

Interactive comment on “Molecular genetics and diversity of primary biogenic aerosol particles in urban, rural, and high-alpine air” by V. Després et al.

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As a co-author of the paper by Despres et al., I would like to thank the three referees (Cindy Morris, Bruce Moffett, Anonymous Referee #3) for the thoughtful and constructive review of our paper. Comprehensive answers to all referee comments will be given by the lead author Vivane Despres.

At this point I would just like to quickly react to the concerns about the manuscript title raised by two of the referees (Cindy Morris and Anonymous Referee #3) and clarify the following points:

1) The present title is not the title we had originally given to our manuscript, but it arose

from a discussion with the editors prior to publication of the manuscript in BGD. Our original title was “Genetic analysis and diversity of primary biogenic aerosol particles in urban, rural, and high-alpine air”, but the editors suggested to use “Molecular analysis and diversity of primary biogenic aerosol particles in urban, rural, and high-alpine air” instead. For the reasons detailed below, however, we considered and still consider the term “molecular analysis” inappropriate and proposed the title “Molecular genetic analysis and diversity of primary biogenic aerosol particles in urban, rural, and high-alpine air”. The editors, on the other hand, suggested to use the title “Molecular genetics and diversity of primary biogenic aerosol particles in urban, rural, and high-alpine air” as a compromise for the discussion paper. I considered this title less suitable than the modified title we had proposed, but we followed this suggestion in order to proceed to public discussion without further delays. So here we are in the foreseen public discussion about the title of an interdisciplinary study involving biologists, chemists, and geoscientists.

2) As a chemist pursuing geoscientific research, I am happy to have learned that the biological term "genetic" should not be used in the way we had originally used it in our manuscript title. On the other hand, I have spent most of my studies and scientific career as a chemist on "molecular analyses", investigating dozens of different types of molecules with dozens of different techniques, which have nothing at all to do with DNA and genetic identification of biological materials and organisms. In contrast to the biologically defined term "genetic", the term "molecular" is principally defined in chemistry, which is the basic science of substances (including molecules) and their analysis. Thus, I hope and expect that fellow scientists from other disciplines trust me and my colleagues when we point out that from a chemical and interdisciplinary point of view the term "molecular analysis" is not at all specific for DNA analysis and molecular genetic identification of biogenic aerosol particles, which is what we have done in our study and what should be reflected in the title. From a chemical and interdisciplinary point of view, "molecular analysis" of biogenic aerosols would include not only DNA analyses and molecular genetic identification but also the analysis of proteins, metabolic marker

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substances, etc. In fact, we are pursuing such comprehensive molecular analyses in other studies, but these are not part of the molecular genetic investigations and results presented by Despres et al.

3) From the preceding discussions I understand that neither the original manuscript title ("Genetic analysis and diversity ...") nor the discussion paper title ("Molecular genetics and diversity ...") are fully appropriate for our study, but I still think that term "molecular genetic analysis and diversity" is very well suited for describing what we did and found in this study.

Therefore, I propose changing the title of the revised manuscript for publication in BG to "Molecular genetic analysis and diversity of primary biogenic aerosol particles in urban, rural, and high-alpine air". I hope that the reviewers and editors will agree or suggest alternatives, which are better suited not only from the perspective of traditional biological terminology but also for interdisciplinary communication and research.

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