

Provided for non-commercial research and education use.
Not for reproduction, distribution or commercial use.



This article appeared in a journal published by Elsevier. The attached copy is furnished to the author for internal non-commercial research and education use, including for instruction at the authors institution and sharing with colleagues.

Other uses, including reproduction and distribution, or selling or licensing copies, or posting to personal, institutional or third party websites are prohibited.

In most cases authors are permitted to post their version of the article (e.g. in Word or Tex form) to their personal website or institutional repository. Authors requiring further information regarding Elsevier's archiving and manuscript policies are encouraged to visit:

<http://www.elsevier.com/copyright>



Contents lists available at SciVerse ScienceDirect

Journal of South American Earth Sciences

journal homepage: www.elsevier.com/locate/james

Reply to the comment by J.P. Figueiredo & C. Hoorn

Martin Gross^{a,*}, Werner E. Piller^b^a Department for Geology and Palaeontology, Universalmuseum Joanneum, Weinzöttlstrasse 16, 8045 Graz, Austria^b Institute for Earth Sciences, Karl-Franzens-University, Heinrichstrasse 26, 8010 Graz, Austria

ARTICLE INFO

Article history:

Received 10 December 2011

Accepted 13 December 2011

Keywords:

Western Amazonia

Late Miocene

Sedimentary environments

Solimões formation

ABSTRACT

We documented and interpreted outcrops of Late Miocene sediments (upper Solimões Formation) from the Eirunepé region (state of Amazonia), which is clearly expressed in our paper Gross et al. (2011). We do not discuss the geological history of the entire Amazon region, neither in terms of (palaeo-)geography nor in time. Therefore, we refuse the comment of Figueiredo and Hoorn (2011) that we have drawn over-generalized conclusions, which may mislead readers.

© 2011 Elsevier Ltd. All rights reserved.

We highly appreciate the comment of J.P. Figueiredo and C. Hoorn on our paper dealing with sedimentary environments in south-western Amazonia (Gross et al., 2011), which highlights the ongoing debate about the geological evolution of Amazonia again (e.g., Hoorn et al., 2010; Latrubesse et al., 2010).

Our article “[...] aims to contribute basic sedimentological data from a barely studied region (Eirunepé) [...]” (Gross et al., 2011, p. 170). Based on those observations, we conclude that the studied outcrops represent deposits of a fluvial (possibly anastomosing) system – inclusively wetlands of the associated floodplain. We clearly state in the abstract as well as in the conclusions of that paper that we found “not any indication for a long-lived lake (“Lake Pebas”) or any marine influx in this region during the Late Miocene.” (Gross et al., 2011, p. 180; see also the abstract therein). However, the original manuscript was submitted as “Contribution to Late Miocene sedimentary environments in south-western Amazonia”, which should “make clear that we are currently not in the position to discuss the “whole story” of Miocene Amazonia” (comment by M.G. to reviewer #1).

Anyway, we undoubtedly do not conclude that the “entire western Amazon region must have been characterized by this

[fluvial] environmental setting” and we do not imply that a “long-lived lake system – or megawetland – never existed” as criticized by Figueiredo and Hoorn in their comment. We contend that our paper is not misleading for careful readers.

References

- Figueiredo, J.P., 2011. COMMENT by J.P. Figueiredo, & Hoorn, C. on ‘Late Miocene sedimentary environments in south-western Amazonia (Solimões Formation; Brazil)’ by Martin Gross, Werner E. Piller, Maria Ines Ramos, Jackson Douglas da Silva Paz. *Journal of South American Earth Sciences*, doi:10.1016/j.james.2011.12.003.
- Gross, M., Piller, W.E., Ramos, M.I., Paz, J.D.S., 2011. Late Miocene sedimentary environments in south-western Amazonia (Solimões formation; Brazil). *Journal of South American Earth Sciences* 32, 169–181.
- Hoorn, C., Wesselingh, F.P., ter Steege, H., Bermudez, M.A., Mora, A., Sevink, J., Sanmartín, I., Sanchez-Meseguer, A., Anderson, C.L., Figueiredo, J.P., Jaramillo, C., Riff, D., Negri, F.R., Hooghiemstra, H., Lundberg, J., Stadler, T., Särkinen, T., Antonelli, A., 2010. Amazonia through time: Andean uplift, climate change, landscape evolution, and biodiversity. *Science* 330, 927–931.
- Latrubesse, E.M., Cozzuol, M., Silva-Caminha, S.A.F., Rigsby, C.A., Absy, M.L., Jaramillo, C., 2010. The Late Miocene paleogeography of the Amazon Basin and the evolution of the Amazon River system. *Earth-Science Reviews* 99, 99–124.

DOI of original article: 10.1016/j.james.2011.12.003.

* Corresponding author. Tel.: +43 316 8017 9733; fax: +43 316 8017 9671.

E-mail addresses: martin.gross@museum-joanneum.at (M. Gross), werner.piller@uni-graz.at (W.E. Piller).