

— Occurrence and lack of transmissibility of gonadal neoplasia in softshell clams, —

Gonadal neoplasms (germinomas) in softshell clams, *Mya arenaria*, have only been reported from locations in Maine, USA despite the fact that the geographic range of *M. arenaria* extends from Labrador to North Carolina on the east coast of North America. To more accurately determine the geographic distribution of this disease, adult clams ($n = 18-60$ per sample) obtained between 1989 and 1997 from sites along the entire coast of Maine and from Atlantic Canada (New Brunswick, Nova Scotia, and Prince Edward Island) were examined histologically for the presence of neoplasia. Gonadal neoplasms were present at 10 of the 28 locations sampled, including sites in Maine, New Brunswick, Nova Scotia, and Prince Edward Island, at prevalences ranging from 3.3 to 50% and at all stages of development. Prevalence and stage of development, however, were consistently greater at sites located between Penobscot Bay, Maine and Passamaquoddy Bay, New Brunswick. There was no correlation between mean clam size (shell length) and prevalence. Clams with neoplasia were predominantly female. To assess possible disease transmissibility and subsequent mortality rates, naïve clams were transplanted to a site where neoplasia is enzootic and placed in close proximity to clams having the disease. After 6 months, no evidence of neoplasia was found in the transplanted clams even though cumulative mortality (14.7%) was greater than that in local clams (3.4%). These results suggest that gonadal neoplasms in *M. arenaria* progress slowly and cause little mortality once present in an individual and may not have an infectious etiology. Loss of reproductive output is a potential long-term effect of the disease.

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