



# The Sky This Month

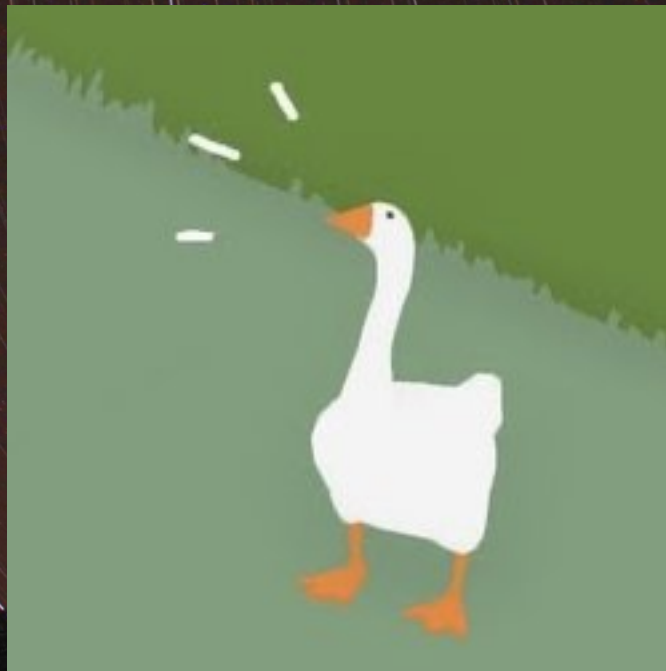
Andy Beaton  
February 26, 2020

# Agenda

- Starting with a Variable Star
- The Big Picture
- Planetary Highlights
- Lunar Highlights
- A Galaxy Cluster
- Comets and Meteors
- And A Double Star
- Spaceflight Highlights

Betelgeuse!  
Betelgeuse!  
Betelgeuse!

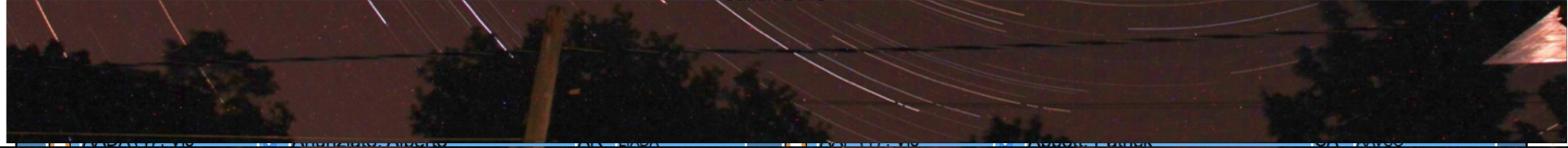
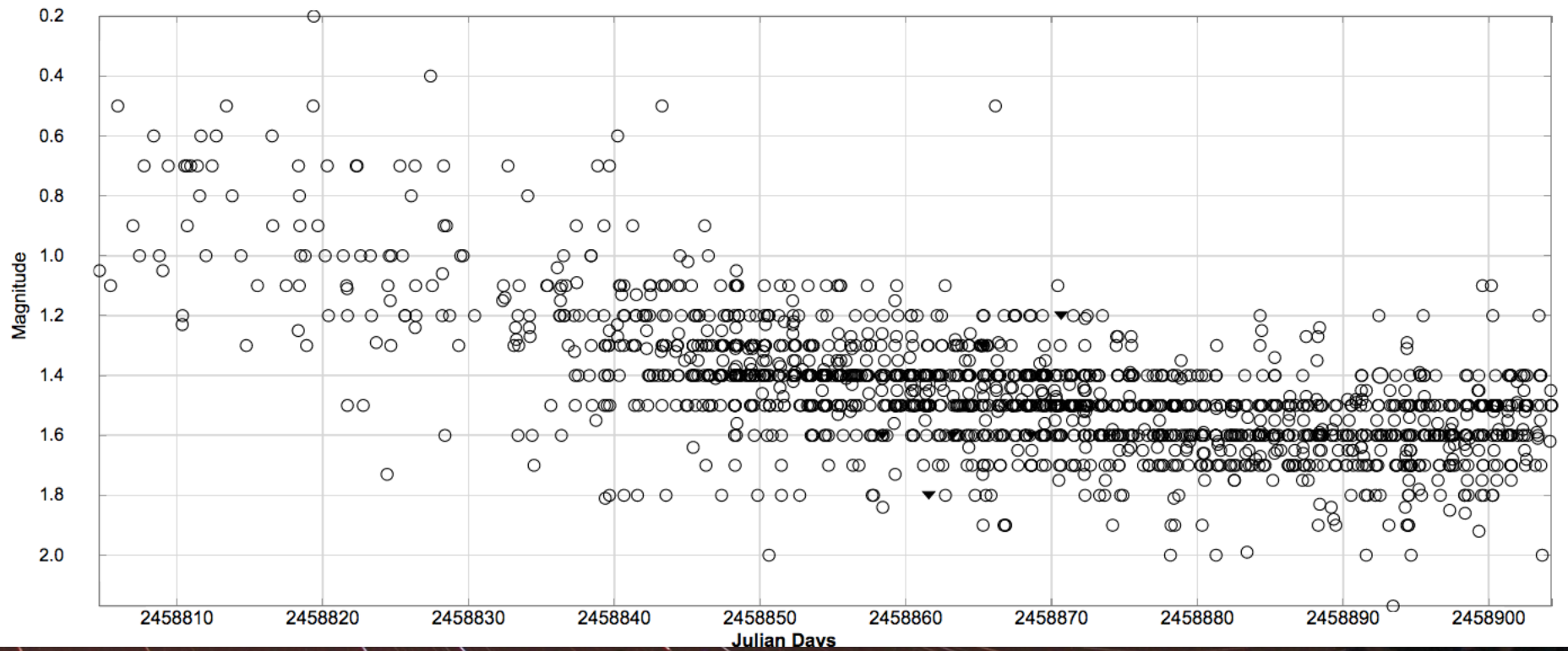
- (Alternative pronunciation: Battle-goose)



# Betelgeuse

Plot Another Curve Preferences Zoom Back ? Mean Adopter: James Bedient BETELGEUSE 2019/11/16 to 2020/02/24 Annotate Print

All (1721)  (1721)  Vis  (6)  Faint



# Betelgeuse

- We're probably looking at a superposition of several dimming cycles
- Brightening appears to have commenced
- We probably aren't going to see a supernova in the next few weeks, but could happen any time in the next 10,000 years

# Betelgeuse

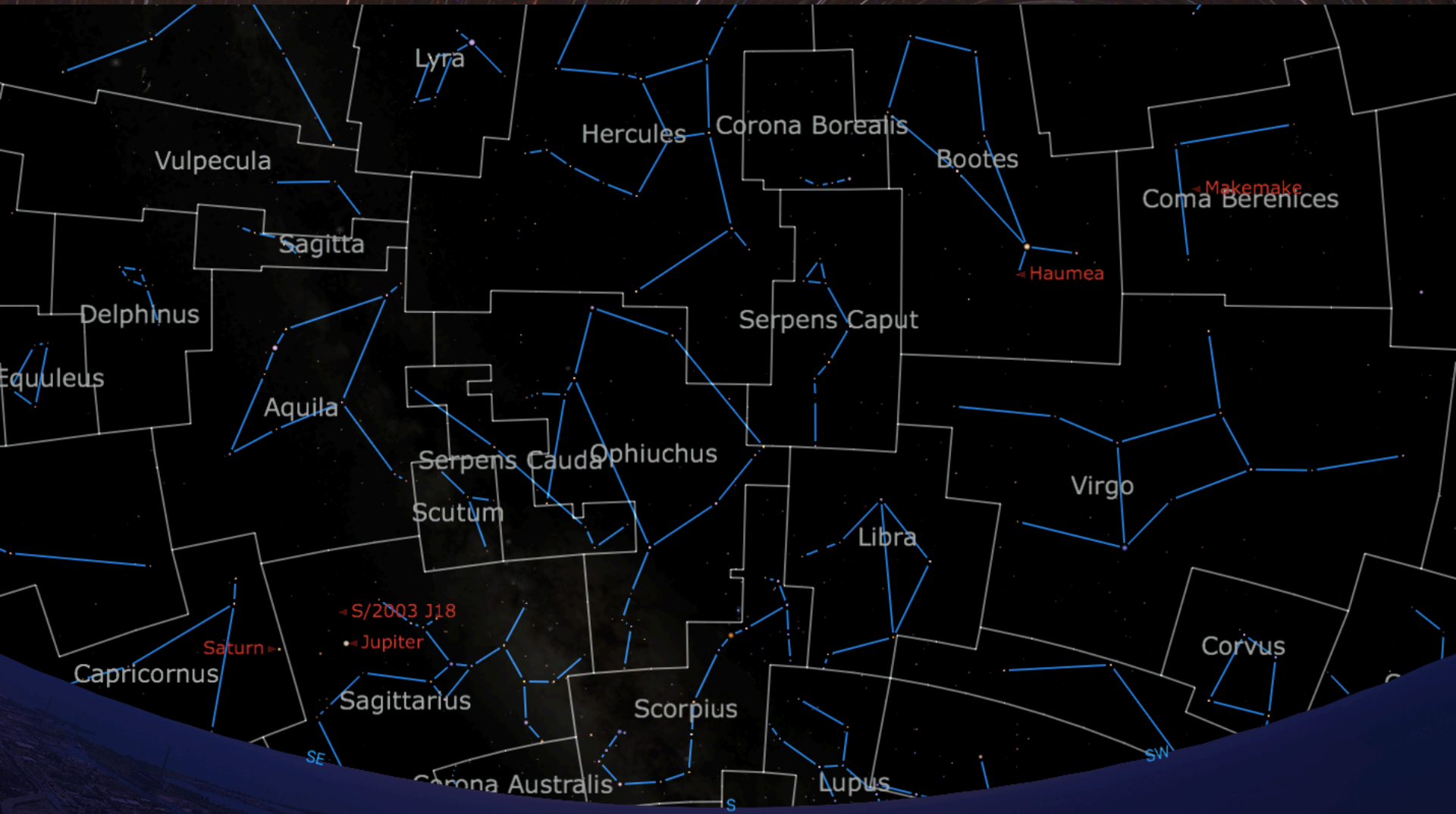
- (Image from the ESO's Very large Telescope)



# The Big Picture (PM)



# The Big Picture (AM)





# Nights Are Getting Shorter

- Astronomical Twilight ends at 19:20 on Feb 26
- Starts at 05:05
- Switch to DST on March 8
- Astronomical Twilight ends at 20:49 on Mar 25
- Starts at 05:24

# Key Dates

- New Moon - March 24
- Moon at apogee on March 24, perigee on March 10
- Full Moon on March 9
- Close Moon/Jupiter pass on March 18
- Close Moon/Saturn pass on March 19

# The Moon

- First Quarter March 2
- Full Moon - March 9
- Last Quarter - March 16
- New Moon March 24
- Next Lunar X March 2 (4:52 AM)

# Planetary Highlights - Mercury, Venus, Mars

- Mercury is slowly appearing in the morning, greatest elongation on the Mar 24
- Venus is high in the western sky in the evening, currently approaching us
- Mars appearing in the morning sky, passing close to Jupiter and Saturn
  - low to the horizon from the northern hemisphere

# Planetary Highlights - Saturn, Jupiter

- Jupiter rising in the morning sky
- Saturn follows closely behind
- Sadly, both are also at low declinations
- For the near future, a race between increasing RA and earlier twilight
- Moons and rings are still going to be interesting targets, but fine details will be wiped out by the atmosphere

# Planetary Highlights - Uranus, Neptune

- Uranus is an early evening object, sinking into the twilight
- Neptune is behind the sun
- A lousy time for ice giants.

# Planetary Highlights - Pluto, Ceres, Elis

- Pluto in Sagittarius, which makes it almost impossible find in morning twilight
- Ceres too close to the sun to observe

# A Bit of Deep Sky Stuff

- The Coma Cluster
  - ~1000 galaxies in and around Coma Berenices
  - Top 2 ellipticals, 10 spirals in the 12-14m range
  - You probably want an 8" or greater telescope, like you might at the CAO



# NGC4874 & NGC4889

- AKA Coma A and Coma B
- Supergiant ellipticals
- 12.7 and 12.9m
- 4889 may be 15,000,000,000,000 solar masses
- 21 billion solar mass black hole at its centre



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# Comets and Meteors

- No major meteor showers over the next month
- Meteor Dribbles
  - February mu Virginids - Feb 16 - Mar 4
  - xi Herculids - Mar 9 - Mar 13

# Comets and Meteors

- PANSTARRS (2017 T2) - 9m in Cassiopeia
- ASASSN (2018 N2) - 11.5m in Andromeda
- 289P/Blanpain - 12m in Leo Minor
  - (contrary to Sky Safari, not 1.6m)

# A Double Star - Beta Monocerotis

- Actually a triple star
- brightest star in Monoceros
- 3 blue stars ~4m
- B and C stars quite close (2.5") so splitting them may be a challenge

# Spaceflight Highlights

- Astra 1 (DARPA launch Challenge) Feb 27
- Falcon 9/Dragon to ISS on Mar 6
- Falcon 9 with 60 more Starlink satellites on Mar 11
- Virgin Orbit Launcher1 (from a 747) TBD
- OneWeb 3 Soyuz - Starlink competitor - Mar 18
- ISS passes in the morning until Mar 14, evening after Mar 17
- [heavens-above.com](https://www.heavens-above.com) for times and locations

# But What if it's Cloudy?

- [zooniverse.org](http://zooniverse.org) has a heap of citizen science projects
  - Muon Hunter - muon tracks in astro images
  - Backyard Worlds - search for brown dwarfs and low mass stars
  - Planet Hunters TESS - transiting exoplanets
  - Radio Galaxy Zoo

Thanks and Clear Skies!

A dark, starry night sky with a prominent cluster of bright stars in the center. The stars vary in size and brightness, with a few particularly large and bright ones. The background is filled with a dense field of smaller, dimmer stars.