Dear editor,

Attached please find our manuscript “The probability of improvement in Fisher's geometric model – a probabilistic approach”. Fisher’s geometric model, proposed by Fisher in 1930, is often used in evolutionary biology to model adaptive evolution and has recently received renewed attention by both theoretical and experimental evolutionary biologists. The probability of improvement in Fisher’s geometric model has been derived before; however, previous results use mathematical expressions that don’t have a straightforward interpretation in terms of the model’s parameters.

Using a probabilistic approach, we found an equivalent result which is easier to explain in biological terms. Our approach allows an intuitive interpretation of the probability of improvement in FGM in terms of the model’s parameters: the mutation effect size, the number of traits affected by the mutation, and the distance to the optimal phenotype.

We hope you will find this manuscript worthy of publication in Theoretical Population Biology.

Sincerely,

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