

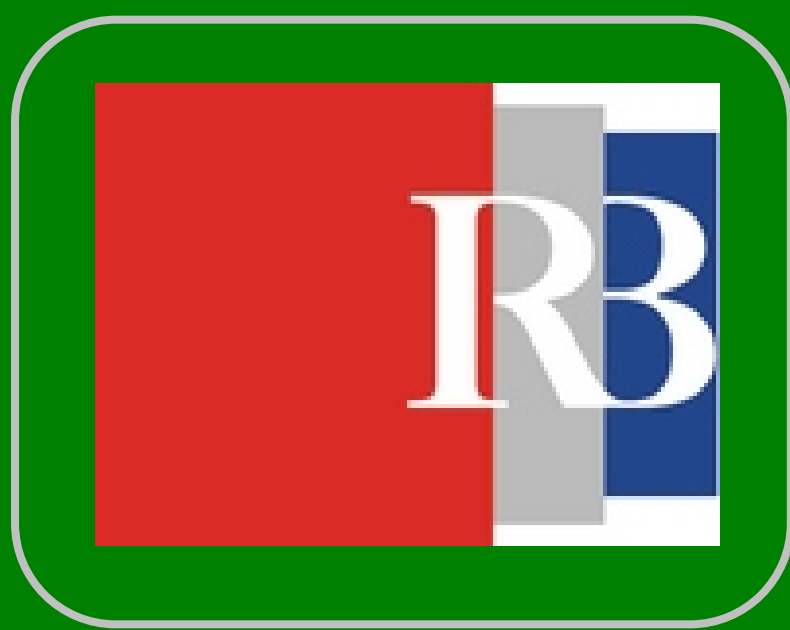
OKOLIŠ

A new species of *Galerella* (Agaricales) from tropical Africa

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ABSTRACT

A new species, *Galerella nigeriensis*, from southwestern Nigeria is described. It is characterized by a strongly plicate, dry, yellowish to orange brown pileus, whitish veil on pileus and stipe base, white and pubescent stipe, thick-walled, mostly flattened spores, tibiiform to lageniform cheilocystidia, and presence of hymenophysalides (for the first time recorded character in the genus *Galerella*). The description is accompanied by color photographs of basidiomata and microscopic elements. *G. nigeriensis* is compared to related species and a worldwide diagnostic key to the genus *Galerella* is provided.

INTRODUCTION

The third author conducted a field research of Nigerian mycobiota from June to August 2008 (rainfall season). Among collected samples, we discovered a new species of *Galerella*, *G. nigeriensis*. *Galerella* is a small genus of the family *Bolbitiaceae* with six known species, the newly discovered *G. nigeriensis* and five previously known species: *G. fibrillosa*, *G. floriformis*, *G. microphues*, *G. plicatella*, and *G. plicatelloides*. The genus *Galerella* is characterized by hymeniform pileipellis, rusty brown spore print, mainly dry, strikingly plicate-sulcate pileus, and by the absence of lecythiform cystidia. *Galerella* species are saprotrophs, growing mostly on soil, but also on decaying twigs or wood. All species are rare. They are distributed throughout tropical and/or subtropical zone (including Mediterranean area), while *G. plicatella* also occurs in areas with continental climate.



Habitat on the type locality.

RESULTS

Galerella nigeriensis Tkalčec, Mešić & Čerkez

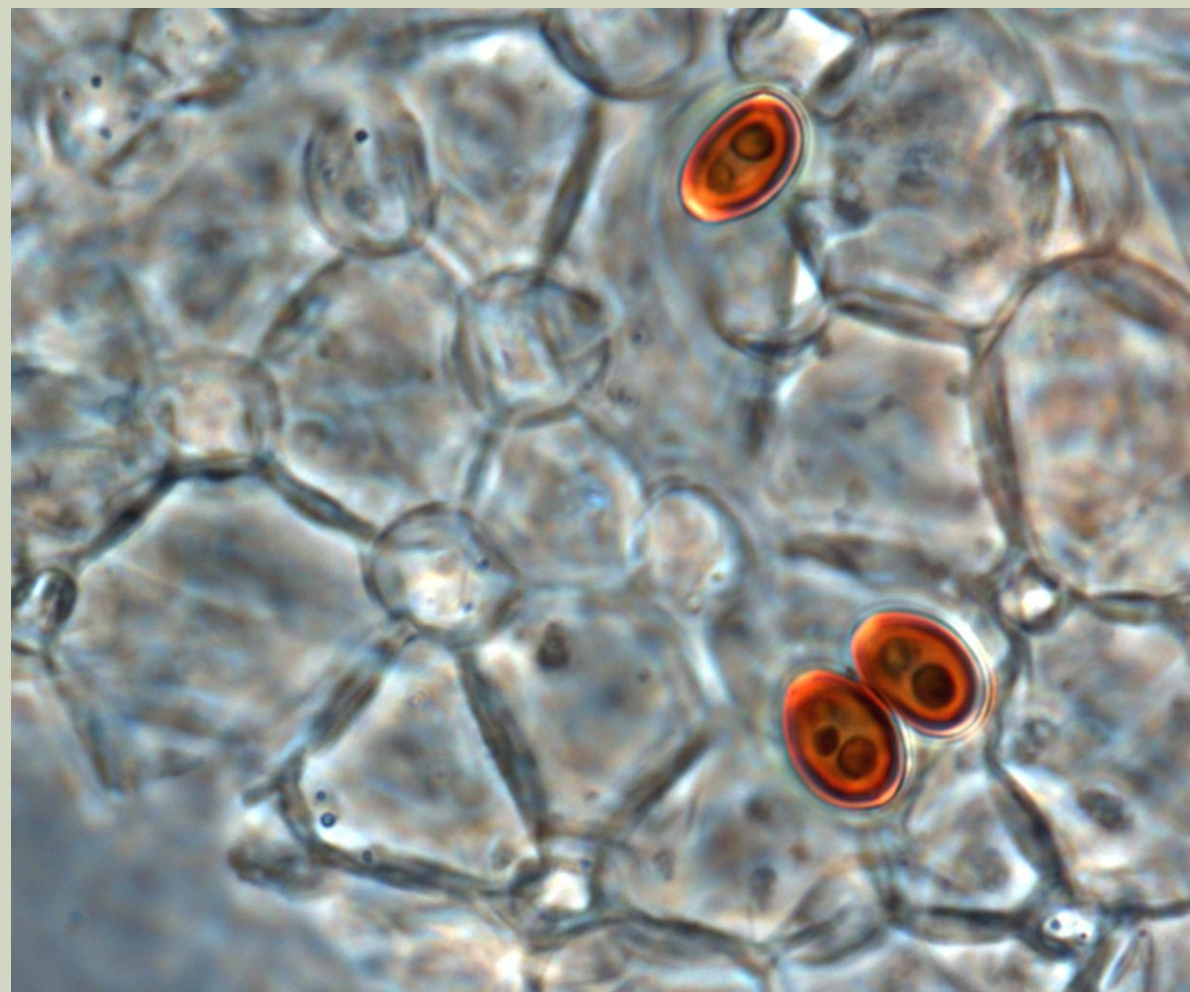
DESCRIPTION — Pileus 14–17 mm broad, strongly plicate-sulcate, dry, pale yellowish brown to light orange brown with a darker center; veil present on pileus and stipe base, whitish; lamellae narrowly adnate, white at first, later pale to rusty brown; stipe white and pubescent, weakly striate lengthwise, dry; spore print rusty brown; spores 6.9–8.8–10.7 × 5.1–6.1–6.9 × 4.5–5.3–6.2 μm, thick-walled, mostly flattened and often somewhat angular, thick-walled; basidia 18–23 × 8–11 μm, 4-spored, clavate; lamellar edge almost sterile; cheilocystidia 30–65 × 8–14 μm, tibiiform with subcapitate to capitate apex or lageniform, less often conical; hymenophysalides 16–40 × 11–22(–30) μm, well developed in mature basidiomata; pileipellis a hymeniderm to physalo-palisadoderm; pileocystidia scattered, lageniform with very long neck to filiform; clamp-connections abundant in all tissues.

HABITAT — Gregarious, lignicolous, on a very rotten stump, at the edge of heavily disturbed secondary tropical forest.

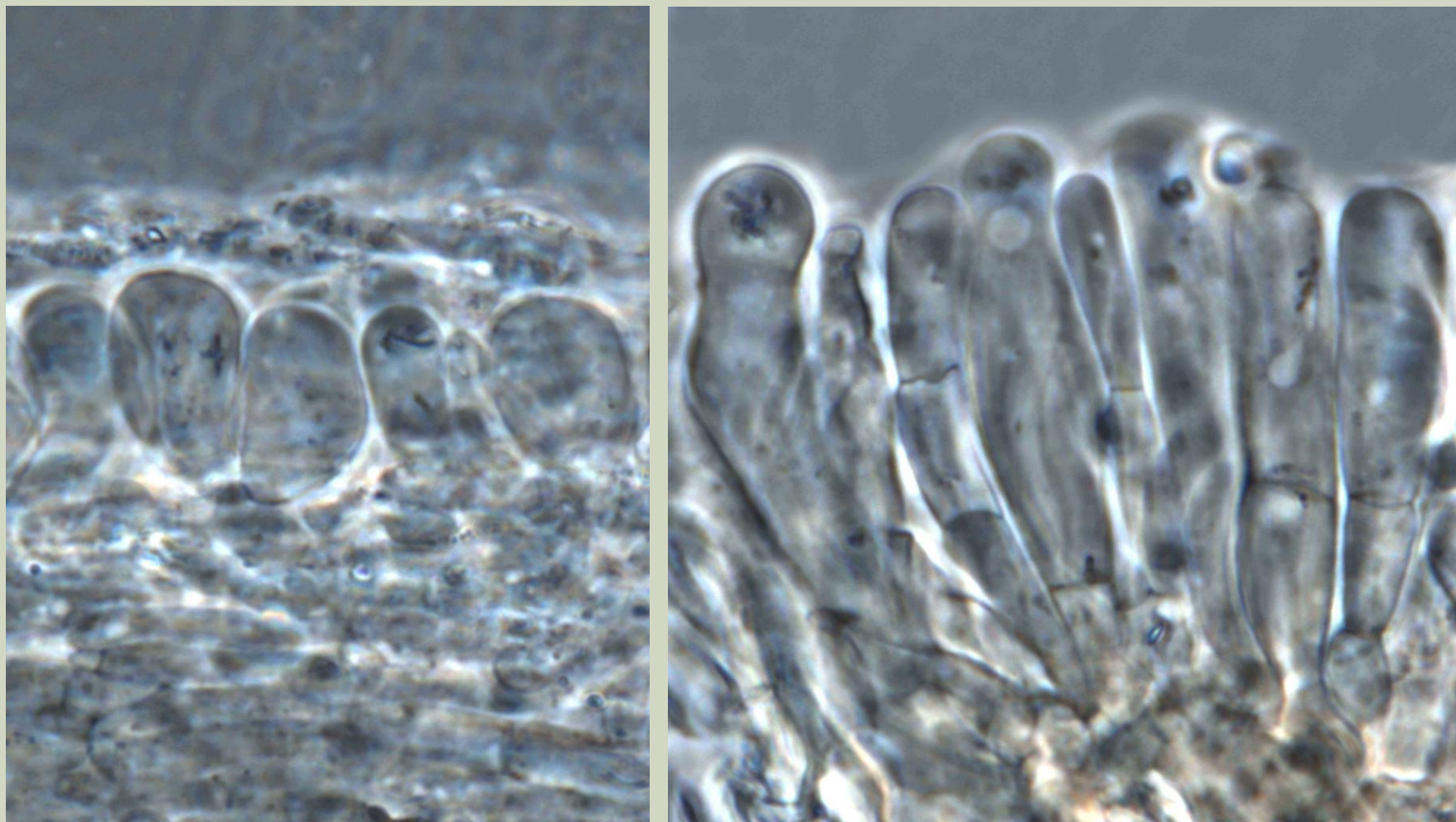
DISTRIBUTION — Known only from the type locality in Nigeria, Ondo State, 11 km NW of Akure (25 July 2008).



Cheilocystidia (phase contrast).



Hymenophysalides (phase contrast).



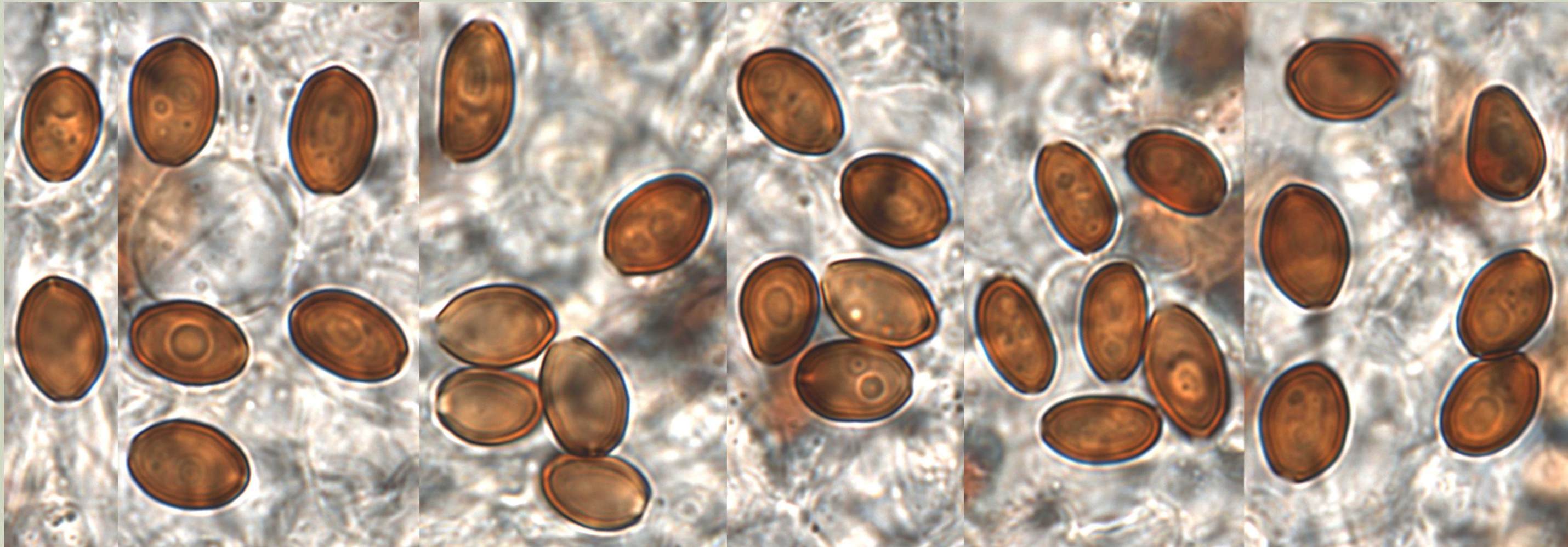
Pileipellis near margin of the pileus and near center of the pileus (phase contrast).

MATERIALS AND METHODS

The description of *Galerella nigeriensis* is based on one collection consisting of seven basidiomata. Photographs of basidiomata were taken in the field. Microscopic features were observed by a light microscope (brightfield and phase contrast) with magnification up to 1500× and photographed with a digital camera. Description and photographs of microscopic characters were made from rehydrated dried specimens mounted in 2.5% potassium hydroxide (KOH) solution. Holotype and accompanied data are deposited at the Croatian National Fungarium in Zagreb (CNF).



Basidiomata in situ.



Spores in KOH solution.

Key to the world species of *Galerella*

- Cheilocystidia absent 2
- Cheilocystidia present, well differentiated, and abundant 3
- Spores 11–16.5 × 7–10 μm, with germ-pore, thick-walled ***G. plicatelloides***
- Spores 7–11 × 3.5–4 μm, without germ-pore, thin-walled ***G. floriformis***
- Hymenophysalides present and well developed in mature basidiomata, cheilocystidia tibiiform and lageniform (in approximately equal proportion)..... ***G. nigeriensis***
- Hymenophysalides absent, cheilocystidia not tibiiform (mostly lageniform, only sometimes with slightly broadened apex) 4
- Cheilocystidia up to 35 μm long, pileus whitish ***G. microphues***
- Cheilocystidia up to 50(–65) μm long, pileus pale yellowish- to orange- or reddish-brown 5
- Spores thin- to slightly thick-walled, cheilocystidia 6–11(–16.5) μm broad ***G. plicatella***
- Spores distinctly thick-walled, cheilocystidia 10–20 μm broad ***G. fibrillosa***

DISCUSSION

Galerella nigeriensis is characterized by a strongly plicate-sulcate, dry, pale yellowish brown to light orange brown pileus with a darker center, whitish veil on pileus and stipe base, white and pubescent stipe, thick-walled, mostly flattened and often somewhat angular basidiospores, tibiiform to lageniform cheilocystidia, and presence of hymenophysalides. It can be easily differentiated from other known species in the genus by the presence of well developed hymenophysalides, as well as by abundant tibiiform cheilocystidia (both characters lacking in other *Galerella* species). *Pholiotina sulcata* was mistaken for *G. plicatella* by European and probably Asian authors until recently due to its pileus that varies from weakly striate to irregularly plicate-sulcate. *P. sulcata* also lacks hymenophysalides and tibiiform cheilocystidia. Hitherto, presence of hymenophysalides has not been recorded in the genus *Galerella*. In the last seven years, three new species of this small genus are discovered. Obviously, species diversity of the genus *Galerella* is still poorly explored.