Movie 1. High speed images show *Lysiosquillina maculata* grabbing prey with both appendages. The dactyl first rotates outward and is followed by the rapid swing of the propodus. The prey is captured between the inner most dactyl spines and the propodus. Moveable propodus spines are raised during propodus rotation. This sequence was recorded at 3000 frames s^{-1} and played at 60 frames s^{-1}.

Movie 2. High speed images show *Alachosquilla vicina* striking at the tip of the pipette with both appendages. The strike proceeds similarly to *L. maculata*'s strike, but the propodus slide that precedes the outward swing of the propodus is more pronounced in this species. This sequence was recorded at 10,000 frames s^{-1} and played at 30 frames s^{-1}.

Movie 3. Laboratory prey-capture behavior of one *A. vicina* individual recorded and played back in real time (30 frames s^{-1}). Initially, a pipette releases brine shrimp into the water column above the individual's burrow, which is positioned in the lower middle of the screen. The individual then strikes at the brine shrimp while remaining mostly hidden in the burrow.

Movie 4. Concatenation of 11 field videos from one individual shows 11 different prey-capture events. A different time stamp marks each prey-capture sequence. Because of the low temporal resolution of these videos, prey-capture events and appendage rotation can best be seen when the videos are viewed frame by frame. The individual is positioned in the middle of the screen in the foreground relative to the brightest light in the videos. All videos were recorded at 30 frames s^{-1} at Lizard Island, Australia.