

founded the history of at least two different genera; for I have no doubt, that, while the *Hydra tuba*, represented by him in his great work on "Rare and Remarkable Animals of Scotland," Vol. I., Pl. XIII., is the offspring of *Aurelia aurita*, the forms which he represents under the same name, Pl. XIV., are the offspring of *Chrysaora*, and those of Pl. XIX. are perhaps derived from *Cyanea capillata*.

In 1834, John Graham Dalyell<sup>1</sup> (afterwards Sir John) describes, under the name of *Hydra tuba*, an animal which is identical with Sars's *Scyphistoma*, already mentioned and figured by the latter in his paper of 1829; but Dalyell mentions many particulars, which seem to have for a long time remained unknown to other naturalists. He says that this animal is very voracious, and that it multiplies by budding, the buds remaining united to the base of the parent by a ligament, until this is ruptured as the embryo withdraws to establish itself independently. A single specimen had eighty-three descendants in thirteen months. Sars did not observe the budding before the year 1836,<sup>2</sup> and he did not see the buds separate and grow independently, as Dalyell did, and as I have done myself. In a subsequent paper,<sup>3</sup> Dalyell describes his further experiments with *Hydra tuba* up to 1836. He kept a colony of these animals alive, with their descendants, during six years, and numbers attained maturity. They fed rapaciously, grew and bred successive generations at all seasons of the year. In February and March he observed a pendulous flexible prolongation, of an inverted conical form, on the face or disk of some of these Hydras (the *Strobila* of Sars), developing gradually into twenty or thirty successive strata, broadening outwards, which, when more mature, were liberated, and swam at large in the water (the *Ephyroid Medusa* of Sars). He also considers them as *Medusariæ*, and gives good figures of one of them, figs. 2 and 3, p. 94. Later authors have failed to do justice to Sir John Dalyell. Speaking of his observations of the year 1836, Wiegmann, for instance, says,<sup>4</sup> that they contain so much that is enigmatical, that they require to be repeated and explained by other naturalists. Surely his own ignorance of the facts observed by Dalyell, the accuracy of which has been fully borne out, did not justify such a rebuke.

<sup>1</sup> On the Propagation of Scottish Zoöphytes, Edinb. New Philos. Journ. 1834, vol. 17, page 411, and Report British Association for Adv. of Science, 1834, p. 598. An abstract appeared in Froriep's Notizen. The name of Dalyell is misspelled in the Edinburgh New Philosophical Journal, and stands as Dalzell; under which name the author became known in Germany, and is quoted again and again in Wiegmann's Arch. for 1834, vol. 1, p. 303 and 305, and for 1837, vol. 2, p. 192.

<sup>2</sup> Wiegmann's Archiv, 1841, vol. 1, p. 24.

<sup>3</sup> Further Illustrations of the Propagation of Scottish Zoöphytes, Edinburgh New Philosophical Journal, 1836, vol. 21, p. 88; fully translated into German in Froriep's Notizen, vol. 50, No. 6, and in abstract in Wiegmann's Archiv, 1837, vol. 2, p. 278. The Isis of 1838 contains also abstracts of Dalyell's papers.

<sup>4</sup> Archiv, für Naturgeschichte 1837, 2d vol. p. 278.