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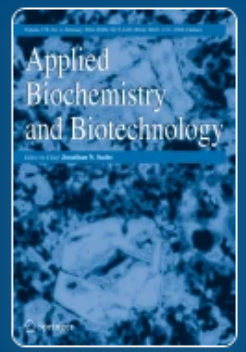

Debraj Biswal

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REVIEW ARTICLE

Soil Nematodes as the *Silent Sufferers* of Climate-Induced Toxicity: Analysing the Outcomes of Their Interactions with Climatic Stress Factors on Land Cover and Agricultural Production

Debraj Biswal[1]

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Abstract
Unsustainable anthropogenic activities over the last few decades have resulted in alterations of the global climate. It can be perceived through changes in the rainfall patterns and rise in mean annual temperatures. Climatic stress factors exert their effects on soil health mainly by modifying the soil microenvironments where the soil fauna reside. Among the members of soil fauna, the soil nematodes have been found to be sensitive to these stress factors primarily because of their low tolerance limits. Additionally, because of their higher and diverse trophic positions in the soil food web they can integrate the effects of many stress factors acting together. This is important because under natural conditions the climatic stress factors do not exert their effect individually. Rather, they interact amongst themselves and other abiotic stress factors in the soil to generate their impacts. Some of these interactions may be synergistic while others may be antagonistic. As such, it becomes very difficult to assess their impacts on soil health by simply analysing the physicochemical properties of soil. This makes soil nematodes outstanding candidates for studying the effects of climatic stress factors on soil biology. The knowledge obtained therefrom can be used to design sustainable agricultural practices because most of the conventional techniques aim at short-term benefits with complete disregard of soil biology. This can partly ensure food security in the coming decades for the expanding population. Moreover, understanding soil biology can help to preserve landscapes that have developed over long periods of climatic stability and belowground soil biota interactions.

Keywords Climatic stress factors · Global climate change · Soil nematodes · Soil health · Sustainable agricultural practices · Landscape conservation · Ecosystem stability

✉ Debraj Biswal
debbraj@gmail.com