

Interactive comment on “The strength of the biotic compartment to retain nitrogen additions prevents nitrogen losses from a Mediterranean maquis” by T. Dias et al.

Anonymous Referee #3

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Nice that the authors have shown that sampling in the autumn gives a better picture of the N-losses.

Page 8043. Line 23. Please define “Mediterranean maquis”

Page 8044. Line 21. Please name the family that *C. ladanifer* belongs to (Cistaceae), and the other species that are mentioned on this page.

Interesting to note that 2 of the most dominant spp. are legumes (*Genista triacanthos*, *Ulex densus*). Did the authors note if they were nodulated, and hence may be making a significant contribution to the soil N via biological nitrogen fixation (BNF)? The same might also be said of the annual plants, as I would imagine that several of them are also

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legumes (I see from your paper in *Plant and Soil*, Dias et al. 2011, that *Lotus*, *Trifolium* and *Vicia* spp., were all present). BNF by legumes has long been known to decline if soil N increases, so it could be argued that the addition of the ammonium/nitrate may have been partly offset by a consequent reduction in the contribution to soil N made by any nodulated legumes that were present in the plots. Of course, this contribution may not be significant, but nevertheless is still worthy of a comment.

Page 8050. Lines 9-10. Please correct: “caused a decreased of the *C. ladanifer*”

Page 8050. Line 15. “The C/N ratio of *C. ladanifer*”

Page 8051. Line 13. Do you mean “and so low...”? It would make more sense.

Page 8054. Line 4. “respectivee”

Interactive comment on *Biogeosciences Discuss.*, 8, 8041, 2011.