SOIL Discuss., 1, C631–C632, 2015
www.soil-discuss.net/1/C631/2015/

SOIL Discussions Open Access

Interactive comment on "The soil N cycle: new insights and key challenges" *by* J. W. van Groenigen et al.

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Received and published: 15 February 2015

[We have uploaded the revised manuscript separately in our response to the editor].

Dr Pöschl: With regard to new insights and challenges concerning the nitrogen cycle of soil and terrestrial environments, I would like to draw the authors' and readers' attention to recent studies indicating that cryptogamic covers on soil, rock and plant surfaces may account for nearly half of the biological nitrogen fixation on land (Elbert et al. 2012) and that nitrous acid (HONO) may be similarly important as nitric oxide (NO) for the exchange of reactive nitrogen with the atmosphere (Su et al. 2011; Oswald et al. 2013).

Response: A short section on N2 fixation via cryptogamic covers has been included

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in the revised manuscript, and we now cite the Elbert et al paper. In our view, the link with nitrous acid emission and consequences for atmospheric chemistry would lead us to far as this is in the end a “soil N” paper.

Interactive comment on SOIL Discuss., 1, 623, 2014.