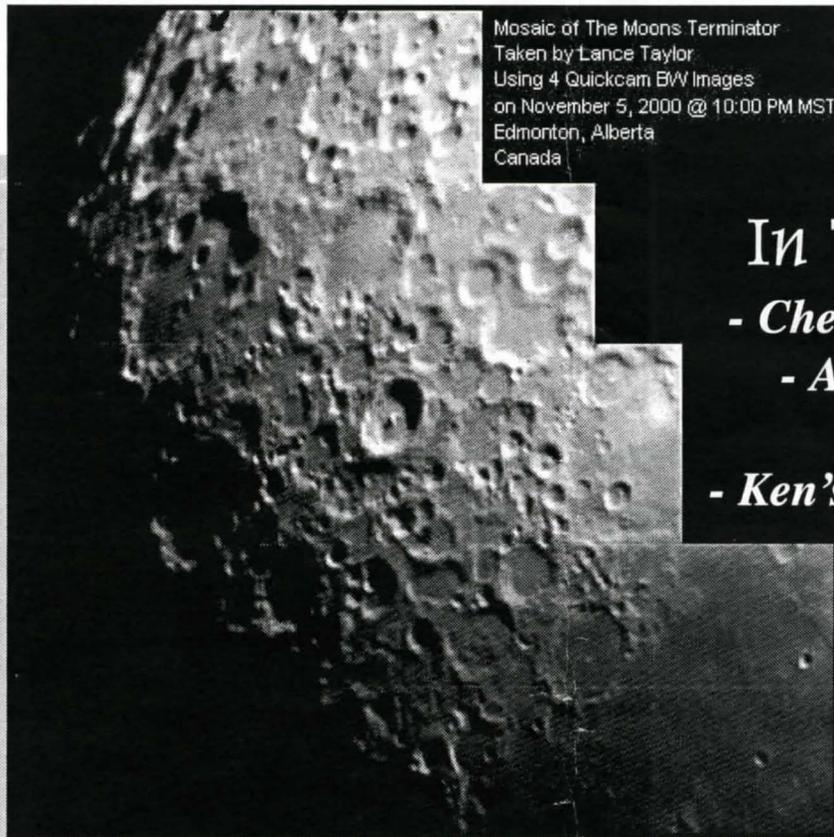

STARDUST



Mosaic of The Moons Terminator
Taken by Lance Taylor
Using 4 Quickcam BW Images
on November 5, 2000 @ 10:00 PM MST
Edmonton, Alberta
Canada

In This Issue:
- Cheap Astronomy
- A Mountaintop
Observatory
- Ken's Thoughts on
Observing

Newsletter of The Royal Astronomical Society of Canada
Edmonton Centre January 2001

STARDUST

January 2001

Volume 46, Issue 5

Editor - Sherry MacLeod
Distribution - Forest Littke

CONTENTS

President's Message - by Paul Campbell	3
Photos of the December 25, 2000 Partial Solar Eclipse - by Denis Fell	3
Jack Newton's Observatory and B&B - by Franklin Loehde	4-5
RASC Edmonton Centre Web Page Changes	5
<i>Stardust</i> Distribution Report for December - by Forest Littke	5
Observers Group Coordinator Report - by Alister Ling	6-7
Map to the Edmonton Centre Observing Site	7
CCD Astrophotography on the Cheap - by Lance Taylor	8-10
Astronomy Workshop: <i>The Next One</i> - by Sharon Tansey	11
Planet Report - by Murray Paulson	12-13
Interview With Ken Hewitt-White - by Bruce McCurdy	14-15

****Please Note: New E-Mail Address Change****

Address for *Stardust*

Articles may be submitted prior to the deadline
by e-mail to: stardust@edmontonrasc.com
or by mail to: 333 Southridge N.W.,
Edmonton, Alberta, T6H 4M9.
The phone number is: (780) 433-1516.



submit your articles for the
February issue of *Stardust* by the
due date of January 26, 2001.
Thank you.

On the
Cover:

Mosaic of the Moon's Terminator, taken using 4 QuickCam B/W images on November 5, 2000 at 10:00 p.m. MST, in Edmonton, Alberta. Photo courtesy of Lance Taylor. To read about how this was done, check out Lance's article on pages 8-10. -ed

President's

Message

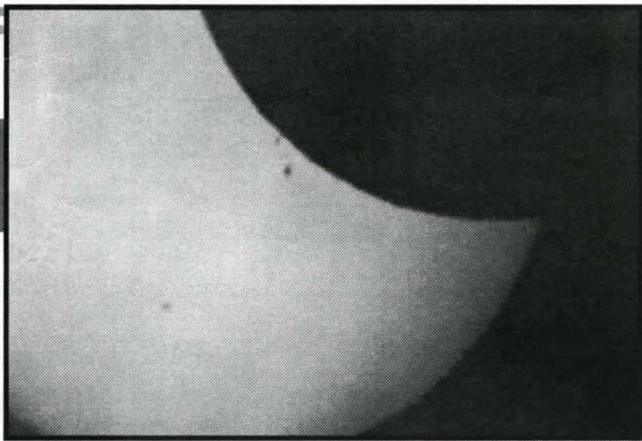
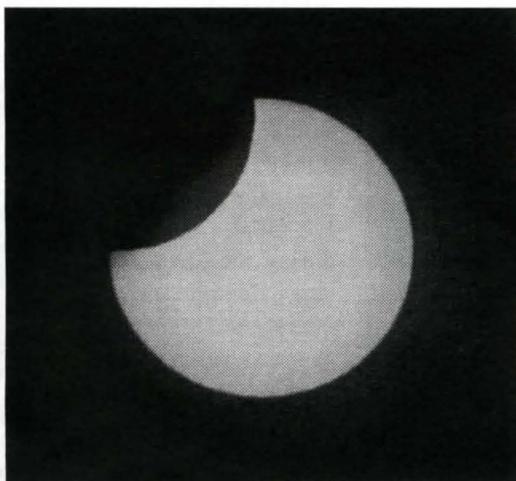
By Paul Campbell

Welcome back after the holiday season. I hope that everyone has had a very merry Christmas and a happy new year. I also hope that many of you got to see the Christmas eclipse. It was a bit of a trial for me as I tried to observe it. One of my highlights was when I tried to take my first ever eclipse photo, I managed to break Sherry's new cable release. I must admit that I did manage to see the eclipse later on with just a few sunspots emerging from behind the moon. Then I was clouded out again.

On to things presidential. Since this is Edmonton's first RASC meeting of the new millenium, it's time to elect a new President. That means that after tonight I have Zero more meetings to preside over. I briefly thought about declaring myself President for life but decided that the resulting anarchy would not benefit the RASC, so I will happily take the role of Past President for the coming year. I hope that the members will be as supporting of the

new President as you were to me over the last two years. Thanks to all the members who supported me, and my apologies to all who suffered through some of my more boring meetings. Many thanks also to Richard Vanderberg who did a bang up job of getting me speakers. That's probably where I'm the weakest since I'm not as well connected as many members of the club are. Richard did a great job gathering speakers from all across the country, and that made my job a whole lot easier.

One last item, during our election we will also be electing a new Treasurer. Mel Rankin has been Treasurer for as long as I've been a member of the RASC. I personally don't know how long he was Treasurer before that. Needless to say, Mel has put in many countless hours of volunteer work for the RASC, for many years. I would like to take this time to thank him for his devotion to the RASC. Maybe now we will see Mel more often at the observing site. Good luck Mel!



Partial Solar Eclipse December 25, 2000 4" Refractor f/9.8, taken on Fujicolor 400 print film, exposures vary from 1/60 sec. to 1/125 sec. at prime focus. At sunrise a band of cloud obscured the horizon and I had to wait until about 10:30 local time to be able to image the eclipse.

Denis Fell

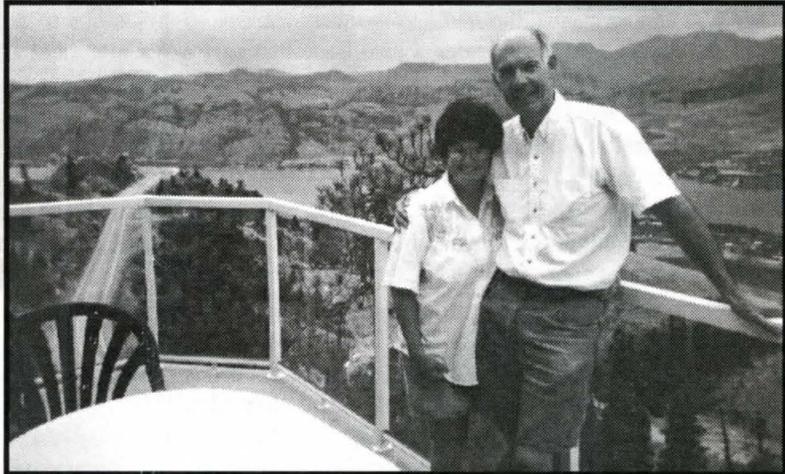
Jack Newton's Observatory and B&B

By Franklin Loehde

High atop a mountain overlooking both beautiful Osoyoos B.C. and Mount Kobau the 'almost national' observatory site is Jack and Alice Newton's spectacular 'observatory cum bed and breakfast'. Jack and Alice have always had an eye for the dramatic as witnessed by the first home out at Sooke near Victoria and this edition is no exception. I defy you to find a more breathtaking view anywhere in Canada and to top it all off there is the crown

of his observatory and telescope enjoying arguably, the finest seeing in Canada. Simply a marvel.

Recognised around the world for his expertise on CCD photography he has used his recent retirement as an excuse to build this home, B&B and observatory in southern B.C. and another in Chiefland, Florida for 'year-round' viewing pleasure. He offers a full range of CCD courses and has

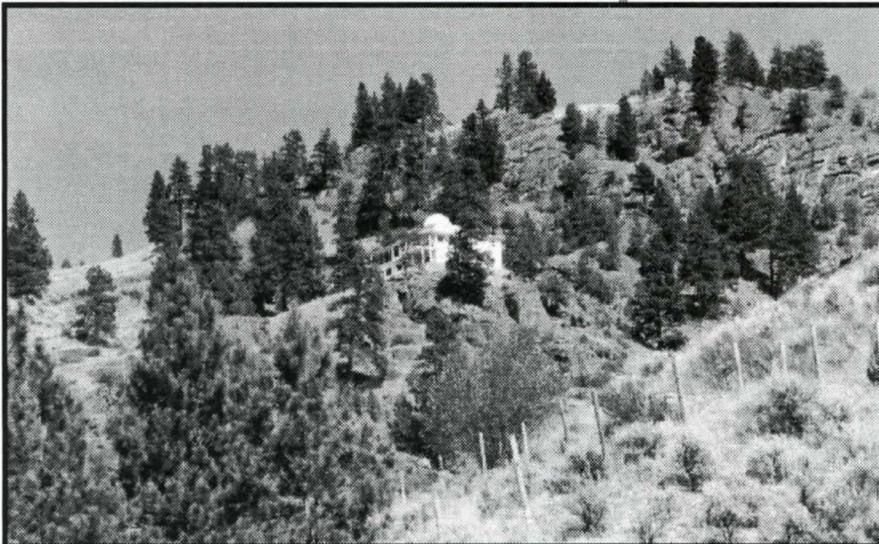


Jack and Alice Newton

attracted clientele from around the world, eager to share in his knowledge of the subject. He uses a 'contributed' 40cm Meade that is completely automated and produces stunning photographs

Spent the night with them but the most exciting time was during the day observing the stars! Had no idea how visible 6th magnitude stars really were as we whizzed from one lovely double to another. Marvellous to have an excellent guider and

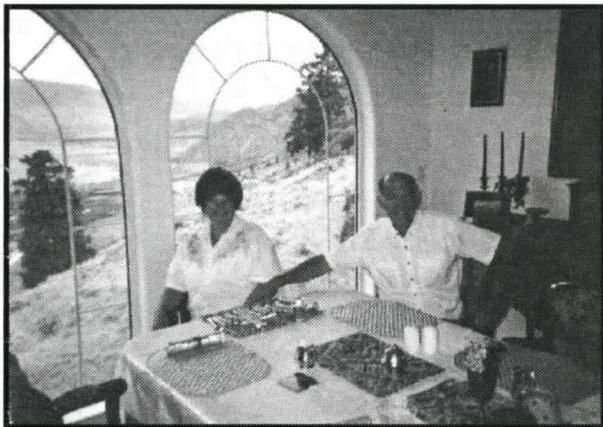
The Bed and Breakfast as seen from below



automated focuser. However, M33 was a tad disappointing. ;-) During that August night I was there, Jack mentioned that this was his 39th consecutive night of observing! That amazing string was about to come to an end but not before I had my fill of many heavenly delights.

The house furnishing and B&B rooms are in themselves worthy of comment demonstrated the artistic eye of Alice. And when you throw in the spectacular views from the dining area and every room, it simply can't be beaten.

His web page is located at: <http://www.jacknewton.com> and provides information about both sites.



The view from the dining room

NOTICE TO ALL MEMBERS

We have changed servers!!

Our web page is now located at:
www.edmontonrasc.com

To enquire about telescope rentals:
scopes@edmontonrasc.com

To e-mail the President:
president@edmontonrasc.com

Stardust submissions should
now be sent to:
stardust@edmontonrasc.com

Many thanks to Mike Hoskinson for allowing us to use his server up until now.

***STARDUST* DISTRIBUTION REPORT FOR DECEMBER**

Stardust printed 320

<i>SkyNews</i> Editor	1	Terence Dickinson
Centres	21	
Honourary Centre	3	Blackfoot Rec. Centre
U.S. Patrons	5	

Mailed Canadian	207
Mailed U.S.	5

TOTAL 212

Science Magic	5	
Special Guests	19	Teachers

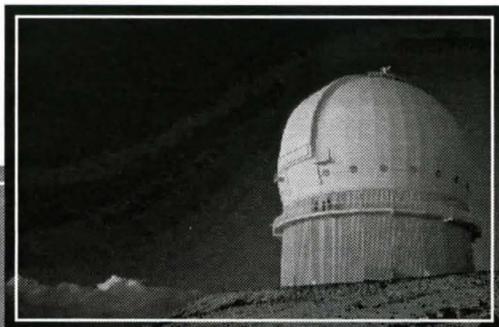
Members and guests in attendance	89
Members absent	168

TOTAL 54

Compiled by Forest Littke

Observer's Report

By Alister Ling



I hope you were good last year and that Santa brought you the complete line of Nagler eyepieces that was on your wish list. OK, maybe a planisphere then. Or a carbonaceous chondrite instead of a carbon chunk?

The Geminid meteor shower was a bit thinner than expected. I set up just outside the old Queen Elizabeth Planetarium in the -23 degree air. Soon after, Alexei, a newcomer to our group, kept me company for some 30 minutes. Considering he wasn't dressed for it, Alexei held out quite long for only a couple of meteors. Later on, Bruce and Kevin stopped by to check up on me after Kevin's Christmas band concert. By 9:45 p.m., I didn't need any more convincing that 1 meteor per 10 minute bin is just not conducive to staying awake, so I packed it in. Larry observed a bit from his rooftop later that night and witnessed a higher rate. Next year, New Moon falls right on the maximum, so we'll be planning a trip out to darker skies for sure.

By the time you read this, the Quadrantid meteor shower will have come and gone. I keep hearing good things about it, but because it only lasts 3 hours, I've always had bad luck with clouds or the Moon.

How about that sunrise solar eclipse on Christmas day?!

Here's hoping for a milder January. We are fortunate to get two weekends this month because New Moon falls midweek. Hope to see you out at Blackfoot on the weekend

of the 20th or 27th! Remember that if the forecast low is less than -18 C, we'll have to cancel.

There are lots of events to see during the rest of this month and into the early part of February; mark up that new calendar! There's a double shadow transit on Jupiter 11:36 p.m. MST on Sunday the 14th. Watch for Mercury low in Southwest after 20th, but it will be a bright mag -0.8. Mercury is 3 deg N of crescent Moon on the evening of Thursday the 25th (the Moon will be a challenge!). A potential asteroid occultation with a 1.4 mag light drop occurs Friday night Jan 26-27 ~11pm. Don't miss Venus & the crescent Moon Sat 27th & Sun 28th about 30 minutes after sunset. Another potential asteroid occultation with a 2 mag light drop happens Sat eve 27th at about 9 p.m.

Here's a supertime event: A 4.7 mag star is occulted by the Moon on Sunday evening Jan 28th, disappearing at 6:31 p.m. Occultation/Graze of the star 33 Psc (a suspected double!) happens Sunday night Jan 28-29 ~9 p.m. MST. The graze line is only 50km south, so speak up if you want to join in an expedition. We'll find a ride if you need one. Mercury fades fast after the 31st, so make sure you check it out about 40 minutes after sunset.

Watch how the Moon slides past the planets in the first couple of evenings of February. I've seen Jupiter naked eye during the daytime several times now, and another opportunity comes up on Friday February 2nd. Jupiter

lies 3.6 deg north of the First Quarter Moon. You'll want to try around 3 p.m., when the Moon is fairly high up. Polarising glasses help. On this night, the Moon passes in front of several bright Hyades stars, including delta Tauri, mag 3.9, at 2:42 a.m. MST. A few nights later, there's double star delta Gem step-wise disappearing behind the Moon on Monday night Feb 5-6 at 10:29 p.m. MST.

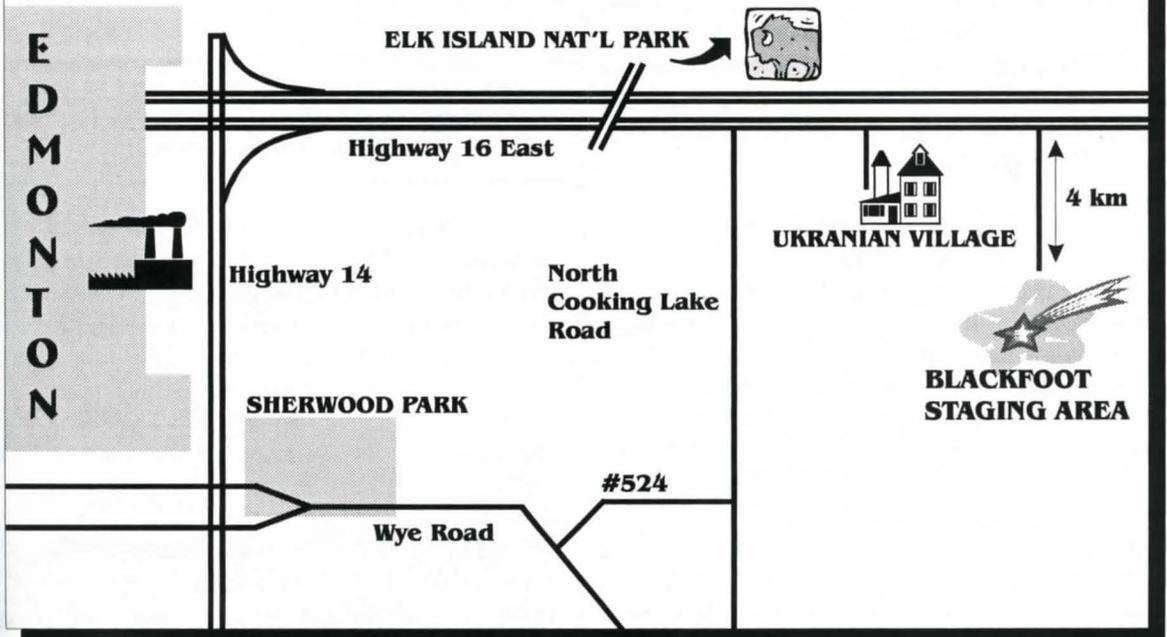
Best wishes for clear skies. If you have any questions about these or other events, please don't hesitate to give me a call at 432-6996. The next observer's group meeting is Thursday Jan 25th, at 7:15 p.m. at the ESSC. I hope to show you what I've been able to do by turning my frustrating 4.5-inch Tasco into a great little scope.



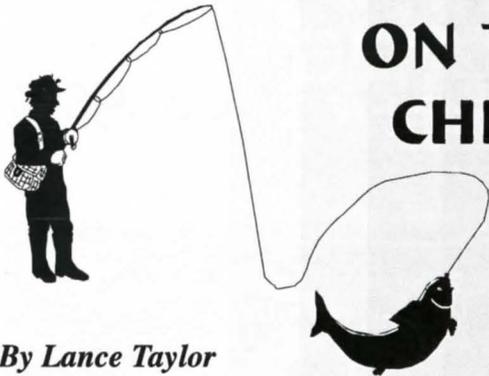
Observer's Group Meetings

Thursday, January 25, 2001
 Thursday, February 22, 2001
 Thursday, March 29, 2001

MAP TO THE EDMONTON CENTRE OBSERVING SITE



CCD ASTROPHOTOGRAPHY ON THE CHEAP



By Lance Taylor

As some members may recall, I was “landed” into this great pastime of observing the stars by Dave Robinson a few years back, after he deliberately took me out to Blackfoot one evening to get me “hooked” on the stars (*Stardust*, c.a. October 1998).

One of the things I immediately wanted to learn how to do was image the night sky so I could in turn share it with others. To wit, Roman and Dave impromptu like built me a sturdy aluminum Single Arm Barn Door Tracker (*Stardust*, February 1999) to keep this fish securely attached to the line, and both seeing that I was still undecided on which telescope to buy. Always a good sign that you’ve got a bite!

Using their Barn Door tracker design I met with some initial success up at Mount Kobau in 1999, and managed to shoot some decent images of the Milky Way and North American Nebula. Still I found my best images were being done using a standard tripod and my Canon T-70 SLR. In fact, this summer I was lucky enough to have caught a decent NLC display on July 1, 2000 (Canada Day) from my backyard, and recently had it published in *Sky News* (September/October 2000).

Now, to a relative newbie, this is all rather encouraging and exciting stuff indeed. I feel that I have personally come along ways in just two years time – or as Dave would

say, “You’ve just bellied up to the coffee table, and are learning to walk on your own now.” Which means, I still got lots to learn. Indeed!

So, this year after acquiring my first “real” telescope a Meade 8” LX-50 SCT, and a number of books on Astrophotography, I was now indeed landed “hook, line, and sinker.” Yup, time to try and land a few “lunkers” of my own by shooting some stellar images to share with others as I embarked upon my journey.

However, one of the first realizations you’ll come to learn in Astrophotography is that almost all decent images are done with very long exposure times. The exception to this case (there are always exceptions) would be CCD imaging. With CCD Astrophotography images are taken electronically in mere seconds that often take minutes or hours with a standard camera setup and film. This is due to the extreme low light sensitivity of CCD chips.

In fact, sometime last year the club had a small group that was looking to put together some Cookbook CCD units (<http://www.wvi.com/~rberry/cookbook.htm>) and that’s what first sparked the CCD interest in me. However, not having the skills to tackle this project I searched elsewhere.

“Hey, now this seems like the best use I’ve heard of for a Web Cam yet! After all who really wants to see who they’re talking to on the Internet!”

Now, as some of you who know me can attest that I am somewhat of a “Net junkie”. So, whenever I do get into a new hobby (of which I have many) I will systematically surf the Internet to find as many resources as I can on a subject. To this end the Net has an infinite wealth of information (and mis-information), which may be useful as you try to grow your list of hobbies. Of which everyone should have at least one or two they can’t afford – I have several.

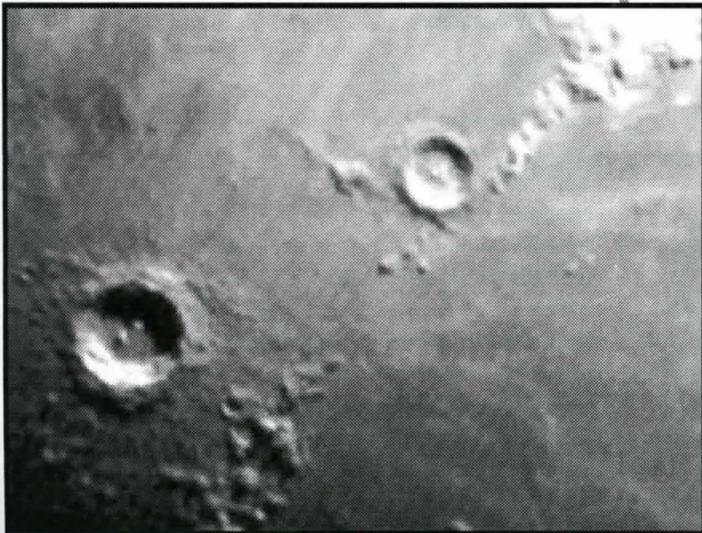
One of the very first websites I came across on the subject of hooking up a simple QuickCam to a telescope was found at António Cidadão’s Home-Page of Astrophotography

(http://www.geocities.com/CapeCanaveral/5409/qc_index.html).

From there I learned that the “inexpensive” QuickCam BW unit was based on the Texas Instruments TC-255 CCD chip. This is the same un-cooled chip as used in the Meade 201XT autoguider and the SBIG ST-5 CCD camera, and provides up to a 10-micron square pixel array measuring 320x240. The analog/digital conversion is 6-bit, which provides only 64 shades of gray. Hmm, interesting.... you don't say.

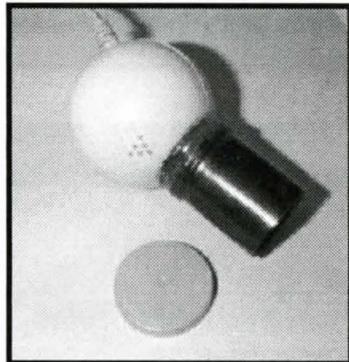
Well, those Meade units cost upwards of hundreds of dollars, while QuickCam's can be had for mere dollars. To this end I began lurking on Ebay to secure me one of those obsolete Connectix QuickCam's. Obsolete because Logitech acquired Connectix and progressed the technology to produce a number of similar web cameras. The newer webcam designs vary, including colour units with resolutions up to 640x480. Phillips also released a model called the Vesta, which supports an even higher resolution. However, my goal was to find one that supported the printer parallel port, as my 486 DX-66 laptop does not support USB. The RS-232C serial one would also be way to slow for its intended purpose.

As luck would have it one day, in passing sometime last year I mentioned this neat new “practical” use of a webcam



to a co-worker. He said he had one and didn't use it much anymore. Hmm, interesting.... you don't say. I promptly offered him \$60 CDN for it, and it was a done deal. Given that some of these “rare” units are still going for up to \$50 US on Ebay (<http://www.ebay.com>) I made out like a bandit.

At about the same time I first began searching for information on the camera I met an individual on the net by the name of Leo Taylor (no relation). He offered and sent me an extra custom case he'd built for his QuickCam unit. It included a 1.25” adapter and a T-Ring adapter. The only thing I had ahead of me was to work up the nerve to rip the camera apart and shove the electronics in to it. Well, as you can surmise by now, about a year later, I finally did work up the nerve – or truer to the mark



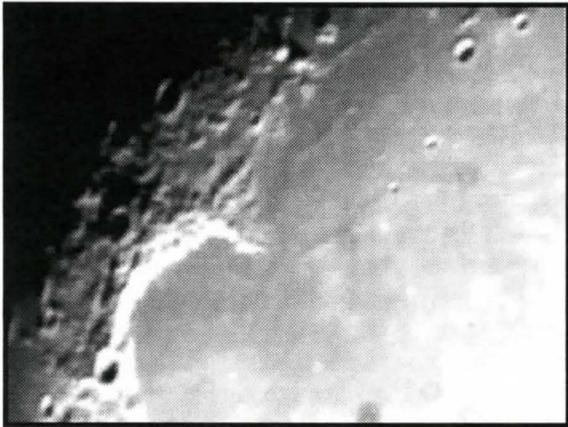
found the time to do it between hobbies. But, before I was going to rip that sucker apart I wanted to see if this thing would actually work. Hence, this fall when I discovered the simplest method yet to attach a web camera to a telescope – I just had to try it that very evening. It involves nothing more than hot-gluing a 35mm black film canister to your web camera as shown here (<http://www.geocities.com/ResearchTriangle/1107/QuickCam.html>)

On October 8th I tried to get some “first light” images of the moon out at Blackfoot, but instead wound up with very poor results. So, “back to the Net” where I learned all I needed to do was remove the IR filter and the tiny lens to expose the actual CCD chip. Doh! Well, next evening out I finally got my first images of the moon – and a new hobby was born!

Continued next page

So impressed was I with the results of seeing “live” video images of the moon on my laptop I promptly called my neighbor Janet over. Before I knew it we had about a dozen people standing in my driveway all wanting a turn at using the LX-50 controls to pan the QuickCam across the moon. It was a great night of observing – and sharing the views with a large group like this made it even more exciting!

Later that evening, on the local Astro mailing list I reported my initial successes and posted a few images to my website. I then suggested that the RASC should look into getting one of these low cost units for the Observing deck. I felt (and just proved) that it would be a great tool to share the night sky with a large “group” of people.



Well, with that thought in the back of my head, on Sunday, November 12th I brought my laptop and QuickCam gear down to the deck to try imaging Jupiter and Saturn. Bruce, Terry, and Sherrilynn were on hand to witness the undertaking as they “hosted” the public that evening.

Initially, Roy Ramdeen (whom tagged along after completing his evenings 2nd Virtual Messier Marathon in Starry Night Pro) and I didn’t have much luck adapting the QuickCam to the larger SCT or refractors. However, the C-8 near the entrance worked well and allowed people standing in line to look over my shoulder as they waited for “telescope time”. I got many questions on what they were actually seeing, but not being the lunar explorer (yet) like Allister and Bruce I couldn’t name craters off the top

of my head. Rest assured with this CCD setup, I do plan to become more familiar with the moon. Anyways, by closing time my conclusion came to be that people still want to see the real deal through the eyepiece. However, for a large group it would be an ideal tool in pointing out and discussing “real time” astronomical features for serious public education. For the setup time involved though (getting focusing right, setting up laptop), I would have to also concede that a low light security camera with a dedicated video monitor would be more ideal for the purpose of education.

In fact, an ad on Page 84 of December 2000 *Sky & Telescope* Magazine for an inexpensive video camera setup might be suitable for such a task. There resides an ad for the VS-1 by Ganymede Instruments, a portable video “eyepiece” camera that can be adapted to either a 0.965” or 1.25” barrel size and includes a 5” monitor for portability of which the output can be sent to a VCR or other monitor. At \$129.95 U.S. the price seems very reasonable – and no need for a laptop! What also caught my eye in that same issue is that on page 128 Charles Wood uses the QuickCam to take images of Mare Crisium for his Lunar Notebook column. In fact, Alister Ling was gracious enough to send me a copy of an article titled “QuickCam Astronomy” from the June 1998 *S&T* issue (pg. 120-123) to help feed my enthusiasm for knowledge. No, this idea of connecting a webcam to a telescope is not new – it just took me awhile to “discover” it, and convey it to you.

Other interesting uses for a webcam include modifying it to be an Autoguider, and for use in spectrography, and photometry analysis. Of which more information can be found on this very active mailing list QuickCam and Unconventional Imaging Astronomy Group [QCUIAG] – (<http://www.astrabio.demon.co.uk/QCUIAG/>).

So, if you have a web camera just laying about the house, and never thought to connect such a “useless” device that was meant only to peer 8” into space while in your underwear, why not try hooking it up to your telescope instead. Objects may appear larger in the mirror. Hmmm, interesting... you don’t say.

Lance’s Web Page can be viewed at:

<http://www.members.home.net/lancetay/astronomy/>

Astronomy Workshop: *The Next One*



By Sharon Tansey

Ideally, the Edmonton Centre hosts an astronomy workshop every 18 months, to take advantage of both the spring and fall skies. In reality, the workshop takes place whenever someone feels like taking on the project.

If you have attended a workshop in the past, you may have ideas for improvement, or noticed elements you think should not be lost. Or you may be looking for a way to become more involved with the centre without attending council meetings. Maybe you're new to the club, have no idea what the workshop is all about, but want to get to know other members.

Maybe, you just want to make sure a good thing keeps happening.

Whatever your motivation, **the workshop committee needs you!**

Now is not too soon to start planning for the next one. There is a good chance the Easter break 2002 at St. John's School will coincide with new moon, giving us the opportunity to host a spring workshop next time. St. John's School, near Genesee, was the location of the October '98 workshop and was a great site: an hour's drive from the city, lots of real classrooms, a science lab with running water for Barry's Optic Washing session, many showers and toilets, many beds, accommodation

for couples, dining room and keynote address area - *all under one roof!*



Now is a good time to start the search for a keynote speaker. Some of these famous folk are booked well in advance.

Adding the Grade 6 teacher sessions to the Skeleton Lake workshop was a new idea and seemed to be successful. A pilot project to include astronomy in the provincial Grade 11 curriculum is being tried this year with a view to making it part of the Alberta provincial curriculum the following year. This looks like an opportunity for Grade 11 teacher sessions for the next workshop.

So what do you think? Would you like to be part of it? If so, contact outgoing centre president Paul Campbell at 433-1516 or at scopedr@connect.ab.ca. He may be having withdrawal symptoms and need to be kept busy.

Address Changes

Any changes to your address or pertinent information regarding your membership...

...please direct these changes to
Terry Nonay
Membership Secretary at
(780) 456-6957

Planet Report

By Murray Paulson



Mercury will be at greatest eastern elongation on Jan. 28 where it will under go dichotomy - half phase. The planet will shine at magnitude -.5 and show a 7.09" disk. Two days later, it will be at perihelion, .31 AU from the sun. Imagine the sun 3 times as big in the sky and 9 times as bright! It has swung around from superior conjunction behind the sun on Christmas Eve in just over a month and is headed to lapping us in another 2 weeks time! This evening elongation is a favourable one. The ecliptic rises steeply from the sun, and on the 28th, Mercury sets an hour and 47 minutes after the sun. This apparition is similar to last years and you should be able to see Mercury shining brightly in the twilight. On the 12th of February, it will again be in conjunction with the sun, this time in inferior conjunction. Mercury will be between the sun and us and due to its orbital inclination will be 3 .7 degrees above the sun. Unlike Venus, Mercury is not a good target at inferior conjunction. Venus's atmosphere enhances its brightness at conjunction, but airless Mercury dims to magnitude 4.5, totally lost in the sun's glare.

At the beginning of January, Venus shines at magnitude -4.4 at a slightly gibbous 22.34" disk. Venus crosses the ecliptic on January 18th and is at the Vernal equinox on February 2. Dichotomy occurs on the night of January 18th, where Venus will show a 24.8" disk from .673 au distance. This is a favourable dichotomy to observe, well placed in the early evening sky where the gentle breezes of January will keep the mosquitoes at bay. The moon joins Venus on the evening of the 28th where it sits only

7 degrees below Venus. By early next month, Venus swells to 34" at mag -4.6 and a phase of .345.

In early January, Mars shines at magnitude 1.3 and shows a 5.47" disk. On the morning of the 19th, Mars passes less than a degree from mag 5.2 Zubenelgenubi - Alpha Libra, adding a first magnitude star to this dim constellation. The Earth is catching up on Mars and by early next month it will have expanded to 6.8" and will have brightened to magnitude .8. It is considered worth observing when it expands to larger than 6", but at this size, only major features will be visible. On the good side, it will transit the meridian at 6:50 am where it will sit 17 1/2 degrees above the horizon.

I am getting used to stepping outside after work and looking up to see brilliant Jupiter and Saturn in the evening sky, then as I turn to the south west, brilliant Venus. It is sort of reassuring to see them as my evening companions. At the beginning of the month, Jupiter shines at magnitude -2.7 with a 45.5" disk and in one month's time it will dim slightly to magnitude -2.5 and shrink slightly to 41.38". Last month I mentioned a few interesting Jovian moon events, and I was lucky enough to catch a few of them. The first one was the simultaneous transit and shadow transit of Io just after opposition. You could see a dark crescent of shadow highlighting Io nestled in the South Equatorial Belt. In the second event, I was impressed as to how far south the Ganymede transits occur. I caught one event just days after opposition and could see both the moon and it's shadow on the planet at

the same time. The transit actually happened in the polar hood. It is also interesting to note that the shadow is lower in latitude than the moon itself. This is a result of the slight tilt of the Gallilean moons orbital plane relative to the plane of Jupiter's orbit. It is really interesting to see where the different moon's shadows fall on Jupiter. The tilt of their orbital plane projects their shadow at successively higher southerly latitudes as you travel out from Jupiter. Calisto misses altogether. The Great Red Spot is still reasonably easy to see and there is always something happening in the equatorial zone or on the Northern Equatorial belt.

I have listed some Gallilean moon events... all times are Universal time For example the event at 2:20 on the 15th is visible here at 7:20 p.m. on the eve of the 14th. Remember, midnight UT on the 11th = 0 hrs UT on the 12th, occurs on the 11th at 5 p.m. local time here in Alberta.

Jan. 15		Jan. 22	
2:20	III.Tr.I.	5:54	I Tr.I.
4:04	I.Tr.I.	5:58	III.Tr.I.
4:25	III.Tr.E.	7:04	I.Sh.I.
5:08	I.Sh.I.	8:05	I.Tr.E.
6:15	I.Tr.E.		
6:36	III.Sh.I.	Jan. 26	
7:19	I.Sh.E.	0:35	III.Ec.D.
8:46	III.Sh.E.	2:47	III.Ec.R.

Feb. 2		Feb. 6	
0:09	I.Sh.E.	1:07	II.Tr.I.
1:42	III.Oc.R.	3:40	II.Sh.I.
4:36	III.Ec.D.	3:43	II.Tr.E.
6:49	III.Ec.R.	6:17	II.Sh.E.
		6:57	I.Oc.D.

Feb. 7		Feb. 8	
4:06	I.Tr.I.	0:39	II.Ec.R.
5:24	I.Sh.I.	1:25	I.Oc.D.
6:17	I.Tr.E.	4:54	I.Ec.R.
7:36	I.Sh.E.		

Feb. 9	
0:46	I.Tr.E.
2:05	I.Sh.E.
3:20	III.Oc.D.
5:34	III.Oc.R.

I never tire of Saturn. Those marvellous rings full of details and a handful of little jewel moons sprinkled about. The play of the planet's shadow on the rings is quite distinct now, and I keep wondering how much more those rings can tilt open. Saturn shines at magnitude 2.0 with a 19.3" disk from its lofty 8.57 AU distance. By early February, it will shine at magnitude 2.2 and show an 18.3" disk. The moon will join Saturn and then Jupiter on the first and second of February. This is not quite as nice a grouping as last month where the moon formed the vertex of a 45-degree right triangle.

Until next month, clear skies and a plethora of planets.

Murray can be reached for comment or feedback at mpaulson@ecn.ab.ca

RASC Meeting Dates for 2001

January 8	April 9
February 12	May 14
March 12	June 11

RASC Observing Dates for 2001

January 19-20	May 18-19
February 23-24	August 17-18
March 23-24	September 14-15
April 20-21	October 12-13

Interview With Ken Hewitt-White

...On Astronomy

By Bruce McCurdy

The recent George Moores' Astronomy Workshop featured Ken Hewitt-White as its keynote speaker. A lifelong populariser of astronomy, Ken is a columnist for *SkyNews* and is a regular contributor to *Sky & Telescope's* "Deep Sky Notebook". He has recently written a kid's activity book called The Holographic Night Sky Book, and was one of the co-hosts for the recent TV series *Cosmic Highway*. As the workshop wound down on Sunday morning, Ken was interviewed by Edmonton Centre Past President Bruce McCurdy about his various astronomical activities. In this excerpt, Ken discusses his own personal observing program.

Bruce McCurdy: On a personal level, what sort of astronomy are you doing yourself these days, just for fun?

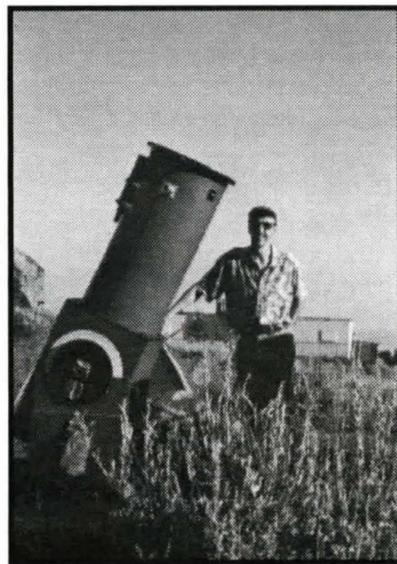
Ken Hewitt-White: I never lost my interest in the deep sky, but I've had quite a rebirth in deep-sky observing in the last few years. We used to live in the Okanagan and had pretty good skies, and now we've moved back to the BC coast where the skies aren't so good, but I'm very close to a fabulous alpine lookout in the Cascade Mountains, about a 90-minute drive away. Up there we have absolutely superb conditions and I've been going up there very frequently, just getting back into my deep-sky observing with my 10-inch and 18-inch reflectors. I'm writing up more and more of these observations for the deep sky column in *Sky & Telescope*. That's been a further motivator, it's fun to write those things up and it makes you get out and observe more.

BM: Any particular class of object you prefer?

KH-W: I'm a galaxy fiend, I always have been, and in particular, I like galaxy clusters. I get a tremendous kick out of researching galaxy clusters and getting up close and personal with them, having a good close look at the Palomar plates and the DSS plates and really looking at the architecture of the cluster, and getting right in there at high power and spending hours going from galaxy to galaxy and checking each one out and understanding the structure of the cluster.

BM: How deep do you go?

KH-W: At this alpine site, we can get down to 15th mag. I have a few objects in the 13th or low 14th mag range so that you can spot it, and once you've grabbed on to it you can start cranking up the power and you work with it for a long time. Eventually once you get really in tight and you get to know a small sector, a half degree of sky, really well, you find you can punch a lot fainter than you can if you're just poking around the sky.



BM: Any particular little-known cluster that might be within the reach of say, a 12.5-inch, that you recommend.

KH-W: There's one in Andromeda that has a bright NGC component to it, that's Abell 262 in Andromeda sometimes known as the NGC 708 group that will show up on most of the charts. There's four or five NGC objects

in the twelfth magnitude class so that there's something in there that people with more modest apertures can grab onto, and then for larger apertures you can push deeper into the cluster and get some of the faint UGC's and ICs and so on that are in the background.

BM: I had one in my talk yesterday; I've just seen the main one in this group, NGC 1275 in Perseus, and that's the brightest of a galaxy cluster. Have you observed that one?

KH-W: Yeah, Abell 426, I just did the field notes for that a month or so ago. That'll show up in a Sky column a year or so from now - maybe two years (laughs). That has a few other NGC's in it too, there's a little parallelogram at the heart of that galaxy cluster. I know I've seen the parallelogram and a couple of outliers in my 10-inch at this mountain site, but then the other stuff is much fainter and it's a challenge for the larger instruments.

BM: It's something of an eruptive galaxy I think.

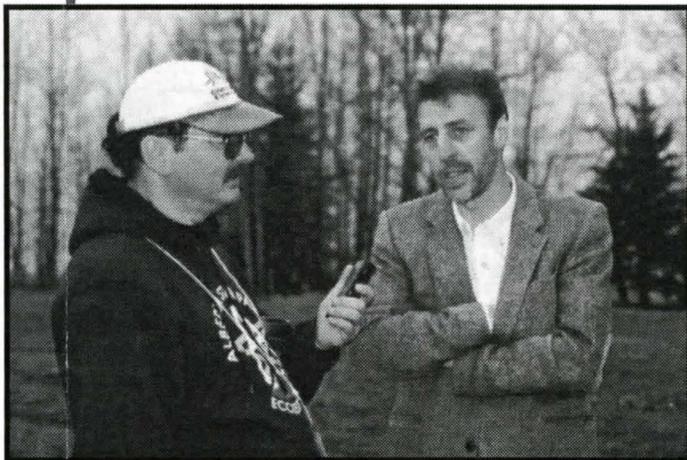
KH-W: 1275 is, it's a radio galaxy, that's Perseus A. It has a very strange, powerful, energetic nucleus with a black hole in the middle.

BM: Right between Perseus' legs, right where'd you want to put your own personal eruptive galaxy.

KH-W: (Laughs) Another galaxy cluster that I like which is not an Abell group is Pegasus 1 right under the Great Square of Pegasus, and it has several modestly bright NGC galaxies, three in a row that anchor the cluster and they're visible in a 10-inch, and then the outlying members you just go deeper and deeper. That's the fun with these clusters, if you get a good one you can start off with a smaller telescope and get the bright members and then keep pushing deeper and getting more and more fainter members.

BM: No such thing as too much aperture for these things, eh?

KH-W: No that's for sure. Seeing conditions are important because when you get right into the hearts of these things you're looking at objects that are sometimes less than a minute of arc, maybe 0.8 by 0.6, they're really small as well as faint and really starlike, and if your seeing conditions aren't good these things will just smudge out and you won't see them. So conditions - transparency and seeing - are important.



BM: The rarest of combinations.

KH-W: Afraid so. And yet, some of this stuff is visible under conditions that aren't ideal. We were looking at some of the brighter members last night of Abell 347, which is right next door, just a half-degree away from that well-known edge-on galaxy in Andromeda, NGC 891, so you just nudge your telescope to one side and there's 347. In Owen's 12-inch scope, we saw three and maybe four members of that Abell cluster. It's surprising what you can see even when conditions aren't perfect, so they are accessible.

Another favourite of mine in the spring sky which is reasonably well known I think is Abell 1367 in the tail of Leo, not too far from Denebola. One night I counted 19 galaxies in about a 200-power field. On the Uranometria I think you have thirty galaxies in under a degree...it's just an amazing field. You have to study them for long periods; to me it's the planetary observing component of deep sky where you have to star for a long time waiting for those moments of seeing.

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Next Meeting:

Monday, February 12, 2001 7:30 p.m.
Edmonton Space and Science Centre
Guest Speaker: David Prud'homme
Planning an Observing Session

Next Observing Sessions:

January 19-20, 2001

Back-Up Dates: January 26-27, 2001
Blackfoot Staging Area

Next Council Meeting:

Monday, January 15, 2001 7:00 p.m.
Edmonton Space and Science Centre

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