

THE OCCURRENCE OF THE FRESH-WATER MEDUSA
NEAR RICHMOND, INDIANA

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The occurrence of the fresh-water medusa has been recorded in this country at rather infrequent intervals since 1908. Payne¹ recorded the presence of the form near Elkhart, Indiana, in 1918. In a personal communication he states that a few occurrences have been reported since that time. Payne established the species as *Craspedacusta ryderi*. He worked out the life history and identified it as the sexual generation of *Microhydra ryderi*. For details of life history, morphology and bibliography the reader is referred to his two papers.²

The purpose of this paper is to record the occurrence of the species in a small artificial body of water near Richmond, Indiana, during August and September, 1931. This pond is known as Crescent Lake. It was formed about seventy-five years ago by damming a curve in the Whitewater River to make an ice pond. It is shaped like a horseshoe, with a length of about three hundred yards and a width of about fifty yards. The banks slope sharply to a depth of fifteen to twenty-five feet. The pond is fed by two large springs, so that the water is insured against stagnation. The water is strongly alkaline (averaging pH 8.6) due to the limestone outcroppings along the banks. The pond is leased by a local fishing club and is stocked from time to time with such fish as bass and bluegills. Water fowl make considerable use of the pond during the migration season. In addition to the fish and water birds the most apparent members of the fauna include *Goniobasis livescens*, *Planaria dorocephala*, several species of Entomostracha *Hydra viridis* and an apparently undescribed species of *Pelmatohydra*. It is of interest to note that the lake near Elkhart as described by Payne seems to have a close physical correspondence to this pond.

The first specimens of *Craspedacusta* were discovered late in August by Mr. Malcom Stover, a Richmond High School student, whose father owns the land on which the pond lies. The writers first saw them on September thirteenth and kept them under rather constant observation until they finally disappeared September twenty-fourth. The weather during much of this time was unseasonably warm, a temperature of 30 C. not being uncommon. The water, on two occasions when the animals were most numerous, registered 26°C. Also, on two occasions, rains, lowering the temperature to 24° and 23° respectively, were followed by the disappearance of the animals until the temperature rose. This would seem to indicate that a lowering of the temperature interferes with their activity. Payne observed that the animals were most active in bright sunlight. The specimens observed by the writer, however,

¹ Payne, F. A study of the fresh-water medusa, *Craspedacusta ryderi*. Jour. Morph. 38(3):387-430. 1924.

² Further studies on the life history of *Craspedacusta ryderi*, a fresh-water Hydro-medusan. Biol. Bull 50(6):433-443. 1926.

"Proc. Ind. Acad. Sci., vol. 41, 1931 (1932)."

seemed to be most active in the late afternoon and evening. On a number of occasions their activity was noted to increase markedly soon after the sun sank below a high bluff lying just west of the pond. Observations made by flashlight showed the surface of the pond teeming with very active medusae as late as ten o'clock.

While the animals were seen in a number of places in the pond, they were most numerous around an old pier which had been made for landing ice cakes. This seemed to form a shelter from wave action and may have served as a substratum for the hydroid generation. None of these were seen.

The scarcity of these forms, their seemingly erratic behavior and the divergence between my observations of their behavior and those of Payne make them especially challenging for further study.