the first Lucernarid from the deep-sea, was not taken during the Challenger expedition, but was part of the spoil of a subsidiary cruise in H.M.S. "Knight Errant," organised by Sir Wyville Thomson in the summer of 1880, with the view of verifying some of the Challenger results. I am obliged to him for giving me an opportunity of including this species in the list of Challenger Deep-sea Medusæ, as in many respects it has a peculiar interest as a link between the preceding *Tesserantha* and the following *Periphylla*.

The umbrella (Pl. XVI. figs. 1–8) is of a roundish bell shape, or almost pyriform, only a little longer than broad, and adhering by a very short peduncle at the aboral pole. The whole length (or height) (including the peduncle) of the spirit specimen examined came to 60 mm., the greatest breadth (in the middle of the height) to 50 mm. As, however, the specimen was strongly contracted, the height in the living animal would come to at least 70–80 mm., and the breadth to 55–60. This species, as well as the two closely allied species, *Lucernaria quadricornis*, and *L. pyramidalis* belong to the largest species of the family Lucernaridæ; the latter has a much shorter stem but a smaller cup.

The peduncle ("pedunculus," *p*), by which the bell-shaped cup fixes itself to the bottom of the sea, is rudimentary and slightly developed in *Lucernaria bathyphila*, as in all other species of the family. It rather resembles the "apical process or conical process" of the Tesseridæ, from which it is probably derived (System der Medusen, 1879, p. 365, taf. xxi., xxii.). Its length amounts, at most, to one-sixth of the whole length of the body, but cannot be sharply defined, as the thicker oral end of the club-shaped peduncle passes gradually, without distinct boundary, into the cup. The thinner aboral end is truncated, and has a small roundish disc on the surface of the point of adhesion (fig. 8). This plate has numerous adhesive cells ("colletocystæ") in its thickened exoderm, it lies in irregular folds, and is divided by four deep interradial furrows into four perradial swollen lobes (fig. 8). Each furrow passes a little way into the exumbrella of the peduncle, so that it also appears four lobed in a transverse section above the disc (fig. 13). The four interradial, longitudinal furrows of the exumbrella of the peduncle have four corresponding gastral tæniola in its inner wall (figs. 1, 2, 21, *ft*); these are the important longitudinal, gelatinous selvages, already found in *Scyphostoma*, which traverse the entire length of the peduncle, and pass immediately below into the four interradial septa of the gastral pouches (fig. 12, *ks*). In the horizontal section these tæniola appear almost egg-shaped, compressed laterally, and only connected (as by a peduncle) by a very thin gelatinous plate (fig. 14, *ft*) with the wall of the umbrella peduncle, from which they project centripetally inwards. The gastral hollow space of the peduncle is thus divided into four perradial peduncle grooves (fig. 13, *cp*) which communicate by narrower clefts with the central basal stomach (*gb*), and form a regular maltese cross seen in transverse section. The peduncle in our species is, however, one-chambered, as in all species of the genus *Lucernaria* (in the stricter sense). (System der