

5-78

THE PRAIRIE ASTRONOMER

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ANOTHER NEW COMET IS DISCOVERED

1978 has produced another new comet. Comet 1978f was discovered visually on April 27.08 by Rolf Meier with a 16-inch f/5 reflector at the observatory of the RASC Ottawa Centre. The comet will continue to brighten in the evening sky, but its angular distance from the sun will decrease. The following ephemeris by Brian G. Marsden was calculated from observations made through May 10. Magnitude estimates for this comet have varied rather widely, ranging from nearly 11.0 at discovery to a measurement by D. Sykes at Woolston Observatory on May 2.94377 of 8.5. These wide variations may indicate flaring or instability that could result in substantial departure from the predicted curve.

Perehelion: 1978 Nov. 8.840 ET
 P Distance: 1.10480 AU

Date	RA	Dec	Mag
JUNE 1	8h05.09m	+45°15.9	10.1
11	8 20.89	+42 37.6	
21	8 37.40	+39 51.7	9.7
JULY 1	8 54.48	+36 56.3	
11	9 12.07	+33 49.5	9.2

Observing Chairman's Report

WHAT TO DO WHEN IT STOPS RAINING

Start your June observing program in Ursa Major with M101, a face-on spiral galaxy located one degree south and 5½ degrees east of Mizar (Zeta Ursa Majoris). The galaxy is visible in a 2.4-inch refractor under very low power and good conditions. It is a moderate sized circular patch with a slightly brighter center and shows little other detail in most telescopes.

This month is an excellent month to start observing globular clusters starting with the great cluster M13 located about a third of the way from Eta Hercules to Xi Hercules. It can be seen easily with binoculars and is spectacular in a six-inch or larger telescope showing many strings of stars coming from a blazing center.

About ¼ degree north of this cluster is a small faint galaxy which should be visible in a six- or eight-inch telescope. Also in Hercules is

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THE REGULAR MONTHLY MEETING OF THE PRAIRIE ASTRONOMY CLUB WILL BE HELD AT HYDE MEMORIAL OBSERVATORY TUESDAY EVENING, MAY 30, AT 7:30 P.M.

THE PRESIDENT'S REPORT

May brought the bane of Amateur astronomers, Daylight Savings Time. At least it was tempered by some fine viewing nights.

Unfortunately, the skies were cloudy for the trip to Mead. Even with the cloudy skies we managed to view Mars as it has never been viewed before! While not listed in an ephemeris, May 5, 1978, was the closest conjunction we have ever had with Mars--about 200 feet across an open field filled with many distorting heat cells. We were asked to draw what we saw. What I saw was a very good facsimile of the real Mars. There was much fine detail visible but only fleetingly due to the blasted heat cells. Many familiar "landmarks" were easily seen. Thanks to the heat cells I never had a chance to "see" what I was seeing in that fine detail.

The artificial Mars was a one-inch transparency with a muted flashlight shining through it. The drawing on the transparency consisted of many fine "details" which, due to the unsettled "seeing" conditions, came out as the familiar landmarks we were seeing. These fine "details" consisted of drawings of telescopes, rockets, the big dipper, comets, flying saucers, cartoon wisecracks, etc! After it was all over, everyone was saying they did see some of the detail, but refused to draw it. Being honest, I did see a Saturn which I refused to draw. The only problem is that what I saw as Saturn was really a galaxy! Let's just say it was a very educational experiment. It also illustrated the effects of telescope aperture. Those of 6-inches or less were too small to see much of the fine detail. Those 8-inches in size saw by far the most detail, while my 10-inch was so affected by the seeing that only fleeting glimpses of the detail were seen, and then at far less contrast than in the 8-inch scopes. I wish someone had brought a 12.5-inch scope, because I bet that would have seen even less.

Awards were given for optical and mechanical excellence as well as for drawing ability. While Larry Stepp couldn't be there, his 4-inch refractor took mechanical excellence, and Dr. Manthey's Questar took optical excellence. They did take pity on my poor optical alignment and gave me a second place award in that category. Next year I'll keep it in alignment all the way to Mead! Steve Myatt won for his drawing of Mars. Thus, we took the first four prizes.

To be fair, many of the Omaha Club were attending to the signing of the deed for their new observatory. Their site consists of several acres on which they plan to build two observatories. Also there will be several sites available to members for construction of their own facilities. Bob Allen, the president, tells me it is 56 miles to the site from his home in Council Bluffs. Well, see you at the meeting.

-- Rick Johnson

HELPFUL HINTS ON EYEPIECE SELECTION (PART THREE) --Continued from last month

Previously, I mentioned the various eyepiece types, but gave no detail about their relative merits. The following chart lists the commonly available types.

TYPE	ADVANTAGES	DISADVANTAGES	BEST USE
<u>Ramsden</u> 2 plano-con- vex lenses	Low cost, sharp images when used in an optical system slower than f/14.	Poor color correction, narrow field of view, short eye relief.	Low to medium powers in refractors and cassegrains.
<u>Kellner</u> <u>Achromatic</u> <u>Ramsden</u>	Relative low cost, good image quality in optical systems of f/8 or slower, good color correction, wider field of view.	Works well only in long focal length reflectors and eye relief is poor except at low power.	Low to medium powers in most telescopes except medium and short focal length reflectors.
<u>Symmetrical</u> 2 identical achromats, closely spaced	Easily home made, low cost, good color correction, long eye relief	Commercially made versions are hard to find, poor images at f ratios faster than f/6.	Excellent low to medium power eyepiece for most amateur uses.
<u>Orthoscopic</u> <u>cemented tri-</u> <u>plet and pla-</u> <u>no convex</u> <u>eye</u> <u>lens</u>	Wide field of view, good color correction, good eye relief.	High cost, focal lengths less than 8mm won't form an optically perfect image. Poor in very fast systems.	All purposes, best eyepiece for RFTs, though performance is degraded below f/5.
<u>Erffle</u> 3 sets of lenses	Very wide field of view, good color correction, excellent images in slow optical systems.	Works poorly at RFT f ratios, less contrast due to more lens sets. Should be multi-coated.	Low power wide field work in systems of at least f/6.
<u>Plossl</u> 2 wide spaced achromats	Similar to orthoscopic except wider field of view.	Similar to orthoscopic, except slightly poorer in systems faster than f/6. Very expensive.	Best overall eyepiece when focal ratios are f/6 or slower.

A couple of startling facts emerge from this information, and they will be discussed when this series continues in next month's issue.

-- Rick Johnson

OBSERVING CHAIRMAN'S REPORT (CONT)

a small planetary nebula, NGC 6210, located one degree south and $1\frac{1}{2}$ degrees west of the star 51 Herculis. It is rather small and shows some interesting structure in a six-inch telescope.

Moving southward into Serpens Caput, look at a bright, but compact globular cluster, M5, located less than $\frac{1}{2}$ degree northwest of the 5th magnitude star 5 Serpentis. It is very dense and takes an eight- or ten-inch telescope to resolve it clearly to the center, although smaller instruments will show stars near the edge of the cluster.

Back in Hercules, look at M92, a bright globular similar to M5, only

a bit fainter. It is located 3 degrees south and $3\frac{3}{4}$ degrees west of Iota Hercules and should be viewed at high power with a six- or eight-inch telescope. It is quite beautiful and at times rivals M13.

As a final sight for this month, look about halfway between Theta Centauri and Gamma Hydris for M83, a large spiral galaxy. It shows up well under low power and some hints of spiral structure can be glimpsed with eight- or ten-inch telescopes.

-- David Knisely

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