

Effects of temperature, salinity, illumination and Cu²⁺ on oxygen consumption of juvenile Chinese sturgeon *Acipenser sinensis*

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OF

) increased with rising of water temperature

. The

linear relationships between water temperature (

WT

) and

OF

with

OCR

can be described as

OCR

= 0.018

WT

+ 0.016 (

R

²

= 0.988,

P

< 0.01),

OCR

= 2.737

OF

+ 77.726 (

R

²

= 0.64,

P

< 0.01), respectively. The acute exposure experiments showed

that the

OCR

also increased initially with an increase in salinity. The linear relationships between salinity (S) and OCR can be described as

$$OCR = 8.1 \times 10^{-5} S^3 - 3.01 \times 10^{-3} S^2 + 0.0263 S + 0.2729 (R^2 = 0.995, P < 0.01).$$

Three days of acclimation to different salinities, the OCR s decreased sharply relative to the first day exposure values. The equation

$$OCR = -6.29 \times 10^{-4} S^2$$

+ 0.0238

S

+ 0.2797 (

R

²

= 0.988,

P

< 0.01) illustrates the linear relationship between salinity and

OCR

s after

3-day exposure. After 3-day acclimation, the

OCR

s increased also with increasing light intensity, except for the

ambient light group (

i.e., 2000 lx) and the group exposed to direct sunlight (i.e.,

20000 lx). After 1-day exposure to different Cu

²⁺

concentrations (

C

), the

OCR

s decreased rapidly in all of the groups. But the

OCR

level being gradually different with the increasing of Cu

²⁺

concentration,

OCR

= 0.237

$e^{-0.09}$

C

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