

# OCCURRENCE AND DISTRIBUTION OF *NEMOPSIS BACHEI* AGASSIZ (HYDROZOA) IN THE NORTHERN GULF OF MEXICO<sup>1</sup>

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## ABSTRACT

*Nemopsis bachei* was found to be an abundant species in the northern Gulf of Mexico. It ranges from Florida to Texas, and appears in the plankton from January to May.

The hydrozoan medusa *Nemopsis bachei* was first described by Louis Agassiz in 1849 from material collected on the coast of Massachusetts. The same species was subsequently described from South Carolina as *N. gibbesii* by McCrady (1857). It was not known, however, to be present in the Gulf of Mexico until quite recently when Simmons (1957) listed it as occurring in the Laguna Madre of Texas. There is also a *Nemopsis* sp. listed in the mimeographed check list (1956) of the marine fauna and flora of the St. Georges Sound, Apalachee Bay region of Florida. This is, in all probability, also *N. bachei*. An excellent figure and description of this species are given by Mayer (1910), and Alexander Agassiz (1865) discussed and figured the growth stages of the medusa.

I first noticed this species in the boat harbor of the Gulf Coast Research Laboratory, Ocean Springs, Mississippi, on March 21, 1958. Large numbers of *N. bachei* were swimming about in the cool water, and were easily captured. J. Y. Christmas, a fellow biologist at the laboratory, informed me that the medusae were clogging the plankton nets that he was towing in Biloxi Bay and Mississippi Sound. It is without a doubt an extremely abundant animal during the coldest winter months on the Mississippi coast. In 1958, the medusae first appeared around mid January, decreased in numbers about the end of February, and became numerous again in mid March (J. Y. Christmas, personal communication). The last medusae observed that year were seen on March 28. Specimens were also collected during this period near Apalachicola, Florida, and Sabine Pass, Texas.

*N. bachei* was collected or observed on a number of occasions during the years 1958 through 1960. The following observations were made by myself and others during this period.

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1958

1/26/58. Plankton tow in Gulf of Mexico 3/4 mile south of Indian Pass, St. Vincents Sound, Florida. One specimen. J. Y. Christmas and R. Collins.

Plankton tow in St. Vincents Sound 1/4 mile east of Indian Pass, Apalachicola Bay, Florida. J. Y. Christmas and R. Collins.

2/13/58. Plankton tow, mouth of Biloxi Bay, numerous. J. Y. Christmas.

3/3/58. Plankton tow, 1/2 mile west of end of West Jetty, Sabine Pass, Texas, 2 sp. J. Y. Christmas.

3/15/58. Plankton tow, off Marsh Point, Biloxi Bay, abundant. J. Y. Christmas.

Beach seine, Belle Fontaine Point, mouth of Biloxi Bay, numerous J. Y. Christmas.

3/21/58. Gulf Coast Research Laboratory boat harbor, numerous. D. R. Moore.

3/27/58. Plankton tow about one mile south of Horn Island, Mississippi, few. J. Y. Christmas.

3/28/58. Laboratory boat harbor, few. D. R. Moore.

1959

2/2/59. Laboratory pier, fairly abundant. D. R. Moore.

2/16/59. Laboratory pier, few. Rain had greatly reduced the salinity. D. R. Moore.

1960

1/7/60. Biloxi Bay near Highway 90 bridge. Water temperature 11°C, abundant. D. R. Moore.

1/13/60. On this date, J. Y. Christmas and I made a series of plankton tows from Marsh Point in Biloxi Bay to Horn Island Pass between Mississippi Sound and the Gulf of Mexico. Surface temperatures and salinities were taken, and observations on the abundance of *Nemopsis* were made.

Station 1.	15.7°C	14.95‰	Abundant
2.	16.3°C	5.64‰	Few
3.	15.8°C	27.56‰	None
4.	14.7°C	30.81‰	None
5.	15.6°C	29.47‰	None

3/18/60. Plankton tow, laboratory pier, abundant. W. J. Demoran.

I considered, from the observations made by myself and my

colleagues in Mississippi, that the medusoid stage of *N. bachei* was confined to low salinity waters during the coldest months of the year. However, Simmons (1957) reported the medusae to be present throughout the high salinity waters of the northern Laguna Madre of Texas, and that they were a nuisance in April and May. He found them to be abundant in salinities to 45‰, and stated that they could tolerate 75‰. Alexander Agassiz (1865) also commented on the time of greatest abundance. He mentioned that it was a winter species at Charleston, but that it was very common in September in Massachusetts.

It appears then that *N. bachei* is an inshore form enduring a wide range of environmental conditions. Temperature probably plays an important part in regulating the time of medusa development, and there seems to be a reasonable correlation between temperature and time of development from the Laguna Madre of Texas to Massachusetts.

Kramp (1959) gave the Western Atlantic distribution of the species as Woods Hole to Florida. My observations and Simmons' (1957) records now extend the range to include the entire northern Gulf of Mexico. It does not, however, appear to live around southern Florida. We do not know if *N. bachei* is a disjunct species that has been overlooked until recently, or if ships happened to bring in hydroid colonies from the Atlantic coast in recent years. It would seem strange that such an abundant species would be overlooked for so many years, but this could be explained by the dearth of marine research in the Gulf of Mexico until comparatively recent times.

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