All species in the *Cylicocyclus* (Cyc.) genus have two things in common: the **shape of the buccal capsules** and the **shape of the walls**. Most of the buccal capsules of this genus are rectangular; those that vary somewhat will be described with that species. The walls look like a **chicken leg bone** after the meat has been eaten. The **base** of the walls is **rounded** and then shoots upward into **thin walls**. Most of the walls bow out to some degree, some more than others; only a few are straight. The walls of this genus also have been described in our lab as “**Mickey Mouse**” **feet and legs**.

**Walls of the Buccal Capsule:**
- look like a chicken leg bone after the meat has been eaten
- base is rounded and then shoots upward into thin walls
- most bow out to some degree; only a few are straight
- look like “Mickey Mouse” feet and legs
This species is very similar to Cylicocyclus nassatus, both in size and the shape of the buccal capsule. However, it rarely has been seen in Kentucky; whereas Cyc. nassatus is one of the most prevalent species in our state. The buccal capsule of Cyc. ashworthi is rectangular like Cyc. nassatus but unlike Cyc. nassatus, there is no ledge or fold running horizontally through the buccal capsule and its buccal capsule is more shallow than Cyc. nassatus. Also, the buccal capsule walls of Cyc. ashworthi are shorter and thicker than those in Cyc. nassatus. The walls do not taper anteriorly like those in Cyc. nassatus. The walls of Cyc. ashworthi look like two little short, thick, symmetrical pipes. The dorsal gutter in Cyc. ashworthi is triangular and prominent at the dorso-ventral projection.

The bursa of the male tail of Cyc. ashworthi is broad with the dorsal ray ending in a point. It is very similar to Cyc. nassatus except there doesn’t appear to be lateral supporting rays in the bursa of Cyc. ashworthi. In fact, the bursa looks almost transparent. The bursa of Cyc. ashworthi is twice as large as that of Cyc. nassatus.

The female tail tapers smoothly to a point; whereas the female tail of Cyc. nassatus appears wrinkled and the tip curves backward ventrally.

Walls of the Buccal Capsule:
• Look like two little short, thick, symmetrical pipes
• Buccal capsule very shallow

Other Distinguishing Characteristics:
• Closely resembles Cylicocyclus nassatus
• No ledge or fold running horizontally through the buccal capsule
• Male tail is broad, ending in a point
• The bursa looks almost transparent
• Female tail tapers smoothly to a point
Cylicocyclus spp.

Cylicocyclus auriculatus

This is a very easy species to identify. Its size eliminates most other species because the majority are small. First of all, it fits into this genus because its buccal capsule walls look like chicken leg bones, and the buccal capsule is rectangular. This species also loves donkeys. The worm has hornlike papillae that look like a pair of giant ears, or as one colleague said, like the way old-fashioned sacks of chicken feed used to be tied at the corners.

This species, like some of the larger species, sometimes likes to lie on its side, which presents a lateral view. If this is the case, the worm appears to have a mountain rising out of the top of its head.

The female tail is not tapered and is blunt on the end. The male bursa is quite large as befits the size of the worm; however, the dorsal ray is not exceedingly long.

**Walls of the Buccal Capsule:**
- look like chicken leg bones

**Other Distinguishing Characteristics:**
- rectangular buccal capsule
- has hornlike papillae that look like a pair of giant ears
- when the worm presents a lateral view, it appears to have a mountain rising out of the top of its head
Cylicocyclus spp.

*Cylicocyclus brevicapsulatus*

- Size: small
- Preferred site: ventral colon
- Represents <1% of population

This species is easy to identify because, quite simply, there is very little to identify. The worm has a square head, and the buccal capsule is very shallow and inconspicuous; hence, its name. However, this species has very broad elements extending from the external crown that are quite obvious.

The female tail comes down to a fat bump and then ends in a good-sized pointed spike. There is nothing special about the male bursa; the dorsal ray is not long. Spicules are usually extended.

**Distinguishing Characteristics:**

- has a square head
- buccal capsule is very shallow and inconspicuous
- has very broad elements extending from the external crown
I will discuss these three species together—getting a little bit out of alphabetical order—because even some experienced "cyathostome identifiers" have trouble with *Cyc. radiatus*. Because these are medium-sized worms, this should eliminate the really large ones and the small ones. So, it is very easy to distinguish one of the following three species from the others because each has some feature that eliminates the other two. First of all, *Cyc. elongatus* could never be confused with *Cyc. insigne* or *Cyc. radiatus* because of the one feature that gives it its name: its esophagus (Figure 11a). *Cylicocyclus elongatus* has an esophagus that is **twice as long** as the esophagi of the other two species, and it is **very straight**, the other two have pear-shaped esophagi (Figures 11b and 11c).
This species has a **long, straight esophagus** (see Figure 11a, page 12). It has a fairly large buccal capsule, and its chicken leg bone walls are slightly bowed.

The female tail ends bluntly and **has a spike** at the end; however, the male tail has a very **long dorsal ray**. This species is longer than the other two but not as stout as *Cyc. insigne*.

**Walls of the Buccal Capsule:**
- chicken leg bone walls are slightly bowed

**Other Distinguishing Characteristics:**
- has a long, straight esophagus
- has a fairly large buccal capsule

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**Figure 12a**  
Head  
1. chicken leg bone walls slightly bowed  
straight esophagus (see Figure 11a)  

**Figure 12b**  
Female tail  

**Figure 12c**  
Male tail  
2. long bursa

Size: medium  
Preferred site: cecum  
Represents <1% of population
Cylicocyclus spp.

Cylicocyclus insigne

This species has a **short, pear-shaped esophagus** (see Figure 11b, page 12) that begins to bulge almost immediately and a good-sized buccal capsule. The walls resemble chicken leg bones and really bow outward in the middle.

The female tail tapers and turns footlike at the posterior end, but the foot is not as fat as some of the species in *Cyathostomum*. The angle of the female foot is turned down like a ballet dancer’s; the male bursa is quite broad with a medium-length dorsal ray. This species is the stoutest of the three, but not as long as *Cyc. elongatus*.

**Walls of the Buccal Capsule:**
- resemble chicken leg bones
- really bow outward in the middle

**Other Distinguishing Characteristics:**
- has a short, pear-shaped esophagus that begins to bulge almost immediately
- has a good-sized buccal capsule
**Cylicocyclus spp.**

*Cylicocyclus radiatus*

I think of this parasite as looking like a *Cyc. insigne* whose head has been run over sideways. The worm itself is not as large as the other two species, either in length or width. It also has very few distinguishing features and really is quite homely compared to some of the other cyathostome species. The buccal capsule is smaller than *Cyc. elongatus* and *Cyc. insigne*, and the walls of the buccal capsule are very thin, and they do not bow out at all; instead, they stand straight up. The esophagus is pear-shaped (see Figure 11c, page 12), but does not begin to bulge until about halfway down.

The female tail tapers to a definite point. The male tail has no distinguishing characteristics, but it seems to be broader and longer than it needs to be, considering the size of the worm.

**Walls of the Buccal Capsule:**
- very thin
- do not bow out at all

**Other Distinguishing Characteristics:**
- buccal capsule is smaller than that of *Cyc. elongatus* and *Cyc. insigne*
- esophagus is pear-shaped but does not begin to bulge until about halfway down

Size: medium
Preferred site: ventral colon
Represents <1% of population
Cylicocyclus leptostomus and Cylicocyclus nassatus (page 17) are grouped together because of the similarity in their buccal capsules; both species have walls that resemble chicken leg bones without meat.

_Cylicocyclus leptostomus_ is my favorite species, probably because of the male, who looks handsome and polished. Because this is a small species, the buccal capsule is not so spread out and is more square instead of rectangular like the other species in this genus. The capsule walls are not as rounded at the base but are blunt and very thin.

The female has a trim tail, tapering to a point. However, _Cyc. leptostomus_ male has what I like to call a “struttin” tail: that is, its tail is very long and streamlined for the size of the worm.

**Walls of the Buccal Capsule:**
- walls are blunt at the base and very thin

**Other Distinguishing Characteristics:**
- buccal capsule is not so spread out and appears more square than rectangular

**Figure 15a**
Head
1. straight, thin walls

**Figure 15b**
Female tail

**Figure 15c**
Male tail
2. very long bursa

Size: small
Preferred site: ventral colon
Represents 2% of population
Cylicocyclus spp.

Cylicocyclus nassatus

I call the male of the *Cylicocyclus nassatus* species “the old man” because he is not very pretty, and he always dies hard. The walls of the buccal capsule are thicker than those of *Cyc. leptostomus*. *Cylicocyclus nassatus* has a rectangular buccal capsule with a ledge running through its middle. Also, *Cyc. nassatus* has “ears” (actually lateral papillae that give the appearance of ears).

The female of *Cyc. nassatus* has a very ugly, tapered tail that is wrinkled, fat, and usually lies every-which-way. The male has a symmetrical tail with an average-length dorsal ray that seems to “hold up” better than the rest of the worm; it is almost always intact and looks the same.

**Walls of the Buccal Capsule:**
- thicker than those of *Cyc. leptostomus*

**Other Distinguishing Characteristics:**
- has “ears”
- ledge running through middle of buccal capsule
- rectangular buccal capsule

Size: small
Preferred site: ventral colon
Resistant in Kentucky
Represents 12% of population
Cylicocyclus spp.

Cylicocyclus ultrajectinus

This is also another species that really likes donkeys. This species cannot be confused with another because the walls of the buccal capsule are distinctive. This species has the chicken leg bone look to its walls, but the base of the buccal capsule walls is thin and slanted before the “bone” appearance starts. Anteriorally, the walls of the buccal capsule actually fork into definite “V’s” (sometimes, it may be necessary to roll this worm to see the “V’s”). Also, this species has very, very heavy leaves extending from the external crown. The way the buccal capsule walls merge with the crown elements presents an image of two pileated woodpeckers (“Woody Woodpecker”) facing each other at the mouth opening; the beaks are upturned, and they look as if they are smiling.

The tail of the female is downright ugly; it resembles a really big fat foot with a tip on the end. The male tail is very short considering the size of this worm; the dorsal ray is so short that the bursa is nearly as wide as it is long.

Walls of the Buccal Capsule:
- base is thin and slanted before the chicken leg “bone” appearance starts
- anteriorally, fork into definite "V’s"

Other Distinguishing Characteristics:
- has very, very heavy leaves extending from the external crown
- merger of walls and crown resembles two “Woody Woodpeckers” facing each other