

Saguaro Astronomy Club



SACnews

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The New York Cluster

By John Pazmino

In the Constellation Highlight column of the March issue of the Saguaro Astronomy Club newsletter, see <http://www.saguaroastro.org/content/SACNEWS/sac2007/SACMar2007news.pdf>, Dennis Wilde spotted a reference to Pazmino's Cluster. We checked with AOS friend **John Pazmino**, a frequent CO contributor and meeting speaker, to see if he was aware of this. Here is his response:

My cluster is up there for anyone to admire. It was one of those studied by Horges Stock in the 1950s for certain types of stars in them. He never realized that this particular one was as yet unknown. He just assumed it was already in some other catalog because it was so bright and conspicuous. I myself found it in 1977 while visiting Don Trombino, who at that time lived in Sparta NJ. He'd just built an RFT with no finder. I was using its wide field to aim at the Double Cluster when I veered off track and ended up in Camelopardalis, a ways north. A blur skidded through the scope's field of view. I recovered it, hoping it might be a comet, due to the lack of any obvious nebulae in Camelopardalis. It was this lovely star cluster! Among Trombino's books and maps it was missing. On photographs of that part of the sky the cluster is pretty obvious, almost like a dimmer version of the Pleiades. On drawn maps it was just not there, either by label or symbol.

When I got home, I looked in my library of maps. The best I found was that on the larger scale charts, individual stars of the cluster were plotted but not otherwise noted, like by a 'cluster' symbol around

them. I bounced this finding off of S&T where Leif Robinson went nuts trying to find it in any S&T reference. After a couple weeks, he turned up nothing and allowed that I had discovered a whole star cluster! Not being all that good at inventing titles, I called it Pazmino's Cluster. A year or so later, Leif found the cluster among Stock's work, with nothing to indicate he recognized it as previously unknown. It's #23 in his roster, the only cluster there of any significance for home astronomers. The others are very weak, dilated and sparse. At one of the Winter Star Parties in Florida I was showing the cluster to some of the other attendees, most of who didn't know about the S&T investigation. Most star charts even today still miss it out. Anyway, I got to bantering about Florida, northerners, snowbirds, and all that because the WSP attracts a lot of astronomers from northern frostbite places, like New York and Long Island. So I pointed out the frozen north regions of Ursa Major and Cassiopeia, and the sunny warm sections of Orion, Gemini and Auriga. I pointed out how the snowbirds of the north fly or drive through Camelopardalis to reach the south and have no waypoint to stop at. Then I found my cluster. Now the folks traveling between north and south have this wonderful place to stop over, right in Camelopardalis, halfway along the way. There is one feature of Pazmino's Cluster that as yet I have no confirmation. It SHOULD be a bare-eye target, it being 6 to 6-1/2 magnitude. It's an easy target in binoculars but I never learned of a positive naked-eye sighting. Since then I know of two major clusters found by City astronomers. One is Kimmel's Cluster in Gloria

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NASA Space Place

The Ions of Dawn by Patrick L. Barry

This summer, NASA will launch a probe bound for two unexplored worlds in our solar system's asteroid belt—giant asteroids Ceres and Vesta. The probe, called Dawn, will orbit first one body and then the other in a never-before-attempted maneuver.

It has never been attempted, in part, because this mission would be virtually impossible with conventional propulsion. “Even if we were just going to go to Vesta, we would need one of the largest rockets that the U.S. has to carry all that propellant,” says Marc Rayman, Project System Engineer for Dawn at JPL. Traveling to both worlds in one mission would require an even bigger rocket.

This is a trip that calls for the *unconventional*. “We’re using ion propulsion,” says Rayman.

The ion engines for the Dawn spacecraft proved themselves aboard an earlier, experimental mission known as Deep Space 1 (DS1). Because ion propulsion is a relatively new technology that’s very different from conventional rockets, it was a perfect candidate for DS1, a part of NASA’s New Millennium Program, which flight-tests new technologies so that missions such as Dawn can use those technologies reliably.

“The fact that those same engines are now making the Dawn mission possible shows that New Millennium accomplished what it set out to,” Rayman says.

Ion engines work on a principle different from conventional rockets. A normal rocket engine burns a chemical fuel to produce thrust. An ion engine doesn’t burn anything; a strong electric field in the engine

propels charged atoms such as xenon to very high speed. The thrust produced is tiny—roughly equivalent to the weight of a piece of paper—but over time, it can generate as much speed as a conventional rocket while using only about 1/10 as much propellant.

And Dawn will need lots of propulsion. It must first climb into Vesta’s orbit, which is tilted about 7 degrees from the plane of the solar system. After studying Vesta, it will have to escape its gravity and maneuver to insert itself in an orbit around Ceres—the first spacecraft to orbit two distant bodies. Dawn’s up-close views of these worlds will help scientists understand the early solar system.

“They’re remnants from the time the planets were being formed,” Rayman says. “They have preserved a record of the conditions at the dawn of the solar system.”

Find out about other New Millennium Program validated technologies and how they are being used in science missions at <http://nmp/TECHNOLOGY/infusion.html>. While you’re there, you can also download “Professor Starr’s Dream Trip,” a storybook for grown-ups about how ion propulsion enabled a scientist’s dream of visiting the asteroids come true. A simpler children’s version is available at <http://spaceplace.nasa.gov/en/kids/nmp/starr>.

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.



Artist's rendering of Dawn spacecraft, with asteroids. Largest are Vesta and Ceres. Credits: Dawn spacecraft—Orbital Sciences Corporation; background art—William K. Hartmann, courtesy UCLA.

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Frederica, found in 1979 by Andrew Kimmel from his backyard in Juniper Valley while following a comet with his scope. It's a fainter, but condensed, cluster, about 7-1/2 magnitude. A third example is Caldwell's cluster, found AT THE WINTER STAR PARTY in the mid 1990s by Arlene Caldwell, from Lincoln Square, who was ticking off star clusters on a star chart as she spotted them in binoculars. She called me and others over to identify this particular one in Puppis, there being no item on her map for it. Other maps, including computer-based ones at setups for imaging, also missed it. I sketched it and marked it on my own map for checking out when we got home. Similar to Pazmino's Cluster, it appears in photographs of the sky but is left off of plotted maps. It's a large object with about twenty stars in it and could be of naked-eye visibility. At the WSP, I and others tried to see it, after inspecting it in binoculars, with no certain success. The Milky Way passes through this part of Puppis and the cluster may have been blended into it. So, 40 years later, my cluster is still doing just fine.

Pazmino's Cluster can be found by going straight north 10 degrees from alpha Persei. Check out the Millennium

Star Atlas plate for this area at $\sim +60$ dec, ~ 3 h. Who will be the first AOSer to spot it, maybe naked eye?

Ed note: Shortly after sending out the March issue, I was contacted by Sue Rose, one of those nice folks you've never met, except on the internet. Sue is the president of the Amateur Observers Society of New York. I've been exchanging newsletters with Sue & her club for quite a while now.

Well, anyway, she indicated that AJ's reference to this cluster (Stock 23) was noticed by one of her members. They passed the NL to John Pazmino, who is a friend of the AOSNY. She told me he was very pleased to see that his reference to it is known beyond local circles.

The bulk of this article was written by Mr. Pazmino as a commentary on it's history as "Pazmino's Cluster". It was taken from the May 2007 issue of the Celestial Observer. The Information publication of the Amateur Observers Society of New York. Visit them at: www.aosny.org

Pazmino's Cluster– aka Stock 23

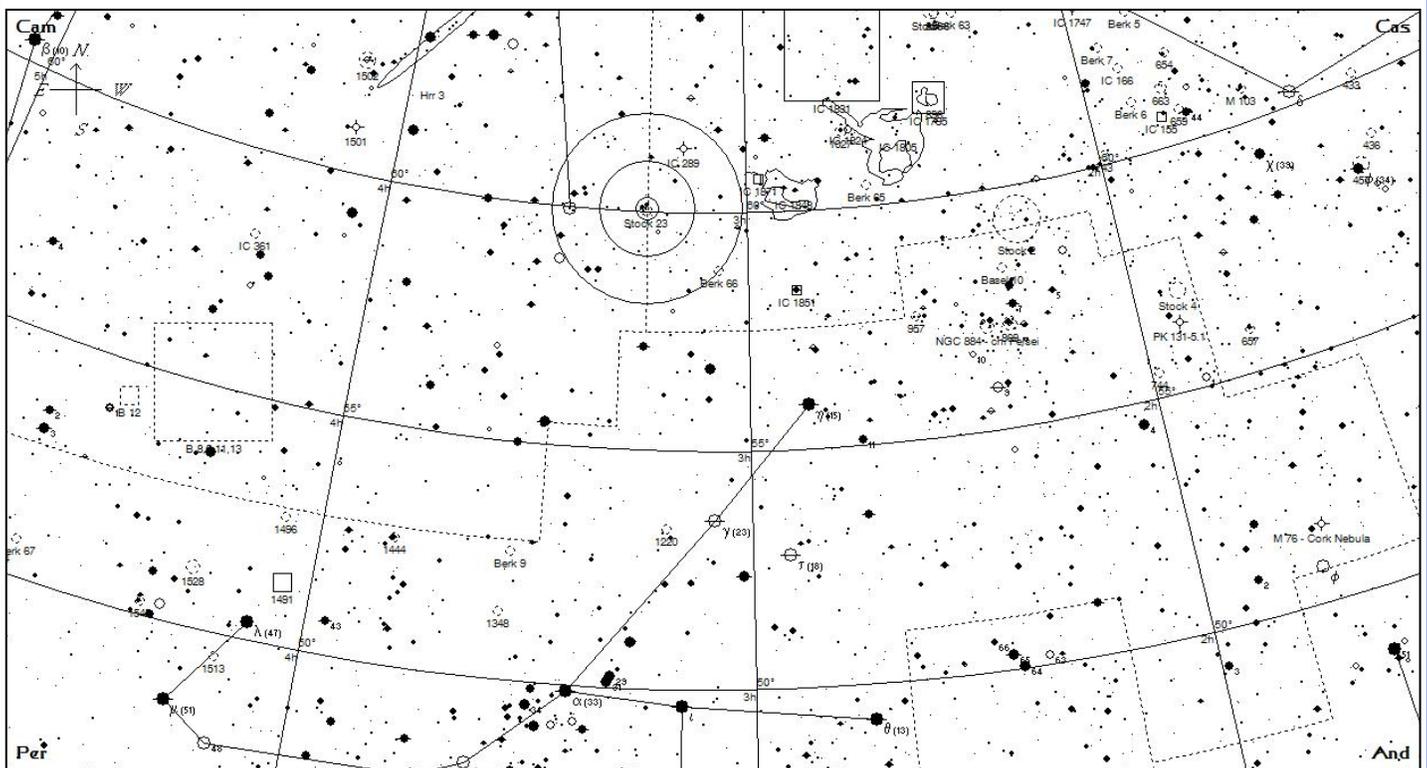


Chart Generated using SkyMap Pro v11.0.6

Call For Observations—Leo

By A.J. Crayon

Some changes have been made to the way observations were submitted, primarily for those with multiple galaxies. This change is necessitated because of the way they were requested and were done in order to make them more consistent and easier to understand. Hope I have succeeded.

Note two of Charlie Whiting observations in his 8" f6 – they are 14th magnitude galaxies! Also, Rick Tejera did a nice job researching NGC2903, don't miss his report.

This month's article is longer than usual because another month's list has been included, mainly because of the upcoming summer monsoon season.

NGC2903

This galaxy is a nice multi-armed barred spiral up near the northern part of the Lion's head. Note the observation of NGC2905 from Rick Tejera, an HII region discovered by William Herschel. That is a nice job of researching before observing. See Ken Reeve's description from his 20", seems to be the same region.

8" f6, Newtonian, 38X; Charlie Whiting: was easily visible as an elongated smudge, about 4' x 1'. It is evenly bright and aligned roughly N-S. At **60X**, the smudge has become an object with texture and is very slightly brighter in the middle. The middle or brighter area is slightly offset to the north. At **160X**, the halo is pretty large, about 10' x 3'. By staring at 2903 for a long time and by using averted vision on both sides, my mind gradually got the impression of spiral arms.

8" f6, Dobsonian, 61X; Rick Tejera: Using the nebular filter I was able to discern the central core, but the arm structure was not nearly as evident as previous views without. The Nebular filter did, however allow me to see NGC 2905, an HII region NE of the center of the galaxy. **NGC2905** - Note as a distinct brightening at the base of the NE arm of NGC 2903. The filter did not allow good seeing of the arms themselves but this particular knot was clearly evident and distinct from the central core. (I was unaware of this HII region, nice job, AJ)

10" F4.5 Dobsonian, 70X and 170X; Ken Reeves: At **70X**, a large face on spiral in Leo, Very bright, brighter than some Messier objects, elongated, bright middle, possible nucleus, possible clockwise spiral structure. The UHC filter brings out some mottling. Mottling does show up without filter. At **170X**, the bright center really shows up, a non-stellar nucleus definitely show up. It is very large, very bright, elongated, bright middle, sharp but non-stellar nucleus.

14" F-11, SCT, 150X; Joe Goss: Galaxy- Very large,

bright, elongated oval 2x1 in PA 195 degrees, suddenly very bright to the core.

16" f4.4 Newtonian, 200x; Rick Rotramel: G - L, pB, elongated face on spiral, brighter in the middle. There is lots of detail in the nebulous spiral arms. Nice!

18" f4.5, Dobsonian, 329X; Dan Gruber: This galaxy is elongated N - S with total size about 8' X 4'. The core also is oval N - S and about 1'X 2' with a stellar nucleus at the N end. The halo is uneven and appears brighter at the N and S ends. There's a hint of a spiral structure extending to the E from the S end.

20" F5 Dobsonian, 180X; Ken Reeves: Very bright, pretty large, elongated 4:1 NNW/SSE. Very mottled halo with spiral arms clockwise. It has a slowly then suddenly brighter middle and a much brighter non-stellar nucleus. There is a brighter spot to the NW.

NGC3226 and NGC3227

8" f6, Newtonian, 38X; Charlie Whiting: **NGC3226** - I can only just barely detect an outline of a gray smudge on the background. At **60X** the smudge is a little more extended and has a brighter middle. It is aligned in PA 155. Based on this alignment, this object must be **NGC3227**. **NGC3226** is adjacent to 3227 and its alignment is different. At this magnification, I cannot separate 3226 and 3227. At **160X**, I can pick up two separate cores. 3226's core is to the north and 3227's is to the south. 3227's halo is much larger at about 4' in diameter than 3226's which is about 2' in diameter. There is a 12.5-mag star to the NW. Sky-map shows two 13.3-mag stars north and south of the 12.5, but I did not see them, indicating that the so-so seeing is still in effect. I panned west by about 10' - 15' to an 11.9-mag star. Then staring to the north of the star, I detected a tiny smudge for **NGC3222**. It is very small, < 10". Round but non-stellar.

8" f6, Dobsonian, 81X; Rick Tejera: **NGC3226** - Seen in the same field as **NGC3227**, this was the smaller of the two. It appeared slightly elongated N-S (in the direction of **NGC3227**) and appeared to be slightly brighter than **NGC3227**. Although both galaxies appeared distinct, there seemed to be parts of this one extending to **NGC3227**, most likely a result of their interaction. These two form an interesting pair of galaxies.

8" f6, Dobsonian, 81X; Rick Tejera: **NGC3227** - Seen in the same field as **NGC3226**, this is the larger of the two galaxies. This one was seen as round and gradually brighter to the middle with a slight "protrusion" to the east. Wouldn't call it elongated, maybe Spiral structure? Or maybe it is some interstellar flotsam of the interaction with **NGC3226**?

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10" F4.5 Dobsonian, 70X to 140X; Ken Reeves: Probably interacting galaxies, best views about **70X**. **140X** starts to lose a lot of detail. **100X** both elongated, but hard to tell what is due to the galaxies being close together. **NGC3227** is a little brighter, almost stellar center comes and goes. Both have a pretty bright middle. Halos seem to fuse together. Almost looks like 1 long galaxy with 2 nuclei.

14" F-11, SCT, 150X; Joe Goss: **NGC3226** Galaxy- Fairly small, fairly bright, round, much brighter to the core, Galaxy sits on NW edge of NGC3227. **NGC3227** Galaxy- Fairly large, bright, irregular oval 2x1 in PA 150 degrees, gradually brighter to the core, Bright spot on NW edge NGC 3226.

16" f4.4 Newtonian, Rick Rotramel: **NGC3226** G - S, fB, nearly round, gradually brightens to a fuzzy nucleus. **NGC3227** G - S, fB, slightly oval, gradually brightens to a bright stellar nucleus.

18" f4.5, Dobsonian, 329X; Dan Gruber: These two galaxies are aligned NW - SE with **NGC3226** at the NW. It is round, about 2' in diameter, with a stellar nucleus and a bright halo fading uniformly from the nucleus. **NGC3227** is elongated about 4' X 2' and points at 3226. The two galaxies appear almost in contact. **NGC3227** has a bright core and a faint halo. At **135X**, there was another faint galaxy about 15' W of these two. It is round, about 2' in diameter with a faint halo, dim core, and no nucleus. (This is 14th mag NGC3222, aj)

M95 and M96

8" f6, Newtonian, 38X; Charlie Whiting: **M95** was easily visible as a small gray smudge. At **60X**, I could see that it has a bright core and a small halo. At **160X**, the core is seen to be elongated, about 2' x 1', aligned roughly N-S. The halo flows all around it by an additional 1'. Due west of M 95 is a 10.3-mag star. Above it are 3 stars of 11.5-, 12.0 and 12.5-magnitudes. Although the sky was clear of clouds, the transparency at Blue Hills was not optimum. The 12.5-mag stars were about as deep as I could go. Ordinarily, at a dark site, and better seeing, I can get to 14th-mag with my 8" scope. **M96** was seen as a small gray smudge. But it did look to be a little larger than M 95. At **60X**, I could see a bright core. But it was slightly dimmer than M 95's core. Also apparent was a halo surrounding the core. At **160X**, the bright core appeared round in shape, about 3' in diameter. The halo looked round also, about 4' in diameter.

8" f6, Dobsonian, 72X; Rick Tejera: **M95** very faint. Almost non-existent central core, some mottling noted in what little core there is. It has a halo extending E-W, very faint not far from the core in any direction. **M96** elongated central core 1 1/2-1 NE-SW. Fairly faint core thinning out evenly to the edges. No halo noted.

10" F4.5 Dobsonian, 100X; Ken Reeves: **M95**

somewhat bright, fairly large, much brighter middle, non-stellar nucleus and round. Suspect some swirling around the middle with averted vision. No mottling noted. Some nice star patterns around. **M96** is very bright, pretty large, and much brighter in the middle with a non-stellar nucleus. Elongated NNW/SSE, halo drops off suddenly to the WSW, maybe a dark lane? Nucleus appears to be on the NNW side. Nice good bright galaxy, easy to locate.

14" F-11, SCT, 150X; Joe Goss: **M95** Galaxy- Fairly large, very bright, slightly oval shape, gradually much brighter to the core. **M96** Galaxy- Fairly large, bright, irregular oval shape, much brighter to the core.

18" f4.5, Dobsonian, 209X; Dan Gruber: **M95** - This galaxy has a small bright core elongated N - S surrounded by a dim halo about 6' X 4' that's slightly elongated E - W. It seems unusual to me that the elongations of the core and the halo aren't in the same direction. **M96** - A 6' X 4' elongated galaxy oriented NW - SE. An asymmetric halo that's larger to the S surrounds an oval bright core also oriented NW - SE. Comparing M95 and M96 at 74X the latter looks brighter in both halo and core. It also appears more elongated.

M105, NGC3371 and NGC3389

The original write-up had the first of these as M150, but as everyone knows this was a typo. All three are elliptical galaxies and there just isn't as much detail to see as in some spirals. The other name for **NGC3371** is **NGC3384** and the other name for **NGC3389** is **NGC3373**. The confusion between the naming of these two galaxies dates back to John Herschel, but seems to have been clarified by Dr. Harold Corwin et al.

8" f6, Newtonian, 38X; Charlie Whiting: were all visible in the same 80' FOV, although **NGC3389** was just barely visible using averted vision. **NGC3389** was just a tiny smudge. **NGC3371** has a bright core in the middle of a halo about twice as big. **NGC3371** is also designated as **NGC3384**. **M105** has a slightly brighter core and a substantially larger halo. At **60X** **NGC3389** was still playing peek-a-boo. I could hold it only momentarily with direct vision. **M105** and **3371** are slightly larger than at **38X**. At **160X**, I still have all 3 galaxies in the same 20' FOV. **NGC3389** has at last become steady in direct vision. But it is only a uniformly dim smudge, elongated about 2' x 1', aligned in PA 110, just a little south of due east. The same alignment points **NGC3389** at **M105**. **NGC3371**'s nucleus is extended about 2' x 1'. Its halo is also elongated, about 4' x 2', aligned in PA 53, also pointing at **M105**. At this magnification **M105**'s core looks small, almost stellar, < 1' in diameter. The halo and core are very gradually brighter towards the middle. The halo is mostly round, about 5' in diameter. Doing these 3 in 1 was a lot of fun. You ought to try it.

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President's Corner

By Rick Tejera



Ever have one of those years? Seems every time I'm ready to get out under some dark sky, something comes up. Like most of you I was looking forward to 5 Mile Meadow and the realized that weekend is the same weekend as Lindsay's dance recital. Oh well, whatcha gonna do? I guess for me, I'll be heading up to Cherry II the week before. I really want to work on AJ's columns. If not I'll try to get out in the backyard. Bright sky is better than no sky I suppose.

Anyway, don't forget that we have two meetings this month. The Blue moon meeting will be June 29th. We won't have a speaker for this meeting, instead, bring all your surplus astro-goodies and turn them into disposable income. Yup, you heard right, we'll have a swap meet in lieu of a speaker.

We've been hearing a lot lately about our 30th Anniversary Dinner Celebration. Things are falling into place nicely. The date is confirmed for Saturday, September 29th at the Challenger Space Center in Peoria. I've spoken with the caterers and gotten a solid idea of the cost. Really all that's left to do is to decide on the menu, which I hope to get done at the June 1st meeting. Once we decide I'll firm it up with the caterer and we can then begin collecting monies for the event. Remember, the cost to you will be \$25.00 per person.

With a little luck, we can get some observing in through the monsoons, The addition of the Dark of the Moon Star parties should help. So get your observing list ready and get out and observe. If not, then remember that monsoon is a good time to do some maintenance. I

use the monsoons as an opportunity to clean my mirror and rework Gert's mechanics. It may not be observing, but at least it's astronomy.

One last thing, last month I received an e-mail from Ted Dunham at Lowell Observatory, who passed along the good news that the SOFIA Observatory successfully made it's first test flight. Here's a photo from that flight, I'll have a few more at the meeting. Till then, Clear Skies .



NASA Dryden Flight Research Center Photo Collection
<http://www.dfre.nasa.gov/Gallery/photo/Index.html>
 NASA Photo: ED07-0079-02

Date April 26, 2007. Photo by Carla Thomas 7SP on April 26th
 This inflight photo was taken during the first flight of the NASA and German Aerospace Center SOFIA Airborne infrared Observatory 747SP on April 26th, 2007

Monthly Trivia Question

Which of the Original Mercury 7 Astronauts Spent the least time in Space?

Last Months Answer:

Although Uranus' discovery is credited to Sir William Herschel, It was observed many time prior to this. Who made the earliest recorded observation of Uranus and when? Bonus points if you know what it was originally designated.

The earliest recorded sighting of Unanus was by John Flamsteed in 1690. He named in 34 Taurii. It was also spotted by Pierre Lemonnier, at least 12 times between 1750 & 1769. It figures that Astronomy Magazine gave this answer away in the June 2007 issue, DOH!

July 2007

SUN	MON	TUE	WED	THU	FRI	SAT
1	2	3	4	5	6	7 ☾ SAC Star Party, Cherry Rd.
8	9	10	11	12	13	14 ● DTOM Star Party, Cherry II
15	16	17	18	19	20	21 ☽
22	23	24	25	26	27 SAC Meeting, GCU 1930	28
29 ○	30	31				

Schedule of Events for July 2007

June 29h	SAC Blue Moon General Meeting at Grand Canyon University at 1930, No Speaker, We will have a Swap meet Instead
June 30th	Moon is Blue at 0649mst
July 7th	Moon at 3rd Quarter at 0954mst.
July 7th	SAC Star Party at Cherry II, Sunset 1944 End Ast. Twilight 2128, Moonrise 0013.
July 14th	Moon is new at 2013mst.
July 14th	DTOM Star Party at Cherry II, Sunset 1942, Moonset 2019, Ast Twilight 2124, Moonrise 0355
July 21st	Moon at first Quarter at 2329mst
July 27th	SAC General Meeting at Grand Canyon University at 1930, Speaker: TBA
July 29th	Moon is full at 1648mst.

Future Planning

Sept. 29th, 2007	SAC 30th Anniversary Dinner, Challenger Space Center
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8" f6, Dobsonian, 72X; Rick Tejera: **M105** appears as a bright fuzzy star with halo elongated 1 1/2 -1 E-W. No visible detail beyond core. Halo dims steadily from center. **NGC3371** is visible in same field as **M105**. It is much dimmer and smaller in appearance than **M105**. It is also more circular in appearance. As in **M105** halo dims steadily from center

10" F4.5 Dobsonian, 100X; Ken Reeves: The Leo Trio. **M-105** is the brightest of the 3. Very bright, bright center, somewhat bright halo, pretty round. **NGC3384** is the next brightest of trio, roughly the same as **M-105**, may be elongated somewhat, bright middle, faint halo. **NGC3389** is much fainter than **M-105** or **3384**, perhaps elongated, not much brighter middle.

14" F-11, SCT, 150X; Joe Goss: **NGC 3371/3384** Galaxy- Fairly large, bright, oval shape, gradually brighter to the core, one of 3 in FOV. **NGC 3373/3389** Galaxy- Small, faint, very irregular shape, even brightness across surface, two of 3 in FOV. **NGC 3379/ M105** Galaxy- Fairly large, bright, round, much brighter to the core, Third of 3 in FOV.

16" f4.4 Newtonian, 200x; Rick Rotramel: **M105** G - pS, pB, oval, with spiral arms and a bright core. **NGC3371 aka NGC3384** G - pS, pB, elliptical, slightly oval shaped. **NGC3389** G - pS, pF, elongated spiral, mottled.

18" f4.5, Dobsonian, 209X; Dan Gruber: A uniform bright round halo 5' X 5' surrounds a large bright core. **M105** is the western-most member of an attractive and interesting group of three galaxies (with **NGC3384** and **NGC3389**) that forms an isosceles triangle with longest side about 15'. **NGC3384, aka NGC3371**, a slightly elongated galaxy 4' X 3'. A N - S elongated dim halo surrounds a bright core. This galaxy is equidistant visually from **M105** and **NGC3389**. **NGC3389** an irregular dim galaxy elongated NE - SW. A dim, mottled halo about 4' X 2' surrounds an irregular core only slightly brighter.

NGC3377

This last one is another elliptical. Included in the file is magnitude 5.4 52 Leonis, 12th mag **NGC3367**, 14th mag **NGC3377A** and 14th mag **NGC3391**.

8" f6, Newtonian, 38X; Charlie Whiting: **NGC3377** is a dim smudge in the middle of the 80' FOV. It appears to have a brighter core. At **60X**, **NGC3377** is seen to be elongated about 4' x 2', aligned in PA 35. To the northwest of **NGC3377** is a very dim smudge, **NGC3377A**. It is round, about 10" - 20", and evenly illuminated. The FOV for this eyepiece is 55'. To the south-southwest of **NGC3377** and northwest of an 8.9-mag star is a fainter but larger smudge: **NGC3367**. It is roundish, about 2' in diameter. After re-centering **NGC3377**, I can see an 11.0-mag star at the northeast

edge of the FOV. Panning to it and staring to its northwest, I can just barely detect a faint object. This is **NGC3391**. It is quite stellar, and very, very small. Re-centering **NGC3377** and bumping up to **160X**, it appears about the same as it did at **60X** except that the core is stellar and slightly offset towards its northern end.

8" f6, Dobsonian, 81X; Rick Tejera: **NGC3377** seen as bright & round with a suddenly brighter, almost stellar core. It is framed by two chains of stars forming two sides of a square to the North & West. The corner of this "Semi" Square" is a wide double. This made identification easy. **NGC3377A** seen in same field as **NGC 3777** (ain't that a surprise) seen with averted vision to the NW of **NGC 3777**. Noted as round and evenly bright (relatively speaking, that is) throughout. It is essentially a small round haze near **NGC 3777**.

10" F4.5 Dobsonian, 100X; Ken Reeves: Pretty small, somewhat bright, faint halo which looks elongated 1.5:1 NE/SW. Slowly brightens up to the middle with a very prominent bright non-stellar nucleus. Companion galaxy was not seen. No texture or mottling seen.

14" F-11, SCT, 150X; Joe Goss: **NGC3377** Galaxy- Fairly large, bright, irregularly round, much brighter to the core, one of 2 in FOV. **NGC3377A** Galaxy- Small, very faint, irregular shape, even brightness across surface, two of 2 in FOV.

16" f4.4 Newtonian, Rick Rotramel: G - pS, pB, oval, gradually brightens to a bright stellar nucleus.

18" f4.5, Dobsonian, 329X; Dan Gruber: A 4' X 2' galaxy elongated N - S with a bright core surrounded by a dim halo. At **135X**, there are two other galaxies in the field. A round galaxy (possibly **NGC3366**; yes aj) about 2' in diameter is 25' SW. It has a faint halo and dim core. It's about 10' N of a possible wide (45 - 60") yellow and blue double with mag 9 and 10 stars at PA 270 degrees. Another very faint galaxy (**NGC3391**, aj) lies 25' NE. It appears 1' X 2' elongated NE - SW.

Call for Observations

This will be the first and only pass at Crater, the wine goblet. I gave some thought to not doing this constellation because there were no bright galaxies. But eventually gave in as the faintest in our quest for this month is mag 11.8. But don't let that fool you very much because some have low surface brightness. Regardless all should be within reach of an 8" telescope from SAC sites and, if you are an experienced observer, they can be glimpsed in a 6". Our hunt this month begins in the southwest part of the constellation with **NGC3511**, an elongated barred spiral. Ten arc-minutes east of southeast and in the

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same 30' field of view will be **NGC3513**, another barred spiral but this one is more face-on. For more on these two galaxies see the April 1996 Sky & Telescope article *Edge-on Galaxies of Spring* by Tom Polakis. Now, hopping to the north central part of the constellation, find **NGC3672** - a late type elongated spiral. If you have difficulty finding or observing these keep in mind their surface brightness's are mag 13.5. Going south some more, find **NGC3887**, a mag 10.6 somewhat round barred spiral galaxy. Pay particular attention to your observations of its brighter middle. By staying somewhat in the middle of the constellation try **NGC3892**, a fairly bright galaxy. Going back to the southern part of the constellation look up **NGC3957**, an edge-on lenticular galaxy. In the same neighborhood slew to **NGC3962** that is considerably bright. Finally **NGC3981**, at the western edge, is a nearly edge-on spiral.

The constellation Serpens is divided into two parts, separated by Ophiuchus. For this session the western part will be studied and the east will be saved for another time. First for this session is the extremely faint globular cluster **Palomar 5**. To get there, it is 29' in PA 172 deg from 4 Serpentis. If you don't have a 20" or larger telescope try using a hood and averted vision while waiting for moments of good seeing. Don't forget that lightly tapping the telescope will help bring out the brighter stars. It probably won't have the characteristics of a globular, but a few faint stars, that come and go, should be good enough. After this gem the incomparable **M 5** awaits. There shouldn't be a problem locating and observing. If it is visible in your finder, please include that in your comments. After these two globular clusters it is all galaxies and we begin with the barred spiral **NGC5921**. At mag 10.8 can you discern the bar, even if it is an elongated, slightly brighter middle? Next, slew on over to **NGC5957**. This 11.7 mag galaxy has an NGC designation of cometary. Do you agree? The next hop is to **NGC5962**, an 11.3 mag late type spiral galaxy. Slew north about 4 deg and a little to the west is **NGC5970**; a mag 11.5 late type barred spiral galaxy. Be careful not to let the 7th mag stars interfere with your observation. The last two galaxies are close to the

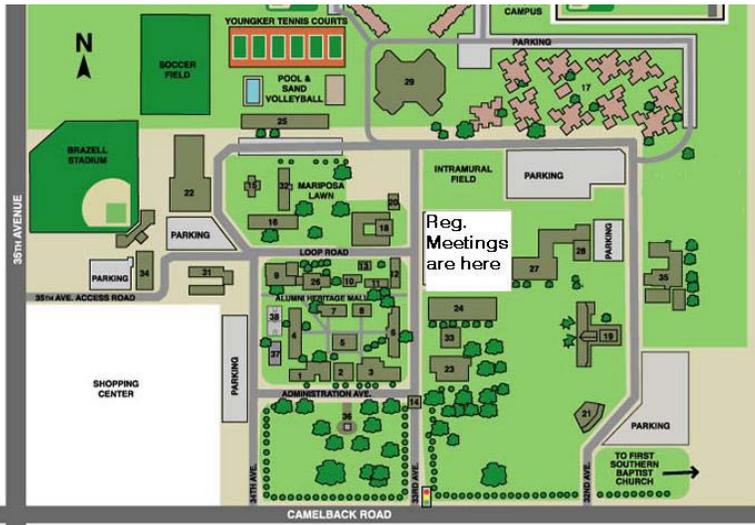
eastern edge of this part of the constellation. Start with **NGC6070**, an 11.8 mag that is joined by some pretty faint galaxies; but about all we will see is the elongation. **NGC6118** is the last, at magnitude 11.7. It is the more elongated of the last two and, perhaps, has the lowest surface brightness. So don't expect much.

In order to stay a step or two ahead of the summer monsoon the next constellation in the monthly sequence will be covered in this column. It isn't clear what I'm getting myself into but I'd like for us to do an observing sequence on the *Table of Scorpius*. This is a magnificent section of this constellation that stands out to the naked eye, is an excellent binocular area, yet to review with a telescope is a very rewarding experience. While there are a number of open clusters there are some interesting dark nebulae involved that will add some variety to the process. **NGC6242**, to the northern part of this section of sky, will be the beginning. It is bright and large so should be easily found. Next is **Trumpler 24** about a degree in size and containing some 200 stars. Involved in its northern part is the bright nebula **IC 4628**, it too has several stars involved that belong to the cluster. Just to the west is the rather elongated dark nebula **Barnard 48**. The SAC database indicates a UHC brings out the bright nebula. Try this and let us know your results. Next slew your telescope west, to **Collinder 316**, which almost involves all of Tr. 24. This cluster is about 1.5 degrees in size, but is rather scattered about. Just to the west is the cluster **NGC6227** that is 18', large and rich. Back in 1985 it was non-existent and is with SIMBAD, yet NED gave coordinates as 16h 51m 33.54s and -41 13' 50.2" which looks to be a 5th magnitude star in a rich Milky Way Field. Are there enough stars in an 18' area to qualify as an open cluster? Before leaving this area slew south to **NGC6231**, a cluster we have already done, but not as part of this kind of observing sequence. This is a 2nd magnitude cluster and should be visible to the naked eye. Can you see it? Continue your slew south and take a quick look at zeta 1 and zeta 2 area as there are some pretty bright stars there. Finally slew farther south to **SL 17**, another dark nebula elongated in a somewhat northern position. The SL references the dark nebula catalog of Sandqvist and Lindroos.

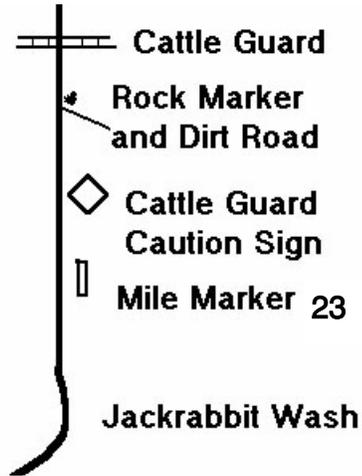
SAC Meeting and Observing Sites

General Meetings

7:30 p.m. at Grand Canyon University, Fleming Building, Room 105: 1 mile west of I-17 on Camelback Rd., North on 33rd Ave., Second building on the right.



Flatiron Star Parties



Head west on I-10 to the 339th Ave exit (exit 103). Turn North (right) and go two miles to Indian School Rd. Turn West (left) on Indian School and go 2 miles to 355th Ave. Turn North (right). This will turn into Wickenburg Rd. Follow this road for about 12 miles. Just after mile marker 23 you will go through Jackrabbit wash and pass a cattle guard sign. There is a dirt road just after the sign, marked by white painted rocks. Turn on to this road and follow it about .9 miles. Just after you pass through a wash, you'll see the field on your left. If you hit the cattle guard, or the dirt road your on is next to a fence, you've missed the correct road. Go back and look for the white rocks. (see detail map above).

Dark of the Moon Star Parties

<i>Date</i>	<i>Sunset</i>	<i>Moonset</i>	<i>Twilight</i>	<i>Location</i>
<i>May 19th</i>	<i>1931</i>	<i>2311</i>	<i>2109</i>	<i>Antennas</i>
<i>June 16th</i>	<i>1941</i>	<i>2142</i>	<i>2127</i>	<i>5 Mile Meadow</i>
<i>July 14th</i>	<i>1942</i>	<i>2019</i>	<i>2124</i>	<i>Cherry Road</i>
<i>August 18th</i>	<i>1913</i>	<i>2157</i>	<i>2044</i>	<i>Cherry Road</i>
<i>September 15th</i>	<i>1835</i>	<i>2028</i>	<i>2000</i>	<i>Cherry Road</i>
<i>October 13th</i>	<i>1804</i>	<i>1911</i>	<i>1926</i>	<i>Antennas</i>
<i>November 10th</i>	<i>1735</i>	<i>1749</i>	<i>1900</i>	<i>Antennas</i>
<i>December 8th</i>	<i>1726</i>	—	<i>1855</i>	<i>Antennas</i>

SAC Membership Services

Membership— Memberships are for the calendar year and are pro-rated for new members as follows: Jan– Mar: 100%; Apr– Jun: 75%; Jul–Sep: 50%; Oct–Dec: 25%.

- \$28.00 Individual Membership
- \$42.00 Family Membership
- \$14.00 Newsletter Only
- \$10.50 Nametag for members, Pinned Clasp
- \$12.50 Nametag for members, Magnetic Clasp
(will be mailed to address below)

Magazine Subscription Services

The following magazines are available at a discount to club members. Check the magazines you wish to subscribe to or renew, and pay the club treasurer. Please allow 3-4 months for the order to be processed.

- Sky & Telescope \$33.00/yr
- Astronomy \$34.00/yr
- Astronomy \$60.00 for 2 Years

Please Print

Make Check Payable to : SAC

Name: _____

Bring completed form to a meeting or mail it with your remittance to:

Address: _____

**SAC Treasurer
c/o Paul Dickson
7714 N 36th Ave
Phoenix, AZ 85051-6401**

City: _____ St: _____ Zip: _____

Phone: _____

- Check here if this is an update of information already on file.

E-Mail: _____

SAC on the Internet

SAC has several E-mail mailing lists. To subscribe, send an email to the email address and put Subscribe in the subject box.

SAC-Announce@freelists.org: SAC-Announce is a mailing list for just club announcements. Typically 3-5 messages per month.

SAC-Forum@freelists.org: SAC-Forum is a general discussion mailing list. Topics should be related to Astronomy or SAC

SAC-Board@freelists.org: SAC-Board is a mailing list for discussions of club business. If you'd like to see how the club is run (or not run), or have a question about the club, this is the list to read. Typically month to month matters are discussed.

AZ-Observing@freelists.org: AZ-Observing while not a Sac list, is well attended by SAC members. This is the list to with observing places around Arizona. Find out where people are going and what they saw.

Printed Newsletter

Sac can save a lot of money if you download the PDF version of the newsletter. PDF files are readable by both PC's and Macs. When the newsletter is published, a message will be sent to the address indicated above with the URL of the newsletter. Check the box below if you don't have access to the internet or if you prefer a printed copy.

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SAGUARO ASTRONOMY CLUB

June 2007

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Videmus Stellae



SAC Schedule of Events 2007

SAC Meetings

January 5th, 2007	July 27th, 2007
February 2nd, 2007	August 24th, 2007
March 2nd, 2007	September 28th, 2007
April 6th, 2007	October 26th, 2007
May 4th, 2007	November 16th, 2007
June 1st, 2007	December, 2007
June 29th, 2007	Holiday Party-TBA

SAC Star Parties

Date	Sunset	Astronomical Twilight Ends	Moonrise	Site
Jan 13th, 2007	1725	1854	0336	F
Feb 10th, 2007	1811	1935	0223	F
Mar 10th, 2007	1835	1958	0112	F
Apr 14th, 2007	1901	2029	0447	F
May 12th, 2007	1927	2059	0311	C
Jun 9th, 2007	1940	2125	0140	C
Jul 7th, 2007	1944	2128	0013	C
Aug 11th, 2007	1920	2054	0522	C
Sep 8th, 2007	1845	2011	0415	C
Oct 6th, 2007	1809	1932	0314	F
Nov 3rd, 2007	1737	1902	0207	F
Dec 1st, 2007	1723	1851	0057	F

Future Planning

June 15th-16th, 2007	5 Mile Meadow Star Party
Sept. 29th, 2007	SAC 30th Anniversary Celebration Dinner
November 9th-10th, 2007	Sentinel Schwaar Stargaze

F= Flat Iron; C= Cherry Road