

Rappahannock Astronomy Club

Minutes, December 14, 2011, Meeting

In attendance:

- Barton Billard
- Scott Busby
- Don Clark
- George Clarke
- Brenda Conway
- Joe & Sherry Francis
- Rob Friedel
- Leigh Gettier
- Glenn & Mariann Holliday
- Jerry Hubbell
- Mike Masters
- Tim Plunkett
- Matt Roles

President Mike Masters began the meeting at 7 p.m. after introductions. Fourteen members and a visitor who joined at the meeting were present.

Program

Glenn Holliday presented a program on Pluto. In the story of the discovery and later reclassification of Pluto as a dwarf planet, he showed how he found a pattern that occurred from time to time in the earlier development of astronomy. It became a story of how people observed the sky, made records of what they saw, noticed patterns, made predictions, and began to find classifications of what they observed. It developed into the scientific method, and on occasions, new observations or better ideas for categories developed, and some objects' classifications had to change. An early example is an ancient Greek list of planets that included Phosphoros and Hesperus, which they later concluded were morning and evening appearances of the same planet, Venus. Asteroids are a later example, where telescopes led to new observations, and objects were found and initially put in the planet category. First, Herschel discovered Uranus, and it fit a pattern of spacing of the orbits found earlier by Titus. Titus's pattern predicted an orbit between Mars and Jupiter, so astronomers began actively looking for a planet there. This search led to the discovery of Ceres in 1801, and soon after, Pallas, Juno, and Vesta. Glenn showed an astronomy book from the period that listed 11 primary planets, including these 4. By the middle of the 19th century, many more bodies in orbits between Mars and Jupiter were known, and the eight larger planets were seen to be a different category. The smaller bodies became known as asteroids and dropped from lists of planets in astronomy books. Unlike the planets, asteroids appeared star-like in the telescopes of the time did not show a disk, even though they orbited the Sun like the larger planets that did show a disk. Glenn then compared the story of Pluto, which was discovered by Clyde Tombaugh in 1930 after a search for a planet predicted to be responsible for some perturbations in the orbit of Uranus, apparently the same way Neptune's existence was predicted and found. (Later data from space probes revealed estimates of Neptune's mass were in error, and the perturbations in the orbit of Uranus were explained without the need of a new planet.) Glenn talked about characteristics of Pluto and the larger planets, and the discoveries of new objects like Pluto, such as the Kuiper Belt object Eris, discovered by Mike Brown in 2005. As a result, astronomers are considering new categories. For example, in 2000, the Hayden Planetarium in New York opened a solar system exhibit that classified the Sun as a Star; Mercury, Venus, Earth, and Mars as Terrestrial Planets; and Jupiter, Saturn, Uranus, and Neptune as Gas Giants. Ceres and many more objects were put in the Asteroid Belt, Pluto and many more were put in the Kuiper Belt, and comets were placed in the Ort Cloud. Glenn's slides are available on the Club website documents page, under [programs](#), with the full story and much more detail.

Old Business

- Treasurer's Report—In November, Tim recorded dues from two members and the payout for reimbursing Joe Francis for pizza at the meeting. The Club has 31 paid members for 2011 and 9 members renewed for 2012 or longer.

- Status of Club Loaner Equipment—Apart from arrangements to lend the 8" Dobsonian at the meeting, the loan status is unchanged. Brenda tried the slow motion control substitution suggested earlier for the Orion 6" German equatorial mount and found it did not fit. Mike suggested seeing if Xavier could modify another one for the telescope.
- Star Parties, Events, and Meetings—The November 19 primary and November 26 backup star party dates at Caledon were cancelled because of bad weather. The next date is December 17 at Caledon, with no December backup date (because it would be Christmas Eve). The program for the January Club meeting is on "Spectroscopy" via Internet video link presented by Tom Field. Jerry Hubbell said Tom Field has created some spectroscopy software for amateurs.
- Draft 2012 star party schedule—Mike said that the draft star party schedule was OKed by Caledon and Lake Anna. Caledon may have a conflict for the December 8 date. Westmoreland had not responded by the meeting, and Mike thought the Park was still closed. Glenn said it was open again.
- Star Party request for St. Margaret's School—Susan Foulk contacted Mike about support for an event in Tappahannock the week of February 22–29. She suggested it could be held in the Rappahannock River Valley Wildlife Refuge. February 25 is a backup night at Belmont but we could support the school if enough volunteers were available. Brenda and Leigh said they could join Mike in support. Jerry and Bart were not sure whether they could help. Mike had mentioned Caledon as an alternate location. Glenn suggested Westmoreland would be closer for them. However, the dates we have planned are in the summer, which is not a good fit for a school event. Mike said he would offer a small number of volunteers for February 25 and would suggest coming to Caledon the 18th instead.
- 'From the Earth to the Solar System" exhibit opportunity—Brenda reported on an exhibit available for loan to support outreach events by setting it up in a mall, for example. It is available by reservation, and the Club would only pay for shipping. Jerry suggested it was a longer-term project that the Club might start considering about a year out.
- Transit of Venus next June—Brenda suggest considering a Club outreach event for the transit, June 5, 2012. The suggestion was received positively. Mike suggested the question was where to do it. The first part of the transit will be visible from this area before sunset. A good view to the northwest would be needed.
- December 2012 program—Mike asked for a volunteer for the program at the December meeting next year. Bart said he could do it on Kepler or another topic to be determined.
- 2011 Year-End Report—Mike said the report is almost ready to be placed on the website. It would be finished once the outcome of the December 17 star party is known.
- 2011 RAC Awards Presentation—Mike presented awards to Don Clark, Tim Plunkett, and Scott Busby. Don's award cited his work on transferring the Club domain name and establishing email aliases for officers and other Club contacts, along with his effort in adding the Club to the Night Sky Network and serving as coordinator. He received a *Best of Hubble* book. Tim's cited his extended service as Club Treasurer. He received a *Star Clusters* observer's guide. Scott received a distinguished service award that cited his efforts in outreach, promoting community awareness of light pollution, and leading the effort to update the Club bylaws. He received volumes 1 and 2 of the *Night Sky Observer's Guide*. Mike also presented his fellow officers with coffee mugs.

Next Meeting

The next meeting is Wednesday, January 11, 2011, at the Central Rappahannock Regional Library Headquarters, 1201 Caroline St., in Fredericksburg. Introductions will begin at 6:45 p.m.

Submitted by Bart Billard, Secretary