



**Movie 1. Video of signaling *Umbonia crassicornus* male showing abdomen forward motion.**

Left screen is the video image. The abdomen undergoes a rapid dorso-ventral vibration, especially visible at the posterior tip. Simultaneously, there is a sudden anterior motion, especially visible at the portions marked with a + sign. This is followed by a more gradual posterior displacement. The movie also shows that the abdomen does not make contact with the stem and does not significantly deform as it vibrates. Right plot is the tracked anterior motion of the abdomen near the thorax, labeled point “0” on the video image with cross-hairs. The right plot x-axis is the frame number and the y-axis is the image pixel in the anterior video direction. A moving white vertical line on the right plot shows the current frame of the left video image. The video was acquired at 30 frames-per-second and is played at the recorded rate; pixel calibration is approximately 33  $\mu\text{m}$ -per-pixel.