

# CONTENT

## CHAPTER 1

7

General Introduction

## CHAPTER 2

17

Investigation of crayfish as water quality possible bioindicator

2.1. Real-time monitoring of water quality using fish and crayfish as bio-indicators: a review

19

2.2. Crayfish as tools of water quality monitoring

30

2.3. Accumulation of heavy metals in crayfish and fish from selected Czech reservoirs

53

2.4. Stress reaction in crayfish: chlorides help to withstand stress in high nitrite concentration conditions – preliminary study

62

2.5. Investigation of chloramine-T impact on crayfish *Astacus leptodactylus* (Esch., 1823) cardiac activity

74

## CHAPTER 3

83

Development of the system for biological monitoring

3.1. Registration of cardiac activity using noninvasive technique

85

3.2. Detection of movement using video monitoring

87

## CHAPTER 4

89

First experimental trials with biomonitoring system

4.1. Crayfish cardiac and behavioural responses to chemical and natural stimuli

91

## CHAPTER 5

99

General Discussion

101

English Summary

106

Czech Summary

107

Acknowledgements

108

List of Publications

109

Training and Supervision Plan During Study

111

*Curriculum Vitae*

112