

07 March 2016

Professor S Mukaratirwa
Dean & Head of School
School of Life Sciences
Westville Campus
University of KwaZulu-Natal

Dear Professor Mukaratirwa

CO-ORDINATING REPORT: MSc: N Senoge: Ecology

I have pleasure in enclosing the following:

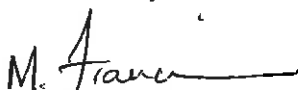
1. External Examiners' Report x 2
2. Supervisor's Report

in respect of the above named candidate's examination and would be pleased to receive your co-ordinating report as soon as possible.

Please note the following:

- o In cases where the Examiners reports are in general agreement, the ALR/HOS is to provide a Co-Ordinating report (which makes a recommendation of the appropriate award) to the College Dean of Research; ALR to **retain** copies referred to above. (Only Co-Ordinating report to be sent to the College Dean of Research);
- o College Dean's comments on Co-Ordinating report or the Examination Panel's recommendation to be copied back to ALR;
- o ALR to pass on the examiners reports to the main Supervisor who will inform the student and oversee corrections. Names of examiners must be expunged by the Academic Leader research from reports (the student should not know the identity of an examiner);
- o Supervisor (or in some specifically requested cases from the ALR or internal examiner) to supply letter to the College Dean of Research confirming that corrections have been done to his/her satisfaction.

Yours sincerely



Mrs M Francis
COLLEGE HIGHER DEGREES

Encl: 3

College of Agriculture, Engineering and Science

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UNIVERSITY OF KWAZULU-NATAL
COLLEGE OF AGRICULTURE, ENGINEERING AND SCIENCE
Examiner's Questionnaire: Research Masters Dissertation

Form
EXI-10

Please read the requirements for the Research Masters degree by dissertation as per the Guidelines
Please give your recommendations on the research dissertation submitted by:

Candidate: **ND Senoge**

Please place the thesis into **ONE** of the categories below:

1. **PASS. Accept as it is, with no changes.**
2. **CONDITIONAL PASS. The thesis requires corrections without re-examination.**
Please attach a list of recommended corrections.
The candidate **MUST** implement corrections to the satisfaction of the Supervisor and Head of School to pass.
3. **RE-EXAMINATION. There are serious problems with scientific aspects of the research.** (See Guidelines for further clarification as to this category)

The thesis requires major rework/extension, after which the thesis should be re-examined
Please attach a list of recommended corrections.
4. **FAIL.**

Please attach a detailed explanation for failing this thesis.

If you have ticked either 1 or 2 above please provide a mark (%) for the dissertation.

Dissertation mark

Lower Second %

Mark Guide:

<i>Summa Cum Laude</i>	=	80% or higher (see Guidelines for Criteria)
<i>Cum Laude</i>	=	75-79% (see Guidelines for Criteria)
Upper Second	=	70-74%
Lower Second	=	60-69%
Third	=	50-59%
Fail	=	49% or lower

QUESTIONS

May your name be divulged to a successful candidate?

YES

NO

Would you like feedback on the examination outcome?

YES

NO

Examiner's Signature

Examiner's Name

Date

[Handwritten Signature]

Lynne B. Minter

3 March 2016

**UNIVERSITY OF KWAZULU-NATAL
COLLEGE OF AGRICULTURE, ENGINEERING & SCIENCE**

Report on MSc Dissertation

Student Name: ND Senoge

Title of Thesis: "Eco-Physiological Aspects of Invasive Common Myna"

A dissertation for a Master's degree should constitute an application of the methods of research and contribute to the advancement of knowledge in and/or the understanding of the subject chosen, but need not involve original research. In certain cases, a good critical review of existing knowledge may be adequate.

Please fill in the attached form giving a brief motivation for your response. If you prefer you can write an examiner's report using the headings given below.

Is the candidate acquainted with the methods of research and their application? <i>Please see additional form</i>
Does the candidate understand the nature and purpose of the investigation?
Is the candidate sufficiently acquainted with the relevant literature?
Does the candidate command the necessary methodologies?
Has the candidate assessed the significance of his/her findings?
Is the literary style and presentation of the dissertation satisfactory?
Does the dissertation show evidence of critical thought, thoroughness, consistency, logical development/structure, and strength of conclusion?
Overall comments/ conclusions:

Name of examiner: Lynn B Muthu

Signature: 

Report for ND Senoge thesis
Eco-physiological aspects of invasive common myna

1. Is the candidate acquainted with the methods and research of their application

To a point. I was concerned a bit that a veterinarian performed the surgical implants of iButtons. More troubling was the lack of clarity about the differences between RMR and BMR, which were mentioned but not integrated into the data interpretation. There were also quite a lot of problems with statistical analyses.

2. Does the candidate understand the nature and the purpose of the investigation?

Somewhat. Senoge has identified an interesting research area, but the approaches taken and the data interpretation thereof fall short of what would be expected for an MS degree in my lab and university.

3. Is the candidate sufficiently acquainted with the relevant literature?

Insufficiently. There is quite a bit more about physiology and animal invasions than is mentioned here. In general, the document is far too fixated on the myna.

4. Does the candidate command the necessary methodologies?

As above, my major concerns involve data analysis and interpretation, which were often not as powerfully executed as possible, thus compromising inference.

5. Has the candidate assessed the significance of her/his findings?

I fear that most of the conclusions are overstated. Results are mostly summary statements about data; interpretation often involved leaps in logic without sufficient justification for generalizations.

6. Is the literary style and presentation of the dissertation satisfactory?

Much of the manuscript was pleasant to read, but there were also a surprising number of incomplete sentences and typos. More egregious was the lack of sufficient background to justify the physiological approach for invasive mynas, which compromised the interpretation of data.

7. Does the dissertation show evidence of critical thought, etc.?

It is clear that effort was made, but I think there was not enough reading before the projects were started. Again, too much focus was placed on the myna when the topic of interest is the physiology of invasive animals, about which we know much more than is conveyed here.

8. Overall comments

This draft is a good start, but the document needs more polish. I'd like to see substantiation of major claims and ideas that support the performance of the work

in the first place. I'd like to see a more appropriate statistical analysis for both the Tb and MR papers. In both cases, the effects of body mass should be included better in models, seasons could be included as factors in single models about Tb and RMR variation, and overall more effort could be placed on using the data to test more explicit hypotheses than the descriptive approaches now in place. The figures need quite some work too. **This list of recommendations constitutes my recommended corrections for the document to be passable.**

Please read the requirements for the Research Masters degree by dissertation as per the Guidelines
 Please give your recommendations on the research dissertation submitted by:

Candidate: **NO Senoga**

Please place the thesis into **ONE** of the categories below:

1. **PASS. Accept as it is, with no changes.**
2. **CONDITIONAL PASS. The thesis requires corrections without re-examination.**



Please attach a list of recommended corrections.
 The candidate **MUST** implement corrections to the satisfaction of the Supervisor and Head of School to pass.

3. **RE-EXAMINATION. There are serious problems with scientific aspects of the research.** (See Guidelines for further clarification as to this category)

The thesis requires major rework/extension, after which the thesis should be re-examined.
 Please attach a list of recommended corrections.

4. **FAIL.**

Please attach a detailed explanation for failing this thesis.

If you have ticked either 1 or 2 above please provide a mark (%) for the dissertation.

Dissertation mark 69 %

Mark Guide:

Summa Cum Laude	=	80% or higher (see Guidelines for Criteria)
Cum Laude	=	75-79% (see Guidelines for Criteria)
Upper Second	=	70-74%
Lower Second	=	65-69%
Third	=	50-64%
Fail	=	40% or lower

QUESTIONS

May your name be divulged to a successful candidate?

YES

NO

Would you like feedback on the examination outcome?

YES

NO

Examiner's Signature

[Handwritten Signature]
[Handwritten Name: Bettine van Marrewijk]

Examiner's Name

Date

[Handwritten Date: 1 Feb 2016]

UNIVERSITY OF KWAZULU-NATAL
COLLEGE OF AGRICULTURE, ENGINEERING & SCIENCE

Report on MSc Dissertation

Student Name: ND Senoge

Title of Thesis: "Eco-Physiological Aspects of invasive Common Myna"

A dissertation for a Master's degree should constitute an application of the methods of research and contribute to the advancement of knowledge in and/or the understanding of the subject chosen, but need not involve original research. In certain cases, a good critical review of existing knowledge may be adequate.

Please fill in the attached form giving a brief motivation for your response. If you prefer you can write an examiner's report using the headings given below.

Is the candidate acquainted with the methods of research and their application? <i>Yes</i>
Does the candidate understand the nature and purpose of the investigation? <i>Yes</i>
Is the candidate sufficiently acquainted with the relevant literature? <i>Yes - I have pointed out some additional refs that might be of use -</i>
Does the candidate command the necessary methodologies? <i>Yes</i>
Has the candidate assessed the significance of his/her findings? <i>Yes</i>
Is the literary style and presentation of the dissertation satisfactory? <i>Yes, although there are some editorial errors</i>
Does the dissertation show evidence of critical thought, thoroughness, consistency, logical development structure, and strength of conclusion? <i>Yes</i>
Overall comments/conclusions: <i>Page attached</i>

Name of examiner:

Bethine van Jaarsveld

Signature:



1 February, 2016

The Dean of Research:
College of Agriculture, Engineering & Science
University of KwaZulu-Natal

College Higher Degrees

Dear Mrs Francis,

MSc Dissertation: Ntiki Donald Senoge

Ntiki Donald Senoge conducted research on eco-physiological aspects of an invasive bird towards his MSc degree. The dissertation is divided into several chapters. In short, Chapter 1 provides a general introduction, Chapter 2 investigates body temperature regulation, Chapter 3 looks into seasonal thermoregulation, Chapter 4 reports on population estimates with Chapter 5 providing a general conclusion. The work is definitely publishable, and the contribution of the student is clearly explained. I am satisfied that the students contributed significantly to the study (supervisors always make contributions, and this study is no exception). There were unfortunately numerous editorial errors throughout the dissertation (the abstract and content pages provide ample evidence of these). I do realize that an MSc dissertation, in many instances, represent the first significant writing exercise to a student. It is, however, crucially important that students learn the importance of paying meticulous attention to detail; their academic career rests upon their writing skills. Having said that, I congratulate the student (and also the supervisors) on an informative and well-conducted study. Below I provide some comments on the different chapters; these comments are for publication purposes, and I leave the decision of changes made to the dissertation for degree purposes to the supervisors.

Abstract and Content pages:

- Line 6 -Africa harbours a variety plants and animal species..... Word missing before plants. plant and animals species (not plants and animal species)
- Line 18 – Province with a P and not a p
- Line 19 - I would argue that distribution of the myna in SA is across the central and northern areas and not the eastern parts of the country. North West (repeated twice in the sentence) is definitely not eastern South Africa. There is also ample evidence that it is spreading in a westerly direction (see for example the SABAP maps)

- Line 21 – I remain unconvinced that climate is a major determinant of the distribution of the myna in South Africa. It occurs from the dry North West (and in fact is spreading in a westerly direction) to the wet and tropical KZN. As such, I would argue that mynas occur across a broad spectrum of climates.
- Line 29 – is the difference of 3 to 4°C significant?
- Line 41 onwards – the term population is rather difficult. I would argue that a population is a group of interbreeding individuals. Population is not to be confused with sampling site, or roost. It may be worth the effort to provide some definition of population, or in which context it is used here.
- Line 45 – significantly higher (not high) population size compared with.....
- Line 50...time of year (missing word)....
- Line 51 and 52 – you say that under climate change scenarios, mynas may continue to increase their range in South Africa. Climate change scenarios predict drier and warmer climates, yet mynas prefer wet areas (see line 22). From this, I would have thought that the range of mynas may decrease and not increase. Any thoughts on this?
- Line 53 – if one compares the SABAP maps, mynas seem to be spreading in all directions; northwards, westwards and yes, southwards. I have, however, always believed that the presence of starlings in the southern portion of South Africa essentially acts as a buffer that slows the spread of mynas towards the Western Cape. What would the impact of mynas be in Mpumalanga and fruit growing there? Would one be able to apply the same management interventions / recommendations?
- Page numbers for Chapter 5 and onward is not correct / seems to have been cut off.

Chapters 1 to 4

- In addition to the comments raised in the Abstract section above, some thoughts for consideration:
- An interesting article that deals with invasion sources and target areas is Stohlgren et al 2011, published in *Biological Invasions*. These authors discuss and present the number (as a percentage) of the 120 most widely distributed plant species which are alien species. The pattern is very clear; some countries are clearly donor countries while others receive the bulk of introductions.
- Line 254 – it may be important to refer to the SANBI document published in 2013, which indicates 10 invasive bird species (in addition to the Dean 2000 reference) (*Life: the state of South African biodiversity*).
- Lines 270 onwards – you may wish to include the Blackburn 2011 TREE paper that unifies the invasion process.
- Lines 277 onwards (linked to lines 418 onwards) – I may be wrong, and there is no clear evidence, but there are suggestions that mynas were also introduced to Johannesburg (a second introduction). Although the genetic data are not conclusive, we do provide some suggestion that this was indeed the case – see Berthouly–Salazar et al, 2012, *Plos One* 7:e38145.
- Mynas occur across a broad range of climates (temperatures, rainfall regimes) in South Africa. You have studied birds from the Pietermaritzburg area, and report significant Tb differences between nights across seasons, but no difference between days across period. Do you believe that you will find differences in birds acclimatized to e.g. Johannesburg compared to Durban? In other words, do you believe your findings can be extrapolated to birds across South Africa? What

may also be interesting is to see whether there are differences between so-called "resident birds" and those that favour expansion. In our study, we clearly showed that some mynas seems to be better invaders than others, and understanding whether there are physiological adaptations underpinning these would provide crucial information.

- Line 1726 – you mention that in most cases two people conducted the point counts. I would assume that this means in some instances only one person counted? Do you think this may have introduced a bias in your counts (or decreased the accuracy)?
- Line 1962 – should this read least number of individuals in a specific roost?
- Your last sentence is an important one (line 2197 onwards). Management recommendations are essential. It would have been useful if some suggestions could have been made, but I realize this falls outside of the scope of this study. What I remember from crow eradication in Cape Town is that they specifically targeted roosts – would this be an option with mynas?

Overall I enjoyed reading this dissertation. The results re interesting and clearly presented. I can see several ways in which one could take this work further, perhaps into a PhD. I award a mark of 69% for the dissertation, and again congratulate the student (and supervisors) on the final body of work.

Sincerely yours

Bettine van Vuuren
Professor: Department of Zoology
University of Johannesburg
Tel: 011 559 2457 / 3442
bettinevv@uj.ac.za



NOTE: Senate decision April 2008: The supervisor's report should not be sent to the examiners but must be retained in the student's file and made available to the coordinating examiner(s) when the coordinating examination is done.

College of Agriculture, Engineering and Science

Supervisor's Report

Candidate: Ntaki Donald Senoge **Student Number:** 212542861

Research

Coursework

Degree: MSc

Supervisor: Prof CT Downs

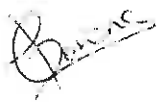
Co-Supervisor: Dr Lindy Thompson (postdoc)

Dissertation Title: The ecophysiology of the invasive common myna (*Acridotheres tristis*).

The Supervisor is required to provide a non evaluative response to the following:

1. The duration of the project and its supervision: when it was first registered and when the supervision began:
Mr Senoge commenced his MSc research project in August 2013 under our supervision.
2. Resource constraints or opportunities that impacted on the research. Equipment problems that impacted on the research:
Mr Senoge has worked on a difficult species the common myna. He successfully caught these. His main delay was problem with respirometry equipment but he persevered.
3. The extent to which the collection of data, the solution of problems, deductions and critical discussion result from the candidate's own efforts, or from discussion between the candidate and the Supervisor:
Mr Senoge has worked extremely well and has collected the data on his own. He has met regularly with Prof Downs about his project.
4. Whether the supervisor has seen and approved of the entire final draft of the dissertation:
At this stage Mr Senoge has prepared one chapter for international peer review journals submission. We have seen drafts of his other chapters which he has prepared as manuscripts so am confident he will complete by 1 Dec 2015 or earlier.
5. In the case of a Coursework Masters, the percentage of coursework required of the candidate for the degree in question:
Not applicable
6. Conference attendance and publications emanating from the work:
Conferences
Has presented at the annual Centre for Invasion Biology Colloquium at the University of Stellenbosch.

Additional
Mr Senoge has done numerous public presentations on his research.
7. Additional modules/training courses attended: None.
8. Whether the supervisor is satisfied that, to the best of his/her knowledge, there is no plagiarism in the dissertation: **Yes**



Signatures of:

Prof CT Downs

Supervisor:



Co-Supervisor:

Dr L. Thompson

School:

School of Life Sciences

Date:

10 October 2015