

部分禾本科植物Neotyphodium属真菌的分布和形态特征

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摘要:

2006年3-7月从上海、江苏、安徽和山西等省(市), 采集鹅观草Roegneria、早熟禾Poa、黑麦草Lolium、羊茅Festuca、雀麦Bromus和拂子茅Calamagrostis等冷季型禾本科植物共计1 487株。内生真菌的总检出率为54.3%, 江苏省和山西省禾本科植物的检出率分别高达55.5%和69.0%。这些省市的许多禾本科植物都含有Neotyphodium属真菌, 说明Neotyphodium属真菌在我国分布广泛, 资源丰富。以分离自纤毛鹅观草R. ciliaris 12株Neotyphodium属真菌为材料, 详细研究了我国干旱地区Neotyphodium属真菌的形态学特征: 在PDA平板上生长很快, 21 d生长12.5~37.2 mm; 分生孢子梗长14.9~23.2 μm, 基部宽1.9~3.1 μm, 顶端小于1 μm, 通常基部或近基部有隔膜; 分生孢子无色透明, 卵圆形或肾形, 单个顶生, (4.6~5.9) μm×(2.1~3.4) μm, 与其它已知Neotyphodium属真菌形态差异显著, 需要进行更深入的研究。

关键词: 内生真菌; 禾本科植物; 分生孢子

Distribution and morphological characters of Neotyphodium endophytes in some grasses

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Abstract:

Distribution of the Epichloë endophytes and their host plants were surveyed in Shanghai, Jiangsu, Anhui and Shanxi from March to July 2006. In total 1,487 grass plants, 54.3% was detected to be infected by Epichloë endophytes. In Jiangsu and Shanxi, the infection rates were as high as 55.5% and 69.0%, respectively. Neotyphodium endophytes were detected in these grasses grown in various areas, indicating a wide distribution and variable inhabitations of epichloë endophytes in native Chinese grasses. Morphological characteristics of Neotyphodium isolates obtained from Roegneria ciliaris were investigated further. On PDA plate, colonies grow rapidly to 12.5~37.2 mm/21d, phialide discrete, arising solitary from the aerial mycelium, septated at the base or middle, hyaline, smooth, 14.9~23.2 μm long, 1.9~3.1 μm at base, tapering to less than 1.0 μm at tip; conidia hyaline, reniform to elliptical, bulk is (4.6~5.9) μm×(2.1~3.4) μm. These morphological characteristics are significantly different from the well described Neotyphodium species. Their phylogenetic relationship remains further researches.

Keywords: Epichloë endophyte; morphological characteristics; conidiophore

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