

# The Spring Constellations

Culpeper Astronomy Club  
February 24, 2020



# Overview

- Introductions
- Special Topics
- Video: The Spring Constellations
- Constellations: Bootes, Leo, Virgo
- Observing Session

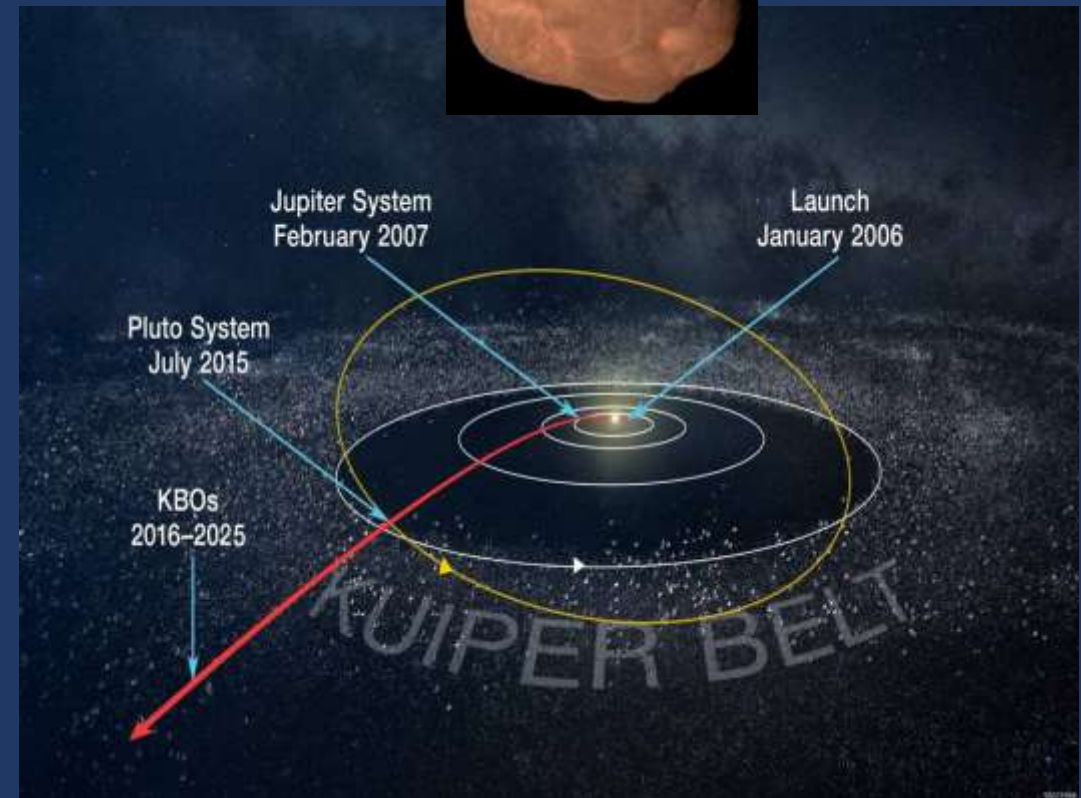
# Observing Sessions

- Private Star party (19 Jan)
  - Grandson and several neighborhood kids
  - Checking out scope and Venus
- CAC Observing Session (14 Feb)
  - Checked out some scopes (10" Dob's)
  - Andromeda Galaxy, Orion Nebula, Double Cluster
- Mars Occultation (17 Feb)



# Special Topic #1: New Horizons Update

- New Horizons Kuiper Belt Flyby Object (Ultima Tule) Officially Named 'Arrokoth'
  - a Native American term meaning “sky” in the Powhatan/Algonquian language
- Arrokoth is one of the thousands of known small icy worlds in the Kuiper Belt
- Because they are so far from the Sun, Kuiper Belt objects have only been slightly heated since forming
- Thought to be well-preserved, frozen samples of what the outer solar system was like after its birth more than 4.5 billion years ago

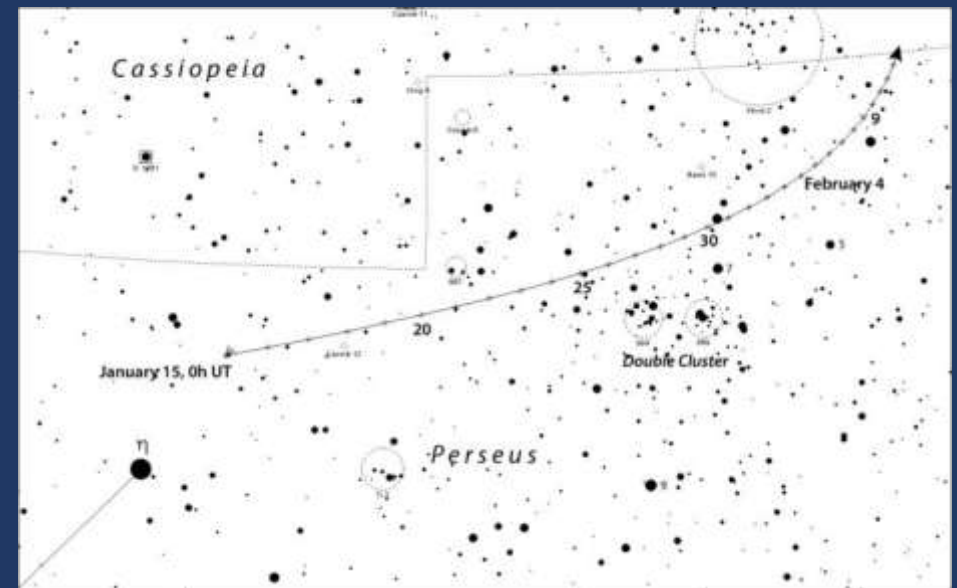




# Special Topic #2: Comet Panstarrs

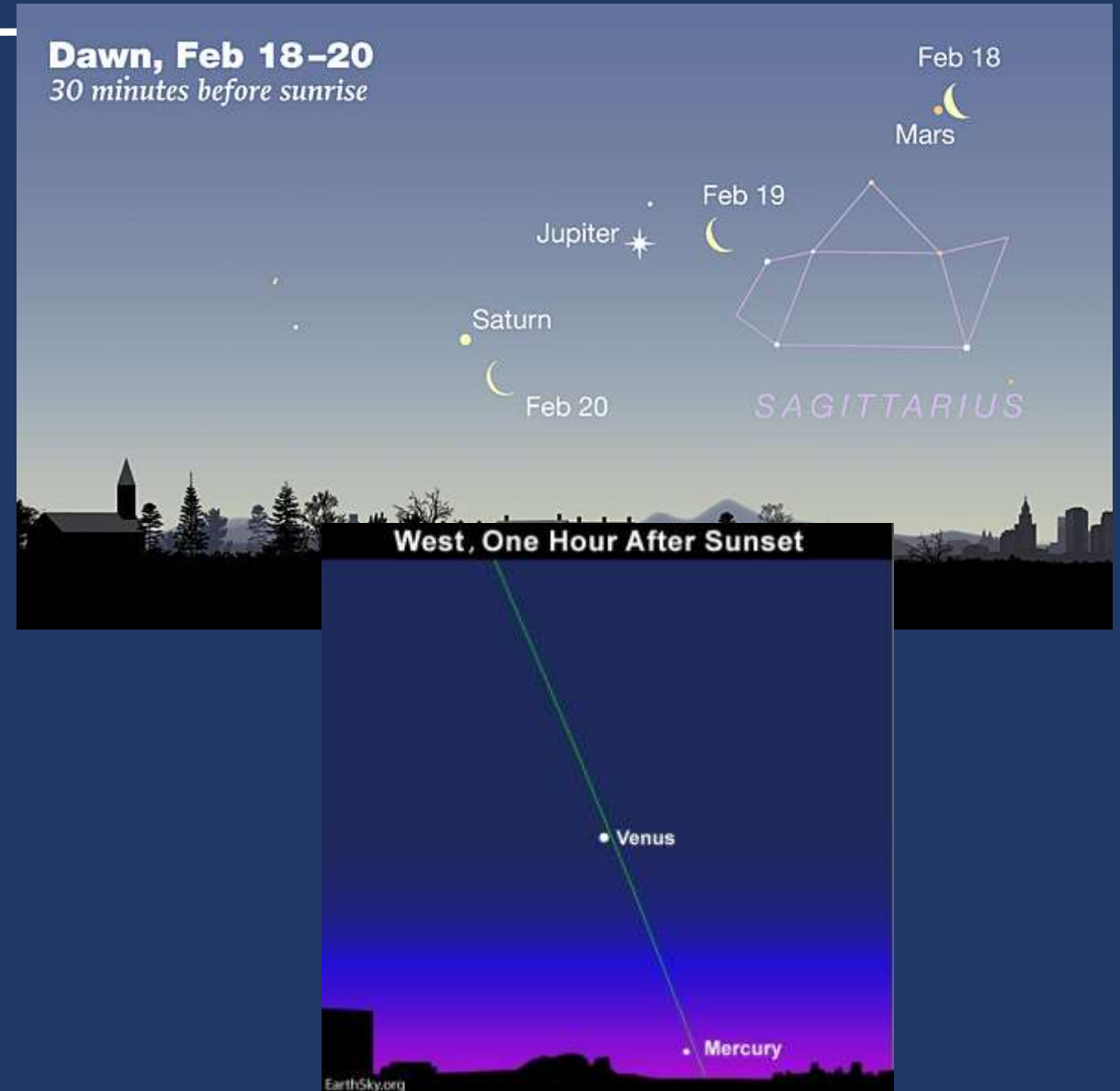
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- Discovered by the PanSTARRS-1 survey telescope back in October 2017
  - At the time the comet was nearly as distant as Saturn, and glowed feebly at magnitude 20
  - Described as dynamically new, long-period comet from the Oort Cloud
  - On its first trip around the Sun since the infancy of the solar system
- At magnitude 9.5 currently the brightest comet of the night as it glides past the Perseus Double Cluster



# Special Topic #3: Rise of the Planets

- Early risers can easily spot Mars, Jupiter, and Saturn in the predawn sky
  - They're three bright beacons above the eastern horizon
- Meanwhile, Venus, is putting on a show in the southwestern sky after sunset
  - Will be in the evening sky until May
- If you have a clear view toward the western horizon, Venus will guide you to the normally elusive Mercury



# Video – Spring Constellations

# Constellations

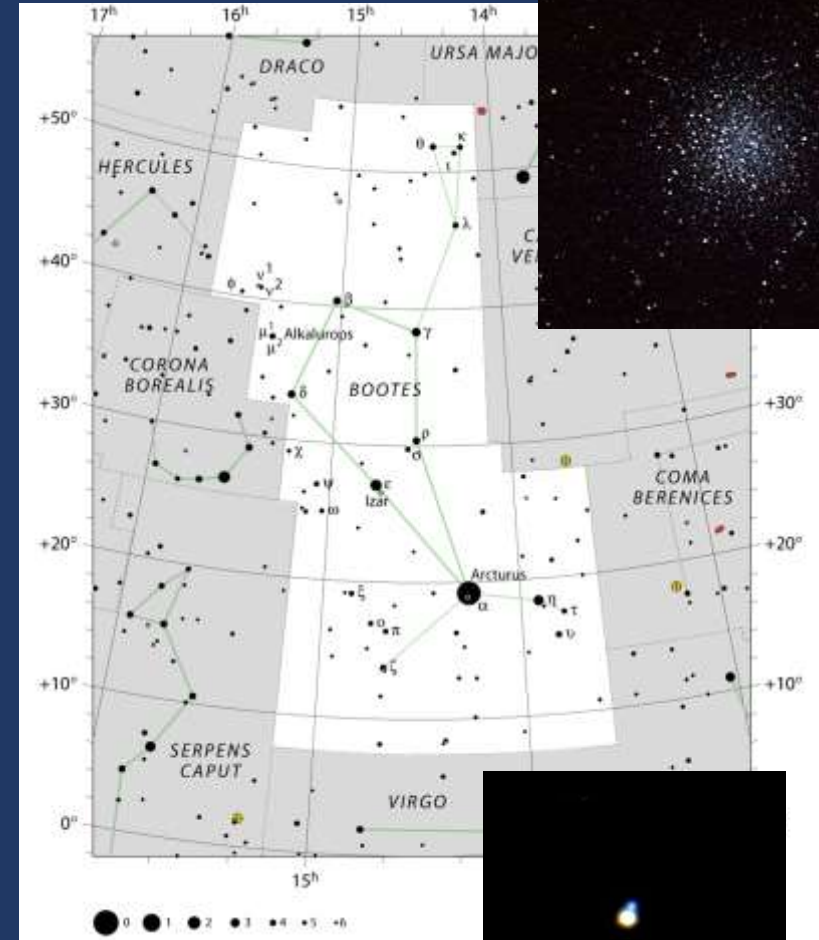
- The Big Dipper, Ursa Major can be used to locate several Spring constellations
- Will explore three this evening
  - Bootes, The Herdsman
  - Virgo, The Maiden
  - Leo, The Lion





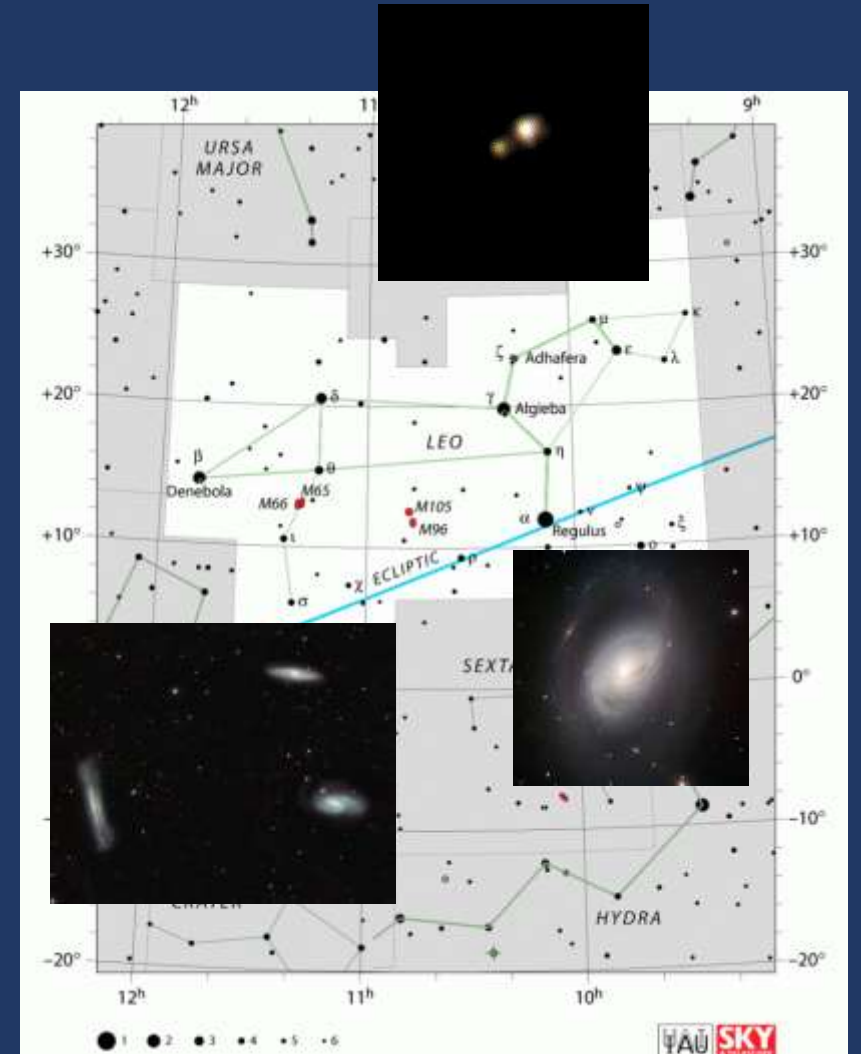
# Bootes – “The Herdsman”

- Bootes – Herdsman with two hunting dogs on a leash and a club in his other hand
- Arcturus: the third brightest star in the sky at 21 LY; fast moving star
- Izar: Binary star located approximately 300 LY distant
  - Consists of a bright orange giant and a smaller and fainter pale green main sequence star
- Deep Sky Objects:
  - The Boötes void, (aka: Great Void), sphere-shaped region of the sky, almost 250 LY in diameter, containing very few galaxies
  - NGC 5466: Globular Star Cluster



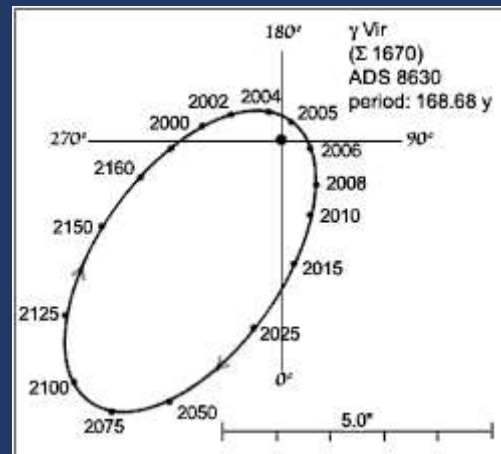
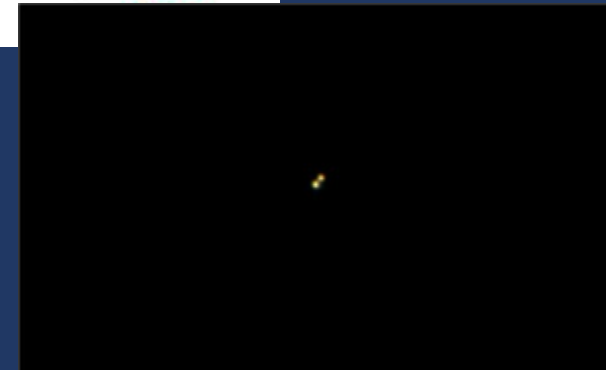
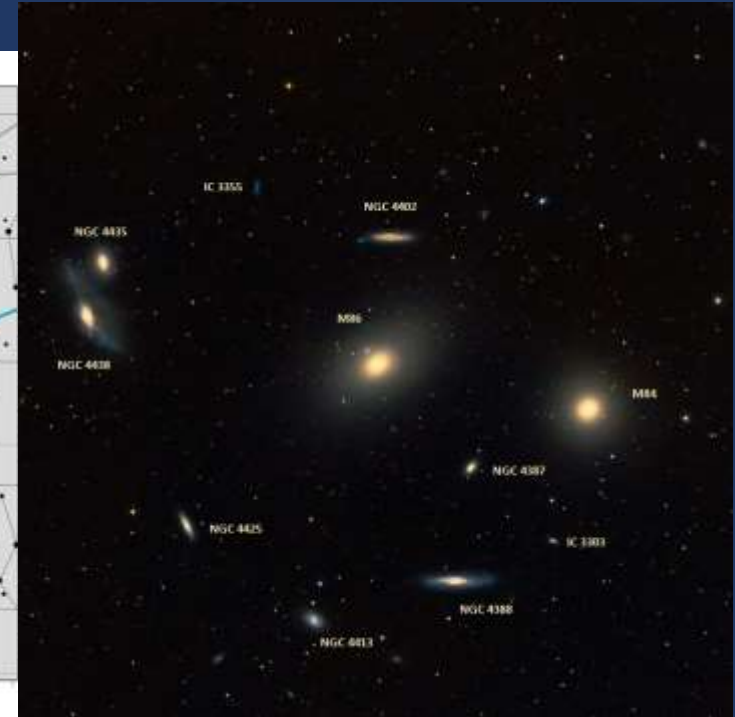
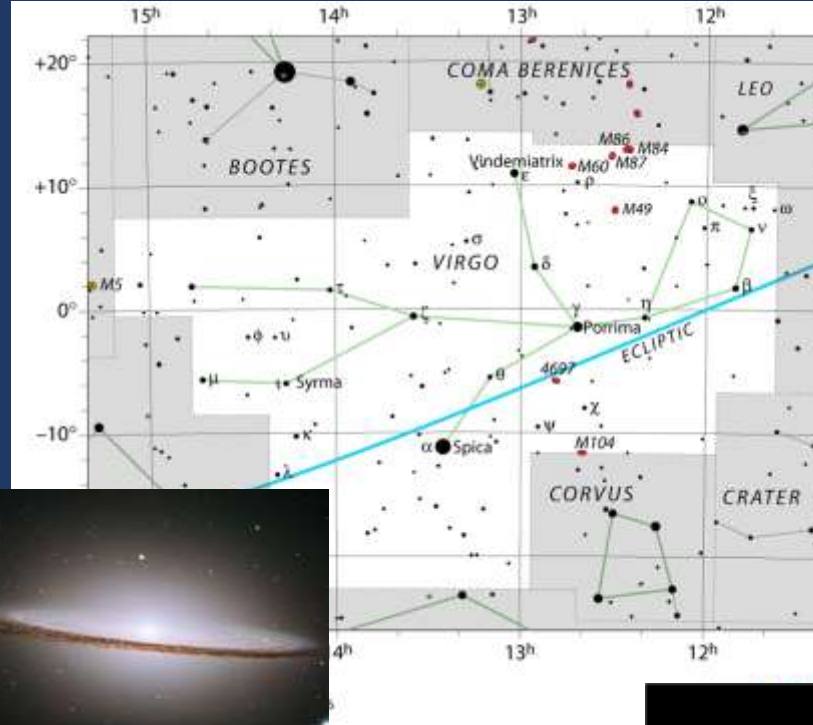
# Leo – The Lion

- Highly recognizable constellation; one of the few constellations that resemble its name
- The Lion which was killed by Hercules on one of the 12 labors he had to perform for killing his family
- Double Stars:
  - Algieba: 4.6" Sep
- M65: a spiral galaxy at a distance of about 35M light years
- M66: another spiral galaxy 36M light years distant and spread across 95 thousand light-years; has had four recorded supernovae
- M96: spiral galaxy about 35M Light years; diameter 100K light years (about same size as the Milky Way)



# Virgo – The Maiden

- Virgo is the largest constellation in the Zodiac; second largest constellation overall
- "Follow the arc to Arcturus, then speed on to Spica."
- Double Stars:
  - Porrima – 3.4" and widening
- Virgo contains eleven Messier objects:
  - Virgo Galaxy Cluster (52M Light Years): M49, M58, M59, M60, M61, M84, M86, M87, M89, M90
  - M104 (Sombrero Galaxy)



# Meteor Showers

- Some of the best are listed below along with dates when the most meteors are visible
  - Quadrantids, January 3-4 (Comet 2003 EH1)
  - Lyrids, April 21-22 (Comet Thatcher)
  - Perseids, August 12-13 (Comet Swift-Tuttle)
  - Orionids, October 20-21 (Halley's Comet)
  - Leonids, November 17-18 (Comet Tempel-Tuttle)
  - Geminids, December 13-14 (Asteroid 3200 Phaethon)
  - Ursids, December 23-24 (Comet 8P/Tuttle)
- The name of each shower refers to the constellation to which the meteors trace their apparent paths





# Upcoming Events

- Next Meeting: March 2020
  - Primary Topic: TBD
- Meteor Showers:
  - Lyrid Shower

