What makes a good master?

Questions

• What do you want to learn? (choice of the master project)
  - Theory / how to be a scientist
  - Technics (lab / field / theory...)
  - Everything about you preferred animal...

• What do you want to do after your Master?
  - Science (PhD)
  - Science (but not a PhD)
  - Something else ...
How will your Master's thesis be judged?

- External examiner (not from NTNU)
- Internal examiner (from IBI or other dept. at NTNU - Museum)

- Evaluation based on the
  - Thesis (written)
  - An oral exam (ca. 1 - 1.5 hour including oral presentation of ca. 20 mn)
  - An evaluation of your work by the supervisor to the examiners (intern + extern)

How will your Master's thesis be judged?

- Your ability to understand and formulate scientific / biological questions

- Your ability to perform research work to answer these questions (in a limited amount of time)

- Your ability to communicate (written and oral communication)
How will your Master’s thesis be judged?

- Supervisor report
- Sensor report

Sensor evaluation

To what extent is the Master’s Thesis creative and outstanding?

To what extent does the candidate demonstrate theoretical understanding for the scientific topic?

To what extent does the candidate discuss his/her own contribution relative to the evolution of the topic and recent research?

Has the student generated important research questions and methods and are they utilized in a relevant manner in the thesis?

Is the master’s thesis written in accordance with norms for scientific writing, and is the style adapted to that of a scientific journal?

Is the presentation precise and clearly set out?

Level and quality of writing.

If possible, assess the potential for further research.
Supervisor evaluation

Is the thesis submitted within the expected time?

To what extent has the student by him-/herself generated important research questions and methods?

Does the candidate manage all the relevant technical skills for the thesis? If not, which skills does the student lack?

Has the student worked independently? How has the student developed during the master’s programme?

To what extent has the student progressed as a scientist?

Potential for further research?

To what extent have you as a supervisor contributed to the structure of the thesis/proof reading?

How will your Master’s thesis be judged?

• These criteria are presented in the following document:

  “Character description for a Master thesis in biology”

https://innsida.ntnu.no/wiki/-/wiki/English/Description+of+grades+for+master+thesis
General appreciation

A

Excellent work which is outstanding.

C

A good piece of work.

Scientific content

A

The candidate has very good insight into the scientific theory and methods in his/her field and has demonstrated scientific knowledge at a very high level.

The objectives of the thesis are well defined and easy to understand.

C

The candidate has good scientific knowledge and insight into the scientific theory and methods in his/her field.

The objectives of the thesis are generally well defined, but may contain some unclear formulations.
Scientific content

**A**

The candidate is able to select and apply relevant scientific methods convincingly, has all the technical skills required for the work, can plan and conduct advanced experiments or computations and works very independently in cooperation with a supervisor.

**C**

The candidate uses the relevant scientific methods satisfactorily, has most of the technical skills required for the work, can plan and conduct experiments or computations well.

Presentation of the thesis

**A**

The thesis is very thorough and contains new knowledge and is an innovative contribution. The analysis and discussion have an extremely good scientific foundation and justification and are clearly relevant to the topic that is addressed.

The candidate demonstrates extremely good critical reflection and distinguishes clearly between his/her contributions and the contributions from others.

**C**

The thesis is considered good with elements that are creative. The analysis and discussion have a good scientific foundation and justification and are relevant to the topic that is addressed.

The candidate demonstrates good critical reflection and usually distinguishes clearly between his/her contributions and the contributions from others.
The form, structure and language in the thesis are at an extremely high level.

The form, structure and language in the thesis are at a good level.

The role of the supervisor

• Provide a Project

Oppgave

<table>
<thead>
<tr>
<th>Hovedveileder:</th>
<th>C. Pélabon</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biverleder(e):</td>
<td>T. Ekrem, G.H. Bolstad</td>
</tr>
<tr>
<td>Arbeidsstilt på oppgaven (max. 20 ord):</td>
<td>The evolution of allometry</td>
</tr>
<tr>
<td>Kort beskrivelse av oppgaven (max. 300 ord):</td>
<td>Some of the most spectacular examples of adaptive evolution can be found in the shape of particular organisms, such as the peacock tail, the antler of the giant Irish elk or the highly modified fins of the leafy dragon. It has been hypothesized that most morphological evolution occurs by allometric differentiation, that is, changes in the relationship between size and shape. Understanding the evolution of allometry therefore appears essential for understanding adaptive morphological evolution. This project aims at studying some aspects of the evolution of allometry. Static allometry describes the change in the relative size of a trait compared to the rest of the body for individuals of the same</td>
</tr>
</tbody>
</table>
An example of Master thesis
Benefits of Multiple Mating in Guppy
(Poecilia reticulata)

Question developed in the thesis:
Do the females that mate with several males produce more or better offspring?

General question:
Why do females in many species mate with several males?

General themes:
Sexual selection / sexual conflict / evolution

Time schedule

• Start: August 2011
• Pilot experiment Fall 2011 / Spring 2012
• Main experiment Fall 2012 / early spring 2013.
• Data analysis: February / Mars 2013
• Writing the thesis: Mars April and until May 15th...
• Defence June.
Some more questions

• Is my project feasible in 2 years (not too big)?
• Will I have enough data to write something?
• What are the risks?
• What will I learn?

What to do?

• Read other theses that have been done in the same research group (with different grade)

• Be curious

• Don’t focus only on the question of your own master…try to see the big picture

• Start working early