

Event Horizon

September 1996

Volume 3 Issue 10

The Hunt for Blue October

Yes, another play on words. But the title is actually quite descriptive. The "hunt" is trying to observe a challenge object. "Blue" is the object, a beautiful blue galaxy, NGC1365, and "October" is in the range of September to January when it is at its best.

"The good news is it gets above the horizon, but the bad news is it only gets about 10 degrees above the horizon."

After looking at a great colour calendar photo of the blue barred spiral galaxy for a few weeks, I decided to check it out. The calendar is of southern sky objects, so I wasn't sure the galaxy was visible from Hamilton. The good news is it gets above the horizon, but the bad news is it only gets about 10 degrees above the horizon. Most observers would agree that any object below 20 degrees is a challenge and 10 degrees is much worse. If you want to try, here are the details:

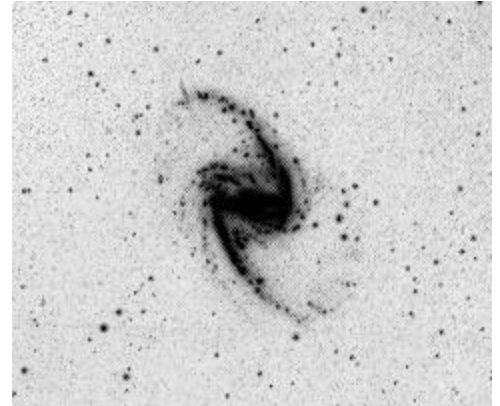
NGC1365 - barred spiral galaxy, magnitude: 9.5, size: 9.8', RA 3h33.6m, DEC -36 08 (constellation Fornax). The NGC description reads "very bright, very large, much extended, with a bright mottled nucleus".

Should NGC1365 be too much of a challenge, try the almost identical looking but brighter and higher (17 degrees further north) NGC1300. You

may also want to check out the interesting NGC1097 (6 degrees higher than NGC1365) and NGC1398 (10 degrees higher than NGC1365).

I suspect under ideal conditions that an 8 inch scope may just do it, but a 10 or 12 inch might be needed. Anyone got a 20 inch? (hint, hint)

Bill Tekatch



NGC1365 in Fornax

Jupiter's Satellites Before Galileo?

While it is assumed that Galileo was the first to see Jupiter's satellites, it is quite possible that they were sighted much earlier, though not telescopically, of course. Of 5th. magnitude and several arc minutes from the planet, a satellite would be visible with the naked eye.

Ancient Chinese chronicles mention Jupiter's satellites. The observations were made by Gan De, one of China's earliest astronomers, in the 4th. B.C. Although his works are lost, portions are preserved in the Kaiyuan Treatise on Astrology, compiled between A.D. 718 & 726. Here, Gan De is quoted as saying: "In

the year of chan yan..., Jupiter was in Zi, it rose in the morning and went under in the evening together with the Lunar Mansions Xunu, Xu and Wei. It was very large and bright. Apparently, there was a small reddish (chi) star appended (fu) to its side. This is called an alliance (tong meng)." An interpretation of the Chinese meaning of the words clearly means that Gan De had seen a Jovian satellite.

The Beijing Planetarium set up simulations to test the validity of Gan De's sighting. The results showed that people with good eyesight can see a

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Editorial

As Ann Tekatch says in her Chair's report, Starfest was great this year. Three clear nights in a row was a welcome change from the rest of the year. The Perseid meteor shower was clouded out on the fourth night but I was relieved to be able to catch up on all the sleep lost on the previous nights. I have been going to Starfest for about 9 years now and I have always found the event worthwhile. I have said this before, you should go to a star party or one of our organized observing sessions even if you don't own a telescope. Most people are more than willing to share the view through their scope. Let's see how good a turnout we can have at the Lunar Eclipse observing session at Rock Chapel. (The details are on page 8.)

The kids are back to school so fall must be just around the corner. We don't have any star parties to attend once the weather gets cold but as long as you dress warm there will be plenty

Chair's Report

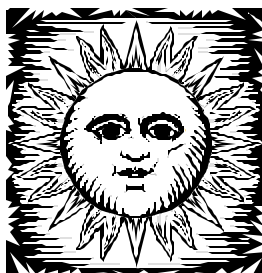
I can't believe it is September already - where did the summer go?? I must confess that I've done almost no observing this summer. Three clear nights at Starfest plus two at Binbrook were all I seemed to have managed.

Those of you who were at Starfest this year will probably agree that it was the finest one ever. Not only were the speakers and exhibits first rate, but the skies were phenomenal! The HAA was well represented and for the third time in a row, an HAA woman won an eyepiece at Starfest! This year, Ev Butterworth was the lucky lady! (I just know it'll be MY turn next year!)

Congratulations also go to Andrew Cairns who won an astrophoto award at Starfest for one of his Comet Hyakutake shots. Unfortunately, the comet

of opportunities to go observing at one of our organized sessions at Binbrook. My favourite object, NGC891, is well placed in the sky at this time of the year and I will certainly try to observe NGC1365 as mentioned in the "Hunt for Blue October". I must have the same calendar that Bill was looking at in August and I hadn't even considered trying for a southern galaxy. Thank you Bill for pointing out that this object is worth trying for.

Stewart Attlesey
stewart@io.org



exposure didn't advance in his camera and he unknowingly superimposed another photo of a jet on the comet shot. The result is an amazing picture of a jet flying past Comet Hyakutake! I wish my blooper astrophotos turned out so well...

Although our general meetings ceased over the summer, your hard working council continued to meet. One of our more gruelling council meetings was spent at Nina Snaith's pool where our strength was replenished with a meal fit for royalty; another tough meeting saw us eating chocolate cake at Rosa Assalone's air conditioned home. It's really rough being on council!

Speaking of which, October 11th is our Annual Meeting when the council is set for the new membership year starting November 1st. For reasons I'll

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HAMILTON AMATEUR ASTRONOMERS

Event Horizon is a publication of the Hamilton Amateur Astronomers (HAA).

The HAA is an amateur astronomy club dedicated to the promotion and enjoyment of astronomy for people of all ages and experience levels

The cost of the subscription is included in the \$15 individual or \$20 family membership fee for the year. Event Horizon is published 10 times a year.

HAA Council

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Patricia Baetsen
Denise Kaisler
Patricia Gassmann
Les Nagy
Rob Roy
Bill Tekatch



Chair's Report ...

(Continued from page 2)

explain in a moment, we have a number of positions open. Here's your chance to spend quality time with fellow astronomy enthusiasts and have a lot of fun at the same time: join our council. We especially need people to help with maintaining the membership list, mailing out Event Horizon and recording meeting minutes. If you'd like to get involved on council, please call me. The more, the merrier!

I've mentioned in previous Chair's Reports that Raechel Carson has moved to London and Nina Snaith is going to Bristol to continue her studies. This past month, Denise Kaisler left us for new adventures in Korea and our outstanding secretary, Juliana Light, has moved to Brampton. Regretfully, commuting to council meetings is no longer feasible for these valuable councillors.

The season is only just starting and already requests are pouring in from local groups for us to do observing sessions, planetarium shows and astronomy workshops. Our public education director, Grant Dixon, has offered to train aspiring planetarists (I don't know if it's a real word - sounds good, though, doesn't it?) on using the

projector at McMaster. This is a wonderful opportunity for you to get to operate one of the few remaining planetariums in Canada. And Grant needs our help - his spare time is in short supply these days and he especially needs people to help with planetarium shows on Wednesday nights. If you'd like to learn how to use the planetarium, call Grant at 627-3683.

All of you proud telescope owners are welcome to join us at the various public star parties we're planning. You will be rewarded handsomely with oooh's and aaaah's from people who have never looked through a telescope before. Rather than have that expensive piece of glass gathering dust in your closet, why not put it to work amazing crowds with views of the moon, Saturn, NGC4565 or whatever you can find? There's no bigger thrill than seeing the look of wonder in a child's eyes after they see Saturn or the moon for the very first time through a telescope. Join us. You won't regret it!

We'll be at the Rock Chapel conservation area for the total lunar eclipse on September 26th. Two small groups will be joining us there. It will

be a great opportunity for all of you HAA-ers to share a beautiful astronomical event and to see how a "public education" star party works. I hope to see many of you there!

Ann Tekatch
575-5433
a7503934@mcmail.cis.mcmaster.ca

Did You Know That..

A full 234 years before Neptune was 'discovered' in 1846, Galileo spotted it next to Jupiter and its satellites, recorded its position and suggested that it may have moved relative to "another" background star?

Rob Roy

Jupiter's Satellites Before Galileo? ...

(Continued from page 1)

satellite of magnitude 5.5 when it is five arc minutes away from a planet of magnitude -2.0. (Jupiter's varies from -1.4 to -2.5.) Thus Gan De could have seen either Callisto or Ganymede, as both would fulfill the conditions above. Ganymede is the more likely, though, as it is the brighter of the two.

The Kaiyuan Treatise gives the observed positions for a twelve year period. A comparison with modern tables of Jupiter's motion leads to the belief that Gan De's sighting was most

likely made in the summer of 364 B.C., when Jupiter was in our constellation of Aquarius. Thus it appears that Galileo's announcement in 1610 was scooped by a Chinese astronomer by almost 2000 years.

Adapted from "News Notes", 'Sky and Telescope', February, 1982.

Rob Roy



Panoptic Eyepieces

Thanks go to Rob Roy for passing along the following article.

EQUIPMENT TALK by Todd Gross
07/09/96 - The entire PANOPTIC line!

I have been playing "catch-up" after a hiatus in astronomy for many years. As many of you know, I have furiously tried out an unusual number of visual astronomy products, mainly eyepieces in the past 2-3 years..... so much so that I have been encouraged to share my experiences about equipment on the net. I have tried all Naglers, Panoptics and Superwides. I have also tried out numerous scopes, binoculars, and 3+ bino-viewers.

In this edition of "Equipment Talk" I will go over all the Televue Panoptic Eyepieces from 15 mm focal length on up. All information offered here is from personal experience only,

Cosmology Corner

It seems that almost every month a new theory or discovery comes up that could change the way we understand the universe. The latest is "vibrating sand". What does vibrating sand have to do with the universe? The behaviour of the patterns that form in the sand are reminiscent of those of sub-atomic particles.

On another topic, our next meeting will focus on "Age of the Universe". We will discuss the methods used to find the age of the planets, stars and the universe and what those ages may be. See you at 8:00 p.m., room B148, Burke Science Building, McMaster University, September 28th.!

Bill Tekatch

there may be some unintentional errors or omission of facts.

The Televue Panoptic eyepieces are the natural extension of the Nagler line. The Naglers run up to 20mm in focal length, and offer an 82 degree apparent field, while the Panoptics start at 15mm f.l., and run up through 35mm, offering 68 degrees. The Panoptics feature very sharp images across almost the entire field. I have tested them in an 8" SCT, 4" refractor, 3" refractor, and 10" SCT. I will discuss their pros and cons as we run down each eyepiece below:

The 15mm Panoptic: A truly sharp-to-the-edge eyepiece, yet the 15mm is sometimes considered the least impressive of the Panoptic line. This is perhaps unfair. The 10mm eye relief is shorter than it's big brothers, so some observers complain about it. In reality, it is very hard to find ANY eyepiece at 15mm which offers much more than 10mm eye relief anyway. (with the exception of specialty eye-relief eyepieces such as the Vixen Lanthanum, which has 20mm eye relief at 15mm focal length) Also, the 1.25" eyepiece is so small and convenient,

"The Panoptics feature very sharp images across almost the entire field."

that many folks will think they simply look less expensive...or less like a "Panoptic". In truth, this is a great eyepiece, with eye relief that is a too short for those who wear or need glasses at 15mm (you tend to need to correct astigmatism as you use lower powers, not higher ones, so you may be able to get away with this one w/o glasses, just correcting for your diopter with focus) The only problem I perceived with this eyepiece, is that the many elements may have soaked up a bit too much light for my taste. I was, however, comparing it to a 17mm plossl..but never-the-less adjusting for

the diminished exit pupil, it still seemed just a bit dimmer than it could have been. I did not test this eyepiece for the so-called "pin-cushion" distortion (see below) but I don't think offhand it showed much, if any. This eyepiece works well with all bino-viewers, by the way. The eyepiece does have an easy to use fold down eyeguard.

To Everyone at the HAA

Iwould like to thank you for the card that was sent by the club to my wife Mary and I to congratulate us on the birth of our twins. As a new member of the club (and a recently arrived resident of the greater Hamilton area), it made my family and I feel very welcome.

For those who are curious, I should fill you in on some of the details of these two up and coming members of HAJA. Emma Catherine and Julia Marianna, our first children, were born July 12th at McMaster and weighed 5lb 9oz and 5lb 3oz, respectively. Mom and both of the children are doing very well (if you discount the fact that the former is getting very little sleep - ditto for Dad) and both weigh at or over 9lb now (as of Sep. 10th).

Emma did her first astronomy on the nights of Aug. 12th and 13th. Dad wanted to try to see some Persiads (even if he had to look through holes in the cloud deck) and Emma seemed so excited by the idea she couldn't get to sleep and decided to come along. Unfortunately, no Persiads were seen; Emma protested with a burp or two.

Once again, thank you very much for the card,

Tom Steckner
steckner@hookup.net

Panoptic Eyepieces ...

(Continued from page 4)

The 22mm Panoptic: Billed as the alternative to the 20mm Nagler, indeed this eyepiece may be even more desirable. It is a 1.25" eyepiece with a 2" skirt, and is larger than a 9mm Nagler, but smaller than a 12, or 16mm Nagler, to give you an idea of size. It is MUCH lighter than a 20mm Nagler. Still it is pretty hefty for a bino-viewer, and can only be used in those with wide clear aperture such as the Televue bino-viewer. (More on bino-viewers in a subsequent article.. do not buy them without thorough research!) The eyepiece affords a generous eye relief, approximately 18mm or so (personal estimate), just enough for most (but not all) eyeglass wearers.

Now, about the view! Wow! A wide field, that approaches the actual field of view of the 20mm Nagler in actual use. (If you bury your head in the 20 Nagler, and really look around, you can make out significantly more field..but in practical use, the 22mm Panoptic has about the same "easy-to-see" field size) Correction towards the edges on all scopes was excellent. In fact, the eyepiece was color free, and distortion free towards the edge,

especially when compared with a Meade 24.5 superwide, one of it's closest (but less expensive) competitors. However, note that the the Meade eyepiece is pure 1.25", not a hybrid, and works better in binoviewers, than the Panoptic.

The only problem with the 22mm, and the 27, and 35mm Panoptic, is something called "pin-cushion"



distortion. If you have a Dob, for instance, and love to pan around the sky, the starfield is magnified slightly more towards the edges. In fact, in looking at a ruler, even while stationary through the eyepiece, the ruler looks bent. It is sharp, but the trade-off is a distortion that bends straight lines. When panning this can literally get you sea-sick. The distortion is very minor to

some folks, and bothers others more. Most people that I have spoken to have not noticed it ..but those than Pan around a lot certainly do. There is some evidence as reported on the Internet newsgroup sci.astro.amateur that the 27mm Panoptic may suffer this effect the most, and that it may vary from eyepiece to eyepiece, but this is still being "tested" by our trusty group.

The 27mm Panoptic: The single sharpest eyepiece I have ever used, the 27mm is a true 2" eyepiece, and needs a 2" diagonal, or focuser to hold it. However, it is not much bigger, or heavier than the 22mm Panoptic. Like the 22, I have noticed some pin-cushion distortion only when panning the scope. Otherwise, pinpoint images over a huge field of view for this focal

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NOTICE OF ANNUAL MEETING AND ELECTION OF 1996-1997 COUNCIL

At the October 11th. general meeting, council members for the upcoming membership year will be appointed or elected. All qualified members are invited and encouraged to join the council which consists of the following positions:

Chair
 Second Chair
 Secretary
 Treasurer
 Recorder
 Observing Director
 Public Education Director
 Editor
 Membership Director
 Councillors (to a maximum of 5)

If you are interested in joining the council, please contact Ann Tekatch at (905) 575-5433 on or before October 4th.

Doug's Stuff for Sale

Doug Welch is offering more items for sale from his apparently infinite supply of astronomical goods.

Bell and Howell LUMINA 10x50 binoculars (EWA 420 ft at 1000 yds) \$175
 (2) 8" pyrex blanks \$65 each
 Metal detector \$75
 Super 8mm Canon camera \$50
 300mm f.l. f/4.5 Dimension telephoto

\$75
 6" mirror kit
 \$75
 Tele-extender
 \$5
 Keychains
 \$7 each
 Sky & Telescope (1971-1996) B.O.
 FAX/Phone line-splitter
 \$50
 (905) 525-9140 x23186 (work)
 (905) 524-0848 (home)
 welch@physics.mcmaster.ca

Panoptic Eyepieces ...

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length make this a winner. Everything views sharp and bright to the edge... more-so than the 35mm Panoptic. This one really "wows" compared to the very nice, but not quite as fantastic 24.5 Superwide.(Meade) The field of view on this eyepiece is wider than 1.25"



40mm eyepieces, and yet the magnification is much greater.

I will talk a bit about barlowing the Panoptics at this point. On all telescopes I have tested on, I have been able to barlow the 22, and the 15mm Panoptics without any problem using a 1.25" or a 2" barlow lens of good quality. The 27, and 35mm Panoptics need a 2" barlow, such as Televue's Big Barlow. I have not really noticed the necessity on the scopes I have tried, for the Televue Panoptic-Barlow interface. This is in addition to a barlow, to make the image better with Panoptics. I have heard that on the 27mm, and the 35mm Panoptic, it helps a lot in very fast scopes, such as f/4. I believe this corrects some distortion towards the edge of field, but I have also heard it helps make the view more comfortable as well. I did indeed notice some "black-out" areas on the 35mm in an F/10 8" scope when it was barlowed, with a Televue Big Barlow, similar to the Kidney Bean Effect on Nagler eyepieces. I am not positive exactly what the interface does, or who exactly needs it, and would welcome comment

on it. I will say that I tested the 35mm Panoptic with a Vernonscope 2X barlow on the day I am writing this (but the Vernonscope barlow goes between the focuser and the diagonal, which only some scopes can accommodate.. It actually ran at 2.2X) and I found the eyepiece delivered

perfect views with it, better in fact than u n - b a r l o w e d .

The 35mm Panoptic: The single most useful eyepiece I own because of it's wide true field, a combination of low focal length, and wide 68 degree apparent field. In some scopes, star images are not quite pinpoint, but close to pinpoint in the 35mm Panoptic. However, unlike other eyepieces it is very sharp towards the edge of field. Scopes that suffer from curvature of field such as Schmidt Cassegrains, usually have trouble with low power, wide field eyepieces, such as the Meade 40mm Superwide. I hate seeing sea-gulls towards the edge. Honestly, on brightest stars, I CANNOT get a fantastic image with this eyepiece with a f/6.3 10" Schmidt.. but on all other objects I can, and with all other scopes I can...even on bright stars. Another qualifier though: On fast refractors, I do see poor edge correction compared to the 27mm Panoptic. So as you can see, if you are very fussy about images, despite it's great reputation, you might do better with the 27. One other caution: When evaluating this or any other low power eyepieces, make sure

to have your astigmatism, no matter how slight, corrected first with glasses. I made the mistake of thinking several eyepieces were not very good initially, when it was really my eyes.

Like all the eyepieces above, the 35mm can be sent in for repair to Televue after you use it a lot..and believe me you will use this eyepiece a lot.. giving you the widest possible field (almost) that can be had in a 2" eyepiece. In fact, the true field of view, is just short of the 2" 55mm Televue Plossl, and 2" 56mm Meade Super Plossl in terms of size. Eye relief is comfortable, for this focal length, it isn't "too much" as you often see in 32mm and up plossls of 1.25" design. I can use this and the 27mm eyepiece with glasses, with just slight crowding.

In summary, the Televue Panoptics offer some of the best, sharpest views available, at medium to low power, along with a wide field of view. Stars and planetary images are very sharp. Eye relief is for the most part comfortable, and light throughput is acceptable. Some scopes will do better with the 35mm than others, and also the view barlowed reportedly varies with scope. If you had to choose only one, I would pick the 27mm Panoptic. In fact, if you get crafty with a barlow and place it at different distances from the eyepiece, you can theoretically use just this ONE eyepiece, and get away with it.. but now I am starting to drift onto another topic altogether.

October Night Skies

Lunar Eclipse

Weather permitting, we will be gathering at Rock Chapel Conservation Area on Thursday September 26 at 8:30 to view a total eclipse of the moon. We will be joined by the Eco Musee group from McMaster.

The moon will be visibly darkened by the Penumbra sometime shortly after 8:30 p.m. and will make first contact with the Umbra at 9:12 p.m. Total eclipse will last from 10:19 p.m. until 11:29 p.m. Fourth contact will occur at 12:36 a.m. and the last effects of the Penumbra will be visible until after 1:00 p.m.

As a bonus, the planet Saturn will be only a couple of degrees away from the moon.

Directions:

Take Hwy 6 north from the 403 and turn left on Hwy 5. Go approximately 2 or 3 kilometers along Hwy 5 until you reach Rock Chapel Road. Turn left onto Rock Chapel and drive past three bends in the road until you reach the conservation area. There is a parking area on the left and everyone will be on the grassy area beyond the parking lot.



Try to arrive by 8:30

Stewart Attlesey

RASC Handbooks

We'll be sending in our annual order to the RASC for Observers' Handbooks shortly. It is anticipated that these will cost about \$11 or \$12. If you want a copy, be sure to reserve one because we'll only be ordering a few. To reserve your copy see me or give me a call at 575-5433.

Ann Tekatch.

CALENDAR OF EVENTS

- | | |
|------------------------------------|---|
| ◆ August 16 or 17, 1996, 9:00 PM | BINBROOK OBSERVING SESSION - On the first clear date. Contact Charles Baetsen (524-0148 or charlesb@abelcomputers.com) for more details. |
| ◆ Tue. September 17, 1996, 7:00 PM | HAMILTON AMATEUR JUNIOR ASTRONOMERS - Mac Burke Science Building, Rm B148 (beside the planetarium) The topic is "The Hubble Space Telescope". For more information contact Rosa Assalone at 540-8793 |
| ◆ Thu. September 26, 1996, 8:30 PM | LUNAR ECLIPSE - Rock Chapel Conservation Area |
| ◆ Sat. September 28, 1996 8:00 PM | COSMOLOGY DISCUSSION GROUP - Room B148 (the room beside the planetarium,) Burke Science Building, McMaster University. The topic is "Age of the Universe" |
| ◆ Thu. October 3, 1996, 8:00 PM | ROYAL ASTRONOMICAL SOCIETY OF CANADA Hamilton Centre -
General Meeting - McMaster University Medical Building Room 1A6
Speaker will be Richard Petrone |
| ◆ Fri. October 4, 1996, 11:59 PM | EVENT HORIZON DEADLINE - Please submit your articles and pictures to Stewart Attlesey, stewart@io.org or modem (905)827-9105 or snail mail to 1317 Mapleridge Cres., Oakville, L6M 2G8 |
| ◆ Fri. October 11, 1996, 7:30 PM | HAA GENERAL MEETING - at the Spectator Building auditorium. The speaker is the ever-popular "To be announced" |
| ◆ Fri. October 18, 1996, 7:30 PM | COUNCIL MEETING - At the home of Ann & Bill Tekatch. Call Ann at 575-5433 if you're interested in attending. |

HAMILTON AMATEUR ASTRONOMERS

Membership Renewal
November 1, 1996 - October 31, 1997

Name: _____

Address: _____

Prov: _____ Postal code: _____

Phone number: _(____)_____

E-mail: _____

Type of membership:

Individual \$15.00/year

Family \$20.00/year

Voluntary Donation: \$_____
(tax receipts will be issued)

total: \$_____

Please make your cheque payable to:

Hamilton Amateur Astronomers
P.O. Box 65578
Dundas, Ontario

Membership renewals are due November 1, 1996

We may publish a membership list for our own members' use only. If you do not wish your name to appear on this, please check here