

Reviewer A (*in italic*):

General comments:

This is an interesting paper. However, it is not always easy to read and follow the author's ideas and procedures, and need to be revised.

When comparing influence of elevation vs. that of habitat types, it is not always easy to evaluate those two effects independently, which you as well, discuss in part of your paper. Length of the environmental gradient could seriously affect obtained results, and conclusions drawn out of it. In your case, you have limited elevation gradient which consequently decrease its impact. What I see here as a problem is that I'm not fully convinced that you can analyze two questions a) and b) (page3 line61-62) here, but rather this is one question since habitat types analysed here are mostly in different elevation zones i.e. you do not have many habitat types in same elevation belt.

Our research has been performed in alpine environments, where even a few elevation variation (100-200m) could be linked to intense ecosystem variation, as a consequence e.g. of the interaction among temperature (which is directly linked to elevation), aspect, bedrock+soil, soil drainage, i.e. bioclimatic variations. Temperature per-se could be the driving factor of carabids distributions, as it is one of the main factors governing carabids activity, so that elevation could be used as proxy for hypothesizing carabids distribution. This is why we have two separate questions, one (a) for studying if there is a relationship with the complexity of the bioclimatic gradient, another (b) to see if everything could be simplified as a consequence of elevation change.

I really miss here a map of surveyed area (possibly map of surveyed plots on reference topographic map, and inside general map with position of survey area in Italy, or part of Italy).

A photo of the area taken from the airplane, plus a general map has been added as a new figure 1

Even more than the above mentioned map, I think that providing list of recorded species is "must to have" in this paper, in order for reader to be able to assess the authors ideas and results. If authors have already published such list of species, they should cite that source, or show the list in different manner in case of copyright limitations.

In the submission I have added a separate list of species, which has not been included in the referee's material. The list should be added as an Appendix table, and so it is mentioned in the paper (Results chapter)

General criticism also goes for list of references which suffers from numerous incomplete entries:

- *Missing pages of books – e.g. ref. 14; 47; 48; 52*
- *Missing titles of chapters cited from the books and/or Editors of the book – e.g. ref. 19; 38; 51; 59*
- *Missing title or volume or issue of the journal – e.g. 22; 27; 37; 55; 62; 63; 64*

Personally, way of citation used in this journal is not my favourite one, but nevertheless I believe that you should replace authors and years with numbers in following manner:

- *When you usually cite both in parenthesis e.g. page3line25, instead of (Arnold 1983) you put the (1) and that is correct*
- *When you cite the authors name(s) and then year in the parenthesis then you should leave the name(s) and just replace the year with number of reference e.g. page 3line 27, it should be "was proposed by Statzner et al. (8)" and not "was proposed by (8)"*

Unfortunately I trusted the bibliographic software. Now the "References system" should be ok

You have significant amount of references not written in English. It is a custom that you provide also a translation of the title in English to help readers to get at least general idea of the topic of cited references.

OK added

Specific comments:

Page4 Line 75 – "being caused today by human modifications" is too general. Do you mean forest management practice, or something else? Could you be more specific here?

OK for "forest management practice"

Page4 Line 77 – by "mushrooms" do you mean fungi belonging to "Basidiomycetes"?

“mushrooms” doesn’t seem as most appropriate term here.

changed to bryophyta

Is this “without arboreal vegetation” corresponds actually to “above treeline zone”?

OK for “above treeline zone”

*Page4 Line 78 – by my experience from the literature, it is custom to write vegetation type at the association level (*Seslerio-caricetum sempervirentis*, *Festucetum halleri*) in italics and also accompanied by their authors and year when they were described.*

*Page4 Line 79 – to which belt this statement refers to? Montane, subalpine or alpine? It is not clear where we can find *Nardetum* (in italic).*

Page4 Line 81-83 and Caption of Table 1 – this is not sufficiently correct. In Table 1 you have beside environmental variables, also listed number of traps, species observed etc. You should provide in table caption explanation of all used labels. This goes particularly for “aAD” which reader can find out what does it mean, later in the text, and should be obvious by using table solely.

OK page 4 changed or corrected

Page6 Line93 – what do you mean by “ancient clear-cut”? It has happened a long time ago (how long?) and natural re-forestation was actively prevented or something else?

added “around sixty years ago”

Page6 Line99 – is this natural or planted spruce-larch forest?

natural

*Page6 Line 105 – what do you mean here? “Adenostyletalia” is phytocoenological category describing certain vegetation types, and *Vaccinium* is genus of vascular plants. Please explain and/or rephrase.*

erased Adenostyletalia

Page 6 Line 113 – delete (35)(Brandmayr et al. 2005)

Page 6 Line 115 – Sum of traps in Table1 is equal to 107 and not 106 as you write it here. Please check.

Page 6 Line 118 – Shouldn’t be here “carabid abundance” and not “species abundance”?

Page 7 Line 142 – I guess, an abbreviation/label for a “zoophagous diet” is missing here – (z)?

Page 7 Line 145 – “been observed to increase...”. It is not clear. Do you mean to increase in their abundance?

Page 7 Line 147-149 – here you have used small letters “s” and “a”, and later on in tables and on figures capital ones “S” and “A”. Also, here you use “2j” and later on “2y”. Please harmonise this throughout the manuscript. It is easiest to do it here in the text.

Page 7 Line 161 – Please rewrite this sentence. I guess you are referring here to cluster analyses you have performed. Rephrase to something like e.g.

“Average linkage fusion algorithm was applied for classification of sample sites based on chord distance, and species traits based on correlation coefficients”.

Page 7 Line 167 – Based on my knowledge and experience, I would say that by using PCA I’m “exploring” or “describing” or partly “explaining” variation rather than “detecting”

Page 7 Line 170 – formulation “squared cosine” is mostly used, not “cosine square”

OK pages 6, 7, 8 changed/corrected/rephrased

Page 8 Line 174 – From Table 1 it cannot be seen that you have sampled 47species! Table of detected species is missing in the paper.

Page 8 Line 175-176 – After adding list of species, it authors of the species won’t be missing here

Page 8 Line 181- “Festucetum” in italic

The species list, scientific names and authorities have been given in the Appendix table

Page 9 Table 2 – Please add in the caption of the Table that separation in the table resembles the results of cluster analyses shown in Figures 1 and 2. What is different in cells where you have written 0.00 and those without any data in it? Have you used those cells with 0.00 in calculation of mean values to separate them into central, nuclear and orbital traits? Check the values, because sum of percentages somewhere differ from 1.00 (+-1), e.g. in sample F1 for diet trait sum is 0.96!

in the cells with 0.00 the values were rounded to two digits, now corrected

for the diet the information is incomplete for one species

Page 14 Figure 3 – what does “X” means in “X2y_spp” and “X2y_aAD”?

X was a mistake

Figures 3 and 4. You should add in the figure captions values used (correlation coefficients and squared cosine)

I think that this could be a bit confusing. Coordinates are pure numbers automatically computed by the ordination method. If the starting matrix is a correlation matrix then the coordinates of the variables are equal to the variable-axis correlation, while this is not the same for sq. cosine vs sites coordinates. In our case the program (FactoMineR) computes tables of coordinates for graphical purposes, and tables of "numerical tools" (correlations, sq. cosines,...) for interpreting the ordination space.

Page 18 Line 301 – “...resulted mainly composed by...” Unclear. Please rephrase.

OK rephrased

Page 18 Line 307 – I’m little confused here. On which “environmental factors” are you referring here? On ordination graphs there aren’t any, but just trait’s shares in your samples, which are used in the ordination analysis as “surrogate” environmental variables. Please be more specific in this part to prevent misunderstanding.

Deleted, it was a sort of introduction to the following sentences

Page 18 Line 326 – please put the non-English word in quotation marks, i.e. German “nunatakker” and French “massif de refuge”

Page 18 Line 331 – missing space “propose an”

OK

Page 19 Line 342 – Do you think it is “positive” in sense of promoting species with this trait to be better adapted to such environment/habitats then macropterous one, or simply these species could not emigrate and hence in years increase their shares in overall carabid fauna?

OK for better adapted