

NEW DISEASE REPORT

First report of *Fusarium arthrosporioides* on medusahead (*Taeniatherum caput-medusae*) and preliminary tests for host-specificity

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Medusahead (*Taeniatherum caput-medusae* ssp. *asperum*) is an economically important weed in the USA. Foreign exploration to search for natural enemies of this weed in its native range resulted in finding the fungus, *Fusarium arthrosporioides* (syn. *F. roseum* var. *arthrosporioides*), isolated from the collar of medusahead in August, 2001 in Greece. Identification was made using both morphological and molecular criteria. The sequence of the internal transcribed spacer (ITS) region that was amplified by PCR using ITS1-F and ITS4-A primers, was similar to *F. arthrosporioides* sequences published in GenBank. Colonies were grown at 20°C on half-strength potato dextrose agar (PDA) (Difco Laboratories, Detroit, MI, USA). Colonies on agar were pink on the margin and red in the middle of the upper side with an abundant floccose aerial mycelium which was initially white and turned brown with time. Cultured on synthetischer nährstoffärmer aghar (SNA), macroconidia were formed in pale orange sporodochia with three to five septa and a distinct foot-shaped base. Microconidia were oval, 0–1-septate. *Fusarium arthrosporioides*, a relatively common soilborne fungus, has never been reported on the genus *Taeniatherum*. In the past it has been studied as a potential biological control agent of *Orobanche* (Amsellem *et al.*, 1999).

Two-week-old medusahead seedlings were transplanted into autoclaved soil artificially infested with 1 g

of inoculum (1-month-old sterile wheat seeds inoculated with a 5 mm square side of a PDA-grown colony) for 10 g of soil. After 11 days, inhibition of normal root development with concomitant leaf discoloration was observed. After 3 weeks, re-isolation of the pathogen from the roots and collar was successful. Utilizing the same inoculation methods, preliminary tests of the medusahead isolates for host-range specificity on wheat, barley, oat and some grasses (*Elymus repens*, *Hordeum murinum*, *Pennisetum clandestinum*, *Phacelia tanacetifolia*) clearly demonstrated its nonspecificity.

Eleven days after inoculation 60% of the barley plants showed symptoms of infection; after 3 days wheat exhibited severe dwarfing. Dry weight comparisons of both inoculated barley and wheat to controls were significant. To our knowledge, this is the first report of *F. arthrosporioides* attacking *T. caput-medusae*. Based on our results, *F. arthrosporioides* will not be considered for further studies on biocontrol of medusahead.

Reference

- Amsellem Z, Zidack NK, Quimby PC, Gressel J, 1999. Long-term dry preservation of viable mycelia of two mycoherbicidal organisms. *Crop Protection* 18, 643–9.

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