A Pocket Guide to Kansas Land Snails

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Introduction

This pocket guide presents and describes the land snails of Kansas. It is designed to acquaint the reader with the nature of land snails and to help identify a shell in hand.

The list of species is based on a review of known compilations including A.B. Leonard’s “Handbook of the Gastropods of Kansas” (Leonard 1959) and Basch et al. (1961) as well as the more recent Hubricht (1985) and Nekola and Coles (2010), the NatureServe database, published literature, scanning of on-line museum databases, and updates using new collections. The final list includes 72 species and is based on my judgement. On the one hand, there may well be other species that have not been found yet and on the other, some species listed (but not re-collected) that may no longer exist in the state. Taxonomy is based primarily on Bouchet and Rocroi (2005). Common names are drawn from a variety of sources. Species are listed in alphabetical order by genus.

About the Species Description

Each one-page species (or group of species) description includes basic taxonomic information, mature shell size, comments including identification characteristics and habitat, and status including the distribution of the species in Kansas. Most species have images.

The main characters used are primarily those described in the “Identification” section, plus others as needed. The habitat information given is generalized. Basically, land snails are aligned with certain habitats: woodlands (upland, lowland, moister, drier) or grasslands (drier or moister areas). Within these habitats there may be preferences for degree of slope, type of litter, soil, rocks, thatch, bark, degree of decay, and so on.
About the Maps

Red shaded counties have only historical records of a species. Yellow indicates there are historical and new records. Green indicates new records only (range extensions).

Historical occurrences are drawn from the same sources as for the species lists. For most species, the county–level occurrences are the same among these authors, but not always. Some museum collections contain specimens from counties not appearing in the published sources. The overall inconsistencies are probably due to differences in identification or the need to reconfirm the earliest Kansas records (pre–1960) used by Leonard (1959), or other factors. As a result, judgement was used in creating county–level maps. Additional legend information is given on some maps.

These maps provide some sense of the range of each species in Kansas. The absence of a species from a county does not mean it does not exist there, it only means that there has been no sampling there or that any sampling performed failed to find the species. Many (but not all) land snails are woodland species and would be expected to be found in the eastern part of the state. However, some snails do move with people into the human–created habitats.

The newest collections used here did not extend into central and western Kansas, a strong limitation to assessing current distributional status.
References


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Introduction

Of the over 500 species of land snails in eastern North America, about 70 are likely found in Kansas. Land snails (and slugs) may be found wherever there is suitable habitat. They are especially abundant in forests, but also found in grasslands and edge habitats, and around human environments (homes and gardens).

Environmental changes, both natural and due to humans, can affect the distribution and abundance of land snails. Unfortunately, we lack basic information about the biodiversity of land snails to adequately assess or understand potential impacts. We especially do not know enough about the distribution and abundance of land snails (and slugs) in Kansas.

Where Do You Find Land Snails?

At home or in towns, look in your backyard around vegetation, especially dead grass or leaves, at the edge of rock walls, or around the garden. When you take a walk in the woods, look in the forest floor among leaf litter and woody debris. Some may be found climbing a tree or herbaceous plants or around debris at the base of rock outcrops. Search as many places as you can, since snail distribution is very patchy. Success is greater after rains.

It is OK to pick up and collect shells, but if you pick up live snails, return them to where they came from. You should also sanitize your hands after touching a live snail or slug (a slug is just a snail without a shell). If you keep them for a short while (as in a classroom), be sure to return them to where you found them and to no other place.

As well, always be careful in the field and do not tear up the forest floor looking for snails. Be respectful of the habitat and replace bark and leaves when you have to disturb them to look for snails.
Ecological Roles
Land snails serve an important role in ecosystems. They consume both the living and the decomposing. Land snails may eat fungi growing in or on decaying wood, the wood itself, decomposing plant matter, living plants, or other snails. Yes, a few are predaceous and some harbor parasites. In turn, land snails are prey for a wide variety of reptiles, small mammals, birds, and insect larvae.

Snails eat by scraping surfaces with a specialized structure called a radula. It is a long strip of tissue with hundreds of replaceable teeth. The radula is drawn back and forth over a surface, scraping food into the mouth.

Several Kansas land snails and slugs harbor the brainworm nematode, Parelaphostrongylus tenuis. White-tailed deer pick up larvae from infected snails as they browse. The larvae end up in the deer’s spinal cord, develops further and lay their eggs in the deer’s brain. The new larvae end up in the deer’s feces, where a snail or slug will continue the life cycle.

It’s a Snail’s Life
Land snails start as eggs about 1–2 mm in diameter, usually laid in groups buried in loose soil, sometimes laid singly. There may be a few or up to 24 or more in a batch.

The egg nourishes the developing snail at first as it builds the first few coils of the shell (the protoconch). The hatchling crawls out of its egg shell (which it can eat). If the snail does not become prey or fall to an early natural death along the way, it will grow, add more coils (called whorls), and become reproductively mature.

Most land snails are hermaphrodites with internal fertilization. They can even display courtship behaviors. Typically, sperm are exchanged between
two individuals – some head–to–head and some side–to–side.

Are Land Snails Endangered or Threatened?
There are no Kansas land snails on the federal threatened or endangered lists. NatureServe Explorer provides an assessment of a conservation status. Their ratings for our land snail species are provided in brackets in the Status section (or elsewhere for multiple species pages): G1 (critically imperiled – very high risk of extinction due to extreme rarity), G2 (imperiled – high risk of extinction or elimination), G3 (vulnerable – moderate risk of extinction or elimination), G4 (apparently secure – uncommon but not rare; some cause for long–term concern due to declines or other factors), and G5 (secure – common; widespread and abundant). Please see http://explorer.natureserve.org/ranking.htm for more information on the ranks and their interpretation.
Land Snail Body

When you see a live snail, you are missing most of the body. You can see the muscular gliding foot and the head with its two pairs of tentacles. The upper pair contain the eyes and the lower pair are general sensory tentacles. The rest of the animal’s organs are inside the shell.
The system of identification will use the major features of the shell to get you down to a smaller group of likely species. Then by using the individual species descriptions, it should be possible to get to a single species or a group of snails. In some cases, a good magnifier will be needed.

Especially for the smaller (<4 mm) pupilliform snails, this guide cannot provide sufficient information for proper taxonomic resolution. In those cases, a good microscope and access to Nekola and Cole (2010) or Burch (1962) will be needed.

The major features include the shape of the shell, the type of umbilicus, the edge of the outer lip of the aperture, and the presence/absence of various teeth in the aperture.

This is the general external anatomy of the shell:
1. Taller than Wide

The body whorl of bulimoids (only one species in Kansas) is quite stout while the fusiform, overall, is more streamlined. Succiniforms have a very large aperture and unique spiral. Pupilliforms, to some extent, are what is left of this taller than wide group, the sutures appearing more linear as you view the specimen in apertural view (as pictured). The shells range from more conic to more columnar.
2. **Wider than Tall**

Heliciform – this is the most common group of wider than tall snails and the shell profile varies from rounder (globose) to flatter (depressed and, ultimately, discoidal). These all represent variation in how high the apex grows and how round the whorls appear. Since the appearance, especially of globose, subglobose, and depressed is a gradient and may depend on personal judgement, a range is given in the key.

Shell domed/beehive shaped – since these represent two groups of small snails, they will be easy to pick out when you see them.
Pill–shaped – there are two genera of pill–shaped snails. The shell is squat, the aperture is vertically narrow, but wide horizontally with a long parietal tooth.

3. Umbilicus

Umbilicate  Imperforate  Rimate

Perforate  Widely umbilicate

The umbilicus represents the center of the spiral. It may be closed (covered over, actually) to so wide that you can see clear up to the bottom of the first whorl. The forms include umbilicate (a “good sized” umbilicus, from narrow to wide); perforate (a very small hole); imperforate (no hole, or rather it is completely covered by a callus associated with the lip); or rimate (partially covered by a callus so that you can still see the umbilicus.)
4. Apertural lip edge (peristome)

This is the outer open edge of the last whorl. A reflected lip is rolled back and often thickened when growth ceases. Un–reflected lips remain unmodified with growth, just a more–or–less sharp edge. The problem is that species that have reflected lips when mature, have un–reflected lips as juveniles. So, do you have an immature specimen of a reflected–lip adult or an immature/mature specimen of an un–reflected species? Usually, but not always, you will find immature specimens in a collection of reflected adults. Chances are it is the same species. Solo specimens are a challenge at first, but with some experience, with some species, you’ll be able to distinguish these problem specimens based on the overall shape of the shell and its umbilicus (but not always).

5. Shell sculpture – teeth (denticles)

The apertural teeth are a variety of projections in terms of number, size, and shape. The parietal tooth is found on the body wall of the aperture facing the outer lip. It may be absent or present in various forms such as short and stub–like or longer and curved. Palatal teeth are found on the inner side of the upper and outer lip margins. On the lower rim of the lip there may be a basal tooth (as a narrow peg or a longer bar or ridge).
Some Vertiginidae, small snails, have more teeth than large snails. There are a pair of teeth nearest the body whorl – the angular and parietal. These may be separate, fused as in the image, or absent (one or both). The tooth on the left is the columellar tooth, located inside the aperture, growing on the columella (the central shaft of the spiral). The remaining teeth are basal and palatal teeth.

The shell surfaces may be variously ornamented and useful for identification of some species. Surface features may include ribs or fine lines called striations. The lines may run parallel to the whorl (spiral) or perpendicular (radial). They may be obvious or microscopic, indented or raised. Growth lines may also be visible. Some snails are hairy.
Glossary

Aperture – the opening of the shell, which varies from circular to ovate.

Apex – the tip of the shell

Body whorl – the last whorl, ending in the aperture

Columella – think of this as the central column around which the spiral whorls form; like the center pole of a spiral staircase

Nuclear whorls (protoconch) – the first spirals of the shell, formed in the egg

Outer lip – the end of the last whorl forms the aperture, the outer edge is the outer lip, also called the peristome; it may be reflected (bent backward) and thickened or unreflected (simple)

Parietal wall – the inner part of the last whorl, seen from the aperture

Spire – refers to the elevation of the shell as the whorls grow downward; some spires are high, others low

Suture – the margin between adjacent whorls; ranges from being V–shaped to smooth

Umbilicus – the center of the whorls, as seen from below, may be large, small or non-existent.

Whorl – the turning of the spiral shell, lengthens and usually widens as the animal gets larger
The key is organized into groups based on major shell characteristics. Within each group, these are used again or with new features to divide into smaller groups. In most cases, the key will lead to more than one species. At that point, use the species descriptions to help choose. If nothing works, then back up and try another path. Not all shells you find will be clearly identifiable. Refer to the range maps to see if a species could be at the location in question.

Group 1. Shell taller than wide; bulimoid, fusiform, or succiniform; lip simple with no tooth or reflected with one; up to 20 mm

1A. Bulimoid
   Only one species, Rabdotus dealbatus, the Whitewashed Rabdotus (up to 20 mm or more).

1B. Fusiform
   The Thorn snails (Carychium) are smaller, less than 2.2 mm. The Pillar snails (Cochlicopa) are larger, 5–6 mm.

1C. Succiniform
   These are the Amber snails of the Family Succineidae. They run 7–17 mm. Their proper identification to species involves dissection. There are at least 7 species in Kansas, two of Catinella, three of Succinea, and single species of Novisuccinea and Oxyloma.
Group 2. Shell taller than wide, pupilliform, reflected lip, apertural teeth present if less than 4 mm

2A. Pupilliform, > 3 mm

The largest is Pupoides albilabris, the White–lip Dagger at 3–6 mm. The other species are the three largest Snaggletooth snails:
Gastrocopta abbreviata (Plains Snaggletooth),
Gastrocopta armifera (Armed Snaggletooth), and
Gastrocopta similis (Great Lakes Snaggletooth).

2B. Pupilliform, < 3 mm

These small snails include nine Snaggletooth snails and three Vertigo snails. The easiest to identify using the angulo–parietal teeth are
Gastrocopta contracta, (Bottleneck Snaggletooth) and Gastrocopta corticaria (Bark Snaggletooth).
The others need a good dissecting scope and formal key: Gastrocopta cristata (Crested Snaggletooth),
Gastrocopta holzingeri (Lambda Snaggletooth),
Gastrocopta pellucida (Slim Snaggletooth),
Gastrocopta pentodon (Comb Snaggletooth),
Gastrocopta procera (Wing Snaggletooth),
Gastrocopta sterkiana (a Snaggletooth snail),
Gastrocopta tappaniana (White Snaggletooth,
Vertigo milium (Blade Vertigo), Vertigo ovata (Ovate Vertigo), and Vertigo tridentata (Honey Vertigo). With live or recently deceased specimens, Vertigo may be distinguished from smaller Snaggletooth snails (< 3 mm) by color (shell yellowish or reddish brown) and the angular and parietal lamellae (not joined or with either one or both absent).
**Group 3. Shell wider than tall, reflected lip**

3A. Heliciform, globose to subglobose, reflected lip, imperforate – These are two large (up to 1 inch) woodland snails: Neohelix alleni (Western Whitelip) and Webbhelix multilineata (Striped Whitelip).

3B. Heliciform, globose to subglobose, reflected lip, rimate – These two are distinguished mostly on size: Mesodon clausus (Yellow Globelet, 15–18 mm) and Mesodon thyroidus (White–lip Globe, 17–26 mm).

3C. Heliciform, globose to subglobose, reflected lip, umbilicate – a single large species, Allogona profunda (Broad–banded Forestsnail).

3D. Heliciform, subglobose to depressed, reflected lip, imperforate – Neohelix divesta (Ozark Whitelip), the smaller Inflectarius inflectus (Shagreen) and the larger Xolotrema fosteri (Bladetooth Wedge).

3E. Heliciform, depressed to discoidal, reflected lip, umbilicate – Vallonia parvula (Trumpet Vallonia) only reaches 1.5 – 2 mm. Specimens 7 mm or larger are: Linisa texasiana (Texas Liptooth), Triodopsis cragini (Post Oak Threetooth), Triodopsis neglecta (Ozark Threetooth), Daedalochila dorfeuilliana (Oakwood Liptooth), and Daedalochila jacksoni (Ozark Liptooth).

**Group 4. Shell wider than tall, lip not reflected**

4A. Heliciform, globose to subglobose, simple lip, > 5 mm, umbilicus varies – The sometimes smaller Ventridens with Anguispira alternata (Flamed Tigersnail), Mesomphix capnodes (Dusky Button) and Mesomphix friabilis (Brittle Button).

4B. Heliciform, discoidal, simple lip, umbilicate,
3–4 mm – These look like very tiny tires. Helicodiscus notius (Tight Coil) and Helicodiscus parallelus (Compound Coil).

4C. Heliciform, subglobose to depressed, simple lip, umbilicate to perforate, > 3 mm – The largest is Haplotrema concavum (Gray-foot Lancetooth, 12–14 mm or more). Two species have a wide-dome aspect to their shell: Paravitrea significans (Domed Supercoil) and Paravitrea simpsoni (Amber Supercoil). The other three are: Glyphyalinia indentata (Carved Glyph), Nesovitrea electrina (Amber Glass), and Zonitoides arboreus (Quick Gloss).

4D. Heliciform, subglobose to depressed, simple lip, umbilicate to perforate, < 3 mm – These tiny snails include the smallest of all, Punctum minutissimum (Small Spot, 1–1.5 mm) and Hawaiiia minuscula (Minute Gem), Lucilla inermis (Oldfield Coil), Lucilla singleyanus (Smooth Coil) and two Striate snails, Striatura meridionalis (Median Striate) and Striatura milium (Fine-ribbed Striate).

Group 5. Shell wider than tall, pill-shaped

5A. Pill-shaped, no notch in basal tooth – Euchemotrema fraternum (Upland Pillsnail), Euchemotrema leai leai (Lowland Pillsnail) and Euchemotrema leai aliciae (Alice’s Pillsnail).

5B. Pill-shaped, notch in basal tooth – Stenotrema barbatum (Bristled Slitmouth) and Stenotrema stenotrema (Inland Slitmouth).
Group 6. Shell wider than tall, beehive or dome shape

The Hive snails have a truly hive–shaped shell (Euconulus dentatus – Toothed Hive, Euconulus fulvus – Brown Hive, and Euconulus trochulus – Silk Hive). Strobilops labyrinthicus (Maze Pinecone) is more dome shaped.

Group 7. No shell – slugs

There are three species of slugs in Kansas (see page 56).
Broad–banded Forestsnail

*Allogona profunda* Say, 1821

Family Polygyridae

**Size:** 19 – 27 mm

**Comments:** This is a large helicoid snail with a wide umbilicus, reflected lip, and a subglobose apex. It is found in woodlands associated with woody and leafy debris. Wooded floodplains and hillsides are also suitable habitat, especially near flowing water.

**Status:** confined to the northeast corner of the state except for one previous collection in east central Kansas; probably at the western edge of its range. [G5]
Flamed Tigersnail

*Anguisspira alternata* (Say, 1816)

Family Discidae

**Size:** 15 – 23 mm

**Comments:** Globose to subglobose, reddish-brown stripes on a yellowish background, wide umbilicus, and apertural lip unreflected. A forest species, either floodplain or upland, associated with logs, rotting and hollow trees, and rocks and outcrops. They are also found in “weedy roadsides and along railroads” (Leonard 1959) and in residential areas in and around gardens and outbuildings.

**Status:** Commonly found in eastern third. [G5]
Carychium (Thorn Snails)

Family Ellobiidae

**Size:** 2 mm

**Comments:** The two species of Thorn snails in Kansas are easily distinguished from other land by their fusiform shape, small size, reflected lip, and one small tooth on the parietal wall. *Carychium exile*, pictured above, has radial striae on it shell (magnified), while *C. exiguum* has a smooth shell.

These species can be found within and around packed leaves and small or larger woody debris on wooded hillsides. Leonard (1959) notes *C. exile* “in marshy areas around pond and creeks”. They are very tiny and can be overlooked. Their eyes are at the base of the tentacles, as in aquatic snails, unlike all other land snails in Kansas.

The two species in Kansas are *Carychium exile* I. Lea, 1842, the Ice Thorn (pictured) and *Carychium exiguum* (Say, 1822), Obese Thorn.

**Status:** *Carychium exile* found in the east, *C. exiguum* not recently collected. [both G5]
**Cochlicopa (Pillar Snails)**

**Family Cochlicopidae**

**Size:** 5 – 6 mm

**Comments:** The two species of Pillar snails in Kansas are easily distinguished from other land snails by their fusiform shape, size (~ 5 mm), and lack of teeth. They have a smooth shiny shell, with the lip thickened but not reflected, and a yellowish body. *C. lubricella* is characterized, considering its name, as being smaller and more cylindrical.

They can be found in moist to drier locations with leaves and litter, including forest and grassy situations, also in meadows and roadsides.

The two species in Kansas are *Cochlicopa lubrica* (Muller, 1774), the Glossy Pillar (pictured) and *Cochlicopa lubricella* (Porro, 1838), the Thin Pillar.

**Status:** Not known, one shell was recently collected in Atchison County, but the species identification is not definitive. [both G5]
Oakwood Liptooth

*Daedalochila dorfeuilliana* (I. Lea, 1838)

**Family Polygyridae**

**Size:** 7 – 9 mm

**Comments:** Depressed to discoidal, aperture thick and reflected, large squarish or rounded parietal tooth and two smaller teeth recessed from the outer lip of the aperture. More than ½ of the next-to-last whorl is visible in the umbilical view for *Daedalochila dorfeuilliana* compared to the otherwise similar *D. jacksoni*, where less than one-half is visible (Leonard 1959). This is a forest species, liking rocky areas (including rock walls), also found associated with large woody debris or leaf litter, limestone outcrops.

**Status:** Found where habitat is suitable from south-central to east-central Kansas. [G4G5]
Ozark Liptooth

*Daedalochila jacksoni* (Bland, 1866)

**Family Polygyridae**

**Size:** 6 – 8 mm

**Comments:** Depressed to discoidal, aperture thick and reflected, large squarish or rounded parietal tooth and two smaller teeth recessed from the outer lip of the aperture. Less than ½ of the next-to-last whorl is visible in the umbilical view for *Daedalochila jacksoni* compared to the otherwise similar *D. dorfeuilliana*, where more than one-half is visible (Leonard 1959). Habitat preferences generally similar to *D. dorfeuilliana*.

**Status:** Restricted to suitable habitat in southeast Kansas. [G3]
Upland Pillsnail

*Euchemotrema fraternum* (Say, 1824)

Family Polygyridae

**Size:** 7 – 10 mm

**Comments:** Pill–shaped; lip reflected with no notch in basal tooth (unlike a second genus of similar snails, *Stenotrema*, lacking a notch); umbilicus rimate (narrowly perforate or imperforate); large transverse parietal tooth, lacks marginal teeth; shell may be covered with short hairs. Has been collected associated with grasslands (grass litter, clumps) and woodlands (leaf litter, woody debris).

**Status:** Scattered distribution in the eastern half of the state. This species was not listed for Kansas in Leonard 1959 or Hubricht 1984, but there are some pre–1950 museum specimens for the state as well as new collections. [G5]
Alice’s Pillsnail

*Euchemotrema leai aliciae* (Pilsbry, 1893)

**Family Polygyridae**

**Size:** 7 – 8 mm

**Comments:** Compared to the Upland Pillsnail, Alice’s Pillsnail has a covered to partially covered umbilicus, usually smaller; tighter coiling (more whorls per unit diameter); parietal lamella long and curved to umbilicus. Prefers moist woodlands and their humid conditions, but also meadows, roadsides.

**Status:** Probably widely distributed in the eastern half of the state, but the designation of subspecies is uncertain. [G5]
Lowland Pillsnail

*Euchemotrema leai leai* (A. Binney, 1840)

Family Polygyridae

**Size:** 6 – 9 mm

**Comments:** Compared to the Upland Pillsnail, the Lowland Pillsnail is slightly smaller; has a wider umbilicus; parietal lamella shorter, not extending to umbilicus; a more northern species. Habitat likely similar to the other two species.

**Status:** Restricted distribution, but the designation of subspecies is uncertain. Specimens of *Euchemotrema leai* are in museum collections and not identified to subspecies. [both G5]
Euconulus (Hive Snails)

Family Euconulidae

Size: 2.5 – 3 mm

Comments: The probable species in Kansas are Euconulus trochulus, the Silk Hive, (Reinhardt, 1883); E. dentatus, the Toothed Hive, (Sterki, 1893); and E. fulvus, the Brown Hive, (Muller, 1774). Identification to species is not always clear and some recent specimens are not confirmed. Hive snails can be found in moist or humid wooded hillsides and ravines associated with leafy litter and also on more level areas of woody habitat.

The hive snails are easily distinguished from other land snails in Kansas by their small size (< 4 mm) and hive shape. However, determination to species is very challenging.

Status: Found in eastern half of the state in suitable habitat. The map shows observations for all three species combined. [all G5]
Plains Snaggletooth

*Gastrocopta abbreviata* (Sterki, 1909)

Family Vertiginidae

**Size:** 3.2 – 4.4 mm

**Comments:** Taller than wide, pupilliform; the columellar lamella is blunter than the otherwise similar *G. armifera* (see p.32), the Armed snaggletooth. The basal lamina can be more well-developed as well. This species can be found in a variety of habitats associated with leaf litter or rocks including riparian woodlands and grasslands. It can co-occur with *G. armifera*.

**Status:** Scattered around the eastern 2/3 of the state or more. Leonard (1959) did not record *Gastrocopta abbreviata*, but some museum specimens of the era were labeled as the subspecies *G. armifera abbreviata*. Multiple specimens (Chase and Lyon counties) of *G. abbreviata* were found in the 1960 Emporia State University collection mixed with *G. armifera*. [G4]
Armed Snaggletooth

**Gastrocopta armifera** (Say, 1821)

**Family Vertiginidae**

**Size:** 3.6 – 5 mm

**Comments:** Taller than wide, pupilliform; columellar lamella more triangular than *Gastrocopta abbreviata*, basal lamina can be less well-developed. The Armed Snaggletooth is the largest Vertiginid at over 4 mm in height. It can be found in a variety of open habitats including roadsides, along railroads, cedar glades, and open woods – xeric or mesic. It may be associated with leaf litter, rocks, or shale. It can co-occur and be confused with *G. abbreviata*.

**Status:** Leonard (1959) reported this species from all areas of the state, except for west central Kansas. Hubricht (1985) and Nekola and Coles (2010) give a much a more limited distribution. The span of recent collections, even though limited, suggests a more widespread distribution might be appropriate. [G5]
Bottleneck Snaggletooth

*Gastrocopta contracta* (Say, 1822)

**Family Vertiginidae**

**Size:** 2 – 2.5 mm

**Comments:** Taller than wide, pupilliform; thin but wide reflected lip; aperture tends to triangular in shape; angulo–parietal lamella not split – it appears as a single large, folded structure filling the aperture; columellar tooth (lamella) roundish, large and laminate. It can be found in a variety of open habitats including roadsides, along railroads, cedar glades as well mesic or xeric woods. It can co–occur with other snaggletooth snails.

**Status:** Widely distributed in eastern half of the state. [G5]
Bark Snaggletooth

Gastrocopta corticaria (Say, 1816)

Family Vertiginidae

Size: 2.5 – 3 mm

Comments: Taller than wide, pupilliform; thin and small reflected lip; aperture has few lamella, generally no more than 3 with the basal and palatal lamella absent; angulo and parietal lamella are small and may appear bilobed in lateral view, or partially fused.

Its habitats have been variously recorded as “bluffs with wooded hillsides along mesic valleys” and “wooded wetlands”, as well as “mature upland forests and glades”. They will be found under and in organic debris, crevices of rotting logs, and red cedar litter. May be found crawling on tree trunks.

Status: Not known, not recently collected, sparsely distributed in eastern third of the state based on historical collections. [G5]
Lambda Snaggletooth

_Gastrocopta holzingeri_ (Sterki, 1889)

_Family Vertiginidae_

**Size:** 1.75 mm

**Comments:** Taller than wide, pupilliform, but relatively cylindrical; reflected lip; 6 teeth including a bilobed angulo–parietal tooth, basal and palatal teeth inserted away from lip. Can be found in a variety of situations from wooded floodplains to upland forests to upland grasslands with permanent moisture (Leonard 1959). One collection on a wooded upland, limestone bluff – Johnson Co (2011).

**Status:** Unevenly distributed in the central and northern part of Kansas, perhaps elsewhere. [G5]
**Slim Snaggletooth**

*Gastrocopta pellucida* (Pfeiffer, 1841)

**Family Vertiginidae**

**Size:** 2 – 2.5 mm

**Comments:** Taller than wide, pupilliform; thin lip; large fused angulo–parietal and lower palatal deeper into the aperture than the upper. Leonard (1959) found this species in upland forests as well as wooded floodplains and upland grasslands with available moisture.

**Status:** Uncommon. Neither Hubricht (1984) or Nekola and Coles (2010) listed the Slim Snaggletooth. Museum collections indicate findings in both Bourbon and Chase counties. In 2009, specimens were found at Tuttle Creek State Park at the Randolph and Fancy Creek areas among cedar litter over soil and around and under rocks, and in some grassy areas. The species was identified from these recent collections by Tim Pearce, Carnegie Museum of Natural History. [G5]
Comb Snaggletooth
*Gastrocopta pentadon* (Say, 1822)
Family *Vertiginidae*

**Size:** 1.5 – 2 mm

**Comments:** Taller than wide, pupilliform; the angulo–parietal looks stubby and narrow; can have 5–8 teeth. This species is similar to others including *G. holzingeri* and *G. tappaniana* but can be distinguished from the former by the angulo–parietal tooth and from the latter by lower palatal lamella (see Nekola and Coles 2010 for all the *Gastrocopta*).

The Comb Snaggletooth can be found in a variety of habitats, both wooded and grassland in and around litter. Nekola and Coles (2010) note a preference for leaf litter.

**Status:** Widely distributed in eastern third of the state. [G5]
Wing Snaggletooth

*Gastrocopta procera* (Gould, 1840)

**Family Vertiginidae**

**Size:** 2 – 3 mm

**Comments:** Taller than wide, pupilliform; angulo-parietal lobes intersect to form a X–shape bi–lobed structure; light brown color; lip thin, lower palatal long, angled away from upper palatal lamella, and deep into shell. The Wing Snaggletooth can be found in and around the organic debris and stones/rocks of forest litter; also more open habitats such as prairie and glades.

**Status:** Potentially widespread in Kansas, but historical collections need to be examined. The more recent collections (although limited and neglecting central and western Kansas) suggest scattered presence in the eastern half of the state. [G5]
Great Lakes Snaggletooth

*Gastrocopta similis* (Sterki, 1909)

**Family Vertiginidae**

**Size:** 3.3 – 4 mm

**Comments:** Taller than wide; pupilliform; thin reflected lip; smallest of the three largest *Gastrocopta*; columellar tooth (lamella) is large, vertical and appears layered compared to *G. armifera*, but may seem to bow out in the middle; basal lamina reduced or missing; seems similar to *G. ruidosensis* which is not found in Kansas (Nekola and Coles 2010). This snaggletooth snail is found in and around glade, grass, or woodland litter including cedar woods.

**Status:** Scattered distribution in eastern third of the state. It was not listed in Leonard (1959), but was found in a recent re-examination of the original 1960s Bache collection where it was found with *G. abbreviata* and *G. armifera*, both of which it may be confused with. [G5]
White Snaggletooth

*Gastrocopta tappaniana* (C. B. Adams, 1842)

Family Vertiginidae

**Size:** 1.5 – 2.5 mm

**Comments:** Taller than wide; pupilliform; angulo–parietal tooth fused; outer lip thin and slightly reflected; 6–9 apertural teeth; shell shape is ovate. This species may be confused with *G. pentadon* but its shell is larger and more conical. As well, its lower palatal lamella does not enter the aperture as deeply as that of *G. pentadon*. The White Snaggletooth can be collected in and around leafy or woody detritus in moister areas of bottomland forests (floodplain, wooded wetlands, or prairies)

**Status:** Found throughout the state in suitable habitat. [G5]
Carved Glyph

*Glyphyalinia indentata* (Say, 1823)

**Family Oxychilidae**

**Size:** 4.5 – 5.5 mm

**Comments:** Wider than tall, subglobose to depressed, simple lip, perforate; very glossy surface, distinct indented radial lines are equally and widely spaced. The Carved Glyph is common in woodlands, roadsides, and meadows; in surface litter and soil. This species may be a complex of species with little or no shell differences.

**Status:** Widely distributed in eastern half of the state, probably western edge of range. [G5]
Gray–foot Lancetooth

*Haplotrema concavum* (Say, 1821)

Family Haplotrematidae

**Size:** 12 – 14 mm or more

**Comments:** Wider than tall, subglobose to depressed, simple lip (but the outer and basal margins of the aperture are only slightly expanded), widely umbilicate showing all whorls to the apex; deep sutures. This carnivorous species can be found in woodlands, among leaf litter and woody debris.

**Status:** Unknown, far eastern species, has not been re–collected. [G5]
Minute Gem

_Hawaiia minuscula_ (A. Binney, 1841)

_Family Vitrinidae_

**Size:** 2 – 2.5 mm

**Comments:** Subglobose to depressed, simple lip, umbilicate; nuclear whorl is smooth, rest of the surface is cross–hatched with fine, irregularly–spaced growth lines and minute spiral striae. _Lucilla_ (see p.46) is about the same size, but lack the microsculpture. This species is found in woodlands, among leaf litter and woody debris; elsewhere at times.

**Status:** Widespread, has been re–collected in its eastern range and in two new counties, including Sedgwick in southcentral Kansas and Crawford in the southeast. [G5]
**Helicodiscus** (Coil Snails)

**Family Helicodiscidae**

**Size:** 3 – 4 mm

**Comments:** The coil snails of the genus *Helicodiscus* are discoidal, with a simple lip, and umbilicate, about 3 – 4 mm. Their coiled cinnamon roll shape and distinct multiple spiral ridges are also unique. 2–3 small teeth are usually visible deeper inside on the interior wall. There are two species: the Tight Coil (pictured above), *Helicodiscus notius* Hubricht, 1962 and the Compound Coil, *H. parallelus* (Say, 1817). The spiral ridges are absent from the embryonic whorls of *H. parallelus*. Their habitat includes the leaf litter and soil of wooded areas.

**Status:** Both have been recently re–collected within their range, primarily eastern third; older collections need to be examined.
Shagreen

Inflectarius inflectus (Say, 1821)

Family Polygyridae

**Size:** 9 – 11 mm

**Comments:** Subglobose to depressed, reflected lip, imperforate, a long curved parietal tooth, and two apertural teeth; about 5 closely coiled whorls, surface with fine hairs. Can be found in woodlands, among leaf litter and woody debris, rock walls, exposed limestone.

**Status:** Sparsely distributed in a few east central and southeast border counties. [G5]
Lucilla (Coil Snails)

Family Helicodiscidae

Size: ~ 2.5 mm

Comments: The coil snails of the genus *Lucilla* are depressed, with a simple lip, umbilicate, and about 2.5 mm. They lack spiral threads as found in the genus *Helicodiscus*. There are potentially two species: the Smooth Coil (pictured above), *L. singleyanus* (Pilsbry, 1889), and the Oldfield Coil, *L. inermis* (H. B. Baker, 1929). They can be found in leaf litter and soil of wooded areas.

Status: Not known. Leonard (1959) reported *L. singleyanus* across the state while Hubricht (1985) did not recognize it at all. Historical specimens need examination. Hubricht (1985) did find *L. inermis* in one county (Woodson), while Leonard (1959) did not note it at all. The only new collections were of *L. singleyanus* in Crawford and Cherokee counties.
Yellow Globelet

*Mesodon clausus* (Say, 1821)

Family Polygyridae

**Size:** 15 – 19 mm

**Comments:** Globose to subglobose, reflected lip, rimate, no parietal tooth; may be confused with smaller shells of the larger species *Mesodon thyroidus* that lack a tooth. *Mesodon* is a woodland snail, has been found recently in woodland areas associated with rotting branches and fallen timber.

**Status:** Distributed in far eastern third of the state, probably at the far western edge of its range. [G5]
White – lip Globe

*Mesodon thyroidus* (Say, 1816)

**Family Polygyridae**

**Size:** 17 – 25 mm

**Comments:** Globose to subglobose, reflected lip, rimate, small parietal tooth which is sometimes absent; smaller shells without a parietal tooth may be confused with *Mesodon clausus*. Found in woodland habitats associated with decaying woody debris, small rock piles, walls or ledges. It is often noticed in backyards, which may indicate greater tolerance of environments altered by humans.

**Status:** Common in eastern third of the state minus northern counties. Recent collections have filled in some counties and shown what might be a slight expansion west and north. [G5]
Mesomphix – Button Snails

Family Oxychilidae

Size: 20 – 28 mm

Comments: Globose to subglobose, simple lip, umbilicate to slightly rimate; aperture oblique and ovate (like a lop–sided wide mouth grin – useful to distinguish from immature Mesodon with a more oval aperture). The Dusky Button, M. capnodes (W. G. Binney, 1857), has spiral rows of papillae on the body whorl that the Brittle Button (pictured), M. friabilis (W. G. Binney, 1857) lacks. M. capnodes is a larger species, but it may not reach that size in Kansas. They prefer wooded hillsides associated with leaf litter and other organic matter.

Status: Rare in Kansas, each species possibly limited to one county each. [both G5]

red: both species; green = new county for Mesomphix friabilis
Western Whitelip

*Neohelix alleni* (Sampson, 1883)

**Family Polygyridae**

**Size:** 22 – 28 mm

**Comments:** Globose to subglobose, reflected lip, imperforate; the shell has very fine striae, oblique to the plane of growth. It tolerates handling well, and will resume activity quickly after capture. Its habitat is primarily woody debris (branches and bark). The similar Ozark Whitelip, *Neohelix divesta* (Gould, 1848) is smaller (19 – 21 mm) and has a more subglobose–depressed shell (bottom image above).

**Status:** The Western Whitelip is found in the eastern third of the state in suitable habitat. The Ozark Whitelip, not recently collected, may be found in the extreme southeast.
Amber Glass

*Nesovitrea electrina* (Gould, 1841)

Family *Oxychilidae*

**Size:** 4 – 5 mm

**Comments:** Subglobose to depressed, simple lip, umbilicus wide; glossy with clear radial lines, about 4 rapidly enlarging whorls, apertural lip circular. Habitat includes woodlands, among leaf litter and woody debris, and it seems to prefer moister environments.

**Status:** Scattered in the eastern third of the state, with re-collections and one new county within its range. [G5]
Paravitrea (Supercoil Snails)
Family Oxychilidae

Size: 4 – 5 mm
Comments: The Supercoil snails are easily distinguished from other land snails in Kansas by their many whorls packed in a mid-sized snail. There are two species: the Amber supercoil, (pictured above) Paravitrea simpsoni (Pilsbry, 1889), and the Domed Supercoil, P. significans (Bland, 1866).

Subglobose to depressed (unique smooth rounded profile with depressed spire), simple lip, umbilicate to perforate; glossy shell with tight coils. The rounded edge of the shell perimeter is below the middle of the body whorl in P. significans and the spire is more elevated. Habitat is wooded areas, among and under leafy and woody debris.

Status: P. simpsoni [G4] has been collected in Crawford County in extreme southeast Kansas. P. significans [G3] has not been re-collected, but was historically found in nearby Allen and Cherokee counties.
Small Spot

*Punctum minutissimum* (I. Lea, 1841)

Family Punctidae

**Size:** 1 – 1.5 mm

**Comments:** Subglobose to depressed, simple lip, widely umbilicate; radial striae; about 4 whorls; thin, unreflected lip. Found in woodland habitats among leaf litter and woody debris, especially if substrate is well-decayed.

**Status:** Recently collected or re-collected in two eastern border counties; potentially scattered elsewhere with suitable habitat, this smallest of land snails is easily overlooked. [G5]
White – lip Dagger

*Pupoides albilabris* (C. B. Adams, 1841)

**Family Pupillidae**

**Size:** 3 – 6 mm

**Comments:** Pupilliform, wide and thick reflected lip, apertural teeth absent – not easily confused with other pupa–shaped snails in Kansas. Leonard (1959) remarked that it could be found in woodlands under woody and leafy debris as well as open pastures, rocky open country, and, in western Kansas, in the sagebrush flats. He offered that this species is tolerant of aridity and high temperatures to explain its distribution in the state. There are some museum collections suggesting other species of this genus in Kansas.

**Status:** One of the most widely distributed land snail species found throughout the state in grassland and woodland habitats. [G5]
Whitewashed Rabdotus

*Rhabdotus dealbatus* (Say, 1821)

**Family Orthalicidae**

**Size:** 17 – 20 mm

**Comments:** Bulimoid shape, simple lip with no tooth; the only snail this large with a high spire, shell smooth and white, some darker tan or brownish stripes or blotches. Habitat varies from drier, open locations to woodlands and the tops of bluffs besides streams and rivers (Leonard 1959). The individual pictured above was collected in an oak–hickory and cedar woodland, but others in a meadow habitat.

**Status:** Eastern third of state in suitable habitat, one recent collection documented in Montgomery County and a second was found live in Jefferson County. [G5]
There are three slug species in Kansas, two native species – the Meadow Slug, Deroceras laeve (Muller, 1774) and the Carolina Mantleslug Philomycus carolinianus (Bosc, 1802) – and the introduced Giant Garden Slug, Limax maximus Linnaeus, 1758.

Limax’s mantle, like that of Deroceras, covers only the anterior third of the body (red line in image below), but Deroceras is smaller and lacks the large black markings on the amber to yellow body color of Limax. The native Philomycus is easily distinguished as its mantle extends about the length of the body.

Slugs can be found in woodlands, meadows, or urban settings, usually under something (leaves, branches, discarded lumber, and so on).

Both native species have been re-collected in the eastern third of the state. [both native species are G5]
Stenotrema (Slitmouth snails)
Family Polygyridae

Comments: There may be two species in Kansas: the Bristled Slitmouth, Stenotrema barbatum (G. H. Clapp, 1904), and the Inland Slitmouth, S. stenotrema (Pfeiffer, 1842).

Pill–shaped snails, reflected lip with a notch in basal tooth (unlike Euchemotrema), rimate; large transverse parietal tooth, shell covered with hairs. Stenotrema stenotrema (~9 – 13 mm) is slightly larger with a narrower aperture, a wider and deeper notch, and longer hairs than S. barbatum (~6 – 10 mm). Their habitat is similar: woodlands among rocky and woody debris.

Status: Uncommon, the Bristled Slitmouth in northeast and the Inland Slitmouth in extreme southeast, neither has been re-collected. The shell pictured is an unknown species from Tennessee. [both G5]
**Striatura** (Striate snails)

Family Gastrodontidae

**Size:** 1.5 – 2 mm

**Comments:** There are two species in Kansas – the Median Striate, *Striatura meridionalis* (Pilsbry and Ferriss, 1906), and the Fine-ribbed Striate, *Striatura milium* (E. S. Morse, 1859).

Subglobose to depressed, simple lip, umbilicate; surface of shell with small vertical riblets with spiral lines (or striae). *Striatura meridionalis* 1.7–1.8 mm in diameter, spiral striae prominent and extend to apex; *S. milium* 1.5 mm in diameter, spiral striae less prominent. Both species may be found in woodlands, among leafy and small woody debris; easy to miss; similar to *Punctum minutissimum* and *Hawaiiia minuscula*, the smallest helicoid snails in Kansas.

**Status:** Scattered in eastern third of state, distribution much wider compared to historical records. [both G5]
Maze Pinecone

*Strobilops labyrinthicus* (Say, 1817)

Family Strobilopsidae

**Size:** 2.5 – 3 mm

**Comments:** This snail is quite unique; dome–shaped, distinct radial ribs, reflected lip, two unequal parietal lamellae extending into the body whorl (see image below). Found in woodlands, among leaf litter and woody debris, check woody crevices.

**Status:** Widely distributed in eastern third of the state. There could be a second *Strobilops* species in Kansas. [G5]
Succineid Land Snails


Succineids may be found near the margins of ponds, marshes, streams, and lakes or on associated wet grounds. There may be differentiation based on habitat – adjacent to flowing or standing waters. They can be found on the undersides of vegetation. Their size varies from less than 10 to over 17 mm.

**Status:** The status of this family and the true number of species found in Kansas is not known.
Ozark Threetooth

*Triodopsis neglecta* (Pilsbry, 1899)

**Family Polygyridae**

**Size:** 10 – 12 mm

**Comments:** Depressed, reflected lip, umbilicate, two teeth on lip margin and one curving parietal tooth. *Triodopsis cragini* Call, 1886, the Post Oak Threetooth, is generally similar, but smaller in size (< 9 mm), with a smaller umbilicus, and the shell not so depressed. The Ozark Threetooth is a woodland creature, preferring woody debris. It has been collected around old rotting trash lumber piles and in moister woodland situations. Leonard (1959) reported the Post Oak Threetooth in “upland habitats in sandy areas where oak forest is the dominant vegetation.”

**Status:** Both species are restricted to southeast Kansas; the Ozark Threetooth has been re-collected but the Post Oak Threetooth has not been re-collected.
Trumpet Vallonia

*Vallonia parvula* Sterki, 1893

**Family Valloniidae**

**Size:** 1.5 – 2 mm

**Comments:** Depressed to discoidal, aperture rounded and reflected lip, umbilicate; one of the two most unique looking small snails in Kansas, whorls with irregularly spaced high ribs or ridges. Can be found in both upland and floodplain woodlands, in and around woody debris or rocks, or in soil; may be found in glades and prairies.

**Status:** Potentially widespread in Kansas, historical specimens need verification, has been re-collected in scattered sites in eastern half of state. Two other *Vallonia* snails might be found in Kansas. [G4]
**Ventridens (Domed snails)**

**Comments:** These are a group of two mid-sized land snails with a dome shape, perforate umbilicus, and glossy shell. They are restricted to counties in eastern or southeastern Kansas. The two species are the Perforate Dome, *Ventridens demissus* (A. Binney, 1843), and the Globose Dome, *V. ligera* (Say, 1821). Family Gastrodontidae.

The Globose Dome is usually wider than 11 mm in diameter and more globose. The Perforate Dome (pictured) is narrower, 7 – 11 mm, with a shallower spire. Habitat is woodlands, moister areas.

**Status:** *Ventridens ligera* is sparsely distributed in a few counties bordering Missouri (Crawford Co. in 2017), but was found in Montgomery Co. in 2012. *V. demissus* has been found in only one county and is a new species for Kansas – collected in multiple years among damp woody and leafy debris in a woody urban backyard, and found recently in other urban gardens. [both G5]
Vertigo
(Vertigo snails)

**Size:** 1.5 – 2.3 mm

**Comments:** Land snails of the genus *Vertigo* are very small. They may be found among moist woody debris in woodlands or grassy areas. Most have an aperture with numerous varied denticles (teeth).


It has been noted that with live or recent shells, distinguish *Vertigo* from smaller Snaggletooth snails (< 3 mm) by color (shell yellowish or reddish brown) and the angular and parietal lamellae (not joined or with either one or both absent).

**Status:** Not known, both *Vertigo milium* and *Vertigo tridentata* have been collected recently in new counties. Other *Vertigo* species are possible. [all G5]
Bladetooth Wedge
*Xolotrema fosteri* (F. C. Baker, 1921)

Family Polygyridae

**Size:** Usually larger than 17 mm

**Comments:** Subglobose to depressed, reflected lip, imperforate, a large parietal tooth and a long low basal apertural tooth. Found in woodlands, associated with woody debris, limestone hillsides and outcrops, and large boulders. It has also been collected in low woodlands adjacent to streams.

**Status:** A new species for Kansas, found scattered in the eastern half of the state in suitable woodland habitat. [G5]
Quick Gloss

*Zonitoides arboreus* (Say, 1816)

**Family Gastrodontidae**

**Size:** 4 – 6 mm

**Comments:** subglobose to depressed, simple lip, umbilicate, glossy shell, irregular growth lines and often with light irregular lines in addition. This is a habitat generalist – woodlands, some grasslands, leaf litter, woody debris (look in the crevices).

**Status:** widely distributed in the eastern half of the state, various new collections. [G5]
Crested Snaggletooth

*Gastrocopta cristata* (Pilsbry and Vanatta, 1900)

**Family Vertiginidadae**

**Comments:** Taller than wide (2.5 – 3 mm), pupilliform; thin reflected lip; angulo-parietal lamella not distinctly bilobed; palatal lamellae are not connected by thickened ridge. May be found in both upland and floodplain woodlands as well as grasslands. [G5]

Texas Liptooth

*Linisa texasiana* (Moricand, 1833)

**Family Polygyridae**

**Comments:** 10 – 11 mm, depressed to discoidal, reflected lip, umbilicate, a V-shaped parietal tooth, two apertural teeth. Habitat includes woodlands (among leaf litter and woody debris, rock walls, and exposed limestone). [G3G4]

Striped Whitelip

*Webbhelix multilineata* (Say, 1821)

**Family Polygyridae**

**Comments:** Globose to subglobose, 20 – 25 mm, reflected lip, imperforate; usually without teeth, with multiple reddish brown spiral bands (sometimes absent). A snail of “marshy woodlands and meadows” according to Leonard (1959). [G5]

**Status:** None of these three species has been recently re-collected.

Gastrocopta (red and – possibly – light blue counties), Linisa (purple), and Webbhelix (dark blue).
Pocket Guides

Jim Mason, Editor
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