

Comment on the paper

“RECENT GEOETHICAL ISSUES IN MOROCCAN AND PERUVIAN PALEONTOLOGY”

by Juan Carlos Gutiérrez-Marco, Artur Abreu Sá, Diego C. García-Bellido, César A. Chacaltan

Joan Corbacho

Geological Museum of the Seminary, Barcelona (Spain)
Association of Experts and Appraisers of Catalonia, Sabadell (Spain)

fossilart@hotmail.com

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ABSTRACT

Recently, in an article written by Gutiérrez-Marco et al. and published in *Annals of Geophysics* [60, Fast Track 7, 2017], there are some incorrect affirmations written against my work in the paleontological field that I have been carried out for more than 10 years on new species of trilobites from the Ordovician of Morocco. They have questioned the quality of my work but also that of my collaborators and the institutions with which I am collaborating, particularly the Geological Museum of the Seminario of Barcelona (Spain), an institution that has been doing geological research since 1874. For this reason, I will present here some evidences that show the incorrectness of such statements reported in the paper by Gutiérrez-Marco et al. [2017].

1. INTRODUCTION

This situation dates back to 2010, when Dr. Gutiérrez-Marco made a trip to Morocco, at a time when the study of the new Ordovician trilobite faunas that were appearing in that region was practically carried out only by me and collaborators, Vela and Corbacho [2007; 2009], Corbacho [2008; 2011; 2014] Corbacho and Vela [2010; 2011; 2013], Corbacho and Kier [2011], López-Soriano and Corbacho [2012], Corbacho and López-Soriano [2012; 2013] and Corbacho et al., [2014], with some notable exceptions such as those made by Dr. Richard Fortey [2009; 2010; 2011]. In 2015, at an International Congress held in Morocco, Dr. Gutiérrez-Marco already presented a communication stating that the trilobites I had described from the Bou Nemrou deposits at El-Kaid Errami [Corbacho, 2011] had been made with pieces of different specimens [Gutiérrez-Marco et al., 2015]. A similar episode was later repeated at the 6th International Conference on Trilobites and their Relatives held in Tallinn (Estonia) in 2017 [Gutiérrez-Marco et al., 2017]. This effort to discredit my work interna-

tionally reaches a new phase with the publication of the article mentioned above, which forces me to make the following considerations.

- 1) It is false that some of the holotypes and paratypes of the new species described in my articles have been sold through the Internet. All these specimens are kept in the museums indicated in the corresponding publications, where they remain available to any member of the scientific community who wishes to examine them and verify their authenticity.
- 2) Regarding the certificate of authenticity corresponding to the topotype of *Uralichas hispanicus tardus* Vela and Corbacho, 2009 mentioned in Figure 1 of the article by Gutiérrez-Marco et al. [2017] and which is said not to be a completely real fossil because it presents epoxy resin in cephalon, thorax and pygidium, a photograph (Figure 2) is attached under ultraviolet light of this specimen in which it can be seen that the only resin that appears in it corresponds to where the broken part of the matrix to the level of pygid-



FIGURE 1. Part of the specimens used as paratypes and other trilobites in my publications, all them available to any member of the scientific community interested in their study. The pictures were taken with the first page of the article by Gutiérrez-Marco et al. [2017] to demonstrate that the pictures were taken after the publication of that paper.



FIGURE 2. Picture taken under UV light of *Uralichas hispanicus tardus* (topotype). Only resin present in it corresponds to the junction of the broken part of the matrix at the pygidium level.

ium. Any paleontologist who has worked with trilobites of this size perfectly knows well that it is very easy to produce this kind of breakage during the extraction process and that their repair is perfectly acceptable. As can be seen in the Figure 2, there is no presence of resin neither in the cephalon nor in the thorax of the specimen. Any scientist who wants to verify the authenticity of this topotype has it at their disposal. Similarly, when it is stated that the genal spines in the specimens of *Asaphellus cuervoae* Corbacho and López-Soriano, 2012 have been “*obviously, generated as an ‘improvement’ with epoxy paste, probably based on poorly preserved specimens of Asaphellus stubbsi [Fortey, 2009]*”, a false information is again written, that it is reconstruction but, again, without any validation of this assertion.

- 3) Sale of a holotype on the Internet. This is a very serious issue and, like the others, false. The holotype of *Parvilichas marochii* Corbacho and Vela, 2013 is conserved in the collections of the Natural Sciences Museum of Barcelona (Spain), as can be verified with the certificate issued by the director of said institution (Figure 3). Figure 1 shows some of the specimens used as paratypes and other trilobites in my publications; in this figure, the first page of the article by Gutiérrez-Marco et al. is attached in each picture in order to demonstrate that the photographs have been taken after the publication of that paper. Again, the specimens are available to anyone who wishes to verify it in the corresponding museums.
- 4) It is stated in the article that some specimens used in my studies have been acquired from local merchants. But most have been collected by staff who worked on my behalf, and others have been personally collected by myself, such as those of *Symphysops stevaninae* López-Soriano and Corbacho, 2012 or *Pauxillites thaddei* Valent and Corbacho, 2015 and Valent et al., 2013. In fact, some of the holotypes used in my papers and currently kept in Geological Museum of the Seminary of Barcelona and Národní Muzeum, Prague, have been bought by me or collected personally by me and then donated by me to these institutions; in the case of those deposited in the Natural History Museum of London, they have been donated by one of my collaborators. On the other hand, the purchase of fossil specimens from local collectors is a common practice on the part of “professional” paleontologists. In these cases, it is essential to verify the exact origin of the same, which I have always done with all my papers (see references).
- 5) The Association of Experts and Appraisers of Catalonia is a young association but with more than five partners, contrary to what is said in Gutiérrez-Marco et al. [2017]. Accordingly with the association’s statutes, there have been several people who have not been allowed to join because they do not have the corresponding degree or a sufficiently accredited experience. The fact that I was one of its founding members and being currently its president does not mean that I am the owner, as is stated in the article. The statutes are in the headquarters of the association, at the disposal of anyone who wants to consult them.
- 6) Justification of my education and qualifications. At the following link you can see the admission requirements for master’s degree of the European



FIGURE 3. Holotype sold in Internet? The certificate issued by the Director (Dr. Anna Omedes) of the Museu de Ciències Naturals of Barcelona (Spain) states that the specimen is deposited in this museum and accessible to the scientific community. Translation of the certificate:

“The Natural Sciences Museum of Barcelona preserves in its Paleontological collections the specimen MGB 58638, both genotype and holotype of the taxon *Parvilichas marochii* Corbacho and Vela, 2013, collected in the Upper Fezouata Formation of Tinzouline (Zagora, Morocco), of Floian age (Lower Ordovician, Paleozoic) which entered in the collection on April 19, 2012 as a part of the J.A. Vela collection (specimen number 4962)”.

University Miguel de Cervantes. To do the master's is needed a three-year university degree. (Taken from the web on February 1, 2018). <http://www.esuelacriminologia.com/index.php/titulos-propios-universitarios>

- 7) “As an example of the first view, Martin et al., [2016] reported a general list of the Lower Ordovician trilobites identified from the Fezouata Shale, with no reference of the new taxa described

by Mr. Corbacho from the same formation [Vela and Corbacho, 2007; Corbacho, 2008, 2014; Corbacho and Vela, 2010, 2013; Corbacho and López-Soriano, 2012], with the single exception of *Anacheirurus adserai* [Vela and Corbacho, 2007]”. Although Martin et al., [2016] did not respect the species described [published previously by Vela and Corbacho, 2007; Corbacho, 2008, 2014; Corbacho and Vela, 2010, 2013; Corbacho and López-

Soriano, 2012] in the Fezouata formation, it does not mean that they do not exist. Other authors have recognized them such as Patrice Lebrun [2018]. Concerning the different species of *Lehua*, the cited authors affirm that they only know one species. The normal procedure would have been to study the different the holotypes and paratypes kept in the Geological Museum of the Seminary of Barcelona.

- 8) “Gutiérrez-Marco et al., [2017] have used the name *Megistaspis (Ekeraspis) hammondi* [Corbacho and Vela, 2010], but stating that ‘the original description of the species needs revision, because the diagnostic characters are barely recognizable on the holotype, and the purported differences with the subspecies *M. (E.) hammondi forteyi* could be due to preparation by fossil dealer’s. On the other hand, the same late Tremadocian trilobite was cited as *M. (E.) cf. filacovi* by Martin et al. [2016], in the hope of a more complete study with better preserved material”. This is also untrue; the two holotypes of both species are in the NHM, London, in addition to the presence of a considerable number of paratypes that are kept in the Geological Museum of the Seminary of Barcelona. The differences can easily be seen between the two species, above all with *M. (E.) filacovi* by Martin et al. [2016].
- 9) “About fossil fakes and their recognition and legal expertise in paleontology he has written several papers with very elemental and obvious examples [Corbacho, 2009, 2015; Corbacho and Martínez, 2014, 2015; Corbacho and Sendino, 2015; Corbacho et al., 2007, 2011, 2015]”. Despite these claims about my articles on fossils and fossil expert reports, the truth is that none of the authors of the paper by Gutiérrez-Marco et al. [2017] have published any papers on these topics, whilst I have published.

FINAL REMARKS

In summary, the article by Gutiérrez-Marco et al. [2017] is full of inaccuracies towards the work that I have been developing on the subject (holotypes and paratypes have not been sold; my title is authentic and awarded at a recognized university; and specimens have not been faked). Additionally, they have used this journal to promote their own views on systematic palaeontology whilst missing the truth.

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