Just the tip of the iceberg – uncovering a hyperdiverse clade of African *Russula* species with signs of evolutionary habitat adaptations

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Species of the genus *Russula* (Basidiomycota) are key components of ectomycorrhizal ecosystems worldwide. Nevertheless, their diversity in tropical Africa remains underexplored. We aim to document the species diversity in this genus in Benin, West Africa. The identity and phylogenetic placement of 283 specimens obtained during several field expeditions and loaned herbarium specimens are evaluated based on morphological characteristics and phylogenetic analyses using ITS, LSU, mtSSU, *rpb1*, *rpb2* and *tef1* sequence data. The studied material from savannah woodlands and gallery forest habitats in Benin represents approximately 50 *Russula* species. This study focuses on a monophyletic lineage in subgenus *Heterophyllidiae* which is recognized as sister to *Russula* subsection *Virescentinae* and is referred to here as "*Afrovirescentinae*". Ten species from Benin, including five species new to science, are members of this clade. The analysis of ITS nrDNA sequence data retrieved from public databases and herbarium material of morphologically similar species revealed a diversity of at least 94 OTUs in *Afrovirescentinae*. Species in this group are characterised by densely reticulated spore ornamentation and mostly single celled pileocystidia but display a high variation in pileipellis structure and macromorphological appearance. Species occurring in savannah woodlands are large, fleshy and have spores with a low ornamentation, whereas species occurring in gallery forests are ephemerous, small and have spores with a more prominent ornamentation.