THE INTERMEDIATE HOST OF FASCIOLA HEPATICA IN PORTO RICO

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Fasciola hepatica, a formidable enemy of ruminants is surpassed by no other animal parasite as regards damage inflicted upon cattle in Porto Rico. As an example conditions obtaining at Ingenio, a farm near Toa Baja can be cited. There, liver fluke infestation has become so general, and has made such serious inroads upon local stock that the flesh of the animals from this vicinity commands a much lower price at slaughter houses than does beef from less heavily infected or non-endemic sections. In some endemic areas goats cannot maintain themselves because of depredations due to this trematode. This species occasionally parasitizes man. Records of such infection are recorded from Cuba [1], Porto Rico [2], and Venezuela [3].

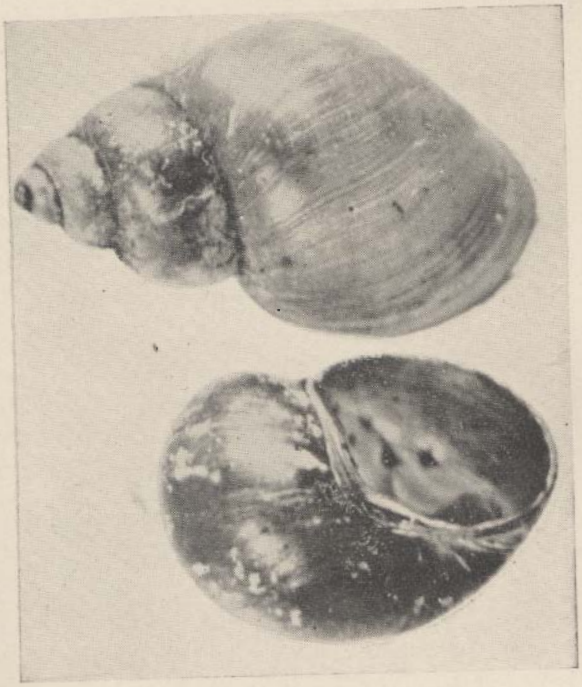
Almost throughout the entire area of distribution of the fluke, a snail of the genus *Lymnea* has been incriminated as the intermediate host. Here in Porto Rico a representative of the group, determined by Dr. Bryant Walker of Detroit as *L. cubensis.*, occurs in many localities. For more than two years specimens of this form have been gathered from many localities on the Island by a former assistant, R. A. Marin, or myself. Invariably they proved to be uninfected. These snails could be easily infected with miricidia hatched from Fasciola *hepatica* ova; but in no instance did they survive for a period sufficiently long to permit the development of cercariae.

Several months ago a few individuals among a number of *L. cubensis* collected at Ingenio yielded cercariae apparently identical in structure with the cercaria of *Fasciola hepatica.* Almost immediately they encysted along the sides of the vessels which contained the snails and water. After an encystment period of approximately twenty four hours, a number of metacercariae were fed to five guinea pigs. The doses administered varied from twenty-five to 130 of these organisms. All died within a period of from twenty-three to thirty-three days after feeding. In each instance the liver had undergone marked degeneration, and young adults of *Fasciola hepatica* were recovered from the organ.

Shortly before the completion of the infection experiments referred to above, a report by Dr. H. L. Van Volkenburg of the Porto Rico Agricultural Experiment Station at Mayagüez appeared in press covering the same ground and arriving at similar conclusions.[4] This paper then confirms the finding of Dr. Volkenburg, namely, that Lymnea cubensis is the intermediate host of Fasciola hepatica in Porto Rico.

BIBLIOGRAPHY

1. Hoffman, W. A., and Guerra, A.: (1923) Distoma hepatico originando un absceso muscular. Revista de Medicina y Cirug. de la Habana *28*: (16) 558.
2. Ashford, B. K., and Igaravídez, P. G.: (1911) Uncinariasis in Porto Rico. Doc. No. 808, senate, 61st Congress, p. 130.
3. Romero Sierra, J. M.: (1918) Contribución al estudio de la parasitología nacional. Estudio y clasificación de un Distoma. Gac. Med. de Caracas *15*: (12) 124–6.
4. Report of the Porto Rico Agricultural Experiment Station, 1928: December 1929: 36–37.



LYMNEA CUBENSIS (15 x)