

Corrigendum to “A first-gradient approach to the remodeling and fluid flow in saturated porous media”

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In this *Corrigendum* we clarify the scaling of a physical quantity that we did not mention in our paper [1], and we specify the text extracts in which the clarification is deemed necessary:

i) paragraph immediately below Equation (53)

Published paper [1]:

“; $S_y > 0$ [...] representing a characteristic mechanical stress of the solid phase ... ”

Corrigendum:

“; $S_y > 0$ [...] representing a characteristic mechanical stress of the solid phase, *multiplied by a characteristic time scale*, ...”

ii) a sentence in the paragraph below Equations (57a) and (57b):

Published paper [1]:

“... and unitary “rate-sensitivity parameter” [38].”

Corrigendum:

“... and unitary “rate-sensitivity parameter” [38], *and by incorporating the model’s “reference flow-rate” [38], taken unitary, into S_y (although S_y has physical dimensions of viscosity, with a slight abuse of terminology we call it “rescaled yield stress” or “rescaled strength” in the following).*”

iii) a sentence at the eighth line of the third paragraph of page 39:

Published paper [1]:

“... yield stress \bar{S}_y .”

Corrigendum:

“... *rescaled* yield stress \bar{S}_y .”

In Table 1 [1], column “Parameter”, the text “Coarse grain yield strength” associated with S_y should read “*Rescaled* coarse grain yield strength”. The reference [38] in this *Corrigendum* is the same as in [1].

References

[1] Alessandro Giammarini, Andrea Pastore, Ariel Ramírez-Torres, and Alfio Grillo. A first-gradient approach to the remodeling and fluid flow in saturated porous media. *Mathematics and Mechanics of Solids*, 30(9):2185–2223, August 2025. ISSN 1741-3028.

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