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Present Status of Taxonomical Knowledge

It is safe to say that the taxonomy of Digenea from fishes and invertebrates from Chesapeake Bay is in need of considerable attention. First, the knowledge of what flukes are present is lacking, with the exception of a few scattered papers dealing with a limited number of species. A few such papers about adult Digenea from fishes are by Hopkins (1) and Anderson (2) and about larval forms from second intermediate hosts are by Stunkard and Uzmann (3), Dillon (4), and Perkins (5). A list of the Digenea from Chesapeake Bay compiled by D. E. Zwerner and A. R. Lawler is most likely incomplete from the standpoint of actual species present. Second, there are probably many Digenea present that are identical to those found in fishes from North Carolina and Massachusetts. Much of the knowledge about Digenea from those areas is based on numerous reports by Edwin Linton dating from the late 1800s to 1940 (see Linton, (6), and (7) in particular). Many of the descriptions of the species are insufficient by modern standards. Some of the species are not valid, whereas others should be split into several species. Many of the problems created in the early literature by several authors have yet to be solved.

Present Status of Knowledge about the Distribution and Abundance of the Group

The viscera from several preserved fishes from Chesapeake Bay were given to me by Adrian R. Lawler to examine for parasites for a list of parasites from Chesapeake Bay. Most of the fish were infected with Digenea and most were new records for the parasite to be found in the particular host and in the Bay area. These findings suggest that Digenea are abundant and their distribution poorly known.

Present Status of Knowledge Concerning the Biology of the Group

The biology of several trematodes from near Woods Hole and from other areas along the Atlantic coast have been studied by R. M. Cable, H. W. Stunkard, W. E. Martin, and others. Some of the studied worms probably occur in the Bay. In general, however, the life histories and other aspects of the biology of marine and estuarine trematodes are poorly understood.

Present Status of Knowledge Concerning the Role of the Group in the Bay Ecosystem

Without a knowledge of what species are present, little can be said of the status of Digenea in the ecosystem. Digenea are seldom severely pathogenic to a definitive host, but they may have a profound effect on the first or second intermediate hosts, especially during specific seasons or in partially or entirely enclosed areas.

Present Status of Knowledge Concerning the Sensitivity of the Group to Man-Induced Environmental Changes

Digenea are especially valuable as indicators of environmental conditions. Molluscs are the first intermediate host for all known Digenea but two. In order for a trematode larva to infect a mollusc and asexually produce larvae capable of infecting a second intermediate host, the trematode must depend on both a receptive host and satisfactory environmental conditions. Proper conditions are also necessary for development in the second or additional intermediate hosts and in the definitive host. A breakdown in the availability of susceptible hosts or any of the favorable environmental conditions accompanying the various developmental and infective stages could eliminate the parasite. It should be pointed out that the presence of Digenea in an area is not usually detrimental to the involved hosts or the ecosystem.

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