

EFFECT OF DIFFERENT PHOTOPERIOD ON GROWTH, SURVIVAL AND CANNIBALISM DURING WEANING OF EURASIAN PERCH *Perca fluviatilis* L. LARVAE REARED IN RAS SYSTEMS

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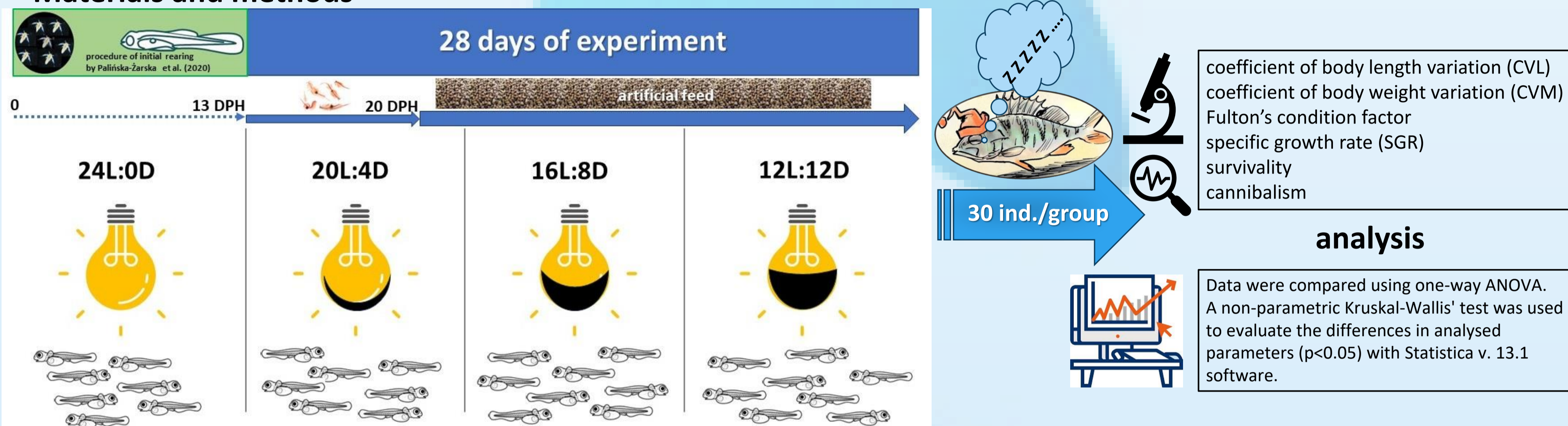
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Introduction

Intensive perch culture in RAS system provides optimal culture conditions for rapid fish growth, high survival rate, shorter production cycle, reduction of fish stress and cannibalism. The varied photoperiod is a factor that can significantly affect the efficiency of rearing but the knowledge in this matter for Eurasian perch larvae is still very limited.

Materials and methods



Results

The analysis revealed no statistically significant differences ($p < 0.05$) between groups for the final length and weight of larvae, Fulton's condition factor, SGR index, as well as in mortality (Table 1). However, such differences in the final values of coefficients of body weight and length variation were revealed with the smallest value recorded for the 20:4 photoperiodic regime. A drastic decrease in larval survival after switching to artificial feed was also noted (Fig. 1).

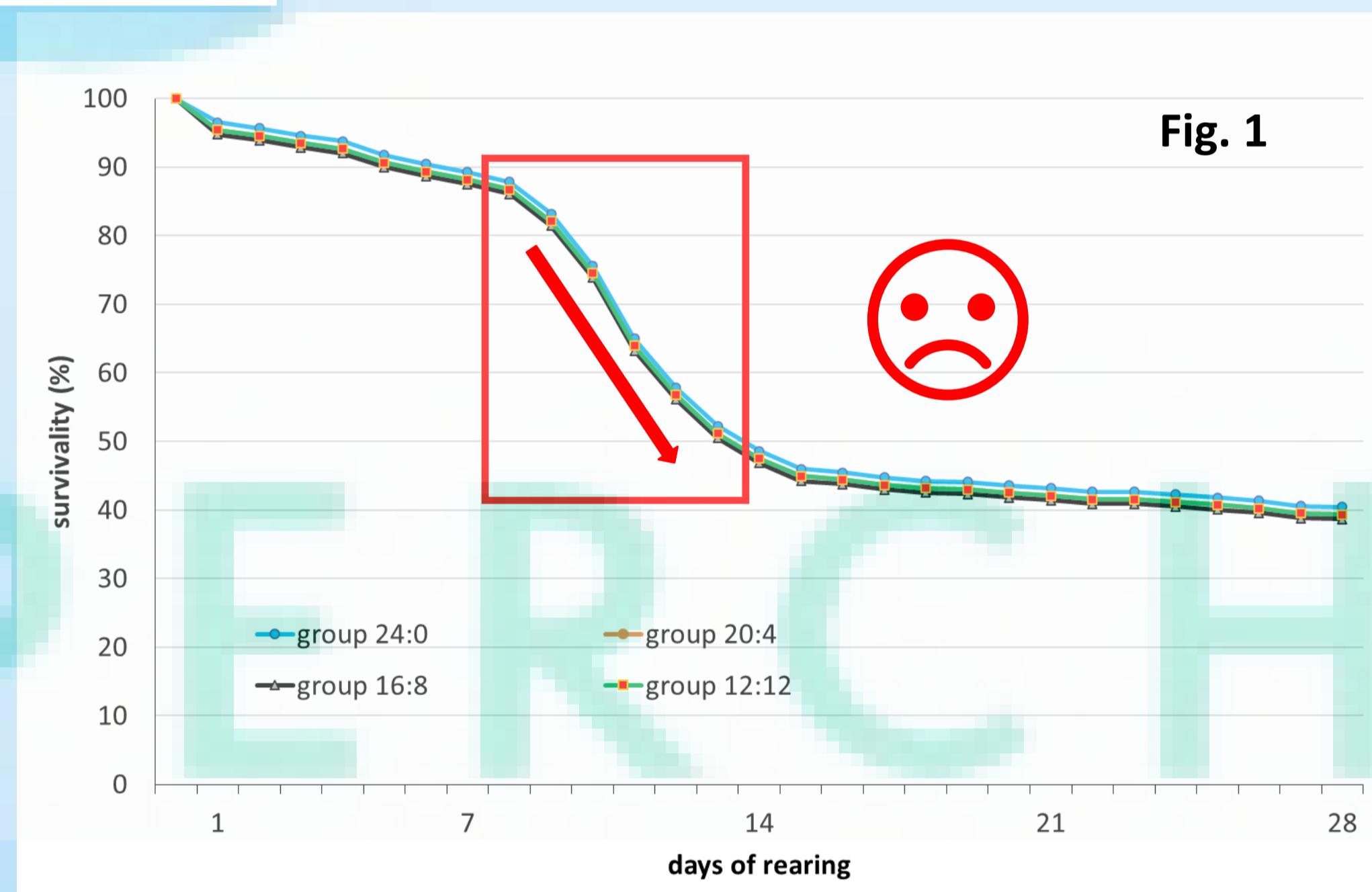


Table 1. The values (mean \pm SD) of the studied indexes of perch larvae at the end of the experimental rearing. Data in rows marked with different letter subscripts indicate statistically significant differences between groups ($p < 0.05$).

parameter	group / photoperiod			
	24:0	20:4	16:8	12:12
initial body weight (g)	0.0047 \pm 0.0012			
initial total length (cm)	0.71 \pm 0.058			
final body weight (g)	0.151 \pm 0.066	0.153 \pm 0.045	0.138 \pm 0.059	0.134 \pm 0.063
final total length (cm)	2.39 ^a \pm 0.32	2.46 ^a \pm 0.22	2.23 ^b \pm 0.32	2.30 ^b \pm 0.31
Fulton's condition factor	0.61 \pm 0.19	0.62 \pm 0.13	0.60 \pm 0.21	0.56 \pm 0.18
CVL (%)	13.9 ^a \pm 1.9	9.2 ^b \pm 0.8	15.0 ^a \pm 2.2	13.5 ^a \pm 1.7
CVM (%)	53.0 ^a \pm 23.1	32.3 ^b \pm 10.0	52.5 ^a \pm 24.8	56.0 ^a \pm 22.8
SGR (% d ⁻¹)	12.06 \pm 1.6	12.30 \pm 1.06	11.73 \pm 1.62	11.65 \pm 1.53
survival (%)	40.4 \pm 6.6	38.3 \pm 10.2	38.7 \pm 7.7	39.3 \pm 4.9
cannibalism (%)	15.3 \pm 4.6	11.8 \pm 5.8	12.5 \pm 6.0	10.7 \pm 3.6

Lack of significant differences of perch post-larvae growth parameters weaned under different photoperiod conditions suggest the limited influence of this abiotic factor on rearing efficiency. However, increased mortality of perch post-larvae after the change in the type of food and the violent transition from *Artemia nauplii* to artificial feed was confirmed.

Acknowledgment

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