

KANSAS FRESHWATER GASTROPODS

Order Architaenioglossa

Family Viviparidae

- Gonochoristic
- Pectinate gill
- Corneous operculum
- Elevated spiral shell
- Visceral ganglia commisures crossed
- Generally pollution sensitive

Order Neotaenioglossa

Family Hydrobiidae

Family Pleuroceridae

Family Pomatiopsidae

Order Basommatophora

Family Ancyliidae

Family Carychiidae

Family Lymnaeidae

Family Physidae

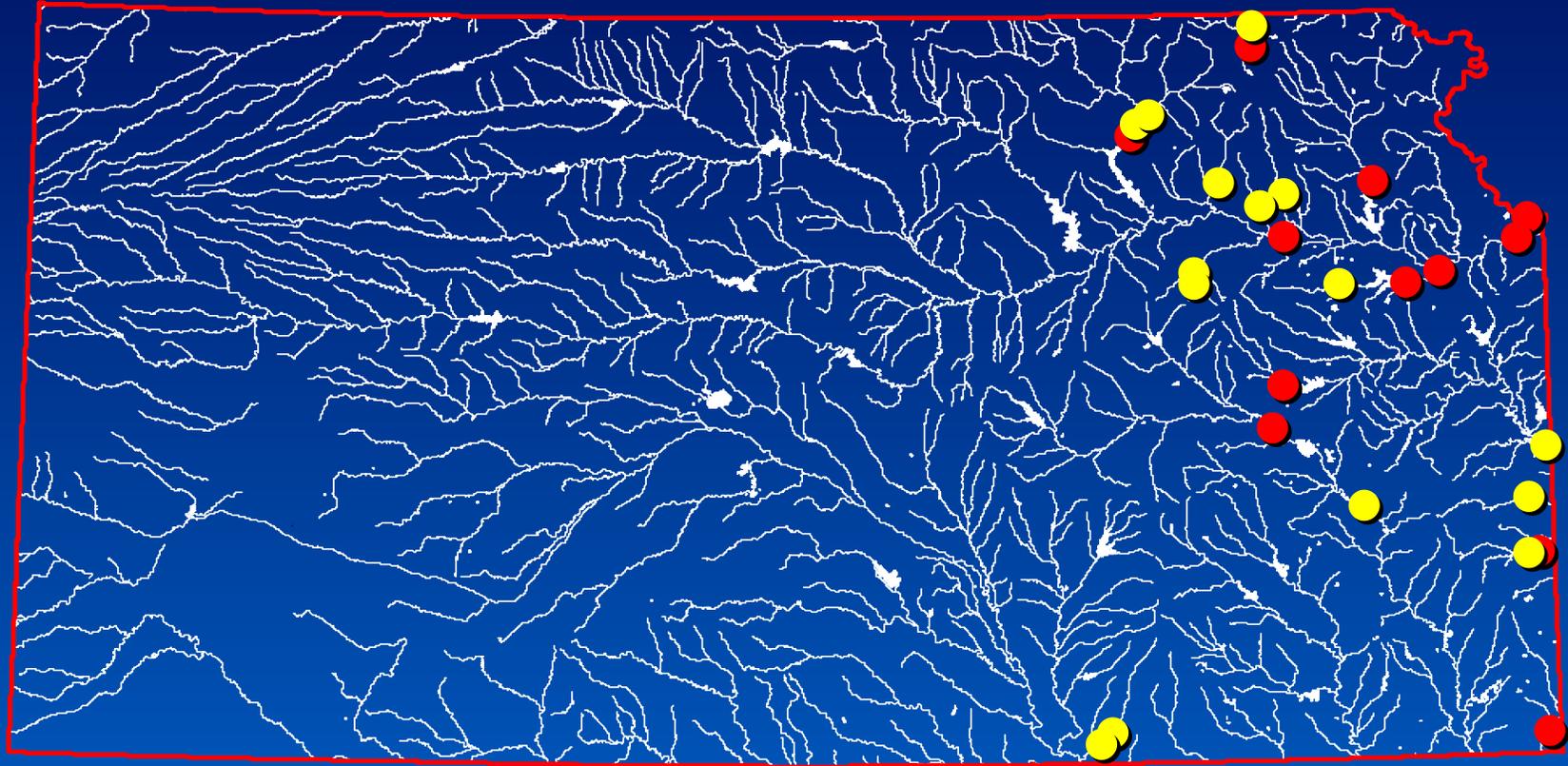
Family Planorbidae

- Hermaphroditic
- Lung but no true (primary) gill
- No corneous operculum
- Various shell forms
- Visceral ganglia commisures parallel
- Generally less pollution sensitive

Ponderous campeloma
***Campeloma crassulum* Rafinesque, 1819**

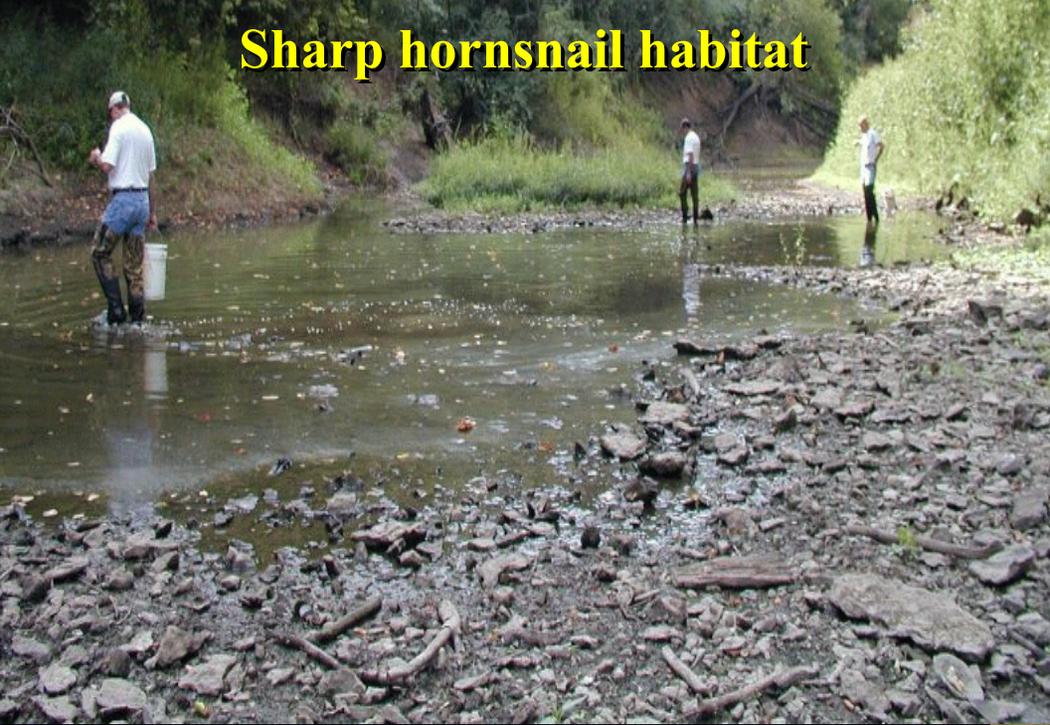


WEATHERED AND RELICT SHELL COLLECTION SITES FOR *CAMPELOMA* SNAILS



- **KDHE SHELL COLLECTION SITES**
- **HISTORICALLY REPORTED COLONIES**

Sharp hornsnail habitat



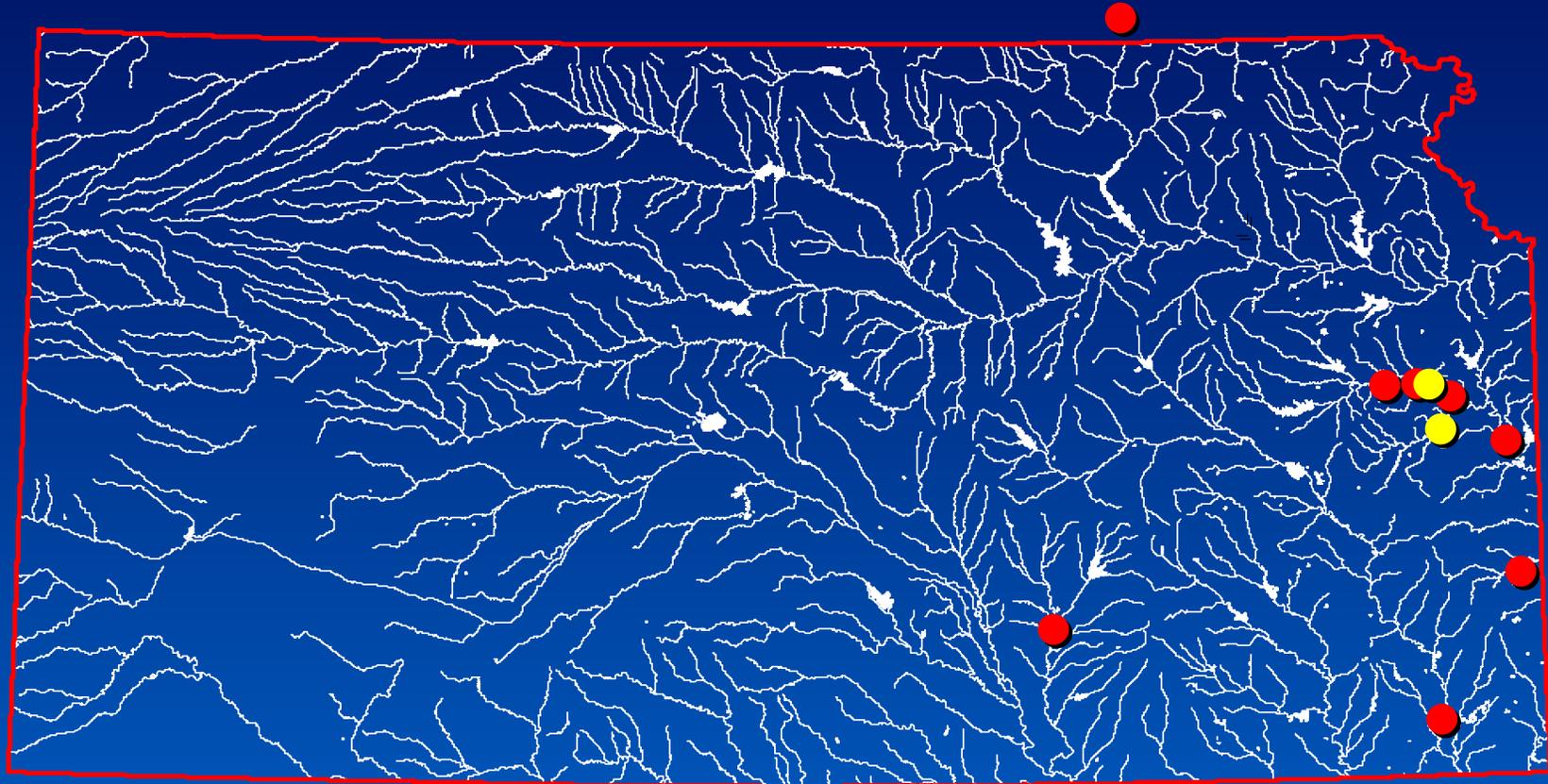
Snail trails on bedrock



Sharp hornsnail
Pleurocera acuta Rafinesque, 1831



REPORTED HISTORICAL AND CONTEMPORARY DISTRIBUTION OF SHARP HORNSNAIL

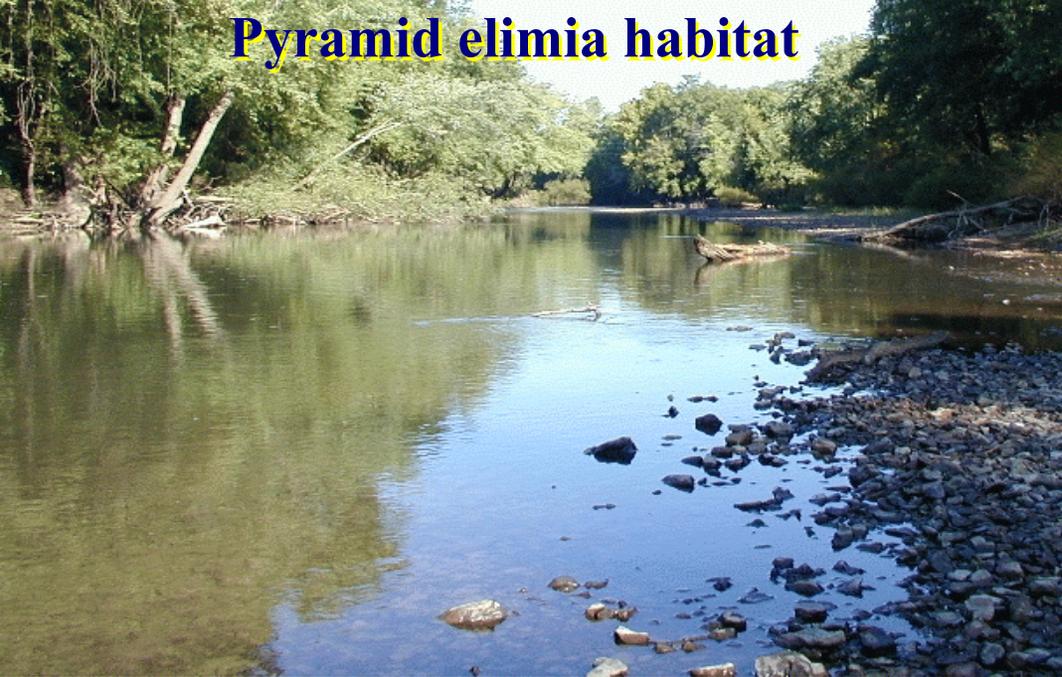


KNOWN EXTANT COLONIES



HISTORICALLY REPORTED COLONIES

Pyramid elimia habitat

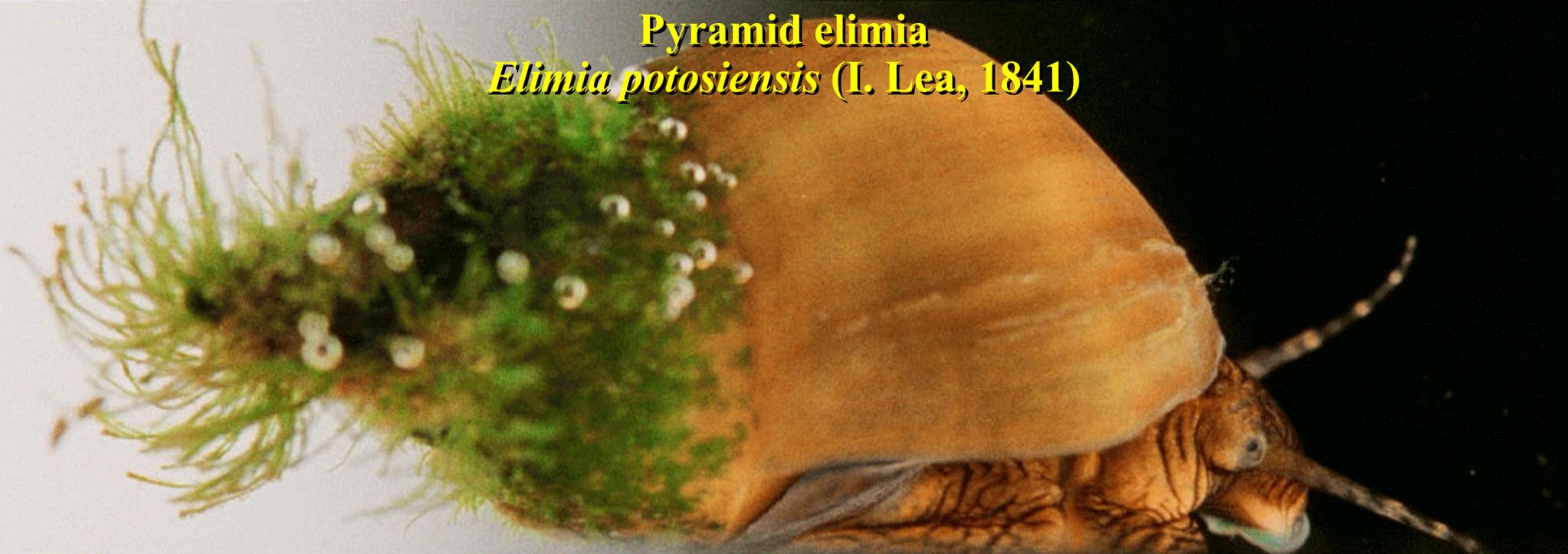


Reticulated pattern on foot

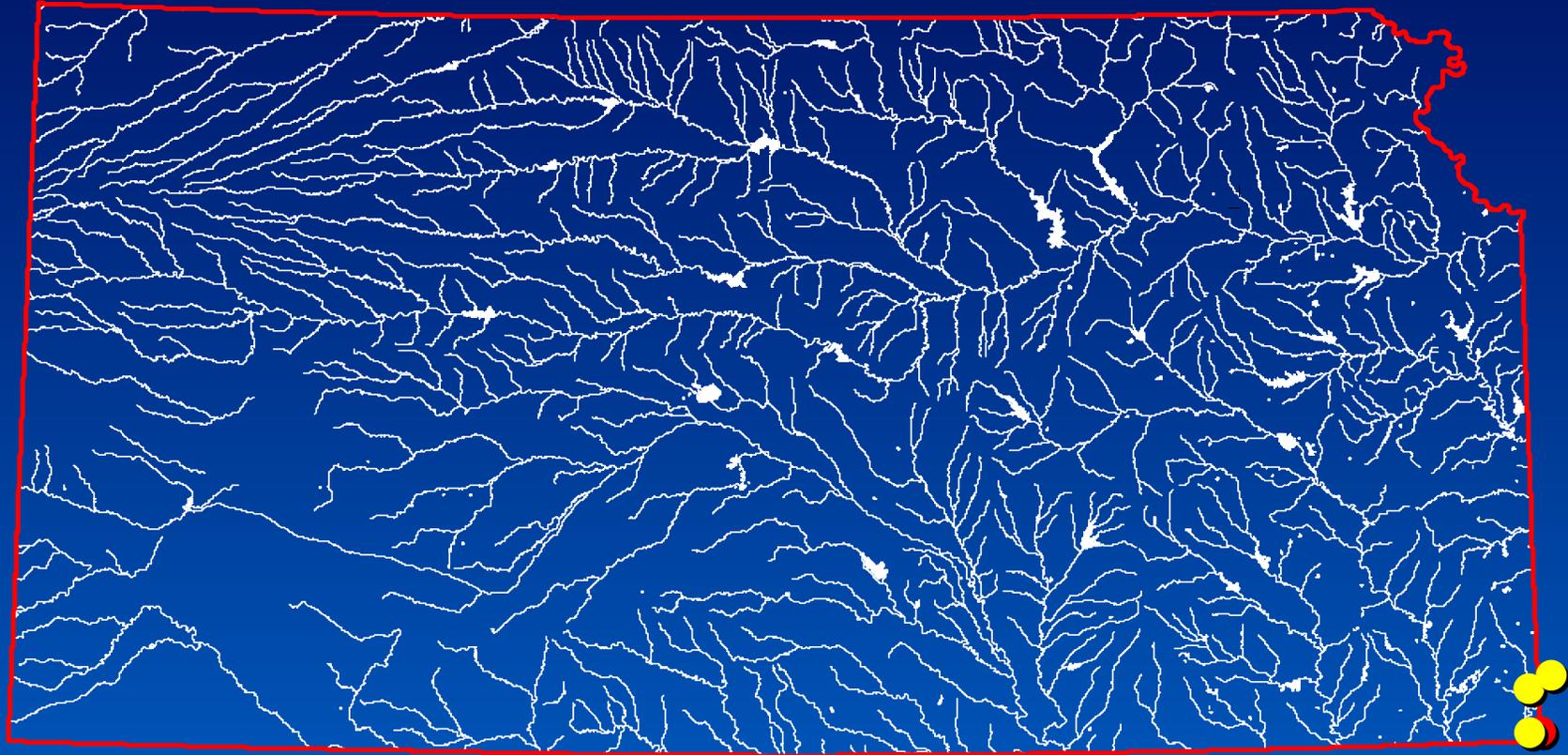


Pyramid elimia

Elimia potosiensis (I. Lea, 1841)



REPORTED HISTORICAL AND CONTEMPORARY DISTRIBUTION OF PYRAMID ELIMIA



● KNOWN EXTANT COLONIES

● HISTORICALLY REPORTED COLONIES

Slender walker habitat



Microhabitat



Slender walker
Pomatiopsis lapidaria (Say, 1817)



Frontal view



REPORTED CONTEMPORARY DISTRIBUTION OF SLENDER WALKER



● KNOWN EXTANT COLONIES

Muscotah Marsh



Marsh vegetation supporting rare terrestrial snails



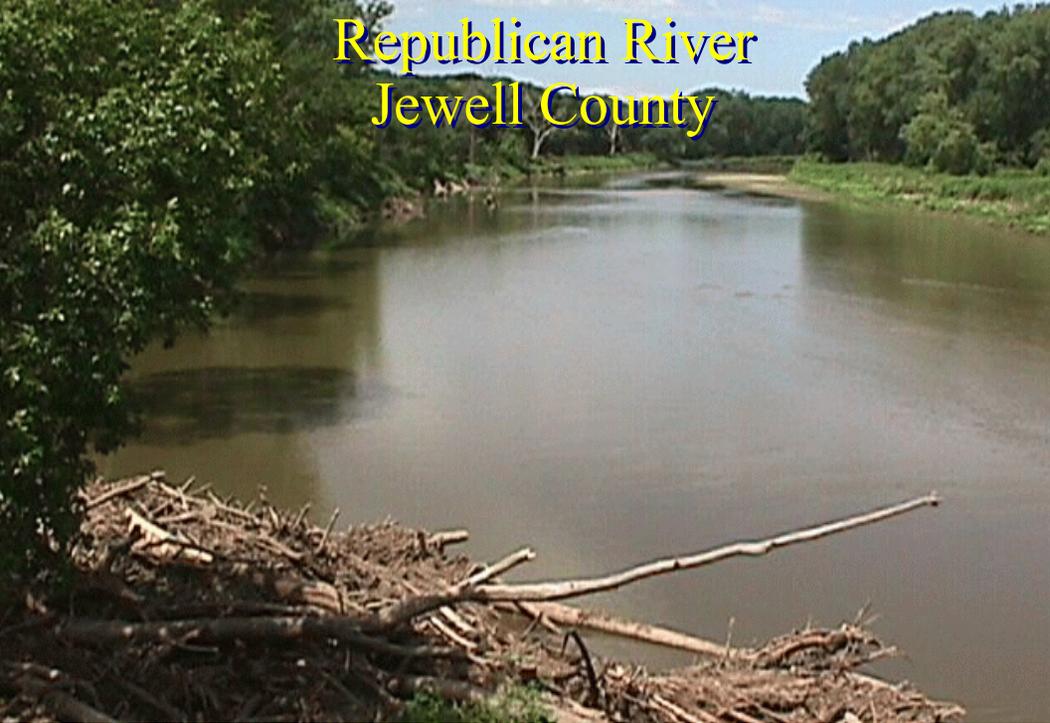
***Webbhelix multilineata* (Say, 1821)**



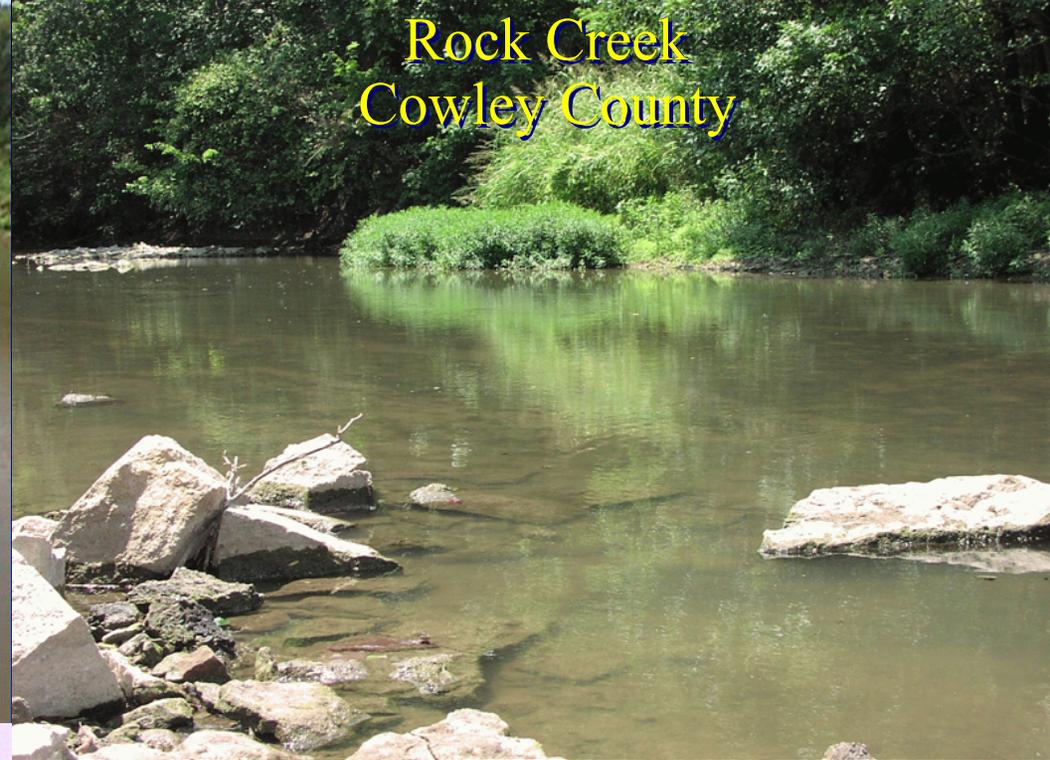
***Oxyloma retusum* (I. Lea, 1834)**



Republican River
Jewell County



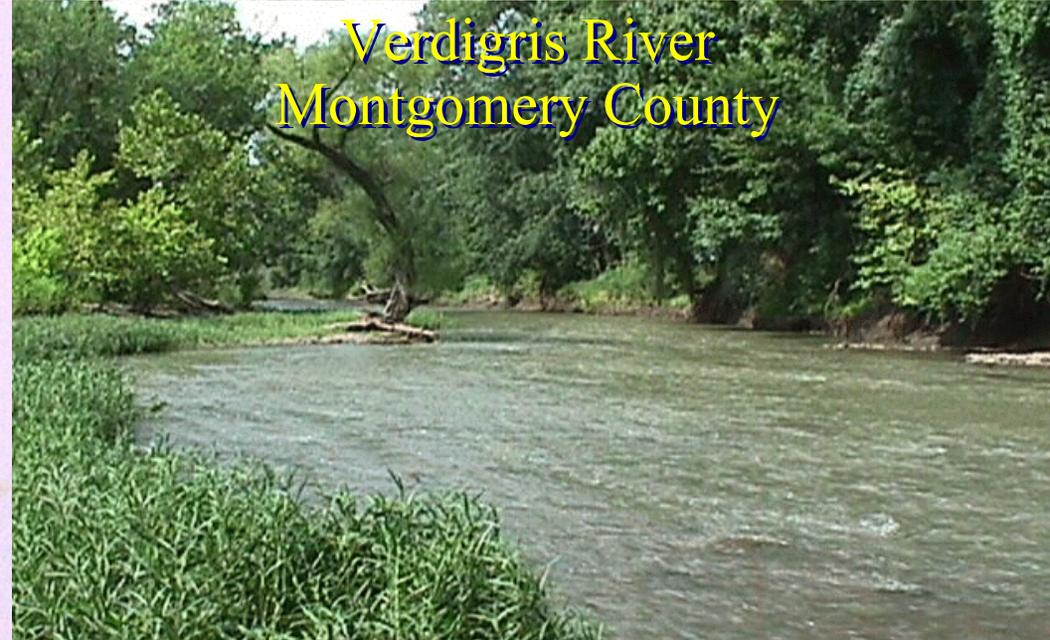
Rock Creek
Cowley County



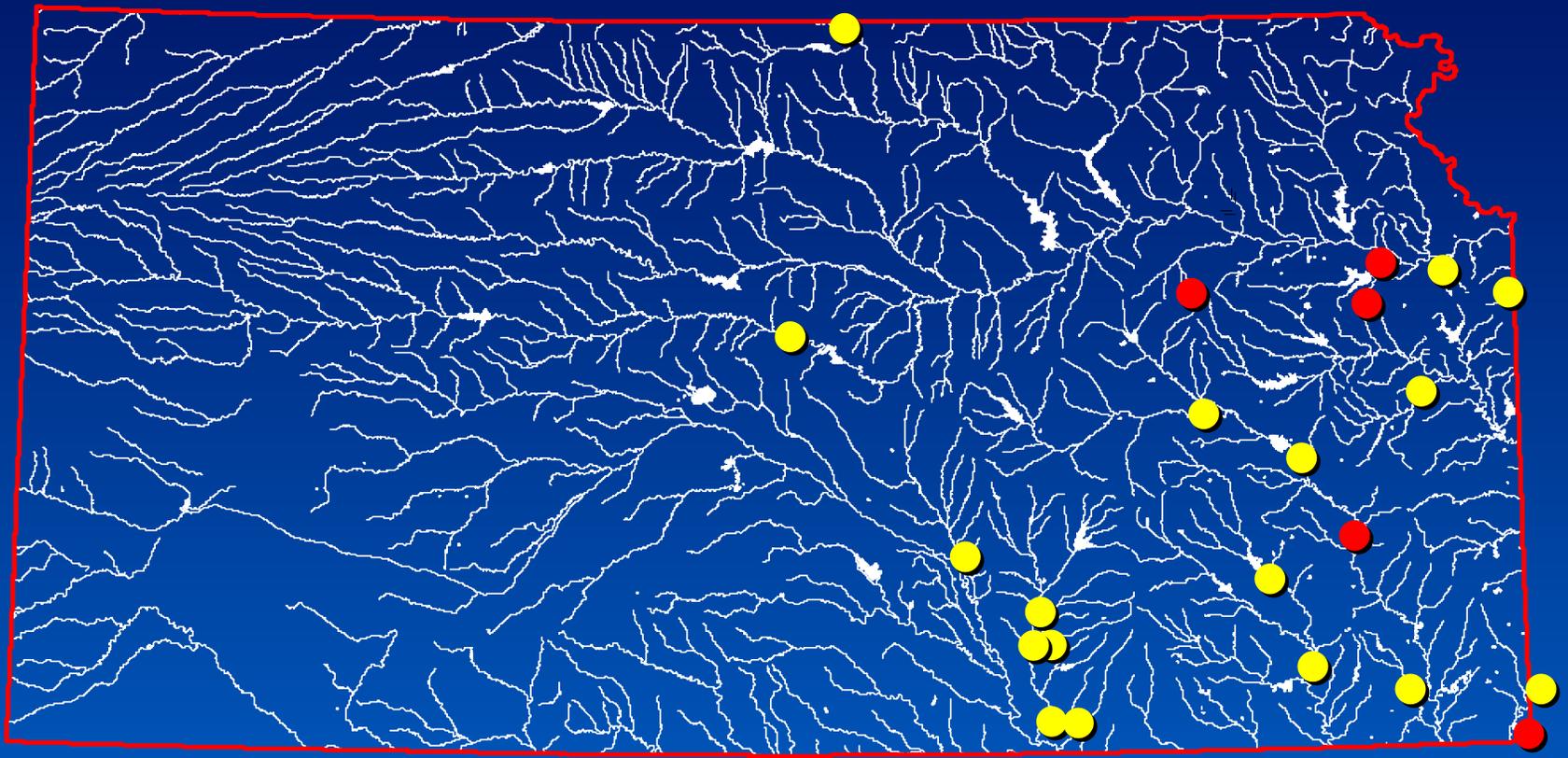
Midland siltsnail
Cincinnatia integra (Say, 1829)



Verdigris River
Montgomery County



REPORTED HISTORICAL AND CONTEMPORARY DISTRIBUTION OF MIDLAND SILTSNAIL



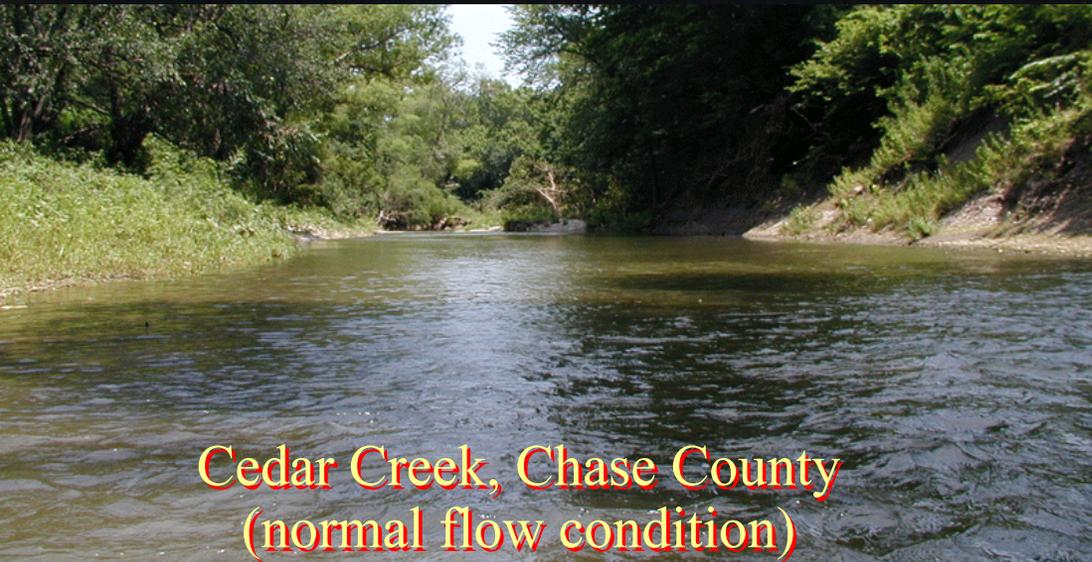
- RECENTLY REPORTED COLONIES**
- HISTORICALLY REPORTED COLONIES**



Delta hydrobe
Probythinella emarginata (Küster, 1852)



Cedar Creek, Chase County
(drought flow condition)

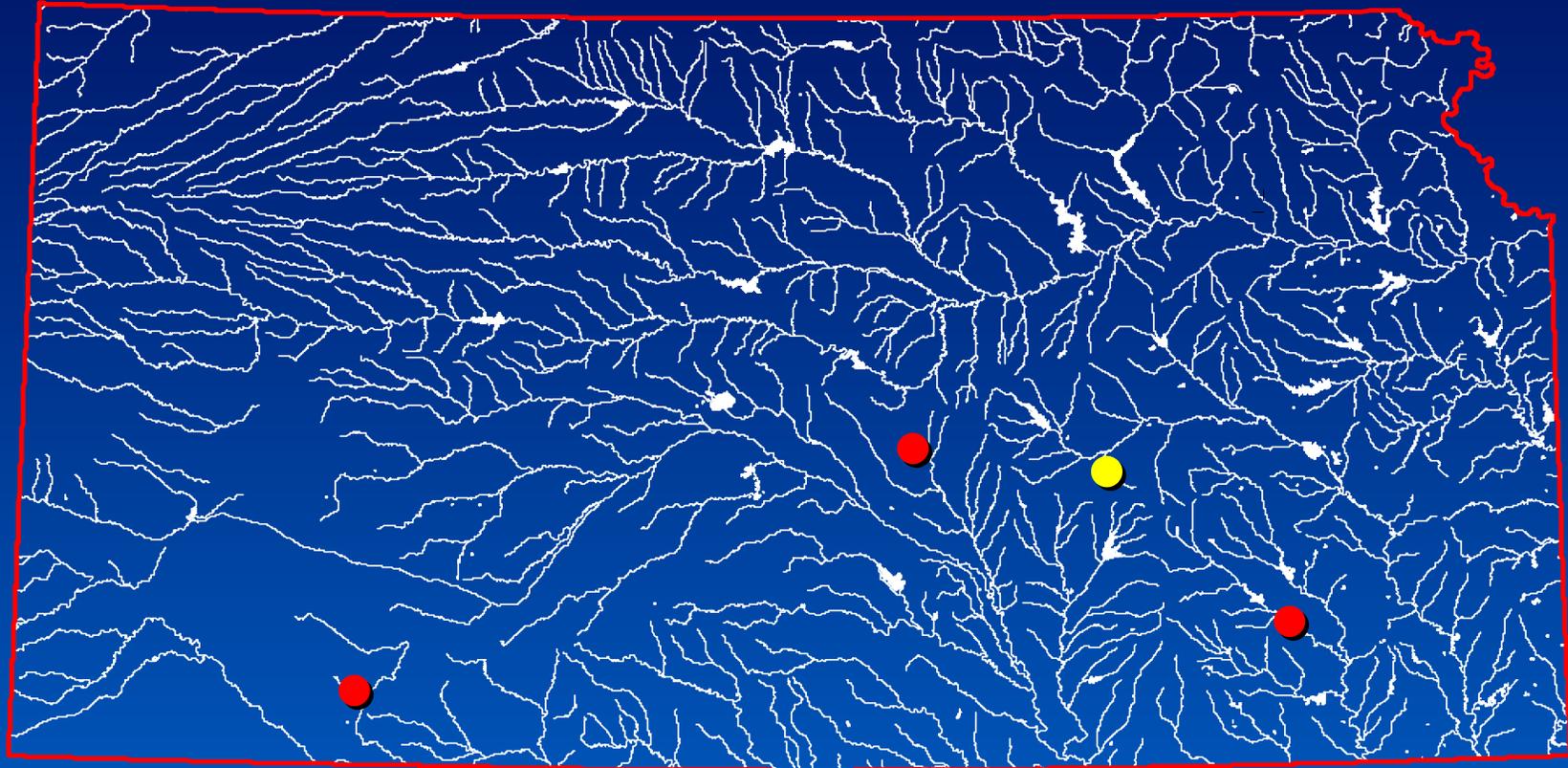


Cedar Creek, Chase County
(normal flow condition)



Shell comparison:
C. integra versus *P. emarginata*

REPORTED (PRE)HISTORICAL AND CONTEMPORARY DISTRIBUTION OF DELTA HYDROBE



KNOWN EXTANT COLONY



REPORTED FOSSIL OCCURRENCES

SOME FACTORS CONTRIBUTING TO DECLINE OF FRESHWATER GILL-BREATHING SNAILS

- < Siltation and eutrophication of streams
- < Environmental releases of toxic substances (e.g., unionized ammonia in partially treated sewage; solvents and heavy metals in industrial effluents; biocides in stormwater runoff from urban and agricultural settings)
- < Dewatering of streams; draining/filling of wetlands
- < Other forms of habitat alteration (stream impoundment, channelization, bank “stabilization”, dredging, etc.)