Supplementary information

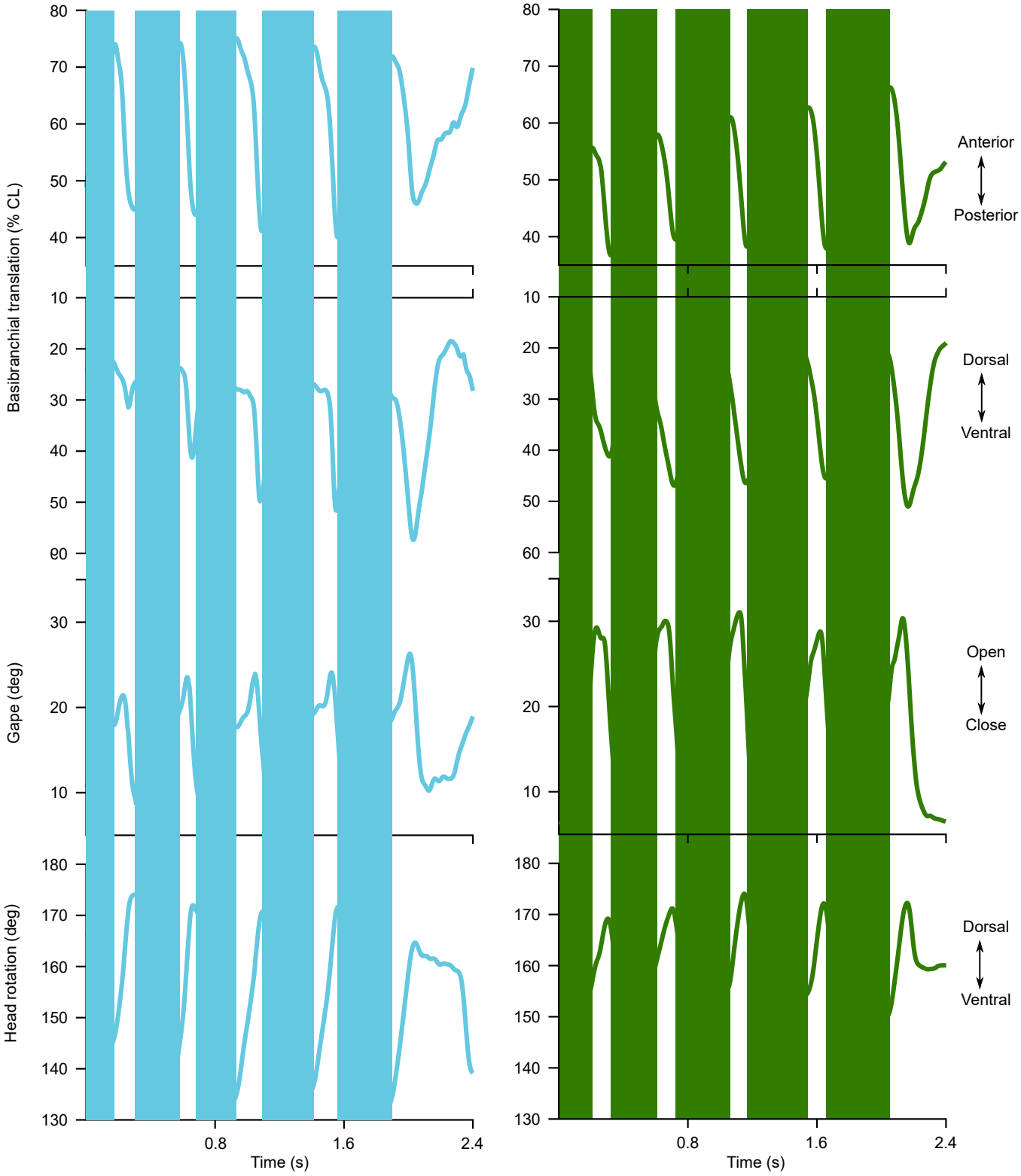


Figure S1. Representative kinematic profiles during aquatic (blue) and terrestrial feeding (green) from the same animal. Basibranchial (tongue), gape and skull displacements are shown during a typical intraoral processing event in *Triturus carnifex*. As a reference, tongue protraction phases are indicated by grey bars. CL, cranial length. The terrestrial part of the figure is modified after Heiss et al. (2019).

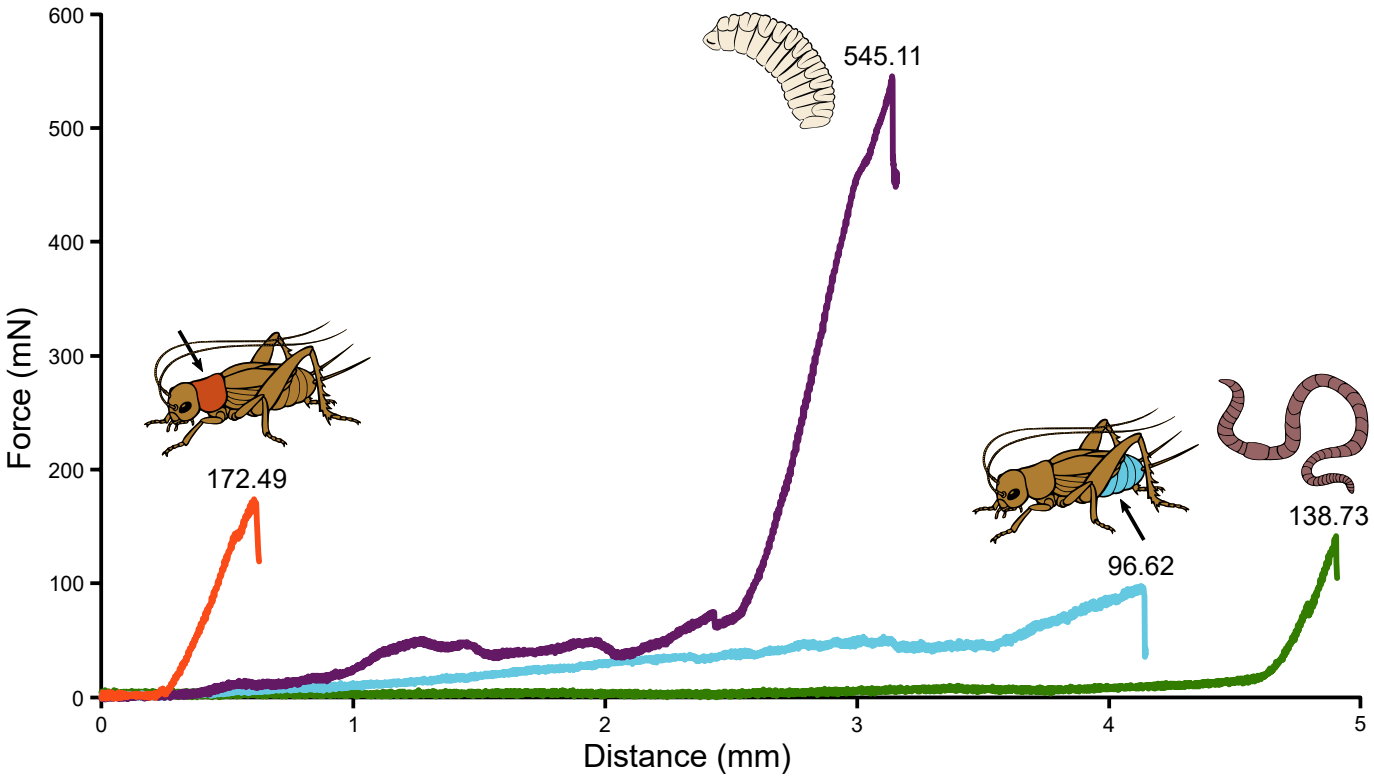
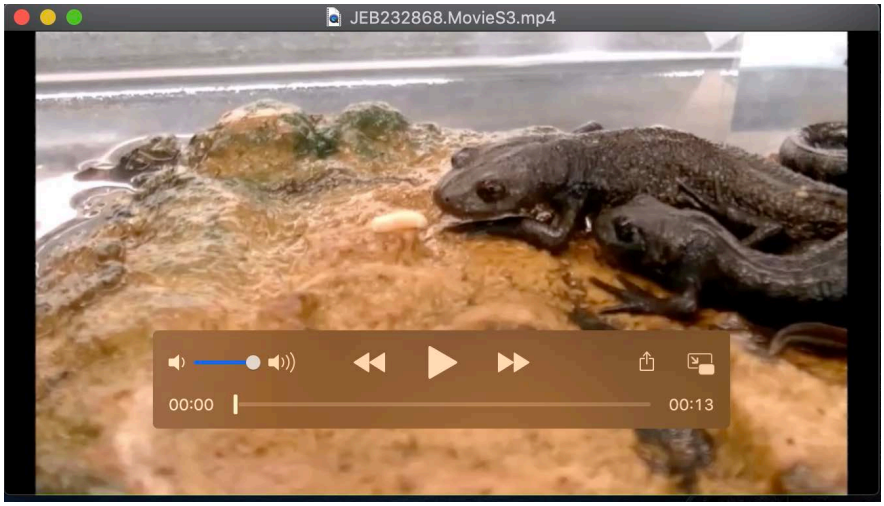


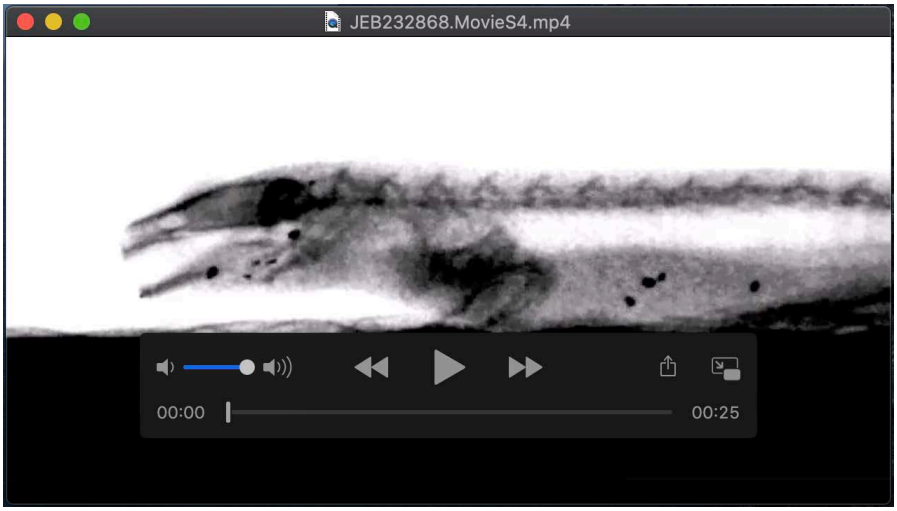
Figure S2. Representative force-distance curves of a cricket thorax (orange), maggot (purple), cricket abdomen (blue), and earthworm (green) measurement. Every trend begins with the contact between the specimen and the needle. The trends are cut behind the drop in the force measurement.

Movie 1. Movie from a lateral perspective, showing T. carnifex feeding on a maggot (Lucilia sp.) under water. T. carnifex first ingests the prey by suction feeding, after a short stationary phase the newt orients the maggot in the oral cavity in order to prepare it for the subsequent processing. The newt then begins to process the maggot immediately, followed by a caudal transport of the prey to prepare for swallowing. In terms of intraoral movements; one initial transport cycle (i.e. orientation of the food in the oral cavity), seventeen consecutive processing cycles (tongue-palate rasping), and two (caudal) transport movements (preparation for swallowing) can be observed. The movie was recorded at 50 Hz and is played back at 25 Hz, which corresponds to half the actual speed.

Movie 2. X-ray movie from a latero-lateral perspective, showing T. carnifex processing a maggot (Lucilia sp.) under water. Eight consecutive processing cycles (i.e. tongue-palate rasping) can be observed. The large radiopaque marker in the high-speed x-ray recording indicates the position of the prey (maggot). The movie was recorded at 250 Hz and is played back at 50 Hz, which corresponds to 1/5 of the actual speed.



Movie 3. Movie from a lateral perspective, showing T. carnifex feeding on a maggot (Lucilia sp.) on land. The newt first ingests the prey (maggot) by a mixture of tongue and jaw prehension, after a very short stationary phase and two transport cycles the animal begins to process the maggot. Six consecutive processing cycles (i.e. tongue-palate rasping) can be observed. The movie was recorded at 50 Hz and is played back at 25 Hz, which corresponds to half the actual speed.



Movie 4. X-ray movie from a latero-lateral perspective, showing T. carnifex processing a maggot (Lucilia sp.) on land. The movie begins with the maggot being already ingested. After a short stationary phase, the newt orients the maggot in the oral cavity in order to prepare it for the subsequent intraoral processing. In terms of intraoral movements; one initial transport cycle (i.e. orientation of the food in the oral cavity) and six processing cycles (tongue-palate rasping) can be observed. Intraoral processing cycle 4 is mixed with transport movements. The large radiopaque marker in the high-speed x-ray recording indicates the position of the prey (maggot). The movie was recorded at 250 Hz and is played back at 50 Hz, which corresponds to 1/5 of the actual speed.