latus sonoriensis and *P. crinitus pergracilis* belong to this species. The larvae were removed with the cysts from the liver and lungs on autopsy. Following removal of the cysts, the larvae were killed and fixed in AFA, a treatment which expanded and caused the scolices to evert. Measurements of the expanded tetrathyridia showed them to be 5 to 7 mm. long by 1 to 1.3 mm. wide. Scolex 575 to 600 microns wide. The four suckers showed rims notched anteriorly 184-196 microns long by 136 to 144 microns wide. Sucker aperture slit-like. Osmoregulatory canals, distinct, lateral, branching and anastomosing posteriorly. Canals emptying in the posterior tip into a short common duct which leads to a terminal pore. The large ducts entering the common duct anterolaterally, the smaller ducts more posteriorly. Longitudinal muscle strands mostly central.

HOSTS. Adult: *Taxidea taxus taxus* (Schreber), badger
Canis latrans Say, Coyote
Lynx rufus pallescens Merriam, bobcat
Tetrathyridia: *Peromyscus maniculatus sonoriensis* (Le Conte), the deer mouse.
P. crinitus pergracilis Goldman, the canyon mouse

LOCALITY: Tooele County, Utah

COLLECTORS: F. R. Evans, J. Miles Butler, and A. W. Grundmann

TYPE SPECIMEN (From badger #2985 U. of U. coll.) Deposited in the Helminthological Collection of the University of Utah. Paratypic material deposited in the U. S. National Museum.

DISCUSSION

The two species of Mesocestoides with which this species may be confused are *M. variabilis* Mueller (1927) and *M. corti* Hoeppli (1925). Differences exist in the number, size and distribution of testes between *M. carnivoricolus* and *M. variabilis,* the former having 25 to 35 and the latter 90 to 110. The yolk glands of *M. variabilis* are lateral and separated while those of *M. carnivoricolus* are close together. The Paruterine structure in *M. variabilis* is much larger and nearer the posterior border.

M. carnivoricolus differs from *M. corti* in that the sucker rims of the latter are notched posteriorly while in the former the rims are notched anteriorly. The testes of *M. corti* are found on both sides of the osmoregulatory duct and number 36 to 60. The neck region in *M. corti* is shorter and the first segments are twice as wide as long instead of about 9 times as wide as long. Furthermore, *M. corti* is a parasite of rodents while *M. carnivoricolus* inhabits carnivores.

A Note on *Ribeiroia ondatrae* (Price, 1931) in Puerto Rico

G. T. RIGGIN, JR.*
Tropical Research Medical Laboratory, U. S. Army, San Juan, Puerto Rico

Collections of *Australorbis glabratus* from the streams infested with *Schistosoma mansoni* in Puerto Rico usually contain snails infected with a leptocercous cercaria which resembles those of the echinostomes. In the early studies on schistosomiasis mansoni on the island this cercaria was first

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described by Marin (1928) as "Cercaria III." Faust and Hoffman (1934) redescribed this form and gave it the name of *Cercaria marini*. It had been observed by Harry (1954) that snails infected with this trematode were often castrated. A study of its life cycle was undertaken.

Most of the snails used came from the Rio Caguitas. Usually 3-4% of the snails were infected with *C. marini* but occasionally an incidence of 6% was obtained. In the laboratory the cercariae were shed during the night, although they could be induced to emerge during the day if the snails were placed in the dark. A study of the morphology of the redia and cercaria indicated that the species was at least very closely related to *Ribeiroia ondatrae* (Price, 1931; Price, 1942), as reported by Beaver (1939). Metacercariae were obtained in the lateral line canal of the guppy (*Lebistes reticulatus*) and *Poecelia vivipara,* and in the cloaca of tadpoles exposed to the cercariae.

Adult trematodes were obtained in the laboratory by feeding mature metacercariae to a parakeet and a pigeon. Attempts to infect chickens and ducks were unsuccessful. Natural infections were found in two of eight Green Herons (*Butorides virescens*); one from Trujillo Alto and the other from La Torrecilla Lagoon near San Juan. In all of the birds the parasite had caused deep lesions in the mucosa of the proventriculus. With the exception of the size of the adults and the number of eggs found in the uterus, the worms were identical with the descriptions given by Price (1931) and Beaver (1939) for *Ribeiroia ondatrae*. The greatest length of the adults obtained in the present study was 1.22 mm., compared to 1.6-2.0 mm. (Price) and 1.4-4.2 mm. (Beaver). In drawings these authors showed numerous eggs in the uterus. The specimens obtained in Puerto Rico contained only 6-10 eggs. In spite of these differences, a thorough comparison of the morphology of the redia, cercaria, metacercaria and adult observed in this study leaves no doubt that *C. marini* is the larval stage of *Ribeiroia ondatrae*.

SUMMARY

In an investigation of the life cycle of *Cercaria marini* Faust and Hoffman 1934, from *Australorbis glabratus* in Puerto Rico, it has been found that the metacercariae develop in the lateral line canal of *Lebistes reticulatus* and *Poecelia vivipara,* and the cloaca of tadpoles. Adult worms, identified as *Ribeiroia ondatrae* (Price 1931), were recovered from a parakeet and pigeon fed metacercariae. Natural infections were found in the Green Heron (*Butorides virescens*).

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