

## Reviewer's Comments by Carl C. Christensen on Breure & Araujo's Neotropical Land Snails of the "Comisión Científica del Pacífico"

### Basic Reporting

This article is a reanalysis of an important 19<sup>th</sup> century collection of terrestrial mollusks from Central and (mostly) South America that was the principal resource available to J. G. Hidalgo, author of several major works on the systematics of these animals published during the period 1870-1893. The report provides useful background information on the history of the collection and the individuals associated with its assembly and study. It then reviews the current views as to the identities of the various species and provides excellent color photographs of specimens examined. The report is readable and well-written.

### Experimental Design

The scope of the project is well-defined and appropriate to the subject matter. The authors are knowledgeable of the subject matter (in particular, Breure has previously written extensively on the land snail fauna of the region, especially the Bulimulidae and related taxa which are a major portion of the material under study). The land snail fauna of that region was not well-known at that time of Hidalgo's work, and thus resolution of uncertainties regarding the identities and taxonomy of the species upon which he reported is essential to a sound understanding of their taxonomy.

### Validity of the Findings

Although this reviewer is not personally familiar with the molluscan fauna of South America, the analysis presented appears to be meticulous and thorough, and the conclusions drawn are logically presented and well-stated. Remaining uncertainties, especially as to the availability or non-availability of type material, are identified.

### Recommendation as to Publication:

I recommend that the paper be accepted for publication once the issue regarding the status of e-publications under the International Code of Zoological Nomenclature is resolved (see "General Comments" below) and the various minor items discussed below under "Specific Comments" are addressed. The General Comment regarding bibliographic references is perhaps a mere stylistic preference, but is offered for the author's consideration.

### General Comments:

E-publication and the requirement under the International Code of Zoological Nomenclature that nomenclatural acts be validly published. The work under review contains statements that are intended to be acts validly published under the International Code of Zoological Nomenclature (e.g., designation of a lectotype for *Drymaeus chanchamayensis* and recognition of a new combination for *Synterpes visendus*). It is my understanding that PeerJ is an electronic-only journal and that hard copies are not printed for general distribution. The Code permits electronic-

only publication but imposes certain requirements that must be met before nomenclatural acts contained in e-publications will be regarded as having been properly “published” under Article 8 of the Code (International Commission on Zoological Nomenclature. 2012. Amendment to Articles 8, 9, 10, 21 and 78 of the *International Code of Zoological Nomenclature* to expand and refine methods of publication. *Bulletin of Zoological Nomenclature* 69:161-169; see also Z.-Q. Zhang. 2012. A new era in zoological nomenclature and taxonomy: ICZN accepts e-publication and launches ZooBank. *Zootaxa* 3450:8). Under the Code it is essential to comply with these requirements, particularly those in Article 8.5.3 of the Code regarding registration in ZooBank, the giving of notice to that effect in the publication itself, and the making of arrangements for the permanent archiving of the work.

#### Bibliographic Citations:

At Lines 69-70 of the “Material and Methods” section it is stated that for each species account references are included only if they were based on material from the CCP collection under study here; in other words, complete bibliographies are not provided. This is entirely appropriate, but it can lead to ambiguities where multiple nomina are included under a single species heading, as at Lines 1351-1352 where references to “*Bulimus alutaceus* Reeve” and “*Bulimus tarmenensis* Philippi” are included in the bibliography of *Scholvienia alutacea*. Without more, it is unclear whether or not *tarmensis* is regarded as a synonym of *alutacea* (perhaps even as a *new* synonym) or, alternatively, whether Hidalgo’s use of Philippi’s name was based on a misidentification. Similarly, the reader cannot be certain that placement in the genus *Scholvienia* in the present work is not intended to create a new combination. The abstract to the work identifies only two nomenclatural innovations, a lectotype designation for *Drymaeus chanchamayensis* and a new combination created by the transfer of *Bulimus visendus* to the genus *Synterpes*. If these are in fact the only nomenclatural innovations introduced here it might be useful to insert language in the Materials and Methods discussion stating that all nomenclatural innovations are explicitly identified in the individual species accounts and that any literature citations based on misidentifications (such as, apparently, the case of *Corona regalis* and *bensoni* discussed below) are identified as such to distinguish them from intended synonymies.

#### Specific Comments (mostly typographical or stylistic in nature):

Line 16: Suggest “For 34 species . . .” instead of “Of 34 species . . .”

Line 28: Correct spelling of “until”.

Line 48: The meaning of the phrase “numbers of the material” is unclear.

Line 90: Suggest “reign” for “kingdom. Suggest “time” for “times.”

Lines 94-96, 118, 132: Unless contrary to PeerJ’s typographical conventions, suggest italicizing names of the vessels mentioned here.

Line 97: The meaning of the word “acclimatization” is unclear in this context.

Lin 140: Check spelling of “zoophites”; zoophytes?

Line 154: Verify accuracy of name “Juan Isern y Batlló”; is this individual also sometimes known as “Juan Isern Battló y Carrera” (es.Wikipedia) and, if so, which name is correct?

Line 182: Reference of pronoun “he” is unclear; Paz or Hidalgo?

Line 186: Subject “documents” takes a plural verb: “lead”.

Line 228: Suggest deleting word “few”.

Line 425: Insert page reference for “Children, 1823” for consistency with usage elsewhere (e.g., Line 699). This inconsistency occurs elsewhere in the manuscript and should be corrected wherever it appears; I have tried to identify all such instances but may have missed some.

Line 516: A word (“be”?) appears to be missing from the phrase “It may noted”.

Line 517: Correct spelling of “posthumely”.

Line 690: the reference of the phrase “same year” is unclear.

Line 1053: Italicize “*Bulimus thompsoni*”?

Lines 1109-1110, 1132, 1135-1136: If the reference to *Bulimus taunasii* in lines 1109-1110 was based on a misidentification rather than synonymy that should be explained. Note also that the name is spelled “*taunaisii*” in Lines 1132 and 1135-1136; which spelling is correct?

Line 1182: Insert page reference for Martens in Albers, 1860.

Lines 1205-1206, 1216-1219: Lines 1205-1206 list several references to *Orthalicus bensoni* in the discussion of *Corona regalis*, suggesting that *bensoni* is a synonym of *regalis*. In the discussion at Lines 1216-1219, however, it appears that the two are distinct species. If the Hidalgo references in Lines 1205-1206 are of material misidentified by him as *bensoni* it would avoid confusion if there were a clear statement that the *bensoni* of Hidalgo was not the *bensoni* of Reeve and that Hidalgo’s use of the name was based on a misidentification.

Line 1380: Delete hyphen in “con-specific”.

Line 1497: Would “If the label “Ecuador” . . .” be preferable to “When the label . . .”?

Lines 1589, 1592-1593: “*Leucotrama*” of “*leucotrema*”?

Lines 1708-1709: The ms. states that the species *O. spixii* as designated as type species was found by Breure & Ablett to comprise two species but doesn’t explain how those authors resolved the issue to determine that *striata* was the proper identification of the type species. The

reader would be better informed if the author briefly explained how Breure & Ablett reached that conclusion.

Line 1824: Reference for designation as lectotype? If in this paper, that should be so stated.

Line 2259: Reference for designation of lectotype?

Line 2450: Insert page reference.

Line 2474-2475: Suggest inserting a word so the sentence will read “‘Peru’ is likely a wrong locality as this species is not OTHERWISE known from that country.”

Lines 2505-2506, 2516-2517: Since this paper designates the lectotype, perhaps that fact should be set forth in the discussion of type material in Lines 2505-2506.

Line 2667: Suggest “*Drymaeus* sp.” for “*Drymaeus* spec.”

Line 2713: Reference for lectotype designation?

Line 2974: Suggest substituting “granulose” for “granose”.

Lines 3170-3177: Species name is spelled both as “*calcarius*” and as “*calcareus*”; which is correct?

Line 3249: Incomplete entry?

Line 4006: “sic” in italics?

Line 4317: Correct spelling of “oppertunity”.