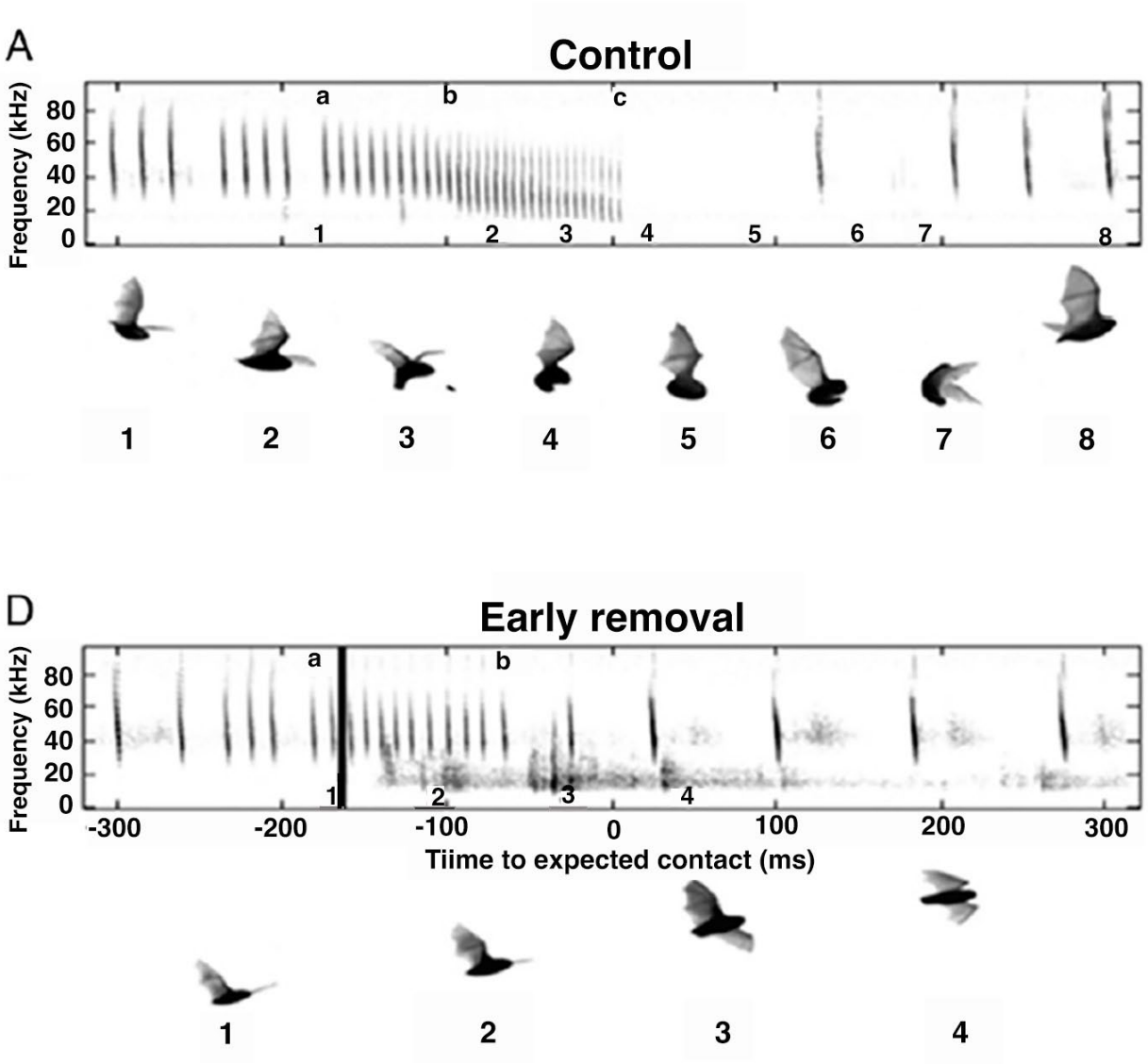

Caption: *Spectrograms and corresponding video snapshots (indicated by numbers) show the physical and acoustic behaviors of bats as they attempt to capture prey. Figure A shows a bat successfully capturing prey, while Figure D shows the bat's behavior when the prey is removed early in the hunt, indicated by the solid black vertical line. The echolocation signals emitted by the bat appear as near-vertical lines on the spectrogram. When these occur in quick succession as a bat approaches its prey, it is called a buzz. Three points during the buzz sequence are labeled: (a) start of buzz I, (b) end of buzz I/start of buzz II, and (c) end of buzz II. In Figure D, where the prey is removed, the bat does not emit a buzz II sequence.*

OBSERVATIONS, NOTES & QUESTIONS	
BACKGROUND INFORMATION	**BIG IDEAS, NOTES & QUESTIONS**
Many bats use an acoustic behavior called echolocation to perceive the world around them. During echolocation, bats emit ultrasonic sound waves and analyze the echoes returned when those sound waves bounce off of another object, such as a moth. The bat can then interpret this feedback to gauge distance and adjust its physical movements to capture the moth. During prey capture, bats emit echolocation signals at a variable rate. Before they detect prey, they are in "search" phase and emit signals infrequently. After they detect prey, they enter the "approach" phase and emit signals at an increased rate. The final phase is the "terminal buzz" in which signals are emitted in a rapid sequence to receive information frequently. In many species of bats, the terminal buzz consists of two distinct subphases: buzz I and buzz II. When signals are emitted slowly, bats have time to process each echo before sending the next signal, but the short interval between calls in the buzz likely does not leave enough time for the bat to process and react to information. Some scientists have argued that the buzz is not used to help during the current capture attempt but rather to help analyze what went wrong when prey escapes. In this study, researchers tested whether bats change their behavior during the buzz phase based on feedback. If so, the result would support the notion that the terminal buzz is used to respond to changes during prey capture rather than for evaluating failed captures afterward. In the control trials (Figure A), bats were recorded by audio and video as they were allowed to catch their prey. In the experimental trial shown in Figure D, researchers removed the prey early in the buzz I phase.	