

ASTROGATOR



April 2025

Grand Strand Astronomers

An Astronomical Journal of the Grand Strand Astronomers
of the Greater Myrtle Beach Area
GSA Founded on September 24, 2020

Grand Strand Astronomer's Monthly Events:

General Membership Meeting:

Thursday April 19, 2025 @ 7:00 pm

Meeting: VIA Zoom.

Please see email or Facebook for link

Observing Sessions:

Saturday April 26, 2025

Location: Hampton Plantation

Gates open @ 6:00 pm



Rosette Nebula In

Monoceros

By: Ken Legal

Grand Strand Astronomer's Social Media

[Grand Strand Astronomer's Website](#)



[Grand Strand Astronomer's Facebook](#)



GSA Leadership



Executive
Officer
Ian Hewitt

Treasurer
John Defreitas

Photograph
not available
a this time



Secretary
Gerald Drake

Social Media
Coordinator
Denise Wright

Photograph
not available
a this time



Newsletter
Coordinator
Tim Kelly

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Rosette Nebula In Monoceros

Ken Legal

Photo: Rosette nebula in Monoceros

Time: 89 minutes total

Telescope: 80mm triplet refractor, 0.8 focal reducer

Camera: Canon 60Da (ISO1250, UHC filter).

Call For Volunteers

Tim Kelly

Grand Strand Astronomers are looking for volunteers to help with the social media platforms such as Facebook, YouTube and Twitter if the need arises. Presently Facebook needs a new face lift and be brought up to present time activities. Our website can also use some TLC and someone responsible to keep it updated with club activities and astronomy related items. If anyone would like to help in these categories, please contact Ian Hewitt at the email address below.

We are looking for new and older club members to help contribute articles for the GSA Newsletter. You can be a novice level, medium level, or a experienced level astronomer. Knowledge such as types and location of numerous stars, nebula or galaxies to share with other club members. GSA would like to provide topics for all level of members and non-members that are both hands-on projects and educational sharing. You can either write you own or use one already written and published. See previous articles on older issues for contributions for self written articles. See Tim's contributions for an example of non-written subject matter or from an article written from another person. Please provide the title, name of the originator and website link that the original article can be found. You will not be required to submit articles every month, however every second or third month would be nice and a benefit to all members and non-members. Please send articles to t.m.kelly349@outlook.com

GSA Telescope Loaner Program

Gerald Drake

Did you know our club has telescopes available for loan? They are Dobsonians that were donated to the club when we first started. These are available for club members to use at no charge. All you have to do is take care of them and return them if someone else wants to borrow one. The first one is an Orion XT 8. It's in great shape. It gives beautiful views of the moon, planets, and galaxies. Comes with accessories that include a 2X Barlow, 25mm eyepiece, 9mm eyepiece, and laser collimator tool. The other one is an Orion Skyquest XT 10 with Orion's IntelliScope computerized object locator. It includes more than 14,000 objects in its database so you'll be able to locate those dim galaxies. Should be hours of fun. Accessories are included. Both of these are begging to be used. Send us an email if you're interested in borrowing one.

GSA Monthly Newsletter Articles

Tim Kelly

This is our club and our newsletter. Lets help each topic to continue to grow.

Grand Strand Astronomer's is looking for individuals who would like to participate in submitting newsletter articles dealing with anything astronomy. We can not rely on the same four (4) members to write and send in articles month after month. New thoughts and ideas make for good reading and beneficial growth for the club and the public of the Greater Myrtle Beach area.

One member's simple advancement could just be what a newbie is looking for to get over a hurdle that has been impeding their progress forward. The expertise by many members can be a form of mentoring.

Grand Strand Astronomers - Membership

Grand Strand Astronomer's membership did not pick up any new members for February.

Grand Strand Astronomers October Meeting Recap

There was no Membership Meeting for the month of March. Please see front page for the next Membership Meeting and Hampton Plantation Observation dates and times.

The Rosette Nebula: A Cosmic Wonder

Tim Kelly

The Rosette Nebula, located in the constellation Monoceros, is one of the most striking and studied objects in our galaxy. A massive star-forming region approximately 4,500 light-years away from Earth, it has captivated astronomers and astrophotographers alike with its beauty and complexity. This nebula is not just a visual marvel, but a dynamic stellar nursery where new stars are born, and a fascinating environment that reveals a great deal about the life cycle of stars and the interstellar medium.

What is the Rosette Nebula?

The Rosette Nebula is a large, bright emission nebula that spans around 50 light-years in diameter. Its name comes from its resemblance to a rose, with its intricate structure of gas and dust resembling petals. The nebula is primarily composed of hydrogen gas, which is ionized by the ultraviolet radiation emitted by the hot, young stars at its core. This ionization causes the nebula to glow with a characteristic red color, making it visible in optical wavelengths.

Stellar Birthplace: A Nursery of Stars

At the center of the Rosette Nebula lies the star cluster known as the "Gemini Cluster" or "NGC 2244," a group of young, hot stars that are still in the early stages of their formation. These stars formed from the surrounding gas and dust over the past few million years, and their powerful radiation is responsible for the nebula's glowing appearance. The stars in this cluster are incredibly massive and emit high-energy radiation that drives away surrounding gas, creating large cavities in the nebula.

The process of star formation in the Rosette Nebula is still ongoing. The nebula is a stellar nursery where hydrogen gas and dust collapse under gravity to form new stars. Over time, the energy released from these stars will push the remaining gas away, marking the transition from the birth stage to the dispersal of the nebula.

The Structure of the Nebula

The Rosette Nebula has a well-defined structure, shaped by both stellar winds and radiation pressure from the young stars at the center. The nebula consists of several distinct features:

The Central Star Cluster (NGC 2244): This is the heart of the nebula, where the most massive and brightest stars are located. These stars are responsible for the ionization of the surrounding gas, making it visible in various wavelengths of light.

The Emission Nebula: The glowing red regions of the nebula are primarily composed of hydrogen atoms. These regions shine due to the ionization of hydrogen by the radiation from the stars in the central cluster. The intense UV light from these stars strips the hydrogen atoms of their electrons, and as the atoms recombine with electrons, they emit light in the red part of the spectrum.

Dark Rifts and Dust Lanes: Interspersed among the glowing regions of the nebula are dark rifts, which are dense areas of gas and dust that block light from behind them. These regions are often where new stars are forming or where gas is being collected for future star formation.

The Outer Boundaries: Beyond the main nebula, the Rosette Nebula has an outer boundary marked by a sharp transition in brightness. This is where the expanding stellar winds from the central stars have pushed the surrounding gas outward, creating a boundary between the nebula and the surrounding space.

The Role of the Rosette Nebula in Understanding Stellar Evolution

The Rosette Nebula is an important object for understanding the processes of star formation and the evolution of nebulae. The intense radiation from the young stars in NGC 2244 shapes the nebula, driving out gas and dust and causing the nebula to gradually dissipate over time. The nebula provides a snapshot of the life cycle of stars, from their formation to their eventual dispersal of gas into the interstellar medium, where it can be used to form new stars elsewhere.

Observing the Rosette Nebula

The Rosette Nebula is visible with amateur telescopes, especially in regions of the world with dark skies. Through a small telescope, the nebula appears as a faint, diffuse glow, but larger telescopes or astrophotography techniques can reveal its intricate details. The nebula is also studied across many wavelengths of light, including visible, infrared, and X-ray, to capture the full range of phenomena occurring within it. Observations in infrared reveal the cooler, hidden parts of the nebula, such as the regions of gas and dust that are still collapsing to form stars.

The Hubble Space Telescope has provided some of the most detailed images of the Rosette Nebula, revealing intricate structures of gas and dust in stunning color. These images help astronomers study the physical conditions in the nebula, the process of star formation, and the effects of radiation and stellar winds on the surrounding gas.

Conclusion

The Rosette Nebula is a captivating cosmic structure that provides a fascinating window into the complex processes of star formation and the life cycle of nebulae. As a stellar nursery, it is an active site of stellar birth, where massive stars are being formed and where their energy is shaping the surrounding environment. Through continued observation and study, the Rosette Nebula continues to offer invaluable insights into the mysteries of the universe, making it a key object of interest for astronomers and space enthusiasts alike

Astronomical News

Tim Kelly

- April 1: Occultation of the Pleiades (mag 1.2) ; Moon near Uranus (mag 5.8)
- April 2: Moon near Jupiter (mag -2.1), Aldebaran (mag 0.9)
- April 3: Mars (mag 0.5) near Pollux (mag 1.2)
- April 4: Moon near Mars (mag 0.5), Pollux (mag 1.2)
- April 5: First Quarter Moon
- April 6: Moon near Beehive Cluster (mag 3.1); Mercury ends retrograde motion
- April 8: Moon near Regulus (mag 1.4)
- April 10: Mercury (mag 1.1) near Saturn (mag 1.2)
Venus ends retrograde motion
- April 13: Full Moon; occultation of Spica (mag 1.0)
- April 16: Occultation of Antares (mag 1.1)
Mercury (mag 0.6) near Neptune (mag 7.9)
- April 17: Alignment of Venus (mag -4.7), Saturn (mag 1.2)
Mercury (mag 0.5), and Neptune (mag 7.9)
- April 21: Mercury at greatest elongation; Last Quarter Moon
- April 22: April Lyrids' peak (ZHR = 18)
- April 23: Pi Puppids' peak (variable ZHR)
- April 25: Moon near Venus (mag -4.8), Mercury (mag 0.2), Saturn (mag 1.2)
Neptune (mag 7.9)
- April 27: Venus at greatest brilliancy (mag -4.8); New Moon
- April 28: Venus (mag -4.7) near Saturn (mag 1.2)
- April 29: Moon near Aldebaran (mag 0.9), Pleiades (mag 1.2)
Uranus (mag 5.8)
- April 30: Moon near Jupiter (mag -2.0)

What’s Up, Doc? †

Astronomical League
April 2025
Dr. Aaron B. Clevenson, Director, Insperity Observatory

This information is based on **9 PM Eastern. Daylight Time** for Washington DC.

Naked-Eye Clubs

Meteors – any night, any time, anywhere, the darker the sky the better.

Shower	Duration	Maximum	Type
Lyrids	4/14 to 4/30	4/23 0100 UTC	CLASS 1
Eta Aquarids	4/15 to 5/27	5/6	CLASS 1
Pi Puppids	4/16 to 4/30	4/24 0600 UTC	Class 3
Delta Pavonids	3/11 to 4/16	3/31	Class 4
April Epsilon Delphinids	3/31 to 4/20	4/9	Class 4
Alpha Virginids	4/6 to 5/1	4/18	Class 4
Kappa Serpentids	4/11 to 4/22	4/16	Class 4
h-Virginids	4/24 to 5/4	5/1	Class 4

Key to Meteor Classes:

- Class 1 – Major Meteor Showers
- Class 2 – Minor Meteor Showers
- Class 3 – Variable Meteor Showers
- Class 4 – Weak Meteor Showers

Constellations, Northern Skies – any night, any time, anywhere, the darker the sky the better. Last Chance this cycle:

Cassiopeia, Andromeda, Traingulum, Aries, Caelum.
Transit Ursa Major, Lynx, Leo Minor, Cancer, Leo, Hydra, Sextans,
Pyxis, Antlia, Vela.
New arrivals: Bootes, Virgo, Corvus.

Binocular Clubs

Binocular Messier – Monthly highlights include:

- Easy – 3, 34, 35, 36, 37, 38, 41, 42, 44, 45, 46, 47, 48, 50, 67, 93, 103.
- Medium – 40, 49, 53, 63, 64, 78, 79, 81, 82, 94.
- Hard – 1, 51, 65, 66, 68, 97, 101, 104, 106.
- Big Binoculars – 58, 59, 60, 61, 84, 85, 86, 87, 88, 89, 90, 95, 96, 99, 100, 102, 105, 108, 109.

Deep Sky Binocular – Monthly highlights include (by Astronomical League numbers):

- 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24,
- 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42.

Other Clubs

Messier

In addition to those listed under Binocular Messier, check out: 43, 76, 91, 98.

Caldwell

- 1, 2, 3, 5, 6, 7, 8, 10, 13, 14, 21, 23, 24, 25, 26, 29, 31, 32, 35, 36, 38, 39, 40,
- 41,45, 46, 48, 49, 50, 51, 52, 53, 54, 58, 59, 60, 61, 64, 71, 74, 79.

Double Star (by Astronomical League numbers):

- 5, 8, 11, 14, 16, 17, 18, 20, 23, 25, 27, 28, 29, 32, 34, 35, 39, 40, 42, 43, 45,
- 51, 52, 53, 54, 55, 56, 57, 59, 61, 65, 67, 68, 69, 70, 71, 73, 74, 75, 76, 78,
- 79, 80, 81, 82, 83, 85, 92, 95, 98, 99, 100.

Other Clubs (of the Solar System)

Planetary – These are the tasks that can be done this month:

The Sun is in Pisces and sets at 1946 mid-month.

Mercury, Venus, Ceres, Saturn, Neptune, and Pluto will not be visible during the evening hours. They are all too close to the sun or morning stars.

Sun – Any clear day is a good time to get those sunspots. But things have been rather sparse.

Moon:

The Maria requirement can be done any time the moon is visible. Look before 4/20 and after 4/5 for the fullest views.

The Highlands requirement can be done at the same time.

The Crater Ages requirement is best done on 4/4 and 4/5.

The Scarps requirement is best done on 4/6.

Occultations occur all the time, the bright ones can be found on the internet.

Objects disappear on the East side of the moon.

Asteroids – Course Plotting and Measuring Movement requirements can be done at any time on any asteroid. See above to identify the bright ones this month.

Mars is in Cancer and is up all evening mid-month.

Jupiter is in Taurus and up all evening mid-month.

Uranus is in Taurus and sets at 2206 mid-month.

Lunar

Key timings are indicated below:

New, 4/27 4 days, 4/2 7 days, 4/5 10 days, 4/8 14 days, 4/12

Old moon in new moon's arms – before **0658** on 4/1 or before **1531** on 4/30, ~10 % illuminated. (72 hr > New)

New moon in old moon's arms – after **1531** on 4/24, ~10 % illuminated. (72 hr < New)

Waxing Crescent – before **1531** on 4/29, ~4 % illuminated. (40 hr > New)

Waning Crescent – after **1531** on 4/25, ~4 % illuminated. (48 hr < New)

Major Events in April:

- 4-7 Mercury returns to Prograde Motion
- 4-13 Lunar Apogee
- 4-13 Venus returns to Prograde Motion
- 4-14 Eris at Conjunction
- 4-16 Mercury - & Neptune Conjunction (41')
- 4-20 Mercury at highest morning altitude
- 4-21 Mercury at Greatest Elongation West
- 4-21 Mars at Eastern Quadrature
- 4-22 Lyrids Meteor Shower
- 4-22 Haumea at Opposition
- 4-23 Pi Puppis Meteor Shower
- 4-24 Venus at Brightest Morning Brightness
- 4-27 Lunar Perigee

Although these Observing Programs are detailed in the "What's Up Doc?" handout, you can get information on many of their objects of the other AL Observing Programs.

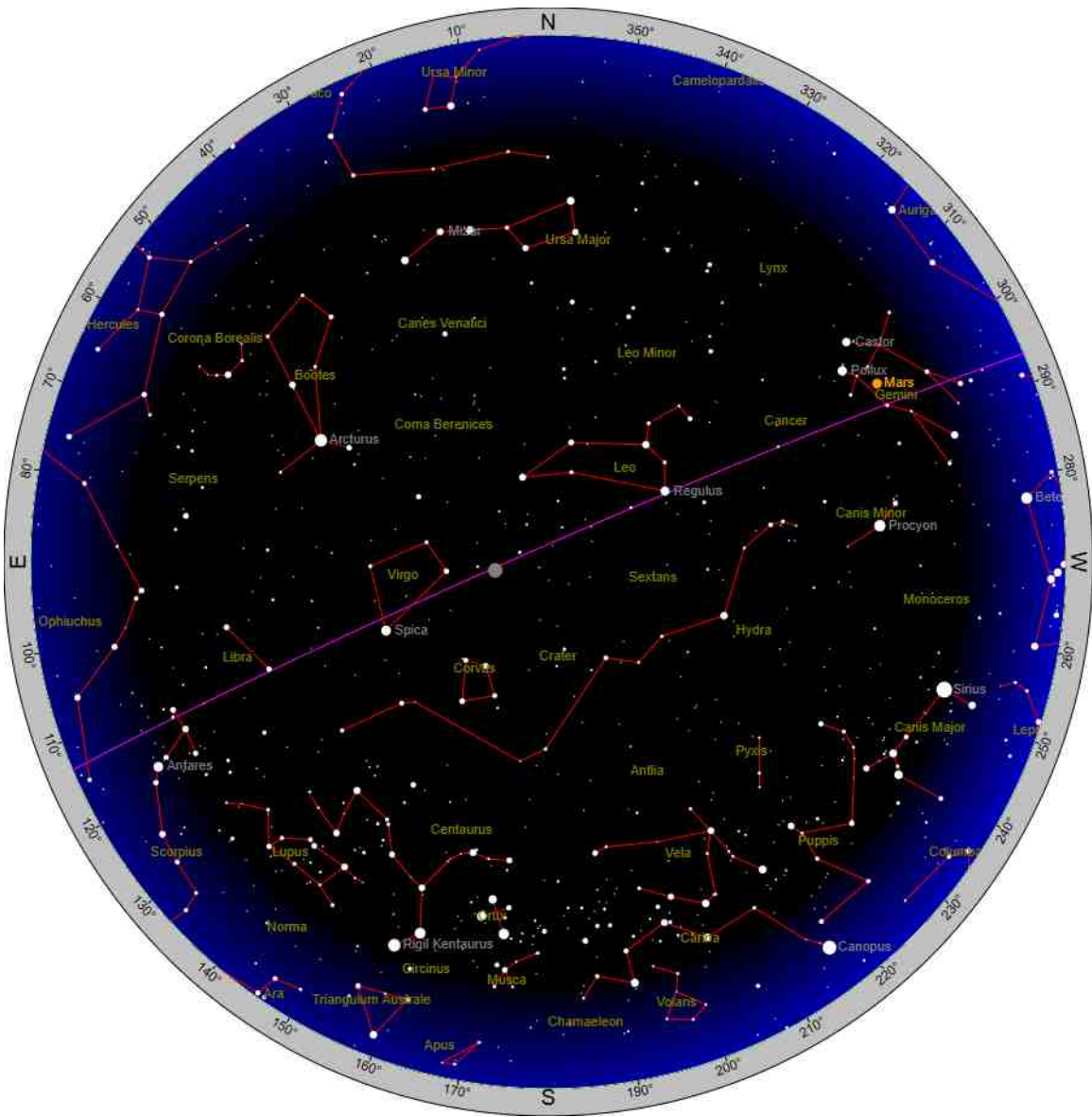
Observing Programs by using the "What's Up Tonight, Doc?" spreadsheet.

† - "What's Up Doc?" is used with permission from Warner Bros. Entertainment Inc.



[Interactive sky chart](#) [Home](#)

Year: 2025 Month: April Day: 15 Hour: 00 Minute: 00



Until next Month

Remember to always look up!