



the Skyscraper

vol. 38 no. 2
February
2011

Amateur Astronomical Society of Rhode Island ★ 47 Peepoad Road ★ North Scituate, Rhode Island 02857 ★ www.theSkyscrapers.org

Seagrave Memorial Observatory is open to the public

weather permitting

Saturdays 7pm - 9:00pm

Please note that the observatory may be inaccessible for several weeks following a winter storm. See web site for updates.

North Scituate Community Center

All of our winter meetings (Dec-Mar) are held at the Community Center. From Seagrave Observatory, the Community Center is the first building on the right side going south on Rt. 116 after the intersection of Rt. 6 Bypass (also Rt. 101) and Rt. 116. Parking is across the street.

February Meeting & Member Presentations

FRIDAY, FEBRUARY 4, 7:30PM
AT NORTH SCITUATE COMMUNITY CENTER

Dave Huestis: You Can Slooh

Are you envious of the astronomical images taken by your associates at Skyscrapers? Do you wish you could do likewise but don't have the money or equipment necessary for the task? For under \$30 you can sign up with Project Slooh to image celestial objects using the internet and robotic observatories. This talk will highlight how easy the process is and will provide a brief sample of scientific projects one can undertake.

Craig Cortis: Where the Southern Cross Rises

Craig Cortis and Jim Hendrickson spent a record-breaking cold night in Southwestern Florida's Big Cypress National Preserve in December 2010 (25.9° North latitude) to observe many highlights of the Southern sky, including eta Carinae, omega Centauri, and the Southern Cross.

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January 2011 has been one of the snowiest months in recent history. Photo by Jim Brenek.

Phases of the Moon



2



11



18



24

OTHER NOTABLE EVENTS: Mars in conjunction with the Sun on the 4th. Venus passes 3° N of the Lagoon & Trifid nebulae (M8/20) on the 4th & 5th. The Moon passes 1.4° S of the Pleiades on the 11th. Neptune is in conjunction with the Sun on the 17th. Mercury is at superior conjunction on the 25th.

President's Message

Tom Thibault

Well, winter has settled in for us in the Northeast and we have had a few major snow storms under our belts already. The nights have become long and the evenings cold.

On a number of occasions my drink has frozen while out observing. The cold has brought on the crystal clear skies that provide those great views at the eyepiece. Hopefully many of you had the opportunity to get out and observe Uranus' close encounter with Jupiter. The ½ degree separation allowed a single "field of view" capture in most telescopes that was sure to please all that braved the cold. Glenn Chapel's recent article inspired me to get out and capture photographs of both Uranus and it's conjunction with Jupiter and its moons. I urge all to take advantage of what the clear winter skies have to offer, that is when the snow is not falling. Those who do not relish in the conditions winter provides us, solace can be taken in the fact we have past the winter solstice and the evening are beginning to shorten.

David Sliski provided a wonderful presentation on the Maria Mitchell Observatory (MMO) and the work he is involved with there at our January Meeting. Thank you David and best of luck in your astronomy career. The MMO is an historic observatory, and with its close proximity to us in New England, should be considered a must see for all those interested in astronomy. I am pleased to announce that during our business meeting that evening, our membership voted Chris Atsales, Robert Duncan, and Alex Bergman as new Skyscrapers

Members. Welcome to you all. Alex is now our youngest member and has become a part of Skyscraper history, way to go Alex.

February begins preparation for our Annual Elections that will occur in April. We have included a copy of the standing rules governing the Nomination and Election processes and committee requirements and responsibilities, as well as the protocol of electioneering for Skyscrapers elections. The Nominations and Election Committees will be chosen this month and will be announced in the near future. I urge those with an interest in increasing there involvement and to help shape Skyscrapers for the future, to consider running for a position. The Nominations Committee will provide a sign-up sheet at the February Meeting for those that have an interest. Copies of the document noted above will also be available alongside the sign-up sheet.

As a reminder, our Member's Survey which was included in our December and January newsletters have begun to be returned and the information is being compiled. Please take the time to fill out a copy and provide your feedback. It is our intention to utilize the returned information to develop future Member's Night programs. It is our desire to tailor these nights with activities many of our members find of interest. A survey return box will be set up at our next couple of meetings, but surveys can also be returned by mail. Please address your Member's Survey to Skyscrapers Inc., 47 Peepoad Rd., N. Scituate, RI. 02857, Attn: Member's Survey.

Dear Skyscrapers:

On behalf of the Board of Directors of the Springfield Telescope Makers, Inc., I would like to extend our heartfelt gratitude for your charitable contribution of \$50.00 to the Flanders Pavilion Fund.

As you know, the Springfield Telescope Makers Inc. is a non-profit 501(c)(3) corporation (TIN #22-2582956) so this contribution to the Flanders Pavilion Fund is tax-deductible since you are not receiving any compensation whatsoever for this gift.

Your donation is greatly appreciated, and truly embodies the spirit of the Stellafane past and future. On behalf of our organization and all those whom we serve, our sincerest thanks.

Very sincerely,
Ken Slater, Trustee & Webmaster
Springfield, Vermont, USA



The Skyscraper is published monthly by Skyscrapers, Inc. Meetings are usually held on the first Friday of the month. Public observing is usually held every Saturday night at Seagrave Memorial Observatory, weather permitting.

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Directions

Directions to Seagrave Memorial Observatory are located on the back page of this newsletter.

Submissions

Submissions to The Skyscraper are always welcome. Please submit items for the newsletter no later than **February 18** to Jim Hendrickson, 1 Sunflower Circle, North Providence, RI 02911 or e-mail to jim@distantgalaxy.com.

E-mail subscriptions

To receive The Skyscraper by e-mail, send e-mail with your name and address to jim@distantgalaxy.com. Note that you will no longer receive the newsletter by postal mail.

Orion the Hunter

Dave Huestis

Everyone with an interest in astronomy probably has a favorite constellation. It may be because of the star pattern's mythology, or its shape in the sky, or for the beautiful objects that reside within its boundaries, or possibly because it's your astrological sign.

One of my favorite constellations is the most prominent star pattern in the winter sky—Orion, the mighty hunter. And during February around 8:00 pm, Orion can be found about halfway above the southern horizon. (See accompanying star map.) Though Orion rises on his side, only when he is due south of our location is he standing upright. With the exception of the Big Dipper (Ursa Major) and Scorpius, Orion is probably the most recognizable of star patterns. He is also the brightest of all the 88 constellations.

In addition, Orion is quite a large constellation. I thought it was at least among the top ten in area (square degrees), but I was incorrect. Orion covers 594 square degrees, ranking it 26th. The top three are Hydra (1302), Virgo (1294) and Ursa Major

(1280).

The mythology of Orion, like many of the older northern hemisphere constellations that date back to the early Greeks and Romans, is quite extensive. I suggest you consult Wikipedia for further details on Orion's origins.

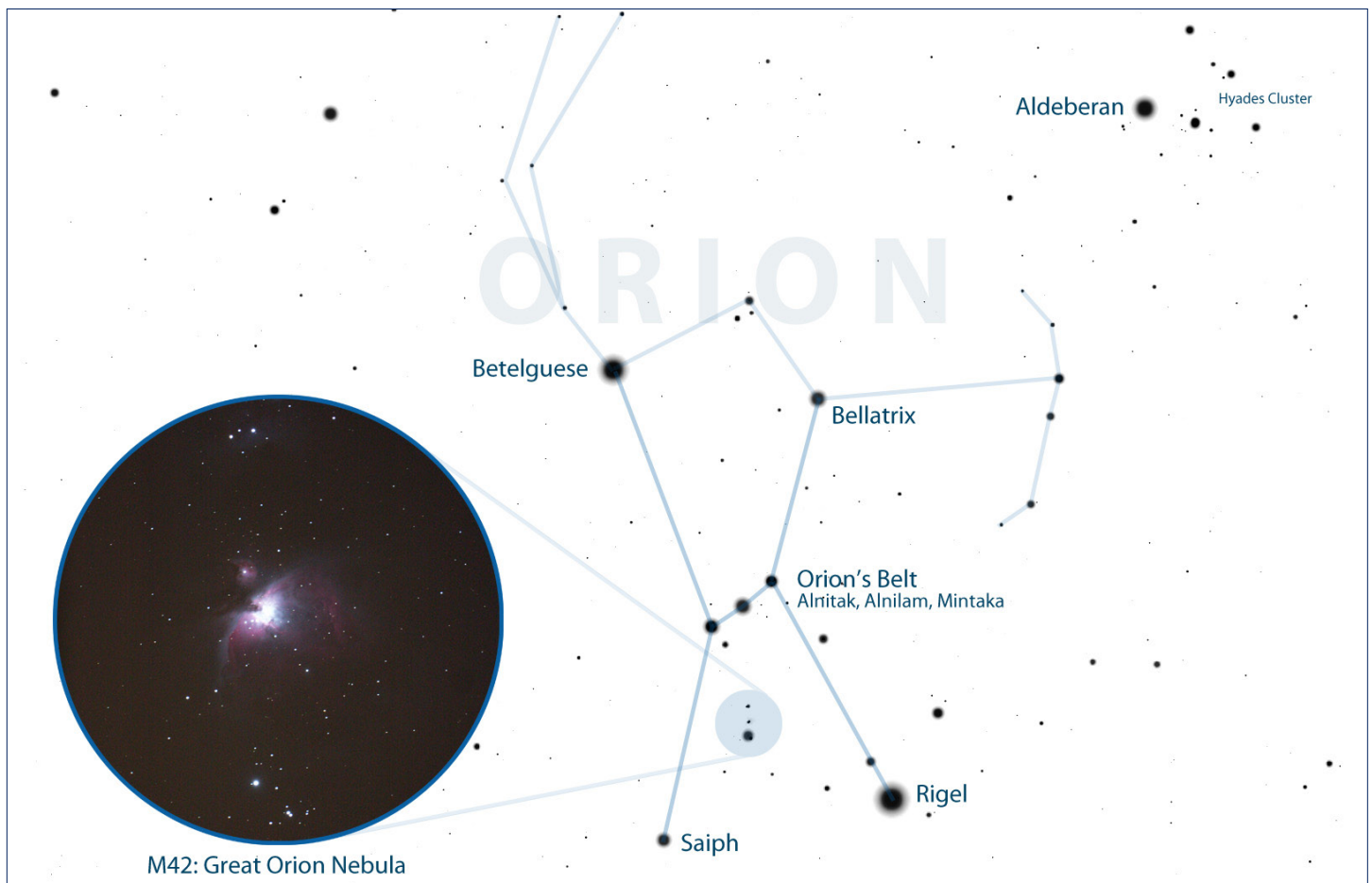
Before we explore one of the most beautiful celestial objects visible to amateur telescopes (and the determining factor for Orion being one of my favorite constellations), let's examine some of the major stars that comprise this sky pictogram.

The prominent red star Betelgeuse marks Orion's eastern shoulder (top left, from our perspective) and Bellatrix marks the western one (top right). Betelgeuse, which means "the armpit of the central one," is a very large red giant star at a distance of 520 light years, measuring in at a conservative 950 solar diameters. It coincidentally resides in a "giant" of a constellation. If you replaced our Sun with Betelgeuse it would extend out to the asteroid belt between Mars and Jupiter.

Blue-white supergiant Rigel resides 800 light years away and is positioned at Orion's western heel (bottom right), while Saiph is at the eastern one (bottom left). Rigel, in Arabic, means "the left leg of the giant." West of Bellatrix is a curved group of eight stars that represents Orion's shield. Contained within the rectangle formed by Betelgeuse, Bellatrix, Rigel and Saiph is a string of three stars that comprises Orion's belt. Just below the belt you'll find Orion's sword, made up of a small group of stars.

The grandeur of Orion resides in the region of his sword. Using binoculars you'll see a wispy, hazy patch of green light enshrouding the stars. Using a telescope even under low magnification will reveal a greenish tinged nebula of dust and gas, the magnificent Orion Nebula (see photo insert).

You'll be amazed at the intricate swirls of nebulosity, especially on a moon-less night in a dark country sky. The nebula complex lies about 1,400-1,500 light years distant and is about 30 light years across. You'll also im-



mediately notice four bright stars embedded in the nebulosity. This asterism is called the Trapezium. These four stars are “youngsters” in the universe—only about one million years old. They formed out of some of the gas and dust in the nebula. Approximately 1,000 other stars share a space of about four light years in diameter with the Trapezium stars. That’s crowded real estate!! And more suns will coalesce out of this stellar nursery in the future.

No one has described the humbling effect the Orion Nebula has on us amateur astronomers any better than Garrett P. Serviss in his 1901 book *Pleasures of the Telescope*.

“Nowhere else in the heavens is the architecture of a nebula so clearly displayed.... The work of creation is proceeding within its precincts. There are stars apparently completed, shining like gems just dropped from the hand of the polisher, and around them are masses, eddies, currents, and swirls of nebulous matter yet to be condensed, compacted, and constructed into suns. It is an education in the nebular theory of the universe merely to look at this spot with a good telescope. If we do not gaze at it long and wistfully, and return to it many times with unflagging interest, we may be certain that there is not the making of an astronomer in us.”

Did you receive a telescope for Christmas? It will most likely be cold outside during February, but I would suggest that the Orion Nebula be your first celestial target. Then you can decide for yourself whether or not Serviss’ description still does justice to the magnificence of this nebula today.

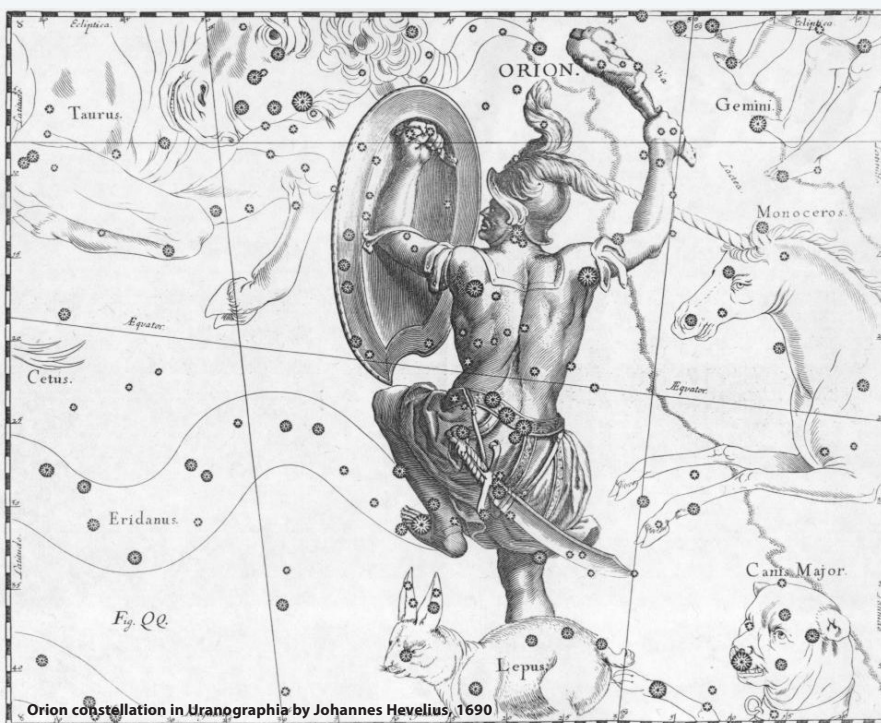
The Orion Nebula looks absolutely wonderful with some of the larger instruments at the local observatories. Seagrave Memorial Observatory (<http://www.theskyscrapers.org>) on Peepoad Road in North Scituate is open every clear Saturday night for public viewing from 7-9pm during the winter. Ladd Observatory (<http://www.brown.edu/Departments/Physics/Ladd/>) in Providence is open every clear Tuesday, from 7-9pm during the winter as well.

While it can be quite cold observing in these unheated domes, these facilities do remain open year-round, provided inclement weather does not force closures or the grounds are inaccessible. Please check their respective websites for any cancellation notices before venturing out for a visit.

As always, keep your eyes to the skies.

Orion: A Multicultural View

Francine Jackson



Orion constellation in *Uranographia* by Johannes Hevelius, 1690

One of the biggest moments for a new astronomy lover is the sudden realization that we have suddenly connected the stars and found the constellations, as has happened for generations all around the world. And, then, to try to remember the figure, we often depend on a story, or a myth, to keep the stars in their proper position. Very often, we depend on the ancient European, notably the Greco-Roman stories, to keep the sky in line.

For example: Orion, most of us depend on one of two myths for him. My favorite concerns his demise by the scorpion, because of his threat to kill every living animal. This works beautifully, because Scorpius, Orion’s nemesis, is situated directly opposite Orion in the sky, a sign of respect for the braggart’s killer.

And, then again, we have the love story between Orion and Diana. Much to the chagrin of her brother Apollo, the couple was about to marry. Apollo, seeing Orion in the water, challenged his sister, a skilled hunter, that she couldn’t hit the floating thing. She did, but when it washed upon the beach, and Diana realized she had just killed the love of her life, she had him placed among the stars.

In Egyptian legend, Orion was Osiris. He symbolized the birth, growth, death, and rebirth of the natural world. He was murdered and dismembered by his jealous brother, Seth, then briefly brought back to life by his sister and consort Isis, in order to father the god Horus.

Go to Japan, and it will appear to be a double-sided drum, with the belt stars the smaller, waistlike central portion. This is rather similar to many people today, who believe it resembles an hourglass. Or, to others, it is a kimono sleeve; when the geisha raises her arm, the resultant image gracefully drapes downward.

Coming home to the U.S., the different American Indians saw Orion differently. In the Tewa tribe of New Mexico, Orion was Long Sash, who led their people on a long journey to freedom. The Navajo saw Orion as the First Slim One, or the First Slender One. They planted their crops when it set at dusk, in early May.

Oregon’s Wasco Indians saw Orion’s belt as three fishermen in a canoe, with his sword as three fishermen in another canoe. The canoes were each racing to catch a dead salmon, which was represented by a star between the belt and sword. In that part of the country, cold winds originate from the north, and warm Chinook winds originate from the southwest. So the canoe to the north of the salmon, the belt stars, represented the cold wind. The sword stars, located to the south and slightly west of the salmon, form the canoe that represented the Chinook wind.

Same stars, different images. When you look up and enjoy the beauty of the constellations, use your imagination and come up with a picture and myth of your own. As you can see, the possibilities are endless.

beta (β) Monocerotis

Glenn Chaple's
Sky Object of the Month

It's an annual ritual. Go outside on a crisp, clear February evening. Aim telescope towards a misty patch of light in Orion's Sword. Gaze in awe and wonder at M42 – the Orion Nebula.

I suggest that, after your pilgrimage to the Orion Nebula this year, you travel 12 degrees eastward into the obscure constellation Monoceros. There, you'll find the finest triple star in the night sky – beta (β) Monocerotis.

Described by its discoverer William Herschel (1781) as “one of the most beautiful sights in the heavens,” beta Mon is a dazzling trio of pure-white stars. What separates beta Mon from most triple stars is the closeness of its components and their similarity in brightness.

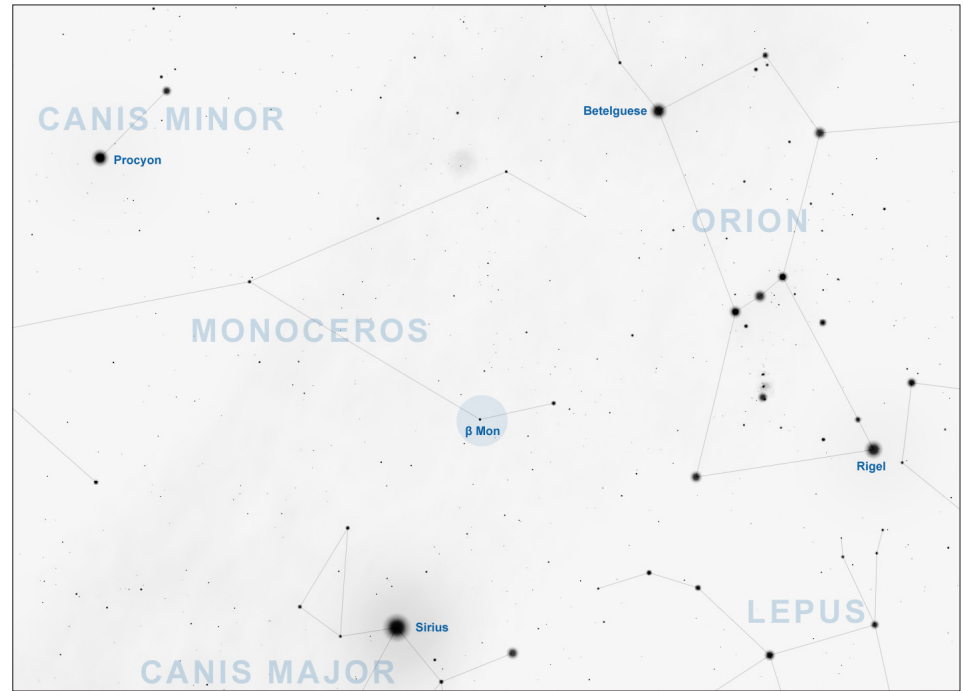
Viewed with low power, beta Mon an attractive double star whose magnitude 4.6 and 5.0 components are separated by 7 arc-seconds. Ramp up the magnification (100X with an ordinary 60mm refractor will do the job), and you'll see the third star (magnitude 5.3) a mere 3 arc-seconds from the 5.0 magnitude component. The three form a curved

row 10 arc-seconds across.

I've always written that double stars are twice the fun. As for triple stars – well, you get the idea! Triple your observing fun with

a visit to beta Monocerotis.

Your comments on this column are welcome. E-mail me at gchaple@hotmail.com



2011 Quadrantid Observing Report

Dave Huestis

Many of the 2010 meteor showers were either clouded or mooned out. That included the recent December Geminids, and locally we also got skunked on the December 21 Total Lunar Eclipse. So despite the cold (22 degrees F), an early morning appointment (7:30 am), and a “been there, done that attitude,” I decided to spend no more than an hour observing the 2011 Quadrantid meteor shower during the early morning of January 4.

I awoke at 5:00 pm and bundled up for the cold weather. At least it was not windy.

The sky was mostly clear, though I did see “some high thin stuff” scattered around the periphery of my tree-enshrouded horizon.

The handle of the Big Dipper was almost directly overhead as I stepped out on my porch. I immediately saw a Quad – perhaps 0 magnitude and of short duration. I sat down in the one piece of porch furniture I had deliberately left out on the porch for this event. Ten additional Quads and one sporadic followed in the 50 minutes that I observed. Most were very short and not very bright. Only a couple attained a -1 magni-

tude brightness. And only a couple blazed across several tens of degrees of sky. All were white in coloration.

I also observed three satellites during this time frame. The sky remained mostly clear throughout the observing session. When I retired for a couple of winks, Gemini was lowering towards the west-northwest horizon, Leo was halfway to the western horizon, Hercules was well up in the east-northeast, and brilliant Venus shone like a beacon in the southeast. It was a nice start to the New Year!

If you have observing reports or images, please submit them to jim@distantgalaxy.com



Planets in Strange Places

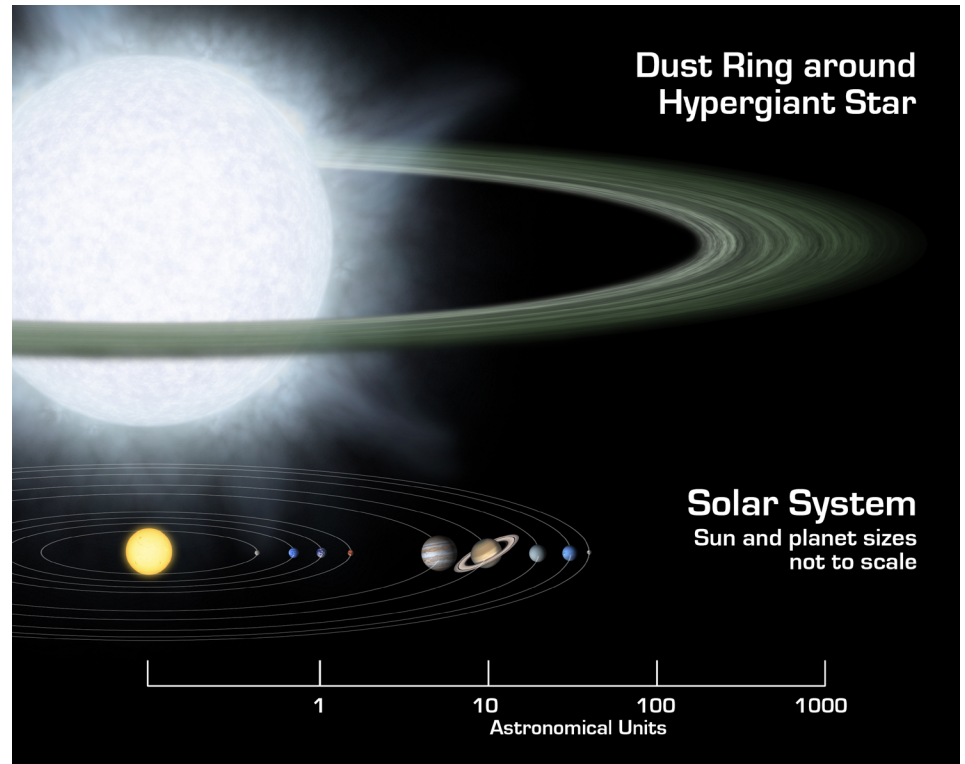
By Trudy E. Bell

Red star, blue star, big star, small star—planets may form around virtually any type or size of star throughout the universe, not just around mid-sized middle-aged yellow stars like the Sun. That's the surprising implication of two discoveries in 2006 from the 0.85-meter-diameter Spitzer Space Telescope, which is exploring the universe from orbit at infrared (heat) wavelengths blocked by the Earth's atmosphere.

At one extreme are two blazing, blue “hypergiant” stars 180,000 light-years away in the Large Magellanic Cloud, one of the two companion galaxies to our Milky Way. The stars, called R 66 and R 126, are respectively 30 and 70 times the mass of the Sun, “about as massive as stars can get,” said Joel Kastner, professor of imaging science at the Rochester Institute of Technology in New York. R 126 is so luminous that if it were placed 10 parsecs (32.6 light-years) away—a distance at which the Sun would be one of the dimmest stars visible in the sky—the hypergiant would be as bright as the full moon, “definitely a daytime object,” Kastner remarked.

Such hot stars have fierce solar winds, so Kastner and his team are mystified why any dust in the neighborhood hasn't long since been blown away. But there it is: an unmistakable spectral signature that both hypergiants are surrounded by mammoth disks of what might be planet-forming dust and even sand.

At the other extreme is a tiny brown dwarf star called Cha 110913-773444, relatively nearby (500 light-years) in the Milky Way. One of the smallest brown dwarfs known, it has less than 1 percent the mass of the Sun. It's not even massive enough to kindle thermonuclear reactions for fusing hydrogen into helium. Yet this miniature “failed star,” as brown dwarfs are often



Artist's rendering compares size of a hypothetical hypergiant star and its surrounding dusty disk to that of our solar system.

called, is also surrounded by a flat disk of dust that may eventually clump into planets. (This brown dwarf discovery was made by a group led by Kevin Luhman of Pennsylvania State University.)

Although actual planets have not been detected (in part because of the stars' great distances), the spectra of the hypergiants show that their dust is composed of forsterite, olivine, aromatic hydrocarbons, and other geological substances found on Earth.

These newfound disks represent “extremes of the environments in which planets might form,” Kastner said. “Not what you'd expect if you think our solar system is the rule.”

Hypergiants and dwarfs? The Milky Way could be crowded with worlds circling every kind of star imaginable—very strange, indeed.

Keep up with the latest findings from the Spitzer at www.spitzer.caltech.edu. Kids and their grownup friends can enjoy beautiful images from Spitzer while playing Spitzer Concentration at The Space Place (spaceplace.nasa.gov/en/kids/spitzer/concentration).

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

January Reports

Ed Haskel, *Secretary*
Jim Crawford, *Treasurer*

EXECUTIVE COMMITTEE MEETING

Cash Flow 12/1/2010- 12/31/2010

INCOME

Donation	\$1.00
Dues	
Regular	\$120.00
Senior	\$50.00
TOTAL Dues	\$170.00
Interest Inc	\$25.98
Skytelmagincome	\$32.95
Starparty	\$190.00
TOTAL INCOME	\$419.93

EXPENSES

Clear Sky Chart	\$50.00
Astronomymagexp	\$34.00
Skytelexp	\$32.95
Refreshment Expense	\$33.65
Trusteexp	\$36.14
Electric	\$12.71
TOTAL EXPENSES	\$199.45

OVERALL TOTAL \$220.48

Cash Accounts

Citizens Checking	\$1,839.27
Capital One	\$16,481.76
Total	\$18,321.03

WEDNESDAY, JANUARY 5, 2011 LADD OBSERVATORY

Items Discussed:

There was an informal discussion of possible future speakers.

Report of meeting with neighbor Gene Allen on tree removal. He will be removing approximately 100 trees along the side of the property.

In August, 2010 a committee chaired by Kathy Siok was charged with reviewing the elections process (see Executive Committee Minutes of August 4, 2010). That committee reported on its work and the Executive Committee took up their report and began deliberation.

Adjourned at 9:35pm

SKYSCRAPERS MINUTES

JANUARY 7, 2011

NORTH SCITUATE COMMUNITY CENTER

Secretary's Report adopted with no changes from floor.

Treasurer's Report was heard.

Trustees – Waiting for clear weather. Reiterated willingness to train on scopes.

The Librarian reported receipt of a new Discovery Channel CD.

Historian Dave Huestis reported receipt of a thank you letter and donation of \$150 from Callahan School.

Bob Forgiel reported on numerous upcoming public observing sessions both at Seagrave Observatory and schools serving a projected total of more than 200 people....

Old Business

New members were admitted: Chris Atsales, Alex Bergemann, and Robert Duncan.

New Business

Proposed new member introduced: John Simmons

For the Good of the Organization

Hayden Planetarium in Boston Museum of Science Feb 13th Grand Opening.

John Briggs announced a workshop on Astrometrica at Ladd Observatory. Details on the yahoo group on Astrometrica.

JPL sent Certificate of Appreciation to Skyscrapers for encouraging science and technology education.

Jim Crawford moved we frame certificate and place in Clark anteroom. Passed.

Adjourned at 9:33 pm.

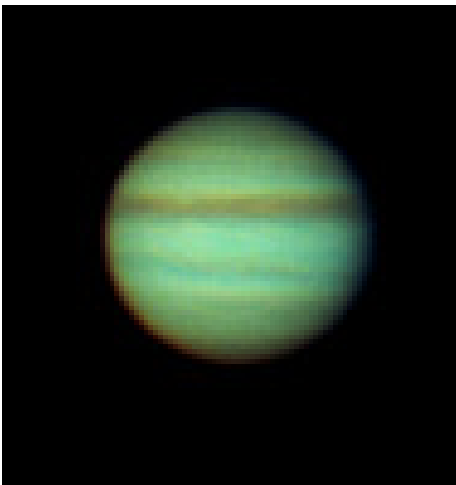
Respectfully submitted
Ed Haskell, Secretary



David Sliski presents at the January 7 meeting. Photo by Jim Hendrickson.

Jim Brenek took these photos after the January 27 snowstorm while clearing paths between the buildings at Seagrave Observatory.

Perseus Double cluster. The image was taken through my Meade AR-5 refractor and with an unmodified Canon 20D. Four 5 minute images taken, stacked and processed with Nebulosity. Image by Lloyd Merrill.



Above: Jupiter on 1/4/11 clearly shows the southern belt returning. Right: Last of three conjunctions of Jupiter and Uranus. I took some photos of both individually and together utilizing my 70mm refractor and 11" SCT. The attached photo is a combination of both with a little processing magic. The base shot was with the 70mm in which I overlaid a processed and scaled shot of Jupiter on top of the over exposed 70mm capture of Jupiter, its moons, and Uranus. It's a pretty good depiction of the view through the 11" SCT with a 38mm 70 degree lens. Jupiter and its moons to the lower right and Uranus to the upper left. Photos by Tom Thibault.



Standing Rules for Elections

Nominations and Elections Procedures

1. There shall be two separate committees: a **Nominating Committee** and an **Election Committee** and no person shall be on both and the president cannot serve on either of them.
2. In February of each year, the president will appoint a **Nominating Committee** and an **Election Committee** to prepare for the April election of new officers for the coming year.
3. Candidates cannot be on the **Election Committee**, but they may watch, without interfering, the counting of the ballots.
4. **The composition of the Nominating Committee and Election Committee:** Each committee is made up of 3 people, one person from the Executive Committee, and two Senior and or Senior Citizen Members. The president cannot be on either committee and candidates cannot be on the elections committee. In the case of all Executive Committee members running for re-election, the President may appoint other well informed Senior and/ or Senior Citizen Members to the Election Committee.
5. It is the responsibility of the **Election Committee** to prepare and send out the ballots. On the ballot shall be the name(s) of those nominated by whatever process, and a line for a write-in. There should be a "box" next to the names that must be "X"ed for the ballot to count for said person. The box must be marked, it is particularly important for those voting to understand that just writing in a name does not constitute a vote.

Nominating Committee

1. The function of the committee is to establish a slate of *qualified* candidates for the election ballot by:
 - Reviewing the qualifications required for each of the offices.
 - Selecting from the membership list qualified people who might be willing to serve as an officer.
 - Contacting those identified persons to explain the position and determine the willingness of that person to run for office.
 - Considering the qualifications of volunteers who come forward.
2. More than one person for an office may be on the Nominating Committee's slate.
3. The **Nominating Committee** will present the slate of officers at the March meeting at which time the chair of the **Nominating Committee** will take nominations from the floor. Individuals nominated must be qualified for and willing to serve in the position.

No second is required for a nomination and a person can nominate themselves, no vote is needed.

4. Then the nominations are closed at which time no further nominations can be taken. Further candidates must run as write-ins.
5. A person on the **Nominating Committee** may be nominated for any position.
6. **Duties of Nominator from the Floor.** The Nominator should understand that by nominating someone from the floor you are advancing the proposition that the nominee is qualified to hold the office and perform the duties required.

You understand that you are standing in the place of the **Nominating Committee** but without all the knowledge of the **Nominating Committee**, and that you are assuming the responsibility of determining that the nominee has all of the requisite skills, background, disposition and dedication to serve in the best interests of Skyscrapers.

You believe that in addition to those qualifications, that the nominee has an adequate understanding of the demands to be placed upon him or her to serve in this position of responsibility.

The Election

1. The election will take place at the Annual (April) Meeting each year.
2. It is the responsibility of the **Election Committee** to prepare, send out and count the official ballots.
3. Official ballots will be mailed (USPS) to each Senior and Senior Citizen Member (Voter) in good standing as of October of the previous year. Only these Official ballots will be valid. If a member needs a new official ballot, it must be obtained from the **Election Committee**. No one else is authorized to provide Official ballots to the membership.
4. The official ballot must be returned in a sealed envelope with the member's name on the outside.
5. It may be mailed (USPS) to the Skyscrapers mailing address prior to the election or handed in at the annual meeting.
6. No outside envelopes may be opened except at the qualification of ballots at the annual meeting by the members of the **Election Committee**.
7. Ballots mailed to the organization must be picked up by the secretary and placed in a bag or large envelope and given to the **Election Committee** at the Annual meeting.

8. Disqualified ballots include:
 - a. Those returned in by a non-Voter.
 - b. If multiple ballots are in a single envelope, neither is valid.
 - c. A ballot returned by a Voter not in good standing.
 - d. A ballot returned that is not 'official'.
 - e. The box next to a write-in candidate's name is not marked.
9. The ballots will be qualified and counted by the **Election Committee** at the start of the Annual meeting in a semi-public location.
10. The sealed ballots will be validated against the membership list before being opened and counted.
11. The ballots are to be counted at least twice. If there is a tie, a paper ballot run off will be conducted by the **Election Committee** for that position only.
12. At the request of the chair of the meeting, the chair of the **Election Committee** will announce the results.
13. If there is no contention to the election, a motion to destroy the ballots is in order. If the results are contested, the ballots are to be saved until the contention is resolved.
14. The newly elected officers will be installed at the end of the May meeting.
15. The term of office is June – May for the year.

Electioneering

It is important to the process of electing well qualified and highly motivated persons to the various positions of responsibility in Skyscrapers, Inc., that the electorates have a good understanding of the positions of the candidates on matters of importance to the Society. To this end the following procedures shall be followed.

The mailing list of the membership is not available to anyone other than the President, Secretary and Treasurer to guard the privacy of members. To avoid this practice being in tension with the needs espoused above the Secretary shall cause to be posted on theskyscrapers.org or in the newsletter information provided by candidates', such as biographies, statements, etc., at the direction of the President no later than 14 days before the election. These materials will also be on display at the April meeting.

Telephone lists of the membership will not be provided to the candidates since the membership has not consented to usage for this purpose.

Candidates are welcome to approach members before or after any meeting of the Society. Personal contacts at other times and places to which individual members consent are, of course, entirely the business of the parties involved.

Changes to the Ballot after Nominations Close

The purpose of the nominating process is to secure the best possible candidates for each position. When electing candidates to voluntary positions there is always the possibility of a candidate to withdraw before the election. To provide for this contingency the Board may, at its discretion, reopen the nomination process and delay the election for two meetings to allow other qualified individuals to be nominated and to supply biographies, statements, etc., which will be distributed to voting members as described in *Electioneering*.



High thin haze produced this lunar halo at Seagrave Observatory on December 18. Photo by Jim Hendrickson.

Directions to Seagrave Memorial Observatory

From the Providence area:

Take Rt. 6 West to Interstate 295 in Johnston and proceed west on Rt. 6 to Scituate. In Scituate bear right off Rt. 6 onto Rt. 101. Turn right onto Rt. 116 North. Peeptoad Road is the first left off Rt. 116.

From Coventry/West Warwick area:

Take Rt. 116 North. Peeptoad Road is the first left after crossing Rt. 101.

From Southern Rhode Island:

Take Interstate 95 North. Exit onto Interstate 295 North in Warwick (left exit.) Exit to Rt. 6 West in Johnston. Bear right off Rt. 6 onto Rt. 101. Turn right on Rt. 116. Peeptoad Road is the first left off Rt. 116.

From Northern Rhode Island:

Take Rt. 116 South. Follow Rt. 116 thru Greenville. Turn left at Knight's Farm intersection (Rt. 116 turns left) and follow Rt. 116. Watch for Peeptoad Road on the right.

From Connecticut:

- Take Rt. 44 East to Greenville and turn right on Rt. 116 South. Turn left at Knight's Farm intersection (Rt. 116 turn left) and follow Rt. 116. Watch for Peeptoad Road on the right.
- Take Rt. 6 East toward Rhode Island; bear left on Rt. 101 East and continue to intersection with Rt. 116. Turn left; Peeptoad Road is the first left off Rt. 116.

From Massachusetts:

Take Interstate 295 South (off Interstate 95 in Attleboro). Exit onto Rt. 6 West in Johnston. Bear right off Rt. 6 onto Rt. 101. Turn right on Rt. 116. Peeptoad Road is the first left off Rt. 116.



47 Peeptoad Road
North Scituate, Rhode Island 02857