



RE-REPORT OF *Luffariella herdmani* (DICTYOCERATIDA: THORECTIDAE), MARINE SPONGE FROM SRI LANKA.

Kuruppuarachchi K.A.S.U.¹, Bertolino M.² and Gunathilake K.V.K.^{1*}

¹Department of Zoology, Faculty of Applied Sciences,
University of Sri Jayewardenepura, Nugegoda, Sri Lanka

²Department of Earth, Environment and Life, University of Genoa, Italy
varunig@sjp.ac.lk

Abstract

Sri Lankan marine spongology is still in its infancy, leaving a significant number of sponge species understudied. *Luffariella herdmani*, which was reported for the first time from Sri Lankan waters in 1905, has subsequently been recorded from elsewhere in the Indian Ocean, but has remained poorly studied for its taxonomy since its discovery. Thus, the present study reports a detailed taxonomy of *L. herdmani* after 115 years of its discovery. General morphology and skeleton analysis by light and Scanning Electron Microscopy (SEM) were used to identify *L. herdmani*. Morphological parameters including shape, colour, texture, smell, mucus production, distribution of surface pores, and surface ornamentation were observed. Cross sections of the skeleton representing both ectosome and choanosome were prepared by hand sectioning technique and examined under a compound light and Scanning Electron Microscope. The diameters of a minimum of 30 fibres from each type were measured using Image Tool Version 3.0 software. According to the results, the *L. herdmani* contained digitiform processes (mean height of 8.1 mm and mean diameter of 3.4 mm) which were truncated with a single oscule (mean diameter of 1.9 mm) in the middle. The skeleton was mainly comprised of highly cored, primary fibres (mean diameter of 70.4 µm) and uncored, secondary fibres with varying diameters. These findings were comparable with the identifications of Dendy in 1905, with slight alterations. Further, the present study is the first record of this species from the southern coast of Sri Lanka. A comprehensive biomolecular study based on DNA barcoding is underway to support the morphological identification of *L. herdmani*.

Keywords: *Marine sponges, Luffariella herdmani, Taxonomy, Morphology, Scanning Electron Micrograph*