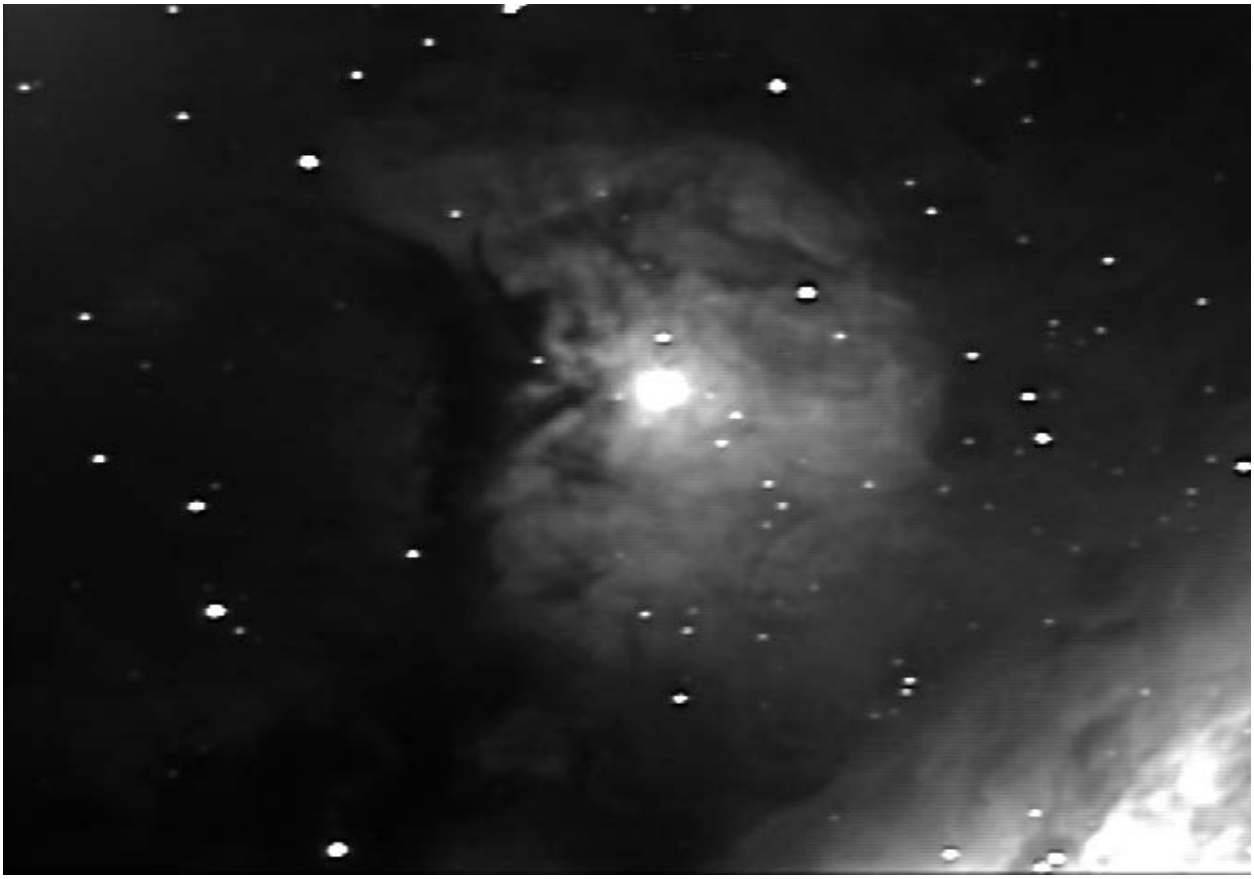
Current Astronomy
RIVER BEND ASTRONOMY CLUB NEWSLETTER

MARCH/APRIL
2010



M43, Diffuse Nebula in Orion
Photo by Gary Kronk

INSIDE THIS ISSUE

River Bend Astronomy club serves astronomy enthusiasts of the American Bottom region, the Mississippi River bluffs and beyond, fostering observation, education, and a spirit of camaraderie.

Officers and administrators

PRESIDENT	(Vacant)
VICE-PRESIDENT	Jamie Goggin
TREASURER	Mike Veith
NEWSLETTER EDITOR	Bill Breeden
LEAGUE CORRESPONDENT	Bill Breeden
SECRETARY	Bill Breeden
OUTREACH COORDINATORS	Jeff & Terry Menz
LIBRARIAN	(Vacant)
FOUNDING MEMBERS	Gary Kronk
	Ed Cunnius
	Kurt Sleeter

Contacts

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St. Louis, MO 63109
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Affiliated with the Astronomical League, dedicated to fostering astronomical education, providing incentives for astronomical observation and research, and assisting communication among amateur astronomical societies. www.astroleague.org

Affiliated with the NASA Night Sky Network, a nationwide coalition of amateur astronomy clubs bringing the science, technology and inspiration of NASA's missions to the general public. Visit the Night Sky Network at nightsky.jpl.nasa.gov.

Monthly Meetings

Saturday, March 13, 2010 • 7:00 PM
***at* Greenville (Messier Marathon)**
(Cloud-out date is 3/20/10)
Saturday, April 10, 2010 • 7:00 PM
***at* Menz Observatory**

Looked Up Lately?

Join River Bend Astronomy Club

Want to learn more about astronomy? The members of River Bend Astronomy Club invite you to join. You won't need expensive tools or special skills – just a passion for observing the natural world.

- Meetings offer learning, peeks through great telescopes, and fun under the stars.
- You will receive the club newsletter, *Current Astronomy*, packed with news, photos, and observing lists.
- Get connected with our member-only online discussion group.
- Borrow from the club's multimedia library.
- Borrow from the club's selection of solar telescopes.
- And that's not all! Through club membership you also join the Astronomical League, with its special programs and colorful quarterly newsletter *The Reflector* to enrich your hobby.
- We meet monthly, observe regularly, email news and quips constantly, and generally have a good time. Won't you join us?

Name_____
Address_____
City_____State_____Zip_____
Phone_____
Email address_____
Where did you hear of our club?_____
_____
How long have you been interested in astronomy?_____
Do you have optical equipment?_____
Are you afraid of the dark? ___Yes ___No (just kidding)
I am submitted my application for:
_____Adult Membership(s) ___Youth Membership(s)
$20/year each $15/year each
(18 yrs. and up) (17 yrs. and under)
I enclose a check for $_____ made out to:
Mike Veith, Treasurer, RBAC
Signature_____
Date_____

Mail to: **River Bend Astronomy Club**
c/o Mike Veith, 1121 St. Louis St., Edwardsville, IL 62025.

River Bend Astronomy Club Needs YOU!

By Bill Breeden and Gary Kronk

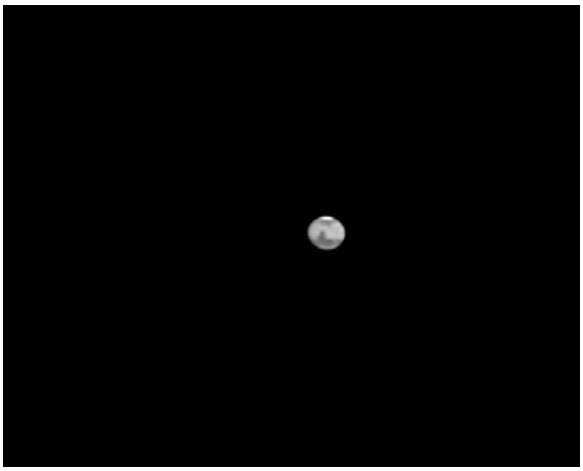
Gary Kronk, long time president of the River Bend Astronomy Club, is stepping down. He has served as the club's President and meeting host for nine years, since the Club's inception in 2001. He deserves both our gratitude and a break from duty.

Gary posted this message to the RBAC Yahoo! Group on February 13, 2010.

> I was hoping to talk to the group tonight, but the weather forecast and other plans kept all but one member from showing up. So, I will use this forum.
>
> I have been the president of RBAC since the group's inception. For the last few years, my family and my various interests in astronomy (writing and imaging) have taken up more and more of my time. It has been apparent for some time that I am no longer able to give to the club the way a president should. Although I attempted to step down a couple of years ago, it seemed everyone wanted me to stay president. But this time is different. The club needs a more active president. So, to quote US President Lyndon Johnson in 1968, "I shall not seek, nor will I accept the nomination ... for another term as your President." Kathy would also like to step down as Librarian at this time.
>
> RBAC means a lot to me. When Eric Young, Kurt Sleeter, Ed Cunnius, John Schnase, and myself officially started the club in 2001, we had a vision of a group of people sharing a common interest in observing. We also wanted to share our knowledge of the night sky with others. RBAC grew quickly and has maintained a membership of 30-35 for several years now. There have also been many successful public events. I think the club has achieved what the original founders hoped it would achieve.
>
> Kathy and I intend to remain members of RBAC, but we would like to step away from holding meetings for a while.
>
> Sincerely,
> Gary

Thank you Gary for all your years of service to the RBAC, and for your vision of what this club could be!

With Gary and Kathy's stepping down, two board positions are now vacant: President and Librarian. If you are interested in volunteering for either of these positions, or would like to nominate another member, please use the nomination form on the next page, or respond to the call for nominations by email at *wmrbreeden@yahoo.com*. Since we have not held elections for a while, all positions will be open for volunteers and nominees. **RBAC**



Mars. Photo by Gary Kronk.

River Bend Astronomy Club NOMINATION FORM
March/April 2010

INSTRUCTIONS

All current members are encouraged to make nominations!

Please use this form to nominate members for each position. You may nominate any current member 18 years of age and older. If you are interested in running for any of these positions, please nominate yourself! If you are currently serving in the position and wish to continue, you are also welcome to nominate yourself. You may also nominate the person who is currently serving in the position. Blank nominations have the same effect as nominating the current position holder.

Fill this form out and bring it to the meeting on April 10, 2010. Nominations will be collected from this form and via email, and nominees will have a chance to accept (or reject) their nomination. A voting ballot will then be created. Voting will take place at the meeting on May 15, 2010.

President (currently vacant)
Duties: Runs the business meetings. Has hosted most meetings in the past, though this is not required.
Gary Kronk has stepped down and Bill Breeden has volunteered for this position.
Nominee:_____

Vice-President (currently Jamie Goggin)
Duties: Serves as President in case the President cannot.
Jamie Goggin has requested to step down and Jeff Menz has volunteered for this position.
Nominee:_____

Secretary (currently Bill Breeden)
Duties: Takes notes at monthly meetings, takes photos at meetings and events.
Bill Breeden has requested to step down and Mary Hebert has volunteered for this position.
Nominee:_____

Treasurer (currently Mike Veith)
Duties: Handles the club's finances, collects dues, and disperses funds.
Mike Veith has volunteered to continue in this position.
Nominee:_____

Newsletter Editor (currently Bill Breeden)
Duties: Collects and writes articles, publishes newsletter 6 times per year, maintains Yahoo Group calendar and reminders, updates Night Sky Network calendar, maintains the website.
Bill Breeden has volunteered to continue in this position.
Nominee:_____

League Correspondent (ALCor) (currently Bill Breeden)
Duties: Approves observations submitted by members for AL observing clubs, sends monthly club rosters to the Astronomical League.
Nominee:_____

Outreach Coordinator (currently Jeff & Terry Menz)
Duties: Brings astronomy to the people, presents the NASA Night Sky Network materials to the public.
Terry Menz has volunteered to continue in this position.
Nominee:_____

Librarian (currently vacant)
Duties: Keeps the club's books and other media, loans these resources to members, and keeps track of resources lent out and returned.
Rita Breeden has volunteered for this position.
Nominee:_____

Meeting Location
We are looking for a new home for the monthly meeting and observing sessions. If you are interested in hosting the monthly meeting, either some of the time or on a more regular basis, please fill in the information below. Multiple location suggestions from others are welcome.
Jeff Menz and Rich Dietz have volunteered to host some meetings as of this printing. More welcome!
Name: _____
Location:_____
_____
How many months each year would you be available to host the monthly meeting? _____
Are there certain months you would like to host the meeting?_____

Are you in favor of making all board positions 3-year terms, beginning June 2010? ___yes ___no (If no, how long?_____)
RBAC

2010: The Year We Make Contact (With This Decade)

By Bill Breeden

The reference is of course to the sequel to the movie *2001: A Space Odyssey*. But how do you say the year 2010? What sounds right to you? I have asked many people, and got many answers. I wanted to put this article in the January/February issue, but then again I thought it would be better to wait a couple of months to see what people are saying.

2010? '10?

When '09 ended (pronounced *oh-nine*), I began hearing people say *two-thousand-ten*, *twenty-ten*, *oh-ten*, and even just plain *ten*. My preferences are for *twenty-ten* (for the 4-digit year), and just plain *ten* (for the 2-digit year). But my preferences don't make me correct – they're just my preferences. In any case, I can't endorse *oh-ten*, simply because that's 3 digits. (In 1995 we didn't say *nine-ninety-five*.) But I can completely understand why people say that: We've been saying *oh-something* since '01, and *ten* just sounds so short. I have made an effort to say it until it sounds right. Today's date: 02/08/10 pronounced *oh-two-oh-eight-ten*. Graduates this year? Class of '10, pronounced *class of ten*. See? It sounds okay after a while.

As for the 4-digit year 2010, I prefer saying *twenty-ten*. But I sometimes say *two-thousand-ten* myself, probably because I have been saying *two-thousand-something* since 2001. I think by 2013 or so, *twenty-thirteen* will be the norm, just as we say *nineteen-thirteen* for 1913. Century-year. Simple. So why all the confusion? It's because the century digit is a zero. The years 2100-2199 will all be pronounced *twenty-one-something*, just like 1900-1999 were all *nineteen-something*.

'10 '11 '12

My conclusion is that the years 2000-2009 are pronounced *two-thousand-something* (or *oh-something*); and the years 2013 and up will be said *twenty-thirteen* and up (or just *thirteen* and up). That leaves 2010, 2011, and 2012. I think we can cut people some slack during these transitional years and say it either way: *Two-thousand-eleven* and *twenty-eleven* are both just fine. And just plain *eleven* works for me, too.

'13? 2013?

It also depends upon context. If I am talking about a span of years such as 2009-2010, then *two-thousand-nine* and *two-thousand-ten* makes sense (or *oh-nine* and *ten*). But if the span is 2012-2013, it makes sense (to me) to say *twenty-twelve* and *twenty-thirteen*.

Now, we just have to name the first decade of the twenty-first century. The Oh's? The Zero's? The Aughts? RBAC

2010 Messier Marathon

Saturday, March 13, 2010, 6PM to 6AM

(Cloud-out date is Saturday, March 20.)

Greenville College Observatory, Greenville, Illinois

The River Bend Astronomy Club presents its 2010 Messier Marathon!
Note: The Messier Marathon will serve as the March meeting of the River Bend Astronomy Club.

Attempt to view as many Messier Objects as possible in one night! This is possible near the Spring Equinox each year. Be prepared to observe into the early morning hours. Most of all, relax, and enjoy the sky! There is no cost for members of the River Bend Astronomy Club.

How to Get to Greenville College Observatory
We will meet at the **Powhatan Restaurant in Pocahontas, IL** and caravan to Greenville Observatory. Powhatan Restaurant is just off Highway 70, at exit 36. **Plan on arriving at the Powhatan Restaurant at 5PM.**
The route to Greenville Observatory is tricky, so we suggest that you join the caravan. However, if you must arrive on your own, here are the directions to Greenville Observatory.
Take Highway 70 to Highway 21 (Pokey Road, exit 36).
Go north on Highway 21 to Highway 140.
Turn right (east) on Highway 140 to Highway 127.
Turn left (north) on Highway 127 to Hazel Dell Road.
Turn sharp right (southeast) on Hazel Dell Road to Ayers Road.
Turn left (north) on Ayers Road to the Greenville Observatory.

What to Bring
Be prepared for all situations. Wear warm clothing in layers. Bring mosquito repellent, medications, first-aid kit, cell phone, and jumper cables. For your own comfort, bring a table, chairs, cooler, food, snacks, drinks, water, and a blanket. Some folks may decide to go to breakfast after the marathon, so remember to bring a few bucks for that if you plan on going. And of course, remember your telescope & accessories, binoculars, power supply, all cords, extra batteries, red lights, star charts, and Messier objects list. Please respect our gracious hosts and their property – leave alcohol and pets at home. Most of all have fun!

Many thanks to Jamie Goggin for setting this up, and to Greenville College Observatory. RBAC

Building a Case Against Ozone

By Patrick Barry

When it comes to notorious greenhouse gases, carbon dioxide is like Al Capone—always in the headlines. Meanwhile, ozone is more like Carlo Gambino—not as famous or as powerful, but still a big player.

After tracking this lesser-known climate culprit for years, NASA's Tropospheric Emission Spectrometer (TES) has found that ozone is indeed a shifty character. Data from TES show that the amount of ozone—and thus its contribution to the greenhouse effect—varies greatly from place to place and over time.

"Ozone tends to be localized near cities where ozone precursors, such as car exhaust and power plant exhaust, are emitted," says Kevin Bowman, a senior member of the TES technical staff at the Jet Propulsion Laboratory. But the ozone doesn't necessarily stay in one place. Winds can stretch the ozone into long plumes. "Looking out over the ocean we can see ozone being transported long distances over open water."

Unlike CO_2, ozone is highly reactive. It survives in the atmosphere for only a few hours or a few days before it degrades and effectively disappears. So ozone doesn't have time to spread out evenly in the atmosphere the way that CO_2 does. The amount of ozone in one place depends on where ozone-creating chemicals, such as the nitrogen oxides in car exhaust. are being released and which way the wind blows.

This short lifespan also means that ozone could be easier than CO_2 to knock off.

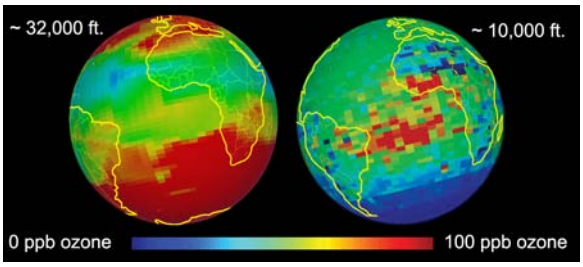
"If you reduce emissions of things that generate ozone, then you can have a quicker climate effect than you would with CO_2," Bowman says. "From a policy standpoint, there's been a lot of conversation lately about regulating short-lived species like ozone."

To be clear, Bowman isn't talking about the famous "ozone layer." Ozone in this high-altitude layer shields us from harmful ultraviolet light, so protecting that layer is crucial. Bowman is talking about ozone closer to the ground, so-called tropospheric ozone. This "other" ozone at lower altitudes poses health risks for people and acts as a potent greenhouse gas.

TES is helping scientists track the creation and movement of low-altitude ozone over the whole planet each day. "We can see it clearly in our data," Bowman says. Countries will need this kind of data if they decide to go after the heat-trapping gas.

Ozone has been caught red-handed, and TES is giving authorities the hard evidence they need to prosecute the case.

Learn more about TES and its atmospheric science mission at tes.jpl.nasa.gov. The Space Place has a fun "Gummy Greenhouse Gases" activity for kids that will introduce them to the idea of atoms and molecules. Check it out at spaceplace.nasa.gov/en/kids/tes/gumdrops.



These images are TES ozone plots viewed with Google Earth. Colors map to tropospheric ozone concentrations. The image on the left shows ozone concentrations at an altitude of approximately 32,000 feet, while the one on the right shows ozone at approximately 10,000 feet. The measurements are monthly averages over each grid segment for December 2004.

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.

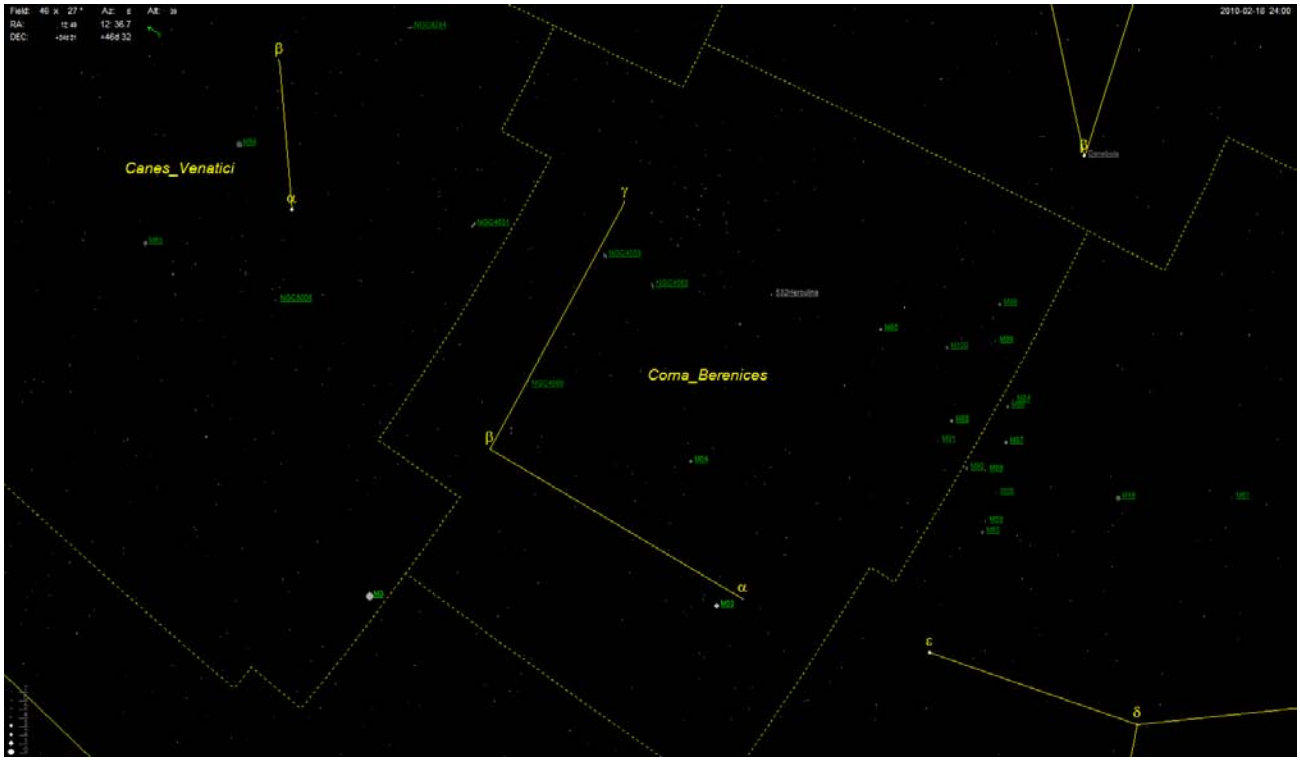
Starry (Cloudy) Night

By Bill Breeden

2009 was one of the cloudiest years for everyone, but astronomers noticed it the most! The clouds continued into 2010: The Starry Starry Night event at Edwardsville Children's Museum on Saturday, January 16, 2010 was indeed clouded out. We met up with Karla Danford at the museum and set up several telescope indoors so that kids and parents could take a look at them. Terry Menz and many of her students set up the Night Sky Network kits to give kids lessons in the workings of the Universe.

The event we held from 6-8PM, and a fun night was had by all who attended. The bad weather prevented the crowds we are accustomed to, but it was a fun event nonetheless.

Here's to better skies for the rest of 2010! RBAC



The constellation Coma Berenices, prominently appears in the Spring sky just below Leo's tail. Image courtesy of HNSky software.

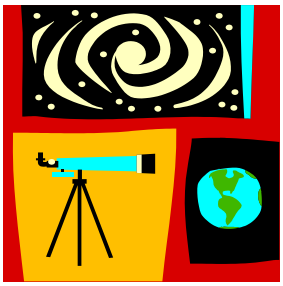
Looked Up Lately?

Observing is what we are about, so here are deep-sky observing lists for March and April. These lists include objects that transit around 10pm during those months. Your observing sessions will be more fun if you are prepared with an observing plan. Prepare a list of your own, or print these and bring 'em to our next meeting/observing session.

March Observing List
Prepared by Bill Breeden

Double Stars
_____ 38 Lyncis SAO 61391 Const. LYN Type DS RA 09 18.8 Decl. +36° 48' Mag. 3.9 6.6
_____ Iota Cancri SAO 80415 Const. CNC Type DS RA 08 46.7 Decl. +28° 46' Mag. 4.2 6.6
_____ Zeta Cancri SAO 97645 Const. CAN Type DS RA 08 12.2 Decl. +17° 39' Mag. 5.6 6.0
Messier Objects
_____ M44 NGC2632 Preseape or Beehive Cluster Const. CNC Type OC RA 08 40.1 Decl. +19 59 Mag. 3.7
_____ M48 NGC2548 Const. HYA Type OC RA 08 13.8 Decl. -05 48 Mag. 5.3
_____ M67 NGC2682 Little Beehive Cluster Const. CNC Type OC RA 08 50.4 Decl. +11 49 Mag. 6.1
_____ M81 NGC3031 Ursa Major Galaxies Const. UMA Type GAL RA 09 55.6 Decl. +69 04 Mag. 7.9
_____ M82 NGC3034 Ursa Major Galaxies Const. UMA Type GAL RA 09.55.8 Decl. +69 41 Mag. 8.8
Caldwell Objects
_____ C048 NGC2775 Const. CNC Type SG RA 09 10 18.00 Decl. +07 02 00.0 Mag. 10.3
_____ C054 NGC2506 Const. MON Type OC RA 08 00 12.00 Decl. -10 47 00.0 Mag. 7.6
_____ C085 IC2391 Omicron Vela Cluster Const. VEL Type OC RA 08 40 12.00 Decl. -53 04 00.0 Mag. 2.5
_____ C090 NGC2867 Const. CAR Type PN RA 09 21 24.00 Decl. -58 19 00.0 Mag. 9.7
Royal Astronomical Society of Canada Objects
_____ RASC36 NGC2539 Const. PUP Type OC RA 08 10.7 Decl. -12 50 Mag. 6.5
_____ RASC38 NGC2655 Const. CAM Type G-Sa RA 08 55.6 Decl. +78 13 Mag. 10.1
_____ RASC39 NGC2683 Const. LYN Type G-Sb RA 08 52.7 Decl. +33 25 Mag. 9.7
_____ RASC40 NGC2841 Const. UMA Type G-Sb RA 09 22.0 Decl. +50 58 Mag. 9.3
_____ RASC51 NGC3003 Const. LMI Type G-Sc RA 09 48.6 Decl. +33 25 Mag. 11.7
_____ RASC54 NGC2903 Const. LEO Type G-Sb RA 09 32.2 Decl. +21 30 Mag. 8.9

M44 (Preseape, or the Beehive Cluster) in Cancer, is prominently displayed on March and April nights.
Photo credit: NASA Two Micron All-Sky Survey.



April Observing List
Prepared by Bill Breeden

Double Stars
_____ 54 Leonis SAO 81583 Const. LEO Type DS RA 10 55.6 Decl. +24° 45' Mag. 4.5 6.3
_____ Alpha Leonis SAO 98967 Regulus Const. LEO Type DS RA 10 08.4 Decl. +11° 58' Mag. 1.4 7.7
_____ Gamma Leonis SAO 81298 Algieba Const. LEO Type DS RA 10 20.0 Decl. +19° 51' Mag. 2.2 3.5
_____ N Hydrae SAO 179967 - Const. HYD Type DS RA 11 32.3 Decl. -29° 16' Mag. 5.8. 5.9
Messier Objects
_____ M65 NGC3623 Const. LEO Type GAL RA 11 18.9 Decl. +13 05 Mag. 9.3
_____ M66 NGC3627 Const. LEO Type GAL RA 11 20.2 Decl. +12 59 Mag. 8.2
_____ M95 NGC3351 Const. LEO Type GAL RA 10 44.0 Decl. +11 42 Mag. 10.4
_____ M96 NGC3368 Const. LEO Type GAL RA 10 46.8 Decl. +11 49 Mag. 9.1
_____ M97 NGC3587 Owl Nebula Const. UMA Type PN RA 11 14.8 Decl. +55 01 Mag. 9.9
_____ M105 NGC3379 Const. LEO Type GAL RA 10 47.8 Decl. +12 35 Mag. 9.2
_____ M108 NGC3556 Const. UMA Type GAL RA 11 11.5 Decl. +55 40 Mag. 10.7
_____ M109 NGC3992 Const. UMA Type GAL RA 11 57.6 Decl. +53 23 Mag. 10.8
Caldwell Objects
_____ C040 NGC3626 Const. LEO Type SG RA 11 20 06.00 Decl. +18 21 00.0 Mag. 10.9
_____ C053 NGC3115 Spindle Galaxy Const. SEX Type EG RA 10 05 12.00 Decl. -07 43 00.0 Mag. 9.1
_____ C059 NGC3242 Ghost of Jupiter Const. HYA Type PN RA 10 24 48.00 Decl. -18 38 00.0 Mag. 8.6
_____ C074 NGC3132 Const. VEL Type PN RA 10 07 42.00 Decl. -40 26 00.0 Mag. 8.2
_____ C079 NGC3201 Const. VEL Type GC RA 10 17 36.00 Decl. -46 25 00.0 Mag. 6.7
_____ C091 NGC3532 Const. CAR Type OC RA 11 06 24.00 Decl. -58 40 00.0 Mag. 3
_____ C092 NGC3372 Eta Carina Nebula Const. CAR Type BN RA 10 43 48.00 Decl. -59 52 00.0 Mag. 6.2
_____ C097 NGC3766 Const. CEN Type OC RA 11 36 06.00 Decl. -61 37 00.0 Mag. 5.3
_____ C100 IC2944 Lamda Centauri Cluster Const. CEN Type OC RA 11 36 36.00 Decl. -63 02 00.0 Mag. 4.5
_____ C102 IC2602 Theta Carina Cluster Const. CAR Type OC RA 10 43 12.00 Decl. -64 24 00.0 Mag. 1.9
_____ C109 NGC3195 Const. CHA Type PN RA 10 09 30.00 Decl. -80 52 00.0 Mag.
Royal Astronomical Society of Canada Objects
_____ RASC41 NGC3079 Const. UMA Type G-Sb RA 10 02.2 Decl. +55 41 Mag. 10.6
_____ RASC42 NGC3184 Const. UMA Type G-Sc RA 10 18.3 Decl. +41 25 Mag. 9.7
_____ RASC43 NGC3877 Const. UMA Type G-Sb RA 11 46.1 Decl. +47 30 Mag. 10.9
_____ RASC44 NGC3941 Const. UMA Type G-E3 RA 11 52.9 Decl. +36 59 Mag. 9.8
_____ RASC45 NGC4026 Const. UMA Type G-S0 RA 11 59.4 Decl. +50 58 Mag. 10.7
_____ RASC49 NGC3115 Const. SEX Type G-E6 RA 10 05.2 Decl. -07 43 Mag. 9.2
_____ RASC50 NGC3242 Ghost of Jupiter Const. HYA Type PN RA 10 24.8 Decl. -18 38 Mag. 8.6
_____ RASC52 NGC3344 Const. LMI Type G-Sc RA 10 43.5 Decl. +24 55 Mag. 9.9
_____ RASC53 NGC3432 Const. LMI Type G-SBm RA 10 52.5 Decl. +36 37 Mag. 11.3
_____ RASC55 NGC3384 Const. LEO Type G-E7 RA 10 48.3 Decl. +12 38 Mag. 9.9
_____ RASC56 NGC3521 Const. LEO Type G-Sb RA 11 05.8 Decl. -00 02 Mag. 8.7
_____ RASC57 NGC3607 Const. LEO Type G-E1 RA 11 16.9 Decl. +18 03 Mag. 10
_____ RASC58 NGC3628 Const. LEO Type G-Sb RA 11 20.3 Decl. +13 36 Mag. 9.5