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Journal Name:	**Asian Journal of Biology**
Manuscript Number:	**Ms_AJOB_32748**
Title of the Manuscript:	**Body Size Variation in Pterostichus montanus Motch. (Coleoptera, Carabidae) in Altitudinal Gradient**
Type of the Article	**Original Research Article**

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound.
To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

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PART 1: Review Comments

	Reviewer's comment	**Author's comment** *(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)*
Compulsory REVISION comments	**The authors conducted morophometric analyses of the ground beetles distributed near Baikal lake. The sample size is 1200, and this value is tremendous. Following with previous studies, this manuscript focuses on the topic of correlation between the beetle morphology and altitudinal gradient. Many ecologists and evolutionary biologists have been interested in this topic and tried to verify the correlation, but few studies succeed in it. The authors' data with large sample size are largely valuable and thus I strongly recommend that this manuscript is published in this journal, but their analyses have some problems.** **Although a main authors' result is based on principal component analyses, I cannot interpret the authors' conclusions. Based on the loadings of PCA, the authors' concluded that the same environmental factor affects the morphology of coastal and high mountain beetles. However, the loading values in the factor 2 of A (elytra length), E (head length), and F (distance between eyes) are very different (fig 2 and 4). The authors' also said that the same environmental factor affects the morphology of low and middle mountain beetles, but the loading of D (pronotum width) is also very different (fig 3 and 4). I feel that these results are insufficient for the authors conclusions.** **I suggest that authors change the method of PCA. I**	

	wonder why authors conducted multiple PCA with each data of different populations. I strongly suggest that authors conduct a single PCA with the data including the all populations. This approach is much better to know a pattern of morphological variation among populations. **The authors also should not discuss the data based on PC loadings, but discuss based on the meaning of PC axes. The authors can interpret the meanings of PC1 and PC2 with the values of PC loadings. For example, PC1 would mean body size because the all PC1 loadings are negative or positive in general. Thus, the authors can discuss the differences of body size among populations by conducting the ANOVA of PC1 scores. PC2 generally implies a body shape. For example, in the coastal beetles (fig 2), PC2 loading of head length (E) is largely positive, while that of elytra length is largely negative. Thus I guess that coastal beetles have large variation in the head length and elytra length. There may be tendency that some coastal beetles have long head and short elytra whereas some beetles have short head and long elytra. Many readers would like to know what kind of variation are shown in the beetle populations. The discussion with meaning of PC1 and PC2 would attract readers' interests and be helpful to discuss a correlation between beetle morphology and altitudinal gradient.** **The following literature would be helpful for revising manuscript:** **Konuma, J., Nagata, N. and Sota, T. (2011) Factors determining the direction of ecological**	

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	specialization in snail-feeding carabid beetles. Evolution 65: 408-418. **This study's authors conduct a PCA with 1705 specimen of a carabid beetle species. They also used similar six morphological measurements and discuss correlations between beetle morphology and environments.**	
Minor REVISION comments	**The author should show the number of specimens in the different populations and the number of males and females.**	
Optional/General comments		

Reviewer Details:

Name:	***Junji Konuma***
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