



11 Sep 2023

## Evaluation of PhD Thesis by Anna Maňourová

### “*Garcinia kola*: diversity, utilisation and domestication in Cameroon”

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I enjoyed reading this thesis. It is a carefully structured (nine chapters) and well-organized research thesis, with a publication plan for each thematic section.

In essence, the scientific merit of this thesis is self-evident where five (four accepted, one manuscript is under review) publications have undergone rigorous peer review and acceptance.

The body of research work completed by the candidate was considerable and addressed an important knowledge gap pertaining to *Garcinia kola* Heckel (family Clusiaceae) in Cameroon and with the potential for applications (e.g. Kolaviron is a natural biflavonoid) and agroforestry implementation throughout Africa and the other tropical regions. Despite the challenges (limited infrastructure, political instability, Covid-19 pandemic) encountered at selected field sites, the candidate was resilient, resourceful and managed to handle a broad spectrum of biological research (2016 – 2022 field studies, Cameroon; laboratory studies at Prague, Czech Republic) to prepare this doctoral dissertation.

With a systematic publication plan in place, the candidate organized her various thesis's chapters (encompassing aspects of taxonomy, genetic diversity, biogeographical distribution, horticulture, economic botany and chemical biology including detailed biochemical analyses and pharmacological evaluation) into a series of papers. High research standard was achieved by this candidate through timely, external and independent scientific validation of her planned chapters as formal publications. Most of her chapters have already been sent to internationally recognized journals, undergone professional reviews (including corrections), and successfully published; impact factors of these journals ranged from 1.9 to 7.7.

As the thesis is a nice amalgamation of thematic papers centering around *Garcinia kola* Heckel, it was a good strategy to devote a final chapter (Chap 9) to highlight the salient findings and suggesting appropriate recommendations for future research.

#### **Suggestions for improvement**

##### **Chapter 3**

Mainly referring to section “3.2 Taxonomy”. Some older literature for this species should certainly be included in this section.

The species name was first published in Bull. Soc. Bot. France 30(Rev. Bibliogr.): 150 (1883)

Important and original taxonomic descriptors for *Garcinia kola* Heckel (family Clusiaceae) (from Kew Gardens, UK) that the candidate should consider adding, after consulting the IPNI, International Plant Name Index?

<https://wfo.plantlist.org/plant-list>

<https://www.ipni.org/n/urn:lsid:ipni.org:names:428024-1>

In addition, some synonyms (with perhaps some corresponding local African names, if available) for *Garcinia kola* Heckel should be added here; for example, *Garcinia akawaensis*, *Garcinia bergheana*, etc.

Missing floral characteristics for *Garcinia kola* Heckel. There should be at least a **line drawing** (reproduced from literature is acceptable), and some **recent photographs of a flowering shoot of *G. kola***, including some **macro-photographs of *G. kola* flowers**.

### Chapters 3-9

Other minor edits/suggestions for improvements (e.g. improved phrasing, new references to add):

A soft copy of my minor comments (for consideration, to improve clarity), suggestions and annotations is available here; please [click here for the soft copy](#).

These suggestions are for the consideration by the candidate. I hope that these minor edits /comments will assist the candidate to make some revisions and for future publications.

### Chapter 9

A **proper title should be given** for the last chapter of the thesis even though this appears to be a personal epilogue. This would round off this thesis nicely.

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### Formal publications arising from this thesis:

These are the **five** (four accepted, one manuscript is under review or revision) publications arising from this PhD thesis.

**Mañourová A**, Leuner O, Tchoundjeu Z, Van Damme P, Verner V, Příbyl O, Lojka B. 2019. Medicinal Potential, Utilization and Domestication Status of Bitter Kola (*Garcinia kola* Heckel) in West and Central Africa. **Forests** 10: 124. <https://doi.org/10.3390/f10020124> (IF 2.9)

**Mañourová A**, Polesny Z, Lojka B, Ann Degrande, Ondrej Příbyl, Patrick Van Damme and Vladimir Verner. 2023. Tracing the Tradition: Regional Differences in the Cultivation, Utilization, and Commercialization of Bitter Kola (*Garcinia kola*, Clusiaceae) in Cameroon. **Economic Botany** 77: (48–62). <https://doi.org/10.1007/s12231-022-09564-5> (IF 4.5)

**Mañourová A**, Chinheya IP, Kalousová M, Ruiz-Chután JA, Okafor UC, Tchoundjeu Z, Tsoheng A, Van Damme P, Lojka B. 2023. Domestication Potential of *Garcinia kola* Heckel (Clusiaceae): Searching for Diversity in South Cameroon. **Plants** 12, 742. <https://doi.org/10.3390/plants12040742> (IF 4.5)

**Mañourová A**, Polesný Z, Ruiz-Chután JA, Tsafack SM, Tchoudjeu Z, Potgieter L, Lojka B. 2023. **Genetic Resources and Crop Evolution**. (IF 1.9) *Submitted for publication on May 18, 2023*.

Tauchen J, Frankova A, **Mañourová A**, Valterova I, Lojka B, Leuner O. 2023. *Garcinia kola*: A critical review on chemistry and pharmacology of an important West African medicinal plant. **Phytochemistry Reviews**. (IF 7.7) <https://doi.org/10.1007/s11101-023-09869-w>

**Three** conference papers were also published. Additionally, her contribution as co-author, to **four** other academically relevant papers (agroforestry, African soils, economic botany of African plants), is noteworthy

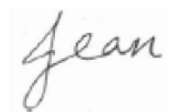
as part of her holistic doctoral education and development as an independent researcher.

- Teutscherová N, **Maňourová A**, Lojka B, Tejnecký V, et al. 2022. Effect of farming on the vegetation structure, soil properties and termite assemblages in the Northern Congo basin. *Land Degradation and Development*. <https://doi.org/10.1002/ldr.4294> (IF 4.7)
- Kyereh D, **Maňourová A**, Hendre PS, Muchugi A, et al. 2021. Diversity, Chemical Composition, and Domestication Potential of *Allanblackia parviflora* A. Chev. in West Africa. *Forests*, 12(12), 1758. (IF 2.9)
- Fraňková A, **Maňourová A**, Kotíková Z, Vejvodová K, et al. 2021. The chemical composition of oils and cakes of *Ochna serrulata* (Ochnaceae) and other neglected traditional oil trees from western Zambia. *Molecules*, 1318119. (IF 4.6)
- Tejnecký V, Křížová P, Penížek V, **Maňourová A**, et al. 2020. The influence of land use on tropical soil chemical characteristics with emphasis on aluminium. *Journal of Inorganic Biochemistry* 204: 110962. (IF 3.9)

**Congratulations** to the candidate for preparing and submitting this PhD thesis.

If you need further information, please email me at [jean.yong@slu.se](mailto:jean.yong@slu.se)

Yours sincerely,



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