

## Some notes on the status of *Jaminia quadridens elongata* (Moquin-Tandon, 1856) (Gastropoda: Stylommatophora: Enidae)

Álvaro Alonso Suárez<sup>1\*</sup> & J.G.M. (Han) Raven<sup>2</sup>

<sup>1</sup> C/ Infiesto 7, 6º J, 33207 Gijón, Asturias, España

<sup>2</sup> Naturalis Biodiversity Center, P.O. Box 9517, NL-2300RA Leiden, Netherlands

\* Corresponding author: [malakoiberia@yahoo.es](mailto:malakoiberia@yahoo.es)

Received: 2021/09/25. Accepted: 2021/11/01

**Abstract:** Large specimens of *Jamina quadridens* (O.F. Müller, 1774) from different localities in continental Europe have been recorded as *Jaminia quadridens elongata* (Moquin-Tandon, 1856). Here, the status of this name is reviewed, revealing that it corresponds to a slender form of *quadridens* from Corsica.

**Algunas notas sobre el estatus de *Jaminia quadridens elongata* (Moquin-Tandon, 1856) (Gastropoda: Stylommatophora: Enidae)**

**Resumen:** Ejemplares de gran talla de *Jamina quadridens* (O.F. Müller, 1774) recogidos en diferentes lugares de Europa continental han sido citados como *Jaminia quadridens elongata* (Moquin-Tandon, 1856). Revisamos aquí el status de este nombre, mostrando que corresponde a ejemplares de forma estilizada provenientes de la isla de Córcega.

*Jaminia quadridens* (O.F. Müller, 1774) is a terrestrial gastropod of the family Enidae, with a characteristic sinistral, conical-cylindrical shell, with a relatively wide distribution, from the Iberian Peninsula to Turkey, including all the southern and several central European countries. Several varieties described throughout the 19<sup>th</sup> century have been brought into synonymy, with the exception of the subspecies *Jaminia quadridens elongata* (Moquin-Tandon, 1856), still included as valid taxon in recent checklists (Bank, 2011a, 2011b; Gargominy *et al.* 2011; Iberfauna, 2008; Bank & Neubert, 2017; Bank, 2021). Here, we clarify the origin of *elongata*, as a lot of confusion derives from lack of attention to the original description of this taxon.

The name *elongata* was first used by Requien (1848: 48) in his catalogue of molluscs of the island of Corsica, reporting records of “*Pupa quadridens* Drap.” from Bonifacio and Corte, and another record of what he named “*Var. Elongata*” (sic) from Bonifacio (Fig. 1).

Requien’s record of this “*Var. Elongata*” is echoed by Moquin-Tandon (1856: 300) (Fig. 2),

who quite briefly describes three varieties of *Bulimus quadridens*. Two of his varieties (*β major* and *δ minor*) seem to be just large or dwarf specimens found elsewhere. On the contrary, he describes *γ elongatus* explicitly from Bonifacio (Corsica), with ‘*Coquille un peu plus grande, plus étroite*’ (shell a bit larger, narrower). Nothing is said about the apertural barriers of *elongata*, though recent authors (Cadevall & Orozco, 2016; ONEM, 2021) pointed out that columellar teeth are often reduced but never absent.

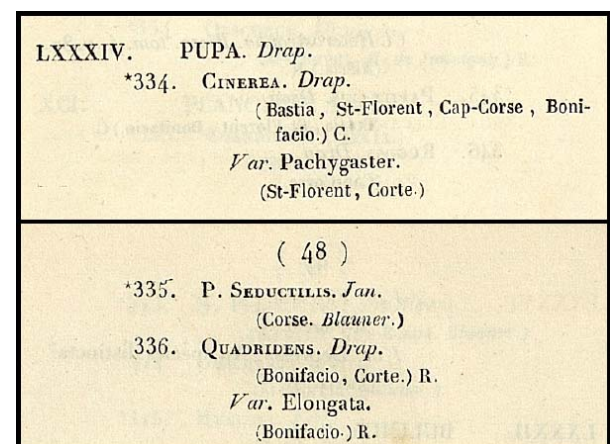


Figure 1. First mention of *elongata* by Requien (1848)

Westerlund (1897: 56-57) makes a clear distinction between *elongata* from Corsica, and *prolixus* Pini, 1879, a large form of *quadridens* that, as Moquin-Tandon's "*β major*", is likely a synonym of the nominal species *Jaminia quadridens*.

So, according to the original description, the taxon *elongata* should be restricted to slightly larger and slenderer specimens from Corsica. Shells from the type locality (Figs 3A-C) are a bit

narrow and less cylindrical. The presence of the nominal species along with *elongata* at the same locality (Bonifacio), recorded by Requier, demonstrates the latter cannot be an endemic subspecies. It makes more sense to consider *elongata* as a variety or form within the normal variability of the species. That is also how Requier and Moquin-Tandon regarded it, and why they describe *elongata* as a variety, rather than a new species.

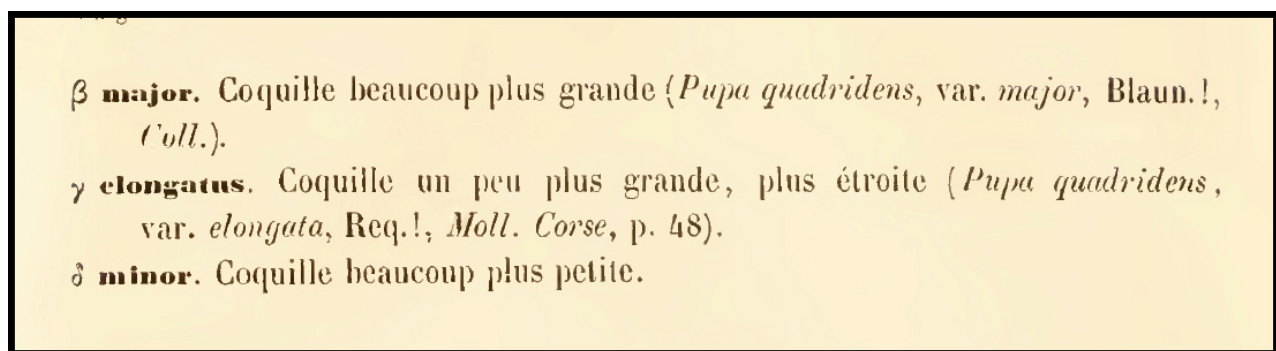
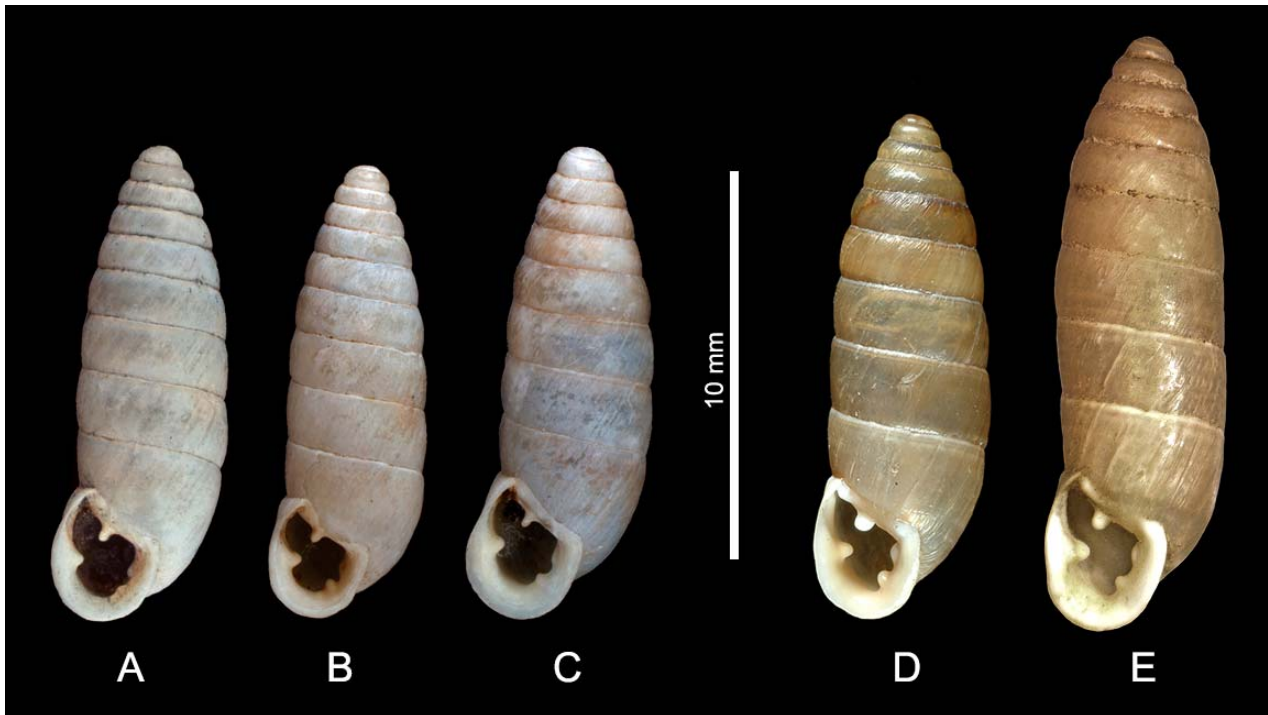


Figure 2. Moquin-Tandon description of "*γ elongatus*" (along with *β major* and *δ minor*).

Though *Jaminia quadridens elongata* (Moquin-Tandon, 1856) is included in several checklists for Spain (Bank, 2011a; Iberfauna, 2014; Bank & Neubert, 2017), we have not found any reference for this in recent works. We believe that it may be based on the book "Obras malacológicas" by Hidalgo (1890-1910), who carefully reviewed all the literature then available on Mollusca from the Iberian Peninsula, and reproduced (Hidalgo 1909: 994) a vague reference from Westerlund (1897: 56-57), reporting *Chondrulus quadridens var. prolixus* Pini 1879 for "Italy, south of France, Spain". This taxon was described from Piacenza (Italy) as a large form of *quadridens* (14x4 mm), analogous to Moquin-Tandon's "*β major*". Recently this *var. prolixus* was synonymised with *elongata* (without publishing any arguments), starting with the European database *Fauna Europaea*, developed between 2000-2004, with several online versions until the last available, *Fauna Europaea ver. 2017.6* (Bank, 2021). Likely it is based on this synonymy that *elongata* slipped into later checklists for Spain.

Several authors, probably unaware of the origin of the taxon, reported *elongata* from elsewhere, mostly continental France. For example, the ONEM popular science website (ONEM, 2021) started a specific data collection project to define the distribution of *J. quadridens quadridens* and *J. quadridens elongata* in France. Counting with data provided by well-known researchers (Gargominy, Ripken, Bichain...), almost all records of *elongata* are located in the Provence and the Alps, and only one in Corsica, contrasting with the three records of *J. quadridens quadridens* given for the island. Unfortunately, this research is flawed from the start, as the identification key given for *elongata* is wrong, stating that *elongata* is longer and wider (4-5 mm) than the nominal form (in other words, larger; Fig. 3D), which are the traits described by Moquin-Tandon for the variety "*β major*", as already mentioned, and not those of "*γ elongatus*", narrower than the nominal form.



**Figure 3.** A-C) Specimens of *Jaminia quadridens* from the type locality of var. *elongata* (Bonifacio, Corsica). A-B) Bonifacio, leg. J.M. Hernard. A) H 12.2 mm, W 4.1 mm. B) H 10.9 mm, W 4.2 mm. C) Semaphore de Pertusato valley, 2 km SW of Bonifacio, Corsica, leg. JJ Vermeulen, H 11.7 mm, W 4.1 mm. D) Saint-Paul-sur-Ubaye, Alpes-de-Haute-Provence (continental France) identified as *Jaminia quadridens elongata* by O. Gargominy (Photo: Gargominy, CC BY 4.0). E) Tivenys, Tarragona, Spain (31TBF8833, Photo: S. Quiñonero).

Béguinot (2013) tried to define morphometric criteria for distinguishing between *quadridens* and *elongata*. However, he only examined shells from continental France and, following the ONEM website (already available in 2013) in contradiction with the original description of *elongata*, stated that “it can be distinguished for the larger size of the shell, both in height and width”, which are in fact the traits of Moquin-Tandon’s “ $\beta$  major” variety, and not those of “ $\gamma$  *elongatus*”, explicitly described as presenting a narrower shell.

It is not hard to find shells from elsewhere fitting the traits of the nominal *quadridens*, *elongata* or “ $\beta$  major” (e.g., Fig. 3D-E). In Spain, variation in height and diameter occurs within and between populations. Specimens from Carrasquero,

Huesca (31TBG9688) vary from H 10.5 mm, W 4.4 mm to H 14.5 mm, W 5.4 mm; those from Aliaga, Teruel (30TXL9405) vary between H 8.2, W 4.0 mm and H 13.9, W 4.5 mm; those from Castelldefels, Barcelona (31TDF1470) all are long and broad (e.g., H 14.8 mm, W 5.1 mm), whereas at Pico Grande, Valdehuesa, León (30TUN1055) all are small and narrow (e.g., H 7.7 mm, W 3.3 mm). So finally, we subscribe to the conclusion of Cadevall & Orozco (2016: 258-259), treating *elongata* as a morph or form, rather than a valid taxon.

#### Acknowledgements

Bram van der Bijl (Naturalis) provided access to the collections.

## References

- Bank R.A. (2011a). *Checklist of the land and freshwater Gastropoda of the Iberian Peninsula (Spain, Portugal, Andorra, Gibraltar)*. Fauna Europaea Project. 35 pp.
- Bank R.A. (2011b). *Checklist of the land and freshwater Gastropoda of France*. Fauna Europaea Project. 34 pp.
- Bank R.A. (2021). *Fauna Europaea: Enidoidea, Enidae*. Fauna Europaea version 2017.06, <https://fauna-eu.org>. Consulted on 20-09-2021.
- Bank R.A. & Neubert E. (2017). *Checklist of the land and freshwater Gastropoda of Europe*. Molluscabase. 170 pp.
- Béguinot J. (2013). Sur les critères morphologiques propres à séparer les deux sous-espèces - *quadridens* et *elongata* - de *Jaminia quadridens*. *Folia Conchylologica* 23: 12-17
- Cadevall J. & Orozco A. (2016). *Caracoles y babosas de la Península Ibérica y Baleares*. Nuevas Guías de Campo Omega. 817 pp.
- Gargominy O., Prie V., Bichain J.-M., Cucherat X. & Fontaine B. (2011). Liste de référence annotée des mollusques continentaux de France. *MalaCo* 7: 307-382
- Hidalgo J.G. (1899-1910). *Obras malacológicas. Parte II. Estudios preliminares sobre los moluscos terrestres y marinos de España, Portugal y las Baleares*. Madrid, 1627 pp.
- Iberfauna (2008). Genus *Jaminia*. Risso, 1826. En: IBERFAUNA. El Banco de Datos de la Fauna Ibérica. Museo Nacional de Ciencias Naturales (CSIC). Enlace: <http://iberfauna.mncn.csic.es/showficha.aspx?rank=T&idtax=34764> (Fecha de acceso: 26/09/2021).
- Moquin-Tandon A. (1855-1856). *Histoire naturelle des mollusques terrestres et fluviatiles de la France contenant des études générales sur leur anatomie et leur physiologie et la description particulière des genres, des espèces et des variétés. Tome second*. Paris, 646 pp.
- ONEM, Observatoire Naturaliste des Écosystèmes Méditerranéens (2021). Enquête Escargots. Cartographie des données renseignées pour les *Bulimes* inverse et allongé "*Jaminia quadridens* ssp.". <http://www.onem-france.org/escargots/wakka.php?wiki=JaminiaQuadridensCarto#>. Website consulted on 20-9-2021.
- Requien E. (1848). *Catalogue des coquilles de l'île de Corse*. Avignon. 110 pp.
- Westerlund C.A. (1897). *Synopsis molluscorum extramarinorum regions Palaearcticae*. Håkan Ohlsson. 139 pp.