★ How do you find celestial objects? ★
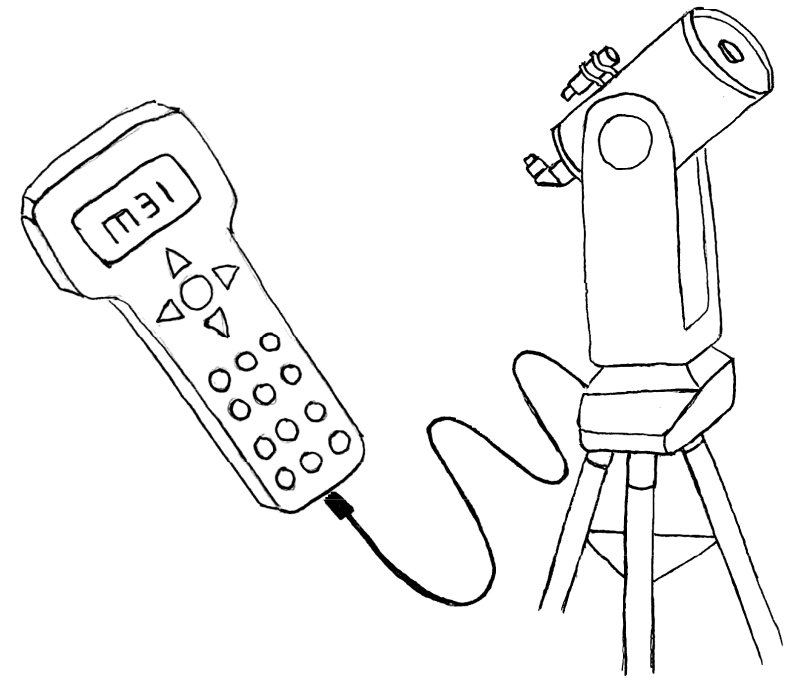
☆ Finding celestial targets the modern way ☆

Computerized "GoTo" telescopes... the quick and easy method:

1 Level the telescope mount
2 Point the tube towards north
3 Indicate date and time
4 Indicate observing location

5 Center on first guide star
6 Center on second bright guide star
7 Enter the target's designation, then the scope automatically slews to it.

☆ Finding celestial treasurers the old fashioned way ☆
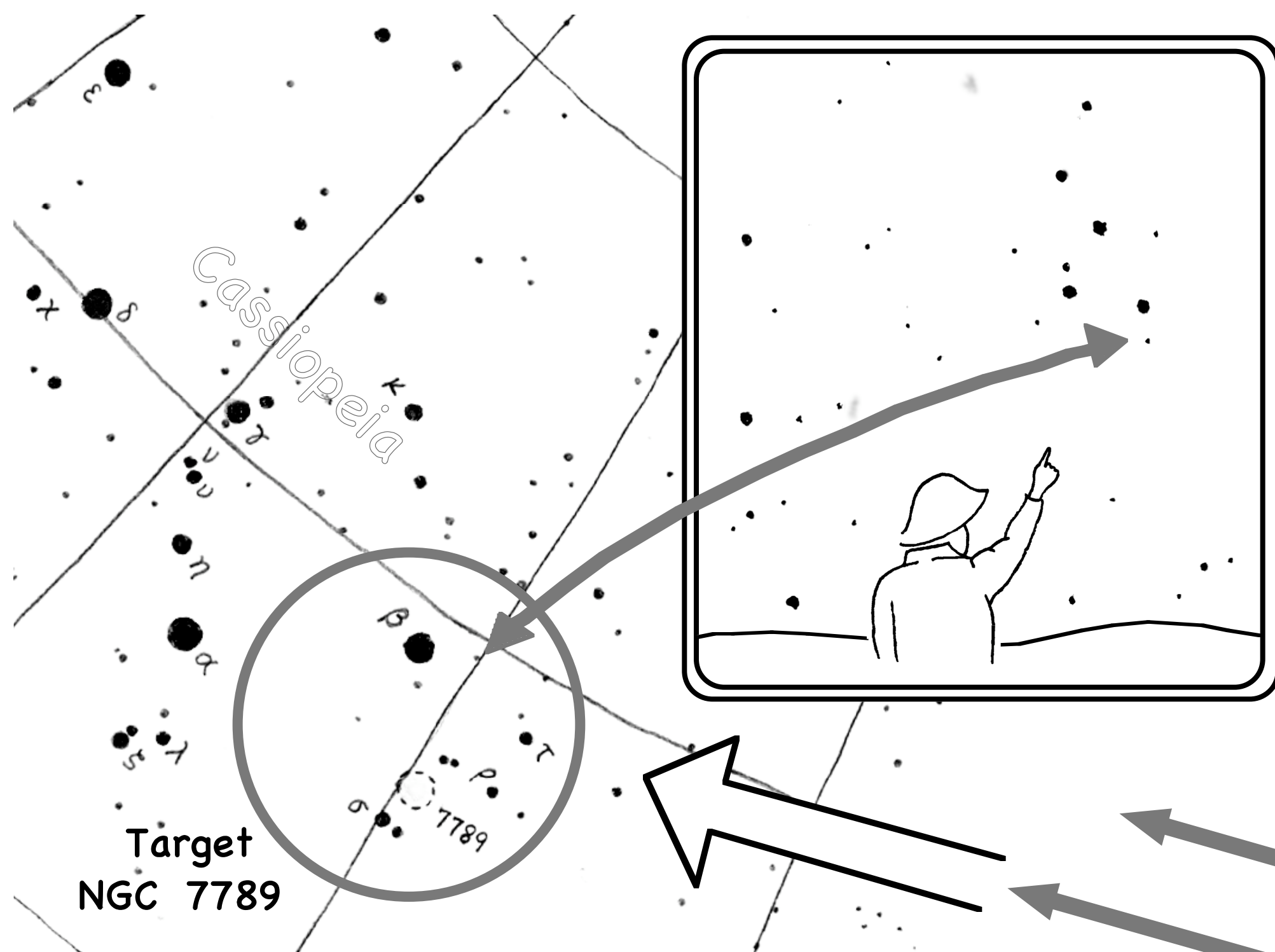
1 Learn the stars and constellations

★ There is no substitute for sitting under the stars with a map and red flashlight.
★ Use a star map that plots all stars visible to the unaided eye.
★ Start by finding well-known star patterns such as the Big Dipper, or the constellation of Orion or Cassiopeia.
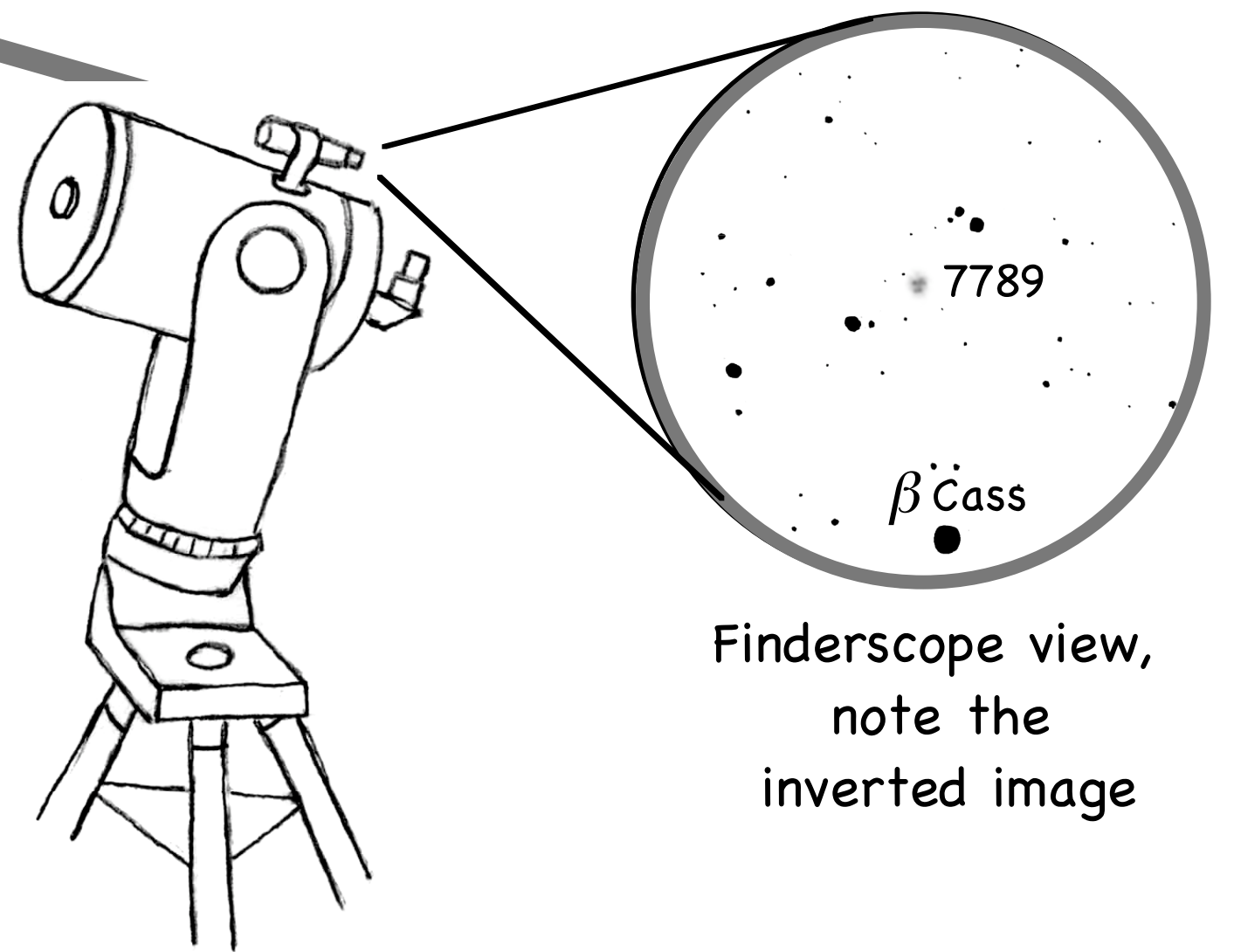★ Continue by identifying neighboring star patterns.

Cassiopeia

Target NGC 7789

7789
β Cass

Finderscope view, note the inverted image

2 Finderscope: little scope, big view

Why a finderscope?
★ Gives a wide field of view, about 5°,
★ Must be aligned with the main telescope,
★ Only the bright planets, brighter nebulae and star clusters are visible.

Simply...
★ Point the finder at a suitable guide star, or
★ Triangulate to the object by using nearby recognizable stars.

3 Star Hopping: finding the faintest of objects...

Before hopping begins:
★ Must have a detailed star map.
★ Must know the field of view of the eyepiece.

As an example, find galaxy M108:
1 Begin hopping at a reference star, in this case Beta (β) Ursa Majoris in the Big Dipper.
2 Match the stars on the map with those in the eyepiece.
3 Hop among the stars in each subsequent field of view until the correct field is reached.
4 Look closely to see the dim galaxy, M108.

The Big Dipper

Eyepiece view of M108

β
M108

M108

Eyepiece field of view
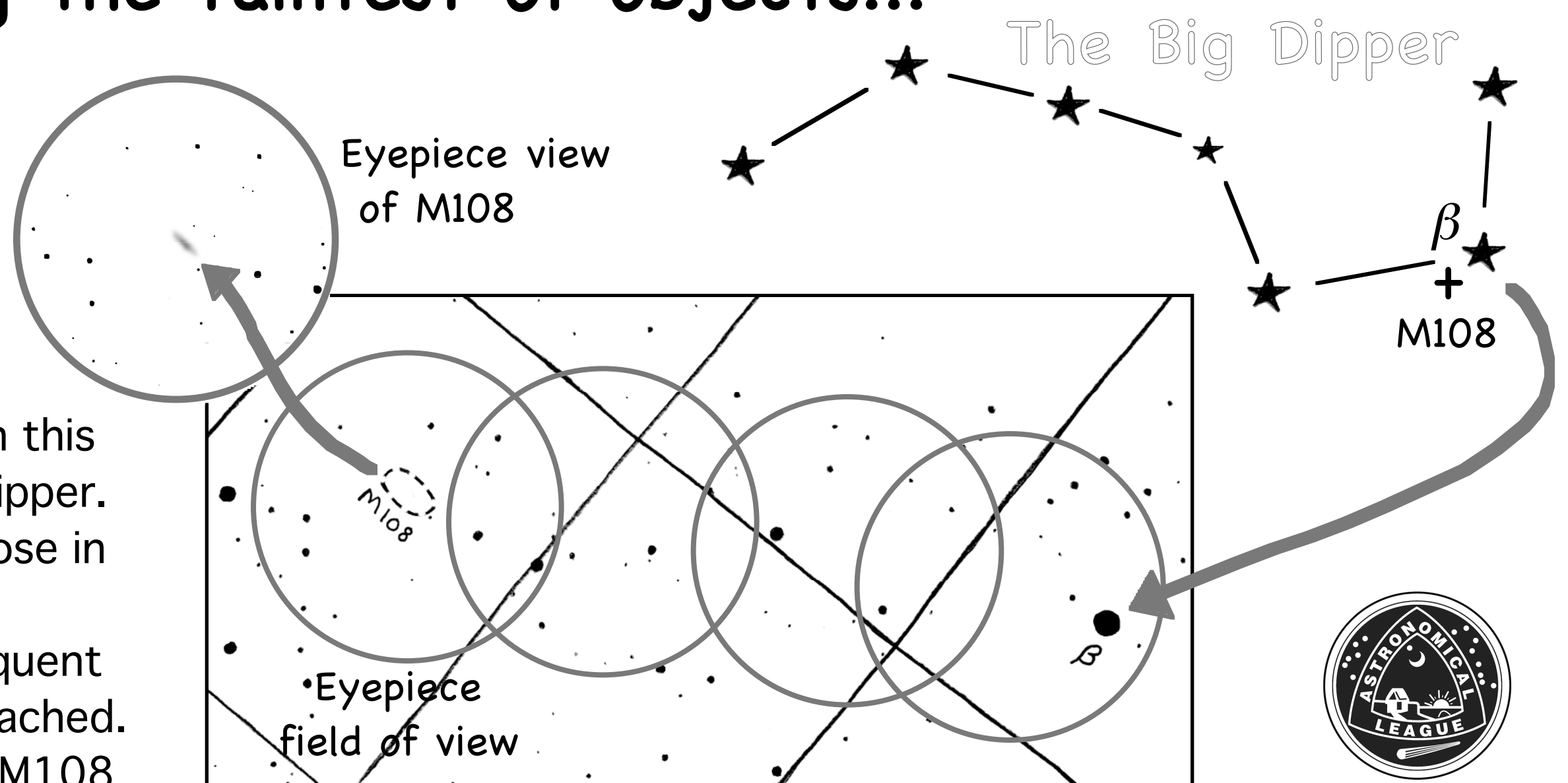
Star hopping to M108 from Beta Ursa Majoris