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Czech J. Genet. Plant Breed.

**B., Kolínská R.,
Honzátko A.:**

Host specialization of different populations of ergot fungus (*Claviceps purpurea*)

Czech J. Genet. Plant Breed., 38 (2002):
75-81

In our previous study of *Claviceps purpurea* three populations were found: G1 on open localities, G2 from shady or wet habitats and G3 on *Spartina* stands of coastal salt marshes. The latter two are also chemoraces. In the Czech Republic, isolates of G1 and G2 were found. The ability of four isolates representing these populations to infect and develop sclerotia on different host species (*Holcus lanatus*, *Helictotrichon pubescens*, *Phalaris arundinacea*, *Dactylis glomerata*, *Arrhenatherum elatius*, *Bromus inermis*, *Bromus erectus*, *Elytrigia repens*, *Avenella flexuosa*, *Lolium perenne*, *Poa nemoralis*, *Poa annua*, and different

cultivars of *Poa pratensis*) was studied along with their alkaloid production. *P. pratensis* and *D. glomerata* were infected by all the isolates and sclerotia were formed by isolates 207 (G1) and 434 (G2), and on two *P. pratensis* cultivars even by 481 (G3). Infection ability (formation of sphacelial stage and honeydew) was less host-restricted than formation of mature sclerotia. G2 and G3 strains infected *A. flexuosa* without sclerotia formation. *L. perenne* was infected only once by strain 207 (G1) without sclerotia formation. *P. annua* (natural host of G2), was infected by all isolates, but no sclerotia were formed even with G2 strains. From the two G2 isolates, strain 434 from *Dactylis* formed sclerotia on five host species, whereas isolate 475 originating from *Phragmites* stand formed only sphacelia. Composition of alkaloid mixture produced in sclerotia of the same strain from various hosts confirmed that host plant does not influence the type of alkaloids produced, only their ratio.

Keywords:

ergot; host specificity; alkaloids

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