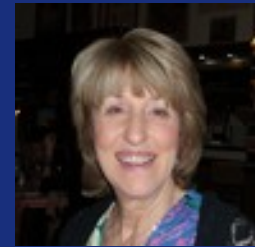


Barnard's Star

Bill Smith

2021

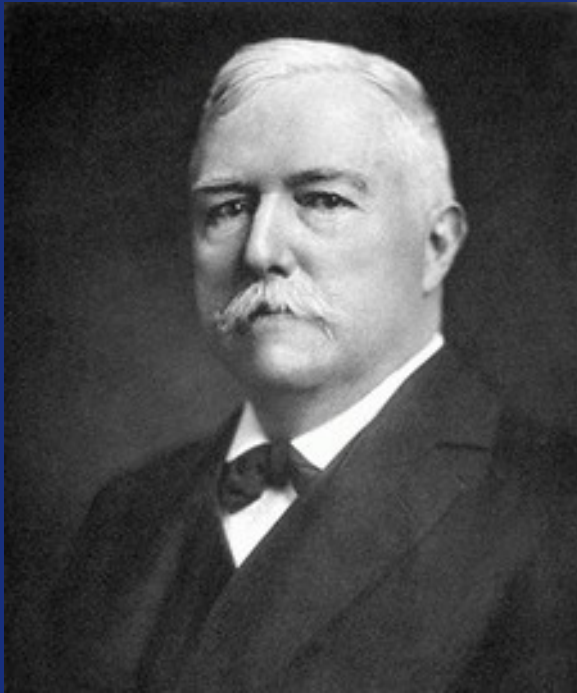
narrated by
Celia Smith



Basic Facts

- Barnard's star is in the constellation of Ophiuchus.
- It has the highest proper motion of any known star ~ 10.3 arc-seconds per year.
- It is the closest star to the sun after the three stars of alpha centauri system at 5.9 light years.
- It is a red dwarf of magnitude 9.5 and the second closest after proxima centauri.
- It can be detected with a simple camera & tripod setup or small telescope.
- It is named after Edward Emerson Barnard.

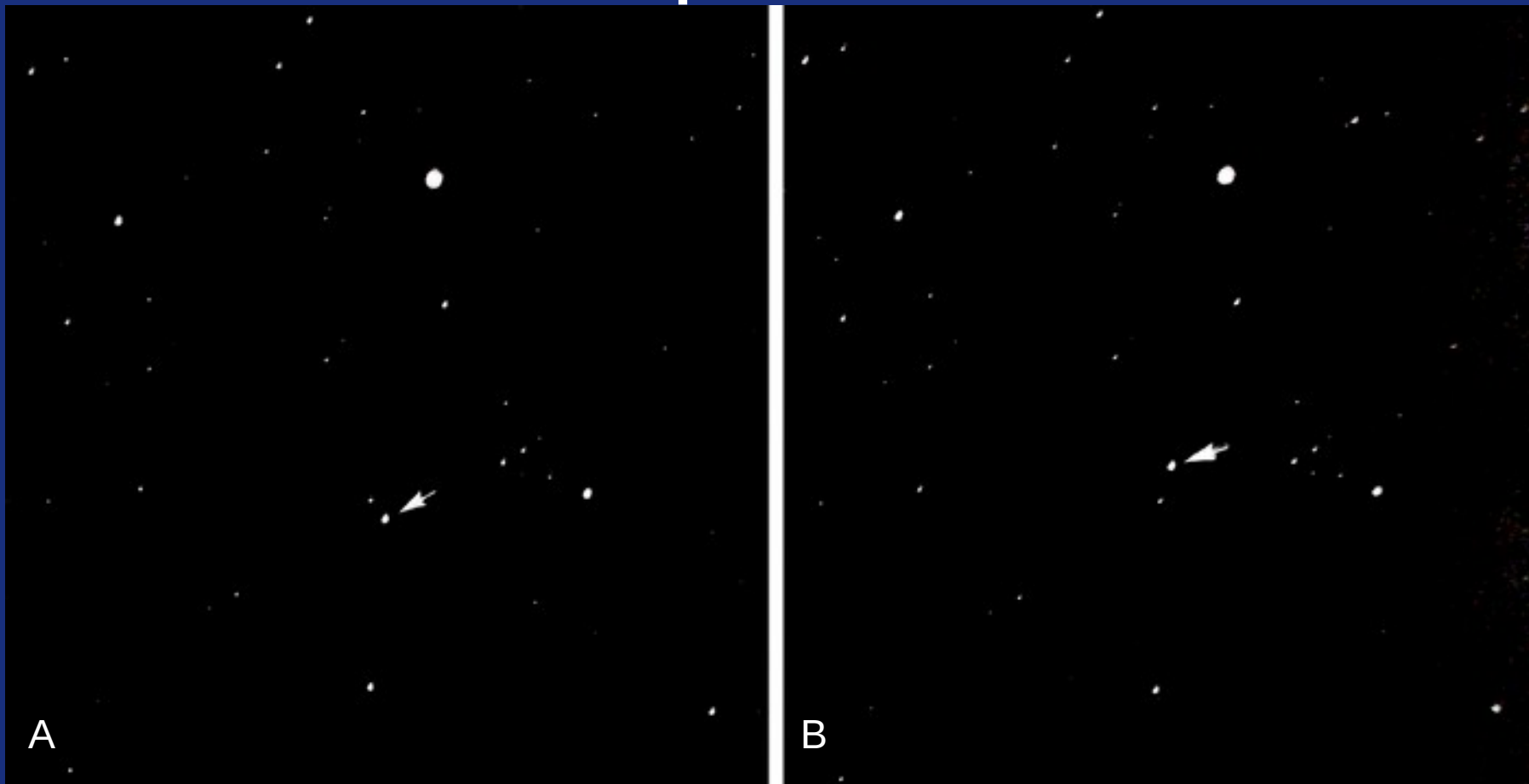
Edward Emerson Barnard



1857-1923

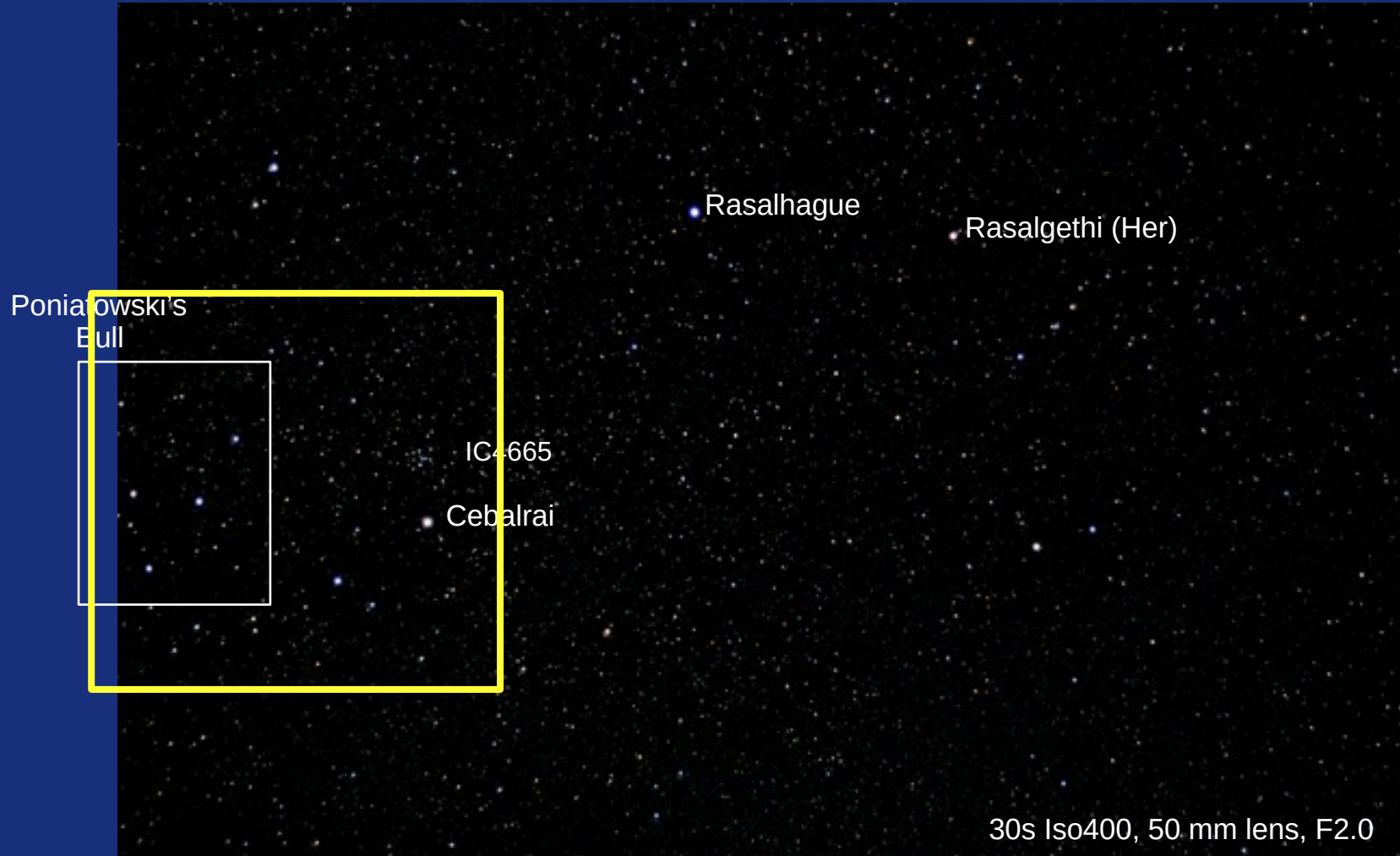
- Outstanding, self taught, American astronomer and astrophotographer (associated with Lick and Yerkes).
- Discovered 17 comets (2 shared).
- Discovered Amalthea, 5th moon of Jupiter (1892).
- ‘Discovered’ spokes on Saturn’s rings (1889).
- ‘Discovered’ craters on Mars (1892-3) and argued against the presence of Martian canals.
- Catalogued 370 dark nebulae (Barnard Objects).
- Discovered proper motion of Barnard’s star (1916).
- His name is honoured in many astronomical objects.

Lick Telescope Observations



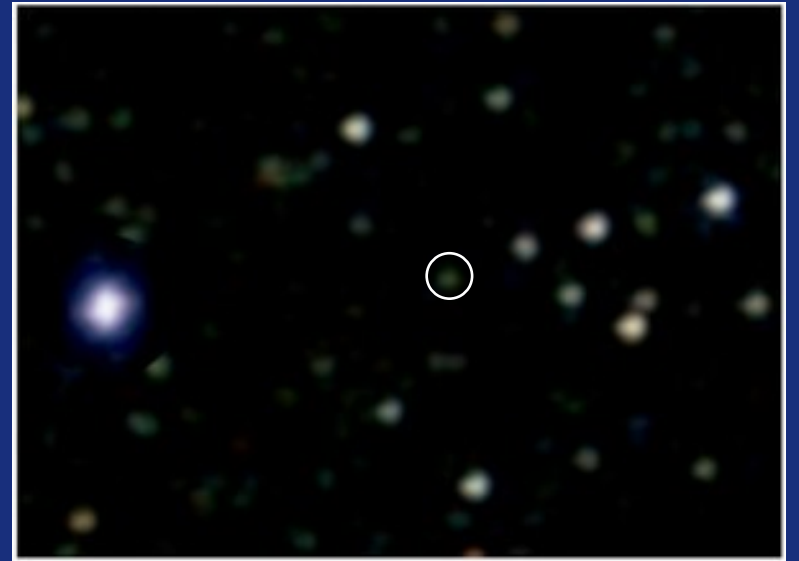
Shots A and B 10 years apart

Ophiuchus (20/09/2019)



30s Iso400, 50 mm lens, F2.0

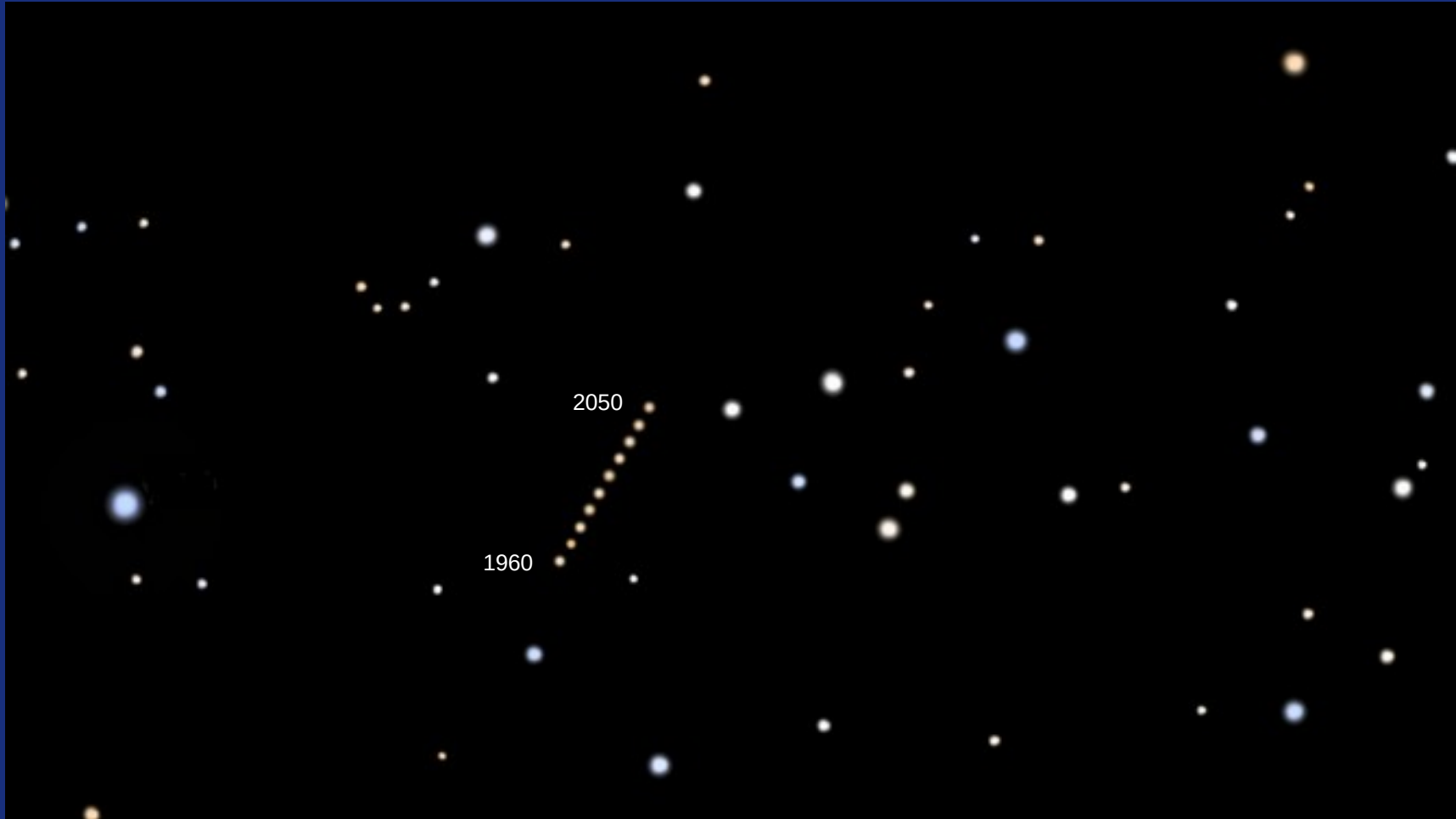
Finding Barnard's Star



Stellarium Confirmation



Stellarium Extrapolation



Stellarium Animated GIF



Other Facts about Barnard's Star

- In the 1960's it was reported that it wobbles over a range of 0.04 arc seconds, possibly due to unseen companions (Peter van de Kamp). The theory was discredited by later observations.
- However, in 2018 a small planet (3 x Earth) was found.
- In 3,600 years it will have moved ~10 degrees and be found in Hercules.
- It is getting nearer to Earth and will be 3.75 light years away in the year 11,800.

Challenge!

If you are young enough, take a photograph of Barnard's star this year and every 5 years thereafter and construct your own history of the star's movement. See how far it moves in your lifetime!

My Observations 2010 & 2019



Thank you