Fungi Isolated from *Orobanche* Spp. in Ethiopia, and Their Potential Use for Biological Control

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For the isolation, identification, and exploration of microorganisms as potential bio-control agents of the parasitic weed *Orobanche* (broomrape), a survey was conducted for the first time in Ethiopia (Ziway, Nura Era, Merti Jeju, and Malima farms). All identified fungal isolates from infected plants of *O. ramosa* L. and *O. cernua* (Loefl.), which parasitized tomato (*Lycopersicon esculentum* Mill.) and belonged to the genus *Fusarium*: including *F. gibbosum*, *F. nygamai*, *F. oxysporum*, *F. proliferatum*, *F. solani* var. *solani*, and others not determined on the species level. Two of them, *F. nygamai* and *F. proliferatum*, have been identified for the first time as pathogens of *Orobanche* spp. *Fusarium gibbosum*, *F. nygamai*, *F. oxysporum*, and other *Fusarium* spp. significantly reduced the number of emerged *O. ramosa* shoots when applied at a rate of 10 g kg\(^{-1}\) of soil in pot under glasshouse conditions. The same isolates significantly decreased the dry weight of *O. ramosa* and resulted in a significant increase of tomato dry weight by 30.3%, 30.3%, 32.1%, and 30.3%, respectively. In root chamber experiments, *F. oxysporum* and *F. nygamai* significantly increased the percentage of dead *O. aegyptiaca* tubercles when applied at a rate of 5 x 10\(^5\) spores ml\(^{-1}\). The former killed 81% and 82% of the tubercles after 10 and 15 days of inoculation, while the latter killed 41% and 48%, respectively.

U. S. Army Pilot Project for Biological Control of Canada Thistle and Spotted Knapweed in Colorado

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Research to control the spread of and reduce existing populations of Canada thistle (*Cirsium arvense* (L.) Scop.) and spotted knapweed (*Centaurea maculosa* Lam.) at the