

A redescription of the carinate pillsnail, *Euchemotrema hubrichti* (Pilsbry, 1940) (Pulmonata: Polygyridae), with notes on habitat and genetics

FRANK E. ANDERSON^{1*} & DAVID A. SMITH²

¹Department of Zoology, Southern Illinois University, Carbondale, IL 62901 USA

²Department of Biological Sciences, Lock Haven University, Lock Haven, PA 17745 USA

* Correspondence to: feander@siu.edu

ABSTRACT

Euchemotrema hubrichti (Pilsbry, 1940) was initially described as *Stenotrema hubrichti* by Pilsbry (1940). The species was known only from shell material, and it was originally thought to be extinct. Live specimens have since been found, but the soft-part anatomy, radula and jaws of *E. hubrichti* have never been described. This species is of substantial conservation concern, primarily due to our lack of knowledge about the species and its highly restricted distribution. We redescribe *E. hubrichti* based on material freshly collected from the type locality. *Euchemotrema hubrichti* is found at several sites in the Larue–Pine Hills Research Natural Area in Union County, Illinois, U.S.A., and is often abundant under loose slabs on the tops of relatively dry limestone outcrops. The shell of *E. hubrichti* differs from those of *E. fraternum* (Say, 1824) by its acute keel and low number of whorls. The genitalia of *E. hubrichti* are similar to those of *S. stenotrema* (Pfeiffer, 1842), but show a diagnostic penile inflation and luminal twisting of the free oviduct. Partial mitochondrial cytochrome c oxidase subunit I nucleotide sequences generated from four *E. hubrichti* individuals are identical, and show high similarity to available stylommatophoran sequences.

Key words: *Euchemotrema*, Polygyridae, Polygyrinae, Stenotremi, redescription, cytochrome c oxidase subunit I, DNA taxonomy

INTRODUCTION

Euchemotrema hubrichti (Pilsbry, 1940) (also known as the carinate pillsnail) was described as *Stenotrema hubrichti* by Pilsbry (1940, pg. 687–688, Figure 423) based on shells collected by Leslie Hubricht from Pleistocene talus at the base of a large limestone bluff in the Larue–Pine Hills region of Union County, southwestern Illinois. Pilsbry