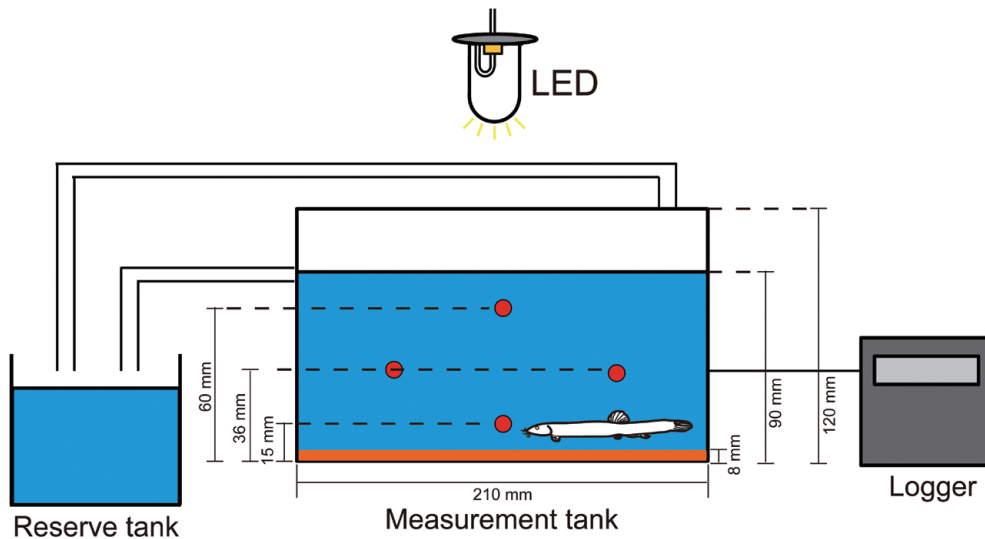
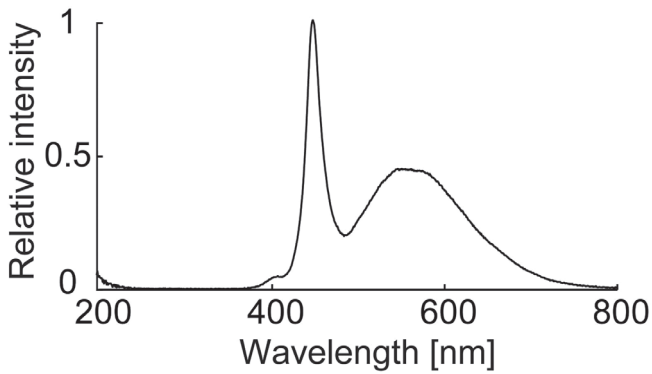


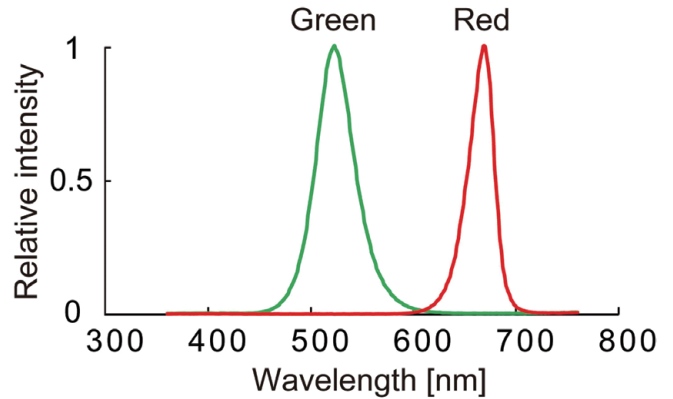
Supplementary Figure S1. Spectrum of fluorescent light for fish-keeping environment. Intensity: 120–240 $\mu\text{W}/\text{cm}^2$, FL25SS EX-D, Panasonic.



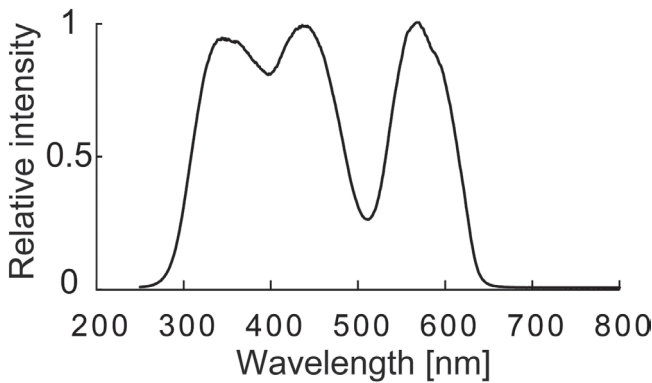
Supplementary Figure S2. Schematic illustration of locomotor activity measurement apparatus. The size of the measuring tank is 210 × 70 × 120 mm. The depth of the water is 90 mm. Infrared sensors (OMRON) were set on the tank wall (15 mm from the bottom (×1), 36 mm from the bottom (×2), and 60 mm from the bottom (×1)). Rice paddy sand is on the bottom of the tank for approximately 8 mm. Red circles indicate the infrared sensors. The brown band represents the rice paddy sand.



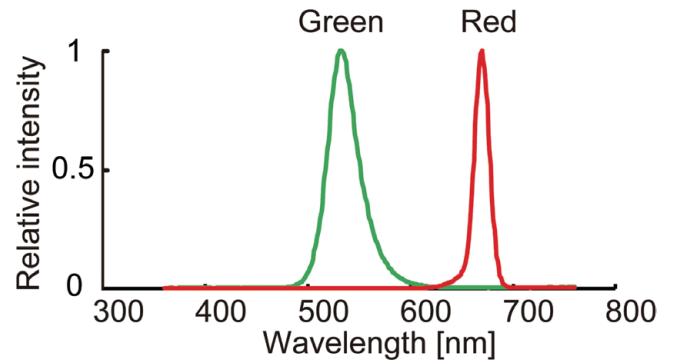
Supplementary Figure S3. Spectrum of white LED light for locomotor activity measuring tank. Intensity: 134.2–272.0 $\mu\text{W}/\text{cm}^2$, LXX 2-PWC4-0180, Lumileds.



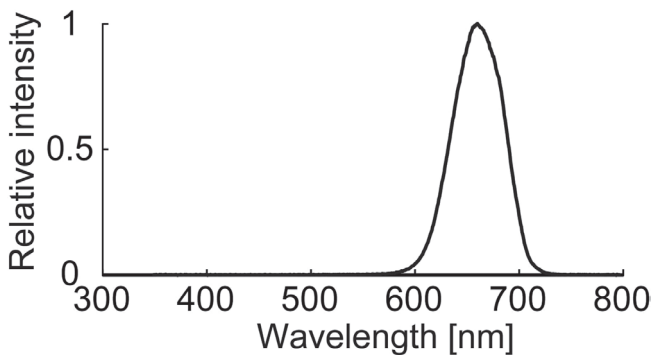
Supplementary Figure S6. Spectra of red and green LED lights for spectroscopic analysis. Red: 727.0 $\mu\text{W}/\text{cm}^2$, $\lambda_{\text{max}} = 660$ nm, OSR7XNE1E1E, OptoSupply. Green: 574.2 $\mu\text{W}/\text{cm}^2$, $\lambda_{\text{max}} = 520$ nm, OSTCXBCB1E, OptoSupply.



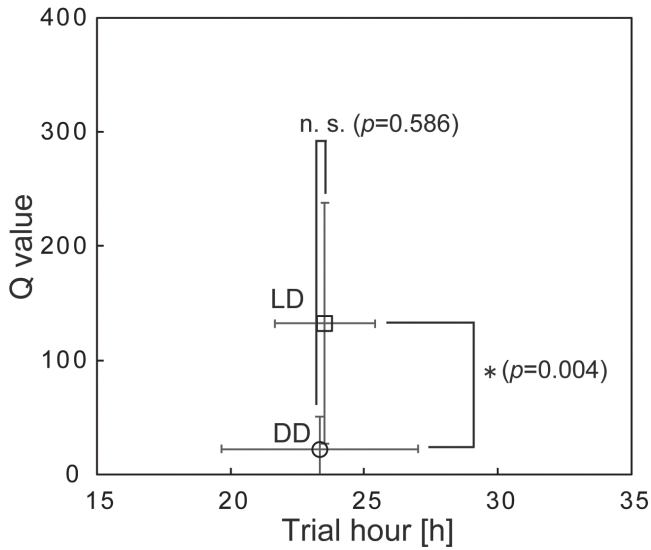
Supplementary Figure S4. Spectrum of LED light for sampling tank. Intensity: 60.4–66.9 $\mu\text{W}/\text{cm}^2$, OSTCXBC1E, OptoSupply.



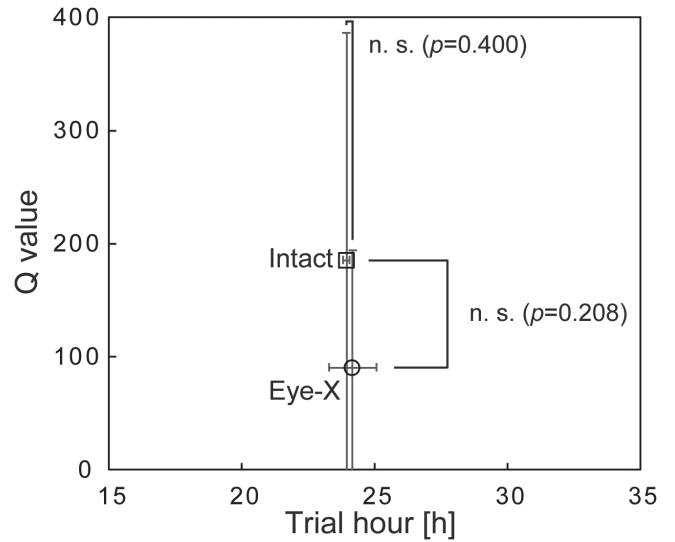
Supplementary Figure S7. Spectra of red and green LED lights for spectroscopic analysis. Red: 202.8 $\mu\text{W}/\text{cm}^2$, $\lambda_{\text{max}} = 670$ nm, OSR7XNE1E1E, OptoSupply (with optical filter [$\lambda_o = 680$ nm, ASAHI SPECTRA]). Green: 158.0 $\mu\text{W}/\text{cm}^2$, $\lambda_{\text{max}} = 533$ nm, OSTCXBCB1S, OptoSupply.



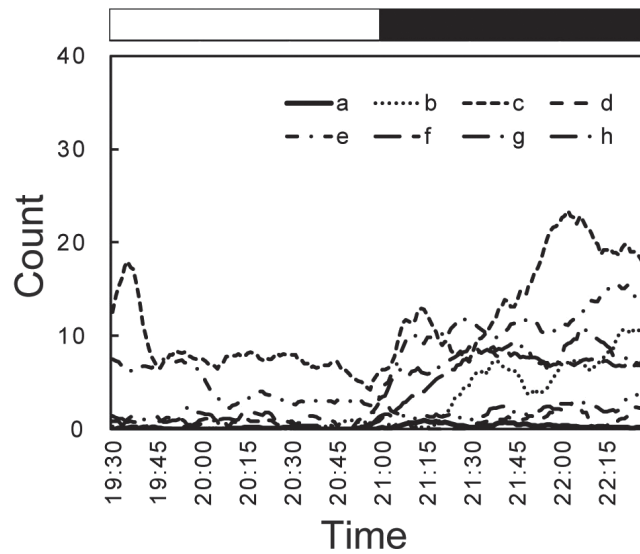
Supplementary Figure S5. Spectrum of dim red LED light for sampling under the dark condition. Intensity: 11.0–14.6 $\mu\text{W}/\text{cm}^2$, OSR7XNE1E1E, OptoSupply.



Supplementary Figure S8. Comparison of rhythmicity of locomotor activity between LD and DD conditions. The locomotor activity rhythmicity and period-length under LD condition in Fig. 1 were compared with those in DD condition using Wilcoxon's signed rank test.



Supplementary Figure S9. Comparison of rhythmicity of locomotor activity between intact and Eye-X conditions. The locomotor activity rhythmicity and period-length of intact condition in Fig. 7 were compared with those of Eye-X condition using Wilcoxon's signed rank test.



Supplementary Figure S10. Light response of blinded Japanese loach. Locomotor activity profiles of blinded Japanese loach in the dusk. Each letter represents an individual in Fig. 7.