Saguaro Astronomy Club

Metro Phoenix, Arizona

SACNEWS

September 1998 — Issue #260

v8.16

The 90mm Refractor

A Serviceable Piece of Merchandise

by Jack Jones

I am up to my old antics again and have done another consumer test of inexpensive locally available, yet fun-to-use astronomical telescopes, while at the same time testing Service Merchandise's patience and liberal return policy (See "The Tasco Caper," April 1996 SACNEWS). This time it's the Meade Polaris EQ-90 equatorial 90mm f/11 refractor, being offered at Service Merchandise for $500, usually on sale for $450.

This telescope has a big minus right from the start — it's not "1 1/4," but uses .965 eyepieces. It comes with the usual three little rat's eye eyepieces and disposable Barlow. I remedied this at the Astronomy Shoppe with a (how convenient!) 1.25″ screw-on adapter ring and a 1.25″ diagonal. I also picked up a generic 40mm low-power eyepiece. So already I've boosted the price $100.

The money was well spent on this scope, because the use of 18 and 13.7mm Meade Super Wide Angles shows off a very well-made achromatic objective lens. I am hard-pressed to decide which of the three scopes I "bought" has the best star test diffraction ring patterns. They are all equally fine, so I would have to say "nice quality control and nice work" to this lens-crafting company, whoever they are. If only mirrors could be manufactured this consistently. At the monthly star party I received surprised comments on how the (not exactly stock) "dept store" telescope (after some initial sniffness of course) gave beautiful views and could really "show you lots of stuff."

The mount for this scope I have seen on every department store scope in the valley. It seems those eyepieces, the Barlow, and this equatorial mount, are a universal kit for all telescopes you can find in this price range. What is this company? This frail shell of a mount needs to be ruggedized! The slow motion controls and axis locks are nice to use, but the latitude elevation scale, the bearing degree scale, the shiny setting circles, and the stamped metal pointers and silly set-screws are totally, utterly useless and unnecessary. Why wasn't the money that was wasted on these "features" used to design a sturdier mount? Glitz sells scopes? Sad.

Meade does offer a quality scope in the 90mm range (the 395 Premium) with a decent mount and decent eyepieces and it probably uses this same objective lens, but they are charging twice as much for it. It's the white-tube refractor for $800 to $1100 at your local astronomy store (an APO lens is an option). The Polaris has the black tube with white lettering.

Is the Meade Polaris a good gift for the aspiring young astronomer? Yes, and much better than their Polaris 4 1/4″ reflector offering, which costs almost as much. I myself would hold out for a 395, sorry Dad! (A stripped down 395 may be had for around $600, or might be obtained used via Astromart. There is a "395" web site: search Yahoo for "Meade 395.") I gave several mirror-loving club members a touch of "refractor fever" with these scopes. They are portable, fun to use, and great for touring the solar system and checking out the more prominent deep sky objects. What a moon scope! A quality telescope would be twice this price, however, while most first-time buyers are expecting to pay half this price, and therein lies the dilemma.

I returned all three scopes (not at the same time!) with no problem (except they seemed to check my meticulous packing more and more closely each time). The astronomy store accessories I easily disposed of on the Net for pretty much what I paid for them, except for the diago-

Quick Calendar

SAC Meeting
Speaker: Dr. Peter Wehinger: *LBT Telescope*
7:30 PM, Friday, September 11

SAC Deep-Sky Meeting
Astro Pix Show-Off
7:30 PM, Thursday, September 17

SAC Star Party
Buckeye Hills Recreation Area
Saturday, September 12

Northern Arizona Star Party
Chino Valley
Friday & Saturday, September 18 & 19

nal. I guess I'll be stuck with that for a while — everybody that needs one seems to have one, due to it usually being standard equipment. Well guess what, Service Merchandise is now advertising the 90mm Meade ETX tabletop telescope for $600, my my, bless their credit card. Watch for a blistering review of that puppy soon!

June Star Party

by Jack Jones

Clear skies in typical dry June weather drew many observers out for the Buckeye Hills Star Party this month. There were 10 telescopes set up at sunset at 7:30 and a few more shortly thereafter. Aperture must have averaged in the low teens with Ken Reeves' 20-inch present and the smallest scope being an 8-inch. We certainly had the firepower. It was quite windy however, and the wind didn't die down at twilight as usual, but was to be off and on throughout the night.

With a fireball meteor the week before and a daytime bolide over Phoenix a couple days ago, I was half expecting a major display just for us, but since we were ready for it, of course it didn't happen. It was time for a last look at Number One Globular Cluster Omega Centauri for the year, before delving into the summer constellations and the Milky Way's finest objects in Scorpius and Sagittarius.

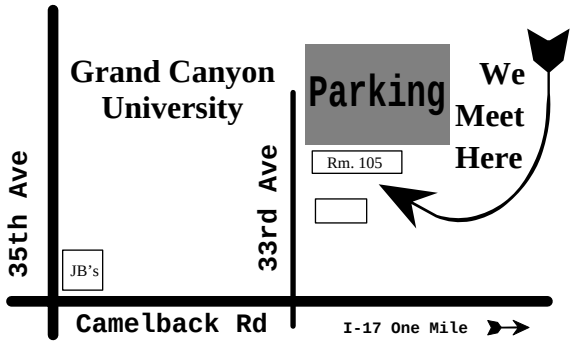
It's the best time of year to admire globular clusters, and at their best now are M 3, M 4, M 5, M 13, and M 22. Tracking five degrees straight east of beautiful M3 you run right into a ghostly globular, NGC 5466. The reverse of the more prominent globulars, it is more background than foreground, with a small quantity of faint 12.5 magnitude stars sprinkled onto a round hazy patch.

In the galaxy department, Joan dipped into the Virgo cluster and located M 98, M 99, and M 100 in her 8-inch Meade. M 98's brightness and elongated shape gave it away amongst the numerous fuzzy spots. M 51 in Canes Venatici showed off its spiral structure in my 14.5-inch; it was the first galaxy to ever be identified as spiral. Lord Rosse missed this spiral nature in his 3-foot scope. Spiral structure was argued about incessantly in the late 1800's, and most thought these objects were forming solar systems. It wasn't until 1923 that galaxies were finally identified as the extragalactic whirlpools that they are. At zenith, tiny galaxy NGC 5263 next to M 3 (Uranometria p. 110) was not to be seen in the 14.5-inch, although Megastar lists it as a marginal magnitude 14.3 photo. I'll have to try this one at higher altitude to see if it is the fault of the air and light pollution at this site or it's one of those pesky objects that just can't be seen.

There were no takers to witness moon rise at 3:30 AM; the last parties left just after 1. I discovered Starbuck's Vanilla Frappaccino; a 10-ounce bottle of that stuff at 9 o'clock had me up and alert the rest of the night!

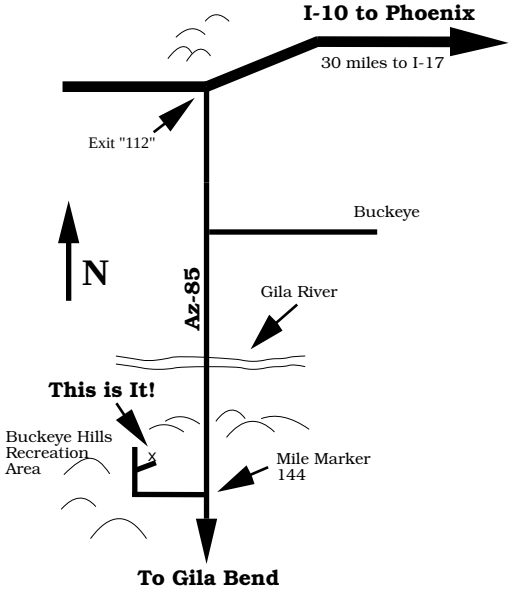
Directions to SAC Events

SAC General Meetings 7:30 PM at Grand Canyon University, Fleming Building, Room 105 — 1 mile west of Interstate 17 on Camelback Rd., north on 33rd Ave., second building on the right.



SAC Deep Sky Subgroup Meeting at John & Tom McGrath's, 11239 N. 75th St., Scottsdale, 998–4661 — Scottsdale Rd. north, Cholla St. east to 75th St., southeast corner.

SAC Star Parties at Buckeye Hills Recreation Area Interstate 10 west to Exit 112 (30 miles west of Interstate 17), then south for 10.5 miles, right at entrance to recreation area, one-half mile, on the right. No water and only pit toilets. Please arrive before sunset; allow one hour from central Phoenix.



Bits and Pieces

Minutes from the July Meeting

President Paul Dickson called the meeting to order at 7:30. He invited any guests to sign the guest book and introduce themselves, of which 7 did.

Jack Jones gave the treasure report, also announced that we are currently 126 members.

Paul Dickson mentioned the upcoming star parties, including the Northern Arizona Star Party. Tent sites and RV sites are available.

Rich Walker talked about previous and future public star parties. The last star party at Thunderbird Park was basically clouded out, with only views of the Moon and Mizar available. He is looking at future star parties on September 26th and October 24th.

For show and tell, Steve Daughter? reported on the Grand Canyon star party. He counted 35 telescopes including a 41″ scope. The turnout was very good, one day he estimated that 400 people came to look at sunspots.

Tom Polakis provided a list of Autumn Edge-On Galaxies as a follow up to his list of Spring Edge-On Galaxies. This is the basis of a proposed article for *Sky &*

Comet Comments

by Don Machholz

(530) 346–8963 CC241.TXT August 8, 1998
http://members.aol.com/cometcom/index.html
DonM353259@aol.com

C/1997 J2 (Meunier-Dupouy)

Date	RA-2000-Dec		Elong	Sky	Mag
08–25	21h28.7m	+10°21′	156°	M	11.4
08–30	21h23.5m	+08°16′	156°	E	11.4
09–04	21h18.7m	+06°10′	153°	E	11.5
09–09	21h14.3m	+04°06′	150°	E	11.6
09–14	21h10.7m	+02°05′	145°	E	11.6
09–19	21h07.0m	+00°09′	141°	E	11.7
09–24	21h04.1m	−01°41′	135°	E	11.8
09–29	21h01.8m	−03°25′	130°	E	11.9
10–04	21h00.1m	−05°03′	125°	E	12.0
10–09	20h58.9m	−06°34′	119°	E	12.1
10–14	20h58.2m	−07°58′	114°	E	12.2

The SOHO satellite, lost in late June, has been located, but it is still not operating properly. Chances are slim that it will ever again return useful data. Images obtained before the satellite was lost showed two more Sungrazing comets heading toward the sun.

Comet Meunier-Dupouy passes opposition and enters the evening sky while Comet Linear stays some distance north. **Periodic Comet Giacobini-Zinner** brightens in our evening sky; it orbits the sun every 6.6 years.

COMET HUNTING NOTES: While comet hunting I've always recorded the number of meteors I happen to observe passing through my field of view. On June 16 of this year I recorded my 10,000 telescopic meteor. The span of time was 6314 hours over the course of 23 years. The number of meteors I see per hour in the morning sky averages 1.9 while the evening sky averages 0.9. I also record the number of artificial satellites I see. The hourly rates for these has increased, and now exceeds the meteor rates. I made my 10,000 satellite sighting about a year ago.

21P/Giacobini-Zinner

Date	RA-2000-Dec		Elong	Sky	Mag
08–25	16h24.5m	+21°23′	88°	E	12.4
08–30	16h28.7m	+20°04′	86°	E	12.2
09–04	16h33.9m	+18°40′	84°	E	11.9
09–09	16h40.3m	+17°13′	82°	E	11.7
09–14	16h47.6m	+15°40′	80°	E	11.5
09–19	16h56.1m	+14°03′	78°	E	11.2
09–24	17h05.6m	+12°22′	76°	E	11.0
09–29	17h16.3m	+10°35′	75°	E	10.7
10–04	17h28.1m	+08°42′	73°	E	10.5
10–09	17h41.1m	+06°44′	72°	E	10.3
10–14	17h55.4m	+04°40′	71°	E	10.0

C/1998 M5 (Linear)

Date	RA-2000-Dec		Elong	Sky	Mag
08–25	21h35.2m	+37°27′	131°	E	10.9
08–30	21h19.1m	+38°36′	129°	E	10.8
09–04	21h02.3m	+39°29′	127°	E	10.7
09–09	20h45.5m	+40°04′	124°	E	10.6
09–14	20h29.0m	+40°23′	120°	E	10.5
09–19	20h13.3m	+40°27′	116°	E	10.5
09–24	19h58.6m	+40°18′	112°	E	10.4
09–29	19h45.4m	+39°59′	108°	E	10.3
10–04	19h33.6m	+39°32′	103°	E	10.3
10–09	19h23.3m	+39°01′	99°	E	10.3
10–14	19h14.5m	+38°29′	95°	E	10.2

Orbital Elements

Object:	Giacobini-Zinner	Meunier-Dupouy	Linear
Peri Date:	1998 11 21.32107	1998 03 10.4365	1999 01 24.2795
Peri Dist:	1.0337095 AU	3.051015 AU	1.746824 AU
Arg/Peri (2000)	172.54569°	122.6755°	101.0613°
Asc Node (2000)	195.39930°	148.8429°	333.4006°
Incl (2000):	031.85856°	091.2731°	082.2524°
Eccentricity:	0.7064344	1.000760	1.0
Orbital Period:	6.61 years	Long Period	Long Period?
Reference:	NK 629	MPC 30738	MPC-1998-O04
Epoch:	1998 11 21	1998 03 08	1999 01 24
Absol Mag/"n":	9.0/6.0	4.0/4.0	5.5/4.0

Such-A-Deal

SUCH-A-DEAL is a place to advertise equipment, supplies, and services related to amateur astronomy. This is a free service for SAC members and friends. SAC is not responsible for the quality of advertised items or services. All insertions must be submitted in writing.

For Sale: $10''$ $f/6$ Newtonian. This is a Meade Research Grade Newtonian with a German Equatorial mount, large gear and rotating tube. Includes 8x50 finder. Entire mount is on wheels, makes it easy to set up. Asking $1400. Steve Coe, 789–7786 or E-mail `scoeandlross@sprintmail.com`.

Telescope in 1999.

Rick Rotramel showed his annual slides from Riverside. There were many interesting scopes at this conference. Tony Ortega was a guest speaker, talking about his research into the life of Robert Burnham JR.

At the break, 52 people were counted.

After the break, Vice President Jerry Rattley introduced speaker Stan Celestian, a former SAC member, an Astronomy Instructor at Glendale Community College, and a recently appointed NASA Ambassador for the Galileo Mission. He provided many interesting aspects of the mission, including the makeup of the spacecraft, the problems of the High Gain Antenna sticking, and noted that this was the first mission to use a CCD for imaging. He also provided many nice slides and overheads including images of Venus, Earth and Moon, Mars, Asteroids, and of course, Jupiter and it's moons. Very nice and interesting.

Following Stan's presentation, Paul Dickson adjourned the meeting at 9:55, after which 15 people continued the informal meeting at JB's.

—*Ken Reeves, SAC Secretary*

Deep-Sky Group Meeting

The Deep-Sky Group is a Special Interest Group made up of people who like to discuss observing and observing techniques. They particularly like to observe objects out past the Orrt Cloud that's why they're called the Deep-Sky Group. The type of objects include stars, nebulae, and galaxies.

If you are interested in sharing your observations, or are interested in observing techniques, then by all means come join in. The meetings are held at John McGrath's house every other month on the Thursday after the SAC meeting; directions are found on page 2 of this newsletter.

Consider this to be an invitation to this meeting. This meeting is OPEN to all SAC members. All you have to bring is an interest in what objects look like when view through a telescope.

The September meeting will be the annual **Astro Pix Show-Off** meeting. Please bring your best slides, photos, or images.

If you have new or old observations, bring them along. Even if you have no observations, come anyway. This is a good way to improve your observing skills.

Magellan II Casting

The next Mirror Lab casting is predicted for mid-September. The Magellan II telescope is the second 6.5 mirror for the Carnegie Institute and when combined with Magellan I (on the same mountain top in Chile) will provide a powerful instrument for interferometry, similar to Keck I and II and the VLT.

The final mold pre-fire is about complete. After a thorough inspection of the mold, glass inspection and loading will commence, followed by glass loading and then casting. If no problems are found in any of these steps, high-temperature of the casting process is currently scheduled for about September 17th. For the latest information on the casting schedule, and when interested parties would be allowed to visit, E-mail me at `ketelsen@as.arizona.edu` or call my answering machine at work at (520) 621–8764 AFTER Labor Day, September 7th. It is currently unknown what sort of open house will occur, as it is assumed there is not much interest in these sorts of things after you have already done an 8.4 meter, but if you have never witnessed one before, the opportunity is there.

—*Dean Ketelsen*

Novice Group Session

October SAC Star Party

The next get together of the SAC Novice Group will be at the October 10th Star Party, to be held at the club site near Buckeye, Arizona. A map to the location is in this newsletter.

There will be a short presentation just as the sun sets, at about 6:00 PM. Then as the sky darkens we will view a variety of objects so that members can compare views in a several different scopes and magnifications.

As always, the novice group meetings are arranged to answer the questions of beginning astronomers. So, please come to this novice meeting and star party if you are willing to show the sky in your scope or if you have questions and would like to discuss how to get started in this fascinating hobby. See you there.

—*Steve Coe*

Fuzzy Spot

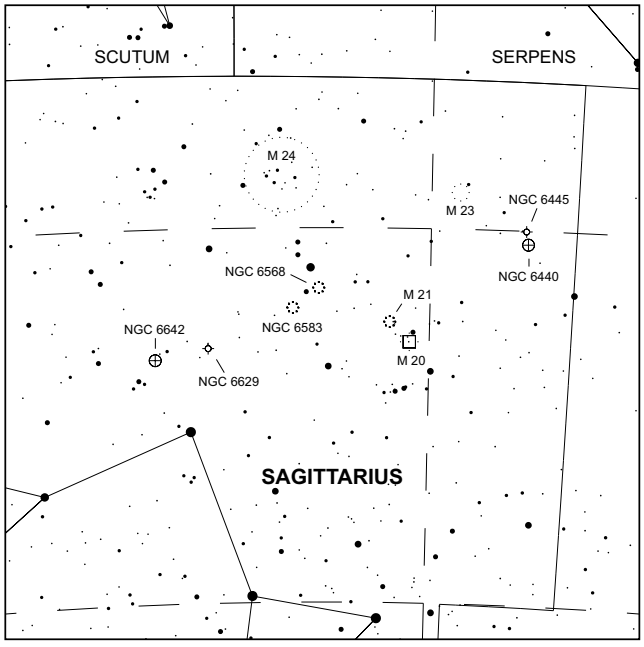
by Ken Reeves

Sagittarius August 1998

Welcome to one of the richest constellations in the sky. You can find good examples of every type of deep sky object in this constellation, with globular clusters being especially numerous.

Sagittarius is supposed to be a archer/centaur (who is half man, half horse), but I find it much easier to pick out the teapot asterism. The rich Milky Way cloud even looks like steam coming out of the spout!

As I mentioned earlier, this is a very rich constellation. There are 15 Messier objects, 3 "SAC 110 Best of the NGC" objects, and 18 Herschel 400 objects. Here is a small sample of these objects, enjoy looking at these as well as the many other objects in Sagittarius.



NGC 6440 (17h48.9 $-20°22'$) Here is one of the many globulars in Sagittarius. At 170X it is pretty small, somewhat faint, round, and slightly brighter in the middle which is slightly offset. No stars are resolved, even with averted vision it is only slightly granular. It sits in a nice string of stars, but other than that, there's just not much.

NGC 6445 (17h49.2 $-20°01'$) Here's a planetary nebula, at 170X I saw it as pretty bright, pretty large for a planetary, irregularly round, annular, and showing no color. To the NW is a star, and there are bright spots on NW, E, and SW sides. The E spot appears to be on the outside of nebula. These bright spots may be involved stars.

NGC 6494 (17h56.8 $-19°01'$) **M 23** is a great open cluster. At 50X I considered it as pretty big, pretty bright, fairly evenly concentrated with 1 prominent level of stars. Overall it contains 3 layers of stars with 70 stars counted, and a real nice string of 6 faint stars leading to a bright star. This is one of the most even of the open clusters that I have observed. In 10x50 binoculars, it is very obvious and just resolvable.

NGC 6514 (18h02.3 $-23°02'$) **M 20** is the Trifid Nebula. At 100X it is very obvious, pretty large, fairly round, somewhat bright, and contains 3 dark lanes going through it which gives it its name. The middle contains a beautiful double star, roughly equal magnitude. There are a handful of other stars involved. To the N is dark area followed by the reflection nebula portion. This part is not as bright or big as the main portion, kind of half-round shaped with the chopped off end to S. Using the UHC filter, a little bit of detail comes out in the emission portion. Lots of detail comes and goes with seeing and averted vision. Take your time when looking at this one.

NGC 6531 (18h04.6 $-22°30'$) **M 21** Here is an unusual shaped open cluster near M 20. It is not too big, pretty bright, not real rich, and contains 2 fairly bright stars with a smattering of fainter stars. The central part is real nice with 2 bright stars, a string of 4 stars, and a horseshoe of 9 stars looping WNW away from the central. The whole area looks like a diamond ring.

NGC 6568 (18h12.8 $-21°36'$) This open cluster is close to 6583, but they are not like the double cluster. This one is very large, somewhat bright, somewhat loose, slightly rich, and not that well detached from the Milky Way. There are 3 levels of stars with many nice arcs and triangles. I counter about 100 stars, but it is hard to tell where edge is. More patterns come out the longer one looks at it. The stars mostly blue, but there are a few yellow ones.

NGC 6583 (18h15.8 $-22°08'$) Next to the loose cluster 6568, this open cluster requires power. At 140X it is pretty small, pretty faint, very condensed, pretty rich, and elongated N/S 1.5:1. There are perhaps 2 levels of stars over some granular haze, using averted vision makes the stars pop out. It is hard to count stars since they are so faint. I could hold about 10 stars, others pop out with seeing and averted vision. An arc of 3 stars to S and a pair of stars to E were noted. At low powers, it looks more like a globular. It kind of reminds me of the cluster at the end of the coathanger.

NGC 6629 (18h25.7 $-23°12'$) Here is a small planetary nebula that required high power. I went all the way up to 240X to see a pretty bright, very small, round and non-annular nebula. The middle fades evenly to the halo. Using the UHC filter doesn't bring out any more detail, but it was helpful in finding the planetary. The central star was suspected, especially with averted vision. Stars were noted to SE, the NW, and the ENE.

NGC 6642 (18h31.9 $-23°29'$) At 170X, this globular cluster was seen as somewhat bright, pretty small, and containing a somewhat brighter middle that is offset to the NW. I resolved perhaps 5 – 6 stars with averted vision, and possibly a few more stars were resolved on the outskirts. During moments of good seeing, it did resolve a little better. The middle is granular, but the halo is at best suspected granular. The cluster sits in the middle of an uneven "y" asterism of somewhat bright stars.

NGC 6818 (19h44.0 $-14°09'$) This nice planetary sits well east of the teapot. At 240X it is very small, very bright, slightly elongated NNE/SSW maybe 1.2:1. I noted a definite blue glow with a slight darkening to the middle. Otherwise it glows fairly evenly and fades quickly to the edges. The nebula is bright enough you can really crank up the magnification. While in the area look slightly south and see if you can find galaxy **6822** (19 44.9 $-14°45'$). This is Barnard's galaxy and one of the many faint dwarf galaxies surrounding the Milky Way.

Continued on next page...

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Mel 197 (18h17.0 $-18°35'$) What the heck is a Mel object? Melotte open clusters are normally very large clusters that escaped the small field of observers such as Herschel. They include such objects as the Hyades, the Coma Star cluster, and in this case, **M 24**, the Small Sagittarius Cloud. Use very low power, or binoculars on this object. At 35X, I saw it as very very large, very bright, extremely rich, and much condensed. Even at this power, it takes up about 3 fields of view. There is some very nice dark nebulosity in it, with one particular nebula that is very dark with a single star in the middle and several dark lanes leading away from it. Notice open cluster NGC 6603 embedded in the cloud. In 10x50 binoculars, I could resolve about 20 – 30 stars and noticed the elongation NE/SW. The SE edge tended to drop off much faster than the NW edge.

Herschel 400 Objects
6440, 6445, 6514, 6520, 6522, 6528, 6540, 6544, 6553
6568, 6569, 6583, 6624, 6629, 6638, 6642, 6645, 6818

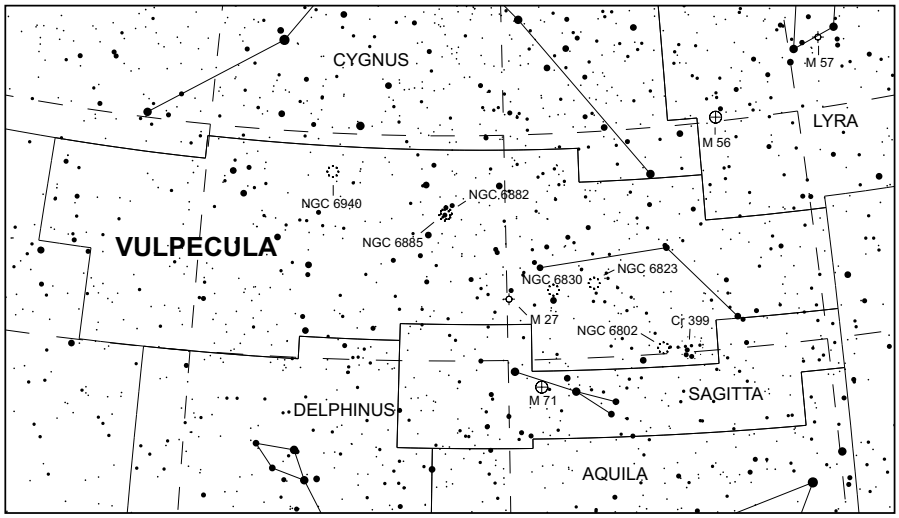
SAC's 110 Best of the NGC Objects
6445, 6520, 6818

Fuzzy Spot

by Ken Reeves

Vulpecula September 1998

Here is a faint constellation that sits between Cygnus and Sagitta. It's brightest star, 13 Vulpeculae, is only mag 4.5 with Alpha sliding in slightly dimmer at 4.6. Somehow there is supposed to be the image of a fox within these faint stars, however I even have a hard time drawing a squiggley line between the faint stars. The good news is that there are some real good Milky Way objects in this constellation as well as some faint nebulosity. The great rift of the Milky Way also slips through the fox.



The fox holds 1 object from SAC's 110 Best of the NGC, 6 objects from the Herschel 400, and 1 Messier object, which is a show stopper. So break out the scope and enjoy this faint but nice constellation. Don't forget the binoculars, there is a special treat here.

NGC 6802 (19h30.6 $+20°16'$) This faint open cluster is only slightly resolvable in the $10''$ scope. At 100X, I could hold 3 or 4 stars over a granular haze elongated N/S. Cranking up the power to 140X and using averted vision let me resolve perhaps 8 stars. One nice feature is the double stars on either end of the cluster.

NGC 6823 (19h43.1 $+23°18'$) Here is an open cluster immersed in nebulosity. At 70X, the cluster is pretty bright, somewhat small, poor, and fairly condensed. I counted 25 stars in the central area with another 20 or so surrounding the middle. Right in the middle is a real nice grouping of 4 stars. Using the UHC filter, I could see a definite but subtle glow around the cluster without any detail. This nebulosity is **NGC 6820**.

NGC 6830 (19h51.0 $+23°04'$) This open cluster is somewhat bright, somewhat large, pretty poor, and fairly loose. There are 4 levels of stars, with the brighter stars form a sort of arrow shape pointing to the SW, and another group of stars forming a triangle in the middle. This is one of those poorly detached clusters where the star count is very subjective. I counted 14 stars, with perhaps another 20 stars surrounding it.

NGC 6853 (19h59.6 $+22°43'$) This fantastic planetary nebula is **M 27**, the **Dumbbell Nebula**. At 100X, it is very very large for a planetary, very bright, and shaped kind of like an apple core oriented N/S. The dimmer part actually extends farther than bright parts (perhaps the juice from the eaten part of the apple). I noted some stars around periphery, but no stars in nebula. Although I don't have an observation from the $20''$ scope, I do recall seeing the central star.

NGC 6882 and **6885** (20h12.0 $+26°29'$) Although these are two separate clusters, I have a hard time separating them. I believe the area around 20 Vulpeculae is 6885. It is very poor, somewhat small, forming a triangle of 22 stars around 20 Vulpeculae. The area right next to 20 Vulpeculae is star-poor. NW of this is what I believe is 6885. This is more what I expect for a cluster, pretty large, pretty bright, with 4 levels of stars and some possible granularity in the background. Unlike many cluster in the thick of the Milky Way, this one is well detached. I counted about 55 stars.

NGC 6940 (20h34.6 $+28°18'$) The final cluster of the night is very large, very well resolved, and elongated NE/SW. There are 4 levels of stars numbering about 125. The stars form a few chains and a lot of pairs. Most of the concentration is on SW side. Be sure and take a look at this one in binoculars.

Cr-399 (19h25.4 $+20°11'$) One of the saddest days of my life is when I found out that the Coathanger was demoted from an open cluster to an asterism (Thanks to Brian Skiff, see his article in *Sky and Telescope*, Jan 1998, page 65). OK, maybe I'm over-reacting a little, but in my mind, this will always be an open cluster. Using binoculars the coathanger shape shows up unmistakably with 6 stars forming the arm and 4 stars forming the hook, although the 4th star makes the hook look bent. Using a telescope ruins the image as the field is too small and the background stars destroy the coathanger image. Now that you've seen it in binoculars, look for it naked eye. It is seen as a fuzzy patch with the shape just visible.

Herschel 400 Objects
6802, 6823, 6830, 6882, 6885, 6940

SAC's 110 Best of the NGC Objects
6940

September 1998

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	2	**PAS Meeting** Brophy Prep. Physics Lab 3	**TAAA Meeting** (Tucson) 4	5
Full Moon 4:22 A.M. "Fruit Moon" 6	7	8	**EVAC Meeting** (SCC: Rm. PS172) 9	10	**SAC Meeting** Grand Canyon University, Fleming Rm. 105 11	**SAC Star Party** Buckeye Hills (members&guests) 12
Yesterday Last Quarter Moon 6:59 P.M. 13	Tomorrow Asteroid Pallas at opposition Mag. 8.2 14	Jupiter at opposition 15	Sun enters Virgo 16 A.M. 16	**SAC Deep-Sky Meeting** 7:30 P.M. 17	**Northern Arizona Star Party** **Fri & Sat, Sept. 18–19** **Chino Valley** North of Prescott 18	19
New Moon 10:02 A.M. 20	21	Autumn (Autumnal) Equinox 10:38 P.M. 22	Yesterday Asteroid Pallas 1.1° WNW of Jupiter 23	24	Mercury at superior conjunction (moves into evening sky) 25	26
27	First Quarter Moon 2:11 P.M. 28	29	30	All Times are Mountain Standard Time		

SAC Information

Area Code (602)

President & SACNEWS Editor	Paul Dickson	Ans. & FAX: 841–0509 dickson@primenet.com
Vice President	Gerry Rattley	892–5698
Treasurer	Jack Jones	944–5488 looka.fuzzy@mcione.com
Secretary	Ken Reeves	878–9460 ken.reeves@cas.honeywell.com
Properties	Adam Sunshine	780–1386 asunshine@netzone.com
Public Events	Rich Walker	997–0711 rhwalker@aztec.asu.edu
Public Events	Wil Milan	8am–6pm: 996–8329 wmilan@airdigital.com
Deep-Sky Group	A.J. Crayon	938–3277 acrayon@primenet.com

E-Mail Mailing Lists

SAC-mls is a mailing list for club announcements and quick notification of astronomical events.

SAC-Board is for SAC business. All club members are welcome to participate.

AZ-Observing is a fairly general mailing list about observing in Arizona. Where the star parties are and who's going, as well as what's up.

To join, send E-mail with the `Subject: subscribe` to the "`-request`" mailing address at `psiaz.com`. For example, you would send the request for AZ-Observing to `AZ-Observing-request@psiaz.com`.

SAC Web Sites

`www.accessarizona.com/groups/group_access.html`
`www.primenet.com/~dickson/sac.html`

Saguaro Astronomy Club Member Services Form

Membership

Memberships are for the calendar year and are prorated as follows: Jan - Mar 100%, Apr - Jun 75%, Jul - Sep 50%, Oct - Dec 25%.

- ❑ $28.....Individual Membership
- ❑ $42.....Family Membership (one newsletter)
- ❑ $100.....Business Membership (includes advertising)
- ❑ $4.....Nametag for members
- ❑ $14.....Newsletter Only

Subscriptions

The following magazines are available to members. Subscribe or renew by paying the club treasurer. You will receive the discounted club rate only by allowing the club treasurer to renew your subscription.

Sky & Telescope.....$27.00 for one year ❑

Astronomy.....$20.00 for one year ❑

Write your name, address, phone number, and E-mail address in the space below.

Make checks payable to SAC. Mail the completed form to:

Jack Jones
SAC Treasurer
2313 W Sierra St
Phoenix AZ 85029

SAC and SAC Meetings

Saguaro Astronomy Club (**SAC**) was formed in 1977 to promote fellowship and the exchange of scientific information among its members — amateur astronomers. **SAC** meets monthly for both general meetings and star parties, and regularly conducts and supports public programs on astronomy.

SAC meetings are usually held on the Friday nearest the full moon. This means that over the course of the year, meetings are not held on the same week of the month. The same is true of the club's star parties. Star parties at Buckeye Hills Recreation Area are mostly held on the Saturday of the third quarter moon.

1998 SAC Meetings

Jan. 9
Feb. 13
Mar. 13
Apr. 10
May 8
Jun. 12
Jul. 10
Aug. 7
Sep. 11
Oct. 2
Nov. 6
Dec. 5 Party

1998 SAC Star Parties

Date	Sunset	Moonrise
Feb. 21	6:18PM	3:40AM
Mar. 21	6:39PM	2:23AM
Apr. 18	6:59PM	1:08AM
May 16	7:19PM	11:54AM
Jun. 20	7:37PM	3:27AM
Jul. 18	7:34PM	2:10AM
Aug. 15	7:12PM	12:57AM
Sep. 12	6:37PM	11:45PM
Oct. 10	6:00PM	10:32AM
Nov. 14	5:27PM	3:48AM
Dec. 12	5:22PM	2:35AM

SAC General Meetings: 7:30 PM at Grand Canyon University, Fleming Building, room 105 — one mile west of Interstate 17 on Camelback Rd, north on 33rd Ave., second building on the right. See inside for a map to the meeting location.

SACNEWS
c/o Paul Dickson
7714 N 36th Avenue
Phoenix AZ 85051

Stamp

First Class Mail

Inside: