In their paper "Accelerated photosynthesis routine in LPJmL4" the authors show that using a different algorithm in a subroutine of the photosynthesis computation leads to model speed up and higher numerical accuracy of the DGVM LPJmL.

I very much agree with the authors that DGVMs need improvements in their numerical methods to decrease their computing time. Therefore, I see the proposed methodology as an important step towards this goal. However, I find that replacing the bisection method with the Newton method to find the root of a continuous function does not suffice for a technical paper. A short technical comment could be appropriate, but quite frankly I believe that this (nonetheless important) improvement of LPJmL should simply be mentioned in the release notes of a new release of LPJmL.

I also find that important things are not sufficiently discussed, namely:

1. There are only two citations when mentioning that this representation of photosynthesis is used in the majority of DGVMs. There are also other representations of PS and more citations will underline the point that Farquhar-Collatz is really the most used one.
2. It should at least be mentioned that the function f suffices all criteria for the Newton-method.
3. Actually also a plot of f would be interesting to see, at least for one particular set of parameters, to let the reader get an impression of how this function looks like.
4. The Newton-method may fail when the starting value is chosen too far away from the root, it is not discussed whether this could become a problem.
5. Some outputs had much higher changes when the new method was applied. There is no discussion why that could be.

To conclude, I unfortunately cannot recommend this manuscript for publication as I evaluate its impact as too low for a paper in GMD.