

**AMERICAN  
BOLETES;  
NEW YORK, 1914**

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American Boletes; New York, 1914 by William Alphonso Murrill

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**WILLIAM ALPHONSO MURRILL**

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# AMERICAN BOLETES

BY

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## PREFACE

Boletes are tube-bearing fungi differing from the polypores chiefly in their fleshy consistency and terrestrial habit, usually occurring on the ground in woods during late summer and autumn. The species are difficult to distinguish, even in the fresh state, and when the large amount of water they contain is eliminated the dried specimens bear little resemblance to the originals. The accompanying blank has been found convenient for field notes.

Many of the best edible fungi in temperate regions belong to this group, and the dangers of being poisoned are relatively small. Species with bitter or otherwise objectionable taste should be avoided, and especially all plants having red or reddish tube-mouths. The sensitive bolete, which promptly turns blue when touched or broken, has also caused mild poisoning in some cases. Many species have not been thoroughly tested, however; hence it is wise to eat sparingly of all such plants until well known.

W. A. MURRILL

NEW YORK BOTANICAL GARDEN,  
October 15, 1914



BLANK FOR FIELD NOTES

NAME.....

Locality, Date

Habitat

Habit

Size

PILEUS.....

Shape

Color

Changes

Surface

Margin

Veil

Annulus

CONTEXT.....

Consistency

Color

Changes

Odor, taste

TUBES.....

Attachment

Color

Changes

Mouths

Form

Spores

Print

STIPE.....

Attachment

Shape

Color

Changes

Surface

Substance

Changes

Remarks.....



1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that proper record-keeping is essential for transparency and accountability, particularly in financial reporting and compliance with regulatory requirements.

2. The second part of the document outlines the various methods and tools used to collect, store, and analyze data. It highlights the significance of data integrity and security, as well as the need for regular backups and access controls to protect sensitive information.

3. The third part of the document focuses on the role of technology in modern data management. It discusses the benefits of cloud-based solutions, data warehousing, and advanced analytics tools, which enable organizations to gain valuable insights from their data and make data-driven decisions.

4. The fourth part of the document addresses the challenges associated with data management, such as data silos, inconsistent data formats, and the growing volume of data. It provides strategies to overcome these challenges, including data integration, standardization, and the implementation of data governance frameworks.

5. The fifth part of the document discusses the importance of data privacy and protection. It covers the requirements of data protection regulations, such as the General Data Protection Regulation (GDPR), and provides guidance on how to ensure compliance and protect individual data subjects' rights.

6. The sixth part of the document explores the future of data management, including the emergence of artificial intelligence, machine learning, and big data. It discusses the potential of these technologies to revolutionize data analysis and the importance of staying up-to-date with the latest trends and innovations in the field.

## AMERICAN BOLETES

Including species occurring in North America, Central America, the West Indies, and all other islands between North America and South America with the exception of Trinidad. The tropical representatives of the family are extremely limited, both in number and distribution.

### BOLETACEAE

Hymenophore annual, nearly always terrestrial and centrally stipitate; context fleshy; hymenium poroid, fleshy, never gelatinous.

Tubes not arranged in radiating rows (except in one or two species of *Boletus*).

Spores hyaline, often becoming yellowish; stipe hollow, not reticulate.

1. *GYROPORUS*.

Spores rosy or flesh-colored; stipe solid, usually reticulate.

2. *TYLOPILUS*.

Spores ochraceous to brown or black.

Stipe neither glandular-dotted nor annulate.

Mouths of tubes never uniformly red nor reddish-brown, tubes unicolorous.

3. *CERIOMYCES*.

Mouths of tubes red or reddish-brown, tubes yellowish within.

4. *SULLELLUS*.

Stipe either glandular-dotted or annulate.

Stipe glandular-dotted, exannulate.

5. *ROSTKOVITES*.

Stipe annulate, glandular-dotted in some species.  
Spores ochraceous to yellowish-brown, smooth, usually oblong-ellipsoid.

Sporophore not covered with a yellow powder.

Pileus smooth, viscid.

6. *BOLETUS*.

Pileus floccose-verrucose, dry.

7. *BOLETELLUS*.

Sporophore covered with a conspicuous yellow powder.

8. *PULVEROBOLETUS*.

Spores brownish-black, rough, subglobose.

9. *STROBILOMYCES*.

Tubes arranged in radiating rows.

Stipe exannulate.

10. *BOLETINELLUS*.

Stipe annulate.

11. *BOLETINUS*.

#### 1. *GYROPORUS* Quél.

Hymenophore annual, terrestrial, centrally stipitate; surface dry, minutely tomentose to floccose-squamose; context white,

less compact than in most members of the family and therefore drying more readily; tubes free, small, cylindric, white, not covered with a veil; spores ellipsoid, smooth, hyaline, at length pale-yellow; stipe soft and spongy within, usually becoming hollow.

Context white, quickly changing to blue when wounded; pileus grayish-yellow, floccose.

1. *G. cyanescens*.

Context white, unchangeable.

Pileus reddish-brown.

2. *G. castaneus*.

Pileus pale-yellowish.

3. *G. subalbellus*.

### 1. *GYROPORUS CYANESCENS* (Bull.) Quéf.

Pileus convex, gregarious at times, 6-12 cm. broad, 1.5 cm. or more thick; surface pale-tan with grayish-white background or slightly brownish, opaque, appressed-tomentose or tomentose-squamulose; margin entire, concolorous, adorned in young plants with a distinct cortina, which is a part of the general hairy covering; context white or grayish-white, sweet, 1 cm. or more thick, quickly changing to indigo-blue when wounded; hymenium nearly plane, depressed near the stipe; tubes free, short, about 4 mm. long, white to yellowish, quickly changing to indigo-blue when wounded, mouths circular, small, edges thin, entire; spores ellipsoid, smooth, hyaline to pale-yellowish,  $9-11 \times 5-6 \mu$ ; stipe ventricose, hollow at maturity, concolorous, clothed with cottony threads, white within, becoming indigo-blue when wounded, 5-10 cm. long, 1.5-3.5 cm. thick.

Frequent in woods and groves from Canada to North Carolina and west to Minnesota.

### 2. *GYROPORUS CASTANEUS* (Bull.) Quéf.

Pileus convex to subexpanded, slightly depressed, gregarious, 3-7 cm. broad; surface smooth, dry, minutely but densely tomentose, orange-brown, fulvous, or reddish-brown; margin thin, usually paler; context white, firm, nutty in flavor, unchanging when wounded; tubes depressed, sinuate, short, watery-white becoming light-yellow to dark-cremeous, mouths angular, small, stuffed when young, edges thin, entire; spores ellipsoid, smooth, hyaline to pale-yellowish,  $8-9 \times 4.5-5.5 \mu$ ; stipe subattenuate above and below, cylindric or somewhat flattened, tomentose, bright-brown, lighter at the apex, brittle, loosely stuffed, with a small cylindric cavity at the center, 4-5 cm. long, 6-10 mm. thick.

Very common in open woods throughout temperate North America. Edible.