The morphology of a Glomus-like fungus-host interaction in chlorophyllous gametophytes and young apogamic sporophytes of Dryopteris muenchii A.R. Sm. was studied from ferns cultivated in laboratory, using soil as substrate. An aseptate fungus colonized the gametophytes tissue through the rhizoids, developing vesicles. The fungus penetrated the young sporophytes primary roots by developing appressoria. It spread forming inter- and intra-cellular hyphae through the epidermis and the outermost cortical cell layers, where it formed vesicles, hyphal coils-like and arbuscules. The fungus hyphae never colonized the gametophyte-sporophyte cellular junction. The fungal structures observed on D. muenchii during this study, are rather similar to those reported for the plant host-arbuscular mycorrhizal fungus (AMF) interaction, where the AMF described belonged to Phylum Glomeromycota. Therefore, this study is a contribution to the scarce knowledgement of the association between AMF and chlorophyllous gametophytes and young apogamic sporophytes of ferns. Rev. Biol. Trop. 56 (3): 1101-1107. Epub 2008 September 30.

Keywords
Arbuscular mycorrhiza, endophyte, chlorophyllous gametophyte, Dryopteridaceae, endemic fern, Mexico