



FRESHWATER SNAILS OF OHIO **field guide**

OHIO DIVISION OF WILDLIFE

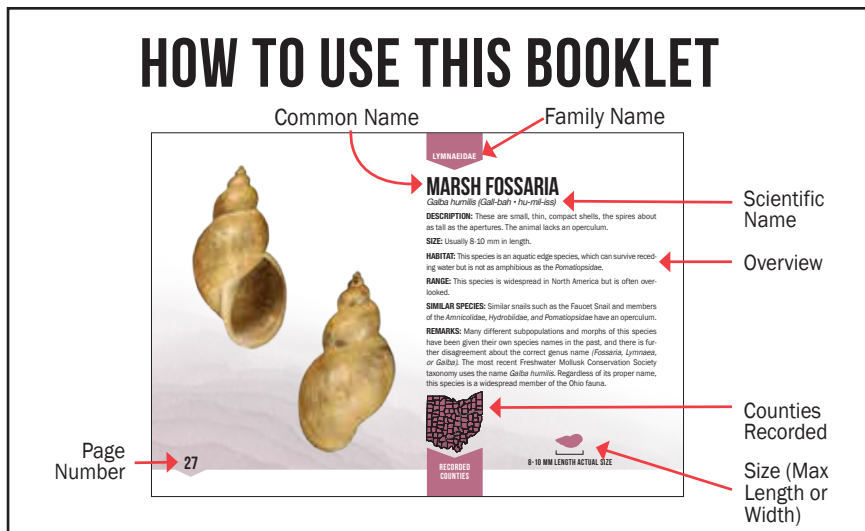


INTRODUCTION

Freshwater snails can occur in all bodies of water in Ohio, from large rivers and lakes to temporary pools and ditches. Some are adapted to flowing rivers, others to calm ponds, and others to the margins of streams. Most feed by grazing algae from rocks and vegetation and in turn, they are an important food source for many fishes, birds, and even mammals. They are a crucial part of any freshwater ecosystem. Most grow fast and do not live very long. Contrary to some legends, snails cannot leave their shells – they are permanently attached to them from birth. A freshwater snail without a shell is a dead snail!

Disclaimer: This guide is intended for public education, and is not intended as a scientific contribution to zoological nomenclature (ICZN Art. 8.2).

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FRESHWATER SNAILS OF OHIO

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FRESHWATER SNAILS OF OHIO

Sandwiched between the Great Lakes and the Ohio River, Ohio is uniquely situated to have species from both faunas. In particular, Ohio forms the southern extent of many otherwise northerly snails. Freshwater snails, like all shell-bearing molluscs, require calcium to build their shells and perhaps for this reason some species seem to be where the sandstone- and shale-derived soils are acidic and relatively calcium-poor.

The freshwater environment has been invaded by many different snail families over many millions of years. The 11 main families of freshwater snails found in Ohio can be split into two useful groups for identification purposes: "operculate" and "pulmonate" snails. The operculate snails have gills, which they use to breathe underwater, and an operculum, which is like a trap door attached to their foot that seals the aperture when the animal withdraws into the shell, hence the name "operculate". In contrast, the pulmonates, all belonging to the order Heterobranchia, use a lung to breathe air, and have evolutionarily lost the ancestral operculum. While all gastropods can absorb some oxygen via cutaneous respiration—diffusion of oxygen into the body through their permeable skin—the gills and lungs are the primary means of respiration for the operculate and pulmonate snails respectively. The freshwater operculate snails of Ohio, (with the exception of the basal Heterobranch family Valvatidae), all belong to the clade Caenogastropoda. Because they can breathe air, the pulmonates can be much more tolerant of adverse water conditions such as stagnation and moderate pollution. The gill-bearing operculates, on the other hand, require cleaner water to survive and thrive.

Ohio is one of the best surveyed states when it comes to molluscs. Even so, many if not all of the species covered here undoubtedly occur in additional counties. This is particularly true of the many minute species that are often overlooked.

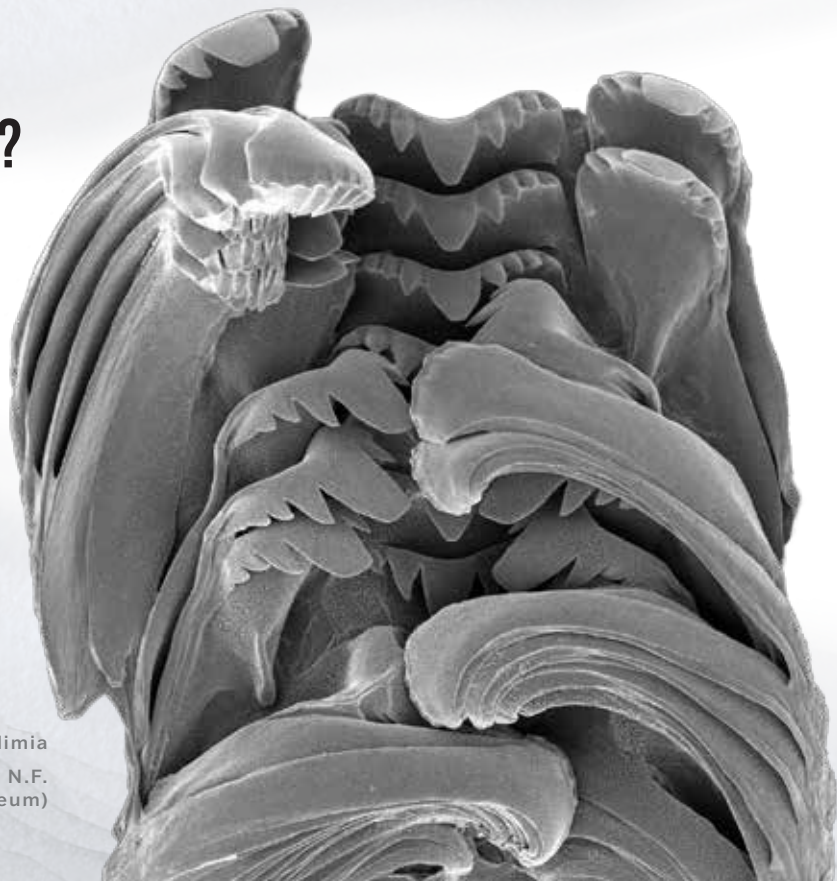


pond snail (SWAMP LYMNÆA) | photo by amelia martin

HOW DO SNAILS EAT?

Most freshwater gastropods are detritivores. They use a special organ in their mouth called a “radula” to scrape food off surfaces as they crawl. The radulae (plural form of radula) is kind of like a tongue covered in thousands of microscopic teeth. The size, shape, and number of radular teeth can vary both within individuals and between species. The central teeth in this radula are about 80 microns wide, a bit thinner than a sheet of paper.

Radular teeth of the Liver *Elimia*
(Electron Micrograph by N.F.
Shoobs, OSU Museum)



HOW DO SNAILS EAT?

In soft substrates, like muddy river bottoms or algae-covered rocks, you can often see a feeding trail left by snails as they use their radulae to scrape food from the surfaces. These images show two specimens of Liver *Elimia* snails munching on benthic deposits in Ohio Rivers. Note the heavy algal deposits growing on the shells of these snails, which can make them hard to spot!

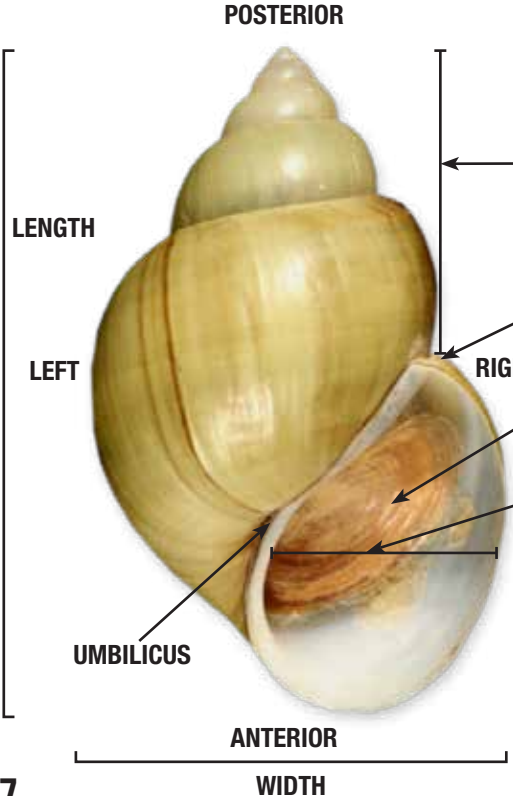
Liver *Elimia*, Killbuck Creek
(N.F. Shoobs, OSU Museum)



A Liver *Elimia* and its Feeding Trail,
Olentangy River
(N.F. Shoobs, OSU Museum)



GLOSSARY



SPIRE
The shell whorls above the aperture. The spire may be high or low.

COLUMELLA
The portion of the shell to which the aperture is attached.

OPERCULUM
A trapdoor attached to the animal's foot that seals the shell when the snail is withdrawn. Not all snails have an operculum.

APERTURE
The opening of the shell through which the animal protrudes.

WHORLS
The turns of the shell.



sinistral

SHOWN: Moss Bladder Snail

8

SINISTRAL OR DEXTRAL?

Snails may be “left-handed” or “right-handed.” Left-handed shells, called sinistral, coil in the opposite direction of right-handed shells, called dextral. To determine which type of shell you have:

Orient the shell posterior (spire) end up and the aperture facing you. Imagine a line through the shell from top to bottom. If the aperture is left of the line the shell is sinistral; if right it is dextral.

Some freshwater shell families are predominately sinistral – a rather rare condition in snails in general. The family *Planorbidae* can be difficult to determine as they coil in a single plane and the spire may be hidden from view. And to complicate things even more, while all members of this family begin life with a sinistral shell, some 'pseudodextral' species turn their sinistral shells over in life to look as if they have a dextral shell.



dextral

SHOWN: Liver Elmia

COUNTING OF WHORLS

Most snail shells exhibit a spiral growth pattern. Each 360° turn of the shell around its axis is called a whorl. The number of whorls a shell has can be counted by drawing an imaginary line through the shells apex (the center of the spiral) and the edge of the suture of the body whorl, counting how many times the shell crosses that line, and rounding to the nearest $\frac{1}{4}$. The shell shown has about $6\frac{3}{4}$ whorls.



COMMON SHELL SHAPES OF FRESHWATER GASTROPODS:



planispiral



ovate



Globose



elongate

SPRINGSNAILS

Representative shown: *Amnicola limosus* (Am-nick-cole-ah-lee-mos-us) Mud Amnicola

DESCRIPTION: The shells are very small to minute, usually smooth, and compact. The animal has an uncalcified paucispiral operculum.

SIZE: Usually 2-4 mm in length.

HABITAT: Species of *Amnicola* are found in most clean water bodies on vegetation.

RANGE: Species of *Amnicola* are widespread in North America but are often overlooked.

SIMILAR SPECIES: The similar Faucet Snail has a calcified operculum. Identification of species of *Amnicolidae* and *Hydrobiidae* (next) may require an expert on the groups.

REMARKS: The species shown here, the Mud Amnicola, is the most common amnicolid in Ohio and probably is much more widespread than shown. Minute shells such as these are often under-represented in surveys and collections.



RECORDED
COUNTIES


2-4 MM LENGTH ACTUAL SIZE

FAUCET SNAIL (MUD BITHYNIA)

Bithynia tentaculata (Bith-eeen-ee-ah • ten-tack-u-lah-tah)

DESCRIPTION: The shell is small, smooth, compact, the triangular spire about as high as the aperture. The animal has a white, thick, calcified operculum, a trapdoor on its foot that seals the aperture when withdrawn. It has a concentric operculum.

SIZE: To ca. 15 mm.

HABITAT: The Faucet Snail lives in large lakes and sluggish rivers, usually in shallow water.

RANGE: A native of Europe, it now occurs in the Great Lakes and parts of the eastern United States.

SIMILAR SPECIES: The Faucet Snail resembles some species of *Amnicolidae* and *Hydrobiidae* but is generally larger. The operculum is thick, white, and calcified in *Bithynia*. It is thin, brown, and uncalcified in the other families.

REMARKS: The invasive Faucet Snail first appeared in Lake Erie about 1930.



RECORDED
COUNTIES



15 MM LENGTH ACTUAL SIZE



MUDSNAILS

Representative shown: *Cincinnatia integra* (Sin-sin-at-ee-ah • in-teg-rah) Midland Siltsnail

DESCRIPTION: Hydrobiids have very small to minute, usually smooth, compact shells. The animal has an uncalcified operculum.

SIZE: Minute to ca. 6 mm in length.

HABITAT: Hydrobiid habitat varies with species. Some live in open water, others in seeps and springs, and others in perennial water bodies.

RANGE: Hydrobiid species are widespread in North America but are often overlooked. Many inhabit very narrow ranges such as a single spring or cave.

SIMILAR SPECIES: The Faucet Snail has a calcified operculum. Identification of species of Amnicolidae and Hydrobiidae may require an expert on the groups.

REMARKS: Identification often requires high magnification, including the use of scanning electron microscopes. The species shown here, the Midland Siltsnail, may be the most common hydrobiid in Ohio and probably is much more widespread than shown.



RECORDED
COUNTIES



6 MM LENGTH ACTUAL SIZE



LIVER ELIMIA

Elimia livescens (Ee-lim-ee-ah • live-es-ens)

DESCRIPTION: These are medium-sized, smooth shells with a very high spire and a small aperture. The animal has an uncalcified operculum.

SIZE: To ca. 25 mm in length.

HABITAT: It is found in most clean water bodies, often abundant where it occurs. It is more common in creeks than large rivers.

RANGE: This species lives in the upper Ohio River system and the Great Lakes. It is probably found state-wide in Ohio in the proper water conditions but there are fewer records in the north-western part of the state.

SIMILAR SPECIES: The Sharp Hornsnail and Silty Hornsnail are larger with higher spires compared to their apertures.

REMARKS: This snail can be an indicator of good water quality in streams.



RECORDED
COUNTIES



25 MM LENGTH ACTUAL SIZE

ONYX ROCKSNAIL

Leptoxis praerosa (Lep-tox-iss • pree-row-sah)

DESCRIPTION: The shell is small, very compact and heavy, with a very low spire and very large aperture. The animal has an uncalcified operculum.

SIZE: To ca. 20 mm in length.

HABITAT: This is a big river species in free-flowing water.

RANGE: This species is limited to the Ohio River system. It does not occur in the Great Lakes drainages. In Ohio, it is very rare in the downstream Ohio River mainstem.

SIMILAR SPECIES: No Ohio freshwater snail resembles the Onyx Rocksnail except for the extinct Broad Mudalia. The round, compact shell with an operculum is distinct.

REMARKS: The flattened, compact shape is adapted to life in rivers having swift currents. The impoundment of many rivers has eliminated that habitat.



RECORDED
COUNTIES



20 MM LENGTH ACTUAL SIZE

BROAD MUDALIA

Leptoxis trilineata (Lep-tox-iss • try-lin-ee-ah-tah)

DESCRIPTION: The shell is small, very compact, with a low spire and very large aperture. The animal has an uncalcified operculum.

SIZE: To ca. 10 mm in length.

STATUS: Presumed Extinct

HABITAT: This was apparently a big river species but its exact habitat is unknown.

RANGE: The Broad Mudalia is known from the upper Ohio River system. It did not occur in the Great Lakes drainages. In Ohio, it was very rare in the downstream Ohio River mainstem.

SIMILAR SPECIES: No Ohio freshwater snail resembles this species except for the Onyx Rocksnail. That snail is larger and lacks the revolving colored lines.

REMARKS: This apparently is the only extinct freshwater snail in Ohio. The specimen shown was collected at Cincinnati in the 1800s.



RECORDED
COUNTIES



10 MM LENGTH ACTUAL SIZE

VARICOSE ROCKSNAIL

Lithasia verrucosa (Lith-ah-see-ah • ver-u-cose-ah)

DESCRIPTION: The distinctive shell is medium-sized, compact, solid, and the spire is about as high as the aperture. The whorls have several spiral rows of bumps or knobs. The animal has an uncalcified operculum.

SIZE: To ca. 30 mm in length.

HABITAT: The Varicose Rocksnail is strictly a big river species.

RANGE: This species is found in the upper Ohio River system. It does not occur in the Great Lakes drainages. In Ohio, it is very rare in the downstream Ohio River mainstem.

SIMILAR SPECIES: The rows of knobs on the shell are unique in Ohio's freshwater snails. Other species of *Lithasia* occur in the lower Ohio River system including the Duck and Cumberland rivers. All are sculptured with knobs and ribs.



RECORDED
COUNTIES



30 MM LENGTH ACTUAL SIZE

SHARP HORNSNAIL

Pleurocera acuta (Ploo-row-ser-ah • ah-cute-ah)

DESCRIPTION: The shell is large with a very high spire and a small aperture. The whorls are rounded but they may have weak spiral ridges or grooves. The animal has an uncalcified operculum.

SIZE: To ca. 40 mm in length.

HABITAT: Typical of rivers, large streams, and large lakes. It is not a creek species.

RANGE: The Sharp Hornsnail occurs in the upper Ohio and Mississippi river systems and the Great Lakes. In Ohio, it is found state-wide in rivers, in large streams, and in Lake Erie.

SIMILAR SPECIES: The Liver Elimia (previous) is smaller, with a shorter spire. The similar Silty Hornsnail (next) is more compact, with a spiral keel on the midpoint of the whorl, but some specimens may be difficult to place. The Silty Hornsnail probably does not occur in the Great Lakes drainages.



RECORDED
COUNTIES



40 MM LENGTH ACTUAL SIZE

SILTY HORNSNAIL

Pleurocera canaliculata (Ploo-row-ser-ah • can-al-ick-u-lah-tah)

DESCRIPTION: The shell is large with a very high spire and a small aperture. The whorls have one or more prominent ridges or keels at the midpoint rendering the whorls very angular. The animal has an uncalcified operculum.

SIZE: To ca. 40 mm in length.

HABITAT: The Silty Hornsnail is typical of rivers and large streams. It is not a creek species.

RANGE: This species inhabits the upper Ohio and Mississippi river systems. It apparently does not occur in the Great Lakes drainages.

SIMILAR SPECIES: The Liver Elimia is smaller, with a shorter spire. The similar Sharp Hornsnail (previous) is more elongated and lacks the strong spiral keel on the midpoint of the whorl, but some specimens may be difficult to place. Unlike the Sharp Hornsnail, the Silty Hornsnail does not occur in the Great Lakes drainages.



RECORDED
COUNTIES



40 MM LENGTH ACTUAL SIZE

BROWN WALKER

Pomatiopsis cincinnatiensis (Po-mat-ee-op-sis • sin-sin-at-ee-en-sis)

DESCRIPTION: The Brown Walker has a small, very compact shell with rounded whorls and a high spire. The animal has an uncalcified paucispiral operculum.

SIZE: To ca. 5 mm in length.

HABITAT: This is an amphibious snail living along the wet margins of streams and ponds. Nevertheless it breathes with gills and must remain moist.

RANGE: This snail ranges from the North American midwest south to Tennessee. It is probably more wide-spread in Ohio than the records indicate.

SIMILAR SPECIES: It differs from the Faucet Snail in lacking a calcified operculum. It has a lower spire than the related Slender Walker (next). It is larger than most species of Amnicolidae and Hydrobiidae. The Brown Walker is perhaps best identified by its amphibious nature.



RECORDED
COUNTIES



5 MM LENGTH ACTUAL SIZE

SLENDER WALKER

Pomatiopsis lapidaria (Po-mat-ee-op-sis • lap-id-arr-ee-ah)

DESCRIPTION: The shell is small and compact with rounded whorls and a high spire. The animal has an uncalcified paucispiral operculum.

SIZE: To ca. 6 mm in length.

HABITAT: The Slender Walker is an amphibious snail living along the wet margins of streams and ponds. Nevertheless it breathes with gills and must remain moist.

RANGE: This species occurs throughout eastern North America. It is probably more wide-spread in Ohio than the records indicate, although it seems to avoid unglaciated areas.

SIMILAR SPECIES: It differs from most other minute freshwater snails, including the Brown Walker (previous), in having a high spire. It is also identified by its amphibious nature.



RECORDED
COUNTIES



6 MM LENGTH ACTUAL SIZE

NEW ZEALAND MUDSNAIL

Potamopyrgus antipodarum (Po-tam-o-per-gus • an-tee-pode-ar-um)

DESCRIPTION: The shell is small, very compact, with rounded whorls and a fairly high spire. Some specimens have a spiral row of short spines or a keel on the whorls. The animal has an uncalcified paucispiral operculum.

SIZE: To ca. 10 mm in length.

STATUS: Introduced

HABITAT: This invasive snail occurs in many freshwater habitats including highly eutrophic water. They may attain extremely high densities (nearly 6,000/sq. meter).

RANGE: Originally from New Zealand, it now occurs in the Great Lakes and numerous lakes in western North America.

SIMILAR SPECIES: The combination of a small, high spired, brown shell, sometimes with a row of spines or a keel, is not to be found in any other Ohio freshwater snail.

REMARKS: This snail was first found in Europe in the 1800s but did not occur in North America until 1987.



RECORDED
COUNTIES

10 MM LENGTH ACTUAL SIZE

PURPLECAP VALVATA

Valvata perdepressa (Val-vah-tah • per-de-press-ah)

DESCRIPTION: The shell is very small, highly flattened, sometimes with reddish central whorls. The animal has an uncalcified multispiral operculum, a trapdoor on its foot that seals the aperture when withdrawn.

SIZE: To ca. 6 mm in width.

HABITAT: Little is known of the habits of this species. Most specimens have been found dead in beach drift.

RANGE: The Purplecap Valvata is found in the Great Lakes but is rare in Ohio.

SIMILAR SPECIES: Species of the family Planorbidae are similar but are usually larger and their shells coil in a single plane; the Purplecap Valvata is very flattened but the shells do not coil in a single plane. Members of the Planorbidae also lack an operculum.



RECORDED
COUNTIES



6 MM WIDTH ACTUAL SIZE

MOSSY VALVATA

Valvata sincera (Val-vah-tah • sin-ser-ah)

DESCRIPTION: The shell is very small, compact, the surface crossed with very fine wrinkles. The animal has an uncalcified multispiral operculum.

SIZE: To ca. 5 mm in width.

HABITAT: This small species prefers lakes, often in deep water on vegetation and mud.

RANGE: The Mossy Valvata is found in northern North America; it is rare in Ohio in Lake Erie. Ohio is on the southern edge of its range.

SIMILAR SPECIES: The small shell covered with fine (microscopic) wrinkles and possessing an operculum, differs from all other Ohio freshwater snails. It has a higher spire than the Purplecap Valvata.



RECORDED
COUNTIES



5 MM WIDTH ACTUAL SIZE

THREERIDGE VALVATA

Valvata tricarinata (Val-vah-tah • try-care-ee-nah-tah)

DESCRIPTION: The shell is very small, compact, with 1-3 sharp keels or ribs that spiral around the whorls. The animal has an uncalcified multispiral operculum.

SIZE: To ca. 6 mm in width.

HABITAT: It is found in permanent water bodies on vegetation.

RANGE: The Threeridge Valvata is found from northern North America south to the Midwest. It is widespread in Ohio but perhaps avoids unglaciated areas.

SIMILAR SPECIES: None.



RECORDED
COUNTIES



6 MM WIDTH ACTUAL SIZE

BANDED MYSTERYSNAIL

Callinina georgiana (Cal-ee-nee-ah• george-ee-an-uh)

DESCRIPTION: The shell is medium to large-sized, solid, with rounded whorls and spiral reddish bands. The animal has an uncalcified concentric operculum.

SIZE: To ca. 35 mm in length.

HABITAT: The Banded Mysterysnail is commonly found burrowing in the mud of lakes, ponds, and sluggish rivers and creeks.

RANGE: There are several discontinuous populations across eastern North America. This species is very rare and localized in Ohio.

SIMILAR SPECIES: The large, solid, banded shell is unique among Ohio's freshwater snails.

REMARKS: As is true for all members of the family *Viviparidae*, the banded mysterysnails gives birth to live young that hatch from eggs that are retained in the female. The mystery is that one day you have a single snail and the next day you have abundant baby snails that appeared "from out of nowhere." Previously thought to belong to the genus *Viviparus*.



RECORDED
COUNTIES



35 MM LENGTH ACTUAL SIZE

POINTED CAMPELOMA

Campeloma decisum (Camp-el-o-mah • de-sy-sum)

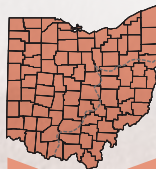
DESCRIPTION: The shell is medium to large-sized, very solid, with rounded whorls. It is often highly eroded and pitted. The animal has an uncalcified concentric operculum.

SIZE: To ca. 40 mm in length.

HABITAT: The Pointed Campeloma is commonly found burrowing in the mud of lakes, ponds, and sluggish rivers and creeks.

RANGE: This species is widely distributed in the eastern half of North America except for the southeastern states where it is replaced by similar species. It is found state-wide in Ohio.

SIMILAR SPECIES: No other Ohio freshwater snail has the combination of a large, solid, compact, greenish shell with an operculum. The related but much rarer (in Ohio) Banded Mysterysnail (next) is not as elongate and usually has spiral reddish bands.



RECORDED
COUNTIES



40 MM LENGTH ACTUAL SIZE

JAPANESE MYSTERYSNAIL

Heterogen japonica (Het-err-o-jen • ja-pon-ick-uh)

DESCRIPTION: The shell is very large, solid, with rounded whorls. The spire has spiral ridges. The animal has a large, uncalcified concentric operculum.

SIZE: To ca. 70 mm in length.

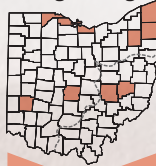
STATUS: Introduced

HABITAT: It is commonly found burrowing in the mud of lakes, ponds, and sluggish rivers and creeks.

RANGE: This is an exotic from Asia. A few very discontinuous populations occur in North America, usually near cities. Some are thought to be escapees from the aquarium trade, others as an imported (but escaped) food source by Asian immigrants.

SIMILAR SPECIES: The Chinese Mysterysnail lacks the spiral ridges on the spire.

REMARKS: The Japanese and Chinese Mysterysnails are the largest freshwater snails in Ohio. It is not clear if they represent two different species although they are usually easily separated. Previously thought to belong to the genus *Viviparus*.



RECORDED
COUNTIES

70 MM LENGTH ACTUAL SIZE

CHINESE MYSTERYSNAIL

Cipangopaludina malleata (See-pang-go-pal-u-deen-ah • mal-ee-ah-tah)

DESCRIPTION: The Chinese Mysterysnail shell is very large, solid, with rounded whorls. The spire lacks spiral ridges. The surface of shell is malleated, or dimpled as it were dented by a ballpeen hammer. The animal has a large, uncalcified concentric operculum.

SIZE: To ca. 70 mm in length.

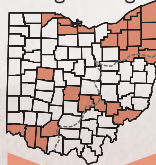
STATUS: Introduced

HABITAT: It is commonly found burrowing in the mud of lakes, ponds, and sluggish rivers and creeks.

RANGE: This is another exotic from Asia. A few very discontinuous populations of this species occurs in North America, usually near cities. Some are thought to be escapees from the aquarium trade, others as an imported (but escaped) food source by Asian immigrants.

SIMILAR SPECIES: The Japanese Mysterysnail has spiral ridges on the spire.

REMARKS: The Japanese and Chinese Mysterysnails are the largest freshwater snails in Ohio. It is not clear if they represent two different species although they are usually easily separated. Previously thought to belong to the genus *Viviparus*.



RECORDED
COUNTIES

70 MM LENGTH ACTUAL SIZE

FURROWED LIOPLAX

Lioplax sulculosa (Lee-o-plax • sulk-u-low-sah)

DESCRIPTION: The shell is medium-sized, very compact, often with angular whorls. It is covered with very fine spiral lines. The animal has an uncalcified concentric operculum.

SIZE: To ca. 25 mm in length.

HABITAT: This is a big river and lake species.

RANGE: The Furrowed Lioplax occurs in the upper Ohio and Mississippi river systems and Lake Erie. In Ohio, there is a single confirmed record for Lake Erie and it is very rare in the downstream Ohio River mainstem.

SIMILAR SPECIES: The pale shell with very fine spiral lines sets this species apart from all other Ohio freshwater snails.

REMARKS: There are few species of *Lioplax* in North America and most are uncommon to rare species.



RECORDED
COUNTIES



25 MM LENGTH ACTUAL SIZE

MARSH FOSSARIA

Galba humilis (Gall-bah • hu-mil-iss)

DESCRIPTION: These are small, thin, compact shells, the spires about as tall as the apertures. The animal lacks an operculum.

SIZE: Usually 8-10 mm in length.

HABITAT: This species is an aquatic edge species, which can survive receding water but is not as amphibious as the *Pomatiopsidae*.

RANGE: This species is widespread in North America but is often overlooked.

SIMILAR SPECIES: Similar snails such as the Faucet Snail and members of the *Amnicolidae*, *Hydrobiidae*, and *Pomatiopsidae* have an operculum.

REMARKS: Many different subpopulations and morphs of this species have been given their own species names in the past, and there is further disagreement about the correct genus name (*Fossaria*, *Lymnaea*, or *Galba*). The most recent Freshwater Mollusk Conservation Society taxonomy uses the name *Galba humilis*. Regardless of its proper name, this species is a widespread member of the Ohio fauna.



RECORDED
COUNTIES



8-10 MM LENGTH ACTUAL SIZE

WRINKLED MARSHSNAIL

Hinkleyia caperata (Hink-lee-a • cap-err-att-ah)

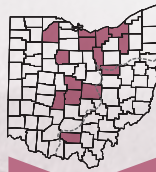
DESCRIPTION: This is a medium-sized, fragile, compact shell. The spire is about as tall as the aperture. The shell is covered with microscopic spiral threads. The animal lacks an operculum.

SIZE: To ca. 15 mm in length.

HABITAT: This snail lives in temporary ponds, less commonly in lakes, streams, and rivers.

RANGE: The Wrinkled Marshsnail is widespread in northern North America. In Ohio it is found in unglaciated portions of the state.

SIMILAR SPECIES: The overall shell shape and presence of the microscopic spiral threads are unique among Ohio's freshwater snails.



RECORDED
COUNTIES



15 MM LENGTH ACTUAL SIZE

WOODLAND PONDSNAIL

Ladislavella catascopium (Lad-ee-slav-ell-a • cat-ah-scope-ee-um)

DESCRIPTION: The Woodland Pondsnailed has a medium-sized, rather solid, compact shell. The spire is about as tall as the aperture or less. The aperture is wide and rounded. The animal lacks an operculum.

SIZE: Rarely to ca. 30 mm, usually ca. 20 mm in length.

HABITAT: This snail is most common in large lakes and sluggish rivers.

RANGE: It is widespread in northern North America. Ohio is at its southern limit.

SIMILAR SPECIES: The compact, solid shell with a wide aperture, combined with its lake and river habitat, sets it apart from other lymnaeids.



RECORDED
COUNTIES



20 MM LENGTH ACTUAL SIZE
30 MM LENGTH RARE SIZE

MARSH PONDSNAIL

Ladislavella elodes (Lad-ee-slav-ell-a • el-ode-ees)

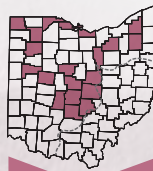
DESCRIPTION: A fairly large, fragile, elongated shell. The spire is very high and tapers to a fine point. Some individuals have numerous dents covering the shell, others may be quite smooth. Adults often have a brown band just within the aperture. This species can be quite variable across its wide range. The animal lacks an operculum.

SIZE: To ca. 40 mm in length.

HABITAT: As its name suggests, this snail frequents marshes, ponds, and areas with little water flow. It often occurs among cattails and may be very common. It is not expected to be found in streams and rivers.

RANGE: It is widely distributed in North America, possibly in Europe as well. In Ohio it avoids unglaciated regions.

SIMILAR SPECIES: The much rarer Flat-whorled Pondsnaail (next) is even more elongate and narrow. The Swamp Lymnaea is larger and the last whorl is more expanded.



RECORDED
COUNTIES



40 MM LENGTH ACTUAL SIZE

FLAT-WHORLED PONDSNAIL

Ladislavella exilis (Lad-ee-slav-ell-a • ex-ill-liss)

DESCRIPTION: A fairly large, fragile, very elongated shell, the sides of the shell are nearly flat. The spire is very high and tapers to a fine point. Adults often have a brown band just within the aperture. The animal lacks an operculum.

SIZE: To ca. 35 mm in length.

HABITAT: This snail lives in marshes, ponds, and areas with little water flow, including temporary water bodies. It is not expected to be found in streams and rivers.

RANGE: The Flat-whorled Pondsnailed occurs in the midwestern United States, but is sporadic. In Ohio it is known from Calamus Swamp in Pickaway County, but is probably scattered across the state.

SIMILAR SPECIES: The similar but much more common Marsh Pondsnailed (previous) is less elongate and less narrow. The Swamp Lymnaea (next) is larger and the last whorl is more expanded.



RECORDED
COUNTIES



35 MM LENGTH ACTUAL SIZE

SWAMP LYMNAEA

Lymnaea stagnalis (Lim-nay-ah • stag-naal-liss)

DESCRIPTION: This is a large but very fragile, elongated shell. The spire is very high and tapers to a fine point. The last whorl of the adult shell is noticeably expanded and rounded resulting in a wide aperture. The columella has a prominent twist. The animal lacks an operculum.

SIZE: To ca. 60 mm in length.

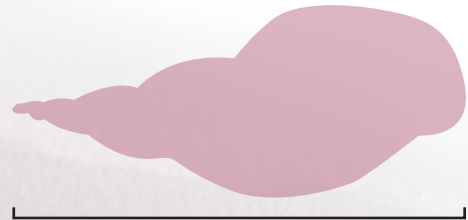
HABITAT: This species frequents swamps, lakes, and ponds.

RANGE: It is widely distributed in northern North America and Europe. Some workers consider the North American populations to be different from the European ones. It is probably more widely distributed in Ohio than recorded here.

SIMILAR SPECIES: The combination of large size, expanded last whorl, and wide aperture distinguishes this species from other lymnaeids.



RECORDED
COUNTIES



60 MM LENGTH ACTUAL SIZE

MIMIC LYMNAEA

Pseudosuccinea columella (Soo-doh-suk-sin-aye-ah • col-u-mell-ah)

DESCRIPTION: The Mimic Lymnaea has a medium-sized, very fragile shell with a short spire and an expansive aperture. The animal lacks an operculum.

SIZE: To ca. 20 mm in length.

HABITAT: It is found in calm bodies of water of all sizes.

RANGE: Widespread in eastern North America, it is probably more widespread in Ohio than records indicate.

SIMILAR SPECIES: This is the only Ohio freshwater snail with the combination of a low spire and a large aperture, but compare with the much larger Big-ear Radix (next), which has an even wider aperture.

REMARKS: The generic name *Pseudosuccinea* refers to its very similar appearance to members of the unrelated land snail family *Succineidae* – a case of convergent evolution.



RECORDED
COUNTIES



20 MM LENGTH ACTUAL SIZE

BIG-EAR RADIX

Radix auricularia (Ray-dix • ore-ick-u-lar-ee-ah)

DESCRIPTION: This large, very fragile shell has a very short spire and very large aperture. The animal lacks an operculum.

SIZE: To ca. 30 mm in length.

STATUS: Introduced

HABITAT: It is found in bodies of water of all sizes, flowing or calm. It can live in stagnant water.

RANGE: This is a Eurasian species that has been introduced to North America. It is often found near cities. In Ohio it has been found in Lake Erie around Sandusky. An older record for the Ohio-Erie Canal also exists.

SIMILAR SPECIES: This is the only Ohio freshwater snail with the combination of a very low spire and a huge aperture. Compare with the much smaller Mimic Lymnaea (previous), which has a smaller aperture.

REMARKS: This species first appeared in North America in the Hudson River of New York about 1869. It first occurred in Lake Erie in 1911.



RECORDED
COUNTIES



30 MM LENGTH ACTUAL SIZE

MOSS BLADDER SNAIL

Aplexa hypnorum (Ay-plex-a • hip-nor-um)

DESCRIPTION: The Moss Bladder Snail has a characteristic small, polished, bullet-shaped shell with a sharp apex. As with all members of the family in Ohio, shells are sinistral – the aperture opens on the left side of the shell. The animal lacks an operculum.

SIZE: To ca. 18 mm in length.

HABITAT: This snail can be abundant in vernal (temporary) pools, less common in other water bodies.

RANGE: It is widespread in northern North America and Europe. Ohio is at its southern limit.

SIMILAR SPECIES: Can appear similar to other physid species (see next), but its whorls are more flattened, and its shell is more elongate and narrow.



RECORDED
COUNTIES



18 MM LENGTH ACTUAL SIZE

WANDERING PHYSA (ACUTE BLADDER SNAIL)

Physella acuta (Phy-sell-lah • ah-cute-ah)

DESCRIPTION: The shell is thin, fragile, and sinistral with a moderately-high, blunt spire, and a wide aperture. The animal lacks an operculum.

SIZE: To ca. 24 mm in length, usually smaller.

HABITAT: This species inhabits nearly any water body, including temporary ones, and is tolerant of stagnant and even moderately polluted water.

RANGE: This species is widespread in North America and introduced to many places around the world. Originally believed to be an exotic from Europe, it is now believed to be native to North America. It is abundant and state-wide in Ohio.

SIMILAR SPECIES: The very similar Tadpole Physa (previous) tends to have a lower and more convex-sided spire but the two may be difficult to distinguish.

REMARKS: The shell characteristics of many *Physella* species are variable and difficult to define. Some workers feel that the two common Ohio species, the Tadpole and Wandering Physas, are actually a complex of several additional taxa.



RECORDED
COUNTIES



24 MM LENGTH ACTUAL SIZE

TADPOLE PHYSA

Physella gyrina (Phy-sell-lah • jai-ree-nah)

DESCRIPTION: The shell is thin, fragile, and sinistral with a short, blunt spire and a wide aperture. The animal lacks an operculum.

SIZE: To ca. 24 mm in length, usually smaller.

HABITAT: This species inhabits nearly any water body, including temporary ones, and is tolerant of stagnant and even moderately polluted water.

RANGE: It is widespread in North America and is abundant and state-wide in Ohio.

SIMILAR SPECIES: The very similar Wandering Physa (previous) tends to have a higher and a more straight-sided spire but the two may be difficult to distinguish.

REMARKS: The shell characteristics of many *physid* species are variable and difficult to define. Some workers feel that the two common Ohio species, the Tadpole and Wandering Physas, are actually a complex of several additional taxa.



RECORDED
COUNTIES



24 MM LENGTH ACTUAL SIZE

FRAGILE ANCYLID

Ferrissia californica (Ferris-ee-ah • cal-if-or-nick-ah)

DESCRIPTION: The shell is minute, very fragile, and limpet-shaped. The animal lacks an operculum.

SIZE: To ca. 3 mm in length.

HABITAT: This species can be found attached to rocks, shells, and cat-tails in lakes and ponds.

RANGE: The Fragile Ancyloid is widespread in North America. In Ohio it seems to avoid unglaciated areas.

SIMILAR SPECIES: The only other limpet-like snail that is commonly encountered in Ohio is the Creeping Ancyloid (next). That species has a more rounded outline and is slightly larger and taller.

REMARKS: The term “limpet” is applied to any shells of this shape. Not all “limpets” are related to each other and they may be found in several snail families, both marine and freshwater – an example of convergent evolution. Some call this species *Ferrissia fragilis*, but the oldest available name for this species (and therefore the name that takes priority) is *Ferrissia californica*.



RECORDED
COUNTIES


3 MM LENGTH ACTUAL SIZE

CREEPING ANCYLID

Ferrissia rivularis (Ferris-ee-ah • riv-u-lar-iss)

DESCRIPTION: The shell is very small, fragile, and limpet-shaped. The sides of the shell are more rounded than straight. The animal lacks an operculum.

SIZE: To ca. 7 mm in length.

HABITAT: This species can be found attached to rocks and shells in most water bodies.

RANGE: The Creeping Ancyclus is widespread in North America east of the Rocky Mountains. In Ohio it seems to avoid unglaciated areas.

SIMILAR SPECIES: The only other limpet-like snail that is commonly encountered in Ohio is the Fragile Ancyclus (previous). That species is more elongate and is slightly smaller and shorter.

REMARKS: The limpet-like freshwater snails in the genus *Ferrissia* (see previous species) used to be considered part of the family Ancyliidae. Now it is thought that the ancylicids are members of the family Planorbidae, the Rams-horn snails, despite the dramatic difference in shell shape between species like the Creeping Ancylicid and the generally helical species in Planorbidae (see following pages).



RECORDED
COUNTIES



7 MM LENGTH ACTUAL SIZE

STAR GYRO

Gyraulus crista (Jai-rall-us • kris-tah)

DESCRIPTION: The Star Gyro is a very minute, flattened, pseudodextral shell that does not coil in a single plane. The shell has radiating ridges arranged across the shell rendering the outline ragged or star-shaped. The animal lacks an operculum.

SIZE: To ca. 3 mm in width.

HABITAT: It lives among vegetation in ponds and sluggish streams.

RANGE: It is widespread in northern North America, Europe, and Asia. Ohio is on its southern limit where it is rare in Lake Erie.

SIMILAR SPECIES: The very small, flattened shell with a ragged outline is unique among Ohio's freshwater snails.



RECORDED
COUNTIES



3 MM WIDTH ACTUAL SIZE

FLEXED GYRO

Gyraulus deflectus (Jai-rall-us • de-flek-tus)

DESCRIPTION: This is a very small, flattened, pseudodextral shell that coils in a single plane. Some specimens have a blunt keel around the whorls and spiral rows of minute hairs. The animal lacks an operculum.

SIZE: To ca. 8 mm in width.

HABITAT: It lives among vegetation in lakes and ponds as well as the backwaters of rivers and streams.

RANGE: The Flexed Gyro is widespread in northeastern North America. It is probably state-wide in Ohio although overlooked.

SIMILAR SPECIES: This species has a sunken spire compared to the higher-spired species in *Valvata*, and lacks an operculum, which all species in *Valvata* possess.



RECORDED
COUNTIES



8 MM WIDTH ACTUAL SIZE

ASH GYRO

Gyraulus parvus (Jai-rall-us • parv-us)

DESCRIPTION: The Ash Gyro has a minute, flattened, pseudodextral shell that coils in a single plane. The animal lacks an operculum.

SIZE: To ca. 5 mm in width.

HABITAT: It lives among vegetation in lakes and ponds as well as the backwaters of rivers and streams.

RANGE: This minute species is widespread in North America. It is also widespread in Ohio outside of unglaciated areas.

SIMILAR SPECIES: This species has a sunken spire compared to the higher-spired species in *Valvata*, and lacks an operculum, which all species in *Valvata* possess.



RECORDED
COUNTIES



5 MM WIDTH ACTUAL SIZE

TWO-RIDGE RAMSHORN

Helisoma anceps (Hee-li-so-mah • an-seps)

DESCRIPTION: This is a small, compact, dextral shell that coils in a single plane, with a sharp spiral ridge on both the top and the bottom. The adult aperture may be flared outward but is not shaped like a bell. The animal lacks an operculum.

SIZE: To ca. 15 mm in width.

HABITAT: It lives among vegetation in most permanent water bodies; it is usually absent from temporary ponds.

RANGE: It is found throughout most of North America and is state-wide in Ohio.

SIMILAR SPECIES: Its small size and ridged whorls set this species apart from the larger planorbids. The lip does not form a bell-shaped opening as in the Bellmouth Ramshorn.

REMARKS: The shell of the Two-ridge Rams-horn is pseudodextral—in early ontogeny the shell is fully sinistral, but the preferred shell orientation of the adult snail is to have the umbilicus pointing up and the apex of the shell pointing down. Growth in this position makes the shell appear to be dextral.



RECORDED
COUNTIES



15 MM WIDTH ACTUAL SIZE

BUGLE SPRITE

Menetus dilatatus (Men-eet-us • dill-lah-tat-us)

DESCRIPTION: This is a very small, very flattened, pseudodextral shell that does not coil in a single plane. The shell whorls rapidly increase in size and have a blunt keel. The animal lacks an operculum.

SIZE: To ca. 6 mm in width.

HABITAT: It lives among vegetation in lakes, ponds, and streams, whether permanent or temporary.

RANGE: The Bugle Sprite is widespread in North America east of the Rocky Mountains. It is undoubtedly more wide-spread in Ohio than the records indicate.

SIMILAR SPECIES: This species has a sunken spire compared to the higher-spired species in *Valvata*, and lacks an operculum, which all species in *Valvata* possess.



RECORDED
COUNTIES



6 MM WIDTH ACTUAL SIZE

BELLMOUTH RAMSHORN

Planorbella campanulata (Plan-or-bel-lah • cam-pan-u-lah-tah)

DESCRIPTION: The Bellmouth Ramshorn has a small, compact, sinistral shell that coils in a single plane, lacking a sharp spiral ridge on either the top or the bottom. The adult aperture is flared outward forming a bell-like opening. The animal lacks an operculum.

SIZE: To ca. 15 mm in width.

HABITAT: This species lives among vegetation in lakes and ponds as well as the backwaters of rivers.

RANGE: It occurs throughout northern North America east of the Rocky Mountains. It is apparently rare in Ohio.

SIMILAR SPECIES: Its combination of small size and bell-shaped opening are unique among Ohio's planorbids.



RECORDED
COUNTIES



15 MM WIDTH ACTUAL SIZE

FILE RAMSHORN

Planorbella pilsbryi (Plan-or-bel-lah • pills-bree-eye)

DESCRIPTION: The File Ramshorn has a large, compact, sinistral shell that coils in a single plane. The adult aperture is slightly flared outward. The animal lacks an operculum.

SIZE: To ca. 30 mm in width.

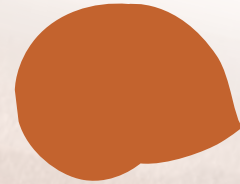
HABITAT: The File Ramshorn lives among vegetation in lakes and ponds as well as the backwaters of rivers and streams.

RANGE: This is a boreal species that extends into the Great Lakes. It is apparently rare in Ohio in Lake Erie. There is a suspicious record from Wyandot County as well.

SIMILAR SPECIES: This large planorbid can only be confused with the much more common and widely distributed Marsh Ramshorn (next). It differs from that species in having a higher shell relative to the shell's width.



RECORDED
COUNTIES



30 MM WIDTH ACTUAL SIZE

MARSH RAMSHORN

Planorbella trivolvis (Plan-or-bel-lah • try-vol-viss)

DESCRIPTION: This is a large, compact, sinistral shell that coils in a single plane. The adult aperture is slightly flared outward. The animal lacks an operculum.

SIZE: To ca. 32 mm in width.

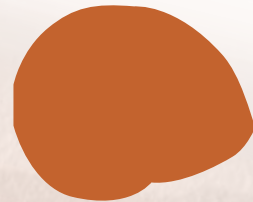
HABITAT: It lives among vegetation in lakes and ponds as well as the backwaters of rivers and streams.

RANGE: The Marsh Ramshorn is widespread in eastern North America south to Tennessee. It is found state-wide in Ohio.

SIMILAR SPECIES: This large *planorbid* can only be confused with the rare (in Ohio) File Ramshorn (previous). That species has a taller shell for its width than does the Marsh Ramshorn.



RECORDED
COUNTIES



32 MM WIDTH ACTUAL SIZE

SHARP SPRITE

Promenetus exacuous (*Pro-men-ee-tus • ex-ack-u-o-sus*)

DESCRIPTION: This is a very small, very flattened, pseudodextral shell that coils in a single plane. The shell whorls rapidly increase in size and have a sharp keel. The animal lacks an operculum.

SIZE: To ca. 6 mm in width.

HABITAT: It lives among vegetation in lakes, ponds, and streams, whether permanent or temporary.

RANGE: The Sharp Sprite is widespread in North America east of the Rocky Mountains. It is probably more wide-spread in Ohio than the records indicate, although it seems to avoid unglaciated areas.

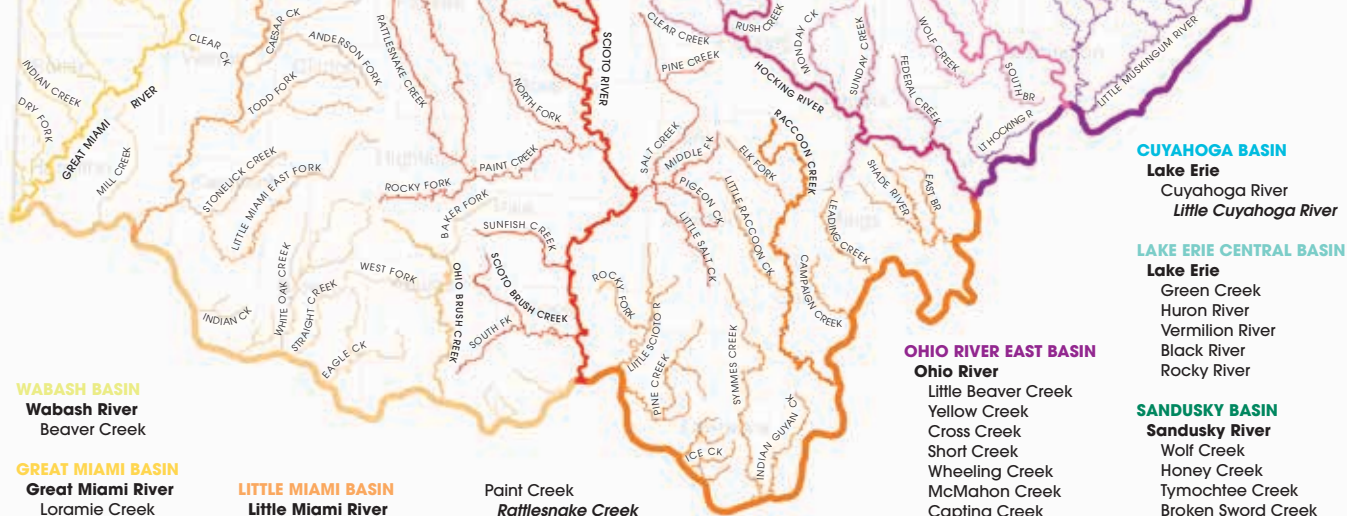
SIMILAR SPECIES: This species has a sunken spire compared to the higher-spired species in *Valvata*, and lacks an operculum, which all species in *Valvata* possess.



RECORDED
COUNTIES



6 MM WIDTH ACTUAL SIZE



WABASH BASIN
Wabash River
 Beaver Creek

GREAT MIAMI BASIN
Great Miami River
 Loramie Creek
 Stillwater River
 Spring Creek
 Honey Creek
 Wolf Creek
 Twin Creek
 Clear Creek
 Seven Mile Creek
 Indian Creek
 Dry Fork
 Mad River

OHIO RIVER WEST BASIN
Ohio River
 Mill Creek
 Indian Creek
 White Oak Creek
 Straight Creek
 Eagle Creek
 Ohio Brush Creek
West Fork
Baker Fork

LITTLE MIAMI BASIN
Little Miami River
 Little Miami East Fork
 Todd Fork
 Caesar Creek

SOUTH POINT BASIN
Ohio River
 Little Scioto River
 Pine Creek
 Ice Creek
 Symmes Creek
 Indian Guyan Creek
 Raccoon Creek
 Campaign Creek
 Leading Creek
 Shade River

SCIOTO BASIN
Scioto River
 Scioto Brush Creek
 Sunfish Creek
 Salt Creek

Paint Creek
Rattlesnake Creek
Rocky Fork
 Deer Creek
 Big Darby Creek
Little Darby Creek
 Little Walnut Creek
 Big Walnut Creek
Alum Creek
Blacklick Creek
 Olentangy River
Whetstone Creek
 Mill Creek
 Bakes Creek
 Little Scioto

HOCKING BASIN
Hocking River
 Federal Creek
 Sunday Creek
 Monday Creek
 Clear Creek
 Rush Creek

MUSKINGUM BASIN
Muskingum River
 Wolf Creek
South Branch
 Moxahala Creek
 Jonathan Creek
 Licking River
Rocky Fork
 Wills Creek
 Walhonding River
Kokosing River
North Branch
Mohican River
Killbuck Creek
Apple Creek
 Tuscarawas River
Stillwater Creek
Conotton Creek
Sugar Creek
Sandy Creek

OHIO RIVER EAST BASIN
Ohio River
 Little Beaver Creek
 Yellow Creek
 Cross Creek
 Short Creek
 Wheeling Creek
 McMahon Creek
 Captina Creek
 Sunfish Creek
 Little Muskingum River
 Little Hocking River

MAHONING BASIN
Beaver River (PA)
 Mahoning River
Mosquito Creek
Meander Creek
Eagle Creek
 Shenango River (PA)
Pymatuning River
Yankee Creek

LAKE ERIE EAST BASIN
Lake Erie
 Chagrin River
 Grand River
 Ashtabula River
 Conneaut Creek

CUYAHOGA BASIN
Lake Erie
 Cuyahoga River
Little Cuyahoga River

LAKE ERIE CENTRAL BASIN
Lake Erie
 Green Creek
 Huron River
 Vermilion River
 Black River
 Rocky River

SANDUSKY BASIN
Sandusky River
 Wolf Creek
 Honey Creek
 Tymochtee Creek
 Broken Sword Creek

PORTAGE BASIN
Portage River
 Portage River
Middle Fork
East Branch
 Muddy Creek

MAUMEE BASIN
Maumee River
 Tiffin River
 St. Joseph River
 St. Marys River
 Auglaize River
Blanchard River
Ottawa River
 Swan Creek

OTTAWA BASIN
Ottawa River
 Ten Mile Creek

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The 2021 Checklist of Freshwater Snails (Mollusca: Gastropoda) of the United States and Canada.

Considered and approved by the Gastropod Names Subcommittee December 2020.
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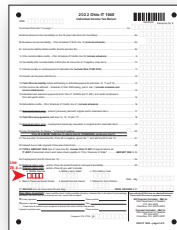
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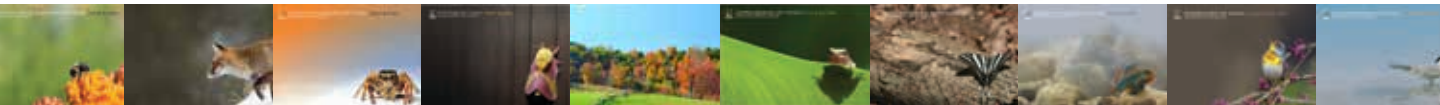
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