# Divergence of an introduced population of the Swimbladder-nematode $Anguillicola\ crassus$ - a transcriptomic perspective



Zur Erlangung des akademischen Grades eines DOKTORS DER NATURWISSENSCHAFTEN

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Karlsruher Institut für Technologie (KIT) - Universitätsbereich vorgelege

Dissertation

von

Emanuel Heitlinger

geboren in Schwäbisch Gmünd

Dekan:

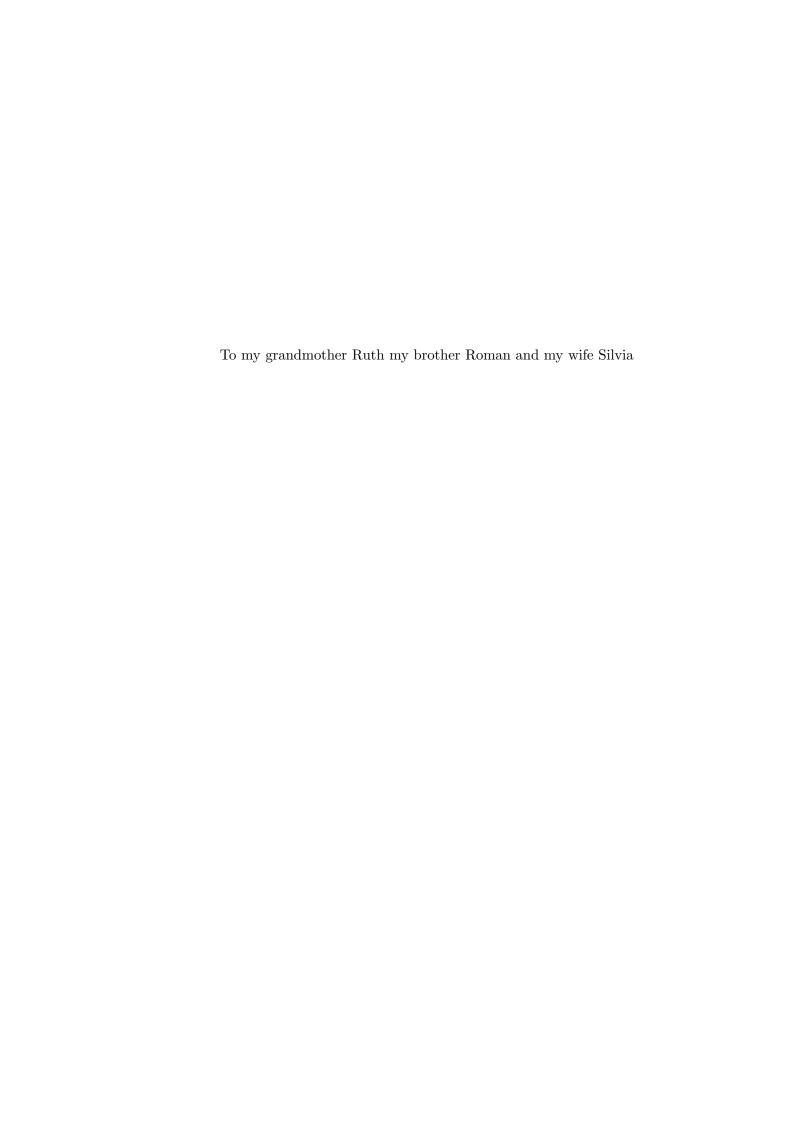
Referent: Prof. Dr. Horst Taraschewski

Korreferent: Prof. Mark Blaxter

Tag der mndlichen Prfung:

## Abstract

Put your abstract or summary here, if your university requires it.



### Acknowledgements

I would like to acknowledge the thousands of individuals who have coded for free software and open source projects. It is due to their efforts that code is shared, tested, challenged and improved. Sharing their intellectual property as a general good, they serve progress in science and technology.

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# Glossary

DAPI 4',6-diamidino-2-phenylindole; a fluorescent stain that binds strongly to DNA and serves to marks the nucleus in fluorescence microscopy **DEPC** diethyl-pyro-carbonate; used to remove RNA-degrading enzymes (RNAases) from water and laboratory utensils

DMSO dimethyl sulfoxide; organic solvent, readily passes through skin, cryoprotectant in cell culture

EDTA Ethylene-diamine-tetraacetic acid; a chelating (two-pronged) molecule used to sequester most divalent (or trivalent) metal ions, such as calcium  $(Ca^{2+})$  and magnesium  $(Mg^{2+})$ , copper  $(Cu^{2+})$ , or iron  $(Fe^{2+} / Fe^{3+})$ 

#### GLOSSARY

## Introduction

#### 1.1 put section name here

Write your text without any further commands, like this:.... Any organised system requires energy, be it a machine of some kind or a live organism. Energy is needed to win the uphill battle against entropy and pull together lifeless molecules to be able to do something in this world, like complete a PhD.

#### 1.1.1 Name your subsection

 $Anguillicola\ crassus$  Kuwahara, Niimi and Ithakagi 1974 (1), is an aliens (2)

Insulin stimulates the following processes:

- muscle and fat cells remove glucose from the blood,
- cells breakdown glucose via glycolysis and the citrate cycle, storing its energy in the form of ATP,
- liver and muscle store glucose as glycogen as a short-term energy reserve,
- adipose tissue stores glucose as fat for long-term energy reserve, and
- cells use glucose for protein synthesis.

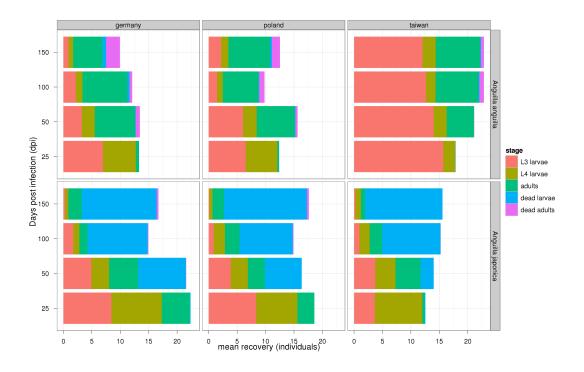


Figure 1.1: Differences in developmental speed - data courtesy of Urszula Weclawski

$\mathbf{Gene}$	GeneID	${f Length}$
human latexin	1234	14.9 kbps
mouse latexin	2345	$10.1~\mathrm{kbps}$
rat latexin	3456	$9.6~\mathrm{kbps}$

Table 1.1: title of table - Overview of latexin genes.

# Aims of the project

#### 2.1 Final aim

Our ultimate goal is...  $\,$ 

## 2.2 Preliminary aims

There will be several preliminary scientific targets to be accomplished on the way...

#### 2. AIMS OF THE PROJECT

## Discussion

#### 3. DISCUSSION

Materials & methods

#### 4. MATERIALS & METHODS

a nematode parasitic in the air bladder of the eel I. Descriptions of Anguillicola crassa sp. n. (Philometridea, Anguillicolidae). Japanese Journal for Parasitology, 23(5):275–279, 1974.

[2] H. TARASCHEWSKI. Hosts and Parasites as Aliens. Journal of Helminthology, 80(02):99–128, 2007.

## References

[1] A KUWAHARA, H NIIMI, AND H ITAGAKI. Studies on

#### Declaration

I herewith declare that I have produced this paper without the prohibited assistance of third parties and without making use of aids other than those specified; notions taken over directly or indirectly from other sources have been identified as such. This paper has not previously been presented in identical or similar form to any other German or foreign examination board. The thesis work was conducted from XXX to YYY under the supervision of PI at ZZZ.

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