



# ASTROPHILE **Bring Back Dark Skies** EDUCATION **Activity Guide** SERVICES **Sept.: 9-18, Oct.: 8-17**

## **Activity Guide: Introduction**

*(2020 Campaign Dates that use Cygnus: September 9-18, October 8-17)*

Welcome to “**Bring Back Dark Sky**” campaign, an initiative of **Astrophile Education Services**. It is a pan-India campaign to observe and record the faintest stars visible as a means of measuring light pollution in a given location. By locating and observing the constellation Cygnus in the night sky and comparing it to stellar charts, people from all over India will learn how the lights in their community contribute to light pollution. Your contributions to the online database will document the visible nighttime sky.

### **Materials Needed:**

- This activity document printed.
- Something to write on.
- Something to write with.
- Red light to preserve night vision
- Optional: smart mobile device.

### **Remember Safety First!**

- We encourage parents to do this activity with younger children. Please use your judgment as to whether your child should be supervised outside after dark at your location.
- Be sure you are wearing suitable clothing for the weather and for being outside at night (light coloured and/or reflective clothing).
- When choosing the darkest area in your location, make sure your child is not close to traffic, the edge of a balcony, or near danger in any other way.

### **Multiple Observations:**

You can enter more than one observation by moving to a new location at least 1 km away from your original location. Don't forget to get new latitude and longitude coordinates. This can be done on the same night or on another night any time during the dates of the campaign.

### **Five Easy Star-Hunting Steps:**

1. Find your latitude and longitude using google maps and report as many decimal places as the unit provides.
2. Find your constellation by going outside at least an hour after sunset, approximately between 8-10 pm. Once it's dark, take measurements if there's no moon.
3. Determine the darkest area by moving to where the most stars are visible in the sky toward your constellation. If you have outside lights, be sure they are all off.
4. Wait outside for at least 10 minutes for your eyes to adapt to the darkness. This is called becoming “dark-adapted.”
5. Locate your constellation in the sky. For help use the appropriate constellation Finder Chart for your latitude, or use a mobile application for locating the stars.
6. Match your nighttime sky to one of our magnitude charts.
7. Select the chart that most closely resembles what you are seeing. Estimate the cloud cover in the sky. Fill out the measurement sheet below.
8. Report your observation online on the page.
9. Your observations can be reported online anytime up to 2 weeks after the campaign dates for that month are over.
10. There is a campaign each month that is ten days long. To participate in more campaigns, visit the page again.
11. Next time, consider taking observations from different locations.
12. Make sure you report what you have observed and do not manipulate the data. It is important to be accurate.

Charts in this document were prepared by Jenik Hollan, CzechGlobe.



# ASTROPHILE EDUCATION SERVICES

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Activity Guide

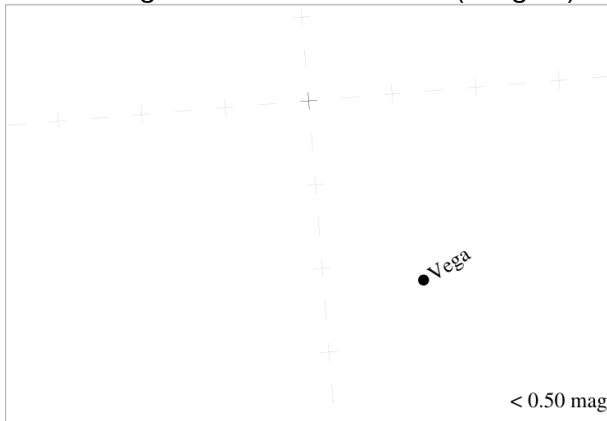
Sept.: 9-18, Oct.: 8-17

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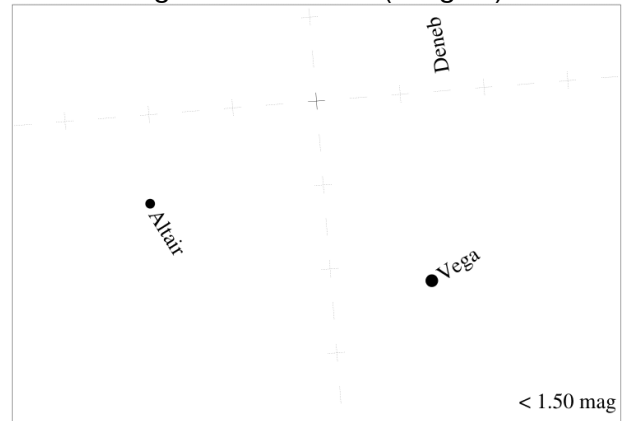
*(2020 Campaign Dates that use Cygnus: September 9-18, October 8-17)*

Before heading outside to make your observations, consider carrying this document with you.

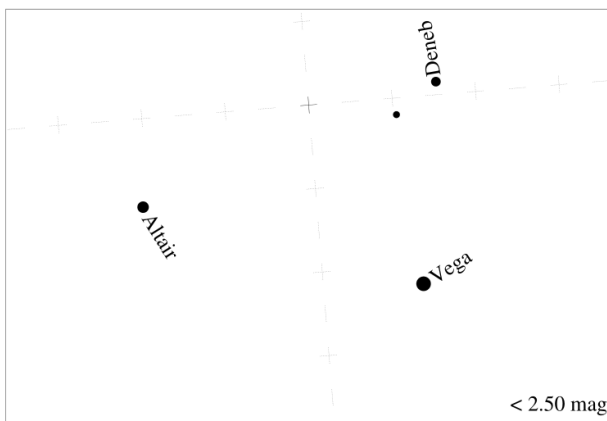
Magnitude below +1 Chart (Image 1)



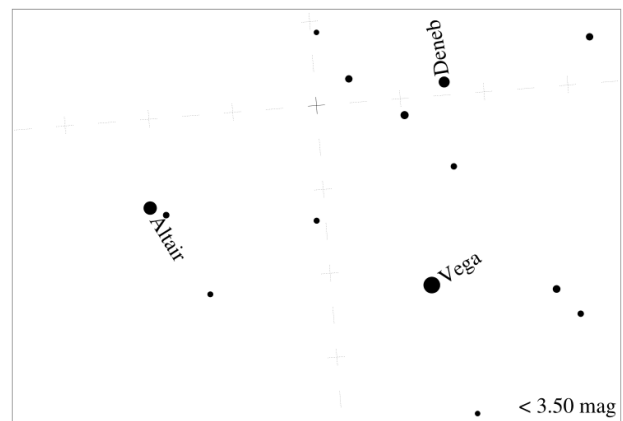
Magnitude +1 Chart (Image 2)



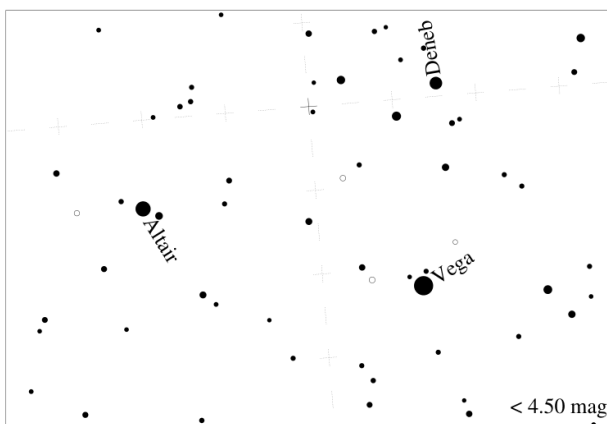
Magnitude +2 Chart (Image 3)



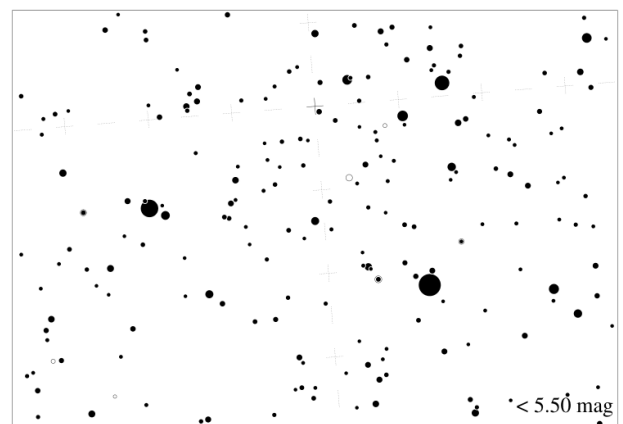
Magnitude +3 Chart (Image 4)



Magnitude +4 Chart (Image 5)



Magnitude +5 Chart (Image 6)

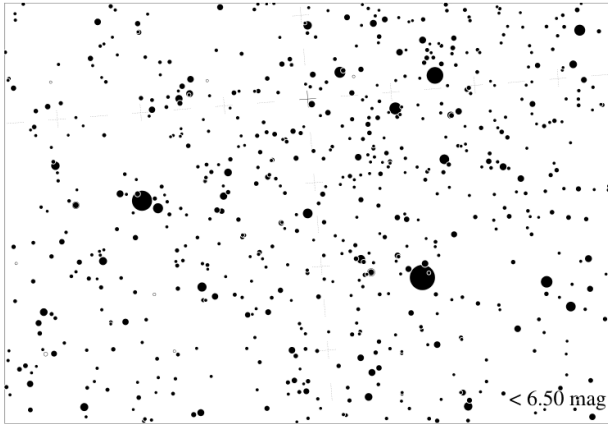




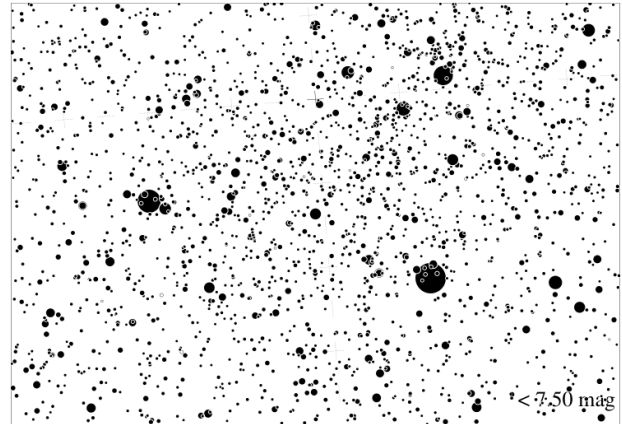
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Magnitude +6 Chart (Image 7)



Magnitude +7 Chart (Image 8)



**Fill the bottom fields to record your observation.**

Latitude\*: \_\_\_\_\_

Location Type\*: \_\_\_\_\_

Cloud Cover\*: \_\_\_\_\_

Image Options\*: \_\_\_\_\_ (see above)

Remarks about Light pollution:

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Longitude\*: \_\_\_\_\_

Time of Observation: \_\_\_\_\_ (hhmmss)

Bright Light Source: \_\_\_\_\_

No. Of Stars seen: \_\_\_\_\_

Any Other details for observation:

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