


# Chapter 6

## Contribution to the Study of Some Gasteroid Macromycetes Species of Morocco

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### ABSTRACT

*This study investigates the gasteroid species within the families Sclerodermataceae and Rhizopogonaceae, focusing on species with significant ecological and economic roles. The species included in the analysis are Rhizopogon luteolus Fr. and Nordhom (1817), Pisolithus microcarpus (Cooke & Masee) G. Cunn. (1931), Scleroderma citrinum Pers. (1801), and Scleroderma meridionale Demoulin & Malençon (1971). These species are part of the larger group of Basidiomycetes, which are classified under the order Boletales. The taxonomic positioning of these species has been discussed in several studies, highlighting their placement within the broader taxonomic framework of the Basidiomycetes.*

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## INTRODUCTION

The Order of Boletales, defined by E.-J. Gilbert in 1931, includes 19 families. These include the Amylocorticiaceae, Boletaceae, Calostomataceae, Coniophoraceae, Diplocystidiaceae, Gastrosporaceae, Gasterellaceae, Gomphidiaceae, Gyrosporaceae, and These genera are Coniophoropsis Hjortstam and Ryvar den 1986, Corditubera Henn. In 1897, Corneomyces was described by Ginns and Jaapia was described by Bres. In 1911, Marthaella States and Fogel 1999 published their findings, which were later corroborated by Phaeodulum Pat.1900 (Kirk et al., 2008).

In this study, the gasteroid species belonging to the families Sclerodermataceae and Rhizopogonaceae were investigated. The following gasteroid species were also included in the study: *Rhizopogon luteolus* Fr. and Nordhom 1817, *Pisolithus microcarpus* (Cooke and Masee) G. Cunn. In 1931, *Scleroderma citrinum* Pers. 1801, and *Scleroderma meridionale* Demoulin and Malençon 1971.

## METHODOLOGY

Our prospections, carried out between 2003 and 2020 in various forests in Morocco, have enabled us to harvest basidiocarps from gasteroids belonging to Basidiomycetes fungi. The basidiocarps were photographed and some macroscopic details were noted. The basidiocarps were then taken to the laboratory to be fully described, including their shape, colour and other characteristics. This study was further enhanced by a microscopic description of the spores and cuts at the hymenium, cuticle, flesh and stem levels. Microscopic observations were made with tap water (Ajana et al. (2020a, 2020b); Lotfi et al., (2019, 2020); Nmichi et al. (2021) El Kholfy et al. (2021a and b); El Assfour i et al., 2024 ; Bouchar et al. 2023). The species was determined using the keys of determination (Smith 1964; Demoulin, 1968 and 1974; Guzmán, 1970; Hosford and Trappe, 1980; Miller, 1986; Agerer, 1990; Pulcinelli and Miglio zzi, 1997; Mornand, 1988 and 1999; Guzmán et al., 1997; Pulcinelli and Miglio zzi, 1998). The following sources were consulted: Diez *et al.*, 2001; Coccia *et al.*, 1990; Calonge, 1998; Jeppson, 1998; Poumarat, 1999 and 2003; Jeppson and Piatek, 2005; Yousaf *et al.*, 2012; Rusevska *et al.*, 2014.

## RESULTS

### **Rhizopogon luteolus Fr. and Nordhom 1817, harvest of 23 January 2018 in Sidi Bouknadel (Mamora forest) (Fig. 1)**

The fertile portion initially exhibits a white coloration, which subsequently transitions to pinkish yellow, reddish, and finally, brownish hues. The olfactory perception is that of a fruity aroma, while the gustatory experience is that of a sweet taste. The application of potassium (10%) and ammonia had no effect on the staining of sporiferous tissues and the dyeing of spores, which remained ochraceous brown. The spores (5-7 x 2 to 2.5 µm) are smooth and oblong to elliptical in shape. The fructifications, which measure between 1.5 and 5 cm, initially exhibit hypogynous growth, subsequently undergoing partial semi-epigynous to epigynous development, and frequently displaying bosses or deep folds. The shape of these fructifications is irregular, typically oval, reniform, or globular. The peridium initially exhibits a whitish coloration, ranging from pale yellow to ochraceous, and displays a network of white rhizomorphs

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