



# Diversity and distribution of macrofungi (Ascomycota and Basidiomycota) in Tolima, a Department of the Colombian Andes: an annotated checklist

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## Abstract

## Background

Macrofungi are classified in the phylum Ascomycota and Basidiomycota and they are very important from an ecological and economic point of view. Most studies of fungi in Colombia have been carried out mainly in the Andean Region, especially in the Departments of

Antioquia, Valle del Cauca and Cundinamarca. However, other Departments in the Andean Region, like Tolima, located in the Cordillera Central, are well documented for plants (4,797 species) and animals (2,983 species), but very poorly documented in terms of knowledge of fungal diversity.

## New information

This study provides a compiled and annotated checklist of all known macrofungi in the Department of Tolima, based on published literature and on the identification of new specimens collected from five localities of the Department. All records were updated taxonomically and we include detailed information on the localities in which they are distributed in the Department. The list includes 164 taxa distributed in 15 orders (Agaricales, Polyporales, Russulales, Boletales, Hymenochaetales, Xylariales, Auriculariales, Thelephorales, Cantharellales, Hypocreales, Pezizales, Gloeophyllales, Phallales, Tremellales, Dacrymycetales) and eighteen records in a doubtful taxa section. We present 26 new reports, 19 for Tolima and nine for Colombia. We also provide genetic and phylogenetic evidence of the occurrence of *Gloeoporus telephoroides* and *Podoscypha venustula* in Colombia. This checklist provides the basis for future studies on species diversity and taxonomy in Tolima, by identifying the least studied taxa and ecosystems and conservation priorities.

## Keywords

Andean Region, fungal biodiversity, new records, Neotropics, taxonomy

## Introduction

Complex multicellular forms have evolved independently in many clades of the Eukaryota domain, including fungi, plants and animals (Torruella et al. 2015). Some groups of fungi form diverse macroscopic structures (sporomes) including mushrooms, stinkhorns, truffles, earth stars, puffballs, shelf fungi, clavarioid, coralloid fungi, discoid fungi and cup fungi. These organisms are artificially grouped as macrofungi and classified in the phylum Ascomycota and Basidiomycota. Diversity estimates derived from data using plant species/macrofungal ratios indicate that there may be between 53,000 to 110,000 macrofungal species in the world (Mueller and Schmit 2007). Although macrofungi have perhaps the longest history of diversity studies of any group of fungi, they are still poorly studied in most of the world (Lodge et al. 2004, Mueller and Schmit 2007).

Colombia is considered the second country with the highest biodiversity on the planet with 75,947 biological records of known species in the different Kingdoms (SIB Colombia 2022a). These data, added to high rates of endemism, place the country as a priority region for the conservation of biodiversity worldwide (Myers and De Grave 2000). Although knowledge of diversity in the country has been limited by a strong taxonomic bias towards

animals and plants (Baroni et al. 2007, Arbeláez-Cortés 2013), recent efforts by Colombian mycologists through the *ColFungi* project (Gaya et al. 2021; <https://colfungi.org>) have compiled the country's fungal diversity knowledge in a total of 7,241 species of fungi, of which 2,386 species belong to Basidiomycota (Franco-Molano et al. 2022) and 4,554 to Ascomycota (Sanjuan and Brothers 2022).

Most studies of fungi in Colombia have been carried out mainly in the Andean Region, especially in the Departments of Antioquia, Valle del Cauca and Cundinamarca (Gómez-Montoya et al. 2022). However, other Departments in the Andean Region, like Tolima, located in the Cordillera Central, are well documented for plants (4,797 species) and animals (2,983 species), but very poorly documented in terms of knowledge of fungal diversity (SIB Colombia 2022b). Recently, Gómez-Montoya et al. (2022) reported 115 species of macrofungi of Basidiomycota in Tolima and Vasco-Palacios and Franco-Molano (2012) have reported only four species of Ascomycota.

The Department of Tolima presents six different ecosystems: Tropical Dry Forest, Wetland, Tropical Rainforest, pre-Montane Forest, Montane Humid Forest and Paramo. Currently, three National Natural Parks conserve the diversity of the Department; however, these protected areas are in the high parts of the mountain range, neglecting ecosystems such as the Tropical Dry Forest (CORTOLIMA 2013). Given that the agricultural and livestock frontier is spreading more and more, threatening the native forests, it is important to know the diversity of macrofungi present in Tolima, to raise awareness about their ecological importance and to provide information for their conservation (Quiroga et al. 2019).

Documenting patterns of biodiversity knowledge in megadiverse countries is an important component of understanding global biodiversity knowledge and helps to optimise further research on Colombia's outstanding biota (Arbeláez-Cortés 2013). In this study, we present a critical review of scientific literature and databases with records of macrofungi in the Department of Tolima. We also conduct collections in five localities of the Department and new materials were morphologically identified and reported as new records for the Department of Tolima and some as new records for Colombia.

## Materials and methods

### Study Area

The Department of Tolima is located in the Andes of Colombia, divided into 47 municipalities and 23,562 km<sup>2</sup> of area (Gobernación del Tolima 2021). It presents an elevation from 400 to 5200 m a.s.l. and rainfall is between 1000 and 2000 mm per year (CORTOLIMA 2018). The Magdalena River runs through the entire territory and 17 other basins. It is represented by strategic ecosystems ranging from the tropical dry forest in the lower part, through wetlands and the paramos in the highest areas. The Department has The National Natural Parks Los Nevados, Las Hermosas and Nevado del Huila (CORCUENCAS 2014).

Macrofungi were collected in three localities of the Municipality of Ibagué: 1) second-growth forest in San Jorge Botanical Garden (JBSJ) (4°27'06.7"N 75°13'19.8"W), which is on the border between the tropical dry forest and the premontane forest, to 1200 m a.s.l.; 2) Canyon of Combeima River (4°33'25.8"N 75°19'34.4"W - 4°34'43.2"N 75°19'28.4"W), which corresponds to a low montane humid forest, between 1900 and 2350 m a.s.l.; 3) Alejandro Von Humboldt Botanical Garden (JBAVH) in Universidad del Tolima (4°25'34.89"N 75°12'46.77"W), which is a tropical dry forest at 1100 m a.s.l. They were also collected in a locality of the Municipality of Líbano, in Santa Librada Reserve (4°52'48.4"N 75°01'17.4"W), which corresponds to a tropical rainforest, at 1100 m a.s.l. Additionally, they were collected in Chicoral Village, Municipality of Espinal (4°11'56.8"N 74°59'18.1"W - 4°12'35.6"N 74°58'37.1"W), in a rural area, at 390 m a.s.l.

## Fieldwork

The specimens were collected by performing random sampling in five localities in the period of 2019–2022. The study has the Collection permit conceded for access to biological resources for non-commercial purposes (Permiso Marco de Recolección, Resolución 2191 de 2018, Universidad del Tolima). Sporomes were photographed *in situ*, completely removed, placed in paper bags and taken to the laboratory. All descriptions are based on well-developed (mature) specimens. Morphological identification was made from macroscopic and microscopic characteristics. For micromorphological analysis, free-hand sections of the sporomes were prepared on microscope slides with 3% potassium hydroxide (KOH), Red Congo or Cotton Blue. Melzer's Reagent (IKI) was used to determine presence or absence of amyloid or dextrinoid reactions. All microscopical structures were measured with the aid of an eyepiece micrometer with a subjective accuracy of 0.1 µm, using 1000x magnification. Identification was based on current literature and using dichotomous keys (e.g. Ryvarden 2004, Coelho et al. 2006, Drechsler-Santos et al. 2007, Ryvarden 2009, Montoya-Alvarez et al. 2011, Ryvarden 2015, Ryvarden 2016, Luangsa-ard et al. 2017, Westphalen et al. 2019, Wu et al. 2021, Zhou et al. 2021). All specimens were preserved and deposited in the Fungario Universidad del Tolima (FUT). A dataset for distribution of macrofungi in Tolima was created in Excel software and then used for preparing the interactive map in ArcGIS Pro 30.3 software.

## Literature review

The list of species was based on the review of scientific literature, national or international, books or book chapters and scientific notes recording macrofungi from Tolima available in public databases, such as *Google Scholar*, *ResearchGate*, *Scielo* and *Scopus* and vouchers information available in public databases, such as *ColFungi* and *MyCoPortal*. Information from unpublished data, results presented at conferences or theses were not included in the list. Lichenised fungi are also excluded. To determine the specific locations of the reports, databases of biological collections were reviewed. Species are presented in alphabetical order within the corresponding Linnean classification: phylum, order, family and genus. Accepted names agree with Index Fungorum (<http://www.indexfungorum.org>) as of February 2023. The following herbaria databases were consulted (Herbaria acronyms

follow Index Herbariorum, Thiers (2016) onwards): Herbario de la Universidad de Antioquia (HUA), Cornell University Herbarium (CU), Field Museum of Natural History (F), Herbario Nacional Colombiano (COL), Medellín headquarters of Universidad Nacional de Colombia Herbarium (MEDEL), Museo de Historia Natural de la Universidad de los Andes (ANDES-F), The New York Botanical Garden (NY), Institute of Agricultural and Environmental Sciences of the Estonian University of Life Sciences (TAAM), University of Tartu (TUF), Museo Nacional de Historia Natural of Cuba (MNHN), University of Georgia, Julian H. Miller Mycological Herbarium (GAM), State University of New York College at Cortland (CORT) and Fungario Universidad del Tolima (FUT). Specimens recorded as new for Colombia and for the Department of Tolima are presented with a detailed morphological description. Additionally, at the end of the list, there is a section with specimens classified as doubtful taxa and presented in alphabetical order. These specimens are present as incongruent data in literature or we do not have sufficient data to confirm their identity.

### Taxon sampling, DNA extraction and PCR amplification

Dried specimens of *Podoscypha* and *Gloeoporus* were selected for molecular sampling. Approximately 30 mg of tissue from each collection were ground directly in a 1.5 ml vial, using plastic pestles with liquid nitrogen (Justo et al. 2011). DNA was extracted using a 3% CTAB extraction buffer and then isolated by the sequential addition of chloroform. Finally, isopropyl alcohol was added to precipitate the DNA, which was washed with 70% ethanol and resuspended in the TE buffer (Doyle 1990). The purity and concentration of DNA was performed using  $\mu$ Drop™ Plate (Thermo Scientific). The DNA concentration was adjusted to 100  $\mu$ g/ml. Primer pairs of ITS1F (5'-CTT GGT CAT TTA GAG GAA GTA A -3')/ ITS4 (5'-TCC TCC GCT TAT TGA TAT GC-3') were used to amplify a fragment of the ITS region (White et al. 1990, Gardes and Bruns 1993). The PCR assay was conducted in a total volume of 25  $\mu$ l consisting of 14.87  $\mu$ l distilled deionised water, 5  $\mu$ l of 5 $\times$  colourless GoTaq® Flexi Buffer (Promega, USA), 1  $\mu$ l dNTPs (1.5 mM) (Invitrogen, USA), 1  $\mu$ l of each primer (forward and reverse) (10 pmol/ $\mu$ l), 1  $\mu$ l MgCl<sub>2</sub> (25 mM), 0.125  $\mu$ l of 0.6 U GoTaq® Flexi DNA polymerase (Promega, USA) and 1  $\mu$ l gDNA as the template. The amplification was performed in a T-100™ thermocycler (Bio-Rad, USA) with an initial denaturation step at 95°C for 3 min, followed by 35 cycles of denaturation at 95°C for 30 s, annealing at 55°C for 30 s, extension at 72°C for 2 min and a final step of extension at 72°C for 5 min. The amplicons were visualised on 2% agarose gel by electrophoresis (PowerPac™ HC, Bio-Rad, USA) using 100-bp DNA ladder Load Ready™ (Ampliyus, USA). The gel was stained with HydraGreen™ (ACTGene, USA) and visualised under UV light using the ENDURO™ GDS gel documentation system (Labnet International, Inc., USA). Final PCR products were purified and sequenced by the Sanger method (MacroGen Ltd., South Korea).

### Taxon sampling, alignment and phylogenetic inference

The electropherograms were visually inspected to ensure good sequence quality and ambiguous sequence reads were discarded. Double peaks were interpreted as true base ambiguities when they were detected in both forward and reverse sequencing electropherograms. Once assembled, consensus sequences were queried against the

entire GenBank database using BLAST (<http://blast.ncbi.nlm.nih.gov/>) and their pairwise identity was recorded. All newly-generated consensus sequences were deposited in GenBank. The consensus sequences generated in this study and related sequences downloaded from GenBank ([www.ncbi.nlm.nih.gov/genbank](http://www.ncbi.nlm.nih.gov/genbank), Table 1) were aligned using MAFFT v.7.299 (Katoh and Standley 2013). The ITS and 28S regions were aligned using the L-INS-I strategy (command line: `mafft—localpair-maxiterate 1000`). The coding regions were aligned using the E-INS-I strategy with no cost for opening gaps and equal cost for transformations (command line: `mafft—genafpair—maxiterate 1000`). After alignment, sequences were translated and checked for stop codons using Aliview v.1.18 (Larsson 2014). Two datasets were prepared: the first combined dataset for *Gloeoporus* specimen includes 14 sequences of ITS and 13 of 28S (Table 1). *Bjerkandera adusta* (Wild.) P. Karst. was used as the root. The second combined dataset for *Podoscypha* specimen includes 33 sequences of ITS and 21 of 28S (Table 2). *Abortiporus biennis* (Bull.) Singer was used as the root. Both phylogenetic relationship analyses were inferred in a Maximum Likelihood framework as implemented in IQTREE v.2.0 (Nguyen et al. 2015). ModelFinder (Kalyaanamoorthy et al. 2017) was used to select the optimal partition scheme and substitution models. The calculation of the ultrafast Bootstrap (Hoang et al. 2018) and the Shimodaira-Hasegawa approximate likelihood-ratio test (SH aLRT) (Guindon et al. 2010) were conducted with the following command line: `iqtree -s concat.nex -spp partition.nex.best_scheme.nex -B 1000 -alrt 1000 -pers 0.2 -nstop 1000`.

Table 1.

Taxa sampled in this study and used in phylogenetic analyses of *Gloeoporus* species. For each collection, the species name, voucher and GenBank accession number are provided. Missing information is indicated with a n-dash (-). Newly-deposited sequences are in bold. Country codes according to ISO 3166 Alpha 2.

Specimen	Voucher	Country	Genbank		Reference
			ITS	28S	
<b><i>Gloeoporus</i></b>					
<i>G. africanus</i> P.E. Jung & Y.W. Lim	918063	UG	<a href="#">MG572763</a>	<a href="#">MG572747</a>	Jung et al. (2018)
<i>G. africanus</i>	918572	UG	<a href="#">MG572764</a>	<a href="#">MG572748</a>	Jung et al. (2018)
<i>G. citrinoalbus</i> Yuan Yuan & Jia J. Chen	Dai16238	CN	<a href="#">KU360397</a>	<a href="#">KU360405</a>	Yuan et al. (2016)
<i>G. citrinoalbus</i>	Yuan 9654	CN	<a href="#">KU360396</a>	<a href="#">KU360404</a>	Yuan et al. (2016)
<i>G. dichrous</i> (Fr.) Bres.	BRNU 631507	CZ	<a href="#">MG572751</a>	<a href="#">MG572735</a>	Jung et al. (2018)
<i>G. dichrous</i>	HHB17181	US	<a href="#">MG572753</a>	<a href="#">MG572737</a>	Jung et al. (2018)
<i>G. hainanensis</i> Yuan Yuan & Jia J. Chen	Dai 15268	CN	<a href="#">KU360401</a>	<a href="#">KU360411</a>	Yuan et al. (2016)
<i>G. hainanensis</i>	Yuan 4397	CN	<a href="#">KU360400</a>	<a href="#">KU360409</a>	Yuan et al. (2016)
<i>G. orientalis</i> P.E. Jung & Y.W. Lim	Cui 7261	CN	<a href="#">MG572759</a>	<a href="#">MG572743</a>	Jung et al. (2018)
<i>G. orientalis</i>	F-28839	JP	<a href="#">MG572762</a>	<a href="#">MG572746</a>	Jung et al. (2018)
<i>G. pannocinctus</i> (Romell) J. Erikss.	FP135015	US	<a href="#">MG572755</a>	<a href="#">MG572739</a>	Jung et al. (2018)
<i>G. thelephoroides</i> (Hook.) G. Cunn.	BZ2896	BZ	<a href="#">MG572757</a>	<a href="#">MG572741</a>	Jung et al. (2018)

Specimen	Voucher	Country	Genbank		Reference
			ITS	28S	
<i>G. thelephoroides</i>	LRD 130	CO	<a href="#">OQ282957</a>	–	Present study
<b>Root</b>					
<i>B. adusta</i> (Wild.) P. Karst.	HHB12826sp	US	<a href="#">KP134983</a>	<a href="#">KP135198</a>	

Table 2.

Taxa sampled in this study and used in the phylogenetic analyses of *Podoscypha* species. For each collection, the species name, voucher and GenBank accession number are provided. Missing information is indicated with a n-dash (–). Newly-deposited sequences are in bold. Country codes according to ISO 3166 Alpha 2.

Specimen	Voucher	Country	Genbank		Reference
			ITS	28S	
<b><i>Podoscypha</i></b>					
<i>P. bolleana</i> (Mont.) Boidin	32034	–	<a href="#">JQ675334</a>	–	Binder et al. (2013)
<i>P. bolleana</i>	CBS 33366	CF	<a href="#">JN649354</a>	<a href="#">JN649354</a>	Sjökvist et al. (2012)
<i>P. brasiliensis</i> D.A. Reid	17586	–	<a href="#">JQ675312</a>	–	Binder et al. (2013)
<i>P. brasiliensis</i>	GXU 2169	CN	<a href="#">MG356474</a>	<a href="#">MG356489</a>	unpublished
<i>P. brasiliensis</i>	LR37812	VE	<a href="#">JN649355</a>	<a href="#">JN649355</a>	Sjökvist et al. (2012)
<i>P. bubalina</i> D.A. Reid	17500	–	<a href="#">JQ675311</a>	–	Binder et al. (2013)
<i>P. cristata</i> (Berk. & M.A. Curtis) D.A. Reid	8667	–	<a href="#">JQ675320</a>	–	Binder et al. (2013)
<i>P. disseminata</i> Douanla-Meli	DMC 232	–	<a href="#">JQ675326</a>	–	Binder et al. (2013)
<i>P. elegans</i> (G. Mey.) Pat.	CBS 426.51	AR	<a href="#">JN649356</a>	<a href="#">MH868453</a>	Sjökvist et al. (2012)
<i>P. fulvonitens</i> (Berk.) D.A. Reid	17483	–	<a href="#">JQ675315</a>	–	Binder et al. (2013)
<i>P. fulvonites</i>	C1	–	<a href="#">JQ675322</a>	–	Binder et al. (2013)
<i>P. gillesii</i> Boidin & Lanq.	32036	–	<a href="#">JQ675335</a>	–	Binder et al. (2013)
<i>P. gillesii</i>	GXU 2176	CN	<a href="#">MG356710</a>	<a href="#">MG356793</a>	unpublished
<i>P. involuta</i> (Klotzsch ex Fr.) Imazeki	CBS 65484	GA	<a href="#">MH861804</a>	<a href="#">MH873497</a>	Sjökvist et al. (2012)
<i>P. involuta</i>	E. Larsson (GB)	TH	<a href="#">JN649357</a>	<a href="#">JN649357</a>	Sjökvist et al. (2012)
<i>P. mellissii</i> (Berk. Ex Sacc.) Bres.	LR 41658	JM	<a href="#">JN649359</a>	<a href="#">JN649359</a>	Sjökvist et al. (2012)
<i>P. moelleri</i> (Bres. & Hen.) D.A. Reid	17588	–	<a href="#">JQ675313</a>	–	Binder et al. (2013)
<i>P. multizonata</i> (Berk. & Broome) Pat. (T)	CBS 663.84	FR	<a href="#">MH861809</a>	<a href="#">MH873501</a>	Sjökvist et al. (2012)
<i>P. multizonata</i>	3005	DE	<a href="#">JN710581</a>	<a href="#">JN710581</a>	Miettinen et al. (2012)
<i>P. parvula</i> (Lloyd) D.A. Reid	32055	–	<a href="#">JQ675338</a>	–	Binder et al. (2013)
<i>P. parvula</i>	DCM 226	–	<a href="#">JQ675328</a>	–	Binder et al. (2013)

Specimen	Voucher	Country	Genbank		Reference
			ITS	28S	
<i>P. parvula</i>	CBS 331.66	CF	<a href="#">JN649361</a>	<a href="#">JN649361</a>	Sjökvist et al. (2012)
<i>P. petalodes</i> (Berk.) Boidin	CBS 332.66	PK	<a href="#">JN649363</a>	<a href="#">JN649363</a>	Sjökvist et al. (2012)
<i>P. petalodes</i>	CBS 659.84	PK	<a href="#">JN649362</a>	<a href="#">JN649362</a>	Sjökvist et al. (2012)
<i>P. ravenelii</i> (Berk. & M.A. Curtis) Pat.	CBS 66484	US	<a href="#">JN649364</a>	<a href="#">JN649364</a>	Sjökvist et al. (2012)
<i>P. venustula</i> (Speg.) D.A. Reid	LR 40821	VE	<a href="#">JX109851</a>	<a href="#">JX109851</a>	Sjökvist et al. (2012)
<i>P. venustula</i>	CBS 65684	GF	<a href="#">JN649367</a>	<a href="#">JN649367</a>	Sjökvist et al. (2012)
<b><i>P. venustula</i></b>	<b>ZF29</b>	<b>CO</b>	<a href="#">OQ302285</a>	–	<b>Present study</b>
<i>P. vespillonea</i> (Berk.) Boidin & Lanq.	CBS 11174	–	<a href="#">MH860836</a>	<a href="#">MH872572</a>	Sjökvist et al. (2012)
<i>P. vespillonea</i>	CBS 348.66	–	<a href="#">MH858820</a>	<a href="#">MH870457</a>	Sjökvist et al. (2012)
<i>P. yunnanensis</i> C.L. Zhao	CLZhao 3963	CN	<a href="#">MK298400</a>	<a href="#">MK298404</a>	Wu et al. (2019)
<i>P. yunnanensis</i>	CLZhao 3979	CN	<a href="#">MK298402</a>	<a href="#">MK298406</a>	Wu et al. (2019)
<b>Root</b>					
<i>A. biennis</i> (Bull.) Singer	FD 319	US	<a href="#">KP135300</a>	<a href="#">KP135195</a>	Binder et al. (2013)

## Checklist of macrofungi from Tolima, Colombia

### Phylum Ascomycota

### Order Hypocreales

### Family Clavicipitaceae

### *Nigelia martiale* (Speg.) Luangsa-ard & Thanakitp., 2017

#### Material

- a. higherGeography: Colombia; Tolima; Municipality of Ibagué; JBSJ; verbatimElevation: 1200 m; verbatimCoordinates: 4°27'06.7"N 75°13'19.8"W; eventDate: 22 Sep 2019; catalogNumber: ZF27; collectionCode: FUT; occurrenceID: 0FF0E2E1-8BBB-5E75-88C0-ECB2961B3739

**Diagnosis:** Stromata erect, multiple to solitary, clavate to irregular, branched, orange to mustard yellow, 3.2 cm large, becoming purple in 3% KOH (Fig. 1A). Perithecia immersed to loose, oblique in arrangement, ovoid to circular ostiole, 618–847 × 265–320 µm. Asci cylindrical, 2.8–4.6 µm in diam.; apical cap prominent, 1.6–2.1 × 2.5–2.9 µm. Ascospores filiform, hyaline, 270–315 × 1 µm. Growing on unidentified Coleoptera larvae.



**Notes:** The species is differentiated from other species by the size of the perithecia and the Neotropical distribution. Additionally, *N. aurantiaca* Luangsa-ard, Thanak. & Tasan looks morphologically similar to *N. martiale*, but differs in the type of ascospore. The first produce only whole (non-fragmenting) ascospores, while the latter produce ascospores either dissociated (Luangsa-ard et al. 2017). In Colombia, this is the first record of the species for Tolima.

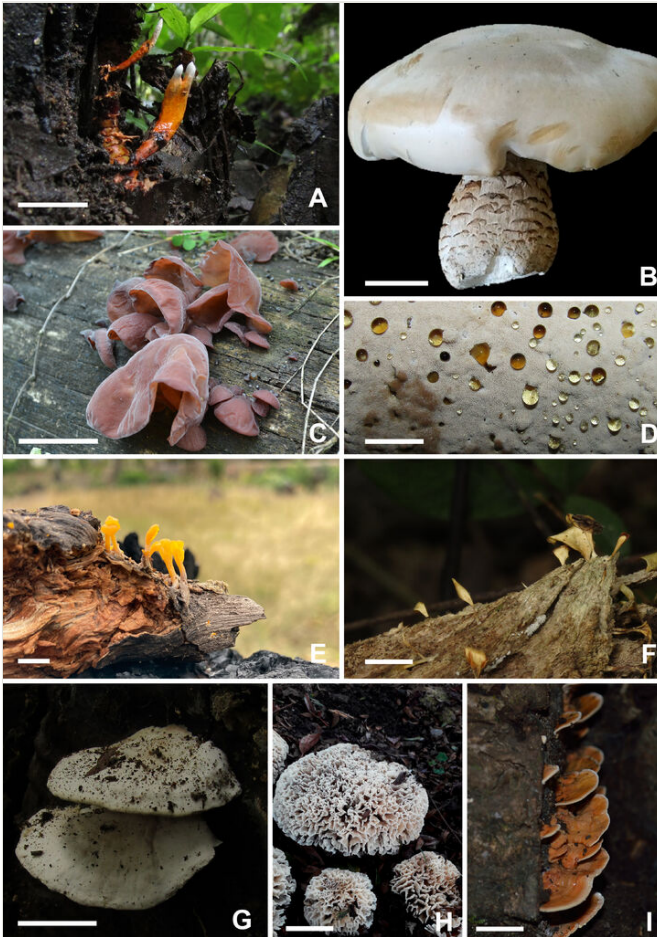


Figure 1. [doi](#)

Fresh basidiomata of species as new records for the Department of Tolima. **A** Basidiomata of *Nigelia martialis* (ZF 27); **B** Basidiomata of *Macrocybe titans* (LRD 150); **C** Basidiomata of *Auricularia fuscosuccinea* (LRD 36); **D** Basidiomata of *Protomerulius caryae* (LRD 117); **E** Basidiomata of *Dacryopinax spathularia* (PXVB 10); **F** Basidiomata of *Cotylidia aurantiaca* (LRD 138); **G** Basidiomata of *Gloeoporus thelephorooides* (LRD 130); **H** Basidiomata of *Irpex rossettiformis* (LRD 145); **I** Basidiomata of *Physisporinus lineatus* (ZF 35). Scale bars B, C, G = 5 cm; Scale bars A, D, E, F, H, I = 1 cm. Photos by: Cristian Zambrano (A, D, F, G); Lina Dávila (B, C); Paula Villanueva (E, H, I).

## Family Cordycipitaceae

### *Beauveria locustiphila* (Henn.) B. Shrestha, Kepler & Spatafora, 2017

**Distribution:** Colombia, Tolima, Municipality of Mariquita, Municipal Forest; 5°11'29"N 74°54'40"W; 560 m a.s.l.; Jan 2011; *leg.* T. Sanjuan 881 (Epitype, HUA 179218) (Sanjuan et al. 2014).

### *Cordyceps nidus* T. Sanjuan, Chir.-Salom. & S. Restrepo, 2017

**Distribution:** Colombia, Tolima, Municipality of Mariquita, Municipal Forest; 5°11'29"N 74°54'40"W; 560 m a.s.l.; 11 Nov. 2014; *leg.* T. Sanjuan, 1161 (ANDES-F 1246) (Chiriví et al. 2017).

## Order Pezizales

## Family Helvellaceae

### *Helvella lacunosa* Afzel., 1783

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Pajonales, under *Quercus humboldtii*; 4°52'20"N 75°08'34"W; 2677 m a.s.l.; *leg.* Gómez-Montoya, N. 7 (HUA 183088) (Peña-Venegas and Vasco-Palacios 2019).

### *Helvella macropus* (Pers.) P. Karst., 1871

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Canaán, under *Quercus humboldtii*; 4°52'20"N 75°09'50"W; 2540 to 2900 m a.s.l.; *leg.* Vasco-Palacios, A. 1061 (HUA 57669) (Peña-Venegas and Vasco-Palacios 2019).

## Order Xylariales

## Family Hypoxylaceae

### *Annulohypoxylon annulatum* (Schwein.) Y.M. Ju, J.D. Rogers & H.M. Hsieh, 2005

**Distribution:** Colombia, Tolima, Municipality of Ibagué, Boquerón; *leg.* Chardon & Toro 699 (CU) (Chardón and Toro 1930).

***Phylacia globosa* Lév., 1845**

**Distribution:** Colombia, Tolima, Municipality of Ibagué, Cañon del Combeima; *leg.* J. Goudot s.n. (Léveillé 1845).

**Family Xylariaceae*****Xylaria platypoda* (Lév.) Fr., 1851**

**Distribution:** Colombia, Tolima, Cordillera central, Cuchilla de la divisadera; *leg.* J. Goudot 2 (Type collection, MNHN) (Dennis 1956).

***Xylaria scruposa* (Fr.) Fr., 1851**

**Distribution:** Colombia, Tolima; *leg.* J. Goudot 1844 (Type of *Sphaeria scruposa*, MNHN) (Dennis 1956).

**Phylum Basidiomycota****Order Agaricales****Family Agaricaceae*****Coprinus comatus* (O.F. Müll.) Pers., 1797**

**Distribution:** Colombia, Tolima, Municipality of Murillo (Franco-Molano et al. 2010).

***Cyathus striatus* Willd., 1787**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Sector el Infierno, Protected Area Vallecitos; 24 May 2007; *leg.* Hernández, M 56 (HUA 165701) (Gómez-Montoya et al. 2022).

***Leucoagaricus rubrotinctus* (Peck) Singer, 1948**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Sabanalarga, sector sabanaverde; 4°52'29.6"N 75°11'13.9"W; 3000 m a.s.l.; 07 Nov 2006, *leg.* Medina, A. 3 (HUA 165705) (Gómez-Montoya et al. 2022); *ibid.*, Vereda El Infierno, 4°52'44"N 75°10'2.0"W; 2800 m a.s.l.; 10 Nov 2019; *leg.* Salazar, N. 3 (HUA 221652) (Universidad de Antioquia 2023).

## Family Amanitaceae

### ***Amanita brunneolocularis* Tulloss, Ovrebo & Halling, 1992**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Murillo-Líbano Km 6 road; 22 Apr 2005; *leg.* Sierra, J. 14 (HUA 141114); *Ibid.*, Vereda Pajonales, Sector El Inciensial; 4°52'39"N 75°07'35"W; 2350 m a.s.l.; 24 Nov 2005; *leg.* Pulgarin, J. 08 (HUA 161978) (Gómez-Montoya et al. 2022, Universidad de Antioquia 2023).

### ***Amanita citrina* Pers., 1797**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Sector El Infierno, near the sewage treatment plant; 4°52'29.6"N 75°11'13.9"W; 2694 m a.s.l.; 23 Oct 2012; *leg.* Zambrano, T. 10 (HUA 182975) (Gómez-Montoya et al. 2022).

### ***Amanita colombiana* Tulloss, Ovrebo & Halling, 1992**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Pajonales; 4°52'30.3"N 75°08'45.4"W; 2300 m a.s.l.; 19 Apr 2005; *leg.* Arias, A. 5 (HUA 161652) (Gómez-Montoya et al. 2022).

### ***Amanita flavoconia* G.F. Atk., 1902**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Canaán, Bosque Canaán; 4°47'41.2"N 75°09'50.1"W; 2540 to 2900 m a.s.l.; *leg.* Vasco-Palacios 1063 (HUA 161502) (Gómez-Montoya et al. 2022).

### ***Amanita fuligineodisca* Tulloss, Ovrebo & Halling, 1992**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Canaán, Bosque Canaán; 4°47'41.2"N 75°09'9.50"W; 2540 m a.s.l.; 24 May 2006; *leg.* Vasco-Palacios 1064 (HUA 57886) (Gómez-Montoya et al. 2022).

### ***Amanita humboldtii* Singer, 1963**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Pajonales, Sector La Albania; 4°52'23.6"N 75°08'33"W; 2681 m a.s.l.; 20 Apr 2010; *leg.* Blanchard, D. 61 (HUA 183045) (Gómez-Montoya et al. 2022).

### ***Amanita muscaria* (L.) Lam., 1783**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Pajonales, Sector La Albania; 4°52'00"N 75°08'45.4"W; 2659 m a.s.l.; 22 Oct 2011; *leg.* Mendoza, C. 2 (HUA 182974) (Gómez-Montoya et al. 2022).

***Amanita rubescens* Pers., 1797**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Pajonales, Sector Fifi-La Albania; 4°52'00"N 75°08'00"W; 2640 m a.s.l.; 31 Oct 2010; *leg.* Gil, J. 4 (HUA 183028) (Gómez-Montoya et al. 2022).

***Amanita xylinvolva* Tulloss, Ovrebo & Halling, 1992**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Pajonales, sector el Fifi; 4°52'30.3"N 75°08'45.4"W; 2706 m a.s.l.; 11 May 2006; *leg.* Acosta, A. 9 (HUA 166002); *Ibid.*, Vereda de Canaán, Bosque Canaán; 4°47'41"N 75°09'50"W; 2540 to 2900 m a.s.l.; 23 May 2006; *leg.* Vasco-Palacios, A.M. 1048 (HUA 181835) (Gómez-Montoya et al. 2022, Universidad de Antioquia 2023).

**Family Callistosporiaceae*****Macrocybe titans* (H.E. Bigelow & Kimbr.) Pegler, Lodge & Nakasone, 1998****Material**

- a. higherGeography: Colombia; Tolima; Municipality of Libano; verbatimElevation: 1622 m; verbatimCoordinates: 4°55'21.2"N 75°04'32.8"W; eventDate: 25 May 2021; catalogNumber: LRD 150; occurrenceRemarks: coming out under cement plate; collectionCode: FUT; occurrenceID: 069737A7-B8EA-5E0C-8C02-ECE1878FB89C

**Diagnosis:** Pileus 4–25 cm broad, hemispherical, broadly convex to flattened; margin incurved at first and later uplifted; abhymenial surface dry, smooth, not hygrophanous, cracking into small appressed squamules, cream to pale yellow (Fig. 1B). Context thick on disc, compact and whitish. Lamellae crowded, sinuate to adnate with a decurrent tooth, with lamellulae of four different lengths, whitish to cream. Stipe 6–20 × 5–10 cm, cylindrical, central, solid, fleshy; surface white to pale yellow, with numerous and reflexed darker squamules. Pileipellis as a cutis, composed of emerging to erected hyphae 4–6 µm wide. Hymenophoral trama of parallel hyphae, cylindrical to inflated. Generative hyphae with clamps. Pseudocheilocystidia fusoid, with subacute to rostrate or rounded apices, lanceolate to lageniform. Caulocystidia absent. *Basidia* 4-spored, sterigmata prominent. Spore print cream. Spores subglobose to ovoid or broadly ellipsoid, smooth, thin-walled, negative in Melzer's Reagent, 5.8–6.3 × 4.4–5.0 µm, Q = 1.2–1.4 µm.

**Notes:** *Macrocybe titans* could be confused with *Clitocybe gigantea* (Fr.) Quélet, but the latter presents a funnel-shaped crown and decurrent lamellae (Bigelow and Kimbrough 1980, Corrales and López-Q 2005). *Macrocybe titans* is distinguished macroscopically from other species because the surface of the stipe is visibly squamulose and, microscopically, by having numerous spindle-shaped pseudocystidia, with refractive content (Pegler et al. 1998). The species has been collected normally in

disturbed environments of the Neotropics and has been recorded as edible. At the moment, this species has only been collected in the Departments of Antioquia and Santander in Colombia. This is the first record of the species for Tolima.

## Family Cortinariaceae

### *Cortinarius iodes* Berk. & M.A. Curtis, 1853

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Pajonales, Sector La Albania; 2650 m a.s.l.; 08 May 2006; *leg.* Sánchez, D. 7 (HUA 161172) (Gómez-Montoya et al. 2022).

### *Cortinarius violaceus* (L.) Gray, 1821

**Distribution:** Colombia, Tolima, Municipality of Murillo, Sector Vallecitos, Finca Cimitarra; 2700 m a.s.l.; 20 Nov 2009; *leg.* Blanchard, D. 81 (HUA 183041) (Gómez-Montoya et al. 2022).

### *Phaeocollybia ambigua* E. Horak & Halling, 1991

**Distribution:** Colombia, Tolima, Municipality of Murillo, Sector el Infierno, near the sewage treatment plant; 4°52'57.8"N 75°10'14"W; 2907 m a.s.l.; 20 Nov 2005; *leg.* Cardona, J. 7 (HUA 161742) (Gómez-Montoya et al. 2022).

### *Phaeocollybia caudata* E. Horak & Halling, 1991

**Distribution:** Colombia, Tolima, Municipality of Murillo, Sector el Infierno; 2950 m a.s.l.; 26 Apr 2014; *leg.* Giraldo, S. 2 (HUA 194972) (Gómez-Montoya et al. 2022).

### *Phaeocollybia oligoporpa* Singer, 1987

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Pajonales; 4°52'35.8"N 75°08'42.1"W; 2677 m a.s.l.; 30 Apr 2011; *leg.* León, A. 5 (HUA 190450) (Gómez-Montoya et al. 2022).

### *Phaeocollybia quercetorum* Singer, 1987

**Distribution:** Colombia, Tolima, Municipality of Murillo, Sector el Infierno; 4°52'50"N 75°10'2.4"W; 2891 m a.s.l.; 29 Apr 2011; *leg.* Gómez-Montoya, N. 4 (HUA 190440) (Gómez-Montoya et al. 2022).

***Phaeocollybia singularis* E. Horak & Halling, 1991**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Pajonales; 4°52'30.3"N 75°08'45.4"W; 2300 m a.s.l.; 19 Apr 2005; *leg.* Beltrán, C. 6 (HUA161253) (Gómez-Montoya et al. 2022).

**Family Cyphellaceae*****Campanophyllum proboscideum* (Fr.) Cifuentes & R.H. Petersen, 2003**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Sector el Infierno, near the sewage treatment plant; 4°52'50"N 75°10'2.4"W; 2891 m a.s.l.; 29 Apr 2011; *leg.* León, A. 2 (HUA 183115) (Gómez-Montoya et al. 2022).

**Family Hydnangiaceae*****Hydnangium carneum* Wallr., 1839**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Requentaderos; 3078 m a.s.l.; 2 Nov 2016; *leg.* Baroni, T. s.n. (HUA 207791) (Gómez-Montoya et al. 2022).

***Laccaria laccata* (Scop.) Cooke, 1884**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Pajonales, Sector el Fifi; 4°52'49.7"N 75°09'57.1"W; 2800 m a.s.l.; 10 May 2006; *leg.* Marín, R. 10 (HUA 165880) (Gómez-Montoya et al. 2022).

**Family Hygrophoraceae*****Hygrocybe conica* (Schaeff.) P. Kumm., 1871**

**Distribution:** Colombia, Tolima, Municipality of Murillo; 04 May 2011; *leg.* Baroni, T. 10449 (HUA 161746) (Gómez-Montoya et al. 2022).

**Family Lycoperdaceae*****Bovista plumbea* Pers., 1795**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Pajonales, sector La Albania; 4°52'30.3"N 75°08'45"W; 2659 m a.s.l.; 22 Oct 2011; *leg.* Rios, C. 2 (HUA 182976) (Gómez-Montoya et al. 2022).

## Family Lyophyllaceae

### *Asterophora parasitica* (Bull.) Singer, 1951

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Canaán, Bosque Canaán; 4°47'41.2"N 75°09'50.1"W; 2540 to 2900 m a.s.l.; 23 May 2003; *leg.* Vasco-Palacios 1049 (HUA 103928) (Gómez-Montoya et al. 2022).

### *Blastosporella zonata* T.J. Baroni & Franco-Mol., 2007

**Distribution:** Colombia, Tolima, Municipality of Murillo, in mixed forest with *Quercus humboldtii*, near the sewage treatment plant, 4°52'47.1"N 75°10'0.8"W; 2950 m a.s.l.; *leg.* Corrales-Osorio, A. 211 (HUA 166328 – holotypus; CORT - isotypus) (Baroni et al. 2007).

## Family Marasmiaceae

### *Armillariella puiggarii* Speg., 1889

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Canaán, Bosque Canaán; 4°47'41"N 75°09'50"W; 2540 to 2900 m a.s.l.; 26 May 2006; *leg.* Vasco-Palacios 1066 (HUA 57926) (Gómez-Montoya et al. 2022).

### *Marasmius cladophyllus* Berk., 1856

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Canaán, Hacienda Canaán; 4°47'41"N 75°09'50"W; 2540 m a.s.l.; 22 Nov 2005; *leg.* Pérez, J. 6 (HUA 161811) (Gómez-Montoya et al. 2022).

### *Marasmius perlongispermus* Singer, 1976

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Pajonales, Finca Alaska; 4°52'00"N 75°08'26"W; 2675 m a.s.l.; 08 Nov 2006; *leg.* Osorio, M. 8 (HUA 166008) (Gómez-Montoya et al. 2022).

### *Micromphale irroratum* (Pat.) Dennis, 1951

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Sabanalarga; 3000 m a.s.l.; *leg.* Henao, A. 3 (HUA 161236) (Gómez-Montoya et al. 2022).

### *Tetrapyrgos alba* (Berk. & M.A. Curtis) E. Horak, 1987

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Sabanalarga; 3000 to 3100 m a.s.l.; *leg.* Flórez, C. 5 (HUA 161163) (Franco-Molano et al. 2010).



***Favolaschia roseogrisea* Singer, 1974**

**Distribution:** Colombia, Tolima, Cajamarca to Calarcá road, km 28, on gramineae (*Guadua angustifolia*, Bambuseae) dead culms; 11 Apr 1968; leg. Singer B 6035 (F - Type) (Singer 1974).

**Family Mycenaceae*****Hydopus nigrita* (Berk. & M.A. Curtis) Singer, 1973**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Canaán, Hacienda Canaán; 4°47'41.2"N 75°09'50.1"W; 2540 m a.s.l.; 22 Nov 2005; leg. Sanín, M. 13 (HUA 162008) (Gómez-Montoya et al. 2022).

***Mycena holoporphyra* (Berk. & M.A. Curtis) Singer, 1962**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Sabanalarga, Alto El Cabro; 4°53'21.4"N 75°11'7.5"W; 3000 to 3100 m a.s.l.; 25 Nov 2005; leg. Franco-Molano, A.E. 1819 (HUA 161233) (Franco-Molano et al. 2010).

***Mycena margarita* (Murrill) Murrill, 1916**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Pajonales, sector El Inciensial; 4°52'39"N 75°07'35"W; 2350 m a.s.l.; 24 Nov 2005; leg. Botero, A. 11 (HUA 161461) (Franco-Molano et al. 2010).

***Mycena plectophylla* (Mont.) Dennis, 1970**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Pajonales; 4°52'30.3"N 75°08'45.4"W; 2656 m a.s.l.; 22 Oct 2011; leg. Carmona, M.J. 4 (HUA 182922) (Gómez-Montoya et al. 2022).

***Mycena pura* (Pers.) P. Kumm., 1871**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Canaán, Bosque Canaán; 4°47'41"N 75°09'50"W; 2540 to 2900 m a.s.l.; 23 May 2006; leg. Vasco-Palacios 1046 (HUA 53318) (Gómez-Montoya et al. 2022).

***Panellus pusillus* (Pers. ex Lévl.) Burds. & O.K. Mill., 1975**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Sabanalarga, Alto El Cabro; 4°53'21.4"N 75°11'7.5"W; 3000 to 3100 m a.s.l.; 25 Nov 2005; leg. Franco-Molano, A.E. 1816 (HUA 161394) (Gómez-Montoya et al. 2022).

## Family Omphalotaceae

### *Gymnopus macropus* Halling, 1996

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Canaán, Hacienda Canaán; 4°47'41.2"N 75°09'50.1"W; 2540 m a.s.l.; 22 Nov 2005; *leg.* Botero, A. 8 (HUA 161767) (Gómez-Montoya et al. 2022).

### *Gymnopus omphalodes* (Berk.) Halling & J.L. Mata, 2004

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Requentaderos, sector Alto Alegrías; 4°51'35.6"N 75°10'30.1"W; 2675 to 3062 m a.s.l.; 24 Oct 2011; *leg.* Carmona, M. J. 10 (HUA 182962); *Ibid.*, sector Castrillón; 4°51'24"N 75°10'09"W; 05 Jan 2011; *leg.* Pimienta, J. 7 (HUA 183125); *Ibid.*, Vereda Pajonales, Finca Alaska; 2675 m a.s.l.; 4°52'25"N 75°08'25.8"W; 08 Nov 2006; *leg.* Del Rio, A. 5 (HUA 165706) (Gómez-Montoya et al. 2022).

### *Marasmiellus distantifolius* (Murrill) Singer, 1962

**Distribution:** Colombia, Tolima, Municipality of Cajamarca, km 28 road to Calarcá; 2670 m a.s.l.; 11 Apr 1968; *leg.* Singer B6037 (F) (Singer 1973).

### *Marasmiellus neotropicus* (Singer) J.S. Oliveira, 2019

**Distribution:** Colombia, Tolima, Municipality Murillo, Vereda Pajonales, Bosque El Inciensial; 2600 m a.s.l.; 21 Apr 2005; *leg.* Vargas, H. 46 (HUA 161643) (Gómez-Montoya et al. 2022).

### *Rhodocollybia turpis* (Halling) Halling, 1997

**Distribution:** Colombia, Tolima, Municipality of Murillo, Sector el Infierno; 2950 m a.s.l.; 30 Oct 2010; *leg.* Ebratt, N. 2 (HUA 183223) (Gómez-Montoya et al. 2022).

## Family Physalacriaceae

### *Flammulina callistosporioides* (Singer) Singer, 1964

**Distribution:** Colombia, Tolima, Municipality of Cajamarca, km 28 road to Calarcá; 11 Apr 1968; *leg.* Singer. R. Singer B6039 (F). (Gómez-Montoya et al. 2022).

***Gloiocephala quercetorum* Ald.-Góm. & Franco-Mol., 2001**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Pajonales, sector El Inciensial; 2350 m a.s.l.; 18 Apr 2005; Urrego, D. 3 (HUA 161986) (Gómez-Montoya et al. 2022).

***Oudemansiella canarii* (Jungh.) Höhn., 1909**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Pajonales, Sector El Inciensial; 4°52'38.6"N 75°07'38.6"W; 2350 m a.s.l., 24 Nov 2005; *leg.* Bermúdez, D. 9 (HUA 161275) (Gómez-Montoya et al. 2022).

***Xerula hispida* Halling & G.M. Muell., 1999**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Canaán, Hacienda Canaán; 4°47'41.2"N 75°08'42.1"W; 2540 m a.s.l.; 22 Nov 2005; *leg.* González, R. 4 (HUA 161389); *Ibid.*, Vereda Pajonale, Sector Fifi – La Albania, Vereda Pajonales; 4°52'34.8"N 75°09'50.1"W; 2677 m a.s.l.; 30 Apr 2011; *leg.* Gómez-Montoya, N. 5 (HUA 183218) (Gómez-Montoya et al. 2022).

**Family Pleurotaceae*****Hohenbuehelia espeletiae* Singer, 1989**

**Distribution:** Colombia, Tolima, Municipality of Santa Isabel, Valle del río Totarito, margen izquierda de la Quebrada Africa, on *Espeletia hartwegiana* Sch. Bip. ex Wedd. in alpine zone; 3900 m a.s.l.; 06 Feb 1980; *leg.* Boekhout 589 (MEDEL); *Ibid.*, Boekhout 593a (F) (Singer 1989).

***Hohenbuehelia phalligera* (Mont.) Singer, 1951**

**Distribution:** Colombia, Tolima, Municipality of Cajamarca, km 28 road to Calarcá; 11 Apr 1968; *leg.* Singer. R. Singer B6038 (F). (Gómez-Montoya et al. 2022).

**Family Psathyrellaceae*****Coprinellus disseminatus* (Pers.) J.E. Lange, 1938**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Canaán, Hacienda Canaán; 4°47'41.2"N 75°09'50.1"W; 2540 m a.s.l.; 22 Nov 2005; *leg.* Franco-Molano, A.E. 1821 (HUA 161806) (Gómez-Montoya et al. 2022).

### ***Coprinellus micaceus* (Bull.) Vilgalys, Hopple & Jacq. Johnson, 2001**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Sabanalarga, sector sabanaverde; 4°53'21.4"N 75°11'7.5"W; 3000 to 3100 m a.s.l.; 07 Nov 2006; *leg.* Suárez, A. 2 (HUA 165720) (Gómez-Montoya et al. 2022).

### ***Coprinopsis atramentaria* (Bull.) Redhead, Vilgalys & Moncalvo, 2001**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Requentaderos, Las Novillas; 3200 m a.s.l.; 23 May 2007; *leg.* Álvarez, S. 4 (HUA 166073 as *Cropinus atramentarius*) (Gómez-Montoya et al. 2022).

### ***Panaeolus antillarum* (Fr.) Dennis, 1961**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Pajonales, sector La Albania; 4°52'23.6"N 75°08'33.7"W; 2681 m a.s.l.; 20 Apr 2010; *leg.* Villegas, F. 1 (HUA 182981) (Gómez-Montoya et al. 2022).

### ***Panaeolus papilionaceus* (Bull.) Quél., 1872**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Sabanalarga; 4°53'21.4"N 75°11'7.5"W; 3000 to 3100 m a.s.l.; 11 Nov 2012; *leg.* Isaza-Jaramillo, L. 2 (HUA 184951) (Gómez-Montoya et al. 2022).

### ***Panaeolus semiovatus* (Sowerby) S. Lundell & Nannf., 1938**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Sabanalarga; 4°53'21.4"N 75°11'7.5"W; 3000 to 3100 m a.s.l.; 11 Nov 2012; *leg.* Hoyos, L. 2 (HUA 184976) (Gómez-Montoya et al. 2022).

## **Family Schizophyllaceae**

### ***Schizophyllum commune* Fr., 1815**

#### **Material**

- a. higherGeography: Colombia; Tolima; Municipality of Ibagué; Combeima river canyon; verbatimElevation: 1900-2450 m; verbatimCoordinates: 4°33'25.8"N 75°19'34.4"W; eventDate: 25 Sep 2019; catalogNumber: LRD 27; collectionCode: FUT; occurrenceID: B5F76501-DFFC-5DCA-B3AD-D020A7CA48A1

**Distribution:** Colombia, Tolima, Municipality of Ibagué, Corregimiento de Toche, Finca Galleguito; 2450 m a.s.l.; 24 May 1996; *leg.* González, L. 35 (HUA 161264) (Gómez-Montoya et al. 2022); *Ibid.*, Combeima river canyon; 4°34'05.7"N 75°19'30.7"W; 1800 m a.s.l.; 18 Feb 2017; *leg.* Zambrano, C., ZF 3 (FUT) (Zambrano-Forero et al. 2021).

## Family Strophariaceae

### *Gymnopilus rugulosus* R. Valenz., Guzmán & J. Castillo, 1981

**Distribution:** Colombia, Tolima, Municipality of Murillo, Bosque El Inciensial; 2600 m a.s.l.; 24 Nov 2005; *leg.* Cardona, J. 12 (HUA 161584) (Gómez-Montoya et al. 2022).

### *Hypholoma fasciculare* (Huds.) P. Kumm., 1871

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Pajonales, sector El Fifi; 11 May 2006; *leg.* Londoño, L. 9 (HUA 165860 as *Hypholoma subviride*) (Gómez-Montoya et al. 2022).

### *Hypholoma lateritium* (Schaeff.) P. Kumm., 1871

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Requentaderos, sector Alto Alegrías; 4°51'35.6"N 75°10'30.1"W; 3062 m a.s.l.; 24 Oct 2011; *leg.* Arbeláez, B. 7 (HUA 182905 as *Hypholoma sublateritium*) (Gómez-Montoya et al. 2022).

### *Psilocybe cubensis* (Earle) Singer, 1948

**Distribution:** Colombia, Tolima, Municipality of Mariquita, Vía Medina; 07 Oct 1975; *leg.* I. Forero s/n (COL) (Pulido 1983).

## Family Tricholomataceae

### *Filoboletus gracilis* (Klotzsch ex Berk.) Singer, 1945

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Pajonales, sector El Inciensial; 2350 m a.s.l.; 18 Apr 2005; *leg.* Congote, L. 10 (HUA) (Gómez-Montoya et al. 2022).

### *Lepista nuda* (Bull.) Cooke, 1871

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Sabanalarga, Alto El Cabro; 4°53'21.4"N 75°11'7.5"W; 3000 to 3100 m a.s.l.; 25 Nov 2005; *leg.* Franco-Molano, A.E. 1823 (HUA 161739) (Gómez-Montoya et al. 2022).

### *Leucopaxillus gentianeus* (Quél.) Kotl., 1966

**Distribution:** Colombia, Tolima, Municipality of Murillo, Road to Libano-Murillo; 2753 m a.s.l.; 12 Nov 2012; *leg.* Isaza-Jaramillo, L. 6 (HUA 184913) (Gómez-Montoya et al. 2022).

***Tricholoma saponaceum* (Fr.) P. Kumm., 1871**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Sector el Infierno; 4°54'0.0"N 75°10'2.4"W; 2891 m a.s.l.; 29 Oct 2010; *leg.* Palacio M. 8, (HUA 183082); *Ibid.*, Municipality of Murillo; 2965 m a.s.l.; 15 May 2015; *leg.* Rodas, N. 6 (HUA199549) (Gómez-Montoya et al. 2022).

**Family Incertae sedis*****Lactocollybia epia* (Berk. & Broome) Pegler, 1986**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Pajonales; 4°47'41.2"N 75°09'50.1"W; *leg.* Giraldo, A. 5 (HUA 140735) (Gómez-Montoya et al. 2022).

***Tricholomopsis aurea* (Beeli) Desjardin & B.A. Perry, 2017**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Pajonales; 2300 m a.s.l.; *leg.* Corredor, A. 7 (HUA 61512) (Gómez-Montoya et al. 2022).

***Trogia papyracea* (Berk. & M.A. Curtis) Corner, 1966**

**Distribution:** Colombia, Municipality of Murillo, Vereda Pajonales, Sector Fifí-La Albania; 4°52'20"N 75°08'34"W; 2673 m a.s.l.; 12 Nov 2012; *leg.* Ramírez, J.E. 3 (HUA); *Ibid.*, 4°52'34.8"N 75°08'42"W; 2677 m a.s.l.; 30 Apr 2011; *leg.* Urrea, S. 30 (HUA 183225). (Gómez-Montoya et al. 2022).

**Order Auriculariales****Family Auriculariaceae*****Auricularia auricula-judae* (Bull.) Quél., 1886**

**Distribution:** Colombia, Tolima, Municipality of Murillo; 20 Apr 2004; *leg.* Montoya, A.F. 1 (HUA 165551) (Gómez-Montoya et al. 2022).

***Auricularia delicata* (Mont. ex Fr.) Henn., 1893**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Canaán, Hacienda Canaán; 4°47'41.2"N 75°09'50.1"W; 2540 m a.s.l.; 22 Nov 2005; *leg.* Franco-Molano, A.E. 1813 (HUA 161222) (Gómez-Montoya et al. 2022).

***Auricularia fuscosuccinea* (Mont.) Henn., 1893****Materials**

- a. higherGeography: Colombia; Tolima; Municipality of Ibagué; Combeima rivercanyon; verbatimElevation: 1900 m; verbatimCoordinates: 4°33'25.8"N 75°19'34.4"W; eventDate: 25 Sep 2019; catalogNumber: LRD36; institutionCode: FUT; occurrenceID: E561A196-3B8D-5302-BBC5-FD71DFBC2627
- b. higherGeography: Colombia; Tolima; Municipality of Ibagué; Universidad del Tolima; verbatimElevation: 1150 m; verbatimCoordinates: 4°25'37.7"N 75°12'50.8"W; eventDate: 22 Sep2019; catalogNumber: LRD46; institutionCode: FUT; occurrenceID: 13FD54B1-8117-5FBC-A133-422DACA66630

**Diagnosis:** Basidiome pileate to substipitate, gelatinous, grey to reddish-brown, hairy surface, abhymenial hairs of 35–87 µm, with medullary layer closer to the abhymenium (Fig. 1C). Hymenophore smooth to plicate. Generative hyphae with clamps, hymenium with crystals. Basidiospores cylindrical, hyaline, thin-walled and smooth, 13.9 × 5.3 µm.

**Notes:** It is a saprotrophic species growing on decaying wood. It is used to treat medical disorders and as a food (Niño et al. 2017). Morphologically, this species differs from others of the genus by the presence and position of the medullary layer, as well as the size of the basidiospores. The species has been recorded in Antioquia, Amazonas, Boyacá, Caquetá, Cauca, Chocó, Cundinamarca, Norte de Santander, Quindío and Valle del Cauca. This is the first record of the species for Tolima.

**Family Exidiaceae*****Protomerulius caryae* (Schwein.) Ryvarden, 1991****Material**

- a. higherGeography: Colombia; Tolima; Municipality of Ibagué; Combeima river canyon; verbatimElevation: 2350 m; verbatimCoordinates: 4°34'43.2"N 75°19'28.4"W; eventDate: 25 Sep 2019; catalogNumber: LRD117; collectionCode: FUT; occurrenceID: 53038C13-5158-5E75-BDF7-789BD645AEE8

**Diagnosis:** Basidiome annual, resupinate and effused, soft when fresh, up to 1 mm thick (Fig. 1D). Margin narrow to absent, white to pale brownish. Pore surface reddish-white. Pores angular 4–6 per mm. Hyphal system dimitic; generative hyphae, thin-walled, hyaline, with clamps, 1.9–2 µm in diam., skeletal hyphae dominating in the trama, thick-walled, 2.8–4.3 µm in diam. Basidia longitudinally septate. Basidiospores allantoid to cylindrical, hyaline, smooth, thin-walled, negative in Melzer's Reagent, 4.8–5.8 × 2–2.9 µm.

**Notes:** The septate basidia and the size of the spores make the species distinct. This is the first record of the species for Tolima.

## Order Boletales

### Family Boletaceae

#### ***Boletus pseudorubinellus* A.H. Sm. & Thiers, 1971**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Canaán, Hacienda Canaán; 4°47'41.2"N 75°09'50.1"W; 2540 m a.s.l.; 22 Nov 2005; *leg.* Franco-Molano, A.E. 1811 (HUA 161958) (Peña-Venegas and Vasco-Palacios 2019).

#### ***Leccinellum rugosiceps* (Peck) C. Hahn, 2020**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Pajonales, sector El Fifi; 4°52'30.3"N 75°08'45.4"W; 11 May 2006; *leg.* Bedoya, A. 13 (HUA 165862) (Vasco-Palacios and Franco-Molano 2012).

#### ***Phylloporus fibulatus* Singer, Ovrebo & Halling, 1990**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Pajonales, La Albania; 4°52'30.3"N 75°08'45.4"W; 2891 m a.s.l.; 22 Aug 2011; *leg.* Durán, L. 2 (HUA 182876); *ibid.*, Sector el Infierno; 4°52'49.7"N 75°09'56.7"W; 2957 m a.s.l.; 06 Nov 2006; *leg.* Rendón, Y. 3 (HUA 165734) (Gómez-Montoya et al. 2022).

#### ***Phylloporus phaeoxanthus* Singer & L.D. Gómez, 1984**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Pajonales, sector La Albania; 4°52'23.6"N 75°08'33.7"W; 2681 m a.s.l.; 20 Apr 2010; *leg.* Urrea, S. 2 (HUA 182963) (Gómez-Montoya et al. 2022).

#### ***Tylopilus obscurus* Halling, 1989**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Sector el Infierno; 4°52'49.7"N 75°09'56"W; 2957 m a.s.l.; 11 Jun 2006; *leg.* Restrepo, J. 2 (HUA 165684), *Ibid.*, Vereda Alto Alegrías, sector Castrillón; 05 Jan 2011; *leg.* Gómez-Montoya, 08 (HUA 183174) (Gómez-Montoya et al. 2022).

#### ***Rugiboletus andinus* (Halling) Halling & B. Ortiz, 2020**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Pajonales, Finca La Alaska; 2675 m a.s.l.; 08 Nov 2006; *leg.* Restrepo, J., 07 (HUA 166085 as *Leccinum andinum* Halling); *Ibid.*, Vereda Alto Alegrías, sector Castrillón; 3050 m a.s.l.; 11 Jan 2010; *leg.* Carmona, M.J. (HUA 183228 as *Leccinum andinum* Halling) (Gómez-Montoya et al. 2022).



***Xerocomellus chrysenteron* (Bull.) Šutara, 2008**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Sector el Infierno; 4°52'44.3"N 75°10'2.0"W; 2965 m a.s.l.; 31 Oct 2016; *leg.* S.C. 2 (HUA 207786); *Ibid.*, Vereda Requentaderos; 2950 m a.s.l.; 28 Apr 2014; *leg.* Tuberquia, J. 6 (HUA 195033 as *Boletus chrysenteron*) (Gómez-Montoya et al. 2022).

**Family Boletinellaceae*****Boletinellus exiguus* (Singer & Digilio) Watling, 1997**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Pajonales, Finca Alaska; 4°52'24.8"N 75°08'25.8"W; 2675 m a.s.l.; 08 Nov 2006; *leg.* Prada, P. 8 (HUA 165742); *Ibid.*, Sector El Inciensal; 2350 m a.s.l.; 18 Apr 2005; *leg.* Palacio, J. 3 (HUA166016) (Gómez-Montoya et al. 2022).

**Family Suillaceae*****Suillus luteus* (L.) Roussel, 1796**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Pajonales, *sector* Fifi – La Albania; 4°52'0.0"N 75°08'0.0"W; 2640 m a.s.l.; 31 Oct 2010; *leg.* Lopera, E. 4 (HUA 183197); *Ibid.*, Finca Alaska; 4°52'24.8"N 75°08'25.8"W; 2695 m a.s.l.; 08 Nov 2006; *leg.* Gajowsha, A. 6 (HUA 165718) (Gómez-Montoya et al. 2022).

**Order Cantharellales****Family Hydnaceae*****Craterellus boyacensis* Singer, 1963**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Pajonales, *sector* La Albania; 4°52'50.2"N 75°10'24"W; 2891 m a.s.l.; 20 Apr 2010; *leg.* Betancur, M. 138 (HUA 203814) (Gómez-Montoya et al. 2022).

***Craterellus cornucopioides* (L.) Pers., 1825**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Pajonales, *sector* El Fifi; 2300 m a.s.l.; 11 May 2006; *leg.* Gil, M. 9 (HUA 165900) (Gómez-Montoya et al. 2022).

***Hydnum repandum* L., 1753**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Pajonales, sector El Fifi; 2300 m a.s.l.; 11 May 2006; *leg.* Gil, M. 9 (HUA 165900) (Gómez-Montoya et al. 2022).

**Order Dacrymycetales****Family Dacrymycetaceae*****Dacryopinax spathularia* (Schwein.) G.W. Martin, 1948****Material**

- a. **higherGeography:** Colombia; Tolima; Municipality of Espinal; Chicoral; **verbatimElevation:** 390 m; **verbatimCoordinates:** 4°11'56.8"N 74°59'18.1"W; **eventDate:** 22 Jun 2022; **catalogNumber:** PXVB 10; **collectionCode:** FUT; **occurrenceID:** D45FEA09-688E-5C12-A7FB-A077251F1BB0

**Diagnosis:** Basidiome scattered or gregarious, up to 15 mm high, pileus gelatinous, cartilaginous, spathulate, yellow to orange (Fig. 1E). Stipe cylindrical, eccentric, whitish-orange with white base when dry. Margin cylindrical to spathulate-flabelliform, lobed. Hymenophore smooth to sulcate. Hyphae branched, thin-walled, simple-septate, pale yellow. Probasidia of 18.1–21.9 × 3.4–3.9 µm, cylindrical to subclavate, hyaline. Metabasidia bifurcated, 33.2–36.2 × 2.9–3.3 µm. Basidiospores oblong to subcylindrical, hyaline, 8.1–9.5 × 3.8–4.2 µm. Conidia globose to ellipsoid, hyaline, 5.8–6.6 × 3.0–3.2 µm.

**Notes:** The species is generally considered widespread. This is the first record of the species for Tolima.

**Order Gloeophyllales****Family Gloeophyllaceae*****Gloeophyllum striatum* (Fr.) Murrill, 1905**

**Distribution:** Colombia, Tolima, Municipality of Honda; *leg.* F. W. Pennell s.n. (NY 01964455) (Gómez-Montoya et al. 2022).

## Order Hymenochaetales

### Family Hymenochaetaceae

#### *Coltricia cinnamomea* (Jacq.) Murrill, 1904

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Pajonales, Bosque El Roble; 2600 m a.s.l.; 09 May 2006; *leg.* García, D. 12 (HUA 165878) (Gómez-Montoya et al. 2022).

#### *Fuscoporia gilva* (Schwein.) T. Wagner & M. Fisch., 2002

**Distribution:** Colombia, Tolima, Municipality of Ibagué, Combeima river canyon; 4°33'25.8"N 75°19'34.4"W; 1900 m a.s.l.; 25 Sep 2017; *leg.* Davila, L.R., LRD28 (FUT) (Dávila Giraldo et al. 2018).

#### *Hymenochaete iodina* (Mont.) Baltazar & Gibertoni, 2012

**Distribution:** Colombia, Tolima, Municipality of Honda; *leg.* F. W. Pennell s.n. (NY) (Gómez-Montoya et al. 2022).

#### *Phylloporia chrysites* (Berk.) Ryvarden, 1972

##### Material

- a. **higherGeography:** Colombia; Tolima; Municipality of Ibagué; JBSJ; **verbatimElevation:** 1200 m; **verbatimCoordinates:** 4°27'6.7"N 75°13'19.8" W; **eventDate:** 22 Sep 2019; **catalogNumber:** LRD13; **collectionCode:** FUT; **occurrenceID:** A130769F-A063-5CE9-87E7-25D429A3798E

**Diagnosis:** Basidiome annual, pileate or imbricate, semicircular, widely attached, pilear surface velutinous, yellowish-brown to rusty brown, mostly azonate (Fig. 2A). Margin acute. Context with a dark line. Poroid surface yellowish to dark cinnamon brown. Pores round to angular, 8–9 per mm. Tubes not stratified, but a bright yellow line between the tubes and the context. Hyphal structure monomitic, generative hyphae simple septate, yellowish to rusty brown. Basidia clavate, with four sterigmata. Basidiospores ellipsoid; pale yellowish brown, thick-walled, smooth, 2.9–3.2 × 1.7–1.8 µm.

**Notes:** The species is characterised by tiny pores and a fairly soft basidiocarp. This species is widespread in the Tropics and subtropical America (southern United States, Cuba, Jamaica, Venezuela and Brazil) and Asia (West Indies, Indonesia and Philippines). This is the first record of the species for Colombia.

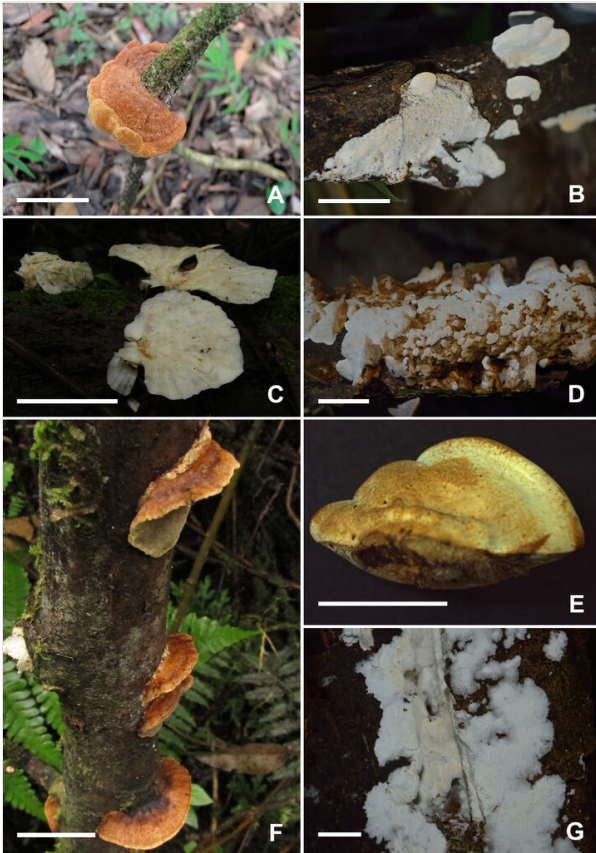


Figure 2. [doi](#)

Fresh basidiomata of species as new records for Colombia. **A** Basidiomata of *Phylloporia chrysites* (LRD 12); **B** Basidiomata of *Antrodiella multipileata* (LRD 129); **C** Basidiomata of *Flabellophora parva* (ZF 54); **D** Basidiomata of *Perenniporiella micropora* (LRD 126). **E** Basidiomata of *Perenniporia ochroleuca* (ZF 51); **F** Basidiomata of *Trametes cingulata* (LRD 119); **G** Basidiomata of *Dentipellicula guyanensis* (ZF 48). Scale bars A, B, C, F = 5 cm; Scale bars D, E, G = 1 cm. Photos by: Cristian Zambrano (C, E, F); Lina Dávila (A); Paula Villanueva (B, D, G).

## Family Rickenellaceae

### *Cotylidia aurantiaca* (Pat.) A.L. Welden, 1958

#### Material

- a. higherGeography: Colombia; Tolima; Municipality of Libano; Santa Librada Reserve; verbatimElevation: 1100 m; verbatimCoordinates: 4°52'48.4"N 75°01'17.4"W; eventDate: 29 Sep 2019; catalogNumber: LRD138; collectionCode: FUT; occurrenceID: 72A354FF-D337-5992-A346-C21AC7128295

**Diagnosis:** Basidiome stipitate, spathulate, solitary or gregarious (Fig. 1F). Pilear surface velutinous, greyish-yellow, with a lighter area towards the margin. Margin usually fimbriate. Hymenophore smooth, yellow in fresh specimens, but frequently discolouring to yellow-ochre on drying. Stipe variable in size. Hyphal structure monomitic, with generative hyphae simple septate. Cystidia cylindrical to clavate, with slightly thickened walls, 6.4–14.4 µm wide and up to 48 µm long. Basidia with four sterigmata. Basidiospores elliptical, hyaline, thin-walled, 6–7.2 × 2.8–4 µm

**Notes:** Common species in the Neotropics occurring in large numbers on dead wood or in the soil. This is the first record of the species for Tolima.

## Order Phallales

### Family Phallaceae

#### *Clathrus archeri* (Berk.) Dring, 1980

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Pajonales, sector El Fifi; 3000 m a.s.l.; 20 Mar 2004; *leg.* Corrales-Osorio, A. 225 (HUA 142369) (Gómez-Montoya et al. 2022).

## Order Polyporales

### Family Fomitopsidaceae

#### *Ranadivia modesta* (Kunze ex Fr.) Zmitr., 2018

**Distribution:** Colombia, Tolima, Municipality of Honda; *leg.* Kopf S.N (TAAM 098215) (Gómez-Montoya et al. 2022).

### Family Irpicaceae

#### *Gloeoporus thelephoroides* (Hook.) G. Cunn., 1965

##### Material

- a. higherGeography: Colombia; Tolima; Municipality of Libano; Santa Librada Reserve; verbatimElevation: 1100 m; verbatimCoordinates: 4°52'48.4"N 75°01'17.4"W; eventDate: 29 Sep 2019; catalogNumber: LRD 130; collectionCode: FUT; occurrenceID: 61A2FCE6-4928-5988-8B6B-5D3F2CAF22AA

**Diagnosis:** Basidiome annual, pileate, solitary to partly imbricate. Pileus tomentose, light yellow, flat evenly to radially tomentose, white (Fig. 1G and 6). Margin acute and very thin. Pore surface cream to pinkish. Pores round to angular, irregular, 5–7 per mm.

Context white, separate from the pore layer with a darker gelatinised zone. Hyphal structure monomitic, generative hyphae with simple septa. Basidiospores allantoid, hyaline, smooth, thin-walled, negative in Melzer's Reagent,  $3.2\text{--}4 \times 0.9\text{--}1.2 \mu\text{m}$ .

**Notes:** This species is separated from other species in the genus by the white to pinkish hymenophore and microscopically, by the simple septate generative hyphae. This is the first record of the species for Tolima.

### *Irpex rosettiformis* C.C. Chen & Sheng H. Wu, 2021

#### Materials

- a. higherGeography: Colombia; Tolima; Municipality of Ibagué; JBSJ; verbatimElevation: 1200 m; verbatimCoordinates: 4°27'06.7"N 75°13'19.8"W; eventDate: 22 Sep 2019; catalogNumber: ZF40; collectionCode: FUT; occurrenceID: D7565C6B-44E9-54B2-B6FF-52938A0B1E71
- b. higherGeography: Colombia; Tolima; Municipality of Libano; main park; verbatimElevation: 1580 m; verbatimCoordinates: 4°55'21.9"N 75°03'53.6"W; eventDate: 29 Sep 2019; catalogNumber: LRD145; collectionCode: FUT; occurrenceID: A317F480-433B-5DC4-B221-DE91DDFA20D6

**Diagnosis:** Basidiome pileate, yellowish-white, irregular, as rosettes, upper surface velutinate, with small stipe (Fig. 1H). Pore surface papillate. Hyphal structure monomitic, with generative hyphae with simple septa. Basidiospores ellipsoid to subglobose, hyaline, thin-walled,  $4.1\text{--}4.7 \times 3.0\text{--}3.6 \mu\text{m}$ .

**Notes:** This species is recognised for having irregular and incised basidiomes, in addition to having generative hyphae with simple septa, subglobose basidiospores and the absence of cystidia. This is the first record of the species for Tolima.

## Family Meripilaceae

### *Physisporinus lineatus* (Pers.) F. Wu, Jia J. Chen & Y.C. Dai, 2017

#### Materials

- a. higherGeography: Colombia; Tolima; Municipality of Ibagué; JBSJ; verbatimElevation: 1200 m; verbatimCoordinates: 4°27'6.7"N 75°13'19.8"W; eventDate: 22 Sep 2019; catalogNumber: ZF 35; collectionCode: FUT; occurrenceID: 46DD198D-1ABA-51E5-A065-72275E28FD2B
- b. higherGeography: Colombia; Tolima; Municipality of Ibagué; JBSJ; verbatimElevation: 1200 m; verbatimCoordinates: 4°27'6.7"N 75°13'19.6"W; eventDate: 22 Sep 2019; catalogNumber: ZF 36; collectionCode: FUT; occurrenceID: F35A5B0D-B5AC-5BDD-A6DD-458BC8B1EF33
- c. higherGeography: Colombia; Tolima; Municipality of Ibagué; JBSJ; verbatimElevation: 1200 m; verbatimCoordinates: 4°27'6.7"N 75°13'20.1"W; eventDate: 22 Sep 2019; catalogNumber: ZF 46; collectionCode: FUT; occurrenceID: 9A429A0E-3DF7-5CD7-AFFA-07B6975F0424

**Diagnosis:** Basidiome pileate, in some cases resupinate, solitary to imbricate, sessile (Fig. 11). Pileus concentrically zonate-sulcate, pale orange to reddish-brown and velutinate. Pore surface bright orange to greyish-brown. Pores round to angular, 6–13 per mm. Hyphal structure monomitic; generative hyphae with simple septa, moderately branched, thin to thick-walled, sometimes similar to skeletal hyphae, but with simple septa. Cystidia rare and encrusted. Cystidioles pointed and abundant. Basidiospores subglobose to globose, hyaline, smooth, negative in Melzer's Reagent,  $3.9\text{--}6.2 \times 3.6\text{--}5.5 \mu\text{m}$ .

**Notes:** The species is distinguished from similar species as *Rigidoporus microporus* by the presence of cystidia. This is the first record of the species for Tolima.

### *Rigidoporus microporus* (Sw.) Overeem, 1924

#### Materials

- a. higherGeography: Colombia; Tolima; Municipality of Libano; Santa Librada Reserve; verbatimElevation: 1100 m; verbatimCoordinates: 4°52'48.4"N 75°01'17.4"W; eventDate: 29 Sep 2019; catalogNumber: LRD 139; collectionCode: FUT; occurrenceID: 64903204-8A99-5AC0-BF54-E360FA7EE237
- b. higherGeography: Colombia; Tolima; Municipality of Libano; Santa Librada Reserve; verbatimElevation: 1100 m; verbatimCoordinates: 4°52'48.3"N 75°01'17.4"W; eventDate: 29 Sep 2019; catalogNumber: LRD 137; collectionCode: FUT; occurrenceID: E25B4BB5-7569-52DD-8BF7-A4C125D0273B

**Diagnosis:** Basidiome pileate, broadly attached, growing in clusters (Fig. 3A). Pileus upper surface first reddish-orange to reddish-brown and velutinate. Pore surface first bright orange to yellowish-brown. Pores angular, 8–11 per mm. Hyphal structure monomitic; generative hyphae with simple septa, thick-walled. Cystidioles present only in one of the examined specimens. Basidiospores subglobose, hyaline, thin-walled, negative in Melzer's Reagent,  $3.7\text{--}5 \times 3\text{--}4.8 \mu\text{m}$ .

**Notes:** Species very similar to *P. lineatus*, separated by the absence of cystidia. This is the first record of the species for the Department of Tolima.

### *Rigidoporus vinctus* (Berk.) Ryvarden, 1972

#### Material

- a. higherGeography: Colombia; Tolima; Municipality of Libano; Santa Librada Reserve; verbatimElevation: 1100 m; verbatimCoordinates: 4°52'48.4"N 75°01'17.4"W; eventDate: 29 Sep 2019; catalogNumber: LRD144; collectionCode: FUT; occurrenceID: A18D8802-5CED-5FC5-B6A8-7E0E62FFE1B4

**Diagnosis:** Basidiome resupinate (Fig. 3B). Pore surface greyish-orange when dry. Pores round 7–8 per mm, pore layer stratified. Hyphal structure monomitic; generative hyphae with simple septa, hyaline and thin-walled to thick-walled. Cystidia present,

ventricose, 15.0-20.4 x 7.8-10.2  $\mu\text{m}$ . Basidiospores subglobose, hyaline, thin-walled, negative in Melzer's Reagent, 3.2–3.9 x 2.8–3.4  $\mu\text{m}$ .

**Notes:** This species is recognised by the resupinate basidiocarp and the presence of cystidia. This is the first record of the species for Tolima.

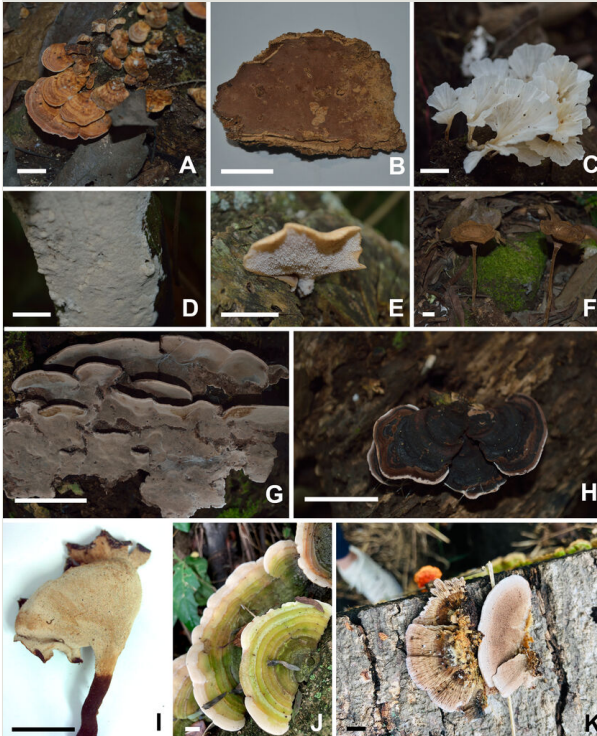


Figure 3. [doi](#)

Fresh basidiomata of species as new records for the Department of Tolima. **A** Basidiomata of *Rigidoporus microporus* (LRD 137); **B** Basidiomata of *Rigidoporus vinctus* (LRD 144); **C** Basidiomata of *Podoscypha venustula* (ZF 29); **D** Basidiomata of *Diplomitoporus hondurensis* (ZF 38); **E** Basidiomata of *Echinochaete brachypora* (ZF 39); **F** Basidiomata of *Lentinus velutinus* (LRD 136); **G-H** Basidiomata of *Nigroporus vinosus* (LRD 125); **I** Basidiomata of *Polyporus dictyopus* (LRD 9); **J** Basidiomata of *Trametes maxima* (PXVB 21); **K** Basidiomata of *Trichaptum sector* (PXVB 7). Scale bars = 1 cm. Photos by: Lina Dávila (I); Ana María Dávila (B); Paula Villanueva (A, C, D, E, F, G, H, J, K)

## Family Panaceae

### *Panus neostrigosus* Drechsler-Santos & Wartchow, 2012

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Pajonales; 4°52'30"N 75°08'26"W 2685 m a.s.l.; 12 Nov 2012 /eg. Gómez, L. 4 (HUA 184942) (Gómez-Montoya et al. 2022).



## Family Podoscyphaceae

### *Podoscypha venustula* (Speg.) D.A. Reid, 1965

#### Materials

- a. higherGeography: Colombia; Tolima; Municipality of Ibagué; JBSJ; verbatimElevation: 1200 m; verbatimCoordinates: 4°27'6.7"N 75°13'19.8"W; eventDate: 22 Sep 2019; catalogNumber: ZF 29; collectionCode: FUT; occurrenceID: AAD74A65-8661-5C4E-AD73-11447ADC2D4C
- b. higherGeography: Colombia; Tolima; Municipality of Ibagué; JBSJ; verbatimElevation: 1200 m; verbatimCoordinates: 4°27'6.7"N 75°13'19.7"W; eventDate: 22 Sep 2019; catalogNumber: ZF 30; collectionCode: FUT; occurrenceID: FC0B825D-EB44-534D-82B3-5BC0B046AFF6

**Diagnosis:** Basidiomes gregarious, infundibuliform to flabelliform; upper surface glabrous, pale yellow when fresh, darker at the base, yellowish-brown when dry, with concentric and darker circles at the base (Fig. 3C and 7). Stipe short and hirsute. Hymenophoral surface smooth, ochraceous buff. Hyphal structure dimitic, generative hyphae hyaline, branched, with clamps; skeletal hyphae thick-walled, unbranched, 2.4–4.2  $\mu\text{m}$  wide. Gloecystidia abundant, undulant, thin-walled, with highly refractive contents, 34–78  $\times$  6.8–8.6  $\mu\text{m}$ . Pileocystidia subcylindrical, with strongly thickened walls, up to 64  $\mu\text{m}$  long and 110  $\mu\text{m}$  wide. Basidiospores broadly ellipsoid, hyaline, thin-walled, negative in Melzer's Reagent, 3.5–4.6  $\times$  3–4  $\mu\text{m}$ .

**Notes:** The size and shape of the spores, as well as the colour change from whitish to dark rusty brown are characteristic of this species. It is known from South America. This is the first record of the species for Tolima.

## Family Polyporaceae

### *Cerrena hydnoides* (Sw.) Zmitr., 2001

**Distribution:** Colombia, Tolima, Municipality of Honda; *leg.* F. W. Pennell s.n. (NY) (Gómez-Montoya et al. 2022).

### *Earliella scabrosa* (Pers.) Gilb. & Ryvarden, 1985

#### Material

- a. higherGeography: Colombia; Tolima; Municipality of Libano; Santa Librada Reserve; verbatimElevation: 1100 m; verbatimCoordinates: 4°52'48.4"N 75°01'17.4"W; eventDate: 29 Sep 2019; catalogNumber: LRD127; collectionCode: FUT; occurrenceID: DD960046-3C07-559A-9544-BFB9347ABA0E

**Distribution:** Colombia, Tolima, Municipality of Ibagué, Universidad del Tolima; 4°25'37.7"N 75°12'50.8"W; 1150 m a.s.l.; 19 Jan 2017; *leg.* Zambrano, C. and Dávila, L.R., ZF 1 (FUT) (Zambrano-Forero et al. 2021).

### ***Echinochaete brachypora* (Mont.) Ryvardeen, 1978**

#### **Material**

- a. higherGeography: Colombia; Tolima; Municipality of Ibagué; JBSJ; verbatimElevation: 1200 m; verbatimCoordinates: 4°27'6.7"N 75°13'19.8"W; eventDate: 22 Sep 2019; catalogNumber: ZF 39; collectionCode: FUT; occurrenceID: 782AB130-A1F0-5280-8055-8A3B41D169A4

**Diagnosis:** Basidiome stipitate, dimidiate, pale orange, glabrous (Fig. 3E). Pore surface whitish-orange to dark brown. Pores irregular to angular 1–2 per mm. Hyphal structure dimitic, generative hyphae hyaline, thin-walled and clamped, binding hyphae moderately branched, thick-walled. Setoid elements present, thick-walled and common in the hymenium. Basidiospores cylindrical, hyaline, smooth, thin-walled, negative in Melzer's Reagent, 8.9–13.6 × 5.8–8.5 µm.

**Notes:** The dark brown setoid elements are unique for this species. This is the first record of the species for Tolima.

### ***Ganoderma australe* (Fr.) Pat., 1889**

#### **Material**

- a. higherGeography: Colombia; Tolima; Municipality of Ibagué; Universidad del Tolima; verbatimElevation: 1150 m; verbatimCoordinates: 4°25'40.1"N 75°12'49.0"W; eventDate: 23 Sep 2019; catalogNumber: ZF32; collectionCode: FUT; occurrenceID: 9C040B2B-F619-5C6A-8976-E445A2691CDA

**Distribution:** Colombia, Tolima, Municipality of Ibagué, JBSJ; 4°27'06.7"N 75°13'19.8"W; 1200 m a.s.l.; 22 Sep 2017; *leg.* Dávila, L.R, LRD 7 (FUT) (Dávila Giraldo et al. 2018).

### ***Hexagonia glabra* Lév., 1846**

**Distribution:** Colombia, Tolima, Municipality of Ibagué, Universidad del Tolima; 4°25'37.7"N 75°12'50.8"W; 1150 m a.s.l.; 20 Jan 2017; *leg.* Zambrano, C. and Dávila, L.R. ZF 5 (FUT) (Zambrano-Forero et al. 2021).

***Lentinus crinitus* (L.) Fr., 1825****Material**

- a. higherGeography: Colombia; Tolima; Municipality Ibagué; JBSJ; verbatimElevation: 1200 m; verbatimCoordinates: 4°27'06.7"N 75°13'19.8"W; eventDate: 22 Sep 2019; collectionCode: FUT; occurrenceID: 994BC7D6-419C-5FCB-9311-870E6B8962C4

**Distribution:** Colombia, Tolima, Municipality of Honda; *leg.* F. W. Pennell s.n. (NY) (Gómez-Montoya et al. 2022); *ibid.* Municipality of Ibagué, Combeima river canyon; 4°33'25.8"N 75°19'34.4"W; 1900 m a.s.l.; *leg.* Dávila, L.R., LRD 1 (FUT) (Dávila-Giraldo et al. 2020).

***Lentinus velutinus* Fr., 1830****Material**

- a. higherGeography: Colombia; Tolima; Municipality of Libano Santa Librada Reserve; verbatimElevation: 1100 m; verbatimCoordinates: 4°52'48.4"N 75°01'17.4"W; eventDate: 29 Sep 2019; catalogNumber: LRD 136; collectionCode: FUT; occurrenceID: 44A1CB01-B641-5B2F-87FB-745D89BD1AF4

**Diagnosis:** Basidiome stipitate, with stipe central, infundibuliform, cylindrical, dark brown and velutinate (Fig. 3F). Pileus hispid, concolorous with the stipe, lamellae arcuate and ochraceous. Hymenophore lamellate. Hyphal structure dimitic, generative hyphae with clamps, skeletal hyphae thick-walled. Metuloid cystidia present. Basidiospores ellipsoid, 5.2–6.6 × 2.8–4 µm.

**Notes:** The species is recognised by the long slender brown velutinate stipe and equally coloured and velutinate pileus. The species was originally described from Brazil. This is the first record of the species for Tolima.

***Perenniporiella micropora* (Ryvarden) Decock & Ryvarden, 2003****Material**

- a. higherGeography: Colombia; Tolima; Municipality of Libano: Santa Librada Reserve; verbatimElevation: 1100 m; verbatimCoordinates: 4°52'48.4"N 75°01'17.4"W; eventDate: 29 Sep 2019; catalogNumber: LRD126; collectionCode: FUT; occurrenceID: 78269D87-EFAF-535D-BB5D-A609A304A3C1

**Diagnosis:** Basidiomes pileate to effused reflexed (Fig. 2D). Pileus semicircular. Pileus upper surface zonate, brownish-yellow at the margin becoming darker as a thin cuticle starts to develop from the base, glabrous, strongly zonate. Margin acute. Pore surface pale isabelline to cream. Pores round, tiny, 6–9 per mm. Tubes and context wood-coloured. Hyphal structure dimitic, generative hyphae with clamps, thin-walled and hyaline; skeletal hyphae thick-walled, dominating in the tubes and context. Basidiospores globose to subglobose, hyaline, thick-walled, slightly dextrinoid, 4–6.4 × 3.8–6.4 µm.

**Notes:** This species is characterised by having small pores and globose to subglobose basidiospores. It was originally described from Peru (Ryvarden 1987). This is the first record of the species in Colombia.

### *Picipes dictyopus* (Mont.) B.K. Cui, Xing Ji & J.L. Zhou, 2022

#### Material

- a. higherGeography: Colombia; Tolima; Municipality of Ibagué; JBSJ; verbatimElevation: 1200 m; verbatimCoordinates: 4°27'6.7"N 75°13'19.8"W; eventDate: 22 Sep 2019; catalogNumber: LRD 9; collectionCode: FU; occurrenceID: C879AE3C-4604-545F-9A6E-1B55CCB03537

**Diagnosis:** Basidiomes laterally stipitate. Pileus flabelliform, upper surface glabrous, yellowish-brown (Fig. 3I). Pore surface ochraceous. Pores decurrent; tubes and context pale orange. Stipe black. Hyphal structure dimitic; generative hyphae clamped, hyaline; skeleto-binding hyphae yellowish. Basidia clavate, 4-sterigmate. Basidiospores cylindrical, thin-walled, hyaline, smooth, negative in Melzer's Reagent, 5.7-6.1 × 2.4 µm.

**Notes:** This species is characterised by having a laterally stipitate basidiocarp, with a robust and black stipe, an irregular margin and cylindrical basidiospores. It was originally described from the Juan Fernandez Archipelago, near the coast of Chile (Palacio et al. 2017). Currently, the species has a wide global distribution. In Colombia, this is the first record of the species for Tolima.

### *Pycnoporus sanguineus* (L.) Murrill, 1904

#### Material

- a. higherGeography: Colombia; Tolima; Municipality of Ibagué; Universidad del Tolima; verbatimElevation: 1150 m; verbatimCoordinates: 4°25'37.7"N 75°12'50.8" W; eventDate: 23 Sep 2019; catalogNumber: LRD 23; collectionCode: FUT; occurrenceID: 75B9D608-7F02-5643-BE78-9718A91BAD69

**Distribution:** Colombia, Tolima, Municipality of Ibagué, Universidad del Tolima; 4°25'34.89"N 75°12'46.77"W; 1150 m a.s.l.; 1 Jan 2017; *leg.* Davila, L.R., LRD 2 (FUT) (Dávila Giraldo et al. 2018).

### *Tinctoporellus epimiltinus* (Berk. & Broome) Ryvarden, 1979

#### Materials

- a. higherGeography: Colombia; Tolima; Municipality Líbano; Santa Librada Reserve; verbatimElevation: 1100 m; verbatimCoordinates: 4°52'48.4"N 75°01'17.4"W; eventDate: 29 Sep 2019; catalogNumber: LRD 140; collectionCode: FUT; occurrenceID: ACC723C3-985D-5182-A985-CA32F1D134B2

- b. higherGeography: Colombia; Tolima; Municipality Líbano; Santa Librada Reserve; verbatimElevation: 1100 m; verbatimCoordinates: 4°52'48.4"N 75°01'17.5"W; eventDate: 29 Sep 2019; catalogNumber: LRD 141; collectionCode: FUT; occurrenceID: 7FF8A206-953A-553B-9CF2-EA5FFAB90C23

**Distribution:** Colombia, Tolima, Municipality of Ibagué, JBSJ; 1200 m a.s.l.; 19 Feb 2017; *leg.* Zambrano, C. and Dávila, L.R., ZF 4 (FUT) (Zambrano-Forero et al. 2021).

### *Trametes cingulata* Berk., 1854

#### Material

- a. higherGeography: Colombia; Tolima; Municipality of Ibagué; Combeima river canyon; verbatimElevation: 2350 m; verbatimCoordinates: 4°34'43.2"N 75°19'28.4"W; eventDate: 25 Sep 2019; catalogNumber: LRD119; collectionCode: FUT; occurrenceID: 2401D7BF-121E-5EF9-A51E-1C0D04495456

**Diagnosis:** Basidiomes pileate, solitary, effused reflexed; upper surface glabrous, orange, becoming black, spreading from the base, with concentric zones, darkens with KOH; margin whitish and round (Fig. 2F). Pore surface light orange, shiny when turned in incident light, pores round to angular, 4–6 per mm, context concolorous to pore surface. Hyphal system trimitic, generative hyphae clamped, hyaline and thin-walled; skeletal hyphae abundant, yellow and thick-walled, binding hyphae present. Basidiospores ellipsoid, hyaline, smooth, negative in Melzer's Reagent, 4.3–4.8 × 3.4–3.8 µm.

**Notes:** The species is recognised by the sooty black colours on the glabrous, often concentrically sulcate pileus. This is the first record of this species for Colombia.

### *Trametes elegans* (Spreng.) Fr., 1838

**Distribution:** Colombia, Tolima, Municipality of Ibagué, JBAVH; 1150 m a.s.l.; 22 Sep 2017; *leg.* Davila, L.R., LRD29 (FUT) (Dávila Giraldo et al. 2018).

### *Trametes maxima* (Mont.) A. David & Rajchenb., 1985

#### Material

- a. higherGeography: Colombia; Tolima; Municipality of Espinal; Chicoral; verbatimElevation: 390 m; verbatimCoordinates: 4°12'35.6"N 74°58'37.1"W; eventDate: 22 Jun 2022; catalogNumber: PXVB 21; collectionCode: 22 Jun 2022; occurrenceID: E28237E5-DB20-5655-9E83-26DA8E025398

**Diagnosis:** Basidiome pileate, applanate, broadly attached. Pileus upper surface pale tan or dark ochraceous, tomentose to hirsute, with green shades in the basal tomentum because of algal growth (Fig. 3J). Pore surface white to pale yellowish-brown. Pores slightly daedaloid, 1–2 per mm, dissepiments with an irregular hydroid surface. Tubes concolorous with pore surface. Context dense, white to ochraceous, 2–7 mm thick,

separated from the upper distinctly darker and looser upper tomentum by a distinct black zone. Hyphal structure trimitic, generative hyphae clamped, hyaline and thin-walled, skeletal hyphae abundant, hyaline and thick-walled, binding hyphae present. Basidiospores oblong ellipsoid, smooth, hyaline, negative in Melzer's Reagent, 3.9–4.6 × 2.3–2.5 µm.

**Notes:** This species is recognised by the hydroid or incised pore surface and the woolly tomentum under which there is a distinct black zone. In Colombia, this is the first record of the species for Tolima.

### *Trametes variegata* (Berk.) Zmitr., Wasser & Ezhov, 2012

#### Material

- a. higherGeography: Colombia; Tolima; Municipality of Ibagué; JBSJ; verbatimElevation: 1200 m; verbatimCoordinates: 4°27'06.7"N 75°13'19.8"W; eventDate: 22 Sep 2019; catalogNumber: LRD 5; collectionCode: FUT; occurrenceID: 65FB38E0-0A5B-5D1F-86BF-E9864040F55B

**Distribution:** Colombia, Tolima, Municipality Murillo, Sector el Infierno; 4°52'57.8"N 75°10'14.7"W; 2907 m a.s.l.; 20 Nov 2005; *leg.* Corredor, A. 15 (HUA 161439) (Gómez-Montoya et al. 2022).

### *Trametes villosa* (Sw.) Kreisel, 1971

#### Material

- a. higherGeography: Colombia; Tolima; Municipality of Ibagué; JBSJ; verbatimElevation: 1200 m; verbatimCoordinates: 4°27'06.7"N 75°13'19.8"W; eventDate: 22 Sep 2019; catalogNumber: LRD8; collectionCode: FUT; occurrenceID: 68A130F2-5FC3-57B5-A14A-24A46AA38F5C

**Distribution:** Colombia, Tolima, Municipality of Ibagué, *leg.* Chardon & Toro 551 (CU) (Chardón and Toro 1930)

### *Truncospora ochroleuca* (Berk.) Pilát, 1941

#### Material

- a. higherGeography: Colombia; Tolima; Municipality of Ibagué; JBSJ; verbatimElevation: 1200 m; verbatimCoordinates: 4°27'6.7"N 75°13'19.8" W; eventDate: 22 Sep 2019; catalogNumber: ZF 51; collectionCode: FUT; occurrenceID: 5E482CD7-B4AE-5E9A-8164-A33BAF7F3194

**Diagnosis:** Basidiome perennial, solitary or imbricate, sessile, attached by a narrow or broad lateral base. Pileus ungluate, glabrous, upper surface pale yellow, concentrically zonate (Fig. 2E). Margin thick, round, slightly lobed. Pore surface cream. Pores round, 4–6 per mm. Tubes and context dull yellow. Hyphal structure trimitic, generative hyphae thin-walled, hyaline, with clamps, skeletal hyphae hyaline and thick-walled,

binding hyphae hyaline and thick-walled. Basidiospores ellipsoid, truncate at the apex, hyaline to golden, thick-walled and dextrinoid  $10.9\text{--}16.1 \times 6.2\text{--}8.6 \mu\text{m}$ .

**Notes:** The species is characterised by the small, thick, glabrous pilei and large truncate spores. Originally, the species was described from Australia, but currently presents a worldwide distribution. In South America, it has been recorded in Brazil. This is the first record of the species in Colombia.

## Family Steccherinaceae

### *Antrodiella multipileata* Log.-Leite & J.E. Wright, 1991

#### Material

- a. higherGeography: Colombia; Tolima; Municipality of Libano; Santa Librada Reserve; verbatimElevation: 1100 m; verbatimCoordinates:  $4^{\circ}52'48.4''\text{N } 75^{\circ}01'17.4''\text{W}$ ; eventDate: 29 Sep 2019; catalogNumber: LRD 129; collectionCode: FUT; occurrenceID: 87F7969F-86EC-5B04-81F5-50D78E453B5D

**Diagnosis:** Basidiomes annual, effused reflexed to pileate, upper surface pale yellow, zonate (Fig. 2B). Pore surface white to light straw-colored. Pores angular to slightly irregular, 4–5 per mm. Margin poroid to irpicoid. Context thin, concolorous with the tubes. Hyphal structure dimitic, generative hyphae with clamps, hyaline, very difficult to observe, skeletal hyphae hyaline, thick-walled to solid. Presence of abundant crystals. Cystidia and other sterile elements absent. Basidia with four sterigmata. Basidiospores ellipsoid, hyaline, thin-walled,  $3.6\text{--}4.5 \times 2.5\text{--}3.2 \mu\text{m}$ .

**Notes:** This species is characterised by small and whitish basidiomes with large irregular pores and ellipsoid basidiospores, in addition to the hyphal structure of difficult interpretation. The species was described from Brazil (Leite and Wright 1991). This is the first record of the species for Colombia.

### *Flabellophora parva* Corner, 1987

#### Material

- a. higherGeography: Colombia; Tolima; Municipality of Ibagué; JBSJ; verbatimElevation: 1200 m; verbatimCoordinates:  $4^{\circ}27'6.7''\text{N } 75^{\circ}13'19.8''\text{W}$ ; eventDate: 22 Sep 2019; catalogNumber: ZF 54; collectionCode: FUT; occurrenceID: 000BE180-B795-5DB4-8BDC-5B81432018B6

**Diagnosis:** Basidiomes stipitate, solitary. Pileus flabelliform to subreniform, upper surface subpruinose when dry, white to pale yellow, stipe short (Fig. 2C). Stipe short, base subdiscooid. Pore surface white. Pores angular to irregular, 11–14 per mm. Hyphal structure pseudo-dimitic; generative hyphae with clamps, with long segments on the thick-walled hyphae, skeletal hyphae thick-walled; it is difficult to interpret whether it is

a dimitic or monomythic hyphal system. Basidiospores ellipsoid, hyaline, smooth, thin-walled, negative in Melzer's Reagent,  $3.4\text{--}4.1 \times 2.5\text{--}3.2 \mu\text{m}$ .

**Notes:** The superimposed pileate basidiocarp with minute pores, the pileus colour and the size of the spores, were characters used to differentiate this species from others. It has been described from Peru (Corner 1987). This is the first record of the species for Colombia.

### ***Nigroporus vinosus* (Berk.) Murrill, 1905**

#### **Material**

- a. higherGeography: Colombia; Tolima; Municipality of Libano; Santa Librada Reserve; verbatimElevation: 1100 m; verbatimCoordinates:  $4^{\circ}52'48.4''\text{N } 75^{\circ}01'17.4''\text{W}$ ; eventDate: 29 Sep 2019; catalogNumber: LRD125; collectionCode: FUT; occurrenceID: 6D1B7F26-2BCB-5AB3-AA8F-B38923EE2C44

**Diagnosis:** Basidiomes annual, effused-reflexed to pileate with contracted base. Pileus dimidiate to flabelliform, applanate, upper surface velutinate, vinaceous to purplish-brown, azonate (Fig. 3H). Pore surface greyish-brown. Pores circular to irregular, 6–10 per mm (Fig. 3G). Tubes concolorous with the pore surface or slightly greyish. Context dark brown, up to 3 mm thick. Hyphal structure dimitic; generative hyphae with clamps, thin-walled, skeletal hyphae thick-walled. Basidiospores allantoid to cylindrical, smooth, hyaline, negative in Melzer's Reagent,  $2.9\text{--}3.5 \times 1.2\text{--}1.8 \mu\text{m}$ .

**Notes:** The small vinaceous to purple basidiome are characteristic of this species, the allantoid to cylindrical spores separate it from species in *Nigrofomes* Murrill. The species present a Pantropical distribution. This is the first record of the species for Tolima.

### ***Trullella polyporoides* (Ryvarden & Iturr.) Zmitr., 2018**

**Distribution:** Colombia, Tolima, Municipality of Ibagué, JBSJ;  $4^{\circ}27'6.7''\text{N } 75^{\circ}13'19.8''\text{W}$ ; 1200 m a.s.l.; 20 Jan 2017; *Ieg.* Zambrano, C. and Dávila, L.R., ZF2 (FUT) (Zambrano-Forero et al. 2021).

#### **Family Incertae sedis**

### ***Diplomitoporus hondurensis* (Murrill) Ryvarden, 2000**

#### **Material**

- a. higherGeography: Colombia; Tolima; Municipality of Ibagué, JBSJ; verbatimElevation: 1200 m; verbatimCoordinates:  $4^{\circ}27'6.7''\text{N } 75^{\circ}13'19.8''\text{W}$ ; eventDate: 22 Sep 2019; catalogNumber: ZF38; collectionCode: FUT; occurrenceID: CFDB0BA1-59BA-5A77-980A-157CB9B1D659



**Diagnosis:** Basidiomes resupinate, brittle when dry (Fig. 3D). Pore surface white when fresh and pale orange when dry. Pores angular to irregular, 2–4 per mm. Context very thin and white. Hyphal structure dimitic, generative hyphae hyaline, with clamps, skeletal hyphae predominant, thick-walled, hyaline. Dendrohyphidia present, in some cases with apical protuberances. Basidia with four sterigmata. Basidiospores cylindrical, smooth, thin-walled, negative in Melzer's Reagent, 4.6–6.2 × 2.8–3.4 µm.

**Notes:** The species is microscopically separated by the dendrohyphidia and larger basidiospores from similar species. It is distributed in Puerto Rico and Honduras (type locality), but certainly has a wider distribution in the Caribbean (Ryvarden 2000). This is the first record of the species for Tolima.

### *Trichaptum sector* (Ehrenb.) Kreisel, 1971

#### Material

- a. higherGeography: Colombia; Tolima; Municipality of Espinal; Chicoral; verbatimElevation: 390 m; verbatimCoordinates: 4°11'56.9"N 74°59'20.0"W; eventDate: 22 Jun 2022; catalogNumber: PXVB 7; collectionCode: FUT; occurrenceID: 20D42B6F-4E3B-5CD3-9D78-A022F8C1A839

**Diagnosis:** Basidiomes annual, pileate, broadly attached, applanate. Pileus upper surface light brown to yellowish-grey, zonate, appressed velutinate to tomentose (Fig. 3 K). Margin entire then lobed, pale fuscous vinaceous. Pore surface brown, pores angular 3–4 per mm, with irregular edge. Hyphal structure trimitic; generative hyphae with clamps, some rather thick-walled, hyaline; skeletal hyphae thick-walled, yellow, mostly parallel; binding hyphae tortuous. Cystidia clavate, apically encrusted. Hymenial cystidia with thin or slightly thickened walls, subclavate to subventricose, then obtuse apex with a crystal cap. Basidiospores ellipsoid, hyaline, negative in Melzer's Reagent, 4.5–5.9 × 2.2–2.6 µm.

**Notes:** The colouration of the pore surface and the upper surface are characteristic of this species. It is found throughout Mexico and Central America. In Colombia, this collection represents the first record of the species for Tolima.

## Order Russulales

### Family Auriscalpiaceae

#### *Artomyces pyxidatus* (Pers.) Jülich, 1982

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Sabanalarga, sector Sabanaverde; 4°53'21.4"N 75°11'7.5"W; 3000 to 3100 m a.s.l.; 07 Nov 2006; *leg.* Rendón, Y. s.n. (HUA 166022 as *Clavicornia pyxidate* (Pers.) Doty) (Gómez-Montoya et al. 2022).

## Family Hericiaceae

### *Dentipellicula guyanensis* Yuan Yuan, Meng Zhou, Jia J. Chen & Vlasák, 2020

#### Material

- a. higherGeography: Colombia; Tolima; Municipality of Ibagué; JBSJ; verbatimElevation: 1200 m; verbatimCoordinates: 4°27'6.7"N 75°13'19.8"W; eventDate: 22 Sep 2019; catalogNumber: ZF 48; collectionCode: FUT; occurrenceID: 2D99595C-2D51-5A8F-A20D-A99248F94175

**Diagnosis:** Basidiomes resupinate, odontoid (Fig. 2G). Margin white, fimbriate, cottony; spines acute, 2.6-3.4 x 0.2-0.5 mm. Hyphal structure monomitic; generative hyphae with clamps. Gloeopleurous hyphae and gloeocystidia present. Basidiospores broadly ellipsoid, hyaline, minutely roughened, strongly amyloid, 2.8–3.5 × 2.0–2.8 µm.

**Notes:** The species differs from other *Dentipellicula* Y.C. Day & L.W. Zhou species by the shape and size of the spores. This is the first record of the species in Colombia.

## Family Russulaceae

### *Lactarius atroviridis* Peck, 1889

**Distribution:** Colombia, Tolima, Municipality of Murillo, Sector el Infierno, near the sewage treatment plant; 4°52'50"N 75°10'2.4"W; 2891 m a.s.l.; 29 Apr 2011; *leg.* Pimienta, J. 3 (HUA 183184) (Gómez-Montoya et al. 2022).

### *Lactarius camphoratus* (Bull.) Fr., 1838

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Pajonales, sector El Inciensial; 2350 m a.s.l.; 19 Apr 2005; *leg.* Corredor, A. 5 (HUA 161738) (Peña-Venegas and Vasco-Palacios 2019).

### *Lactarius chrysorrhoeus* Fr., 1838

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Pajonales, sector La Albania; 2650 m a.s.l.; 09 May 2006; *leg.* Flórez, C. 9 (HUA 165698) (Gómez-Montoya et al. 2022).

### *Lactarius deceptivus* Peck, 1885

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Pajonales, sector Los Pérez, Protected Area El Roble; 4°52'00"N 75°08'00"W; 25 May 2007; *leg.* Botero, A. 30 (HUA 165685) (Gómez-Montoya et al. 2022).

***Lactarius indigo* (Schwein.) Fr., 1838**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Sector el Infierno, near the sewage treatment plant; 4°52'50"N 75°10'2.4"W; 2891 m a.s.l.; 29 Apr 2011; *leg.* Pérez, G. 9 (HUA 182984) (Gómez-Montoya et al. 2022).

***Russula emetica* (Schaeff.) Pers., 1796**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Pajonales, sector Fifi, La Albania; 4°52'38.6"N 75°07'35.4"W; 2350 to 2640 m a.s.l.; 30 Oct 2010; *leg.* Palacios, M. 5 (HUA 183175) (Gómez-Montoya et al. 2022).

**Family Stereaceae*****Stereum ostrea* (Blume & T. Nees) Fr., 1838**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Pajonales, sector La Albania; 4°52'30.3"N 75°08'45"W; 2659 m a.s.l.; 22 Oct 2011; *leg.* Almanza, E. 3 (HUA 182932) (Gómez-Montoya et al. 2022).

**Order Thelephorales****Family Thelephoraceae*****Tomentella bryophila* (Pers.) M.J. Larsen, 1974**

**Distribution:** Colombia, Tolima, Municipality of Murillo; 2659 m a.s.l.; 10 Nov 2014; *leg.* Urmas Koljalg 12386 (TUF) (Gómez-Montoya et al. 2022).

***Tomentella lateritia* Pat., 1894**

**Distribution:** Colombia, Tolima, Municipality of Murillo; 2964 m a.s.l.; 10 Nov 2014; *leg.* Urmas Koljalg 12355 (TUF) (Gómez-Montoya et al. 2022).

***Tomentella radiosa* (P. Karst.) Rick, 1934**

**Distribution:** Colombia, Tolima, Municipality of Murillo; 2659 m a.s.l.; 10 Nov 2014; *leg.* Urmas Koljalg 12358 (TUF) (Gómez-Montoya et al. 2022).

***Tomentella stuposa* (Link) Stalpers, 1984**

**Distribution:** Colombia, Tolima, Municipality of Murillo; 2659 m a.s.l.; 10 Nov 2014; *leg.* Urmas Koljalg 12361 (TUF) (Gómez-Montoya et al. 2022).

## Order Tremellales

### Family Tremellaceae

#### ***Tremella mesenterica* Retz., 1769**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Pajonales, sector La Albania; 4°52'30.3"N 75°08'45.4"W; 2656 m a.s.l.; 22 Oct 2011; *leg.* Carmona, M. J. 2 (HUA 182881) (Gómez-Montoya et al. 2022).

### Doubtful taxa

#### ***Aleurodiscus disciformis* (DC.) Pat., 1894**

**Distribution:** Colombia, Tolima; (Cossu et al. 2022)

#### ***Calostoma cinnabarinum* Desv., 1809**

**Distribution:** Colombia, Tolima; (Peña-Venegas and Vasco-Palacios 2019).

#### ***Cantharellus lateritius* (Berk.) Singer, 1951**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Pajonales; 4°52'38.6"N 75°07'35.4"W; 2350 m a.s.l.; 24 Nov 2005; *leg.* Pérez, J. 13 (HUA 161239) (Peña-Venegas and Vasco-Palacios 2019, Universidad de Antioquia 2023).

#### ***Chalciporus piperatus* (Bull.) Bataille, 1908**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Sector La Albania; 4°52'00.0"N 75°08'26.0"W; 2685 m a.s.l.; 11 Dec 2012; *leg.* Mosquera, J. 4 (HUA 184972) (Franco-Molano et al. 2010, Universidad de Antioquia 2023)

#### ***Collybia margarita* (Murrill) Singer, 1951**

**Distribution:** Colombia, Tolima; 2100-2350 m a.s.l.; (as *Tricholoma margarita*) (Cossu et al. 2022).

#### ***Conferticium ochraceum* (Fr.) Hallenb., 1980**

**Distribution:** Colombia, Tolima; 3600-3800 m a.s.l. (Cossu et al. 2022).

***Cyanosporus subcaesius* (A. David) B.K. Cui, L.L. Shen & Y.C. Dai, 2018**

**Distribution:** Colombia, Tolima; 2450-3100 m a.s.l. (Cossu et al. 2022).

***Heteroradulum lividofuscum* (Pat.) Spirin & Malysheva, 2017**

**Distribution:** Colombia, Tolima (Cossu et al. 2022).

***Hygrocybe miniata* (Fr.) P. Kumm., 1871**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Sabanalarga, Sector Sabanaverde; 4°53'21"N 75°11'08"W; 3000 to 3100 m a.s.l.; 08 May 2006; *leg.* Flórez, C. 06 (HUA 161147) (Franco-Molano et al. 2010, Universidad de Antioquia 2023).

***Hyphodontia granulosa* (Pers.) Bernicchia, 1988**

**Distribution:** Colombia, Tolima (Cossu et al. 2022).

***Laccaria amethystina* Cooke, 1884**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Sector el Infierno; 4°52'49.7"N 75°09'57.1"W; 2957 m a.s.l.; 16 Nov 2006; *leg.* Prada, P. 2 (HUA 166063) (Peña-Venegas and Vasco-Palacios 2019, Universidad de Antioquia 2023)

***Lentinula boryana* (Berk. & Mont.) Pegler, 1976**

**Distribution:** Murillo, Vereda Pajonales, Finca Alaska; 2675 m a.s.l.; 4°52'48.0"N 75°08'25.8"W; 06 Nov 2006; *leg.* Echeverri, J.D. 9 (HUA 166001) (Franco-Molano et al. 2010, Universidad de Antioquia 2023).

***Lichenomphalia hudsoniana* (H.S. Jenn.) Redhead, Lutzoni, Moncalvo & Vilgalys, 2002**

**Distribution:** Colombia, Tolima; 4150 to 4700 m a.s.l. (Cossu et al. 2022).

***Marasmius cohaerens* (Pers.) Cooke & Quél., 1878**

**Distribution:** Colombia, Tolima, Municipality of Murillo, Sector el Infierno; 4°52'50.0"N 75°10'02.4"W; 2891 m a.s.l.; 05 May 2012; *leg.* Restrepo, E. 2 (HUA 195656) (Franco-Molano et al. 2010, Universidad de Antioquia 2023).

***Mycena alcalina* (Fr.) P. Kumm., 1871**

**Distribution:** Colombia, Tolima (Franco-Molano et al. 2010).

### *Russula cyanoxantha* (Schaeff.) Fr., 1863

**Distribution:** Colombia, Tolima (Peña-Venegas and Vasco-Palacios 2019).

### *Xeromphalina tenuipes* (Schwein.) A.H. Sm., 1953

**Distribution:** Colombia, Tolima, Municipality of Murillo, Vereda Sabanalarga, Área Protegida Vallecitos, Sector Casas Viejas; 4°53'00.0"N 75°11'07.5"W; 3000 to 3100 m a.s.l.; 17 Apr 2015; *leg.* Montoya, J. 2 (HUA 161644) (Gómez-Montoya et al. 2022, Universidad de Antioquia 2023).

### *Xylaria telfairii* (Berk.) Sacc., 1882

**Distribution:** Colombia, Tolima, Municipality of Villarrica, La Colonia; 1560 m a.s.l.; 25 Jan 1944; *leg.* Elbert Little s.n. (GAM) (Cossu et al. 2022, MyCoPortal 2023).

## Analysis

### Taxonomy

We found 18 publications with information on the diversity of macrofungi in Tolima. A total of 193 records of macrofungi corresponding to 164 species were found for the Tolima Department. The species reported here belong to 15 orders (Fig. 4), with Agaricales and Polyporales being the best represented, with 45 and 19%, respectively. The best sampled municipalities are Murillo with 100 species and Ibagué with 28 (Fig. 5).

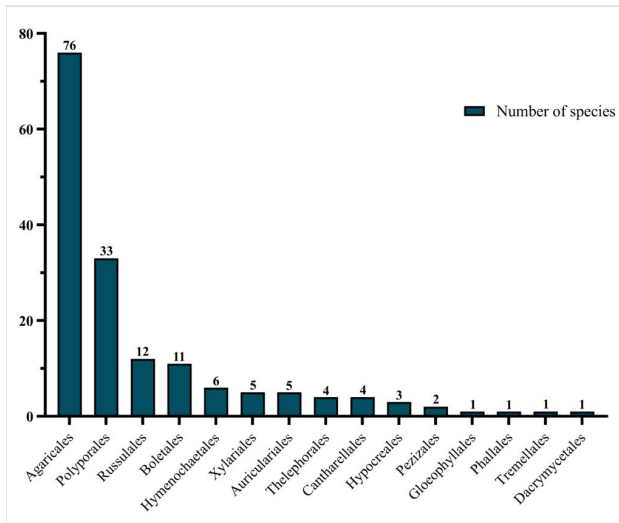


Figure 4. [doi](#)

Number of species in the Department of Tolima for each Order.

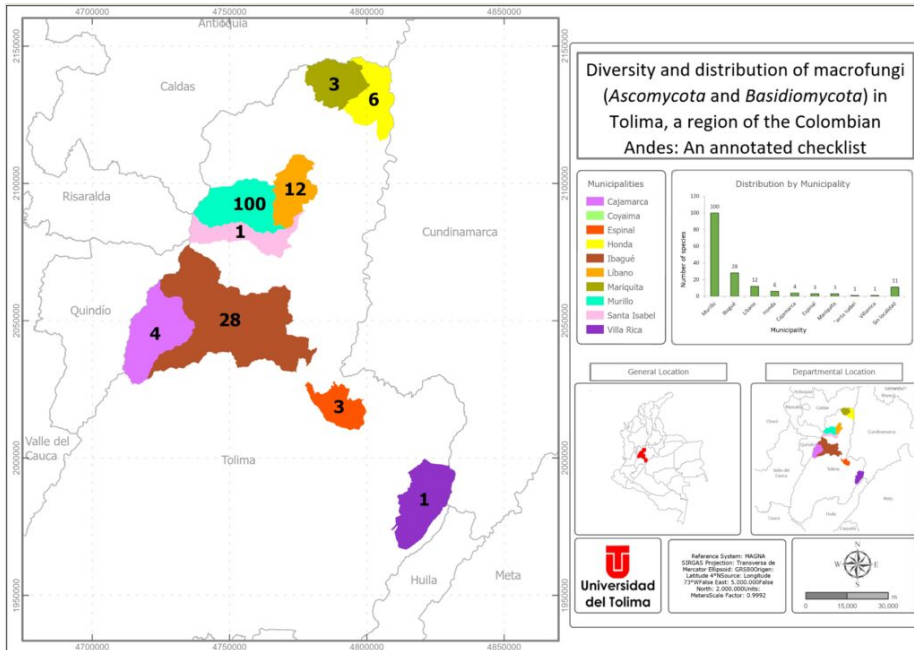


Figure 5. [doi](#)

DDistribution map of macrofungi in the Tolima Department.

In this study, 38 specimens were collected and morphologically identified, which were classified as 19 new reports (Figs 1, 3) for the department of Tolima and seven new reports for Colombia (Fig. 2). In addition, the new reports include a morphological description and comments.

We keep a total of eighteen species under doubtful taxa. There is a group of species that have been recorded in the literature for the Department of Tolima (Franco-Molano et al. 2010, Peña-Venegas and Vasco-Palacios 2019, Cossu et al. 2022, Gómez-Montoya et al. 2022), but no voucher or collection was referenced. We carried out a search for vouchers of these species in the databases of the Herbarium of the Universidad de Antioquia or in the *MyCoPortal*. We did not have access to these specimens to review them morphologically, but we made a reference for future studies that will allow us to establish their presence in Tolima. There is another group of species recorded for the Department classified as doubtful taxa, for which we were not able to find any data regarding a voucher that could be reviewed to confirm their occurrence in the Department. In this case, after the name of the species, we leave only the bibliographical reference that cites the occurrence.

**Phylogenetic inference for *Gloeoporus* species.** For this study, we generated one consensus sequences of ITS (Table 1). In total, the ITS dataset had an aligned length of 1386 characters, of which 1072 were constant, 314 were variable and parsimony-uninformative and 194 were parsimony-informative. The best tree inferred in a Maximum Likelihood framework has a log likelihood = -4064.2346. The best fit models selected were

TIM2+F+R2 for ITS and TN+F+G4 for 28S. The phylogenetic inference (Fig. 6) and the morphological analysis confirmed that the collected specimen corresponds to *Gloeoporus thelephoroides* (Hook.) G. Cunn. (LRD130, BS = 91, SH aIRT = 95).

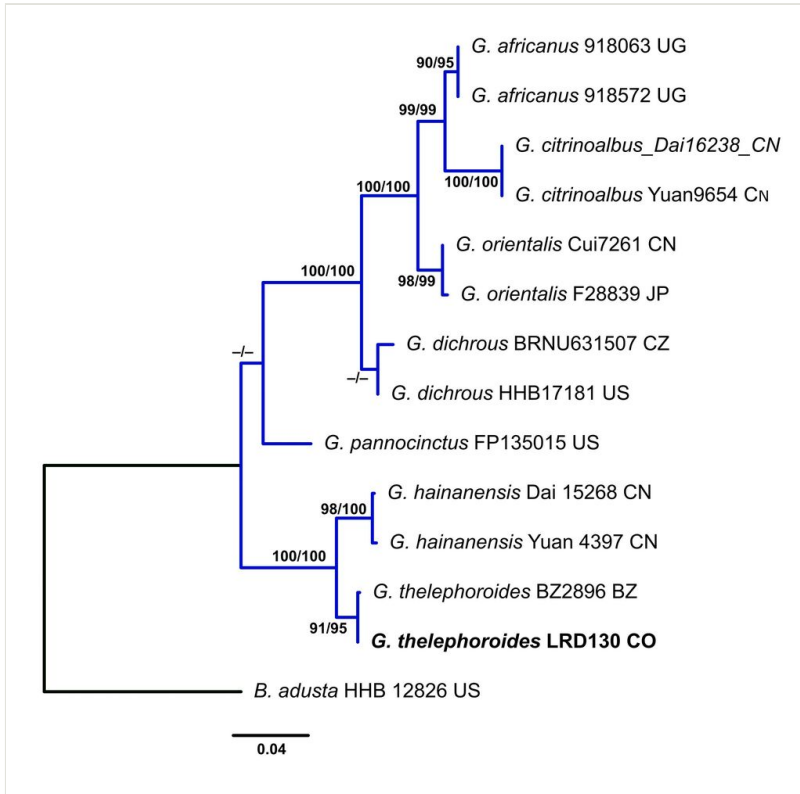
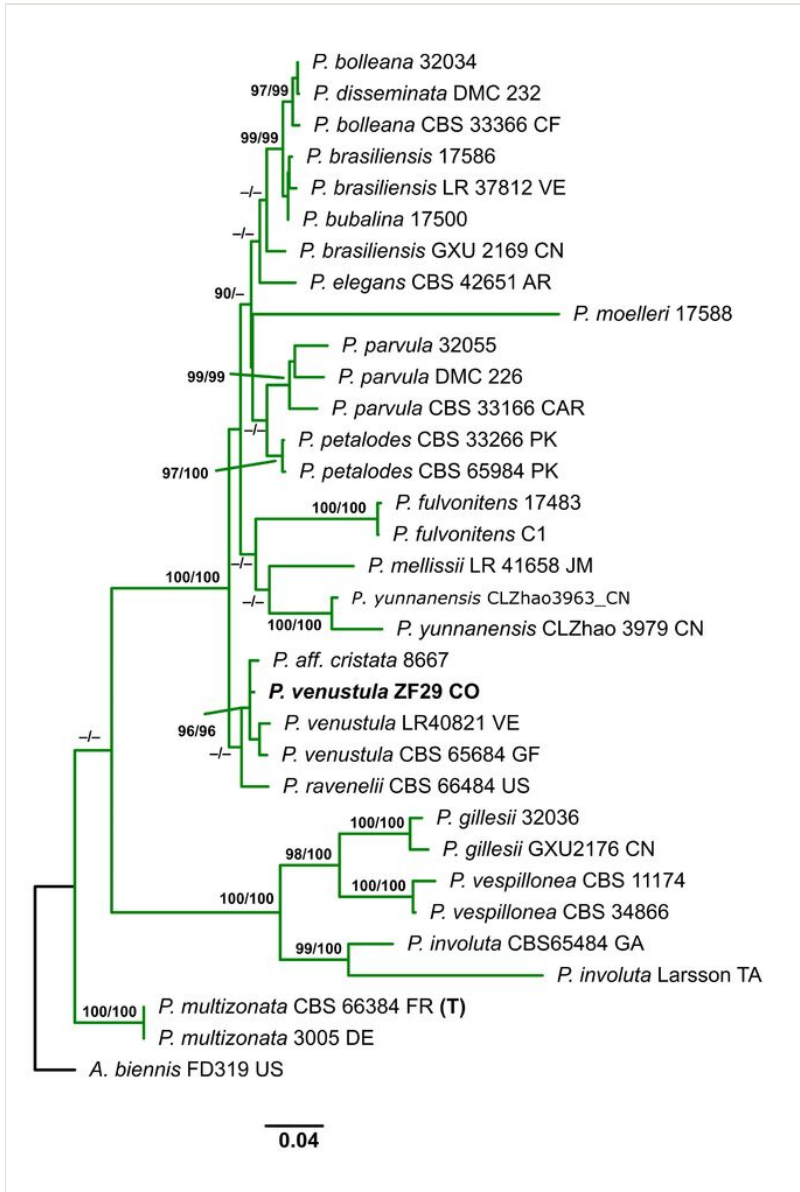


Figure 6. [doi](#)

Phylogenetic relationship of *Gloeoporus* species inferred from a combined dataset of ITS+nLSU conducted by IQ-TREE optimal tree (log likelihood = -4064.2346). The sequences generated in this study are indicated in bold. Values at nodes indicate ultrafast bootstrap (left) and the Shimodaira-Hasegawa approximate likelihood-ratio test (right); minus (-) indicates support values lower than 90%. Two codes after voucher specimens indicate the country of origin (ISO 3166 – Alpha 2). The bar indicates the number expected substitutions per position.

**Phylogenetic inference for *Podoscypha* species.** For this study, we generated one consensus sequences of ITS (Table 2). In total, the ITS dataset had an aligned length of 1948 characters, of which 1329 were constant, 619 were variable and parsimony-uninformative and 413 were parsimony-informative. The best tree inferred in a Maximum Likelihood framework has a log likelihood = -9011.705842. The best fit models selected were TN+F+I+G4 for ITS and TN+F+R2 for 28S. The phylogenetic inference (Fig. 7) and the morphological analysis confirmed that the collected specimen corresponds to *Podoscypha venustula* (Speg.) D.A. Reid (BS = 96, SH aIRT = 96).



Figure 7. [doi](#)

Phylogenetic relationship of *Podoscypha* species inferred from a combined dataset of ITS+nLSU conducted by IQ-TREE optimal tree (log likelihood = -9011.705842). The sequences generated in this study are indicated in bold. Values at nodes indicate ultrafast bootstrap (left) and the Shimodaira-Hasegawa approximate likelihood-ratio test (right); minus (-) indicates support values lower than 90%. Two codes after voucher specimens indicate the country of origin (ISO 3166 – Alpha 2). The bar indicates the number expected substitutions per position.

## Discussion

Recently, Gómez-Montoya et al. (2022) reported 115 species of macrofungi of Basidiomycota for the Department of Tolima, Colombia, and Vasco-Palacios and Franco-Molano (2012) have reported only four species of Ascomycota. In this study, we managed to compile a total of 164 species of macrofungi (154 of Basidiomycota and 10 of Ascomycota), 146 being considered as good records and we placed 18 species as doubtful taxa. Additionally, new records, based on morphological and phylogenetical analyses, are presented, which makes it the most complete and critical checklist to date for Tolima.

The order Agaricales, with 76 species recorded in the Department, is considered the best represented. The 97% of the reports have been made in the Montane Rainforest and in forests dominated by *Quercus*. Only one species, *P. cubensis* (Pulido 1983), has been recorded from the tropical dry forest, which is one of the most threatened ecosystems in Colombia (Etter et al. 2017). Although this is the best represented order in the Department, it is necessary to collect and study species of Agaricales from other municipalities and different ecosystems of Tolima.

The order Polyporales is the second-best represented order with 32 species. About 85% of the recorded species are distributed in lowland forest areas and the remaining records have been made in Montane Rainforests of Murillo, Líbano and Ibagué. Within Polyporales, we present 12 new records for the Department and five for Colombia. These results agree with those presented by Gómez-Montoya et al. (2022) in which Agaricales and Polyporales are always the best represented groups in almost all ecosystems where diversity studies of fungi have been conducted (oak forest, coniferous forest, mixed forest, Amazon, lowland and other ecosystems).

The order Hymenochaetales is represented by six species in three different families. In this study, we included two records for the tropical rainforest and premontane dry forest. We present the first record of *Phylloporia chrysites* for Colombia. This species was previously described in Venezuela and is found associated with the roots of living plants, possibly with a parasitic lifestyle. New samples must be collected to determine the diversity of this order in Tolima.

For the order Auriculariales, five species are reported. A very important species, from the nutritional point of view, is *A. auricula-judae* that was registered in Murillo Municipality (Gómez-Montoya et al. 2022). Wu et al. (2021) documented that it is a species with European distribution and probably it is a species complex in other parts of the world. It is necessary to review the morphology of the Colombian specimens and obtain molecular and phylogenetic data that allow us to properly name this species and classify it correctly in the phylogeny of the group. *Protomerulius caryae* was previously recorded in Colombia for the Department of Antioquia (Vasco-Palacios and Franco-Molano 2012). It was reported for the first time in Tolima in this study.

The orders Boletales, Cantharelales, Phallales, Russulales, Thelephorales and Tremellales were represented by 12 species or less. Species recorded in these orders

were all collected in montane rainforest and oak forest, except for *Dentipellicula guyanensis* that was recorded in tropical dry forest. *Gloeophyllum striatum* and *D. spathularius* are the only species reported for Gloeophyllales and Dacrymycetales, respectively, both species being reported from tropical dry forest. Vasco-Palacios and Franco-Molano (2012) reported that, in Colombia, these species are distributed below 2100 m a.s.l. It is necessary to carry out studies of the diversity of these groups in other localities and types forests present in Tolima, such as tropical dry forest, tropical rainforest, paramo and wetlands.

It is important to note that there are some endemic species described from Tolima, such as *Hohenbuehelia espeletiae*, described from Santa Isabel paramo. This species is only known from this type locality and from the type material, which makes it an excellent candidate to evaluate its state of conservation, mainly due to the loss and destruction of the paramo ecosystems. It is a priority to carry out studies on fungal diversity and conservation in the paramos of Colombia because it is currently a threatened ecosystem. Another endemic species is *Favolaschia roseogrisea*. It was also described from Tolima, but has not been collected since then. The type specimen is not located in Colombia (Singer B 6035 F) and it would be very important to have new records of this species deposited in Colombian herbaria and with an exhaustive morphological and phylogenetical analyses. The non-lichenised Ascomycota fungi have been little studied in the Department of Tolima, only ten species being recorded, so new works are needed to study the diversity of this group in the Department. The humid mountain forest is the best sampled with five species, but the diversity of Ascomycota in Tolima is still unknown. It is important to note that Ascomycota is the best represented group in Colombia with 4,554 species (Sanjuan and Brothers 2022). Certainly, the very low number of records in the Department is a clear sign of a knowledge gap.

The data provided in this study constitute an important baseline for the knowledge of fungal biodiversity in the Department of Tolima; additionally, it is a contribution to increase the knowledge of fungi distributed in dry and humid forests of low altitude, which are considered very little sampled forests in the Colombian Andes regarding fungal diversity (Vasco-Palacios and Franco-Molano 2019, Gómez-Montoya et al. 2022).

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