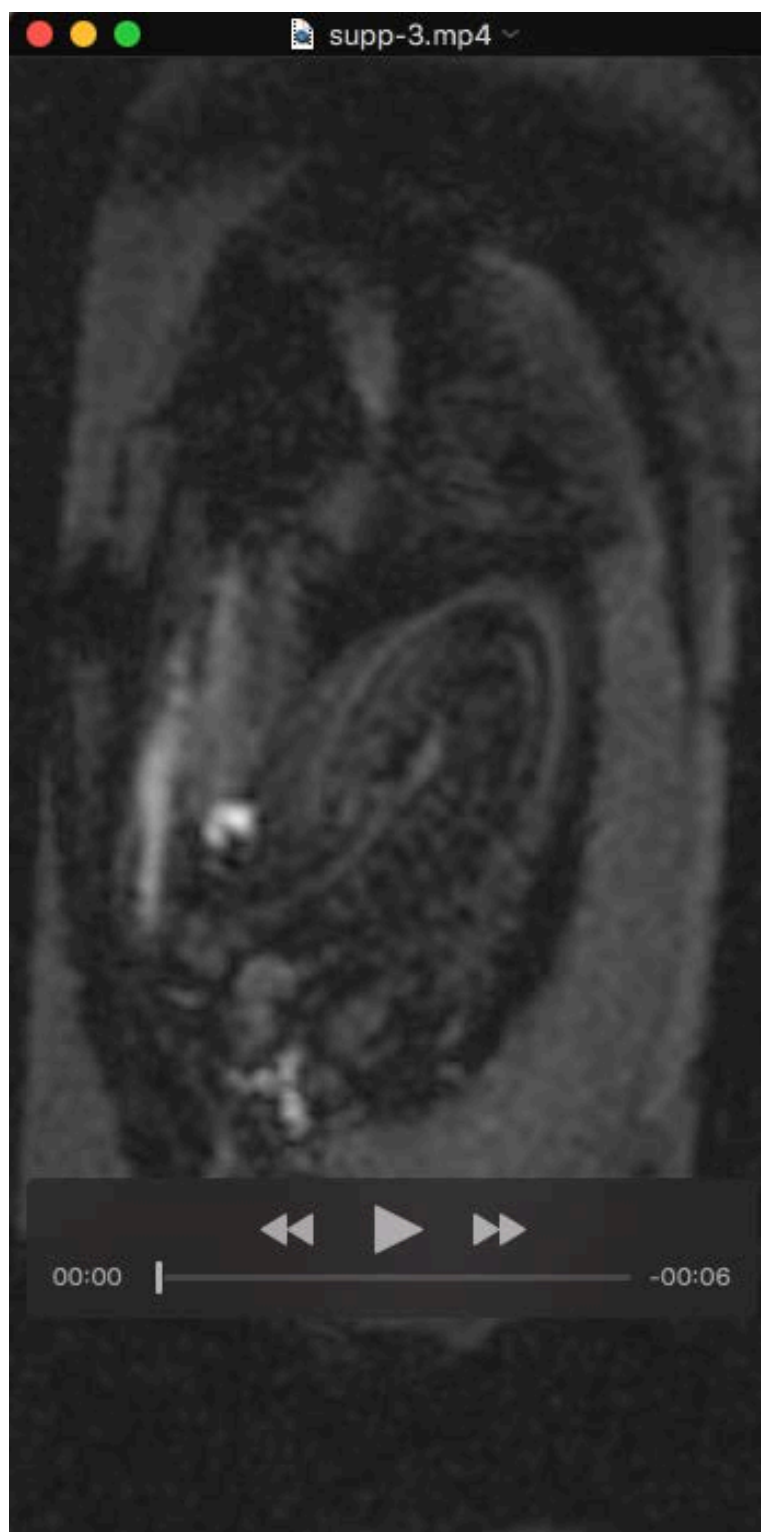
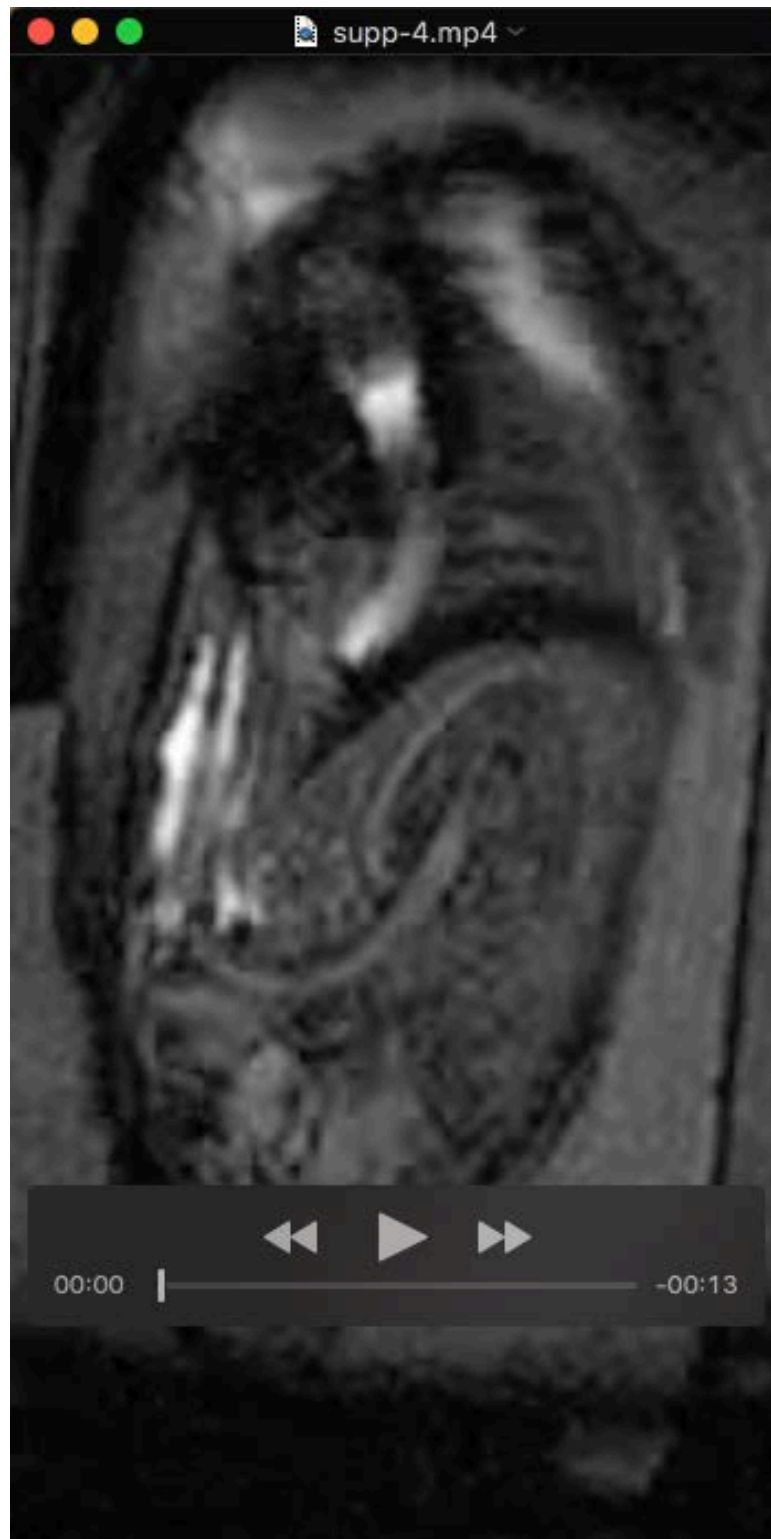


**Movie 1.** Transverse HE images of the PFA fixed *Nodularia douglasiae* from the pedal sinus, Keber's valve to the posterior end of the dorsoventral muscle. Twenty two images were obtained at 50  $\mu\text{m}$  interval.



**Movie 2. Circulation during the resting state.** Mid-longitudinal  $T_{1w}$ -MR image during resting state obtained every 0.64 s. From original images shown in Fig. 3, 64 images are replayed at 10 frames per second.



**Movie 3. Circulation during the foot extension.** Mid-longitudinal  $T_{1w}$ -MR image from the resting state to the foot extension obtained every 0.64 s. From images shown in Fig. 4C, 128 images from 0 s to 81 s are replayed at 10 frames per second.



**Movie 4. Circulation during the foot retraction.** Mid-longitudinal  $T_{1w}$ -MR image from the resting state to the foot extension obtained every 0.64 s. From images shown in Fig. 5C, 128 images from -10 s to 71 s are replayed at 10 frames per second.

**Fig. S1. Effects of hypoxic condition on the interbeat interval of *Nodularia douglasiae* at 20°C.** Means and s.d. of the interbeat interval (IBI) from 4 clams were calculated from the MR session during 0.25-1.5 h, 1.5-3.0 h, 3.0-4.5 h and 4.5-6.0 h after setting the sample tube with 12 mL water without aeration. Statistical significant difference was detected between means of IBI by ANOVA ( $P < 0.01$ ). The post-hoc analysis also showed significant differences, except for the pair of clams at 1.5-3.0 h and 4.5-6.0 h..

