SHIFT 02-149 - SEED-BORNE FUNGI ASSOCIATED WITH TREE-OF-HEAVEN (AILANTHUS ALTISSIMA (MILL.) SWINGLE) (ID 1656)

Topic
AS03. Evolution, biodiversity and systematics

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Abstract Body
Ailanthus is a highly invasive alien tree species that produces numerous seeds with a high germination rate, facilitating long-distance dispersal by wind. Ailanthus decline, attributed to the genus Verticillium has been reported in recent years. In other plant species, Verticillium spp. can overwinter as mycelium in propagative plant organs such as tubers, bulbs, and seeds. Given that the association between seeds and pathogens is a crucial strategy for pathogen dispersal and survival in the environment, it was hypothesized that seed infestation could play a role in the transmission system of Verticillium dahliae. in Ailanthus. To test this hypothesis, seeds were collected from both healthy and infected plants, disinfested with sodium hypochlorite, plated on agarized media, and then incubated at 22°C. The plates were monitored for 10 days, and fungal colonies were isolated. Additionally, seed DNA was analyzed by qPCR using specific primers (VertBtF/VertBt-R) to detect the presence of V. dahliae. The fungus was not isolated from seeds in media plates, nor was its presence detected by molecular method. Instead, other fungal species were identified with Alternaria alternata, Aureobasidium pullulans, Bipolaris sorokiana, Cladosporium herbarum, Clonostachys rosea and Diaporthe eres being the most frequently isolated fungi. Adittionally, two yeasts genera, Sporobolomyces and Kwoniella, were isolated. Future analysis using Metabarcode sequencing will be conducted to better investigate the presence of Verticillium dahliae and to explore deeper the fungal biodiversity on Ailanthus seeds.