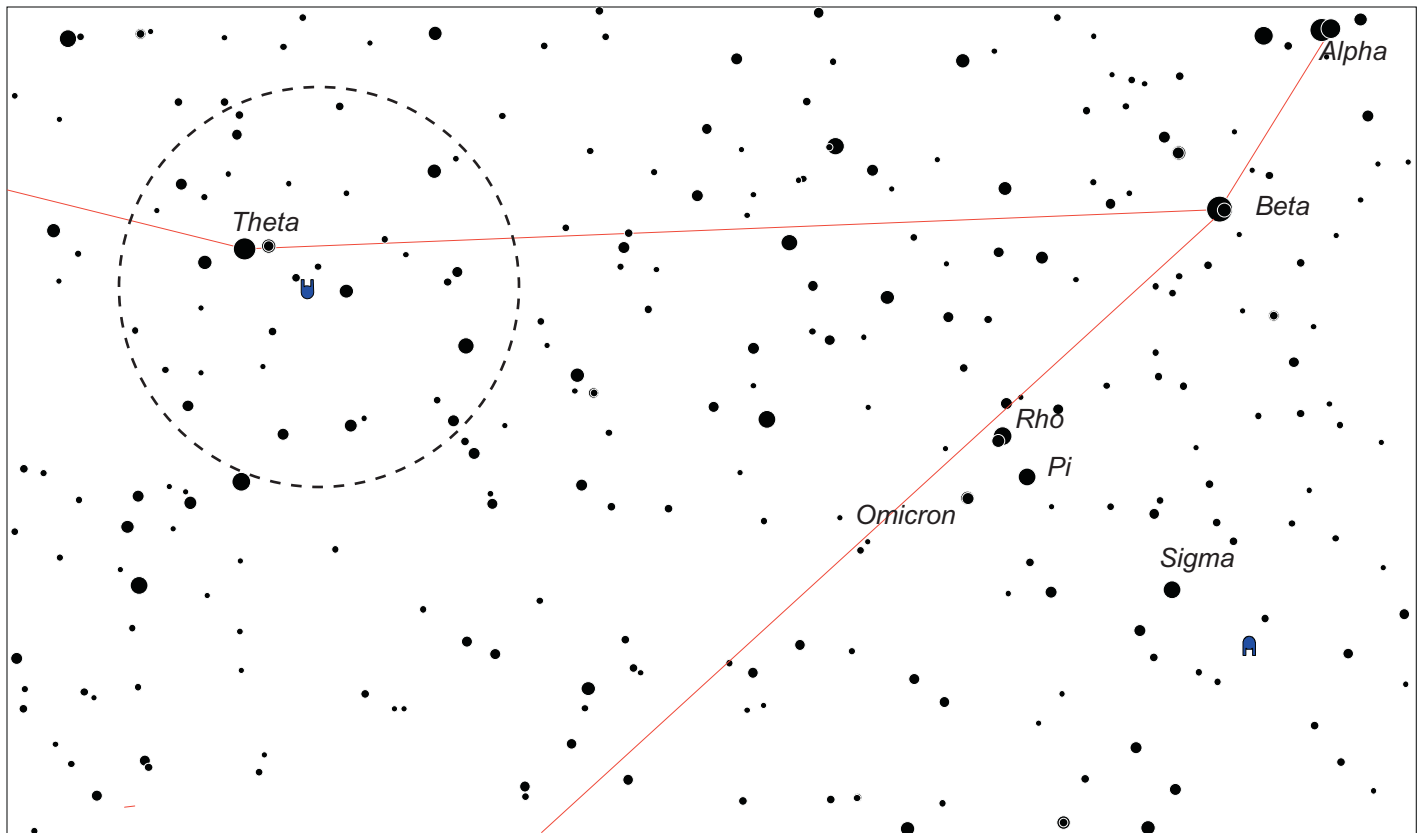


# Locating Uranus and Neptune in the constellation Capricornus for fall 1999



**Key:** Magnitudes ● ● ● ● ● ●  
 3 4 5 6 7 8

U Uranus (mag 5.7)  
 N Neptune (mag 7.9)

Shown for 5-Oct-99, but positions won't change much until mid-November

Using binoculars, you should be able to locate Uranus and possibly Neptune using the chart above, even from the light polluted suburbs of Boston.

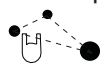
To find them using binoculars:  
 First locate the constellation Capricornus, which will be in the southwest in the early evening (see the sky chart in the handout for an all-sky map).

Next, make sure you can relate where you're looking with your eyes to where you look with the binoculars. A good place to do this are the two bright stars *Alpha* and *Beta* in the upper left corner of the map - each is a double.

Next find *Theta* visually, and then with binoculars.

The dotted line shows the typical field of view through binoculars. Make sure you've got the right star by comparing what you see with the map. On the map above, the bigger the black dot, the brighter the star (lower magnitude stars are brighter than higher magnitude ones).

To help find Uranus, look for the little pattern of stars near it (called an asterism):



Follow a similar procedure for locating Neptune. Neptune will be tougher because there are no bright stars close by. Look for the triangle formed by Rho, Pi, and Omicron (from light polluted locations these 5th magnitude stars may not be visible without the binoculars). They "point" towards Sigma.

Once you find Sigma, look further in the same direction and you'll see Neptune. Look for the backwards 'L' asterism:



It will be easier if you can mount your binoculars on a tripod to hold them steady. Binoculars do not have enough magnification to show Uranus and Neptune as anything more than points of light, so it is difficult to tell them from the nearby stars without using the map.

One way to be sure is to mark the positions you see them in on this map, and then do the same thing a month later. By mid December both will have moved noticeably slightly up and to the left.