SMITHSONIAN INSTITUTION.
UNITED STATES NATIONAL MUSEUM.

CONTRIBUTIONS TO THE NATURAL HISTORY OF THE COMMANDER ISLANDS.

No. XIII.—A NEW SPECIES OF STALKED MEDUSÆ, HALICLYSTUS STEJNEGERI.

BY

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A large number of medusæ, belonging to the very interesting family of Stauromedusæ, were collected by Mr. Leonhard Stejneger at Nikolski, Bering Island, one of the Commander Islands, during the summer of 1897. These medusæ were preserved in formol and still remain in excellent condition. They belong to a single species of the genus *Haliclystus*. So far as I am aware, there are only three known species of this genus, and all of them are from the Atlantic coast. The species, how-

[1] The following "Contributions to the Natural History of the Commander Islands" have been published in these Proceedings thus far: I. Leonhard Stejneger: Notes on the natural history, including descriptions of new cetaceans, XI, 1883, pp. 58–89.——II. Leonhard Stejneger: Investigations relating to the date of the extermination of Steller's Sea-Cow, VII, 1884, pp. 181–189.——III. W. H. Dall: Report on the mollusca of the Commander Islands, Bering Sea, collected by Leonhard Stejneger in 1882 and 1883, VII, 1884, pp. 340–349, pl. II.——IV A. Asa Gray: Notes upon the plants collected on the Commander Islands (Bering and Copper islands) by Leonhard Stejneger, VII, 1885, pp. 527–529.——IV B. Leonhard Stejneger: Additional notes on the plants of the Commander Islands, VII, 1885, pp. 529–538.——V. Frederick W. True: Description of a new species of Mesoplodon, *M. stejnegeri*, obtained by Dr. Leonhard Stejneger, in Bering Island, VIII, pp. 584, 585, pl. XXV.——VI. W. H. Dall, Report on Bering Island mollusca collected by Mr. Nicolas Grebnitzki, IX, 1886, pp. 209–219.——VII. Leonhard Stejneger: Revised and annotated catalogue of the birds inhabiting the Commander Islands, X, 1887, pp. 117–145, pls. VII–IX.——VIII. George Vasey: Description of *Alopecurus stejnegeri*, a new species of grass from the Commander Islands, X, 1887, p. 153.——IX. W. Lilljeborg: On the Entomostraca collected by Mr. Leonhard Stejneger on Bering Island, 1882–83, X, 1887, pp. 154–156.——X A. Leonhard Stejneger: Contributions to the history of Pallas's Cormorant, XII, 1889, pp. 83–88.——X B. F. A. Lucas: Description of some bones of Pallas's Cormorant (*Phalacrocorax perspicillatus*), XII, 1889, pp. 88–94, pl. II.——XI. F. A. Lucas: The cranium of Pallas's Cormorant, XVIII, 1895, pp. 717–719, pls. XXXIV, XXXV.——XII. Tarleton H. Bean and Barton A. Bean: Fishes collected at Bering and Copper islands by Nikolai A. Grebnitzki and Leonhard Stejneger, XIX, 1896, pp. 237–251.

ever, differs in many points from those already known, and it is so far the only representative of the genus *Haliclystus* found on the Pacific coast.

HALICLYSTUS STEJNEGERI, new species.

Type.—No. 18942, U.S.N.M.

Habitat.—Bering Island, North Pacific Ocean.

The medusa is funnel-shaped and has a rather short peduncle. The largest specimen of the collection is 18 mm. in height (including the peduncle) and 18 mm. in diameter. The peduncle is 5½ mm. in height and 2½ mm. in breadth. I shall give a short description of such larger specimens.

The preserved specimens are grayish or pale brown, semitransparent, with a dark brown or nearly black streak at the umbrella margin and

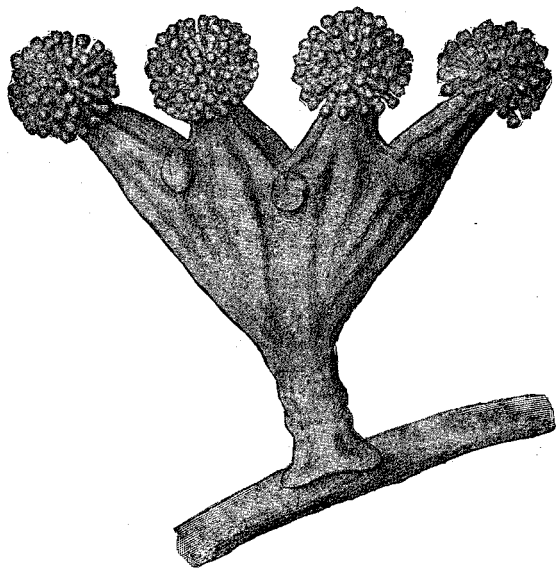

FIG. 1.—HALICLYSTUS STEJNEGERI, NEW SPECIES. SIDE VIEW. × 4.
Drawn by K. Kishinouye.

each perradial corner of the peduncle (figs. 1, 2). Besides these there are 16 radial streaks of the same color (fig. 1). Each two of these 16 streaks are paired along the adradii, and each two adradial pairs unite together in turn at the perradii at the junction of the umbrella (sometimes called the calyx) and the peduncle. These dark streaks are found in the exumbrella. In the subumbrella, too, a dark streak is found at each perradial edge of the œsophagus, and moreover there are pigment cells around the genital sacs. In all these cases the pigment is found in endoderm cells.

The umbrella, or the so-called calyx, is funnel-shaped or conical, gradually increasing in breadth from the peduncle to the umbrella margin. The breadth of the umbrella is one and one-third to one and one-half times as long as its height.

The peduncle is nearly quadrate in cross section. It is about half the length of the umbrella. It has four interradial longitudinal grooves which are formed by the attachment of the tæniola (fig. 1). These tæniola meet at the longitudinal axis and divide the internal space of the peduncle into four chambers. The demarcation between the umbrella and the peduncle is distinct.

The exumbrella is smooth, without prominent ridges or groups of nematocysts. The gelatinous layer is equally thin everywhere and firm in consistence. In the subumbrella we find a few small groups of nematocysts at the perradial sinuses of the umbrella margin only.

The muscle plates are as in other species. The perradial muscles are more weakly developed than the interradial. The four interradial infundibular deepenings nearly reach the junction of the umbrella with the peduncles.

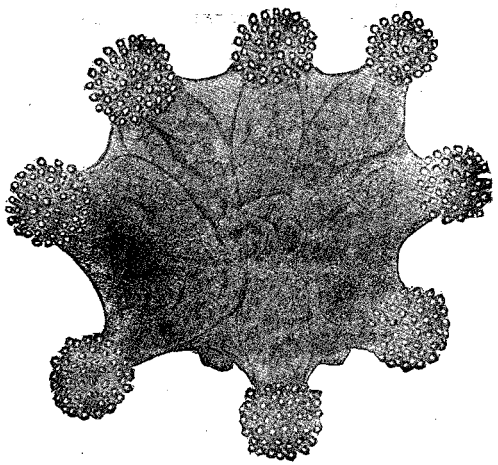

FIG. 2.—HALICLYSTUS STEJNEGERI, NEW SPECIES. VIEW FROM THE OVAL SIDE. × 3½.
Drawn by K. Kishinouye.

The umbrella margin is cut into eight adradial arms, which are equal in size and equally distant from each other (fig. 2). The depth of the incisions is about half the length between a principal tentacle and the peduncle. Each arm bears a bunch of tentacles, 70 to 100 in number. Tentacles are of equal thickness, but they differ in length. Their length decreases gradually as they approach the periphery of the bunch.

The eight principal tentacles are transformed into adhesive marginal bodies (figs. 1, 2). They are large, sessile, egg-shaped, and about one-half as long as the diameter of the peduncle.

The œsophagus or manubrium (fig. 2) is short, quadrangular, as in other species of *Haliclystus*. Its wall has many longitudinal folds, and its free margin is reflected outward. The eight rows of well-developed gastral filaments extend from the base of the œsophagus to the proximal end of the genital glands.

Genital glands are eight in number, broad and leaf-shaped, tapering at both ends. They extend almost along the entire length of the umbrella. As they are touching each other along the proximal half their length (fig. 2), the subumbrella is almost entirely occupied by them. Each gland consists of 100 to 150 round sacs. These sacs are not arranged in rows. Those nearest to the perradii are larger than the others. We find six to eight sacs abreast at the broadest part of

each gland. Each gland is turned over at the perradial sides and forms a part of the mesentery (fig. 2).

Small specimens (3 to 4 mm. in umbrella diameter) of the collection differ more or less from larger specimens in the proportion of the parts of the body, number of tentacles, and genital sacs, etc. Generally, smaller specimens have the narrower umbrella, longer peduncle, shorter arms shallower umbrella cavity, fewer and not much crowded genital

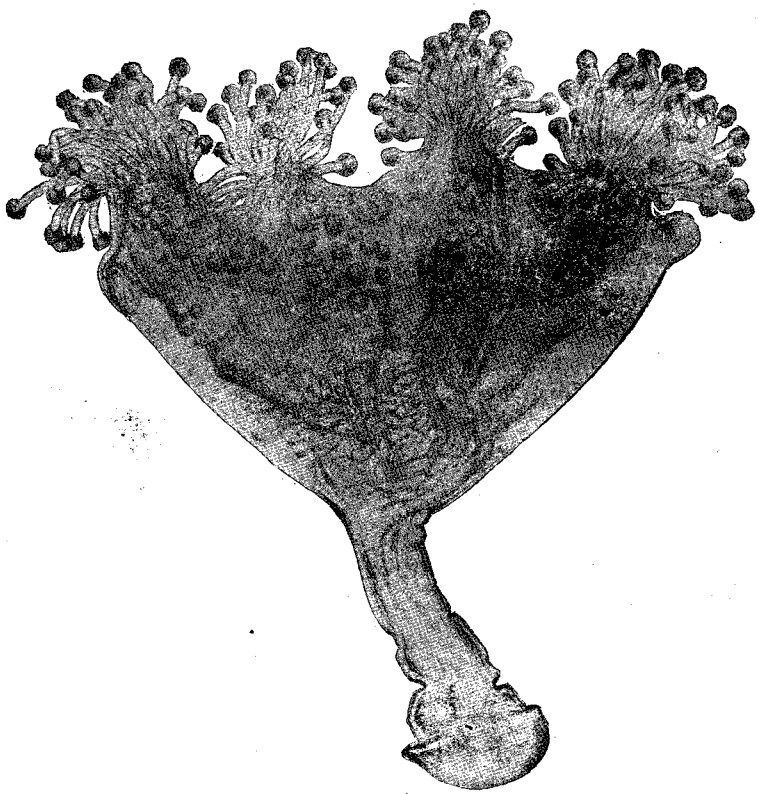

FIG. 3.—HALICLYSTUS STEJNEGERI. AN IMMATURE FORM, 3 MM. IN HEIGHT, DRAWN FROM A PREPARATION IN TRANSMITTED LIGHT.

Drawn by J. Urata.

sacs, and a very little pigment in endoderm epithelium. Moreover, the genital sacs vary in size much more greatly than in larger specimens. The peduncle is not four-chambered. Such differences may be easily understood by comparing figs. 1 and 2 with fig. 3.

Almost all the specimens of the collection were found to contain a number of *Gammarus* in the stomach.

Characteristics of different species of Haliclystus.

Name.	Umbrella.	Peduncle.	Eight arms.	Eight marginal anchors.	Sexual glands.
Haliclystus octoradiatus.	Conical, surface flat, 2 to 3 times as broad as its height.	Cylindrical, almost as long as the height of umbrella; no outward longitudinal grooves.	Equally distant from each other. Each arm with 30 to 60 tentacles.	Large, egg-shaped or nearly club-shaped, one-fourth as long as the breadth of the peduncle.	In each gland 20 to 30 large sacs in two longitudinal rows.
Haliclystus salpinx.	Pyramidal, octangular, much broader than its height.	Quadrangular prismatic, considerably larger than the height of umbrella.	Equally distant from each other. Each arm with 60 to 70 tentacles.	Very large, as long as arms, obliquely trumpet-shaped.	In each gland 40 to 50 sacs in four longitudinal rows.
Haliclystus stejnegeri.	Conical, surface flat, a little broader than its height.	About half as long as the height of umbrella, with four longitudinal grooves.	Equally distant from each other. Each arm with 70 to 100 tentacles.	Large, egg-shaped, half as long as the breadth of peduncle.	In each gland 100 to 150 sacs, 6 to 8 sacs abreast in the broadest part.
Haliclystus auricula.	Pyramidal, octangular, almost as broad as its height.	Almost as long as the height of umbrella, with four deep longitudinal grooves.	United in pairs. Each arm with 100 to 120 tentacles.	Large, shaped like coffee beans, as long as the breadth of the peduncle.	In each gland 100 to 150 sacs in 6 to 8 radial rows.