinks should be there and want to delete one too. Here is a listing of the 37 charts (some have two objects). M15, M37, M31, NGC 253, Double Cluster, Gamma Andromedae, Zeta Aquarii, M41, M42, M44, M45, M46, Beta Orionis, Iota Cancri, M3, M5, M13, M51, M64, M81 & M82, M84 & M86, M97, M104, NGC 4565, Epsilon Lyrae, Polaris, Mizar, M4, M7, M8, M11, M17, M20, M22, M27, M57 and finally Alberio. What object to you feel doesn't belong and what one needs to be added? In my case it is M1. While not bright it isn't any more difficult than M97 and is another class of object, super nova remnant. I doubt I'd delete anything but as I said Zeta Aquarii is a rather common equal brightness, all white, double star.

But it is probably the easiest of that type to find. So it stays, but only barely. While you don't need the charts to find Rigel, most beginners don't realize it is a good double star for small telescopes and it really can dazzle first time viewers. Again it's close but stays.

Quibbles aside, if I had had these charts when I was 12 I wouldn't have spent two fruitless nights looking for M-11 in my 3" moonscope. Of course, the Telrad hadn't been invented then either. The charts cost \$12.95 each plus \$3.00 shipping for 1-4 books. The address is Sky Spot, 1263 East Beverly Way, Bountiful, UT 84101.



An Image Gallery of Mars

by Rick Johnson

Frame One

Parts of Mars have long mostly horizontal cracks in the surface. This image is centered on 182W 40S and is 5 degrees on a side. This is only a small portion of the crack which runs for hundreds of kilometers, mostly to the east. The picture is 121 km wide by 151 km high. I have been unable to locate a name for this particular crack. While it is a crack to me it is a fossa by Mars nomenclature. It is part of the Sirenum Fossae complex which covers more than a million square kilometers.

Frame Two

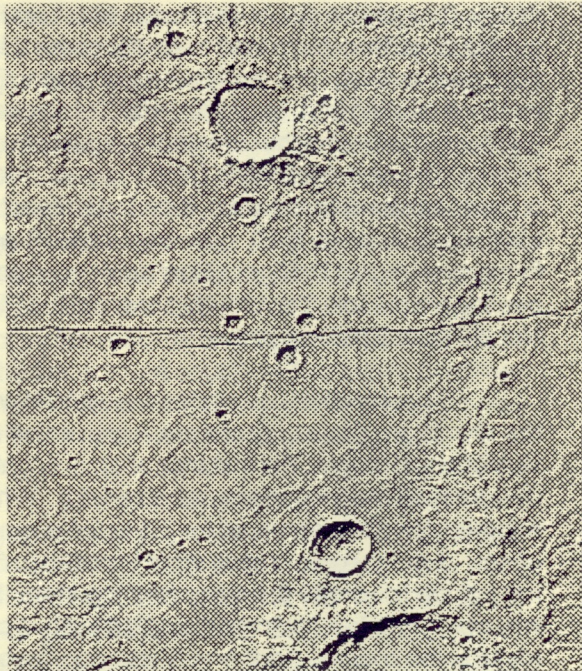
The crater Phillips is named for two English scientists. John (1800-1874) a geologist who defined the carboniferous system and Theodore E. (1869-1942) an astronomer. I don't know if they were related. According to the data with MDIM (previously reviewed) this crater is 183 km in diameter but since the image is only 140 km wide by 190 km high this is clearly impossible. Many of the sizes shown on MDIM's gazetteer are off by a factor of two to three times. I measure the crater's longest dimension at 110 km measuring from the outside edge of the wall. Note the large lava flows in the base of this apparent double crater. Phillips is at 66 degrees south by 44.3 west. The picture is 6.25 degrees high by 10 wide and made of two MDIM images.

Frame Three

Most of the features on Mars are still unnamed. MDIM comes with a gazetteer listing the names of over 1100 features, none of which are included in this crater strewn image. The frame is centered at 43.75 degrees south 180 west and is 7.5 degrees (227 km) high by 10 degrees (240 km) wide. It appears the IAU naming committee has a lot of work ahead. This image is made up of parts of 4 different MDIM images.

Frame Four

The crater Mariner became famous when it filled frame 11 taken by Mariner IV. The large fault-like fissure that crosses the southern part of the crater is part of the Sirenum Fossae complex. This frame is centered on 35S 165W and is 10 degrees wide (255 km) by 5 degrees high (152 km).

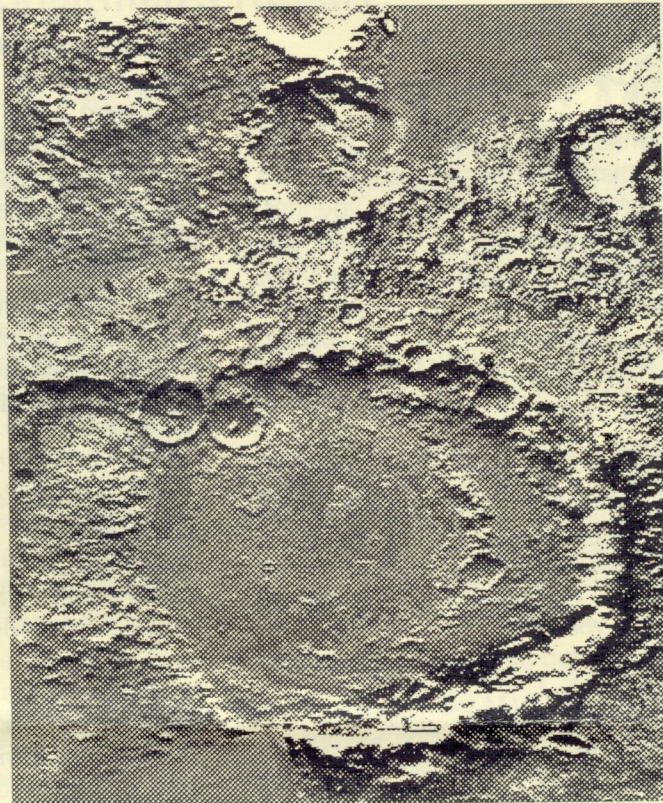


Frame One

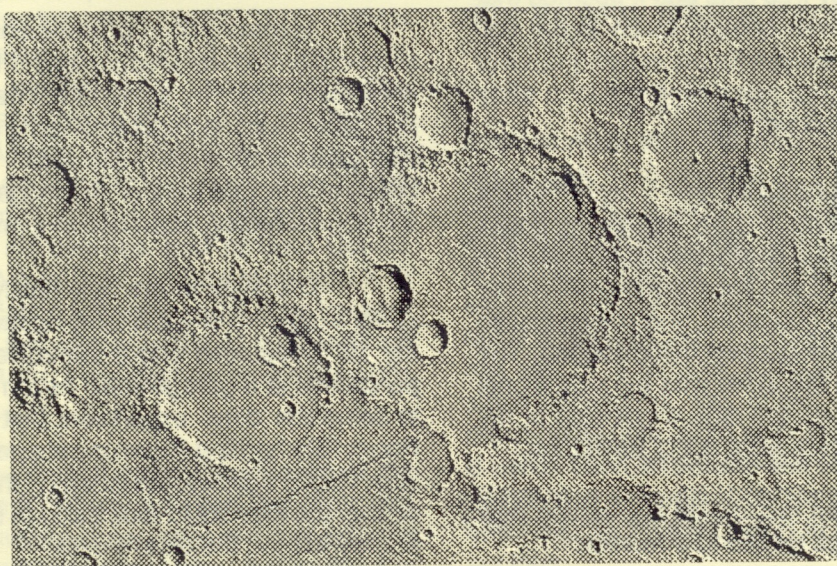
Frame Three



Frame Two



Frame Four



The Reunion

by John Lortz

It's amazing how easy it is to lose track of those things that we really come to love throughout our lifetime. When I was younger, I loved building tree houses and wooden forts in the grove behind our house. As I got older my passions became baseball and photography. Then when I got into college, with a little help from Carroll Moore and the solar eclipse of 1979, I discovered astronomy.

In the following five years I plunged headlong into a love affair with the skies; joining the club, acting as PAC's program chairman and president, building my own 10 inch telescope (from Ron Veys' instructions), filling up my Messier Guide with over 70 sightings, and finally editing the club newsletter. The hobby was my passion.

But then something happened. I can't really say when it was, but ever so slowly the idle hours that were once devoted to the skies began to dwindle. Work and school began creeping into my free time and it seemed that there weren't even enough hours in the day even for them. Except for the monthly ritual of publishing the club newsletter, my love affair with astronomy slowly died.

For the next few years my telescope gathered only dust, and my astronomy books and charts sat idle, neatly placed on a shelf in the basement. Even the monthly astronomy magazines were neglected, often being placed in their binders without ever being opened. The closest I got to the skies was the occasional glance up through the dirty windshield of my car as I drove back from out of town trips.

And then last month something new happened. I was invited to a reunion.

A close friend teaches 5th grade at one of the inner-city schools here in Omaha, and she, along with three other 5th grade teachers, were promoting a "TV-Free Week" for the kids. An evening rally was planned where different individuals would acquaint the children with fun alternatives to watching television. I was asked to represent astronomy.

Although I had my reservations, I decided that it might be interesting to get out my telescope and books and magazines and show the kids what the hobby was all about. It had been a while, but why not?

My telescope was filthy, so I dismantled it and carefully cleaned each component, remembering the time when I had anxiously waited for my mirror to come from Coulter and my finder to arrive from Meade. I had trouble finding my eyepieces, but eventually discovered them in a foam-lined tackle box that itself was in a cardboard box labeled "To The Garage". Finishing the telescope cleaning, I set about gathering my books and charts and reading through the latest magazines to see what was happening in the sky for the night of the rally.

As the day of my presentation approached and I continued my preparations, I began feeling something different, something I hadn't felt for a long time. A small flame was being rekindled and was growing stronger each time I scanned the books and flipped through the magazines. It was a welcome feeling that I had long missed.

The night of the rally finally came and I setup a table full of astronomy artifacts along with my 10" Dobsonian and a 90mm refractor I had purchased at a garage sale. I even remembered to setup the 'dime' experiment that I think either Ron or Rick had first shown me at a past Astronomy Day. I taped a dime to the far wall of the gymnasium so that the kids could look through the telescope and try to read the dime's date.

Continued on the Last Page

Observing Chairman's Report

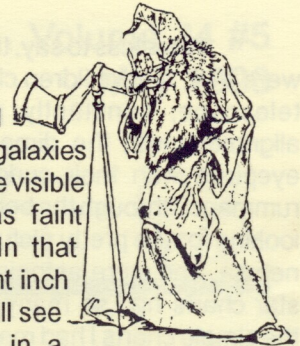
by Dave Knisely

THE NEXT SCHEDULED STAR PARTIES WILL BE ON SATURDAY, JUNE 12TH AND FRIDAY, JUNE 18TH AT THE ATLAS SITE. Late spring skies continue to offer the best in galaxies for your viewing pleasure. One fairly good starting point is the large spiral galaxy M101, located about five degrees east and a half south of Alcor (80 UMa). Visible in 10x50 binoculars as a small faint fuzzy patch, this galaxy has such a low surface brightness that it is difficult to see in small telescopes. A six inch shows it as a large very faint diffuse fuzzy area with a slightly brighter nuclear region, while an eight inch under good conditions will show some vague patchiness in the outer haze. A ten inch on a good night will show indications of spiral structure and a number of the object's star clouds, although none are particularly bright.

A much better galaxy for showing structure is the Whirlpool Galaxy, M51, located off the tail of the Big Dipper about 1.75 degrees south and one west of 24 Canum Venaticorum. It is brighter and easier than M101, being visible as a tiny fuzzy spot in a pair of 7x35 binoculars, and a 2.4 inch refractor will reveal NGC5195, M51's companion galaxy. A six inch will show its brighter nucleus and mottled outer haze quite easily, sometimes revealing hints of spiral structure in the galaxy. Larger instruments will often show considerable detail in this fairly bright object. Also in Canes Venatici is the bright globular cluster M3, located six degrees east of Beta Comae Berenices. A four inch aperture at moderate to high magnification will show some stars towards the edges of this cluster, while an eight inch will resolve it well into a compact group of thousands of faint stars.

In the central core of the Realm of the Galaxies about halfway between Denebola and Epsilon Virginis is an interesting group of galaxies known as the Markarian Chain. It is nearly five

degrees long, and begins with the elliptical galaxies M84 and M86, which are visible in small telescopes as faint fuzzy balls of light. In that portion, those with eight inch and larger apertures will see nine or ten galaxies in a degree of field. The chain runs east for a degree from M84 and then turns to the north east until it hits M88, about half a degree west and four south of 24 Comae. M88 is a moderate sized faint elongated fuzzy patch with a brighter core when viewed in a 60mm refractor. An eight inch will sometimes reveal some vague patchy detail on the ends, while a ten will show mottling and hints of the north spiral arm.



Relatively nearby is the bright nearly face-on spiral galaxy, M100, located 1.75 degrees east and one north of 6 Comae Berenices. Small instruments will show only a moderate sized faint fuzzy patch with a small brighter core, while an eight inch will show some mottling over much of the galaxy. A ten inch on a good night will show the arms, although they are narrow and quite faint.

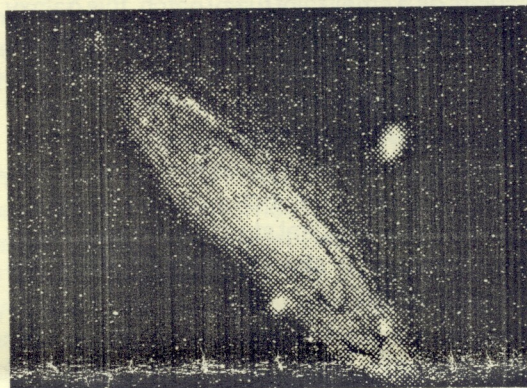
In Virgo is M58, a spiral galaxy about 1.5 degrees north and one west of Rho. In most telescopes, M58 appears as a moderate sized oval diffuse fuzzy patch with a brighter core. An eight inch makes it seem slightly mottled, while a ten will show a nearly star-like nucleus enveloped in a bright haze. Another fairly bright spiral is M61, located 1.25 degrees north and a half east of 16 Virginis. Although visible in fairly small telescopes, this object does not show much detail until about eight inches of aperture is used. Then, a faint star-like nucleus becomes visible, and a ten will show some mottling and a small slightly brighter patch to the north of the nucleus.

Needless to say, the astronomy items were a hit. The children clustered around the telescope, constantly pushing it out of alignment with the dime and smudging the eyepiece with their curious fingers. They rummaged through the books and magazines, looking for the pretty pictures of galaxies and nebula, and were astonished that the Tiron star charts had so many stars compared to the simple charts I had made on the computer and was handing out to them. Even the teachers and parents took their turn at looking through the telescope, amazed that I had actually made it with my own hands over 10 years ago.

And as I stood among the children, telling them about the sky and how they could make astronomy their new hobby, I realized how much I had missed this old friend of mine. When the rally was over, and I had packed up everything and driven home, I made a promise

to myself that I wouldn't lose track of this friend again.

We all have times where every day life drags us away from those things we love. Sometimes there really aren't enough hours in the day. But no matter how distant those pastimes become or how deep the feelings are buried, we can always return. And sometimes the return, the reunion, is even sweeter than the inception.



PLEASE NOTICE

If there is an asterisk on your mailing label it is time for you to renew your PAC membership!

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