

Rappahannock Astronomy Club

Minutes, June 19, 2019, Meeting

In attendance:

Jean Benson
Bart and Linda Billard
Scott Busby
Don Clark
Glenn Faini
Glenn Holliday
Jerry Hubbell

Curtis Martin
Tony Mauro
Rolando Pancotti
Ryan Rapoza
Taylor Rapoza
Matt Scott
Irvin Sugg

The meeting began at about 7 p.m. Thirteen members and 2 visitors were present. (One visitor came to make contact with the club but could not stay for the meeting.)

Program

Scott Busby presented a program on "Meteors and Meteorites" that he said covered much of the material he presented in March 2009 with a few updates. He said meteors and meteorites can be a side hobby for amateur astronomers. It can be relatively inexpensive, and amateurs can even find meteorites on the ground. Scott had samples from his meteorite collection spread out on the table. He mentioned the 20-pound sample he showed in 2009, his "pride and joy" from Argentina. When he and his wife moved from Stafford, the box it was packed in somehow got mixed up with boxes marked for Goodwill. Someone wound up with a nice bonus.

Scott first discussed the source of meteors and meteorites. He said they are basically rocks from space. Some meteors are part of showers, which mostly come from periodic comets. They are remnants of the formation of the solar system, when gas and dust coalesced to form the Sun, planets, comets, and planetesimals. Planetesimals sometimes collide and grow, and the resulting heat can melt the material. The melting allows heavier materials to sink and form iron cores. Sometimes the collisions break apart planetesimals into fragments that can eventually become meteors and meteorites. Ones from iron cores have crystal structures that are revealed by cutting, polishing, and etching. Ones from planetesimal crusts are stony. Pallasites are a mixture of metal and silicate crystals. They are very beautiful but unstable, corroding easily.

Scott talked about meteorites found on Earth that have been determined to have come from the Moon, Mars, and maybe Mercury. Impacts on these bodies have blasted off material, some of which eventually found its way to Earth. He was asked whether Venus has been a source of meteorites. Scott said it seems very unlikely because of the dense atmosphere, which would affect both the impactor on the way to the surface and the fragments blasted off the surface. Somebody said he believed he had read that we had to get data back from probes to Mars before we could identify any meteorites on Earth as Martian-sourced.

Scott presented descriptions of the major types of meteorites. The iron types were ataxites, with no crystalline structure; hexahedrites, with fine crystals; and octahedrites, with large crystalline structure. The stony types were achondrites; chondrites, with chondrules that can be seen when the meteorite is cracked open; and mesosiderites. The stony/iron types were mesosiderites and pallasites, mentioned earlier. In his 2009 presentation, Scott had been able to show his pallasite sample before it had corroded. Irvin Sugg asked whether crystalline structure was a result of heating in our atmosphere. Scott said it was the result of slow cooling over thousands of years, probably as part of a larger body that later fragmented.

Scott showed a chart of the mean composition of meteorites, notably including oxygen and chlorine, which are found as gas pockets. Bart asked, and Scott confirmed the composition chart was a mean over all the different types.

For identification, Scott used a list of questions. Is it heavier than it looks? Does it have “thumbprints” (called regmaglypts)? Does it show signs of rust? Does it have angular faces but at least slightly rounded corners? Is it attracted by a magnet? If it is metal, does it pass the nickel test?

Glenn Holliday showed three northwest African chondrites he received in a kit from the University of Arizona where he attended a course on astronomy outreach. He also had a tektite. Scott explained tektites form by melting of material in the ground where an impact occurs, and they are like volcanic glass. Glenn’s tektite had an elongated shape, probably from rotating in the atmosphere and cooling before falling back. Scott ended with a few pointers about collecting meteorites.

Old Business

- Treasurer’s Report—Glenn F. presented Tim Plunkett’s report for May 31, 2019. Two dues payments, including an additional Astronomical League payment, provided a total of \$47.50 incoming funds. There were no expenditures. After checking with Ryan and Taylor Rapoza about whether they wanted her to be a club member through family membership, Glenn F. amended his count to 41 members for 2019. He also presented Taylor with an embroidered patch with the club logo (a benefit for new members). Ryan purchased an additional patch for himself.
- Vice President’s Event Report—Glenn H. said he and Glenn F. both went to the star party June 1 without telescopes. A large crowd of visitors were there. Glenn H. said he talked with a King George teacher who expressed interest in arranging something for his students but said it would have to wait because they were out until the fall.
- *StarGazer* Report—Linda Billard said she was working on lining up people to write articles for the next issue. She hoped David Abbou might write up the NASA Ambassador’s program. Linda said she needed the articles by July 18.
- MSRO Report—Jerry Hubbell reported they were working through some issues getting data from the QHY 174M-GPS camera. He said he would not go into details at the meeting. He also said they had to fix the shutter motor problem. Jerry also said he was working with MSRO users on organizing for participation in the TESS Follow-up Program by making exoplanet observations from MSRO.
- Communications Committee Report—Don Clark said he was planning to switch hosts for the website in August, from Hostek to Hawkhost.com. After researching alternatives, he had found switching would improve the speed of caching while lowering the cost a little. Someone asked about email accounts offered and Don said the club email accounts use a Google G Suite account. Scott B. said he had nothing to report on Yahoo.
- Bylaws Update—Glenn F. said the Executive Council had prepared a revision of the RAC Bylaws that would need ratification by club members. He made a motion to the Executive Council that the revision be submitted to the General Membership for ratification at the July 17 General Meeting. Scott B. seconded the motion. Linda proposed amending the revision date referred to in the motion from June 6 to June 19. The motion passed with none of the Executive Council present opposed. We concluded Glenn F. would send an email addressed to the rac_group Yahoo list, and Linda would put a post on the website so that members would be notified and have access to the Bylaws revision for their review before the July 17 meeting.

New Business

- RAC Embroidered Gear—Glenn F. showed his hoodie and polo shirt with the embroidered club logo. Club members can order them via the web. He noted he ordered his polo with a pocket and chose to have the logo on the right side. He said the default position of the logo is on the left, which would be over the pocket, but the right side can be specified in the order.
- RAC FAQs and Use Patterns Documents—Glenn F. brought up the need to update the RAC FAQs and Use Patterns documents that are on the website. Suggested additions included something about MSRO and the club Twitter and Facebook activity. Linda said she wanted to go over what they came up with.
- Upcoming Events—Glenn H. said the next star party was June 29. He also noted a Summer Solstice Stargazing event planned at Widewater State Park in Stafford on June 21. Glenn added that the next day, June 22, was the date of the Astronomy on the National Mall event. Jerry asked whether we might want to do more non-observing events like visiting the Air and Space Museum. We discussed some we had done in the past, such as the visit to see the new observatory at

Randolph-Macon College in Ashland. Someone suggest doing a poll on the Yahoo group. Glenn H. said Porter Library had scheduled an event for July 15. He said there was possible interest at Westmoreland State Park, but he had not seen any follow-up to emails exchanged with Glenn F. Glenn H also mentioned Stratford Hall, but said that so far only the November 16 date had been chosen, and there had been no discussion of any plans beyond just going (with telescopes).

- Club Equipment Inventory—Scott B. said his inventory was about 98.5 percent complete. He had also been trying to clean up everything and organize the equipment into kits. He had the NexStar kit ready for Bart and Linda to pick up at the meeting. He said the Orion equatorial reflector was in bad shape, missing a tripod. Jerry gave Scott B. the telescope he had brought in, which needed to be added to the inventory. Scott B. said he had also just received the donation of several eyepieces he had been offered. He mentioned some purchases he had made, saying the True Track drive was the only purchase for which he was asking to be reimbursed. Glenn F. suggested we go ahead and use the inventory Scott B. submitted to update the one on the website. Don suggested adding pictures of each kit to go with it. Glenn F. moved that the club reimburse Scott Busby \$170 for the replacement True Track Dual-Axis Electronic Drive for the club's Sky View Pro Newtonian on the Orion Sky View Pro Equatorial Head. Linda seconded and all voted in favor with no discussion. Glenn F. also moved that the club consider Scott Busby's dues paid through 2030 in lieu of donations of three Meade Series 4000 8mm–24mm zoom eyepieces. The motion was also seconded and passed with no discussion.

Next Meeting

The next meeting is on Wednesday, July 17, 2019, at the Headquarters Library on Caroline Street, downtown Fredericksburg. We will be in room 1.