



**Movie 1. A blowfly approaching a moving bar.** Left part: Thorax marker centered cutout (resolution: 200 x 200 pixels) of one recorded top video (resolution: 1280 x 1280 pixels) showing the blowfly's approach behavior. The fly approaches a bar that is on the right (not shown). The original video was recorded at 200 frames per second and slowed down here 10 times. The video is the database for the example walk shown in Fig. 2. The total body length of the fly (including head) amounted to 9 mm. Please note that due to the marker centered cutout procedure lateral body displacements can not be seen. Right part: Reconstruction of this approach showing the head position (red dot), the head yaw orientation (red line), the bar position (black vertical bar) and the horizontal position of the bar's edges on the fly's retina (dashed lines, numbers at the bar's edges). The horizontal visual midline is zero while positive values indicate a position on the left and negative values a position on the right visual field.