

07.73  
186842  
v. 31

Pittsburgh-Carn. Mus.  
Annals

M

ART. 11. A REVIEW OF THE ELVELLACEÆ (FUNGI)  
OF WESTERN PENNSYLVANIA

BY LEROY K. HENRY

(PLATES 1-2)

The family Elvellaceæ, to which the morels and their relatives belong, is placed in the order Pezizales of the Ascomycetes. The fungi in this order are commonly called cup fungi (Discomycetes) because their fruiting bodies are usually disk- or cup-shaped. However, the fruiting bodies of the members of this family are fleshy and consist of a distinct stipe (stem) and a pileus (cap). The pileus is located at the top of the stipe, with its margin either free or partly attached to the stipe, and it may be bell-shaped, saddle-shaped, or subglobose. The hymenium (spore-bearing surface) is even, ridged and pitted, convoluted, or irregularly folded, and it covers the outer surface of the cap. The stipe is usually hollow and may be very slender or short and stout, with the surface even, pitted, ridged, or fluted.

These are chiefly spring fungi, appearing in open woods, orchards, or along flood-plains, in April or May.

The morels and elvellas are edible, with the exception of one doubtful species known as the false morel and formerly called *Gyromitra esculenta*, but now identified with *Elvella infula*. This false morel can readily be distinguished from the true morels by the somewhat convoluted character of the cap and its chestnut-red coloring. There has been disagreement in the literature concerning the edibility of this mushroom; some mycophagists claim no ill effects from eating it and others report that they were poisoned by it. Individual differences may account for these conflicting statements. Also, the amount of poison may vary in plants from different localities, or there may be two closely related species involved, the one edible and the other poisonous. The true morels make a very tasty dish, provided one can find enough of them at any one time.

This family contains five genera in eastern North America, three of which are represented in the Pennsylvania Herbarium of Carnegie Museum. The majority of the Herbarium collections were contributed by D. R. Sumstine, O. E. Jennings, and L. K. Henry.

For this paper, as the eastern boundry of Western Pennsylvania, I have arbitrarily chosen the eastern borders of Potter, Clinton, Centre, Huntingdon, and Fulton counties.





## KEY TO THE GENERA OF THE ELVELLACEÆ

- Outer surface of pileus consisting of deep or shallow pits formed by longitudinal or transverse ridges.....*Morchella*
- Outer surface of pileus even, ribbed, or convoluted.
- Pileus bell-shaped, edge free from stipe.....*Verpa*
- Pileus lobed, irregularly subglobose, or saddle-shaped; surface even or convoluted.....*Elvella*

## MORCHELLA (Morels)

Pileus subglobose or elongated, blunt or acute at tip, the margin closely joined to the stipe at its base in all but one species. Surface of pileus traversed by irregularly branching ribs, forming rounded or elongated pits which are lined with the yellow to brown hymenium. Stipe cylindrical, usually lighter in color than the pileus, often enlarged at the base. All of our six species are edible.

## KEY TO MORCHELLA

- Base of pileus free from the stipe; plant 4-5 inches high; cap bell-shaped, up to 3 cm. long; ribs whitish; pits 5-10 mm. in diameter, yellow within; stem 8-10 cm. long, white or yellowish, irregularly pitted at base and tapering upward.....*M. hybrida*
- Base of pileus joined to the stipe.
- Ribs of the pileus much darker than the interior of the pits; pileus narrowly conic and acute at apex, 2-5 cm. long; plant 2-3 inches high; pits elongated, 4-10 mm. long, yellowish within; ribs black on edge; stipe of uniform thickness.....*M. angusticeps*
- Ribs of pileus similar in color to the interior of the pits (yellowish) or of a lighter color.
- Pileus large, 4-8 cm. or more long at maturity.
- Pits large, irregular, up to 1 cm. broad, usually shallow; plant 7-8 inches high; ribs thin; stipe stout, distinctly enlarged at base, 10-11 cm. long.....*M. crassipes*
- Pits small, deep; ribs thick; stipe slightly enlarged and irregularly pitted at base.
- Plant 2-4 inches high; pits irregular, 5-10 mm. in diameter; ribs irregularly branching; pileus subglobose, generally a little longer than broad.....*M. esculenta*



Plant 3-5 inches high; pileus elongated or strongly attenuated upwards; pits elongated, 5-10 mm. long; ribs more or less longitudinally disposed..... *M. conica*

Pileus small, not exceeding 2-3 cm. in length at maturity; pits elongated, ashy to blackish within; ribs longitudinally disposed, whitish; stipe whitish, irregularly pitted..... *M. deliciosa*

***Morchella angusticeps* Peck (Plate 1, fig. 4)**

*Allegheny County*: Coraopolis. *Washington County*: 5 mi. s.e. of Houston. Rare.

***Morchella conica* Pers. (Plate 1, fig. 5)**

*Allegheny County*: Frick Park, Pittsburgh; 4 mi. e. of Monongahela. *Armstrong County*: Kittanning. *Beaver County*: 1 mi. n. of Mechanicsburg; Raccoon Creek region; woods at intersection of Beaver-Conway and Sewickley-Rochester roads. *Erie County*: Presque Isle. *Fayette County*: Ohiopyle. *Greene County*: 10 mi. s.e. of Waynesburg. *Lawrence County*: near New Castle. *Somerset County*: Ursina. *Venango County*: 3 mi. n. of Lisbon. *Washington County*: Charleroi. *Westmoreland County*: near Ligonier; Hillside.

***Morchella crassipes* (Vent.) Pers. (Plate 1, fig. 3)**

*Allegheny County*: near Saunders; flood-plain of Lyons Run; yard in Pittsburgh. *Armstrong County*: Kittanning. *Cambria County*: near Cresson. *Centre County*: 1 mi. s. of Boalsburg. *Crawford County*: near Linesville; near Hartstown. *Washington County*: Washington car-line near Center Church; near New Eagle. *Westmoreland County*: 3 mi. s.e. of Rector; Hillside.

***Morchella deliciosa* Fries (Plate 1, fig. 2)**

*Allegheny County*: Warden Mine region opposite Sutersville; 2.5 mi. n.e. of Ambridge at Turkey Foot. *Beaver County*: 2 mi. above mouth of Raccoon Creek. *Butler County*: under a Peony, 4 mi. n.e. of Harmony. *Crawford County*: near Hartstown. *Washington County*: near Riverview. *Westmoreland County*: Kiski Campus near Saltsburg.

***Morchella esculenta* (L.) Pers. (Plate 1, fig. 6)**

*Allegheny County*: Frick Park, Pittsburgh. *Armstrong County*: Kittanning. *Butler County*: 4 mi. n.e. of Harmony; near Renfrew; Winfield



Junction. *Erie County*: Presque Isle. *Fayette County*: Ohiopyle. *Somerset County*: near Ursina. *Washington County*: 5 mi. s.e. of Houston; vicinity of Hanlin Station. *Westmoreland County*: Ligonier; Hillside.

**Morchella hybrida** (Sow.) Pers. (Plate 1, fig. 1)

*Allegheny County*: near Wildwood; 2 mi. n. of Saunders; near Pittsburgh; Frick Park, Pittsburgh. *Armstrong County*: Kittanning. *Butler County*: Marwood. *Crawford County*: Hartstown. *Fayette County*: Ohiopyle. *Indiana County*: 2 mi. n.e. of Clarksburg. *Washington County*: Charleroi; Van Voorhis. *Westmoreland County*: Hillside.

VERPA

Pileus bell-shaped, yellow to brownish, white beneath, often with a reflexed margin, free from the stipe, 2-3 cm. long by 1-2 cm. in diameter. Spore-bearing surface (hymenium) folded into longitudinal and branching ribs, yellow to brownish. Stipe nearly cylindrical, hollow, even, white or slightly cottony, 6-8 cm. long.

**Verpa bohemica** (Krombh.) Schröt. (Plate 2, fig. 6)

*Beaver County*: Pine Grove, J. A. M. Stewart; Raccoon Creek State Park. L.K.H. Rare.

ELVELA (HELVELLA)

Pileus mitre-shaped, saddle-shaped or subglobose, even or irregularly convolute, the margin reflexed and free or more or less joined to the stipe. Stipe slender or stout, even, pitted or strongly fluted, white, yellow or smoky. None of the five species in our region can be considered common.

KEY TO ELVELA

Stipe distinctly fluted, stout and usually enlarged at the base; surface of pileus even or convoluted.

Pileus and stipe remaining cream or yellowish.....*E. crispa*

Pileus becoming dark brownish-black; stipe yellowish, becoming smoky.....*E. mitra*

Stipe not distinctly fluted but even or irregularly pitted.

Stipe very slender, usually not over 5 mm. in diameter; surface of pileus even or more or less convolute.

Pileus yellowish to dark brown, 2-3 lobed, free from the stipe; stipe yellowish, 5-10 cm. long.....*E. elastica*



Stipe stout, usually 1-5 cm. in diameter; surface of cap more or less convoluted.

Pileus 6-8 cm. broad, chestnut-red, mitre-shaped, saddle-shaped or variously convoluted; stipe 6-8 cm. long, white to yellowish even or more or less pitted; spore ellipsoid, smooth.

*E. infula* (*G. esculenta*)

Pileus 5-12 cm. broad, chocolate-brown, irregularly lobed and folded; stipe usually even, white, 8-13 cm. long; spores large, rough, fusoid, strongly pointed. . . . . *E. underwoodii*

Pileus 5-12 cm. broad, brown to brownish black, irregularly lobed and folded, often reticulate; stipe deeply pitted, 8-10 cm. long, whitish; spores large, rough and ellipsoid. . *E. caroliniana*

**Elvela caroliniana** (Bosc.) Nees. (Plate 2, fig. 4)

*Butler County*: Ribold; Criders Corners.

**Elvela crispa** (Scop.) Fries (Plate 2, fig. 1)

*Armstrong County*: Kittanning; across Buffalo Creek from West Winfield. *Cambria County*: near Cresson. *Warren County*: s. of Tidioute. *Westmoreland County*: near Rector.

**Elvela elastica** Bull. (Plate 2, fig. 3)

*Bedford County*: Sulphur Springs. *Centre County*: near Woodward. *Westmoreland County*: 3 mi. s.e. of Rector.

**Elvela infula** Schaeff. [*Gyromitra esculenta* (Pers.) Fr.] (Plate 2, fig. 5)

*Allegheny County*: Kennywood Park; 3 mi. s.e. of Bakerstown. *Butler County*: 4 mi. n.e. of Harmony. *Venango County*: 1 mi. n. of Lisbon.

**Elvela underwoodii** Seaver (*E. brunnea* Underw.) (Plate 2, fig. 2)

*Allegheny County*: Swissvale; Library; Kennywood Park; Pittsburgh. *Armstrong County*: Kittanning. *Butler County*: near Saxonburg.



## EXPLANATION OF PLATE 1

All figures are one-half natural size

FIG. 1. *Morchella hybrida* (Sow.) Pers.

FIG. 2. *Morchella deliciosa* Fries

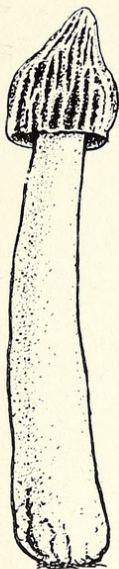
FIG. 3. *Morchella crassipes* (Vent.) Pers.

FIG. 4. *Morchella angusticeps* Peck

FIG. 5. *Morchella conica* Pers.

FIG. 6. *Morchella esculenta* (L.) Pers.

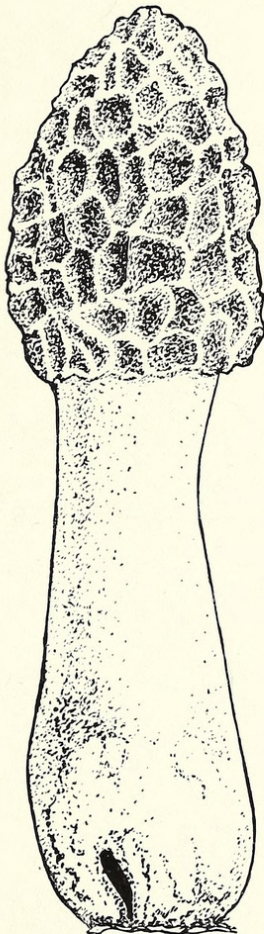




1



2



3

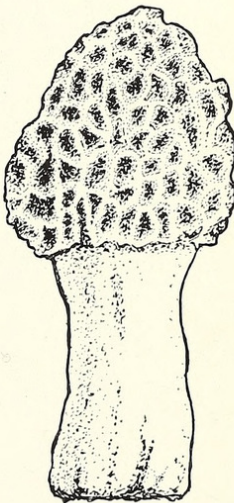


4



5

D.E. Long



6









## EXPLANATION OF PLATE 2

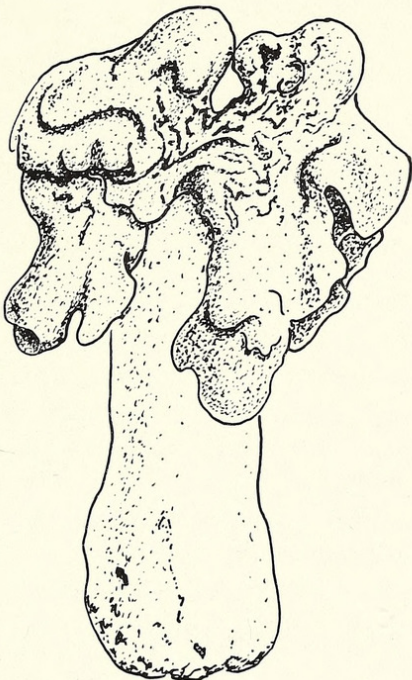
All figures are one-half natural size

- FIG. 1. *Elvela crispa* (Scop.) Fries
- FIG. 2. *Elvela underwoodii* Seaver
- FIG. 3. *Elvela elastica* Bull.
- FIG. 4. *Elvela caroliniana* (Bosc) Nees
- FIG. 5. *Elvela infula* Schaeff.
- FIG. 6. *Verpa bohemica* (Krombh.) Schröt.

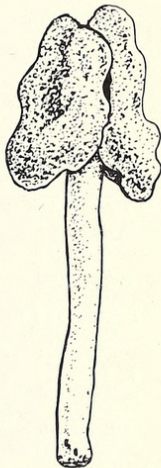




1



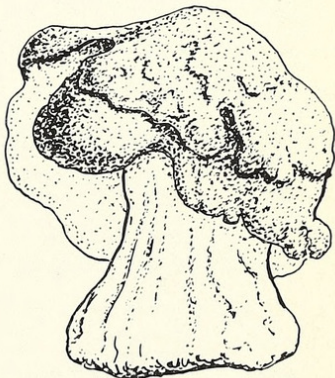
2



3



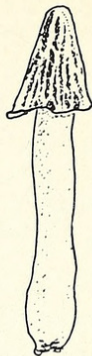
4 DE Long



5



6







Henry, LeRoy Kershaw. 1949. "A review of the Elvellaceae (Fungi) of Western Pennsylvania." *Annals of the Carnegie Museum* 31, 281–288.

<https://doi.org/10.5962/p.330900>.

**View This Item Online:** <https://www.biodiversitylibrary.org/item/216917>

**DOI:** <https://doi.org/10.5962/p.330900>

**Permalink:** <https://www.biodiversitylibrary.org/partpdf/330900>

#### **Holding Institution**

Smithsonian Libraries and Archives

#### **Sponsored by**

Biodiversity Heritage Library

#### **Copyright & Reuse**

Copyright Status: In Copyright. Digitized with the permission of the rights holder

Rights Holder: Carnegie Museum of Natural History

License: <https://creativecommons.org/licenses/by-nc-sa/4.0/>

Rights: <https://www.biodiversitylibrary.org/permissions/>

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at <https://www.biodiversitylibrary.org>.