Supplementary TEXT S3 Vit et al. biblio map SBH 2023

**Mapping six decades of stingless bee honey research: Chemical quality and Bibliometrics**

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*continues from* **On the reviewers of contributions on bibliometrics**

This is an opportunity to appreciate authentic reviewers, and protecting future authors on the statistical analysis of publications from reviewers that treat bibliometrics as a discipline for dummies, or not even a scientific discipline, where anyone can comment without previous knowledge or expertise. We would simply refer to a reviewer with a mandatory request to remove chemical quality from the title, because the use of the AND NOT operator in the search string for selecting literature on honey chemical composition was not perceived. Similarly, a minor revision was requested after limiting the search to only keywords, instead of the wide search done here for Title-Abstract-Keywords. A reviewer absolutely unfamiliar with the quality factors of honey, the methods of bibliometrics, and the use of the Scopus database, was not competent to decline the invitation to review because of this underlying underestimate of bibliometrics perhaps. However, it turned out that a bibliometric review was evidence of the unclear professional skills, decorated with the minor comments' decision.

Another situation is that the bibliometric approach is in agreement with a reviewer knowledgeable on bibliometrics but the focus is dispersed towards retrieving documents not available in the database used for the research. Availability of access to private databases and choices due to limited or sensible extension of the contributions generally exclude these comments. A detailed search of historic literature is a different objective, as well as comparing scientific databases.

Finally, sharing these comments of a third reviewer "I would like to see more clear recommendations for next steps based on this research, focusing on what should come next. While a few things were eluded [sic] alluded to, but I did not find them clear or compelling. I think concluding with a path forward and showing how this research illuminates that path would make the paper much stronger." The authors considered they do not illuminate readers but is the inner motivation of stingless bee scientists showing their own path in the countries

were stingless bees produce pot-honey or in non-tropical countries with technical infrastructure to analyze them. As it did for the artist and entomologist João M.F. Camargo† masterly portraying stingless bee natural life in his scientific legacy, and for Eva Crane†, a nuclear physicist who became the Grand Dame of Honeybee Researchers.

A further request was "The reader should understand the importance of the work and what has been gained. This is an important piece lacking in the paper." We classify this type of comments as not specialized because they are irrelevant to the topic and possibly the reviewer is unable to understand what a genuine reader does. The piece lacking in the paper was this heading addressed to the peer reviewers, in case it may be useful to scientific writers on bibliometrics of bee science, as envisaged they will grow in the near future.

This compulsory request to pretend the reader needs digested understanding on the importance of the work and what has been gained was addressed as follows. If it was an important piece lacking in the paper, the reader can apply the bibliometric research on chemical quality of stingless bee honey to their own countries, to complete what is requested by the anonymous reviewer. It is impossible to transfer discipline along the years, persistence to overcome challenges, professional values if they were not learned at home or in a healthy scientific environment, and curiosity in case the reader was blind to the magnificent tool of applied bibliometrics with the Scopus database, Bibliometrix, and VOSViewer softwares used here for visualizations. Basically, nature offers a bewildering experience translated into the language of science, as it was food science applied to analyze one material of the stingless bee nest: the pot-honey. The fidelity of the reader to its own scientific topic selected for a lifetime is a good choice to supportive learning from nature directly.

The scientific method is powerful and simple to design experiments and demonstrate hypotheses, the techniques vary in difficulties and training, also need sponsors and to be prepared for personal investments when needed as the first author did in Ecuador, and follows in Venezuela with current adverse situations regarding local universities and national budgets for research. It was the time for the bibliometrics account, and the result was unexpected, especially after waiting for a year that an expert bibliometric team would conduct this research. Of course, they knew the outcome but delayed it. Lesson learned, and grateful for the opportunity to learn more on bibliometrics. No expectations for others, not even for our

team which exceptionally met here with their ability to learn on the Bibliometrix and VOSviewer softwares, or with an experience of more than 10 years in bibliometrics.

The preliminary proposal of four new stingless bee honey standards in Table III could not find a better scenario to be launched than this bibliometric panorama of sixty years of research (1962-2022). The Neotropical *Tetragonisca angustula* (Latreille, 1811) is the most widespread and urban stingless bee, joining the suggested Neotropical *Melipona*, *Scaptotrigona*, and *Trigona* pot-honey standards (Vit et al., 2004). Besides the four Neotropical stingless bees, three Paleotropical stingless bees were included. The Malaysian *Geniotriogona thoracica* Moure, 1961 and *Heterotrigona itama* (Cockerell, 1918) (Zawawi et al., 2022) from the Indo-Malayan region. The Australian *Tetragonula carbonaria* (Smith, 1854) (cited as *Trigona carbonaria* by Persano Oddo et al., 2008) from the Asutralasian region. The prospective standards suggested for the Ecuadorian *Scaptotrigona vitorum* honey (Vit et al., 2017) were in agreement with the generic proposal for Guatemala, Mexico and Venezuela by Vit et al. (2004). Anticipating that Table III will support the reader on standards proposals of research projects on major pot-honey in their countries. Authors consider scientific readers possess their own inner motivation, they motivate themselves, and do not need a motivation flag, but scientific evidence to postulate new paths. This bibliometric research on the chemical quality of stingless bee honey publications along sixty years is the evidence a reader needs to find out his next step. Using the best of his abilities as a human being of planet Earth, as team worker in his society wherever the GPS coordinates are located, as innovators after limitations of current knowledge and research policies, but especially as the loyal guardians of each one's expertise on conservation of the natural resources, medicinal, and gastronomic patrimony. The ethics? Better forget about that, once your work excels, it will become plagiarized or predated, do not lose precious time, it is an academic vice with no solutions. Food control? Co-editors? Focus on your next step in monastic silence and try to be invisible. Contact with nature is the most rewarding company for a stingless bee scientist, it will provide your future collaborators, and remove the unnecessary scholar relationships. Patience and availability for a sudden discovery are qualities that seem distant but are packed together. Technical and repetitive work keep hands busy and brain progressing at its own pace, never stop, help others, push forward students, collaborate whenever possible is the best way to learn, and commit to a long-term objective

that is never written in a research project. P. Vit would have never thought she would collect and analyze bibliographic data on stingless bee honey for sixty years... she just accepted 26 commercial honeys from Venezuela collected by a bee floral botanist who was curious to know their composition, and started learning unknown analysis since 1985 just to please Father Santiago López-Palacios who wrote *Catálogo para una flora apícola venezolana* (López-Palacios, 1986), and the first project on bee science CDCHA-ULA FA-50-83 at Universidad de Los Andes, which was in the Faculty of Pharmacy.

An interactive ResearchGate just recently flashed a title from Uganda: *First physicochemical analysis of stingless bee honey from Uganda* (Oromokoma et al., 2023) selecting their *Meliponula bocandei* pot-honey as an effort to lay a foundation to propose its quality standards and boost meliponiculture in Uganda. More stingless bee honey making species of their country will expand their first approach, the challenging taxonomy of African stingless bees, the support of the ITIS database for valid and invalid status of stingless bee taxa, further collaborations with specialized laboratories in addition to the basic organization to achieve the mandatory physicochemical characterization for honey standards, and as many as possible Afrotropical countries to unfold the bee, botanical and microbial origin of pot-honey components in this continent less studied than the Neotropical, Indomalayan and Australasian regions. As frequently repeated, scholars benefit from science mapping giving intellectual structure to their disciplines and for policy-makers visualizing the variables for best management (Aria and Cuccurullo, 2017). The Ugandan scientists demonstrated they found their inner motivation prior to the illuminated path that prevented the publication of our bibliometric contribution for six months in the top journal for bee science.

Stingless bee honey norms to date were informed, as well as the honey quality factors. The classic author, affiliation, country, and sources of publications were ranked by number of publications with the Scopus database. Visualizations of research networks and plots were achieved with Bibliometrix and VOSviewer. Bibliometrics literacy must be cultivated to achieve the best perception and application of it. Wisely choose your journal or book to disseminate your scientific achievements. This is a gained momentum for stingless bee scientists harvesting recognition, compared to the isolated seminal contributions exemplified by Gonnet et al. (1964). The ice was hardly broken to open access to further demonstrations of stingless bee honey science in a world dominated by *Apis mellifera* (Vit, 2017).

This is also a space to appreciate the editorial support and understanding the difficulties to manage diverse topics and rely on their peer reviewers, always with proficiency and expertness to communicate unbiased scientific research. Authors deserve standard peer reviewing of their submitted scientific manuscripts. An extensive and critical analysis on good peer reviewers (Dhillon, 2021) is a solid reference to protect authors from fake reviewers, and also to conduct peer reviewers and editors to optimize their function in the publication process. “Refining your reviewer skills will also help you to improve your own papers” is a comprehensive advice by Dhillon (2021). We would add that a genuine peer reviewer comments about the manuscript respecting authors’ ideas, would never pretend using it as a platform to publish his own approach. That can be done elsewhere with peer reviewer’s own proposal, budget, team, analysis, and writing.