

The Reality of Nudibranchs

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Communities of divers and underwater photographers have “nudibranchs” (Cuvier, 1817) as species of interest.

The different shapes and coloring patterns make nudibranchs, very beautiful photography models and species to go diving. So far divers use the term nudibranch as a name to designate all species of sea slugs or “seaslug”. The nudibranchs were believed to be an order of the Opisthobranchs that were considered a superorder of the Gastropods. Nudibranchs were divided into families according to morphological and molecular characters. A new phylogenetic classification of these species updated by Bouchet, *et al.* (2017) describes new taxa and eliminates traditional ones. Within the gastropods appears the subclass Heterobranchs (Burmeister, 1837) where there is an infraclass Euthyneura, where the traditional Opisthobranchs and others are. The name nudibranchs appears as an order within the infraclass Euthyneura in the new classification with 12 superfamilies, but not all sea slugs are inside. Outside the order nudibranch are genera such as Elysia, Runcina, Haminoea, among other typical species that divers mistakenly call nudibranchs. Species that were previously considered as nudibranchs have been confirmed not taxonomically so. The correct term for all sea slugs will be Heterobranchs, which encompasses all genera and all species.

Description of heterobranchs

The basic morphology and key concepts of the heterobranchs

They are benthic aquatic species with bilateral symmetry and flattened ventrally forming a foot. Most species have reduced the shell or coated it with tissue to protect internal organs. The shell is secreted by the mantle. The mantle cavity is formed that allows the

protection of the gills between other excretory and reproductive organs (Purchon, 1997). These gills can also be found in cerata that are secondary, with different colorations according to their food and with characteristic shapes of each species (Rudman, 1999). The mouth is located in the anterior part of the animal with a cartilaginous structure, the odontophore that contains the radula, similar to a ribbon with teeth (Rudman, 2000). Radula is food-specific and this allows many similar species to be correctly identified (Ballesteros, *et al.* 2012). Finally, rhinophores are an olfactory organ and receptor of chemical substances (Rudman, 1999) located at the anterior part.