



Taxonomic Murder and Ethical Practice: A Reply to Alf and Wieneke (2023) on the Taxonomic State of *Lambis vertriesti* Dekkers & Maxwell, 2022 (*Neostromboidae*; *Strombidae*) and a Range Extension for that Species

Stephen J. Maxwell

James Cook University, Cairns, Queensland, Australia

ABSTRACT

Lambis vertriesti ranges from the Philippines into Indonesia. Significant morphological features differentiate *L. vertriesti* from *Lambis lambis* and the synonymisation of those species by Alf and Wieneke (2023) is unwarranted. *Lambis* species in general are highly plastic in form, and therefore comparative studies should be based on type material for accuracy. The use of a regionalised form that is morphologically incompatible with the type is to be considered theoretically unsound as it fails to consider what was the original author's taxonomic intention.

Keywords: Taxonomic Ethics, Indonesia, *Lambis vertriesti*, Range Extension, *Strombus*

Within this paper I address the three issues raised by Alf and Wieneke [1]. The first pertains to a range extension of *Lambis vertriesti* Dekkers & Maxwell, 2022 identified that that paper. The second is the threat of taxonomy by decree posed by unsupported synonymising of *L. vertriesti* by Alf and Wieneke [1]. Finally, I address some theoretical issues on the use of types and conceptuality.

First, the illustration of the *Lambis vertriesti* from Indonesia by Alf and Wieneke [1] on plate 2 constitutes a range extension for that taxon and supports its species status by demonstrating a further example to provide substantive evidence of a stable organism morphospace across a larger range. Range extensions are not uncommon for species once they are circumscribed and collections are examined.

Second, it is the role of the taxonomist to present evidence-based hypotheses to highlight the biological diversity presented before them. Descriptions of taxa are testable; however, it is a theoretical error to disregard a hypothesis through the creation of a conflation of two distinctly different character states to generate a false equivalence. In the Alf and Wieneke [1] article there is a call to synonymise *L. vertriesti* with *Lambis lambis* (Linné, 1758) based on the "*Lambis lambis* is always without lirae in the aperture" as noted in the comparative remarks of Dekkers and Maxwell [2], this is clearly a continuum fallacy. Notwithstanding, Dekkers and Maxwell [2] illustrated in figure 1a, the Lectotype of *L. lambis*, and this shell does not have lirae in the aperture (Figure 1), and Dekkers and Maxwell [2] therefore, did not err in their character observation of *L. lambis* having a smooth aperture. Furthermore, *L. vertriesti* has the character essence of especially well-developed lirae on the upper columella. This is clearly observable in

the *L. vertriesti* illustrated from Indonesia by Alf and Wieneke [1] on plate 2, and not evidenced in any of the purported *L. lambis* on their plates 1 and 3 (Figure 1).

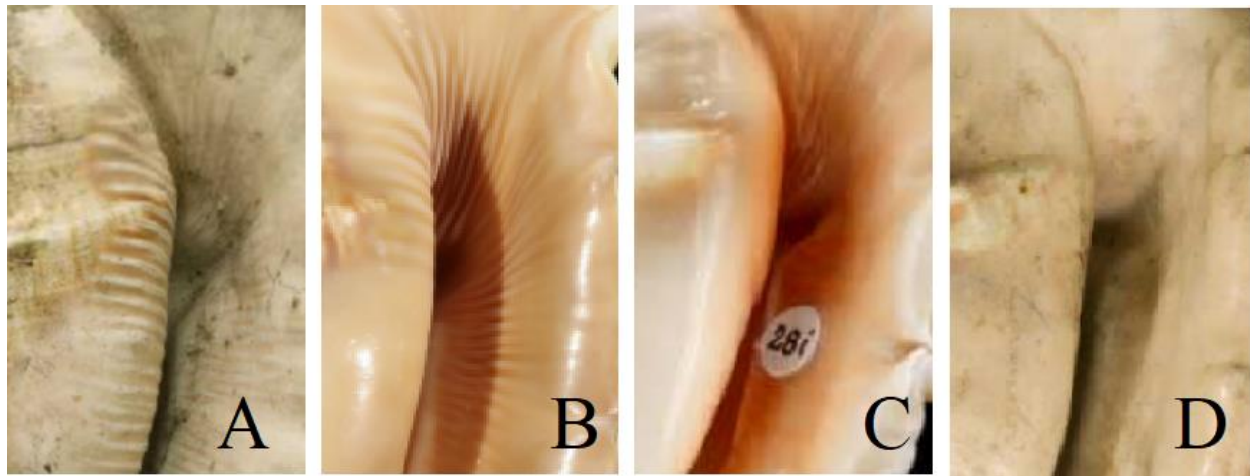


Figure 1: The upper apertures of *Lambis* species showing differences in form and liration:

- A) lectotype of *Strombus millipeda* Linné, 1758 (G-M 0010272 - <https://www.linnean.org/research-collections/linnaean-collections>);**
- B) The holotype of *Lambis vertriesti* Dekkers and Maxwell, 2022;**
- C) the novel *Lambis* (Alf and Wieneke 2023, plate 1); and**
- D) the lectotype of *Strombus lambis* Linné, 1758 showing the aperture without lirae (<https://www.linnean.org/research-collections/linnaean-collection>).**

Alf and Wieneke [1] failed to grasp a philosophical point that a species is a testable hypothesis that seeks to assist in explaining the way we see the world. To enable the natural world's full diversity to be described taxonomists need to be outside the species conceptual restricted bounds such as the phylogenetic concepts that Alf and Wieneke [1] seek to promote [3]. With this in mind, the type has a very important role in acting as the collective representative semaphoront. Types therefore serve a particular purpose, that of providing the exemplar from which the hypotheses are formulated, often through morphological diagnosis. Therefore, choosing a population, that has a small distribution, with morphologically fixed characters, and is arguably a new species to stand for the type of a taxon, as demonstrated by Alf and Wieneke [1], is to be considered unorthodox.

Dekkers and Maxwell [2] have provided the hypothesis that is *L. vertriesti*, and it is hoped in time that this will be tested in many ways for robustness, and this includes the use of genetic evidence. However, it is premature to call for the synonymisation of *L. vertriesti* without presenting that evidence or providing other material which refutes its validity. With this in mind, it must be considered that the Alf and Wieneke [1] synonymisation argument based on one character feature commented on in the circumscriptive remarks by Dekkers and Maxwell [2] is to be considered quite outside the spirit of the sound scientific practice and reveals their conceptual understanding of *L. vertriesti* is opaque. Robust evidence is needed before calling for taxonomic change and reducing our understanding of the natural world. Alf and Wieneke [1] seek by their paper to rule by taxonomic decree, which is most inappropriate. I ask Alf and Wieneke [1] the taxonomic question: "why is it necessary to synonymise a species because of its hypothesised recent evolutionary pathway?"

References

- [1] Alf, A. and U. Wieneke, An interesting form of *Lambis lambis* (LINNAEUS, 1758) and remarks on *Lambis verriesti* Dekkers & Maxwell, 2022. *Conchylia*, 2023. 54 (1-2): p. 43-48.
- [2] Dekkers, A.M. and S.J. Maxwell, A new endemic species of *Lambis* Röding, 1798 from the Philippines (Mollusca: Neostromboidea: Strombidae). *European Journal of Applied Sciences*, 2022. 10 (1): p. 393-400.
- [3] Maxwell, S.J., Congdon, B.C. and T. Rymer, Essentialistic pluralism: The theory of spatio-temporal positioning of species using integrated taxonomy. *Proceedings of The Royal Society of Queensland*, 2020. 124: p. 1-24