



Monthly Notices of the Everglades Astronomical Society



Naples, FL
December 2010

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President's Message

EAS has been very active this year, we've added many new members and have shown the night sky and daytime sky to hundreds on visitors to our telescopes. By the time you get this we will have had three December events and still have another on December 18th. These outreach programs are succeeding, our membership continues to grow, but we need help, at present only a small core of members do the events. So please give us a hand.

Our program this month will be a video presentation of Clyde Tombaugh explaining how he found Pluto. It's fascinating to hear what Clyde went through in his hunt for the ninth planet. This video has never been seen in the US, it was made in Canada and was produced by our own Denise Sabatini.

FAK winter viewing is the best skies we get in South Florida, so take advantage of the moonless nights each month. An email announcement will be made each time the club plans to gather at the FAK. Bring warm clothes!!

We have a new supply of T-shirts and caps. The shirts are \$15 and caps are \$7

2011 dues are needed to cover our annual expenses; they are still \$20 for a family, what a deal.

See you at our meeting December 14th.

Charlie Paul.

Dates for the "Fak"

Usually the best times to go out to the Fakahatchee Strand viewing site are moonless nights. Below is a list of upcoming Saturday nights that you will often find fellow club members out there enjoying the skies with you (weather permitting).

Date	Sun Set	Moonrise	Moonset
Dec 4	5:35 p.m.	5:53 a.m.	4:41 p.m.
Jan 1	5:47 p.m.	4:43 a.m.	3:27 p.m.

Next Meeting

Dec 14, 2010
Time 7:00 – 9 pm
At the Norris Center, 755 8th Avenue South, Naples, FL

Sky Events

Dec 5 -- New Moon
Dec 13 -- First Quarter Moon
Dec 21 -- Full Moon
Dec 27 -- Last Quarter Moon

Meteor Shower:

Meteor Shower: Geminid
Radiant and direction: Gemini (S)
Morning of maximum: Dec. 14
Hourly rate: 100
Parent body: 3200 Phaethon

Visible Comet:

Comet Hartley 2 will still be visible, but will be fading fast this month. See the star chart at the end of the news letter.

Start Parties:

The 27th ANNUAL WINTER STAR PARTY
February 28 - March 6, 2011
<http://www.scas.org>

Astronomical Trivia Question of the Month

What was the major reason that Pluto was demoted from being a planet?

a. it was too small.

- b. it did not reach hydrostatic equilibrium (a near spherical shape)
- c. it's gravitational pull did not clear a clean path throughout it's orbit.
- d. it was found to orbit another previously unknown, distant, and bigger planet.

*Answer on next page.



Blue Rings around Red Galaxies

by Trudy E. Bell and Dr. Tony Phillips

Beautiful flat rings around the planet Saturn are one thing—but flat rings around entire galaxies?

That is the astonishing discovery that two astronomers, Samir Salim of Indiana University at Bloomington and R. Michael Rich of UCLA described in the May 10, 2010, issue of *The Astrophysical Journal Letters*.

“For most of the twentieth century, astronomers observing at visible wavelengths saw that galaxies looked either ‘red and dead’ or ‘blue and new,’” explained Salim. Reddish galaxies were featureless, shaped mostly like balls or lentils; bluish ones were magnificent spirals or irregular galaxies.

Elliptical galaxies looked red, astronomers reasoned, because they had mostly old red giant stars near the end of their life cycles, and little gas from which new stars could form. Spiral and irregular galaxies looked blue, however, because they were rich in gas and dust that were active nurseries birthing hot, massive, bluish stars.

At least, that's how galaxies appear in visible light.

As early as the 1970s, though, the first space-borne telescopes sensitive to ultraviolet radiation (UV) revealed something mysterious: a few red elliptical galaxies emitted “a surprising ultraviolet excess,” said Rich. The observations suggested that some old red galaxies might not be as “dead” as previously supposed.

To investigate, Salim and Rich used NASA's Galaxy Evolution Explorer satellite to identify 30 red elliptical galaxies that also emitted the strongest UV. Then they captured a long, detailed picture of each galaxy using the Hubble Space Telescope.

“Hubble revealed the answer,” says Salim. The UV radiation was emitted by enormous, flat bluish rings that completely surrounded each reddish galaxy, reminiscent of the rings of Saturn. In some cases, the bluish rings even showed a faint spiral structure!

Because the bluish UV rings looked like star-forming spiral arms and lay mostly beyond the red stars at the centers of the elliptical galaxies “we concluded that the bluish rings must be made of hot young stars,” Salim continued. “But if new stars are still being formed, that means the red-and-dead galaxies must have acquired some new gas to make them.”

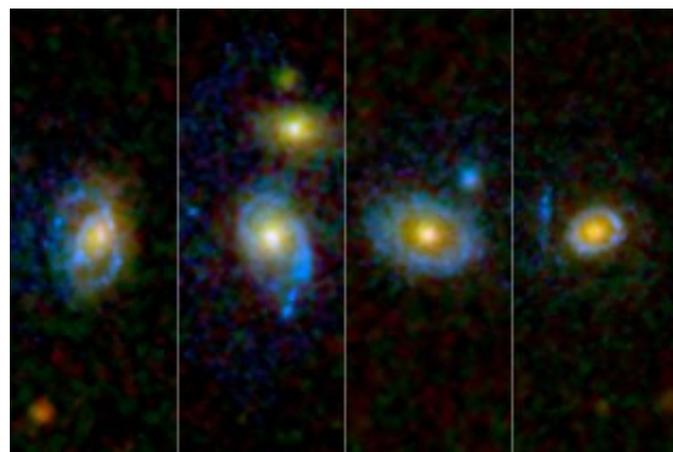
How does a galaxy “acquire some gas?” Salim speculates that it was an act of theft. Sometimes galaxies have close encounters. If a gas-rich irregular galaxy passed close to a gas-poor elliptical galaxy, the gravity of the elliptical galaxy could steal some gas.

Further studies by Galaxy Evolution Explorer, Hubble and other telescopes are expected to reveal more about the process. One thing is certain, says Rich: “The evolution of galaxies is even more surprising and beautiful than we imagined.” The press release is available at

<http://www.galex.caltech.edu/newsroom/glx2010-03f.html> . The full published article is “Star Formation Signatures in Optically Quiescent Early-Type Galaxies” by Samir Salim and R. Michael Rich, *The Astrophysical Journal Letters* 714: L290–L294, 2010 May 10.

Point the kids to the Photon Pile-up Game at <http://spaceplace.nasa.gov/en/kids/galex/photon> , where they can have fun learning about the particle nature of light.

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



Caption: The Galaxy Evolution Explorer UV space telescope helped to identify red elliptical galaxies that also emitted the strongest UV. These are detailed, long-exposure Hubble Space Telescope images of four of these galaxies that capture the UV-emitting rings and arcs indicative of new star formation.

Set For Launch

Date: Dec. 17
 Mission: STS-133
 Launch Vehicle: Space Shuttle Discovery
 Launch Site: Kennedy Space Center - Launch Pad 39A
 Launch Time: 8:51 p.m. EST

STS-133 Description: Space shuttle Discovery will deliver the Express Logistics Carrier-4 (ELC-4), a Permanent Multipurpose Module (PMM) and critical spare components to the International Space Station.
<http://www.nasa.gov/missions/highlights/schedule.html>

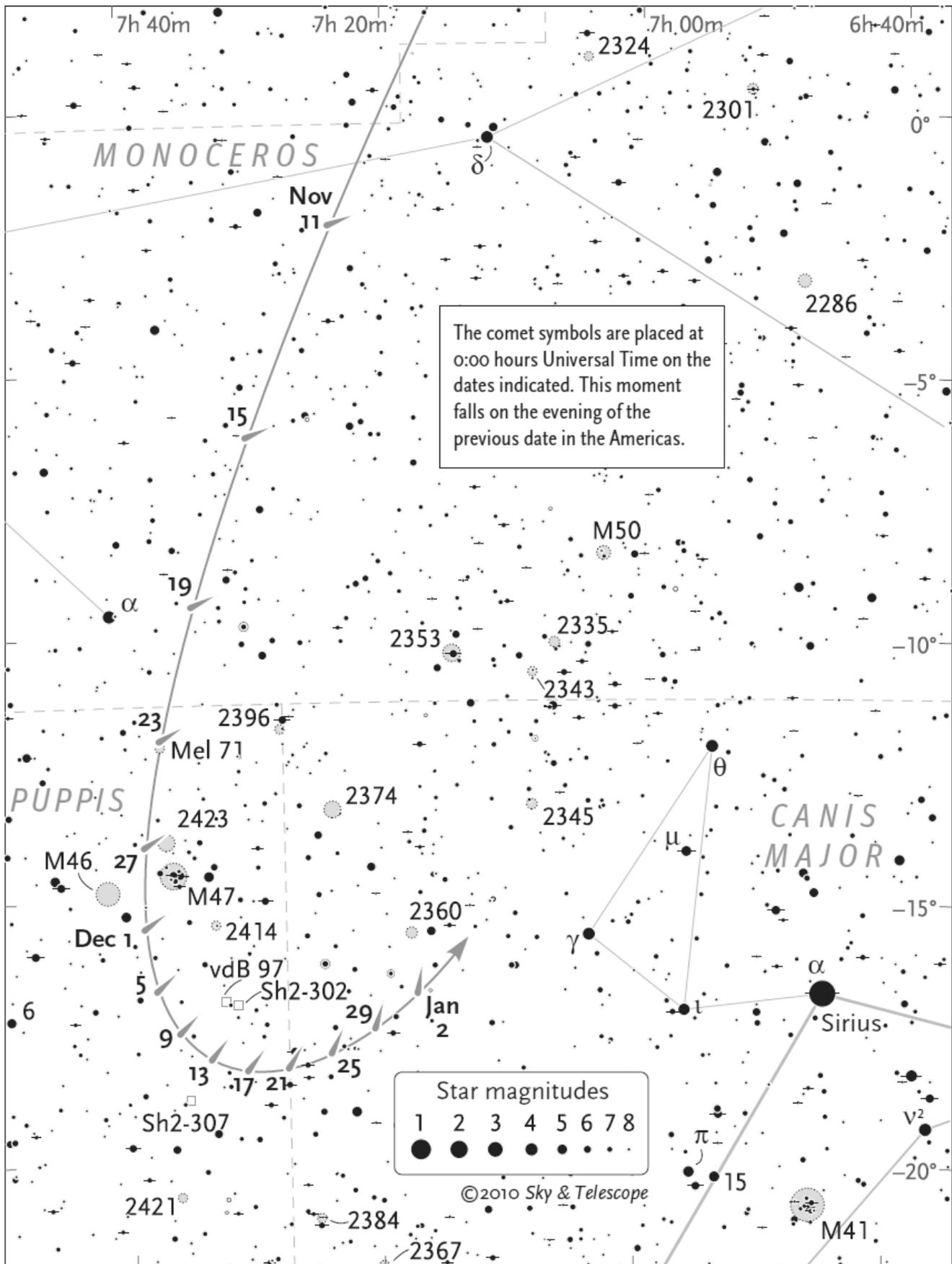
Space Shuttle Endeavor will fly in February 2011 as the last Space Shuttle flight.

Answer to the trivia question:

The answer is **C**. On August 24, 2006, the IAU decided to re-classify Pluto as a dwarf planet, requiring that a planet must "clear the neighborhood around its orbit." It was re-classified as both a Plutoid and as a Minor Planet.

Credit: <http://en.wikipedia.org/wiki/Plutoid>

Path of Comet Hartley 2 Nov. 11 - Dec. 31, 2010



Credit: <http://media.skyandtelescope.com/documents/Hartley2-Nov11-Dec31-V2.pdf>

2011 Membership Dues:

For the bargain price of only **\$20.⁰⁰ per family**, all this can be yours for the coming year!

- ✓ Meet with your fellow astronomy enthusiasts at least 10 times a year.
- ✓ Many opportunities to freeze/sweat/get bitten by mosquitoes in the Fakahatchee Strand.
- ✓ View planets, nebulae and many other celestial objects.

Don't miss out! Fill out this form (please print plainly) and send it with your \$20 check, payable to:

Everglades Astronomical Society

P.O. Box 1868

Marco Island, Florida 34146

Name: _____
Address: _____
Phone: _____
Email: _____