

few hours I was examining them ; in this case they are Ammoconidæ. I pointed out in my Monograph that the pores of the Asconidæ are often closed for a long time, and when a single tubular *Calcolynthus* (as that of Pl. I. fig. 1 in my Monograph) is examined in this temporarily closed state, it may be assumed to be a Physemarium (*Haliphysema*).

The genus *Haliphysema* was first described by Bowerbank (1864) as a simple sponge.¹ Carter afterwards expressed the opinion that it was not a sponge but a Foraminifer,² and most of the later writers on the subject agree with him. But I think I have sufficiently demonstrated in my Monograph of the Physemaria³ that this latter opinion cannot be proved. Bowerbank's original description is so incomplete that his *Haliphysema* may have been either a true sponge (*Ammolynthus*), or a Physemarium (*Prophysema*), or a Foraminiferous Monothalamium (*Rhabdammina*, *Technitella*, &c.). The most careful examination of the original dry specimens (should they still exist) cannot decide this question. It can only be decided by the accurate examination of living or well-preserved specimens from the same locality.

True monothalamous Foraminifera, similar to *Haliphysema*,—and so similar that they appear externally identical,—have been carefully examined in the living state, and described by Möbius⁴ in 1874. I myself repeated these observations in 1881 in the coral reefs of Ceylon, where the same forms are very common, and I can completely confirm the correctness of the beautiful figures and accurate descriptions of Möbius. But the striking similarity of the simple tubular organism, described by him as *Haliphysema tumanowiczii*, and of the true Physemaria described by me as *Haliphysema primordiale*, &c.,⁵ is merely external. The inner cavity of the first is filled up simply by protoplasm, issuing by the mouth of the tube in the form of numerous branching filaments or pseudopodia. The true gastral cavity of the latter, however, is lined by a flagellated epithelium of the same form as in *Calcolynthus*, and bears amœboid eggs, as in this primordial sponge.

To avoid further confusion, I propose to employ the term *Haliphysema*⁶ for that monothalamous Foraminifer in the sense of Möbius, Brady, and most recent authors. For the true Physemaria, however, which I described in 1876 as *Haliphysema primordiale*, *Haliphysema echinoides*, *Haliphysema globigerina*, &c., it will be best to adopt the term *Prophysema*. I may add the remark, however, that this *Prophysema* and the closely-allied *Gastrophysema* may be indeed true Physemaria without pores, as I have described them. But it may be, on the other hand, that true pores really exist in their body-wall, and that they were closed only accidentally during my examination. Should

¹ Bowerbank, Monograph of the British Spongiada, vol. i. p. 179, pl. xxx. fig. 359 ; vol. ii. p. 76 ; vol. iii. pl. xiii.

² *Ann. and Mag. Nat. Hist.*, ser. 4, vol. v. pp. 309 *et seq.*, pls. iv., v., May 1870.

³ *Jenaische Zeitschr.*, Bd. xi. p. 1, Aug. 1876.

⁴ Möbius, Meeresfauna der Insel Mauritius, &c., I. Foraminifera, p. 72, Taf. i.

⁵ *Loc. cit.*, Taf. i.—iii.

⁶ Norman, The Genus *Haliphysema*, *Ann. and Mag. Nat. Hist.*, ser. 5, vol. i. pp. 26 *et seq.*, pl. xvi., April 1878.