SOUTHERN POLYPORES. [NEW YORK-1915]

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PREFACE

Polypores are tough or woody fungi found chiefly on wood in the form of brackets of various shapes and sizes, the fruiting surface being composed of tubes or furrows. Sometimes the walls of these tubes split with age and the hymenium appears spiny, resembling the hydnums; sometimes the furrows change with age to appear like gills. When the fruit-body is perennial, the tubes are often arranged in layers. The family may be divided into four groups, the resupinates, the annual poroid species, the perennial poroid species, and the agaric-like species. The resupinate species cannot be satisfactorily studied without the advantages of a large herbarium and are therefore omitted here, but some of the larger species of the other groups are comparatively easy.

Polypores as a class are very destructive to trees and timber. On the other hand, one species possesses medicinal properties, some of the encrusted species supply tinder, and several of the more juicy ones are excellent for food if collected when young. The only species recognized as poisonous is the medicinal one, *Fomes Laricis*, and it is so tough and bitter that no one would think of eating it.

Polypores are very easily collected and preserved and they largely retain their characters when dried, which makes them excellent objects for class study during the winter months. Many of them, also, remain *in situ* during the winter in perfect condition for collecting. As a group, they lend themselves remarkably well to studies in gross and minute anatomy, variation, adaptation, and injurious effects on trees and structural timbers.

North America may be conveniently divided into five regions: (1) eastern Canada and the northern United States southward to the southern boundaries of Virginia, Kentucky, Missouri, and Kansas, and westward to the western boundaries of Kansas, Nebraska, and the Dakotas; (2) the southern United States,

including North Carolina, South Carolina, Tennessee, Arkansas, Oklahoma, Texas, Louisiana, Mississippi, Alabama, Georgia, and the northern portion of Florida; (3) the Rocky Mountain region, including the remainder of the western United States and Canada with the exception of states bordering on the Pacific Ocean; (4) the far West, including California, Oregon, Washington, British Columbia, and Alaska; and (5) tropical North America, including Mexico, Central America, southern Florida, the Bermudas, the West Indies, and all other islands between North America and South America with the exception of Trinidad.

In all these regions, there is an abundance of work still to be done before our knowledge of the polypores is complete, and it is believed that the publication of a series of books treating the species of each region separately will stimulate effort in this direction.

The terms here used to express the abundance of a species are "rare" or "occasional," "rather frequent," "frequent," "rather common," "common," "very common," and "extremely common." For the sake of brevity, certain liberties have been taken with the term "brown," especially in the keys, where it is often used as a general term for some shade of yellowish-brown or brown. In the same way, allowances must be made for the term "throughout" when used to indicate occurrence, which does not imply the actual presence of a given species on every snowcapped mountain or every treeless prairie within the region.

W. A. MURRILL.

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SOUTHERN POLYPORES

Including the pileate species occurring in North Carolina, South Carolina, Tennessee, Arkansas, Oklahoma, Texas, Louisiana, Mississippi, Alabama, Georgia, and the northern portion of Florida. Florida is so imperfectly known mycologically that collections from almost any part of the state are liable to bring surprises.

POLYPORACEAE

Hymenophore annual or perennial; context fleshy-tough, corky, or woody; hymenium poroid or lamelloid, fleshy to woody, never gelatinous.

Hymenium porose.	
Hymenophore annual.	Tribe 1. POLYPOREAE.
Hymenophore perennial.[1]	Tribe 2. FOMITEAE.
Hymenium furrowed.[2]	Tribe 3. DAEDALEAE.

Tribe 1. POLYPOREAE. Hymenophore variable in size and shape, fleshy-tough to corky, annual, sometimes reviving; surface encrusted or anoderm, glabrous or hairy, zonate or azonate; context fibrous, rarely punky, variously colored; tubes cylindric, sometimes splitting into teeth, usually thin-walled; spores rounded or oblong, brown or hyaline; cystidia frequently present; surface of pileus never conidia-bearing; stipe often present, variously attached.

Context white.	
Hymenophore sessile.	
Tubes hexagonal, arranged in radiating rows; context thin.	II. HEXAGONA.
Tubes mostly shallow, marginal and obsolete; hymenium hydnoid or irpiciform at a very early stage.	1. IRPICIPORUS.
Tubes normally poroid, sometimes irpiciform from the rupture of the dissepiments at maturity.	
Context duplex, spongy above, firm below; surface sodden and bibulous.	6. SPONGIPELLIS.

[1] Exceptions occur in *Ganoderma* spp., *Fomitella supina*, and *Elfvingia lobata*. *Porodaedalea* is closely allied to the Daedaleae.

[2] *Cerrena* shows an irpiciform hymenium at maturity, much resembling species of *Coriolus*. *Daedalea* and *Gloeophyllum* sometimes show poroid forms that are very confusing.

Context not duplex as above.
Pileus fleshy-tough to woody and rigid.
Surface anoderm, rarely zonate.
Hymenium more or less smoke-colored at maturity. 7. BJERKANDERA.
Hymenium white or pallid.
Context fleshy to fleshy-tough, friable when dry. 5. TYROMYCES.
Context punky to corky, not friable when dry. 8. TRAMETES.
Surface pelliculose, zonate. 9. RIGIDOPORUS.
Pileus thin, leathery, and more or less flexible; surface usually zonate.
Hymenophore preceded by a cup-shaped sterile body. 2. PORONIDULUS.
Hymenophore not as above.
Hymenophore normally pileate; tubes small and nearly always regular. 3. CORIOLUS.
Hymenophore semiresupinate; tubes large and irregular. 4. CORIOLELLUS.

Hymenophore stipitate.
Stipe compound. 16. GRIFOLA.
Stipe simple.
Plants fleshy, terrestrial. 15. SCUTIGER.
Plants tough, epixylous.
Tubes large, hexagonal and radially elongate from the first. 11. HEXAGONA.
Tubes not as above, except in *Polyporus caudicinus*.
Pileus inverted, erumpent from lenticels. 10. PORODISCULUS.
Pileus erect or lateral, not erumpent.
Context duplex, spongy above, woody below. 14. ABORTIPORUS.
Context homogeneous, firm.
Surface zonate. 12. MICROPORELLUS.
Surface azonate. 13. POLYPORUS.

Context bright-colored, yellow or red; hymenophore sessile.
Pores red or reddish.
Tubes unchanged on drying. 17. PYCNOPORUS.
Tubes orange-colored, becoming dark and resinous on drying. 18. AURANTIPORUS.
Pores yellow; plants very large. 19. LAETIPORUS.

Context brown.
Hymenophore sessile.
Spores hyaline.
Context light-brown.
Context at first fleshy, becoming slightly corky. 24. ISCHNODERMA.
Context tough from the first.

Surface glabrous or nearly so.	23. HAPALOPILUS.
Surface distinctly hairy.	
Tubes small and regular.	21. CORIOLOPSIS.
Tubes large and irregular.	22. FUNALIA.
Context dark-brown.	
Context friable.	28. PHAEOLUS.
Context tough.	
Tubes brown, rarely greenish.	
Tubes entire.	
Surface heavily bearded.	25. POGONOMYCES.
Surface not bearded.	21. CORIOLOPSIS.
Tubes soon splitting into teeth.	20. CERRENELLA.
Tubes black.	26. NIGROPORUS.
Spores brown.	27. INONOTUS.
Hymenophore stipitate.	
Spores hyaline.	28. PHAEOLUS.
Spores brown.	
Pileus inverted, pendant.	29. COLTRICIELLA.
Pileus erect; stipe central.	30. COLTRICIA.

Tribe 2. FOMITEAE. Hymenophore large, woody, perennial, rarely small or annual; surface anoderm or encrusted, usually sulcate, sometimes varnished; context punky or woody, variously colored; tubes cylindric, usually thick-walled; spores rounded, smooth or verrucose, hyaline or brown; cystidia frequently present; surface of pileus conidia-bearing in a few species; stipe rarely present, the hymenophore usually being sufficiently elevated by its host. Annual forms and species in a few genera connect this group with the Polyporeae; while the tendency at times to produce a daedaleoid hymenium, shown especially in *Porodaedalea*, connects it with the Daedaleae.

Surface of hymenophore covered with reddish-brown varnish; context punky to corky.	39. GANODERMA.
Surface of hymenophore not as above.	
Context white, flesh-colored, or wood-colored.	31. FOMES.
Context olivaceous.	32. FOMITELLA.
Context brown or latericeous.	
Surface not encrusted; or, if so, context woody.	
Hymenium porose.	
Spores hyaline.	33. PYROPOLYPORUS.
Spores brown.	34. FULVIFOMES.
Hymenium porose-daedaleoid.	35. PORODAEDALEA.
Surface encrusted; context punky.	
Hymenophore subsessile, cespitose.	36. GLOBIFOMES.
Hymenophore sessile, simple or imbricate.	
Spores hyaline or subhyaline.	37. ELFVINGIELLA.
Spores decidedly brown.	38. ELFVINGIA.

Tribe 3. DAEDALEAE. Hymenium annual, very rarely perennial, coriaceous to woody, variable in size; surface anoderm, hairy or glabrous, variously marked; context white or brown, fibrous, woody, or punky; hymenium exceedingly variable, normally labyrinthiform or lamelloid, but often poroid or even irpici-

form, never stratified; spores smooth, brown or hyaline. Poroid and irpiciform plants of this group are difficult to separate from certain species of Polyporeae, forms of *Daedalea confragosa* in particular being troublesome to the beginner. On the other hand, there is little to cause confusion between this group and the Fomiteae, if we except the single distinctly perennial species of *Daedalea* and the daedaleoid forms of *Porodaedalea*.

Context white or wood-colored.	
Hymenium labyrinthiform, often becoming lamellate or irpiciform.	
Hymenium very soon becoming irpiciform.	40. CERRENA.
Hymenium rarely becoming irpiciform and then not until maturity.	41. DAEDALEA.
Hymenium lamellate from the first, not becoming irpiciform.	42. LENZITES.
Context brown.	
Hymenophore sessile, furrows radiate.	43. GLOEOPHYLLUM.
Hymenophore centrally stipitate, furrows concentric.	44. CYCLOPORUS.

1. IRPICIPORUS Murrill

Hymenophore annual, epixylous, sessile, effused-reflexed, white or pallid throughout; surface anoderm, glabrous or velvety, not distinctly zonate, margin acute; context white, coriaceous or corky; hymenium hydnoid or irpiciform, with traces of shallow, obsolete tubes near the margin; spores smooth, hyaline.

Teeth 1 cm. or more long; pileus usually large and thick.	1. *I. mollis.*
Teeth less than 0.5 cm. long; pileus thin and shortly reflexed.	2. *I. lacteus.*

1. IRPICIPORUS MOLLIS (Berk. & Curt.) Murrill

Pileus sessile, dimidiate, imbricate, decurrent, 3–4 × 4–8 × 1–3 cm.; surface white, finely pubescent, azonate, sulcate at times, often aculeate behind with age; context white, coriaceous, 1–5 mm. thick; tubes soon splitting into teeth, which are 1–2 cm. long, compressed to subulate, slender, more or less pointed, dentate or incised, puberulent to glabrous, white to pale-flesh-colored, about 1 mm. apart at the base; spores globose, 5–7 μ.

Frequent on dead or diseased trunks of deciduous trees throughout, sometimes growing near the tops of trees.

2. IRPICIPORUS LACTEUS (Fries) Murrill

Pileus extensively effused, shortly reflexed, imbricate, dimidiate, laterally connate, 0–1.5 × 1–4 × 0.1–0.2 cm.; surface white, subzonate, concentrically furrowed in large specimens, villose; margin very thin, deflexed, undulate to lobed; context membranous, less than 1 mm. thick; tubes short, irregular, white to

isabelline, 1–3 mm. long, mouths angular, about 2 to a mm., edges uneven, soon splitting into teeth, which are compressed, pointed, fimbriate, dentate to incised; spores cylindric, slightly curved, smooth, 6–7 × 2–3 μ.

Extremely common throughout on dead branches and trunks of deciduous trees.

2. PORONIDULUS Murrill

Hymenophore annual, tough, sessile, epixylous, at first sterile and cup-like, the fertile portion developing from the sterile; context white, fibrous; tubes short, thin-walled, mouths polygonal; spores ellipsoid, smooth, hyaline.

1. PORONIDULUS CONCHIFER (Schw.) Murrill

Pileus thin, coriaceous, dimidiate to flabelliform, usually narrowly attached, conchate, springing from a sterile, cup-like structure, which usually appears on the mature hymenophore near the base, 1.5–2 × 2–4 × 0.1–0.2 cm.; surface white to isabelline, with pale-latericeous zones, finely tomentose to glabrous, the sterile portion avellaneous, with narrow, black, concentric lines; margin thin, concolorous, undulate; context very thin, membranous, less than 1 mm. in thickness; tubes short, about 1 mm. long, thin-walled, white, mouths angular, irregular, 3 to a mm., edges thin, uneven, dentate.

Very common throughout on dead elm branches.

3. CORIOLUS Quél.

Hymenophore annual, epixylous, sessile, zonate, anoderm, hairy or glabrous; context thin, white, flexible, fibrous, leathery; tubes thin-walled, white, at length splitting into irpiciform teeth in several species, mouths polygonal or irregular; spores smooth, hyaline.

Tubes more or less entire, at least until the hymenophore is quite old.
  Surface of pileus wholly or partly glabrous when mature or clothed only with inconspicuous hairs.
    Pileus not entirely glabrous at maturity.
      Pileus marked at maturity with glabrous zones of a different color from the rest of the surface.
        Glabrous zones large, numerous, conspicuously and variously colored. 1. *C. versicolor.*
        Glabrous zones small and comparatively inconspicuous.
          Hymenium white or yellowish. 2. *C. ectypus.*