SKYNEWS

M33 in Triangulum
by Guy Walton

IN THIS ISSUE

NEXT MEETING

October 12th, 2011

University of Victoria
A-104 Bob Wright Bldg.
3800 Finnerty Rd.
Victoria B.C.

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On the Cover

Triangulum Galaxy, M33
by Guy Walton

Location: Pearson College, Metchosin, BC.

Date: September 3/4, 2011
Equipment: Telescope: Astrotech AT8RC, Mount: EQ6 autoguided with Orion Autoguider camera and PHD software.
Imaging Camera: Orion SSPro, v1, MaximDLE software
Exposures: Lights - 8 X 900 seconds, Darks - 4 X 900 seconds, Flats 20 X .30 s using an electroluminescent panel and 20 Bias frames processed with ImagesPlus, PhotoShop and NoiseNinja.

September Speaker

Nick Ball

Grew up in Sheffield, UK

BA Natural Sciences (2000), Cambridge, UK

PhD Astronomy (2004), University of Sussex, UK, "Galaxy Types, Luminosity Functions and Environment in the Sloan Digital Sky Survey"

2004-09: Postdoc, University of Illinois at Urbana Champaign, working on galaxies and quasars in the SDSS with Prof. Robert Brunner. Joint between astronomy and the National Center for Supercomputing Applications.

2009-12: Assistant Research Officer, Herzberg Institute of Astrophysics, working with Dr David Schade in the Canadian Astronomy Data Centre, and Laura Ferrarese on the Next Generation Virgo Cluster Survey.

Topic

"The Next Generation Virgo Cluster Survey"

The Virgo cluster of galaxies is the nearest large cluster of galaxies to us. In terms of the environment of the local universe, if the Milky Way galaxy is in the 'suburbs', Virgo is the nearest 'city'. And, like a city, things go on there that do not happen in other places, from which one may learn interesting things. The Next Generation Virgo Cluster Survey (NGVS) is a revolutionary new optical survey, probing 100 square degrees of this part of the sky much more deeply than has been done before. It will provide transformative progress towards answering many interesting questions, such as how many galaxies there are in the cluster, how faint they go, what their properties are over the huge range of sizes that they display, how they are affected by being in a cluster environment, what effect do the supermassive black holes at their centres have, and so on. In turn, these will enable us to better understand how galaxies and the universe came to be as they are today. Because the survey is deep, wide-field, high resolution, and in several bands, it also provides some spectacular new colour pictures of galaxies in Virgo, many of which are no doubt old friends to observers in the group, but are revealed in a new light by the NGVS.

Presidents Report

by Laurie Roche

Welcome back from a terrific summer of warm days, equally warm nights and wonderful observing. It certainly took its time in coming as July was so cloudy and cool but August and this first part of September has been stunning . I hope you have had at least a few opportunities to get out under starry skies in the past few weeks.

Thanks to everyone who helped out with the Saanich Strawberry Festival, the McGill Alumni at Cattle Point, our Metchosin RASCals Star Party, the Cowichan Valley Star Party, St. Stephens Church evening and the Saanich Fair this summer. We were able to bring the day and night skies to hundreds of people over the past few months. We are so appreciative of all the support and enthusiasm from our members in our public outreach.

As September rolls around and new activities rev up again, I inevitably start making lists of all the things I need to do: lists of house cleaning projects I never got to in the summer, shopping lists, “To-Do” lists for various organizations, and additions to the “bucket list” of places I still want to travel to when time and money miraculously come together at the same time! At least I feel I have done something when I look at the lengthy set of scrawls on the pieces of paper and tack them to my bulletin board.

I got to thinking of another list, however, that I started at the beginning of the summer season and that was the “Explore the Universe” Certificate list that is put together by the RASC for beginning observers. This is made for new observers (or old ones like me) to get a feel for all the different types of objects, phenomena, and places that can easily be observed in the sky with the naked eye, binoculars or small telescopes. It has been fun to set up a log book, make up a plan for observing (not that I always follow it, but it’s there) and check things off the list as I find them. It gives a structure to my observing that I had not had before.

And this summer three other people talked to me about lists. A relative newcomer to our society was thrilled as she checked off some of her last Messier’s at the RASCals star party. Another avid observer showed me some really faint fuzzies one night up at the VCO that he had found from a Deep Sky Challenge list that he has been working on for a couple of years, while a third long-time observer said to me that she needed some new things to look at as she had already looked at most of the regular objects from the well-known lists over many years. This got me delving into the types of Astronomical Catalogues that are out there for use by those of us with telescopes that are just a little smaller (!) than the Hubble or those on Mauna Kea and I was amazed at what I found.

Of course we can start with all the 108 Messier objects or those in the NGC or New General Catalogue, or identify hundreds of craters with the Lunar Atlas. But just as fun are the various lists for Asteroids, Pulsating Variables and Eclipsing Binaries or David Levy’s Deep Sky Objects and Dyer and Ling’s Deep Sky Challenge Objects. What about the Abell Clusters catalogue or the weirdly wonderful ARP list of Peculiar Galaxies? Check out the September/October edition of Skynews Magazine for photographs of these strange objects. If you know what the IC, RNGC, HH, UGC and ZWG are then you are already an “astronomical list” guru and you may never see daylight again! (Bill W. …you top them all!) I still think that a better name for some of these lists would be “Catalogues of Faint Fuzzies” but I don’t think that would go over too well with the Astronomical Union. My eyes will give out before I ever get to any of these more challenging catalogues but I know some of our members have delved far into lesser-known catalogues and their determination and patience is admired.

So if you are relatively new to observing, think about doing the Explore the Universe Certificate as I am, or try for a Messier Certificate. Our observing groups will help to get you going or give well-worn observers some new inspiration. Let’s get out there while the weather cooperates. Now if I can only find that list of things to do tomorrow

Trek to the Pole, or 50 north of 80

by Bill Weir

I'm bored as I wait for the Moon to rise above the trees of my forest so I thought I'd tell a bit of a story.

Over this past new Moon period along with working on my Herschel 2500 project I went on a trek to the North Pole. On a popular internet forum a bit of a joke challenge went out to observe 50 galaxies within 10 degrees of the pole. This peeked my curiosity so I fired up Megastar and put in a few limits and came up with a chart of the pole with all galaxies that my 12.5" scope should be able to pick up. There are probably close to 100 ~~galaxies on this chart and being the bit of an~~ obsessive that I am, I NEEDED to find them.

I started on the night of August 25th and rather easily found 8. I was immediately hooked. I finished up the list on the night of Sept 5th by staying up late and close to Moon set to log the last 3. It took a total of 5 sessions to log 8 NGCs, 6 ICs, 26 UGCs, 6 PGCs, 2 MACs, 1 MGC and 1 CGCG for the total of 50. I actually could have finished sooner but I lost count of where I was on the night of the 4th because I also wanted to take advantage of the ubber excellent conditions we had this past weekend to work on the Herschels.

I won't get into the gritty boring details of all these very faint and small galaxies but I will say that I was surprised at the detail I could see in many of them. For all but the NGCs and ICs the descriptions are mostly small to very small and faint to extremely faint. Magnifications used varied between 181X up to 456X to tease out those tiny faint ones. . My favorite view was of the core of the Abell Galaxy Cluster 2247 where I was able to see 6 all within one 300X FOV. The chain of galaxies that comprise the brightest of the NGC 2300 group was also wonderful.

The galaxies that I observed listed by catalogue are.

NGC 1544, 2268, 2276, 2300, 2336, 3057, 3172, 6251

IC 440, 442, 469, 499, 512, 1143.

UGC 115, 392, 1285, 3410, 3435, 3500, 3528, 3549, 3654, 3661, 3670, 3993, 4078, 4262, 4601, 5658, 8264, 9205, 9650, 9668, 10054, 10222, 10280, 10471, 10923, 11495

PGC 6510, 59174, 59211, 59212, 59122, 59143.

MAC 0116+8459, 1651+8130.

MCG +14-07-021

CGCG 362-35

Oh and one other highlight last weekend happened just before packing up at 0300hrs in the wee hours of the morning of Monday Sept 5th. I pointed my 12.5" towards Jupiter as it was at the meridian. With seeing conditions approaching perfect the view was as sharp as I have ever seen this planet. To top it off there was a shadow transit of Ganymede in progress. I kept upping the magnification until eventually I had my 6mm Ethos in a 2.5X Powermate for 760X magnification. Detail was as sharp as a Christopher Go image. I kid thee not. I was able to make out the disk of the satellite against the planets surface along with it's shadow. What a great way to end a perfect end of summer new Moon period.

Hubble Discovers a New Moon Around Pluto

July 20, 2011: Astronomers using the Hubble Space Telescope have discovered a fourth moon orbiting the icy dwarf planet Pluto. The tiny, new satellite – temporarily

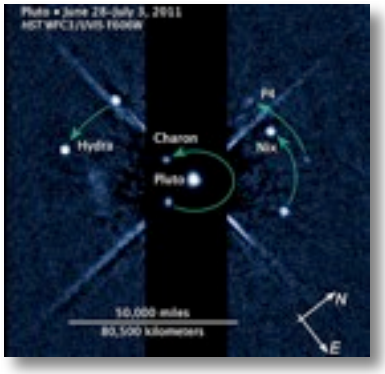
designated P4 -- popped up in a Hubble survey searching for rings around the dwarf planet.

The new moon is the smallest discovered around Pluto. It has an estimated diameter of 8 to 21 miles (13 to 34 km). By comparison, Charon, Pluto's largest moon, is 648 miles (1,043 km) across, and the other moons, Nix and Hydra, are in the range of 20 to 70 miles in diameter (32 to 113 km).

"I find it remarkable that Hubble's cameras enabled us to see such a tiny object so clearly from a distance of more than 3 billion miles (5 billion km)," said Mark Showalter of the SETI Institute in Mountain View, Calif., who led this observing program with Hubble.

The finding is a result of ongoing work to support NASA's New Horizons mission, scheduled to fly through the Pluto system in 2015. The mission is designed to provide new insights about worlds at the edge of our solar system. Hubble's mapping of Pluto's surface and discovery of its satellites have been invaluable to planning for New Horizons' close encounter.

"This is a fantastic discovery," said New Horizons' principal investigator Alan Stern of the Southwest Research Institute in Boulder, Colo. "Now that we know there's another moon in the Pluto system, we can plan close-up observations of it during our flyby."



The new moon is located between the orbits of Nix and Hydra, which Hubble discovered in 2005. Charon was discovered in 1978 at the U.S. Naval Observatory and first resolved using Hubble in 1990 as a separate body from Pluto.

The dwarf planet's entire moon system is believed to have formed by a collision between Pluto and another planet-sized body early in the history of the solar system. The smashup flung material that coalesced into the family of satellites observed around Pluto.

Lunar rocks returned to Earth from the Apollo missions led to the theory that our moon was the result of a similar collision between Earth and a Mars-sized body 4.4 billion years ago. Scientists believe material blasted off Pluto's moons by micrometeoroid impacts may form rings around the dwarf planet, but the Hubble photographs have not detected any so far.

"This surprising observation is a powerful reminder of Hubble's ability as a general purpose astronomical observatory to make astounding, unintended discoveries," said Jon Morse, astrophysics division director at NASA Headquarters in Washington.

P4 was first seen in a photo taken with Hubble's Wide Field Camera 3 on June 28. It was confirmed in subsequent Hubble pictures taken on July 3 and July 18. The moon was not seen in earlier Hubble images because the exposure times were shorter. There is a chance it appeared as a very faint smudge in 2006 images, but was overlooked because it was obscured.

Production editor: Dr. Tony Phillips | Credit: Science@NASA

Metchosin Star Party Report

Nelson Walker

The Second Annual RASCALs/Metchosin Star Party was held July 29-31, 2011 on the Metchosin Municipal Field. Some thirty of our members were there, along with several local residents, who, inspired by last year's viewing, camped on site. Unfortunately, the weekend was distinguished by its howling winds, clouds, and cold. The wind seemed to blow

only on the Field, and not anywhere else. We learned that this wind is known as the "Metchosin Mistral." Great viewing was had by a few hardy souls Friday night, but no one could endure the tent-collapsing gale of Saturday. Both of our speakers faced an audience wrapped in blankets. We hope to return next year for a warmer experience.

FairField Star Party

The Royal Astronomical Society of Canada and Fairfield Gonzales Community Association are presenting a Night Sky Viewing on Sept 26th 2011, 6:30 pm to 10:00 at the Community P)lace and the playgrounds nearby.

We are inviting members and the public to take this opportunity to enjoy the wonders of the night sky with telescopes provided by the members of the Victoria Centre. There will be inside activities, telescopic equipment demonstrations and audiovisual presentations relating to the night sky as well as night sky telescope viewing weather permitting.
Visit http://www.victoria.rasc.ca for more details.

Cowichan Valley Star Party

The Cowichan Valley Star Finders group held - in my opinion - one of the most enjoyable star parties of the Year. During the weekend of August 26th - 28th there were many who attended from all over Vancouver Island and the Mainland. Throughout that weekend's event you could view the Sun in the daytime,

Comet C/2009 P1 (Garradd) taken by by Joe Carr
Date/Time: August 26, 2011 11:24PM PDT
Location: Island Star Party, Bright Angel Park
This comet was well-placed in the evening sky, and this evening it was adjacent to M71, a small star cluster. The comet's dust tail is clearly visible, however the ion tail isn't apparent in this image.

view the stars under excellent dark skies in almost T-shirt warm weather and during the day swim to cool off in the close by Koksilah river in the near 30º C daytime weather.

The telescope field was about half filed with campers, tents and telescopes which was more that large enough. Telescopes ranged in size from 2" refractors to 20" Dobsonian's reflectors. Many ooo's and awh's were heard as viewers looked at planets, deep sky objects and comets which were visible during the star party.

Malcolm Scrimger

ISU, the International Space University

by John McDonald

I gave a workshop on astrophotography at the International Space University "Space Studies Program" in Graz Austria this August. The ISU is a private university founded in 1987. Its first chancellor was the famous science fiction author and futurist, Arthur C Clarke.

The University currently offers two Masters degree programs as well as the "Space Studies Program". The latter is held in different places around the world and attracts students from many countries. I had 14 students from 8 countries in my group - Austria, Canada, France, Norway, South Africa, Spain, the UK and Turkey.

Giving a workshop there was an interesting experience and one that I will remember for a long time. The schedule was unbelievably busy, the students amazing and the support from the staff excellent. We had three nights of observing and imaging at the Lustbühel Observatory near Graz. There was a good patio where we set up telescopes and we could observe a laser from the observatory making ranging (distance) measurements of satellites. The laser power was nearly a watt and it was very bright. The tracking was fast and accurate and distances to satellites were established to the mm level in seconds. The students used telescopes we set up as well as a 16" meade that was made available for us in one of the observatory domes.

In addition to the astrophotography the students had many other activities including low frequency radio receivers to observe lightning world wide and a balloon launch that took a package of instruments they prepared up to 32 km, high enough to photograph the curvature of the earth. The command centre was neat with telemetry to track the progress of the flight and direct the chase vehicle for recovery of the payload. The students also put on cultural nights that were both humorous and enlightening. All in all it was a great experience for me.

12.9 day Moon - cropped

Detail from my most detailed image of the moon to date was taken at the Lustbuhel-Observatory site. Graz Austria where I was giving a workshop on astrophotography.
Details
Conditions mixed cloud and clear sky, temp 18deg C with excellent seeing and no wind.
Equipment - Orion 80mm apo scope with Canon T1i camera on Astrotrack mount.
Exposure - 1/60 sec at ISO 100.
Processing in Images Plus

Berivan's star trails

This image was done by one of my students at an astrophotography workshop that I gave at the International Space University summer school in Graz Austria. Her name is Berivan Esen. THe laser tracks are part of a satellite ranging experiment being done at the Lustbühel Observatory. For a time lapse video see http://vimeo.com/28671644

Date and location - Aug 17, 2011 at the Lustbühel Observatory.
Tripod mounted Canon T1i camera operating at 17mm focal length.
Processing in Photoshop and Startrails.de

Community Outreach

Sid Sidhu showing the Central Saanich Angilcan Paraish community the Moon on Sept 3rd. Many Victoria RASC Members brought their telescopes.

Fairfield Community Centre

1330 Fairfield Rd. Victoria,

7:30pm - 10pm

Call Malcolm at (778) 430-4136 for directions and information.

New comers are especially encouraged.

New Observers Group

Hosted by Sid Sidhu
1642 Davies Road, Highlands. Call (250).391-0540 for information and directions.

Email Lists

Observer / CU Volunteers / Members

Contact Joe Carr to subscribe

web@victoria.rasc.ca

NEXT MEETING

Wednesday October - 7:30pm - A-104 Bob Wright Bldg. University of Victoria, 3800 Finnerty Rd.

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