

Studies on Fresh-Water Bryozoa, XVIII *Lophopodella carteri* in Kentucky

MARY D. ROGICK

College of New Rochelle, New Rochelle, N. Y.

THE PURPOSE of the present study is to report the occurrence of *Lophopodella carteri* (Hyatt) 1866 in Kentucky and to bring its distribution records up to date.

The present specimens were collected by William B. Echols, Biology student at the University of Louisville, and given to Dr. Gerald A. Cole who identified them as *L. carteri* and sent them on to the author for verification. To quote from information furnished by Dr. Cole, the specimens were collected about Sept. 20, 1957, "from an intermittent brook in George Rogers Clark Park, Louisville, Jefferson County, Kentucky. This brook is hardly more than a grassy ditch. The bryozoans were in an isolated remnant of the dried up stream. This was a small pool about 4 square feet and 6 inches deep. The colonies continued thriving in a finger bowl for several weeks in the lab." The sample consisted of three small but very handsome and well nourished colonies containing about 12 zooids and 10 nearly mature statoblasts.

The shallow, Kentucky habitat from which the samples were collected is reminiscent of the similarly shallow, vegetation-rich East Harbor, Lake Erie, Ohio site where specimens were exceedingly abundant in 1933 (Rogick, 1934a, 1934b).

Lophopodella carteri is very easy to identify by its spined statoblasts. According to Toriumi (1956: 42), who has made the most recent and critical taxonomic study of this species, *L. carteri* "may consist of many different groups . . . These groups may be small ones such as strains and may not be varieties." He then lists a number of synonyms, a few of which are listed below:

1859. *Lophopus*. Carter

1907. *Pectinatella davenporti*. Oka

1907. *Lophopus lendenfeldi* var. *himalayanus*. Annandale

1919. *Lophopodella carteri* forma *typica*. Annandale

On the basis of the above list of synonyms the distribution of *L. carteri* can be said to extend to three continents: Asia, Africa and

North America. Carter found it at Bombay, India; Oka near Tokyo, Japan; Annandale, in various papers, reported it from eastern Persia, thru India, into China; Vorstman (1928) from Java; Rao (1929) from Burma; Lee (1936) from China; and Toriumi, in several papers, from a number of localities in Japan, Formosa and Korea. Meissner (1895) reported the species from East Africa. North American records for the species are few:—from New Jersey by Dahlgren (1934); and from various parts of Ohio by Rogick (1934a, 1934b) and Masters (1940). In addition, the writer has seen specimens from Pennsylvania and now from Kentucky.

Two samples of the Pennsylvania specimens, both from Hankins Pond, Pleasant Mount, Wayne County, Pa., had been sent to the writer for identification,—one in 1947 by the Smithsonian Institution (collector not indicated) and the other, in 1948, by Dr. H. Radclyffe Roberts, of the Academy of Natural Sciences of Philadelphia.

Dr. Roberts' letter of Oct. 7, 1948, stated that "The Pennsylvania Fish Commission has found in some of their fish ponds very abnormal growths of these Bryozoa. It appears as though this condition was induced by the fertilizer added to the ponds. The serious aspect of this condition is that when these Bryozoa are crushed in the vicinity of the fish, it has a very quick, lethal action. This is a very serious condition in cases where they rear the small fish in wire cages and when they are netting the fish and disturb the bottom or other surfaces."

Dr. Shujitsu Oda, of Tokyo Bunrika University, in Japan, upon learning that *L. carteri* is toxic or lethal to fish if crushed or damaged, experimented with a related bryozoan species, *Pectinatella gelatinosa*, and found that it too possessed similar toxic or lethal properties when crushed near the common Japanese fish *Oryzias latipes* (from Dr. Oda's letter of June 9, 1951).

In view of Roberts' and Oda's observations it would seem that *L. carteri*'s toxic properties should be investigated further by someone with an interest in either biochemistry or in fisheries problems.

The writer wishes to express her most grateful thanks to the collector, Mr. Echols, to Dr. Gerald Cole who suggested that this article be undertaken and who furnished all the essential Kentucky collection data and specimens, and to the National Science Foundation which so generously supported the author's bryozoan research for the past several years.

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