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Atmospheric Chemistry and Physics Discussions



# *Interactive comment on* "Ergosterol, arabitol and mannitol as tracers for biogenic aerosols in the Eastern Mediterranean" *by* N. Burshtein et al.

**N. Burshtein et al.**

yinon.rudich@weizmann.ac.il

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Response to the comments by Reviewer #2 on "Ergosterol, arabitol and mannitol as tracers for biogenic aerosols in the Eastern Mediterranean"

Dear Editor; The authors thank the reviewers for the insightful reviews. We have seriously considered each point raised by the Reviewers. Below please find our detailed point-by-point replies to the comments.

Referee #2 1. Corrected. 2. The Reviewer refers to many points in this comment, we will address them one by one: 2.1. We have improved the writing and believe that the text is clear. 2.2. While we followed Lau's 2006 method in general, we had to modify it to our instruments. Lau et al used a GC-MS with a Single Ion Monitoring

(SIM) while we did not have this option in our instrument. In order to get a higher sensitivity we modified the method and applied another MS stage (GC-MS/MS). This is now mentioned in the experimental section in the article. 2.3. We did not specify the DHC recovery in the article, but it is close to 100%. 2.4. We corrected TMS to BSTFA. 3. The ion calibration curves (Figure 3) have been removed. 4. The vertical error bars in Figures 4, 5 have been removed. 5. The lines connecting the sampling dots in Figures 4, 5 have been removed. 6. It is correct that it is expected that in high humidity the fungi will be more active and release more spores, but we found a negative correlation between humidity and ergosterol compared to the findings of Lau et al in Hong Kong. The explanation for this, as inferred by the Reviewer, is that the source of the spores is from air mass from inland where the humidity is relatively low when compared to the humidity when the air mass arrives from the Mediterranean Sea. We believe that this explains the observed negative correlation with the humidity, since the sea may be a weaker source of spores. 7. The correlation between the alcohols and the ions sulfate and ammonia is negative or negligible. Since sulfate and ammonia are indicators for aged aerosols and polluted sources, we can conclude that fungi are not persistent in polluted environments and that they have short survival time in the atmosphere. Currently we cannot conclude beyond doubt whether the sugars do not correlate with the ions due to the short survival times of the fungi or due to co-existing with pollution. Therefore we provide both explanations. 8. We checked Table 1 and now there are only two significant figures after the decimal point.

Interactive comment on Atmos. Chem. Phys. Discuss., 10, 27725, 2010.



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