

AQUATIC INVASIVE SPECIES

In The Chain!

Prevention is essential to curb the spread!

September 2011

Mystery Snails

**Please Be Our Eyes
For New Sites!**

Best Detected by walking your shoreline because when snails die, their shells wash up on shore.

Habitat Requirements

- Prefer shallow highly productive lakes and slow-moving streams with soft mud, silt, or sand substrate
- Productive systems provide minimum calcium requirements for shell growth
- Feed non-selectively on organic and inorganic bottom material, diatoms, and algae
- Prefer pH of 6.3-8.5, dissolved oxygen 7-11 ppm, and depths up to 3m
- Usually buried in sediment but can seal 'trap door' tight and float at the surface
- In the fall, migrate to deeper water to overwinter
- Most growth occurs in spring and summer when the water is warmer
- More likely to occur near boat landings, and in water bodies near population centers or with a high shoreline housing density

How Did They Get Here?

- First sold live in Chinese food markets in the 1890's, then intentionally released to create a locally-harvestable supply
- Also released from aquariums and water gardens
- Now transported via bait buckets and livewells
- Will attach to macrophytes that can tangle on boat trailers or inadvertently occur in sediment on anchors
- Ability to close operculum makes them resistant to desiccation on a boat or trailer
- Bear live young which can be 'stored' inside the adult for long periods of time

Why A Problem?

- Both species potential vectors for the transmission of parasites and diseases
- In Korea, Chinese Mystery snails host human intestinal trematode parasites
- Clog screens of water intake pipes
- Restructure established food webs through competition with native species for food and space, which negatively impacts native gastropods
- Banded Mystery snails significantly reduce survival of largemouth bass eggs in guarded nests

What Can Be Done?

- Squish 'em!
- Physical removal: baiting and hand netting
- More snail eating turtles!

Note: DNR permits are required for chemical treatments, mechanical treatments, some manual treatments, biological control, bottom screening, and buoy/barrier placement.

Chinese Mystery Snail

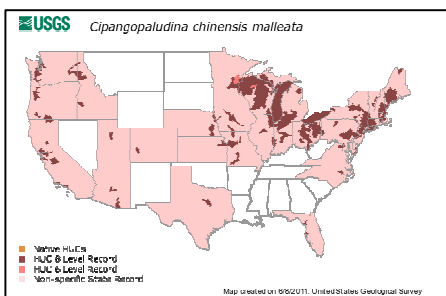
Description



- Olive Green with growth rings on shell
- Rounder outer lip than the native 'elongated' snails
- Up to 2.5 inches
- Native range: from Southeast Asia to Japan and eastern Russia

Life History

- Females live 5 years, males 3-4 years
- Ovoviviparous (embryos develop inside eggs retained within female until ready to hatch)
- Females contain embryos from May-August and young are born June-October
- Females produce >169 young in lifetime and up to 102 young/ brood, bearing most young in their 4th and 5th years



Banded Mystery Snails

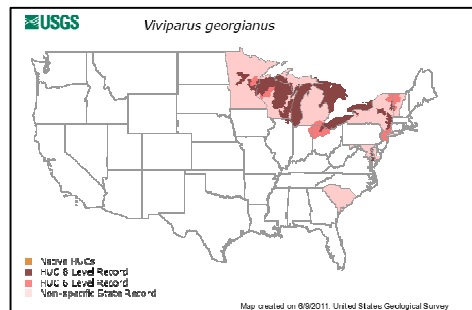
Description



- Tan and orange, 4 dark bands
- Relatively globose shell
- Up to 1.7 inches
- Reproductive females are larger than 0.6 inches
- Native to southeastern U.S. and north through Indiana/ Illinois in the Mississippi River system
- Considered invasive in Wisconsin

Life History

- Ovoviviparous, lay eggs singly in albumen filled capsules
- Females brood eggs for 9-10 months and can brood more than one batch of young at a time
- Females produce 4-81 young/female but average of 11 young/female
- Brood size is positively related to the size of the female
- Females live 28-48 months; males 18-36 months
- Live at high densities up to 864/m²



Note: DNR permits are required for chemical treatments, mechanical treatments, some manual treatments, biological control, bottom screening, and buoy/barrier placement.