Evaluation of bachelor thesis (reviewer´s form)

Author of the thesis: **Karel Raabe**

Title of the thesis: Eukaryotic translation initiation factor 3 and its role in plant translation regulation

A. Evaluation of individual aspects of the thesis (mark one of the options)

	1. The character of the thesis (BT) and its structure
x	A - proportionate, corresponds to the scope of BT and to the significance of individual parts
	B - unbalanced, the structure is not logical or the extent of individual parts does not correspond to their importance
	C - satisfactory, the extent of some parts is insufficient
	N - insufficient

	2. Scientific correctness
x	A - excellent, no serious comments
	B - very good, with minor imperfections (ambiguity of interpretation, errors in formulas or chemical nomenclature, incomplete description of methods or results)
	C - satisfactory, with numerous minor defects
	N - unsatisfactory, with serious mistakes

	3. Correctness of the literature resources survey
x	A - without objections, all literary resources properly cited, the total number of resources corresponds to the scope of the BT
	B - satisfactory, with occasional nuisances, especially in the reference placement, or with a lower total number of citations
	C - with more serious mistakes, such as "non-standard" references to textbooks, lectures, web pages, or the sporadic omission of a link to the downloaded data source
	N - unsatisfactory, very few references, or with possible features of plagiarism, references to the source data frequently neglected

	4. Language standard
	A - excellent, the work is well-written and comprehensible, without grammatical / spelling mistakes
x	B - very good, unique stylistic awkwardness, grammatical / spelling mistakes
	C - sufficient, more frequent stylistic awkwardness, frequent grammatical / spelling mistakes, rare sentences difficult to understand or ambiguous formulations
	N – unsatisfactory, frequent serious mistakes

	5. Formal and graphical level of the thesis
x	A – excellent, without spelling mistakes / text formatting errors
	B – very good, unique mistakes in reference format, misspellings, missing abbreviation, etc.
	C – satisfactory, with unique considerable mistake (such as text page skip) or multiple minor bugs
	N - unsatisfactory, frequent serious mistakes

Optional word comment (to points 1. - 5.):

The thesis is very well written and good structured, I would only suggest to add if the eIF3a mutant is embryo lethal and why you decided to discuss the impact of brassinosteroids and not other hormones.

B. The defense

Reviewer´s questions for the student (mandatory part of the report!)
Q1, Some of the eIFs are encoded by paralogs, why do plants more often possess duplications and redundant set of genes compared to other organisms. Q2, You refer later in your thesis to adaptation processes ensured by the proper assembly of the eIF complex, how do you think redundant subunits can be beneficial for the plant. Q3, In terms of efficient translation, how important is the regulation of its initiation during different developmental stages of the plant compared to adaptation to stress. Q4, What does the expression pattern of single subunits and paralogs tells us about their functional importance. Q5, eIF3a is a single gene, do you know if the homozygous mutant is lethal, and do you know if the heterozygous mutant shows any differences compared to wild type? Q6, What do you think is the impact on total plant growth if the plant switches translation from proteins expressed to ensure proper development to a set for stress adaptation. And why is the plant limited in the amount of expressed proteins. Q7, Why are brassinosteorids involved in the regulation of eIF3 function. And do you know if other hormones are involved too?

Opinion on the correction(s) of errors:
    Errata / correction in the text **IS** / **IS NOT** (circle) the requirement for the thesis acceptance.

C. Overall assessment

I recommend the thesis to be accepted for further proceedings: **YES**

Reviewer´s final classification proposal:
1 - excellent

Date: 22.05.2018

Name and surname, signature of the reviewer (according to SIS): Katarzyna Retzer