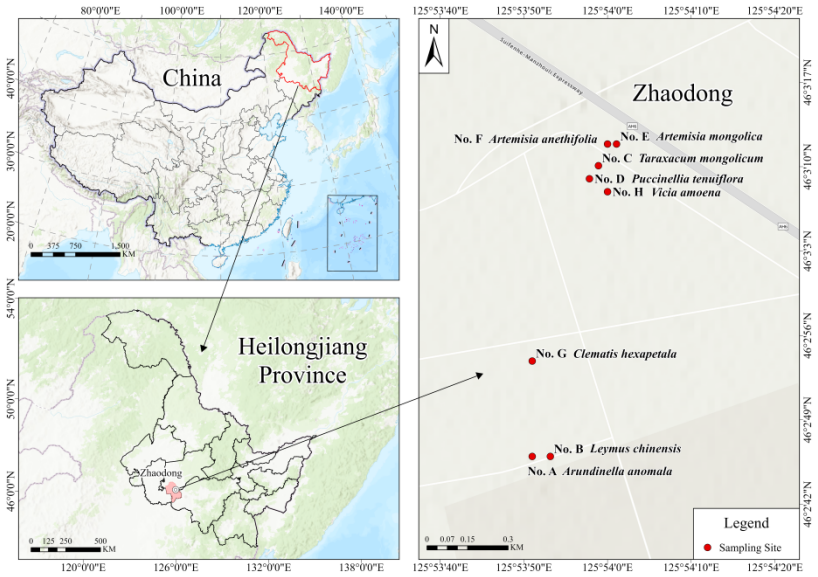
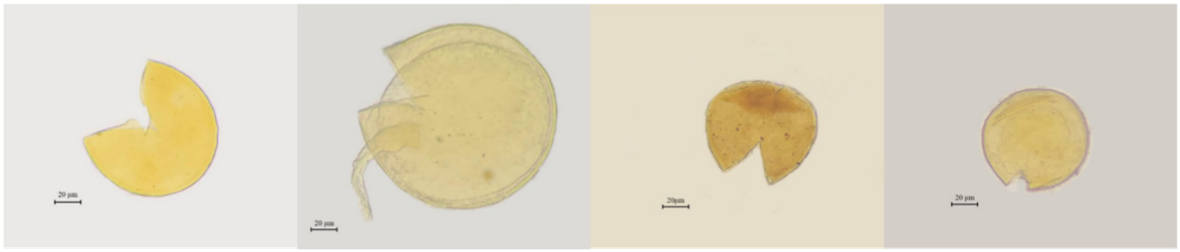
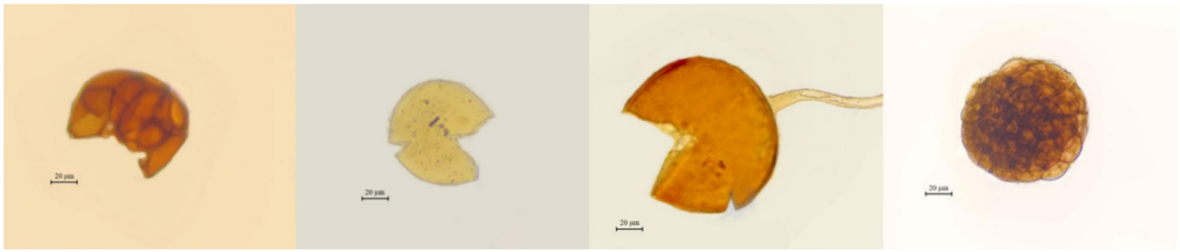


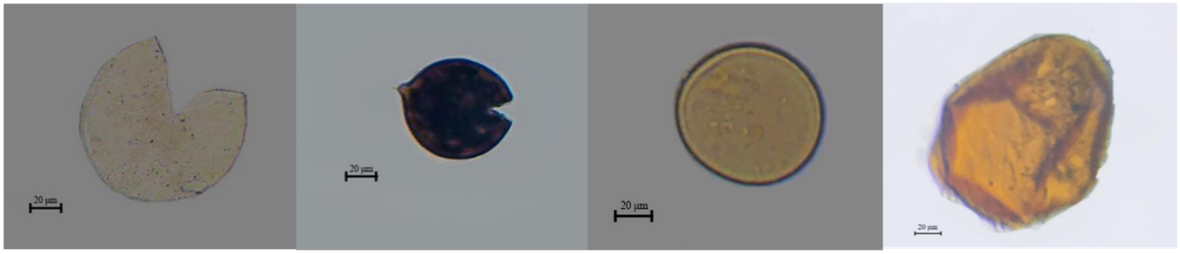
Figure S1: Geographic location of the study site and distribution of rhizosphere soil sampling points in the Songnen Grassland, Northeast China.



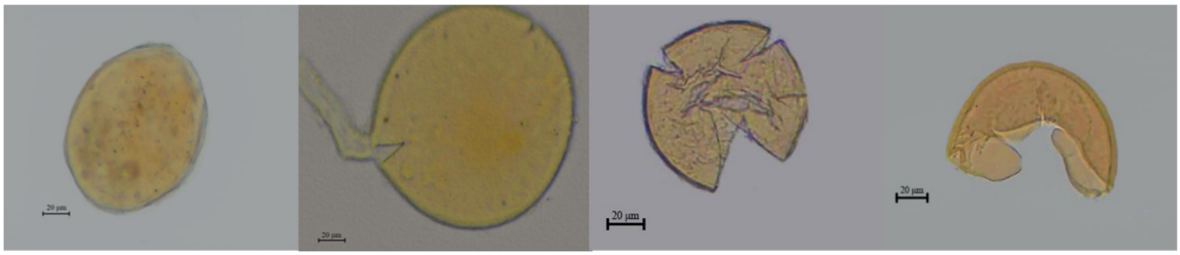
C. claroideum *R. cluram* *A. foveate* *A. mellea*



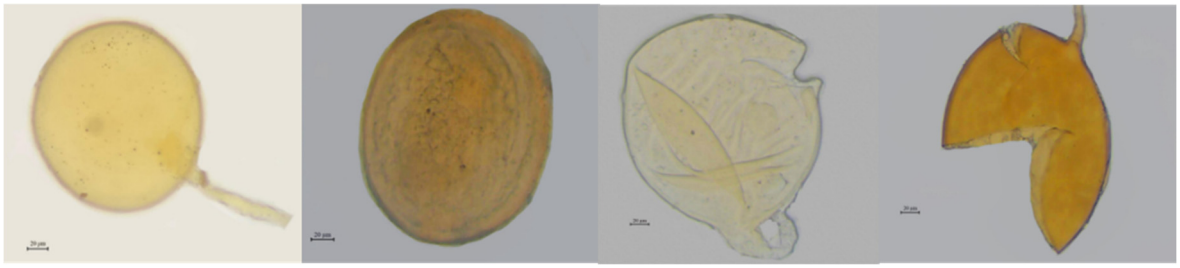
A. laevis *Gi. Decipiens* *G. etunicatum* *G. convolutum*



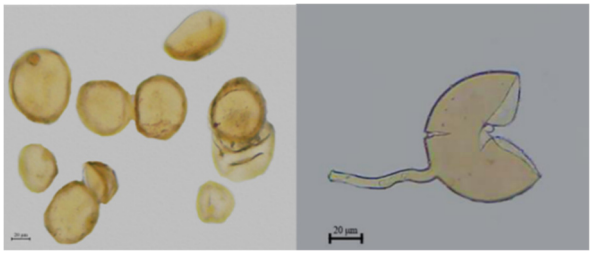
G. mosseae *Scu. nigra* *R. fasciculatus* *R. intraradices*



A.gerdemannii *F. constrictum* *A.rehmii* *G. pansihalos*



R. manihotis *Glomus sp.1* *A. leptoticha* *G. deserticola*



G. magnicaule *G. tenebrosum*

Figure S2: Optical micrographs of arbuscular mycorrhizal fungal spores identified through morphological characterization