

Interactive comment on “Co, Cr and Ni contents in soils and plants from a serpentinite quarry” by M. Lago-Vila et al.

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(1) comments from Referees, General Comment The submitted manuscript shows data of heavy metals accumulation in soils and plants from an abandoned serpentinite quarry. In my opinion the manuscript is too descriptive and also the presented results are messy. The presented results should be more concise. The authors spent a lot of words in the description of exceptions found in the general trends, while the general behaviours are not clearly described. On the other hand, a real discussion about the results implications is missing. The hypothesis and aim of the manuscript must be improved. Can you test the plant phytoremediation capacities if you don't measure the heavy metal concentrations in the soil before and after the plants development? In think no. However, with your data you can response to the next questions:

C1570

Are the heavy metal concentrations in the soils and plants found in the quarry higher than in the surrounding area? Which is the best extraction method to estimate the heavy metals availability for plants growing in the quarry? You have interesting data in this respect Are the plants found in the quarry adequate for phytoremediation or for phytostabilisation tests?

(2) author's response, Thanks for your comments. We have made several changes in the manuscript attending yours and other reviewer's comments.

(3) author's changes in manuscript The introduction has been reorganized as well as new references have been included. Material and methods was clarified attending reviewer's comments. The discussion of the results has been improved attending reviewer's comments.

(1) comments from Referees Specific comments Along the results and discussion. Use less decimals when possible

(2) author's response, Done.

(3) author's changes in manuscript Whenever possible, less decimals were used in the results and discussion section.

(1) comments from Referees Page 3362, lines 20-21. You have no data to support that.

(2) author's response, Thank you very much. The sentence was deleted.

(3) author's changes in manuscript The sentence was deleted.

(1) comments from Referees Page 3367, line 16. Reference for ditionite-citrate method is needed.

(2) author's response, The references are now included in the text and in the list of references.

(3) author's changes in manuscript The references are now included in the text and in

C1571

the list of references.

(1) comments from Referees Page 3367, line 24. Add a Reference

(2) author's response, The reference is now included in the text and in the list of references.

(3) author's changes in manuscript The reference is now included in the text and in the list of references.

(1) comments from Referees Page 3367, line 25. Add a Reference for this method

(2) author's response, The reference is now included in the text and in the list of references.

(3) author's changes in manuscript The reference is now included in the text and in the list of references.

(1) comments from Referees Page 3368, line 5. Why only this three metals?

(2) author's response, They are the heavy metals in highest amount in the studied soils.

(3) author's changes in manuscript No changes were made.

(1) comments from Referees Page 3368, line 15. Zn? Should be Ni?

(2) author's response, Yes, thank you!

(3) author's changes in manuscript Zn was changed into Ni.

(1) comments from Referees Page 3368, line 17. Add a reference for this method

(2) author's response, Done.

(3) author's changes in manuscript The references were included in the text and in the list of references.

(1) comments from Referees Page 3368, line 20. Explain better the concept of extrac-

C1572

tion efficiency (EF)

(2) author's response, Done. A new sentence with an explanation of the extraction efficiency parameter is included.

(3) author's changes in manuscript A new sentence with an explanation of the extraction efficiency parameter is included.

(1) comments from Referees Page 3369, line 19-20. Delete sentence

(2) author's response, Done.

(3) author's changes in manuscript The sentence was deleted.

(1) comments from Referees Page 3370, line 15. Replace "matter" by "material"

(2) author's response, Done.

(3) author's changes in manuscript "parent matter" was changed into "parent material" in page 3370, line 15 as the reviewer indicated, but also in page 3370-line 13 and page 3366-line 14.

(1) comments from Referees Page 3372, lines 4-5. Explain the difference between Ni(OM) and Ni(no OM). Maybe in materials and methods. Why do you not used it for the other metals?

(2) author's response, Done. We have explained better that meaning according to the other reviewer comments.

(3) author's changes in manuscript The sentence was clarified.

(1) comments from Referees Page 3373, lines 11-13. Delete. You repeat to much this sentence along the text (Page 3375, lines 3-4 again).

(2) author's response, There is probably a mistake, but comparing the pages and lines you mentioned, we did not find a repeat sentence. Page 3373, lines 11-13: "... of Co and Ni. Ni is accumulated in the highest amounts by both plants, followed by Cr

C1573

and Co. Both species accumulate more Ni, Cr and Co in the roots than in the shoot, except in S2..." Page 3375, lines 3-4: "It is well known that the total content is not suitable for establishing the mobility, availability and therefore the possible toxicity on trace elements".

(3) author's changes in manuscript No changes were made.

(1) comments from Referees Page 3376, line 10. Drawbacks?

(2) author's response, There was a mistake in the manuscript. Thank you!

(3) author's changes in manuscript The sentence was rewritten.

(1) comments from Referees Page 3376, line 20. "Festuca" or "Juncus".

(2) author's response, Festuca

(3) author's changes in manuscript No changes were made in this sense.

(1) comments from Referees Page 3376, line 20-22. Explain better why it is an accumulator?

(2) author's response, Done.

(3) author's changes in manuscript The sentence was completed.

(1) comments from Referees Page 3376. Compare the potential use of Festuca and Juncus as phytostabilizer or as accumulator with other plants in the literature.

(2) author's response, We have evaluated the spontaneous vegetation that already grows in the selected soils. We do not consider here that is needed a comparison with other plants in the literature.

(3) author's changes in manuscript No change were made.

(1) comments from Referees Page 3377, lines 12-14. You have no data to support that.

(2) author's response, Ok. We agree, it was too ambitious. It was deleted.

C1574

(3) author's changes in manuscript The sentence was deleted.

Interactive comment on Solid Earth Discuss., 6, 3361, 2014.

C1575