

# Czech Academy of Agricultural Sciences



Open Access Agricultural Journals

*Czech Journal of*

**ANIMAL SCIENCE**

home **page** about **us** contact 

**us**

Table of  
Contents

**IN PRESS**

**CJAS 2015**

**CJAS 2014**

**CJAS 2013**

**CJAS 2012**

**CJAS 2011**

**CJAS 2010**

**CJAS 2009**

**CJAS 2008**

**CJAS 2007**

**CJAS 2006**

**CJAS 2005**

- [Authors Declaration](#)
- [Instruction to Authors](#)
- [Guide for Authors](#)
- [Fees](#)
- [Submission](#)

### Czech Journal of Animal Science

The effect of water temperature on the number of moults and growth of juvenile signal crayfish *Pacifastacus leniusculus* Dana

Kozák P., Buřič M., Kanta J., Kouba A., Hamr P., Polícar T.:

Czech J. Anim. Sci., 54 (2009): 286-292

[ [fulltext](#) ]

The growth rate, frequency of moulting, and intermoult intervals of juvenile *Pacifastacus leniusculus* were studied under experimental conditions over a period of 3 months. Juveniles were reared

temperatures:  $14.31 \pm 0.64^{\circ}\text{C}$  (cold water) and  $20.54 \pm 0.69^{\circ}\text{C}$  (warm water). Although the average weight and length of consecutive stages were similar at both temperatures, juveniles in warm water attained more moults. Within the age group juveniles achieved a higher length and weight in warm water than in cold water. Three month-old juveniles reached 147 mg and 18.5 mm in cold water at the 6th stage of development, and 259 mg and 22.2 mm in warm water at the 8th stage. Specific growth rate (SGR) decreased (5.6 and 10.4 for cold and warm water in the first stage, respectively) and reached final values of 1.4 and 1.5 after 3 months of growth. SGR was significantly higher in warm water and showed negative correlations with the number of days after hatching and number of moults. Duration of intermoult periods was significantly influenced by water temperature, with five moults attained in cold water compared to seven in warm water. All intermoult periods were significantly longer in cold water than in warm water. The average percent weight and length increments decreased with increasing number of moults, length,

weight and number of days after hatching. In warm water increments were higher (89.8% and 21.8% for weight and length, respectively) than in cold water (68.5% and 20.3% for weight and length, respectively), and the decrease was faster. However, the final values were similar at both temperatures (about 36% and 11% for weight and length, respectively). The mean absolute weight and length moult increments were not significantly influenced by water temperature. Although the temperature influenced growth due to the number of moults, the duration of individual intermoult periods did not affect the weight and length of juveniles in particular stages.

**Keywords:**

*Pacifastacus leniusculus*; moulting; developmental stage; growth; temperature

[ [fulltext](#) ]

