

hard base of attachment, it then contracts to a kind of stem, and then gradually expands upwards to a width at the top of 40 mm. A deep cavity passes from the upper open end down to the stem-like constriction. The outer surface of the sponge is raised into spiral ridges somewhat as in *Euplectella*, and under the ridges are irregularly spiral lines of large holes. The interior of the cup presents a very remarkable character, which reminds one at once of many of the chalk *Ventriculites*. The inner layer is deeply fluted, thrown into a series of alternating vertical grooves and ridges, so that the outline of the cavity in a transverse section is deeply sinuous. The substance of the sponge throughout is composed of a close anastomosing network of siliceous fibres; towards the outside the network much resembles that of *Aphrocallistes*; while on the inner wall the structure is trellis-like, and the form of the meshes square and more regular. The spaces of the network are crowded with small regular Hexactinellid spicules, some free, some cemented to the continuous skeleton by an attachment of silica. For this beautiful sponge, which I have every reason to believe is undescribed, I propose the name *Lefroyella decora*. I have associated with this species the name of our kind friend, His Excellency Major-General Lefroy, C.B., F.R.S., Governor of Bermudas."

Oscar Schmidt says¹:—"Under the name *Lefroyella decora*, W. Thomson describes a sponge dredged in the vicinity of the Bermudas in 1075 fathoms, which is very probably identical with our *Syringidium*. Since, however, even the best preserved specimen figured is greatly macerated and eroded, so that the more minute details cannot be recognised, I have deemed myself justified in regarding the sponge, from which I was able to give a description in accordance with reality, as new."

In Leuckart's *Jahresbericht* (edited with the co-operation of Marshall)² it is suggested, in reference to *Lefroyella decora*, Wyville Thomson, that this form is perhaps identical with *Periphragella elisæ*.

Lefroyella decora, Wyville Thomson (Pl. LXXXII.).

In the neighbourhood of the Bermudas Islands, the Challenger Expedition dredged several specimens of this beautiful form, but these were unfortunately completely macerated and much rubbed. One specimen, with a narrow cup-shaped basal portion (6 cm. in length, 4 in breadth above and 2 below), was dredged at Station 33 (lat. 32° 21' 30" N., long. 64° 35' 55" W.), from a depth of 435 fathoms and a coral mud ground. The other form, which Wyville Thomson himself described (see above), was found hanging to the tangles of the dredge at Station 56 (lat. 32° 8' 45" N., long. 46° 59' 35" W.), and brought up from a depth of 1075 fathoms and a coral mud ground. This last specimen is represented on Pl. LXXII. fig. 1, in its natural size and from a

¹ Spongien des Meerbusens von Mexico, p. 47.

² Ueber die Fortschritte der wissenschaftl. Leistungen in der Naturgeschichte der Spongien, während der Jahre 1876-1879, *Archiv f. Naturgesch.*, 1883.