The **Jumping Spider's** Blurry Vision

Courtesy Rundstedt Rovillos

THE jumping spider has a special vision system that enables it to calculate the precise distance it needs to jump. How does the spider do it?

Consider: To measure its distance from an object, the jumping spider exploits a unique feature of its two principal eyes, each of which has a "staircase" retina with multiple layers. While one layer receives green light in sharp focus, another receives it as a blurry image. The more out of focus an image appears in that layer, the closer the object is to the spider's eye. This simple fact enables the spider to calculate the exact distance it has to jump to catch its prey.

Researchers would like to copy the jumping spider's technique in order to create 3-D cameras and even robots that can measure the distance to an object. According to the online news site ScienceNOW, the jumping spider's vision provides "an exciting example of how half-centimeter-long [0.2 in.] animals with brains smaller than those of house flies still manage to gather and act on complex visual information."

What do you think? Did the use of blurry vision by the jumping spider come about by evolution? Or was it designed? ■