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## THE GASTROPOD *THAIS HAEMASTOMA* IN GEORGIA: *T. H. FLORIDANA* OR *T. H. CANALICULATA*?

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**ABSTRACT** In the southeastern United States, the snail *Thais haemastoma* has traditionally been subdivided into two subspecies according to the snail's locale, size of shell, number and size of spines, and depth of suture. Only *Thais haemastoma floridana* is supposed to occur in Georgia; since *Thais haemastoma canaliculata* is supposedly restricted to the Gulf of Mexico region. In Georgia, specimens fitting the description of both subspecies are common. The author concurs with the conclusions of Butler (1953) and Gunter (1979) in that the subspecies nomenclature is invalid and that they are merely ecological variants.

In the southeastern United States, the genus *Thais* (Family Muricidae) is comprised of two subspecies: *Thais haemastoma floridana* (Conrad, 1837) and *Thais haemastoma canaliculata* (Gray, 1839) which are differentiated by locale, shell length, number and size of spines, and depth of the suture (Abbott 1974). Previous studies indicate that the Florida Rock-shell *Thais haemastoma floridana* ranges from North Carolina to the West Indies and along the Central American coast to Trinidad; Hay's Rock-shell *Thais haemastoma canaliculata* ranges from the west coast of Florida to possibly the northern coast of Mexico (Clench 1947). The drills differ in shell length, with *T. h. floridana* reaching 75 mm and *T. h. canaliculata* reaching 105 mm. *T. h. floridana* has two or more rows of weak shoulder nodules, while *T. h. canaliculata* has two rows of strong shoulder nodules. *T. h. canaliculata* has a more deeply channeled suture (Clench 1947).

In Georgia, *Thais haemastoma* is uncommon (Walker 1981, Walker et al. 1980, Hoese 1969), although it may be common in specific areas (Hoese 1969). In a recent drill survey of Wassaw Sound, Georgia (Walker 1981), *Thais haemastoma* was found inhabiting oyster bars in two areas: approximately 500 meters north of the mouth of Cabbage Creek, Cabbage Island, and at the Deadman Hammock area, Wassaw Island. The snails were found preying on oysters at or near the mean low water mark in the more saline areas ( $S \times 10^{-3} > 18$ ) of Wassaw Sound. Due to the rarity of the snail in Georgia, it does not represent any serious threat to the oyster fishery as it does in more southern waters (Butler 1953).

According to locale, the Georgia population should be *T. h. floridana* because *T. h. canaliculata* is restricted to the Gulf of Mexico. However, many of the specimens found during the drill survey of Wassaw Sound best fit the description of *T. h. canaliculata*. For example, 11 out of 23 shells were greater than 75 mm in length, the maximum length

cited for *T. h. floridana*. Of these, five were over 80 mm, one was over 90 mm and one was 105 mm in length. The shoulder nodule(s) varied in size and number: 22% with two strong shoulder nodules, 26% with one strong and one weak nodule, 22% with two weak nodules, and 26% with only one weak nodule. The remaining shells were heavily infested with *Cliona* and not enough of the shell remained for adequate analysis. Furthermore, Hoese (1969) found in Georgia (N=62) 43 *Thais* shells over 79 mm, nine over 89 mm and two over 99 mm. The largest reached 101 mm. Chesnut (1955) found *Thais* reaching 83 mm in North Carolina. Unfortunately, no descriptive characteristics of the shells were given by either Chesnut (1955) or Hoese (1969).

Specimens collected by the author from Shell Island, Florida, south of Mexico Beach, Florida, were also examined. Of these (N=7), 29% had two strong shoulder nodules, 14% had two weak shoulder nodules, 29% had one weak shoulder nodule and 29% had no shoulder nodules. According to locale, they should all be classified as *T. h. canaliculata*; however, most, due to the absence of two strong shoulder nodules on the majority of the shells collected, fit the description of *T. h. floridana*.

Mayr (1963) defines a subspecies as "an aggregate of local populations of a species inhabiting a geographic subdivision of the range of the species and differing taxonomically from other populations of the species" (p. 672). The occurrence of shells resembling *T. h. canaliculata* in Georgia and shells resembling *T. h. floridana* in the Gulf of Mexico region show that the populations (Gulf vs. Atlantic) are not taxonomically different. Furthermore, Butler (1953) reports finding specimens of both subspecies in Pensacola, Florida, as well as in Barataria Bay, Louisiana. Gunter (1979) reports specimens of both subspecies in Apalachicola Bay, Florida.

One can explain the presence of shells resembling *T. h. canaliculata* in Georgia in three ways: (1) that *T. h. canaliculata* was introduced into Georgia waters from the Gulf region; (2) that the Georgia population being taxonomically distinct from *T. h. floridana* should be given another sub-

species status; or (3) that the snails are *Thais haemastoma* and that subspecies nomenclature is invalid. The first is possible considering that transplantation of oysters infested with drills is the major factor in drill (*Urosalpinx*) dispersal in more northern waters. However, no known instances of transplantation of oysters from the Gulf region to Georgia is known. The second, in view of specimens fitting the description of both subspecies occurring in five distinctly separate areas seems unwarranted. The third case is most likely. It would appear that *T. h. floridana* and *T. h. canali-*

*culata* are ecological forms and that subspecies status is unwarranted. Therefore I agree with Gunter's (1979) statement, "In the meantime it would seem the remaining conservative course is to use the only indubitably valid name, *Thais haemastoma*."

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