The Effect of D. reticulatum Mucus as a Deterrent to Other Slugs

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This project is the result of experimentation on the effect of mucus of Deroceras reticulatum (slugs) as a deterrent to other slugs from garden Fragaria ananassa (strawberries). The hypothesis was if slugs are territorial animals; then their mucus would deter other slugs from approaching plants watered or treated with their mucus. Mucus was collected from 25 slugs and then used to form a solution to water and moisten strawberry plants. Neophyte slugs were then introduced to the treated strawberries. Slugs were deterred from strawberry plants treated with mucus of dominant slugs. Slugs moved away from mucus-treated strawberry plants on average of 91 percent of the time; while slugs moved away from the controlled strawberry plants 41 percent of the time. Slugs barely attempted to move towards the experimental group. They approached the experimental group 8 percent of the time compared to 59 percent towards the control group. The data supported the hypothesis that mucus residue of dominant slugs would deter neophyte slugs from strawberry seedlings. The chi-squared test also supported that treated plants deterred slugs. The results of this experiment could lead to several practical applications. Deterring slugs from small areas would be more humane and less intrusive to the general environment. Chemical pesticides are often easily washed away with precipitation. Using a hydrophilic protein found in slug mucus would attract water; therefore, precipitation would not wash it from the garden. Another practical application is with the push towards organic gardening; this could be used safely as a natural pest deterrent on their crops.

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