RCA AUGUST 17 GENERAL MEETING

Enhancing the Observing Experience: Through Documentation

Presented By Margaret Campbell and Matt Vartanian

The process of documentation creates a lasting picture of each observed object that is unique to that time and place and relative to a multitude of variable conditions. Employing two very different means of capturing the essence of the observing session, Margaret through note taking, and Matt through sketching, each presenter relates the intricacies of their methodology.

This practical information is presented with several good examples of what can be done with simple, useful supplies/tools for recording one's observing sessions in consideration of night and in-the-field conditions. Note-taking systems will be discussed, and how to start writing-thinking of what you want to remember about this object…or this night.

Above all, it is intimated that the habit of writing or sketching helps us improve our observing skills, so we see more of the beauty and wonder that draws us out into the night again and again.

All are Welcome! Monday August 17
Social Gathering: 7 pm. Meeting Begins: 7:30 pm.
Location: OMSI Planetarium
### CLUB OFFICERS

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The RCA library is constantly growing through many donations and the purchase of new materials. A listing of library materials (PDF format) can be found at the library web page:

http://www.rosecityastronomers.org/library.htm

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THE OBSERVER’S CORNER

Howard Banich

Favorites

I was asked at the Golden State Star Party this past June what my favorite deep sky object was. At the moment my scope was pointed at M51 and a large group of people where enjoying the view, so my questioner was surprised when I said M20, the Trifid nebula. Actually, it’s my favorite summer deep sky object - my all time favorite is M42, which I suspect would be replaced by at least one southern hemisphere object given the chance.

Regardless, this is prime time for the Trifid especially if you’re heading to the Oregon Star Party later this month. It will be approaching the meridian when the sky is fully dark, it’s easy to find just north of M8 (the Lagoon Nebula, another top notch deep sky sight) and the Trifid has a surreal quality that comes through in almost any size scope.

When I was a kid I saw a photo of the Trifid much like the DSS image above and it help fire my imagination about the universe and got me started wondering about everything out there. I’ve never really thought of it as my favorite deep sky object but I’ll bet if I counted up all my observations it would be at the top.

Part of its appeal is its location in the sky. When on the meridian – due south and as high above the horizon as it can get – it’s comfortably placed for observing. Even those with big scopes will find they can observe it while comfortably seated.

The sketch below is my only attempt to date and reminds me how difficult sketching an extended diffuse object can be. This sketch was done at the 2002 OSP through a 20 inch scope and falls far short of conveying what was seen through the eyepiece. I hope to do better in the near future.

The main appeal of the Trifid nebula, at least to me, is two fold. First, it’s a stunningly beautiful sight – an emission nebula with a reflection nebula side by side mixed in with an open cluster (M21) – wow! All this can be seen through a 6 inch or larger scope under a truly dark sky even without a nebula filter, although sometimes I prefer the view through a UHC filter.

Second, you can see some details that in most images are overexposed. Look back at the DSS image near the beginning of this article and notice the brightest area just to the left edge of the center of the dark lanes. Now look at my sketch – it’s actually a wonderful multiple star, with the two brightest being SAO 186145 and SAO 186143 at magnitudes 6.4 and 7.4.

The HST image below shows that this is a compact group of stars much like the Trapezium in M42, only we’re seeing the group more from the side. They’re certainly clearing out the center of the nebula and powering the HII emission (the red part of the nebula you see in color photos) like the Trapezium does.

To see them well you’ll need to punch up the magnification of your scope to around 200x or so, but higher is better if the seeing is steady enough.

Speaking of the red color shown so prominently in color photos of the Trifid, I can start to detect it as a warm hue in scopes 20 inches and above, but it’s so unsaturated that it’s easily overlooked. The blue (reflection) part of the nebula has always looked grey to me.

It looks like there are really four dark lanes slicing up the Trifid in photos but you’ll appreciate the name better while looking at the nebula through a telescope – the visual appearance is much more

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The Observer’s Corner  (Continued from page 3)

suggestive of three dark lanes. These lanes have the designation B85 and are fun to trace through the gauzy haze of the bright nebula. The UHC filter does a good job punching up the contrast of B85, but some might find the OIII does a better job. I suspect that’s not just a personal preference but a combination of the each person’s dark adapted eyesight along with the size of scope they’re using.

I’ve also found that a low power binoviewer gives an exceptional view of the Trifid. Not everything looks better through a binoviewer, and I’m not sure I want to use the word better in this case, but it’s worth a look if you possibly can. B85 shows more contrast with the emission nebula even though the entire view is dimmer.

These days we think of M20 as primarily a beautiful nebula, but Messier’s discovery description from June 5, 1764 is mostly concerned with two star clusters, with nebulosity as a secondary object:

“I have determined the position of two clusters of stars which are close to each other, a bit above the Ecliptic, between the bow of Sagittarius & the right foot of Ophiuchus: the known star closest to these two clusters is the 11th of the constellation Sagittarius, of seventh magnitude, after the catalog of Flamsteed: the stars of these clusters are, from the eighth to the ninth magnitude, environed with nebulosities”.

This is as much a comment about the quality of Messier’s telescopes and his viewing conditions from downtown Paris, as most modern telescopes will highlight the nebulae of M20 more than the clusters.

Not surprisingly, William Herschel saw more on July 12, 1784:

“Three nebulae, faintly joined, form a triangle. In the middle is a double star, vF [very faint], and of great extent.”

And on May 26, 1785 Herschel wrote:

“A double star, with extended nebulosity of different intensity. About the double star, is a black opening[,] resembling the nebula, in Orion in miniature.”

This excellent Hunter Wilson photograph from Wikipedia shows of all the features described above.

It certainly illustrates the advantage of color imaging over visual observing, but let’s not discount the visual view too much because it lacks saturated color. Letting your eye and brain collect the photons from the Trifid directly is an experience very different than collecting them on a detector. Happily, both can be a rewarding personal experience so there’s no need to assign superiority of one method over the other.

Finally, if your scope has a wide enough field of view, have a look at the Trifid and Lagoon nebulae at the same time, or at least bounce back and forth between the two several times. Try your nebula filters and a variety of magnifications, and if the seeing is steady pile on the magnification. You might be surprised at what you can see.
Part 3. RCW 54 Sections, RCW 55, RCW 56, RCW 57 and RCW 58

The map shows the positions in the sky of some RCW nebulae situated in the eastern part of the southern constellation Carina. The great Carina Nebula is highlighted in gray color. In addition, some stars (all brighter than magnitude 5.5) are indicated in the chart so the observer can use them as guides or starting points to find the different nebulae.

Some weeks after observing the faint nebulae close to NGC 3372 (Eta Carinae Nebula) I went to an observing site in Villavicencio on July 11th and to Canota on July 18th to work on the last group of RCW nebulae, all of them situated in the eastern part of constellation Carina, thus finishing the project about these not very well known objects.

A report on the biggest section of this complex (called by me “eastern b”) is included in part 2 of the RCW nebulae article. Here I have included reports about the other parts of this huge HII region. The map on page 3 in “Identifying RCW Nebulae in Constellation Carina - Part 2”, June 2009 Rosette Gazette, shows where the different sections lie in the sky to the east of Eta Carinae nebula.

RCW 54a (Gum 35)

Date: July 18, 2009. Observing Site: Canota, Mendoza

This is an HII region associated with the giant molecular cloud (GCB 88)13. This section of the RCW 54 complex lies about 1.8 degrees southwest of the 4.6 magnitude star HD 97534. In the 1.2 degree eyepiece field given by my telescope (42x) the open cluster Cr 236 is seen detached from the surrounding stars. This 7.7 magnitude cluster (Trumpler classification III,2,p) shows a few stars with magnitudes around 9.5 and several more faint stars can be detected using averted vision.

According to the DSS image of this nebula (figure 1, page 6), the brighter zone of this section lies about 6 arc minutes northwest of the 6.2 magnitude star HD 95324 (the brighter in the field) but no nebulosity is visible there without using a nebular filter. Using both the UHC and Orion Ultrablock filters and the same magnification, a smooth and very faint nebula is visible with averted vision.

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Carina Nebulae  (Continued from page 5)

vision in the zone indicated by A. This faint hazy patch was very hard to see and it could be glimpsed for only a few moments when I was observing it for several minutes. I had a similar view using a little higher magnification (53x) and the UHC filter. It is another target for owners of bigger mirrors, astrophotographers or places with exceptionally dark skies.

RCW 54b

Date:  July 11, 2009 Observing Site: Villavicencio, Mendoza

This is the westernmost of the two sections labeled as “b” (named here “western b”). It also appears in Gum Catalogue of Southern HII Regions as Gum 34a. If you check the eyepiece field picture (figure 2) you will see that this nebula is situated just 25 arcminutes west-northwest of the nebula NGC 35031 which is visible in the same field of view of a telescope working at low magnification and about half a degree west from the “eastern b” section described in part 2 of this project. Also, you can use the naked eye open cluster NGC 3532 to find the zone where this nebula lies moving your telescope 1.5 degrees to the southwest.

RCW 54b is situated very close to the bright star U Carinae (visual magnitude 6.3) which is obviously the brighter one in a field where several faint stars are visible. Toward the northwest, on the edge of the eyepiece field, the open cluster Trumpler 17 (Tr17) is clearly visible like a hazy and round patch of smooth brightness. Its Trumpler classification of II,2,p matches well with the view at low magnification through my 8-inch telescope, several faint stars populate it. Do not expect to see much more there with telescopes of this size. The section was not visible at all at 42x and 78x, even using the UHC and OIII filters. This is the last object I saw that night, the Moon rose around 11pm local time (UT – 3hours) so after 3 hours of observation (beginning at local astronomical twilight which occurred at 8:12pm local time) the sky got too bright to carry out more deep and detailed observations.

RCW 54c

Date:  July 11, 2009 Observing Site: Villavicencio, Mendoza

This is another section of the huge complex RCW 54, also known as Gum 37. This section “c” lies close to a group of open clusters situated about 1.75 degrees south of the naked eye cluster NGC 3532. You will be able to find this area easily using the 4.6 magnitude star HD 97534 (member of Cr 240?).

At low magnification (42x) the field is very impressive showing open clusters with different Trumpler classifications and stars grouping in interesting shapes. “These open clusters form an extensive and almost continuous grouping of stars lying in a region where the Carina spiral feature is seen tangentially” (Claría 1976). The naked eye star HD 97534 (indicated with an arrow in figure 3) is the brightest one in the 1.2 degree eyepiece field of my telescope. A group of a few sparse stars is visible (lower left in figure 3), Collinder 240 (Cr 240), a swarm of stars with a Trumpler classification of III,1,p,n and 25 arc minutes size. Superimposed on Cr 240 toward the northwest lies a smaller and more compact open cluster, NGC 3572 (Trumpler classification I,2,m,n) situated at a distance of about 2.8 kpc. The stars of this cluster show similar brightness. NGC 3572 probably belong to the association Carina OB2 and its massive stars are seen in projection close to the geometrical center of the cavity of the overall HI distribution toward Car OB2...

Southeast to Cr 240 a stream of three open clusters is visible (Tr18, Hogg 12, NGC 3590). Several of these open clusters (namely Cr 240, NGC 3572, NGC 3590, Hogg 11 and Tr 18) may be physically related to the Car OB2 association (see the paper “A Study of the Interstellar Gas Surrounding Carina OB2” by J.R. Rizzo and E. M. Arnal).

Without a nebular filter no nebulosity was visible in the field, but using an UHC filter at the same magnification

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(which gave me a sharper image than the Orion Ultrablock filter) I could observe a faint and smooth nebulosity indicated by 1 in the DSS image here (figure 3), involving also NGC 3572. If you want to see this section of RCW 54 you should keep your eye at the eyepiece for several minutes and explore the area carefully using averted vision as help. Seemingly, some of nebulosity is also visible embedding the line of three stars including the variable 7.7 magnitude star V353 Carinae (indicated in the picture). In the picture I have indicated with 2 a lane of faint nebulosity and with 3 a round and small hazy patch embedding a small group of a few stars.

Letter B in figure 3 indicates a dark zone visible in the eyepiece field where a very few faint stars are superimposed when you observe the zone without a filter. Observing through nebular filters this dark zone is clearly detected. Using averted vision I could see, for moments, a very faint extension of the nebula toward northwest (white ellipse) being a feature that was very hard to detect visually. If you see the 1 degree wide image you can download from the STScI DSS image web page: <http://archive.stsci.edu/cgi-bin/dss_form> this part of the nebula is clearly visible.

I had a good view of the nebula using 53x and the UHC filter. Even if the entire nebula is faint, the region indicated by the gray circle near the center of figure 3 looks a little brighter and sharper at this magnification.

**RCW 54d**

**Date:** July 11, 2009  **Observing Site:** Villavicencio, Mendoza

This rather small nebula (Gum 36) lies 45 arc minutes to the east of NGC 3532 so the zone is easily found using this cluster as a starting point.

The image above shows a nebulosity with an interesting shape. However, a very different shape when I observed through my 8-inch telescope. At 42x the area shows a rich starry field. The eastern edge of NGC 3532 is visible in a wide field with the star ER being the brightest there (see eyepiece field picture where North is up). The open cluster Stock 13 is also visible containing faint stars not very well detached from the surrounding field. After identifying the pattern of stars (indicated by A in figure 4 and shown in detail in the right hand picture there) no nebulosity was visible at this magnification and without using a nebular filter. In the section indicated by B a lot of very faint stars are visible applying averted vision.

Using an UHC filter, I first used the star indicated by the arrow to the right to search for nebulosity but nothing was visible. Through this filter a very faint nebulosity seems to embed the open cluster Stock 13 and also the zones B and C. Higher magnification is necessary to search for RCW 54d because of it is a nebula with small angular size. Applying little higher magnification (78x) and using the UHC and Orion Ultrablock filters I made a detailed observation of the zone between the stars indicated by arrows, where this nebula lies, but I did not have results. At 148x without filter I could clearly see a group of faint stars including one of the guide stars (left arrow in figure 4). Working with the UHC and OIII filter this nebula did not jump to the view. This section, which has a distance comparable for the distance quoted for the HI shell2 associated with Car OB2 is another example of a challenging RCW nebula.

**RCW 55**

**Date:** July 18, 2009  **Observing Site:** Canota, Mendoza

Half way between the variable star V371 and the naked eye open cluster IC 2602, known as Southern Pleiades, lies this nebula (see map in page 1). At low magnification (53x), using UHC filter and averted vision some of faint nebulosity, in fact the brighter part of RCW 55, seems to surround a line of 3 stars which are clearly identified from the surrounding field and which are also visible in the DSS image (1 in figure 5).
A brief observation at 78x made possible a better view of the stellar stream and I got a good view of the faint nebula and the stream at higher magnification (106x) using the UHC filter.

**RCW 56. A Very Small Nebula**

**Date:** July 18, 2009  **Observing Site:** Canota, Mendoza

The bright stars V371 and HD 96566 are visible in the same 1.2 degree eyepiece field of a telescope. Very close to the last one is situated RCW 56 (indicated by the arrow in figure 6). The field surrounding the position of this nebula has few stars. The light from HD 96566 made the search of this small hazy patch hard in advance. I scan the zone with high magnification trying to avoid the presence of HD 96566 in the field. As you can see in the picture, this nebula is very small in apparent size and very close to the star. Using 148x and the UHC filter and then 296x with the same filter nothing was visible through my 8-inch scope. Moreover, the altitude of the zone was not favorable for the observation (29 degrees in the southwest sky).

**RCW 57a & RCW 57b**

**Date:** July 18, 2009  **Observing Site:** Canota, Mendoza

These are nebulae that are easy to observe even without a nebular filter. They are situated about 20 arcminutes from each other so they are visible in the same field of view if you use low magnification. The observer can use the stars HD 96566 and V371 Carinae (visual magnitudes 4.6 and 5.2) to find them (see map in page 5). These HII regions are much brighter than others RCW nebulae in constellation Carina. In fact, they are two of the highest luminosity optically visible HII regions in our galaxy and they also have NGC numbers.

The zone shows several stars with the brighter ones in the edge of a 1.2 degrees eyepiece field. Two hazy patches are clearly visible without a filter. RCW 57a (figure 7) is ionized by a large star cluster visible in infrared. It was discovered in 1834 by John Herschel who only saw the brightest parts of this nebula. For this reason there are six NGC numbers for this nebula but it is usually known as NGC 3576.

At 42x this HII region looks bigger than RCW 57b and elongated north-south (north is up in figure 7). On the other hand, RCW 57b (NGC 3603), situated at 20,000 light-years from us contains some 104 solar masses of ionized gas and may be (according to Eisenhauer et. al. 1998), the most massive HII region in the Milky Way aside from W94. It was viewed in my 8-inch telescope smaller and more compact than RCW 57a, showing a bright core that looks quasi-stellar at 42x. Other parts in the surrounding field seems to have nebulosity.

Working with an UHC filter the view is much more interesting. Both nebulae are clearly detached from the surrounding field. As figure 7 shows, NGC 3576 have some bright spots or regions. Observing carefully and using averted vision some of these regions are detected at this magnification. Two of them (NGC 3581 and NGC 3582) are situated very close each other and can be discerned using averted vision. They are the brightest part of the whole nebula. To the north I could see another region (NGC 3184), which is fainter than the other ones and is immersed in a wider and faint nebulosity (see bottom image in page above). A thin dark lane seems to cross between NGC 3184 and the two brighttest spots.

At higher magnification (106x) and the same filter and using averted vision, I could identify the different sections of NGC 3576 better. With this filter, the zone NGC 3184 looks elongated and the round patch of nebulosity known as NGC 3579 is visible. Also, the faint sec-

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tion NGC 3586 was glimpsed by moments but it was hard to see even with averted vision.

RCW 57b is clearly seen through the UHC filter at 106x, appearing as a smooth luminosity elongated East-West covering a section south of the central cluster (middle left in figure 8). A group of researchers concluded that in terms of density and stellar population NGC 3603 is a “galactic clone” of the cluster R136 in the 30 Doradus complex, in the Large Magellanic Cloud (see the paper “NGC 3576 & NGC 3603: Two Luminous Southern HII Regions Observed at High Resolution with the Australia Telescope Compact Array” by C. G. de Pree, Melissa C. Nysewander and W. M. Goss).

I removed filters and applied even more magnification (296x). Then I aimed my 8-inch telescope to see the stellar cluster associated with the HII region NGC 3603 named HD 97950. I got a bad quality image but the small spot of light suggest a not smooth appearance. In figure 8 I have indicated the position of an evolved blue supergiant star (B1.5 Ia) named Sher 25 located 20 arcsecond north of the central cluster. A group of researchers compare this star to the progenitor of SN 1987A in the Large Magellanic Cloud.

**RCW 58. An Annular Nebula**

**Date:** July 18, 2009  
**Observing Site:** Canota, Mendoza

The last nebula I observed in constellation Carina is RCW 58 which surrounds the 7.7 magnitude Wolf-Rayet star V385 (also known as WR40). I tried to observe this 7.0 x 7.0 arcminutes size nebula when it was about 28 degrees high so the altitude was not the best. I first observed it using low magnification to find the accurate position of the nebula. The star is easily identified because it forms a pattern (triangle) with other two stars with magnitudes of 8.1 and 8.9 that are not visible in the picture here.

According to the image above, one of the brightest portions of the nebula lies in the middle of the way between the stars V385 and HD 96448 (visual magnitude 10) and other “bright” section is situated diametrically opposite so I focused my attention in that parts of the field. The sections were not visible at all at low magnification and using the UHC and Orion Ultrablock filters as help.

A new try using higher magnification (78x and 106x) and the use of the UHC and the OIII filters did not give me a view of this nebula or any of its sections. Doubtless it is a very faint nebula for an 8-inch mirror. However, it is labeled in Skymap Pro 6.0. I think it is good to carry out more observations under different (better!) conditions and from different observing sites to have more information about the visibility of deep-sky objects like this.

**Final remarks**

For some months I have observed 12 of the 13 RCW nebulae situated in constellation Carina (except NGC 3372, the Carina Nebula, which appears in the RCW catalogue as RCW 53), including the five (5) sections of RCW 54 complex. Some of them were very hard to observe visually through an 8-inch telescope, others like RCW 58 were invisible at all. The objects RCW 48, RCW 57A and RCW 57B were by far the brightest nebulae of the sample and they were visible even without using nebular filters but needing them for a more deep and accurate analysis of the structures. Obviously these bright RCW nebulae have also a number in the very well known NGC catalogue (NGC 3199, NGC 3576 and NGC 3603 respectively).

1. A brief description of this cluster with nebulosity in part 2 of “Identifying RCW Nebulae in Constellation Carina”, June 2009 Rossette Gazette

2. Also, the HII regions RCW 54b and RCW 55 have similar distances and all of them are seen in projection on the same sky area where the HI expanding shell is observed.

**RCA ‘Downtowner's’ Lunch**

Join us on the first Friday of each month for lunch at a great downtown restaurant (Holidays and such may push us to the second Friday of some months, check the calendar at [http://www.rosecityastronomers.org](http://www.rosecityastronomers.org)). The location is announced on the RCA general forum discussion list. at [http://www.rosecityastronomers.org/forum](http://www.rosecityastronomers.org/forum) under special interest groups and is normally Kell’s Irish Pub at Second and Ash. Always great conversation and food.

For more information contact: Margaret Campbell at secretary@rosecityastronomers.org
June 20, 1994: My Uncle generously decided to pass along his 8 inch Schmidt-Cassegrain telescope to me and make the switch to binoculars that better fit his astronomical observing habits. That gift was what launched me into “serious” amateur astronomy…but that’s not why I remember the date so well.

Saturday night, March 23, 1996: My wife and I drove 25 miles north on I-35 out of Fort Worth to a dark, quiet country lane with open fields on either side of us. Surprisingly there were at least a hundred other cars already parked along the sides of the road with people getting ready to do exactly what we were going to do J…but that’s not why I remember the date so well.

“Rocks and Ice in the Solar System” have made an indelible mark on mankind and probably on each of you too. Our recorded history is full of dramatic references to cometary visitors and falling stars. Many of history’s events have been influenced by the superstitious belief that comets were harbingers of great success or of doom. Many of us have read of Augustus Caesar ascending to Emperor of Rome as a comet hung in the sky. It was common for royal births and deaths that occurred during comet apparitions to be recorded as being related directly with the comet. As William Shakespeare said, “When beggars die there are no comets seen; the heavens themselves blaze forth the death of princes.”

If you’ve seen a comet and its tail, even if faintly through a telescope, you know how dramatic they appear. The brightest, most easily visible comets are called “Great Comets.” These can be seen by the naked eye by multitudes of people across the Earth while the wisps of their icy tails are blown back by the solar wind. As they stretch across the sky, they are so extraordinary that they are easily remembered for the rest of a person’s life. It seems natural that they have figured so prominently throughout history; indeed it would seem more remarkable if they had not!

The Saturday night of March 23, 1996, is fixed firmly in my memory as the night we spent watching Comet Hyukatake stretching gracefully across the northern sky. It was awe inspiring. Even though there were several hundred people on that dark road that night, only hushed voices were heard. We were casually sitting on the hoods of our cars and in lawn chairs, but everyone knew that we were witness to a very special celestial event, and there was a certain reverence to the moment. Later, a police car came around a bend of the road and his headlights shone upon all of the cars and the people looking up at the sky. He came to a sudden stop and the officer just sat in his car for a few minutes looking at us. He must have been quite startled by the scene. I’ll never forget what happened next. He got out of his car, looked around slowly at us, started to say something, but stopped…and then he looked up. He just stood there looking for a minute then walked back to his car, turned off the headlights and shut off the car. He came back over without saying a word and watched The Great Comet of 1996 with us for a half hour or so. As I said, there was a certain reverence to the moment.

Our solar system has countless asteroids, and distant rocky Kuiper Belt Objects. Our Earth is struck many times each minute by particles of rice grain-sized rock. 40,000 kg of material falls daily on Earth, most of it in the form of micrometeorites that hit the upper atmosphere, and then fall to Earth. We know that these rocks from space come in many different sizes and some are even left over debris from cometary tails. I have seen great displays of meteoritic activity. Several years ago (November, 2002) a fellow amateur astronomer and I wit-nessed a stunning (but sadly, too short) five minute burst of Leonid meteors with an equivalent rate of over 700 per hour from a dark sky site. I’m sure we will always remember that portion of the

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evening and that we were the only two observers left when the meteor shower peak finally came.

Occasionally the Earth gets hit by rocks and ice that are truly impressive. The Tunguska Event in 1909 was very likely caused by a collision of rock or ice with the Earth. Several mass extinctions of life on the planet have been attributed to collisions at a much larger scale; for instance the demise of the dinosaurs 65 million years ago may have been from an asteroid approximately 4 to 9 miles across. But these events seem to lack the real-world immediacy which resulted from a chain of events that started at Mount Palomar on the night of March 24, 1993. That night, a photograph taken by Carolyn and Eugene Shoemaker and David Levy revealed a comet which now bears their names. It was soon determined that their comet was headed towards Jupiter on a collision course and it was breaking up into a “string of pearls”; a long line of cometary fragments that would hit Jupiter like slow-motion bombardment. If we fast forward fifteen months - I received the C-8 from my Uncle on June 20, and was learning how to use it efficiently. Exactly a month later, on July 20, 1994, I vividly remember looking through the telescope with several other amateurs as we watched the face of Jupiter turn slowly towards us to reveal the scars of massive cometary collisions the size of the entire Earth. There were a few brief cries of astonishment that the impact was so visible followed by stunned silence as we contemplated the energies involved in collisions that could have wiped the Earth clean of life. There was a certain reverence to the moment. Astronomy offers unforgettable moments like those to us.

We do not remember days; we remember moments. ~Cesare Pavese

Moments Remembered
(Continued from page 10)

With the grand-daddy of the regional dark sky parties coming up (The Oregon Star Party, of course) you might still need another weekend in late September to wind down your viewing season. September 18-20 will the final RCA outing of the year and OMSI's Camp Hancock with meals and cabins fits the bill for a great outing for on cool fall weekend. Dark skies, warm cabins, real bathrooms, warm showers, good meals and great friends top off the last outing of the year for RCA. There's also electrical outlets on both Astronomy Hill and the Ridge for those who need power for their scopes, ccds and computers. Wireless internet service is also available at Hancock.

Registration for this star party is by mail only. There will be no one taking registration at the August 17th general meeting and the September 21st general meeting is after the outing. Mail In Registration and Payment Deadline is Friday, September 11th. We do expect to get permission again to use the "Dob Valley" which will increase our capacity by a bit.

Registration form, lots of information for our outing, including pictures, downloadable Camp Hancock information, Clarno Fossil bed information, driving maps and instructions, etc. can be found on the RCA website under Star Parties. Join us for the final fall fling at Hancock.

Non-voting members:  Peter Abrahams.

Guest:  Diane Fredlund.

The meeting was called to order at 8:08 p.m.

Special Business:  We had considerable discussion with Diana Fredlund about the possibility of her becoming our Media Director.  She loves astronomy but is a newbie to it.  Her strength is that she knows media.  She made several suggestions for how we could improve our media communications: getting our information out regarding events and meetings; responding to telephone calls for information; working with Matt Zaffino (local weather news) and Jim Todd (OMSI).  She can’t work on this during the day as she works for the Army Corps of Engineers and cannot do private work on public time.  Dale suggested that we submit our astro-images, live solar flares and eclipse images and videos from our members to be shown on television news.  Diane said that their budgets have been cut so they appreciate the assistance. She offered to write a publicity plan, which would be submitted to Board for review.

After some discussion, Greg nominated Diane Fredlund to be our Media Director, Dawn Willard seconded.  Motion carried.  Sameer will contact her by email, and ask if she can do some publicity for our Info Fair.

Board Reports

- Secretary’s Report – Margaret Campbell:  Quorum (10) met with 10 voting members present.  The May minutes have not been done.

- Treasurer’s Report – Larry Godsey: Larry was out of town, so the budget information was submitted via the Board’s website.  As of May 31, 2009, RCA had $19,873.14 in its accounts and the Site Fund had $19,402.83, for a total of $39,275.97.  Larry also submitted a revised budget for us to review.  See New Business below.

- VP Programming – Matt Brewster:  No report.  June is information fair.  Larry Deal and Dawn Willard have made copies of the RCA brochure.  Sameer will send out information about swap meet and info fair.

- VP Observing – Matt Vartanian:  No report.  There is an OMSI event coming on the 13th and RCA event on the 19th.

- VP Community Affairs – Dawn Willard:  The Vernon School Star Party will be on Thursday.  On June 8 there will be a star party at Archbishop Howard school; later a party at St. Vincent de Paul; in July we have been invited to Mountaindale Girl Scout Camp, and on August 1st, to Cooper Mtn, park.  The Center for Inquiry wants to have a star party in Bend in August.  Night Sky Network wants a survey.  Dawn will pass out the information at our events and the request asks people to take a survey on line.

- Media:  See Special Business, above.

- Membership:  We are getting more and more PayPal renewals. We now have 333 member-families.  In May we had 1 new member and 26 renewals and took in $662 in dues.  Larry will have to remove the option of receiving the newsletter by mail from the PayPal.  Ken will talk to Larry about the forms that are being used.

- Sales – Margaret Campbell:  There were $312.95 in sales in May.

- New member advisor:  Howard Knytych will show star-hopping technique for new members at our next meeting.  Howard has worked with Jim Todd to improve the presentation with a projected telrad.  Some discussion about making some changes in the planetarium to fill in the space in the middle were the old projector used to be.  We will have a Dummy Dob in that space for learning to look through a scope.  Sameer suggested having a table for membership at the Info Fair.

- Book Library – Jan Keiski:  There was some discussion about putting our speakers’ video presentations in the library.  The question had to do with security for our speakers. The videos are available in the members’ section of the website.  Bruce McKay is willing to do the burning; Sameer and Larry will close this issue via email during the month.

- Telescope Library – Greg Rohde has purchased a PST from Sean’s Astronomy Shop with a hard-shell case, no tripod yet.

- IDA – Art Morris:  no report.  Peter Abrahams talked to an attorney who is interested in getting involved, especially on legislation; Sameer will talk to him via email.

- Magazine Subscriptions – Larry Godsey: No report

- Webmaster – Larry Godsey:  No report.

- Site Committee – David Nemo:  One of the local people in Maupin is a pilot and he’s going to be scouting some places for us.

(Continued on page 13)
June Board Minutes  (Continued from page 12)

- Youth Director: Jean London circulated materials for our website, including the survey results. She noted that after school programs by Saturday Academy and OMSI can be are listed in a kids’ section of our website.

- SIGs – Tom Nathe reported that Patrick Smith, the SIG leader, was not at the last two meetings, and Greg Marshall has volunteered to take it on. This was announced in the public portion of the forum. There was some discussion about the process, since SIG leaders are approved by the Board. We agreed to give it conditional approval until the SIG brings the issue to the Board. Approved.

- Alcor – Dale Fenske: Dues due July 1. He will send bill to Larry. The membership roster has been updated to May 1 based on April membership.

- OMSI –Jan Keiski: Our annual agreement has been signed by OMSI. Jim Todd is going to make sure we have lots of tables for our swap meet.

- Sister Club update – Jan Keiski: Nominal.

Old Business / Action Items

- Starlight Parade wrap up: It was good fun, successful, worth doing, and we would like to do it again next year.


- Joint viewing with GAMA: Carlos and Jan are setting this up for OSP. Jan needs to get with Matt Brewster to get this into the program for one of our meetings.

- Mirror making machine purchase: done and at TMS. We need to send out an announcement. Tom Nathe and Greg Rohde will make a short training video and require that people watch the video before they use the machine. John DeLacey is the contact person for people saying they want to use it.

- Volunteer hours: some discussion about how to record the hours that members do. Once the form is up on our website, we need to make a broadcast message.

New Business

Budget: We discussed it last month, but there was some discussion about starlight parade expenses. Dale Fenske moved that we approve the budget, Dawn Willard seconded the motion. Motion carried.

The meeting was adjourned at 9:02 p.m.

Respectfully submitted, Margaret Campbell

To Do:

1. Sameer will notify Diane Fredlund that the Board approved her being our Media Director. He will post information about the Swap Meet and Information Fair. Sameer will talk to Peter Abraham’s attorney contact on legislative issues having to do with light pollution.

2. Ken Hose will talk to Larry Godsey about the form that we use for new members asking for the newsletter.

3. Sameer and Larry will close the discussion about putting videos of our speakers on our library for checking out.

4. Margaret will order the Sky Puppies workbook and the Universe Sampler program workbook for our youth program.

5. Dale Fenske will send the AL bill to Larry Godsey.

Astro-Imaging Special Interest Group

The “AI-SIG” is about advancing the skills of beginner, intermediate and advanced astro-imagers. We rely on the skills of our members to bring each other along as we image the beautiful night sky and its many wonders. Whether you use a CCD, DSLR, point-and-shoot or film camera, members of this group can help you achieve better images with less effort and frustrations. Please join us as we learn together to produce “stellar” images!

Next Meeting: Monday, August 10, 2009, 6:30pm
Beaverton Public Library
In Meeting Room B
12375 SW 5th St, Beaverton

Science Special Interest Group (SCI-SIG)

Next meeting is August 8th at 3pm. Following the Telescope Workshop at Technical Marine Services.

This group is for people who would like to advance their skills in astronomy beyond casual observing. Various projects that some group members are involved in include; variable and double star observing, occultations, photometry and astrometry. A science background is not required, however a curious mind does help.

Location: Technical Marine Service, Inc
6040 N. Cutter Circle on Swan Island
http://www.rosecityastronomers.org/sigs/science.htm
Tom Nathe  sigs@rosecityastronomers.org
## August 2009

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- **August 3** Monday: RCA Board Meeting at OMSI Classroom 2, 7pm
- **August 7** Friday: Downtowner’s Luncheon at Kell’s, Noon
- **August 8** Saturday: Telescope Workshop at Swan Island, Science SIG at Swan Island, 10am-3pm
- **August 10** Monday: Astro Imaging SIG at Beaverton Public Library, 6:30pm
- **August 11** Tuesday: OMSI Persied Meteor Watch at Stub Stewart & Rooster Rock S. P.
- **August 14-16** Friday-Sunday: RCA Star Party at Maupin
- **August 17** Monday: General Meeting at OMSI Planetarium, 7pm
- **August 19** Wednesday: Cosmology SIG at Linus Pauling Complex, 7pm
- **August 19-23** Weds-Sunday: Oregon Star Party at Indian Trail Springs, Ochoco N. F.

## September 2009

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- **September 5** Saturday: Telescope Workshop at Swan Island, 10am-3pm
- **September 5** Saturday: Science SIG at Swan Island, 3pm
- **September 11** Friday: Downtowner’s Luncheon at Kell’s, Noon
- **September 12** Saturday: OMSI Star Party at Stub Stewart & Rooster Rock S. P.
- **September 14** Monday: Astro Imaging SIG at Beaverton Public Library, 6:30pm
- **September 14** Monday: RCA Board Meeting at OMSI Classroom 1, 7pm
- **September 18-20** Friday-Sunday: RCA Star Party at Camp Hancock
- **September 21** Monday: General Meeting at OMSI Planetarium, 7pm
- **September 23** Wednesday: Cosmology SIG at Linus Pauling Complex, 7pm

The RCA General Meeting falls on the third Monday of each month. We usually meet in the Auditorium at OMSI, next to the Murdock Planetarium. Occasionally the meeting is held in Murdock Planetarium. Check here each month for details, or look us up at the RCA web site (http://www.rosecityastronomers.org).

http://www.rosecityastronomers.org

Rose City Astronomers
Oregon Museum of Science and Industry
1945 SE Water Avenue
Portland, Oregon 97214-3356