EXPERIMENTAL STUDY OF SWIMMING CHARACTERISTICS OF JAPANESE RICE FISH (*ORYZIAS LATIPES*) FOR PADDY-FIELD FISHWAY DESIGN

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Recently, paddy-field fishways that aim to conserve fish living in paddy fields have been developed in Japan. The Japanese rice fish, the minami medaka living in paddy fields and drainage canal uses paddy fishways. The swimming ability of the minami medaka is low, and the burst ability and swimming method is unknown. We conducted an indoor experiment on wild minami medaka to study its burst swimming speed for paddy-field fishway design.
Equipment

Photo of experimental equipment

Schematic view of experimental equipment

- **Stand pipe**: $\theta; 45^\circ$
- **Transparent acrylic rectangular pipeline**: breadth $\times$ height; 5 cm $\times$ 3 cm
- **Tap**: Swimming zone (230 cm)
- **Net**: 2 mm $\times$ 2 mm
- **Water tank**: Pump up from tank
- **Rectifier**: Flow direction
- **Electromagnetic flowmeters**: Receiving tank
- **Flexible hose**: 10 cm
- **Stand pipe**: $0; 45^\circ$
- **Pump**: Receiving tank
- **Tap**: Swimming zone (230 cm)
MOVIE: Swimming MEDAKA

Don’t miss it! 4 second

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Relationship between swimming speed and time

\[ V = 38t^{-0.12} \]

\[ R = 0.61 \]