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Rhizoglomus cacao, a new species of the Glomeraceae from the rhizosphere of *Theobroma cacao* in Peru, with an updated identification key for all species attributed to *Rhizoglomus*

Mike Anderson Corazon-Guivin[1], Geomar Vallejos-Torres[1,2], Adela Vallejos-Tapullima[1], Miguel Ángel Tenorio-Cercado[2], Wilfredo Mendoza Caballero[2], César Marín[3], Viviane Monique Santos[4], Gladstone Alves da Silva[4], Fritz Oehl[5]*

[1] Laboratorio de Biología y Genética Molecular, Universidad Nacional de San Martín, Jr. Amorarca N° 315, Morales, Perú

[2] Universidad Católica Sedes Sapientiae, Jr. Esq. Constelaciones y Sol de Oro s/n Urb. Sol de Oro, Los Olivos, Lima, Perú.

[3] Centro de Investicación y Innovación para el Cambio Climatico (CiiCC), Universidad Santo Tomás, Santiago, Chile.

[4] Departamento de Micologia, CB, Universidade Federal de Pernambuco, Av. da engenharia s/n, Cidade Universitária, 50740-600, Recife, PE, Brazil

[5] Agroscope, Competence Division for Plants and Plant Products, Ecotoxicology, Reckenholzstrasse 191, CH-8046 Zürich, Switzerland

* Corresponding author: macorazong@unsm.edu.pe, fritz.oehl@agroscope.admin.ch

With 7 figures

Abstract: A new fungal species was detected in bait cultures of arbuscular mycorrhizal (AM) fungi grown in and on roots of *Zea mais* and *Oryza sativa* as host plants. These plants were initially inoculated with rhizospheric soil substrate derived from a cocoa (*Theobroma cacao*) plantation in the Amazonia lowlands of the province of Lamas, San Martin State, in Peru. The fungus differentiated globose to subglobose spores in the bait culture, singly or in small, relatively loose clusters with up to 30 spores, terminally on pigmented subtending hyphae and have open pores, and thus resemble spores of the genus *Rhizoglomus*. The spores are yellow-white to whitish yellow or creamy yellow, (63–)70–97(–101) × (63–)70–89(–97) in diameter and have three wall layers. In Melzer's reagent, the outer layer stains greyish to pinkish, while the middle and inner layer stain dark purple to almost black. Phylogenetically, the new fungus clusters within *Rhizoglomus* in a separate clade, closest to *R. silesianum*, *R. natalense*, *R. vesiculiferum*, *R. irregulare* and *R. venetianum*. It is here described under the epithet *Rhizoglomus cacao*. An identification key for all species in the genus *Rhizoglomus* is updated in this study.

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