



# SASKATOON SKIES

Volume 27, Issue 04, April 1996

Saskatoon Skies is published monthly by the Saskatoon Centre  
of The Royal Astronomical Society of Canada

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## Special Announcements

*Please do not forget to mark on your calendar to attend the May meeting and bring your scopes too. Besides our regular meeting, this meeting will also be a swap meet.*

*So dust off those old eyepieces, load up your scope and head to the meeting. Please call Rick and let him know that you are bring your scope so we can arrange help.*

## What Happened In History

1. First photograph of the Sun was made in 1845.
1. USSR Luna 4, in 1963, flew by the Moon.
1. USSR Zond 1, in 1964, flew by Venus.
3. USSR Luna 10, 1966, first craft from Earth to orbit the Moon.
3. In 1973, USSR launched Salyut 2 space station.
4. In 1960, the U.S. launched Tiros 1, the first weather satellite.
4. Apollo 6, Saturn V, last unmanned test of capsule, rocket, 1968.
4. In 1973, the U.S. Pioneer 11 probe left to fly by Jupiter, Saturn.
6. In 1965, Early Bird was launched, the first commercial communications satellite, also known as Intelsat 1. 6 In 1973, the U.S. launched Pioneer 11 to Jupiter, flying 25,000 miles from the giant planet December 3, 1974.
7. In 1968, the USSR's Luna 14 probe orbited the Moon.
8. The first unmanned test of Gemini 1 two-man space capsule, 1964. In 1970, James A. Lovell Jr., Fred W. Haise Jr. and John L. Swigart Jr. attempted to fly Apollo-Saturn 13 to Moon but a service module oxygen tank ruptured. They returned safely to Earth using lunar module oxygen and power.
11. In 1987, the astrophysics and biotechnology space laboratory, Kvant, launched March 31 from the USSR, was permanently attached to the Mir space station.
12. Man's world changed forever when Yuri Gagarin, in Vostok 1 in 1961, became the first man to orbit Earth. He lifted off from Tyuratam at 9:07 a.m. Moscow time. Vostok 1 completed one orbit in one hour 48 minutes at an altitude of 112 to 203 miles. Gagarin was killed seven years later in a March 1968 plane crash while training for the flight of Soyuz 3. On the far side of the Moon, a crater was named in his honor. 12 Robert L. Crippen and John W. Young fly the first U.S. shuttle, Columbia, to space in 1981.

12. U.S. Senator Jake Gam flew aboard shuttle Discovery in 1985.
14. Astronomer Christian Huygens was born in 1629.
16. Charles M. Duke Jr., Thomas K. Mattingly and John W. Young flew Apollo-Saturn 16 to Moon, 1972. Young and Duke made fifth Moon landing, collecting 213 lbs. of samples 71 hours.
17. In 1967, Surveyor 3 left the U.S. for the Moon where it soft landed at Oceanus Procellarum after a 65-hour flight. It scooped up lunar soil and sent test results back by radio.
19. In 1971, Salyut 1, man's first space station, launched by USSR.
19. In 1982, Salyut 7, the second of the USSR's second-generation space stations launched.
20. U.S. Apollo 16 made Man's fifth landing on the Moon in 1972.
23. In 1965, Molniya launched, the first USSR active real-time communications satellite.
24. Vladimir M. Komarov, in 1967, was killed when his Soyuz 1 crashed after re-entry.
24. In 1970, China launched its first satellite, Mao 1.
26. In 1962, Cosmos 4, the first USSR weather satellite, launched.
28. The U.S. plans to launch shuttle Atlantis flight STS-30 to Earth orbit, ferrying the Magellan probe bound for Venus.

## Earthly Compounds found in Stardust

taken from the Star Phoenix Newspaper.

**LOS ANGELES (AP)** - Stardust from outside the solar system contains some of the same compounds found in common air pollutants, mothballs and charred meat a new study found.

In the first laboratory measurements of stardust researchers found that stardust molecules trapped inside meteorites contained polycyclic aromatic hydrocarbons, the same class of carbon compounds produced by diesel exhaust,

forest fires and volcanic eruptions.

Among specific carbon molecules that rode to Earth inside meteorites were naphthalene, the chemical in mothballs, and pyrene, a cancer-causing chemical found in charred meat the study found.

The joint study by researchers at Stanford and Washington universities was scheduled to be presented today at the Lunar and Planetary Symposium at NASA's Johnson Space Centre in Houston.

Scientists long believed that their telescopes were picking up chemical signatures resembling PAH compounds in the space between stars. The latest results confirmed those observations.

The stardust particles contained isotopes - or slight molecular variations - of carbon compounds in the Earth's atmosphere, the study found.

## Minutes of the Executive Meeting

Mar. 12, 1996

1. Meeting called to order. 7:05 p.m.
2. Temporary Membership. There are now five people on the temporary membership list. We still have no membership coordinator. There are seventeen old members that have not paid up. Erich will phone some of them.
3. Astronomy Day. Sandy not available.
4. OG anyone that's interested is welcome to come and observe the comet

## How to Reach The Editor

*If you have an article or an ad or picture that you want to submit to the Saskatoon Skies please mail them to the address below. If you have any questions please call. Check the last issue of the newsletter to find out when the deadline is to make sure you don't miss getting your submission put in the issue you want it in.*

The Editor  
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Saskatoon, Sask  
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(306) 384-1807  
Email [gbratt@webster.sk.ca](mailto:gbratt@webster.sk.ca)

etc. at Al Hartridge's on Friday 22nd or Saturday 23rd weather permitting. Coffee and donuts will be available.

5. National Council News. Rick received a good response from the Publications Committee and thus will not be going to Toronto. Councils plans are going ahead.

6. New Observatory land search and building plans. As yet there is no progress on the land, we will continue to look and negotiate.

7. New Business. GA in Edmonton. There are a number of people interested in going to the GA. Al Hartridge would be willing to take a van and up to four or five other people if interested.

8. Meeting adjourned. 7:35p.m.

### Minutes of the General Meeting

Mar. 1996

1. Meeting called to order. 8:00 p.m.

2. OG meetings. Al Hartridge has offered to have the next OG at his place on Friday 22nd or Sat. 23rd. Coffee and donuts will be provided.

3. GA. There appears to be a number of people in the club that are interested in going to the Ga in Edmonton in June. Al Hartridge is offering to take other people in his van if interested.

### Advertising Info

Commercial advertisers are encouraged to advertise in the *Saskatoon Skies*. Your ad will give you access to all Canadian members of the Royal Astronomical Society.

Commercial advertising is accepted in the *Saskatoon Skies* with three sizes of ads available. Artwork must be camera ready and supplied by the advertiser.

One quarter page.....\$25.00

One half page.....\$39.00

One full page.....\$50.00

For further information please contact me or mail your questions to the address below.

The Editor  
522 Devonshire Crescent  
Saskatoon, Sask.  
S7L 5W1

4. Don MacKinnon has a photo of the solar eclipse published in SkyNews this month.

5. New Business. none

6. Programs.

a. Comet Hyakutake B2- Don MacKinnon

b. The 16 inch Telescope- Real Progress!  
- Bill Hydromako

c. The Florida Winter Star Party - Erich Keser

7. Meeting adjourned. 10:00 p.m.

### Astronomy Day April 20th

by Sandy Ferguson

This year **International Astronomy Week** occurs the week of April 15-21, with **International Astronomy Day** being celebrated on **Saturday, April 20th**. This is the twentieth year in which Astronomy Day will be held in **Canada**. This year the theme is "Canadian Discoverers", emphasizing the contributions Canadian amateur and professional astronomers have made to astronomical discoveries.

On **April 20th** we will be setting up our display tables and telescopes at **The Mall at Lawson Heights**, between **9:00 a.m. and 5:00 p.m.** We also expect to have **Rick Huziak's** solar telescope set up outside at one of the entrances to give passersby an opportunity to check out the sun (and hopefully some spots) should the day be fair.

In the evening our first public starnight of the season is planned (weather permitting, of course). We will be setting up in our usual place in **Diefenbaker Park**, which is on the southwest side of the hill, behind the trees. Directional signs will be set up.

If anyone is able to donate some of their time that day to help at our display tables or to stand watch at the solar scope, your assistance would be greatly appreciated. Also, anyone who can provide time, telescopes and astronomy knowledge will be needed at the starnight as well. Please give me a call at 931 3184 or Brian

Friesen at 384-2963 if you can help out or require more information.

### Comet Hyakutake Wakes Us All Up

by Erich Keser

It was everywhere, on the national news, in the papers, on the **Internet** indeed, it was even the preemptive agenda item for people parked at every dark section road crossing on the way out of town (sure proof that that Spring wasn't here yet!). **Comet Hyakutake**, the most impressive such visitation in at least twenty years, has made everyone look up. And, although I'd made **Hyakutake's** acquaintance weeks before, at the **Winter Star Party**, my views there of a fuzzy ball with wispy suggestion of a tail just visible through huge 'dobsonians' hardly prepared me for last week's grand spectacle.

It began with frustration. By March 20th, I'd received ecstatic reports from friends as far away as **North Dakota** and **Sudbury**, and **Sandy Ferguson** was already estimating a magnitude of better than three. There were even questions on whether a pronounced the greenish tinge several observers had reported seeing could be confirmed. However, I had indoor commitments on every night or part of the night when it was visible. Worse, **Victoria School's** already twice rescheduled **Thursday, March 21st** Star night and next day's **Observing Session** was clouded out. Thus when **Saturday March 23rd** proved to be clear, I set up my CG-1 I despite the minus 20 temperatures.

The massive, 35 kilometer diameter **Hyakutake** was near its closest approach that night, and although binoculars and other wide field instruments generally provide the best views of comets, there also proved to be some real benefits to using a telescope. At 56 power (50mm eyepiece), **Hyakutake** definitely showed a greenish, and even a multi-tone greenish-blue tinge. **Kathleen**, my partner, confirmed this observation and

also noted a large spike, longer than the apparent diameter of the Comet, and another, much smaller one. After driving the rest of the family home, I returned to attempt a few driven but unguided piggyback exposures with the CG-1 1, which seemed to work perfectly, despite the temperatures (much better than I did!).

On the night of March 24th-25th, which reached minus 27, I probably ran up our power bill considerably as I spent from 10 PM to 4:30 AM observing and attempting to photograph the magnificent tableau of the Comet passing the Big Dipper at its 15 million mile closest approach, between frantic retreats to the warm-up room to thaw frozen digits. (Unfortunately, Don Friesen and I were flummoxed by our C-8's power system, and as I had been too chicken to bring along my CG-1 1, I was limited to tripod shots.)

The fear that many of Ariel's schoolmates would miss such a sight drove me to attempt an impromptu Victoria School observing session for Monday, March 25th. The night was so bad, with only intermittent clear patches between bands of heavy cloud, that even Sandy Ferguson and Rick Huziak assumed the event had been cancelled. Luckily, I live near the school, so when about two dozen parents and children did show up, I was at least able to grab binoculars and show them the Comet through breaks in the cloud as it passed near Polaris and to give some of the kids a look at the moon.

On Wednesday March 27th, Ariel and I invited fellow French students Russ Frith (a former RASC member) and his partner Joanne to join us at the observatory, and we were delighted to find Eetook already set up and Rick Huziak in the warm-up room. Garry Brett and his son Dustin joined us a short time later.

Again, Comet H. was magnificent in binoculars, but showed even more of itself in the telescope, a large, roughly conical outgassing to its apparent rear. The night was unusually transparent and also provided some magnificent views of the Great Wall and other lunar features

through Eetook. Nelson Rystrom and Sadie joined us, as did David Cornish and his family and friends, but it was almost 1 land I had to get a six year old and her freezing feet home, just as yet more cars were driving in!

Comet Hyakutake has provided an invaluable jolt of interest and activity for our Centre that we must do our very best to build on. Chris Milford reported that the North Dakota got more than 400 people out to a Comet night they organized, and the University Observatory here had an even greater number of people lining up for a special observing session on the night of March 25th. We should do our best to let such people know about our Centre, and devote at least an hour of our Monday April 15th to reports on the Comet to help attract them. We should also continue to monitor Hyakutake closely, and, if possible, organize further viewing sessions around it.

### Comet Notes and Thoughts

by Sandy Ferguson

It looks like we've all got comet fever! Many Centre members have been out observing Comet Hyakutake the last few weeks from a variety of sites, with a variety of equipment. All my observations to the date of writing (Mar. 29th) have been in the city, with observations on March 28 and 29th from Martensville, where there was some relief from the streetlight problem.

On March 19th, I caught the comet for the first time just after midnight from the alley behind my apartment building. Streetlights were around, but it was easily seen naked eye through trees from a spot in the shadow of someone's garage. Binoculars showed a large, fuzzy coma (as big as the full moon) with an extremely bright, starlike nucleus. I estimated the magnitude at 2nd magnitude, slightly brighter than the estimate on the

Ephemeris I had, for that date. I checked the comet again at 1:45 a.m. from my balcony. The comet had cleared the trees and, although there was a streetlight kitty-corner from my balcony, I thought I could detect a faint, wedge-shaped tail in binoculars.

I've continued to observe the course of the comet on each clear night since then, sometimes setting up my 10" telescope behind the building. As the comet became higher each night, the tail became something quite spectacular and a very bright "spike" was evident behind the nucleus. Many neighbours have stopped by to have a peek (some marvelled at the sight; some were disappointed!), but all were amazed that you could actually see this thing without optical equipment.

Of the two nights in Martensville, the first was rather clouded, but the comet was bright enough to shine through the haze. On March 29th the sky was great, though the moon was a nuisance, and I managed to take about six tripod photos of the comet before there was trouble with the focusing mechanism on my ancient camera (sigh...).

The brightness of this comet brings to mind other bright ones observed down through the years. Comet West in 1976 was really spectacular, but I'm not sure I saw it at it's brightest, as I wasn't keeping a log book at the time. However, flipping through my logs since 1980 reminds me of other observations made of some very bright comets, such as Comet Austin in 1982. This was a 5th magnitude comet that was observed from dark

### Membership Info

Membership in the Royal Astronomical Society of Canada and the Saskatoon Centre is open to anyone and has many benefits.

Below are the prices for memberships. Should you require additional information please contact Rick Huziak at 665-3392.

Regular membership (21 & up).....\$40.00  
Youth Membership (21 & under)....\$22.50  
Club Newsletter (12 issues).....\$10.00  
Observer's Handbook.....\$18.95

Note: Lifetime memberships are available on request for \$900.00

skies at a cottage in Quebec, during late August/early September of that year. It was a great binocular object and visible naked eye away from the city. Comet IRAS-Araki-Alcock in May of 1983 was very like Comet Hyakutake in that it was super-bright and moved over a vast area of sky in a very short time, due to its proximity to Earth. On one night it was very close to the Beehive in Cancer and it was a bit hard to figure out which 3rd magnitude fuzzy patch was the comet! In March 1986, Comet Halley brightened to around 3rd magnitude and had a 4 degree double tail, visible in binoculars.

But of all the comets I've seen, the one remembered the best wasn't bright, but a 12th magnitude visitor designated Comet Meier 1984. On the night of September 17/18 of that year the regular group of amateurs was puttering about Ottawa Centre's Indian River Observatory. Centre member Rolf Meier, already the discoverer of three comets, was comet hunting at the Centre's 16" observatory telescope. His wife, Linda, and I were in an adjacent observatory acquainting ourselves with a newly installed 10" Newtonian. At about 9:30 p.m. we suddenly heard Rolf call out "Linda, I've discovered a comet!" You can imagine the stampede from various corners of the site, as everyone present dropped what they were doing and charged the 16" observatory! However, Linda and I got there first and, as a result, I was the third person to observe this new discovery, after its discoverer and his wife. At the time it was a very dim

patch and I needed averted vision to see it. It was very diffuse, with no central brightness visible. After much frenzied activity, Rolf confirmed the location of the comet, threw his gear into their van and went shooting off into the night with Linda to confirm the discovery with Brian Marsden. What a great night that was!

### March 24th Observing Session

by Erich Keser

The March monthly Observing Session, at invitation of Dr. Al Hartridge, took place on his wonderfully landscaped and wonderfully dark acreage. We were clouded out on Friday March 22nd, but the next day provided clear skies and the murderously cold temperatures that so often accompany them. Over a dozen people, including the entire Hartridge and Solose-Keser families, Jim Young, David Cornish and some of his neighbours and several others feasted their eyes on the magnificent spectacle of the brightest comet in twenty years. Thanks to the Hartridge family's hospitality coffee, donuts, and even live entertainment, courtesy of Graham's piano-playing, those who came out were able to last long enough to really look at Hyakutake through a variety of up to 80mm binoculars, Al's 6" and David's 4" refractor, and my 11" Celestron.

At midnight, after the saner participants had left, Al gave a demonstration of just how he *earns* the magnificent astrophotos with which he graces the back cover of this newsletter, as he took off his gloves to guide a couple of ten minute exposures bare-handed in temperatures well-below minus 20 degrees Celsius.

This night may well have been our most active observing Session in a long while, though also our most scattered. It turns out that, as some were at Alan Hartridge's, Rick Huziak, Gloria and Nelson Rystrom and a number of other members and friends were

simultaneously observing the Comet at the Rystrom Observatory, Sandy Ferguson was conducting an impromptu Star Night for her neighbours, and Kirt Headly, Brian Friesen, and many other RASC members were out at other dark places.

Next Observing Session: Friday April 12th at Rystrom Observatory May begin late, if the three-times postponed Victoria School Star night has to be moved from Thursday April 11th to Friday. Please help at Victoria if you can (contact Erich at 374-4262). A slide presentation will begin at 7:30. 'Scopes should be there by 8 so we can view by 8:30

### Notice of the General Meeting

Everyone is invited to attend the April General Meeting of the Saskatoon Centre of the Royal Astronomical Society of Canada. The meeting will feature a presentation by Jamie Thompson, who will speak on Canada's involvement on the Japanese "Planet-B" satellite, and many members initial results from Comet Hyakutake. All members are encouraged to bring their slides, pictures and stories about this wonderful comet! The meeting will be held in: Room A-226, Health Sciences Building U of S Campus, 8:00 p.m. Monday, April 15, 1996

Everyone is welcome. There is no admission.

May's General Meeting occurs on May 13 (not the 20th to avoid Victoria Day). The program will be Eric Keser - Florida Winter Star Party Night Sky"; the Annual SWAP SHOP - bring your odds and ends for swap or sale!!!; More Hyakutake

June's Meeting is June 17. The program will be Sandy Ferguson - "Women in Astronomy".

### April's Great Meteor Shower

### Important Info

#### The Rystrom Observatory

Members are welcome to use the observatory at any time but please phone ahead. Call Nelson or Gloria Rystrom at 955-2370 before 9:00 p.m. if you intend on going out. This lets them know that someone will be roaming around their yard. If they do not answer go anyway. Drive through the yard slowly, and dim your lights as a courtesy to others who may be observing.

by Rick Huziak

Many people are not aware of the Lyrid meteor shower which occurs in mid-April of each year. This shower can be very good, spewing dozens of fireballs. One reason for its anonymity is that the shower only lasts for about 2 days, thus bad weather can completely mask it.

This year, the shower peaks on the night of April 20 -21, possibly showing off 20 - 50 meteors per hour. The meteors are bright and colorful, slow and majestic. The meteors come from Lyra, low in the NE sky. There is only a crescent moon, which will not interfere with observations at all. Two years ago, this shower produced a great display on the night of the maximum. Last year it was flooded out by bright moonlight.

Try to observe the shower from the 18th through the 23rd, and you will see what a dramatically sharp peak this shower has! The shower is best observed later in the night, once Lyra has had a chance to climb higher into the sky. For data to be useful, count meteors for at least one hour at a time, and record how many were seen each hour. Even more useful is to estimate the magnitudes of each meteor. You must also record the magnitude of the faintest star you can see by eye. If you are observing with a group, your count must consist ONLY of meteors you saw, and not those spotted solely by the other observers. Make sure you record the time you started and ended as well.

### *The Wonderful Hyakutake by Internet*

by Richard Huziak

I've received several email messages relaying observations by many members and friends. This article is excerpts from these messages. I hope you will enjoy everyone's comments and excitement over the best comet in 21 years! The comments cover a timeframe from only weeks after the discovery to the end of March 1996.

Father Lucian Kemble  
(lkemble@eagle.wbm.ca) writes on

February 13: "This morning I set my alarm for 0400am [1000 UT], checked the sky, then quickly got dressed and went out to the scope, getting a scare in the dark from one of the many Whitetail deer around the place. They have left numerous scatterings of their pellets on the doorstep of my observatory.

For once it was quite mild [by Sask. winter standards, at least!]. I turned on the scope at 1030, set my circles on Arcturus, then set the scope to the coordinates of Hyakutake, and there it was in the 100x field of the C11. The whole process took 4 minutes. I observed the comet with various other eyepieces, of 55x and 166x. The best view was with the 100x. I made a sketch of the field and this morning checked it against the exact field position on the MegaStar chart. At the time of observation there was considerable sky light, with a waning crescent Moon about 25=B0 to the East and a lot of cirrus moving in from the North to rapidly block my observing window by 1040, when I closed up and went to bed.

The comet appeared fairly faint [enough that it did not appear in my 80mm finder], about 2' in diam., and with a slight, bright condensation towards the center. It was about 10=B0 or so above my SSW horizon.

Now why should I bother telling all this when you have seen or soon will see it for yourself? Well, I tend to get excited by such things, even if they seem merely insignificant fuzz balls the like of which I have seen many times, and I like to share the fun. At this stage, long before the comet reaches its expected full show, it is so neat to observe something for the first time - an object out of the depths of the solar system's far reaches.

I always feel that way about any new comet. It's like meeting someone for the first time. Not quite like welcoming old friends such as Jupiter or the summer Milky Way or M31 in their yearly moment on stage, so to speak.

On March 15, Father Luc writes again: "I just had to tell you about my excitement - for getting out the scope "bare hands" again, and for seeing Hyakutake, naked eye, binocs and

scope. Man, have we got a comet or what! Last night I was out with Peter Bergusch of the Univ. of Regina and 6 of his students who came out for a night of observing.

Great, greeting old sky friends with them until haze stopped us at about 1100pm, Hyakutake not yet up for another hour.

At 0258am I got up and discovered the sky was clear. Warmly dressed I stepped out and found the comet easily with binocs and then naked eye. In the binocs it looked like a very bright core with a considerable, sort of oval coma tapering off to the west for ~1.5 degrees. Naked eye, it was like a fuzzy star.

Back in bed I suddenly said to myself, "Why not?" So I dressed up and went out to the shelter [that's the beauty of having the scope all set up a couple of hundred yards away]. Got there and found I had left the keys in my room. Old age is doing things!

Back I went and my heart sank when I noticed some wispy clouds rolling in from the West. At 0329am I caught a fleeting glimpse of the comet - clouds - clear - clouds.... Until 0355am, when I closed up, there were increasing oments of very clear sky, cleared of the haze earlier in the evening. The comet was almost due South, 28 degrees above the horizon and just outside the glow from the city of Regina.

I observed the comet both with my 100x, 28' field, and my 56x, 45' field, eyepieces. The latter gave the finest view. The coma is quite extended - I figured well over 3/4 of a degree, and I was able to trace a subtle tail out for about 2 degrees from the very bright nucleus. A very fine comet, indeed. I have seen many comets and, with the exception of a faint naked-eye sighting of Halley, this is certainly the brightest and loveliest comet I've seen since West in '76.

On March 18th, Jim Huziak (jshuziak@awinc.com) writes from Yorkon: "After an evening of on-again, off again clouds, the skies cleared entirely about 12:30am. Got my first look at Hyakutake. Neato. Initially spotted it with binocs within 2 degrees of an orange streetlamp. Is it bright or what! Hard to estimate magnitude as the streetlamp washes out pretty much everything else in

that part of the sky. However, when I came in about 1:15, it was bright enough that you could see it by blocking the street lamp with your hand even though it was no more than 5 degrees away.

In the 13", it's got a very bright concentrated core with a coma that pretty much fills the field... looked like there may be a small tail at higher power, but I'll have to wait until tomorrow for the sucker to get away from the street lamp to tell for sure. Hope the weather holds. Neato!

On March 19, Al Hartridge (ahartrid@eagle.wbm.ca) sent me this message, a day after the RASC's general meeting: "Rick: After coffee last night I thought I would have a look for the comet [23:55hrs]. It is already a naked eye object and I could see it clearly just above the tree tops from my yard in the east. With my 11 by 80 binoculars it is gorgeous. Should be in a great position for Friday or Saturday.

Mike Wesolowski (mewesolo@freenet.calgary.ab.ca) emailed me from Calgary with this complaint on March 19: "Well, I think I saw the comet this morning. Unfortunately, it was through high cloud so I can't be absolutely sure. Nevertheless, I could also see a few stars and this thing was distinctly non-stellar and bright.

Unfortunately, the weather predictions in the newspaper this morning call for cloud the rest of the week, not to mention snow late in the week!

Erich Keser passed along some observations for John Leppert (73424.3533@compuserve.com), who he met in Sables North Dakota last summer. John operates the Deneb Observatory ("DO") and writes on March 22: "DO has been clouded out since mid-day Wednesday (20 March), the last view here (took photos again) was at the end of twilight Wednesday morning. Discussion that ensues, among other topics, is the comet's apparent color.

Photos taken here a week ago (15 March) and seen Tuesday show a distinct blue-green color for the coma and less so for the tail. Wednesday's view here (I

mentioned in previous message) showed what appeared to be a split in the tail at PA 270-240. In any case, I've selected messages today from Wednesday this morning (20-22 March) among dozens in Astronomy Forum. Everyone is waxing eloquent.

Hope this weather clears, but things do not look promising for the region until Sunday following the big Pacific storm that's moving into the western part of the state tonight; Environment Canada is forecasting heavy snow as well. John Leppert, Deneb Observatory (ND / 48o56'07"N, 99o09'40"W)

Christopher Baskind writes on Mar 19/20: "It gets better all the time...No strain to find the comet now; its a big fuzzball in the southern sky. Been a couple of days since last view. Now our astrosnowball has a nice long tail (sorry: I'm too inexperienced to guess how long in degrees, but it was considerable under suburban sodium arc lights).

Best of all, the comet is now a late evening object, well up by 2330 Eastern. Nucleus is better developed, not quite stellar. Long fantail with streaks of plasma (rays?) pointed west. Blue-green tint obvious in 10x50 binocs, but not in the 7x35s. Glad I bought the big ones last month. I work at a radio station in the morning. All 5 of our crew are meeting early this morning to have a look-see. We'll talk about it on the air afterwards.

Evan Zucker, (73067,1455 #266436) also writes on March 19/20: "Blue-green tint obvious in 10x50 binocs I was surprised to hear that. I viewed the comet with 10x50 binocs at 0100 PST on March 19 from dark skies at 3,500 feet elevation and didn't notice any color tint.

Christopher Baskind on March 20, write: "Regarding observation of Hyakutake: I was surprised to hear that. I viewed the comet with 10x50 binocs at 0100 PST on March 19 from dark skies at 3,500 feet elevation and didn't notice any color tint. I suppose there's always the Imagination Factor, particularly since I knew the comet is \*supposed\* to have a slight tint. But I asked an observer who had no preconceptions if she could detect any color, and she replied "blue...maybe a bit

aqua" without any prompting. You were certainly in a better viewing location than my suburban position. I couldn't detect any color in my smaller binoculars.

Eric C. Toolson also answered the call on March 20: "I, too, noticed a distinct greenish tint to the comet, both through 10x40 binoculars and, especially, a 6" f/8 Newtonian. I didn't 'think' comets were 'supposed' to be that color, so I don't think it was my imagination. Pollution, perhaps? Eric

Kevin R. Lanning expresses his view on March 21: "From Hollister, CA on 3/20 with a very dark sky, the comet appears distinctly pale blue with no hint of green.

Al VanZee exclaimed on the 21st: "Holy Hyakutake, Batman!". "It's a cold night in Illinois, but the cold air and the high pressure are giving us some very clear skies. Comet Hyakutake is looking splendid indeed tonight sitting almost straight down from Arcturus with its tail pointed straight at Zeta Bootes, I'm guessing its brightness at about 1.5 and it seems to have brightened considerably since last night. Its tail is now easily naked eye visible. Hyakutake is already nearly as bright as I remember Comet West being twenty years ago although, so far, Hyak's tail isn't as distinctly formed as was West's. For anyone wanting to see this comet, make an effort if you can to get away from city lights by any means necessary. In the medium-sized city where I live the comet simply isn't visible at all in the glare of the city lights, even in clear skies such as we have tonight.

But a few miles out in the country Hyakutake is dramatic. It was easily visible through my car windshield as I drove out into the countryside. Hyakutake is lookin' good, and the best is yet to come!

Al. Is it my imagination, or does this comet have a green tinge to it? Perhaps it's simply the fact that it is getting so close to Arcturus, but Hyakutake is beginning to take on a distinctly green cast to my eyes. Has anyone else noticed this?

On March 22, Ken Vosecek exclaims: Yes! A definite green tint is apparent as viewed through 7x50 binoculars. This hue is similar to the coma of Comet

of the comet tail crossing this band at right angles. By the way, Peter's photo can be found on his home page: <http://lcroy.cc.uregina.ca/~astro/>

## Comet Hyakutake Observations

by Don Friesen

We first observed the comet on the night of March 23rd, 1966, from an incredibly dark site, echo Beach at Shell Lake, an hour and a half North of Saskatoon.

We (my son Robbie and I) started to observe at 8:00 pm CST and kept at it until about 12:30 am CST. The sky conditions were excellent: no wind and a crisp -23°C. There was also a four day old Moon in the Southwest sky along with the brilliant planet Venus.

Looking northeast, the Comet was in Bootes and was detectable visually at the beginning of Astronomical Twilight. We observed the Comet as the evening grew colder and saw its tail move progressively toward the Zenith. The skies were black and still and we both agreed that the tail was 30 to 40 degrees long, an awesome sight. Once the Moon had set, Comet Hyakutake's tail seemed brighter. Scanning the skies for meteors, satellites, planets and star clusters, your eyes would always move back to the Comet.

We did use 7x35 binoculars and an 8" dobsonian reflector with a 40mm eyepiece in the focuser to observe the Comet, but it was more enjoyable to view it without optical aid.

My next observations were from the R.A.S.C. Saskatoon Centre's Rystrom Observatory the following Monday night. The tail seemed even longer. I continued to view Comet Hyakutake every night that week, and even through high thin cloud. What a sight to see! The Comet was above the Pole Star (Polaris) of the Little Dipper with its tail shining back into the Big Dipper. I hope someone got a wide-field photo of that!

If someone did, please call me at 343-1136. I would like to frame a print of this spectacle! Now, I can't wait for the next Comet to visit our inner Solar System.

Want a last look at Hyakutake? The

best views will be from North of the city. Please contact Rick Huziak at 665-3392, Erich Keser at 374-4262 or Brian Friesen at 384-2963 to organize a group or get the latest on possible viewing sites.

## Every is Sufferring from The Slow Modem Blues (And Don't Know It!)

by Garry Brett

Just about everyone these days has a computer or access to one and as of late having a high speed modem is becoming the normal thing to have. I myself have upgraded from the old 2400 up to a 14400 and was impressed by the speed. I then upgraded to a 28800 and liked it even better. What I did not know is that in Window 3.1 and Windows 95 there is a built in problem that makes these high speed modems run at less than capacity,

At the request of Webster Internet (my Internet Provider) U.S. Robotics ran a series of tests on modems used in Windows based programs and found that the modem is being starved for data during the send and receive. Below is the fix that they recommend. By the way I have a copy of the driver called WFXCOMM.DRV so if anyone needs it give me a call at 384-1807.

I made these changes to my Windows 95 as instructed and my modem really sends and receives data at a much faster

rate. With these changes my computer and modem are working together instead of against each other. If you have any questions call me.

Use the WFXCOMM.DRV driver in Windows to fix a bug in the default Windows driver (COMM.DRV). This change will allow you to take advantage of the 16550 UART FIFO chip. If you need a copy call me. You can implement the driver change by changing the line "COMM.DRV=COMM.DRV" in the SYSTEM.INI file to read "COMM.DRV=WFXCOMM.DRV." This setting is found under the [boot] section in this file.

In the SYSTEM.INI file under the section [386Enh] the following lines need to be added or edited (Replace the 'x' with your modem port number. For example if your modem is com2 then you would replace the line below with COM2FIFO=2)

Please add or edit the following:

```
COMx FIFO=2
COMxBUFFER=1024
COMxAUTOASSIGN=1
COMxTXSIZE=14
COMxRXSIZE=8
COMBOOSTTIME=30
```

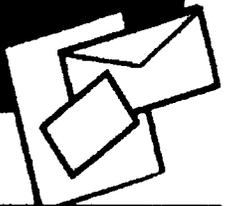
Geography lesson in School  
Teacher:

Bobby, can you please tell the class  
what is next to Moscow

Bobby:

That's easy!.....Pah's cow!.

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West 20 yrs ago this month. "3/21 - 11:30pm CST - 1st view of Comet Hyakutake after 4 cloudy nights. What an increase in brightness from last time! Mag estimated at 1.5 - 2.0. Very faint thin tail extending about 5-6 deg as observed with 7x50 binoculars. Coma is bright and has a definite green tint. 3/22 - 5:00am CST - Alarm failed and woke up late. With twilight already well in progress, Hyakutake was still plainly visible to the naked eye and seemed brighter than 6 hrs ago. Through my 8" Dynascope, a bright 2-3 arc minute spike extended from the nucleus to the west. This feature was totally absent earlier in the night! With these rapid changes occurring, I cannot wait to see what happens in the coming days ahead. I LOVE IT!!!

March 27. I got up at half past three to find the comet a magnificent zero magnitude site in the north northwest, 40°55' west southwest of Polaris at the Cepheus-Ursa Minor-Camelopardalis borders, its broad wispy tail stretching nearly 37° southwest across Draco, nearly reaching Phecda (c Ursae Majoris) in a sky rich with stars to seventh magnitude and the Milky Way spanning the great dome from Auriga across the zenith to Scorpius. I found the site so overwhelming that I stood on the deck for some time absorbing the view clad only in undershorts, an open shirt, and wearing slippers before realizing the early morning air was well below zero. Hastily retreating to the warmth of the office, I dressed quickly, grabbed the camera, recorder, pencil, drawing pad, red flashlight and then turned heading through the porch and into the observatory. Immediately after opening the roof and mounting the camera and 28 mm lens piggyback on the telescope, I swung the instrument to the comet for a view of the coma swimming in a field filled with well over a dozen stars.

After removing the 40 mm ocular and inserting a 12.5 mm Ortho Guide, I spent a few minutes practising my guiding techniques. It soon became obvious that the comet's motion had declined dramatically from the last several days and that I could easily track its nucleus using a 2x correction rate in declination

and occasional adjustments in right ascension, unlike the 8x chase required two nights ago. At 10:14:27 UT (04:14:27 CST), I began shooting the 6'04" exposure (frame #9); that was followed at 10:23:00 UT with my last photograph of the morning which ended 8'20" at just after 04:31 local time. After removing the camera and inserting the SP ocular back into the 90° diagonal, I made a drawing at 4:44 of the 2° field, noting that the bright spike trailing the nucleus a couple arc minutes seemed not nearly as bright as it had been the last five days. Shortly thereafter I left the observatory for the cozy warmth of the office, noting the temperature at a well below normal reading of -6°.

Some forty minutes later I returned to check the comet's position and found the sky completely overcast. What a stroke of luck my getting such a splendid view less than an hour earlier! One last thing before it slips memory; because of the fact that the observatory's north wall ascends to within 10° of Polaris, the southeast corner of the photographs will have captured, rather unfortunately, the top half dozen or so inches of that black wall. Within a couple days, I'll have to remove the telescope from its pier and mount it on the tripod a hundred yards north of here inside the farm shop where the comet can be imaged through the open overhead door in order to have a clear view of the north horizon. I also must note that at 6:26 the Sun is just clearing the horizon through a slit in the cloud deck, noticeably north of due east as it was when I managed to capture some nice images of it rising on the vernal equinox a week ago this morning, after have caught two beautiful photographs of Hyakutake and its then much shorter tail and considerably less bright coma. John Leppert, Deneb Observatory (ND / 48°56'07"N, 99°09'40"W)

Mike Wesolowski wrote again on the 25th: "Had our first really good look at the comet last night. I'd seen it (through high cloud) a few mornings ago when it was still low in the south and could identify it as a non-stellar thing with binoculars. Last night was much better.

I packed up the family and drove

west out of the city about 10-15 km - I would have liked to hit the mountains but it was a school night. The comet was clearly visible off the handle of the big dipper. We were able to convince ourselves that we could see about a 5-10 degree tail, very narrow (even Liza saw it when her head wasn't shaking from chattering teeth). Nicole (the youngest) decided that the tail started out big/wide and got narrower as it extended away from the comet.

Last night's weather forecast called for more snow tonight and for several more days so I was determined to get out while we had one clear night (the first all week). It looks like I might have other opportunities this week since the forecast seems to have changed overnight.

Finally, on March 30, Father Kemble writes again: "I just thought I would like to communicate to you some of the thrill and excitement I had last Thursday evening when I was finally able to see Hyakutake in full daylight.

Actually it was only half an hour after official sunset but it was still like day. With an accurate ephemeris [my, these computer programs do save a lot of hand calculation!] and, of course, by reliable setting circles, I first located Venus, then Capella to more accurately set my RA circle, switched to my low power 50mm Plossl eyepiece and focused, then set the scope to the correct coordinates. The comet nucleus was only 10 minutes E of a 7.1 mag star and much brighter. I could not detect much of a coma in the bright blue sky, but the nucleus was sharp, bright, yellow-white [by contrast with the blue??] with a fairly bright fan-shaped jet. Very interesting.

I hope you have all had your special moments with the comet. Last Sunday was certainly the best, with the comet almost overhead in a dark sky, showing an easy 30 degrees of tail even naked eye, and longer in binocs. A polaroid black and white, shot here by Dr. Peter Bergbusch of the Univ. of Regina, shows much fine detail including M101 just on the tail's edge. At one period in the evening's viewing, there was a very sharp, narrow, auroral band from horizon to horizon, like a well-defined jet trail, but very bright. It was neat to see the end

## Editors Notes

First of all you may have noticed that the newsletter is twelve pages instead of the normal ten. That is because we had to get the membership list out. Because of all of the articles and comments about the comet, the newsletter was full and as a result we added two pages. I think that if **Canada Post** doesn't notice we will leave the newsletter at twelve pages.

Secondly, I have decided not to resign as the editor of the newsletter. It is always difficult coming up with stuff for the newsletter and as a result it takes too much of my time to do this. I have been given some great help with articles this newsletter and that has made my job as editor a lot ( I spelled it right Rick) easier and I have been assured that this help will continue. I was also having to do a lot of editing text wise plus add and delete spaces and try to figure out missed words. Rick and his friends at SED are trying to figure out a universal form that any articles submitted to me can be saved in , thereby illuminating the need for me to spend hours trying to edit something.

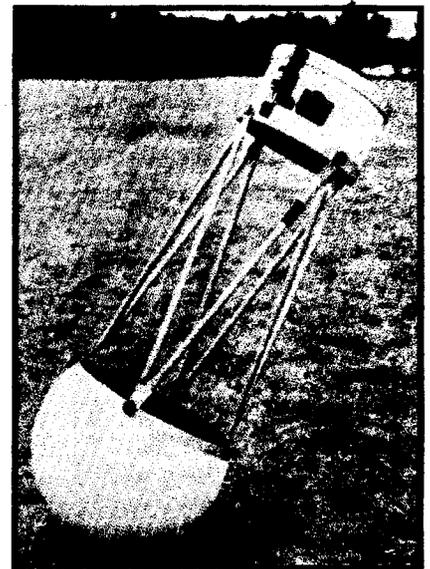
One feature that I want to start in the newsletter is having a picture of a members scope along with the interests of the that member. We have a lot of members and most members never get to see the scopes or find out the interests of

other members. Perhaps you are interested in **Lunar Astronomy** and think that you are the only one in the club who is. With this feature it will give every member in the club a chance to get to know the other members. The only way this will work is if you take five minutes out of your schedules (and don't tell me you don't have five minutes of free time) and take a picture of your scope. In the next newsletter there will be a member form that I want all of you to fill out. Take this form and your new picture of your scope(s) and mail them to me. Each month I will put a couple in the newsletter. It's a great way for other members to get to know you. Who know's, perhaps you will find someone else with the same interests as you.

To the right is a picture of the next scope that I am going to build. The problem is where to locate a sphere the size shown (20-24"). If anyone out there has any ideas or sources for something that could be adapted I would sure like to here from you. Call me at 384-1807.

I noticed that next month Rick is asking everyone attending the meeting to bring their odds and ends. I encourage everyone to turn out for this meeting as it should be a lot of fun and you will probably pick up a couple of things that you were looking for.

I have been observing the comet also and really enjoyed looking at it. I was



going to use my 10" scope but found the view was the best through my binoculars. I took my son Dustin out to Rystroms for the first time and he had a good time. I showed him the comet, Orion, Venus, the Seven Sisters, the Moon and what really excited him was that he saw a shooting star. Dustin and Ariel also had a good time playing together and with Sadie.

Don't forget to dust off your stuff and get it ready for the next meeting. See you all there.

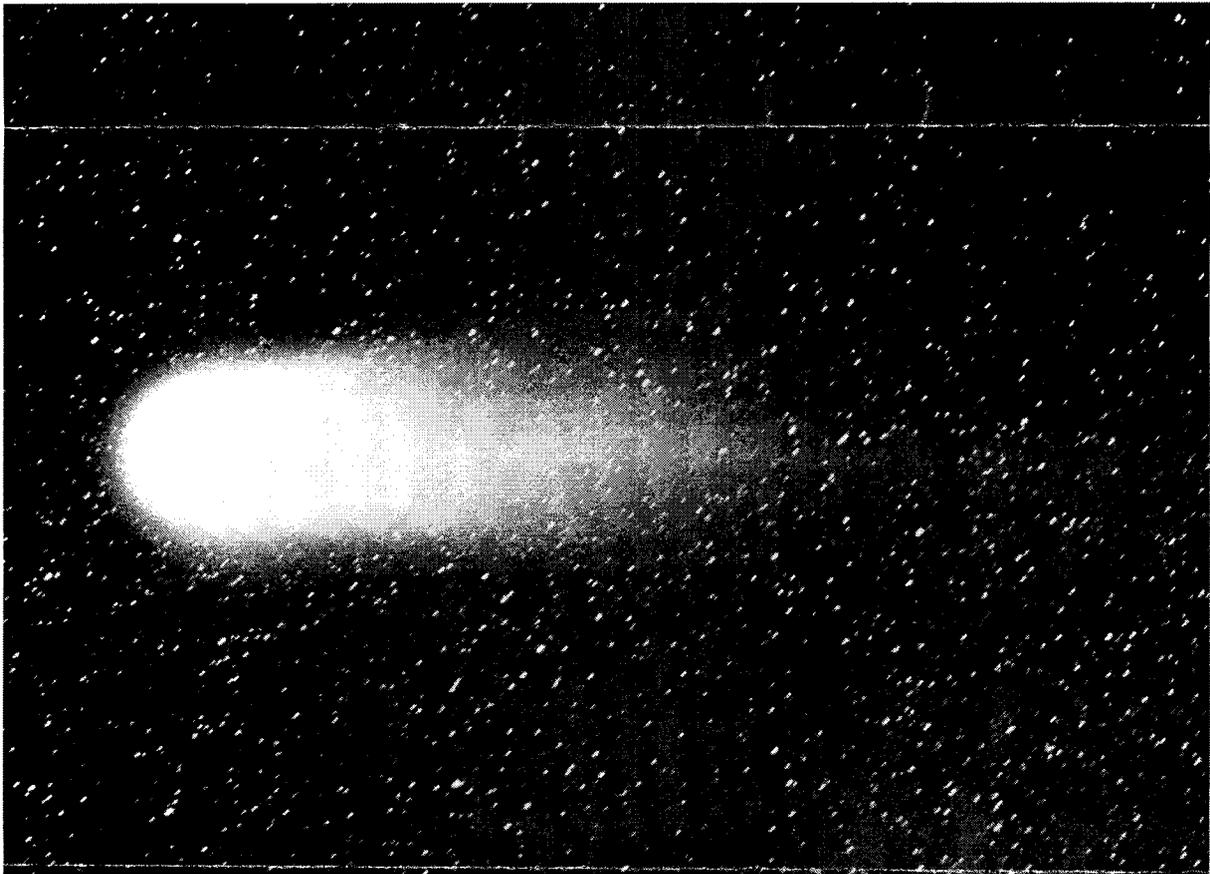
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## PHOTO OF THE MONTH

### COMET HYAKUTAKE B2



Comet Hyakutake the first good naked eye comet since Comet West 1976 sortof came out of nowhere very suddenly while everyone was anticipating the arrival next spring of Comet Hale-Bopp. I sure hope we luck out and have an even brighter comet with a more spectacular tail next spring but really who's complaining Hyakutake is awesome.

TECHNIQUE: The above photograph was taken with my 8" Schmidt camera f1.5, 300 mm. fl. on hypered Tec Pan 2415 using a Wratten #2A filter. Exposure was 2min. 40sec. Taken at 2:30 a.m. Mar. 27 moon not quite set.

I am sure there are lots of nice photos of the comet out there. Please send them to me and I will get them into the news letter.

**Clear Skies and good guiding -----Al Hartridge**