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A review of nudibranch (Mollusca: Euthyneura) diversity from the Republic of Mauritius: Status and Future Work

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Abstract
Nudibranchs are considered one of the most diverse groups of opisthobranchs. Their history in Mauritius dates from 1832, with first records appeared in expedition reports and systematic works. Recent review of their biodiversity in Mauritius identified 23 species. The present study provides a list of nudibranch species using data from both systematic works and internet records as a means of maintaining an inventory from Mauritius. Some 105 species belonging to 20 families (excluding undescribed taxa and those recorded as cf.) have been identified in Mauritius. Most species have been collected in the north-west part of the island which is dominated by hotels and not subjected to easterlies which could be one reason explaining their abundance. Providing a list of nudibranch species is important, to be able to design better ways of conserving them in the future, if the need arises. With a wide maritime zone and considered as a striking biodiversity hotspot, further species might be discovered from both Mauritius and Rodrigues.

Keywords: biodiversity, inventory, nudibranchs, opisthobranchs, Republic of Mauritius

Introduction
Mauritius and Rodrigues islands form the Republic of Mauritius in the South Western Indian Ocean. Mauritius lies 20°S and 57°E and Rodrigues is located 19°S and 63°E, 574 km east of Mauritius (Thébaud et al., 2009). The islands are both of volcanic origin, arising from an oceanic hotspot and known to be topographically distinct units (Louchart et al., 2018; McDougall & Chamalaun, 1969). The study of McDougall & Chamalaun (1969) demonstrates Mauritius island as the oldest of the Mascarenes (7.8 million years old) and Rodrigues as the youngest and most isolated (1.8 million years old). Having always shared a close association with several of its islets but secluded from large land masses, the Republic of Mauritius is known to have a reservoir of intact communities. The Mascarenes have thus, been listed among the world’s top biodiversity hotspot (Thébaud et al., 2009). A total of 284 marine molluscs species including 175 marine gastropods and 109 bivalve species have been reported in Rodrigues by the Ministry of Agro Industry and Food Security (2015). The Republic of Mauritius has an overall of 13 marine protected areas (MPA) with Mauritius holding eight and Rodrigues owning five, of which the South East Marine Protected Area (SEMPA) is gazetted as the biggest MPA of the Republic of Mauritius (Pasnin et al., 2016). Rodrigues Island is also known to have the best developed reef in the Mascarenes (Naim et al., 2000; McDougall et al., 1965), providing home for innumerable species, hence, a unique biodiversity of both marine fauna and flora (Beedessee et al., 2015). The fifth national report under the convention on biological diversity for the Republic of Mauritius provided no information concerning the distribution and diversity of nudibranchs from these two islands (Ministry of Agro Industry and Food Security, 2015). However, report concerning the status of the marine reserves of Rodrigues indicated the presence of nudibranchs (Desiré et al., 2011). Unfortunately, no elaboration pertaining to the different species contained in each of the four marine protected areas was

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given. Nudibranchs, poetically known as butterflies of the sea, constitute a diverse group of marine gastropod, representing roughly over 4700 known species (Dean & Prinsep, 2017; Anderson, 1995). Nudibranch (Mollusca: Euthyneura) is classified under the subclass Heterobranchia proposed by Haszprunar (1985) (Bouchet et al., 2017). Formerly, they were known to belong to the infraclass Opisthobranchia. However, recent research by Wägele et al. (2014) denoted the peculiar infraclass as paraphyletic or even polyphyletic. Hence, Opisthobranchia was rejected as part of traditional taxa by Wägele et al. (2014) and considered as outdated by Schrödl et al. (2011) and Yonow (2015). Instead, Euthyneura has been recognised as the new infraclass with Nudipleura as its first offshoot (Bouchet et al., 2017). Nudibranchs have lost their shells through evolution which made them rely mostly on chemical defence to protect themselves from predators (Yonow, 2015). However, they are also known to sequester important metabolites from their prey and produce de novo defences (Dean & Prinsep, 2017). The sea slugs can be found in a wide range of habitat ranging from polar regions to the tropics and have been continuously assessed for their chemistry over the years (Dean & Prinsep, 2017; Chavanich et al., 2013). In addition of being highly attractive, nudibranchs are also of high economic value, providing new leads to drug discovery (Dean & Prinsep, 2017; Jensen, 2013).

The current paper aims at giving an overview of nudibranch species collected in both Mauritius and Rodrigues (data obtained from both systematics works and internet records). Cataloguing a list of species is also an element of biodiversity. Biodiversity itself describes the number and variety of living organism and can be defined in terms of species, genes and ecosystems (Vitorino & Bessa, 2018; Magurran, 2004). The first component describes the methodology employed to construct the list of nudibranch species from the Republic of Mauritius. The second part confers to the results. The result section outlines the physical geography of the Republic of Mauritius, reports the history of nudibranchs in Mauritius and reviews the occurrence of nudibranchs. Finally, conclusion and further works are reported in the third constituent.

Materials and methods
The list of species compiled is restricted to sea slug of the order Nudibranchia only. Data were screened from both regional checklist, systematic works as well as online data sources including photo-sharing website such as South-west Indian Ocean Sealslug site (http://seaslugs.free.fr/nudibranche/a_intro.htm). Systematic works includes, Tibiriçá et al. (2018), Tibiriçá et al. (2017), Yonow (2012), Yonow & Hayward (1991), Bergh (1888). Species were compiled with peculiar interest towards the site collection. Scientific names were confirmed using the World Register of Marine Species (WoRMS). Only taxa which could be identified following WoRMS were included in the species list. Undescribed taxa and those recorded as cf. on website or systematics were not included in the list.

Results
In total, systematics works have identified 60 species. Together with internet records, the number of nudibranchs species found in the Republic of Mauritius would amount to 105 belonging to 20 families (Table 1).

Physical geography of the Republic of Mauritius
Along with Mauritius and Rodrigues, the Republic of Mauritius also consists of many outer islands including St Brandon, Agalega, Tromelin and Chagos Archipelago including Diego Garcia. Mauritius is surrounded by a total of 49 offshore islets while 18 islets lie in the lagoon of Rodrigues. Mauritius Island has an Exclusive Economic Zone (EEZ) of over 2.3 million km², of which 99% is still unexplored (Ministry of Agro Industry and Food Security, 2015; Kauppayimuthoo, 2010). Further, Mauritius is made up of ten districts out of which seven are known as coastal, two as inland with Rodrigues making up the tenth districts. Mauritius is surrounded by 150 km of protective corals which are unfortunately being degraded. Around 50 to 60% of the coral cover which make up the reef of the Mauritian lagoon has already been lost. Such a loss in coral reefs habitats indicate serious threat to the biological diversity of the Republic of Mauritius (Ministry of Agro Industry and Food Security, 2015; Kauppayimuthoo, 2010). Rodrigues covers a surface area of 1865 km², bordered by coral reefs of both fringing and barrier type which are interrupted by major river mouths, enclosing a lagoon area of 300 km² of varying widths (0 to 8 km) (Naim et al., 2000; Fagoonee, 1990). Rodrigues is the smallest island with an area of 104 km², is 18.3 km long by 6.5 km wide with the entire coast bordered by fringing reef (90 km), covering an area of 200 km². The presence of patch reefs, atolls and reef flats are significant around Rodrigues (Ministry of Agro Industry and Food Security, 2015). Figure 1 shows the location of the Republic of Mauritius in the South Western Indian Ocean.
History of nudibranchs in Mauritius
The history of nudibranchs in Mauritius dates back from 1832. The first records of opisthobranchs in Mauritius arose from expedition reports and systematic works (Yonow & Hayward, 1991; Claude, 1985; Bergh, 1888; Quoy & Gaimard, 1832). In 1888, Bergh first collected and described species from Mauritius Island belonging to both lineages; Cladobranchia and Anthobranchia (Bergh, 1888). Bergh introduced the genus *Baeolidia* in 1888, based on the description of a single specimen, *Baeolidia moebii* which eventually contained contradictory information and thus, led to morphological confusion (Carmona et al., 2014a).

*Limenandra fusiformis* (Baba, 1949) reported from Mauritius, has initially been reported as *Baeolidia* species. However, recent study validated the genus *Limenandra* and *Limenandra fusiformis* was attributed to this genus only (Carmona et al., 2014b). Among the cladobranchs described included *Antaeolidiella indica* (Bergh, 1888) which is based on the drawing and notes of Moebius. No additional materials were obtained to outline the morphological characteristic of the species (Carmona et al., 2014c). Apart from expedition reports and systematic works, accounts of nudibranchs have been given in publications by Michel Claude. In 1985, 50 species of nudibranchs were recorded in Mauritius belonging to 9 families by Michel Claude (Claude, 1985). Yonow and Hayward reviewed the biodiversity of opisthobranchs in 1991. In October and November 1985 also in February and March 1990, Yonow and Hayward described thirty-five opisthobranchs species from the coral reefs habitats in Mauritius. Of the thirty-five species, twenty-three belonged to the order Nudibranchia (Yonow & Hayward, 1991). Recent review of the opisthobranchs from the western Indian Ocean localities which include Mauritius, described the occurrence of seventy opisthobranchs species in details (Yonow, 2012). Over the years, species described...
Food Security in 2015 reported incomplete information pertaining to the malacofauna status in Mauritius (Ministry of Agro Industry and Food Security, 2015). Nudibranchs are slow moving organisms, casting spectacular coloration making them highly photogenic among underwater photographers and scuba divers. Concerned about the environment, most divers collect only pictures of sea slugs however, it becomes difficult to identify species from pictures such that sometimes, it is suspected that the latter is an undescribed species (Jensen, 2013). Other than articles and books, databases such as the Sea Slug Forum and South-west Indian Ocean Sealslug site also provide considerable information on the proper morphological identification of nudibranchs, species distributions as well as a complete set of species list. The website South-west Indian Ocean Sealslug site provides a specific list of nudibranch species recorded in Mauritius, Reunion Island, Mayotte, Madagascar and Seychelles. In addition to a specific list, the website also furnishes information about the specific location the picture was taken, name of the diver, maximum size of the organism, abundance, taxonomy information and pictures of the organism. To date, internet record contains more nudibranch species than systematic works in Mauritius. The website South-west Indian Ocean Sealslug contains 410 nudibranch species belonging to 35 families out of which 100 species belonged to Mauritius and 239 species belonged to Reunion Island. The website also contains undescribed species of the superfamilly Doridoidea, one of which was observed on Mauritius Island (Summers, 2014), unassigned Cladobranchia, two species belonging to the family Janolidae (Pola et al., 2019) were also found on Mauritius Island; Janolus sp. 1 (Arnim, 2010a) and Janolus sp. 2 (Arnim, 2010b). Additionally, the website hold species with uncertain identification (species with abbreviation cf.), three belonging to the Chromodorididae, two from Polyceridae, one from Tritoniidae, Fionidae and Facelinidae, a total of eight species. Nudibranch is known to exhibit notable polymorphism in their colour pattern which can mask diversity (Matsuda & Gosliner, 2018). The genus Glossodoris is recognised to contain multiple cryptic and pseudocryptic species. Among the species of uncertain identification on the South-west Indian Ocean Sealslug website include Glossodoris cf. cincta found in Mauritius which is highly similar to Bergh’s description of Glossodoris cincta (type locality: Mauritius). As a result, to be able to resolve species complexity, further studies which include collection of Glossodoris cincta in Mauritius is required (Matsuda & Gosliner, 2018). Other databases include the Mauritius Oceanography Institute (MOI) which consists of four types of online databases. The first type provides both taxonomic and geographic information of marine organism of Mauritius. The second type is the genetic databank which furnishes morphometric as well as genetic data. Both of these databases provide limited information pertaining to the nudibranch species in Mauritius. Other types include oceanographic data mapping and characterisation of aquaculture site in the Republic of Mauritius. The project started by the MOI in 2010 which consisted of assessing the marine living resources in the Mauritian waters using both traditional taxonomic and molecular identification techniques furnishes complete set of information only for fish and sea cucumbers (Mauritius Oceanography Institute, 2017). Even though limited ecological and biodiversity information relating to nudibranchs species in Mauritius were available, pharmaceutical research involving the latter had already begun. In 2015, while attempting to discover novel metabolites from Mauritian marine organisms, Beedessee et al. noticed the outstanding proportion of dorid nudibranchs among other mollusc species. The authors studied the cytotoxicity activities of 20 different nudibranchs collected around the island at both different location and depth. Promising cytotoxic activities were obtained for Notodoris citrina (Bergh, 1875) (Aegiridae) when tested on both epidermoid carcinoma and acute promyelocytic leukemia cells (100 ± 1% at 10 µg/ml) (Beedessee et al., 2015).

**Nudibranchs occurrence in the Republic of Mauritius**

Based on their general morphology and digestive glands, nudibranchs can be classified into two distinct groups; the dorids and aeolids (Dean & Prinsep, 2017). Additionally, depending on their prey association, nudibranchs can be further divided into; sponge grazers, bryozoan grazers, hydroid grazers and a miscellaneous category. Nudibranchs belonging to either groups are best suited to their prey. Aeolids are less bulky and more buoyant to prey upon delicate and erect hydroids. In contrast, dorids are bulky, flattened and consist of an invariably broad radula with multiple rows of simple hook-shaped teeth to be able to graze encrusting sponges (Todd, 1983). It is usually believed that nudibranchs are a group of highly specialised predators (Megina et al., 2002) feeding on few related prey species. Penney (2013) showed that diets for some species are broader than expected. The coastal habitats from east to west and from north to south of Mauritius are quite diverse (Fagoonee, 1990). Mauritius is known to contain 163 species of corals,
of which 132 species are also found in Rodrigues (Moothien-Pillay et al., 2002). The study conducted by Fenner et al. in 2004 identified 130 named species of hard corals in Rodrigues, out of which eight were unidentified species. According to Fenner et al. (2004), thirty-seven species are new records for the southern Mascarene archipelago. Nudibranchs are also associated with corals for instance, the aeolid nudibranch Phestilla lugubris (Bergh, 1870) which is found in Mauritius (Summers, 2015). The latter is known to feed on the coral Porites (Rudman, 1999). However, the coral reef habitats around the Republic of Mauritius are being degraded (Ministry of Agro Industry and Food Security, 2015). Oceanographic survey report has been carried out both in Mauritius and Rodrigues which revealed that 40.26% of corals within peculiar marine park are heavily damaged (Kauppaymuthoo, 2010). On the contrary, marine protected areas (MPA) in Rodrigues are being strictly monitored. Of the four marine reserves in Rodrigues, nudibranchs have been spotted in three of them; Riviere Banane, Grand Bassin and Passe Demi marine reserves. However, the report pertaining to the status of marine reserves in Rodrigues provide no elaboration of the different species of nudibranchs spotted in the reserves (Desiré et al., 2011). Opisthobranchs documented by Yonow & Hayward (1991) were taken from four coastal districts; Pamplemousses, Riviere du Rempart, Flacq and Black River. Out of the 23 nudibranchs species described by Yonow & Hayward (1991), most species came from the Chromodorididae (21.7%) and Phyllidiidae (30.4%) families. The Phyllidiidae are known to display themselves during daylight (Su et al., 2009). In their study, Yonow and Hayward provided no mention of the time of collection (Yonow & Hayward, 1991). Nudibranchs are known to be nocturnal, cryptic (Su et al., 2009), consist of flexible colour pattern and bathymetric range limits (Layton et al., 2018). Recent study showed that external morphology can be unreliable in taxonomic identification of nudibranch, as a result of mimicry between species (Layton et al., 2018). Hence, more nudibranchs species are yet to get discovered or identified as colour variant of the same species. On the other hand, internet record revealed nudibranch species from five districts particularly Pamplemousses, Riviere du Rempart, Flacq, Grand Port and Black River. Out of the 117 proclaimed beaches in Mauritius, only 22 have been investigated in the past years including both systematics (Yonow & Hayward, 1991) and internet record (South-west Indian Ocean Seaslug site). Nudibranchs from four islets have also been recorded; Ile aux Cerfs, Ile aux Benitiers, Ile aux Aigrettes and Ile Sancho. Most species (including both systematics and internet record) have been collected in the north-west part of the island (Trou aux Biches and Pereybere containing 20 species while Grand Baie contained 15 species) where waves are known to be less strong (Fagoonee, 1990) followed by Pointe d’Esny which is found in the southeast part of the island (19 species). The north part of the island is dominated by several hotels, surprisingly it contained the most species. Likely, the northern sides of the island are not subjected to easterlies (south east trade winds) which could be among the many reasons why most nudibranch species were found there (Fagoonee, 1990). A list of species found in the Republic of Mauritius is provided in Table 1 below.

Table 1. Species recorded from both Mauritius (MAU) and Rodrigues (*), a compilation of data obtained from website South-west Indian Ocean (SWIO) Seaslug site and systematics work with solid circle indicating proper classification of species and non-solid circle showing improper classification or species is still recognised by its synonymised name on website/systematics.

| Family          | Species                     | Systematics       | Website                  | Distribution |
|-----------------|-----------------------------|-------------------|--------------------------|--------------|
|                 |                             | Bergh (1888)      | Yonow & Hayward (1991)   |              |
| Cadlinidae      | *Aldisa fragaria* (Tibiriçá, Pola & Cervera, 2017) | ●                  | MAU                      |
|                 | *Ardeadoris angustolutea* (Rudman, 1990) | ●                  | MAU                      |
|                 | *Cadinella ornatissima* (Risbec, 1928) | ●                  | MAU                      |
| Chromodorididae | *Chromodoris aspersa* (Gould, 1852) | ●                  | MAU                      |
|                 | *Chromodoris porcata* (Bergh, 1889) | ●                  | MAU                      |
|                 | *Doriprismatica atomarginata* (Cuvier, 1804) | ○ ○ ●           | MAU                      |

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| Family               | Species                                      | Systematics       | Website | Distribution |
|---------------------|----------------------------------------------|-------------------|---------|--------------|
|                     | Goniobranchus albobranchus (Garrett, 1879)   |                   | ●       | MAU          |
|                     | Goniobranchus conchylia (Yonow, 1984)        |                   | ●       | MAU          |
|                     | Goniobranchus fidelis (Kelaart, 1858)        |                   | ●       | MAU          |
|                     | Goniobranchus geminus (Rudman, 1987)         | ○                 | ●       | MAU          |
|                     | Goniobranchus lekker (Gosliner, 1994)        |                   | ●       | MAU          |
|                     | Goniobranchus tennentanus (Kelaart, 1859)    |                   | ●       | MAU          |
|                     | Goniobranchus tintoria (Rüppell & Leuckart, 1830) | | ●       | MAU          |
|                     | Glossodoris cincta (Bergh, 1888)             | ●                 |         | MAU          |
|                     | Glossodoris hikuerensis (Pruvot-Fol, 1954)   |                   | ●       | MAU          |
|                     | Glossodoris pallida (Rüppell & Leuckart, 1830) | ○                | ●       | MAU          |
| Chromodorididae      | Hypselodoris bullockii (Collingwood, 1881)   | ○                 | ●       | MAU          |
|                     | Hypselodoris carnea (Bergh, 1889)            | ●                 |         | MAU          |
|                     | Hypselodoris whitei (A. Adams & Reeve, 1850) |                   | ○       | MAU          |
|                     | Hypselodoris maculosa (Pease, 1871)          | ●                 | ●       | MAU          |
|                     | Hypselodoris maridadi (Rudman, 1977)         | ●                 |         | MAU          |
|                     | Hypselodoris nigrolineata (Eliot, 1904)      | ●                 |         | MAU          |
|                     | Hypselodoris nigrostria (Eliot, 1904)        | ●                 |         | MAU          |
|                     | Hypselodoris pulchella (Rüppell & Leuckart, 1830) | ○              | ●       | MAU          |
|                     | Mexichromis katalexis (Yonow, 2001)          |                   | ●       | MAU          |
|                     | Mexichromis lemnicosa (Quoy & Gaimard, 1832) | ○ ○               | ●       | MAU          |
|                     | Verconia varians (Pease, 1871)               |                   | ●       | MAU          |
| Discodorididae       | Asteronotus cespitosus (Van Hasselt, 1824)   | ●                 | ●       | MAU          |
|                     | Carminodoris grandiflora (Pease, 1860)       | ○                 |         | MAU          |
|                     | Carminodoris mauritiana (Bergh, 1891)        | ●                 |         | MAU          |
|                     | Discodoris cebuensis (Bergh, 1877)           | ●                 |         | MAU          |
|                     | Halgerda formosa (Bergh, 1880)               | ● ● ● ●           | ●       | MAU          |
|                     | Jorunna funebris (Kelaart, 1859)             |                   | ●       | MAU          |
| Family                  | Species                                | Systematics                        | Website                  | Distribution |
|------------------------|----------------------------------------|------------------------------------|--------------------------|--------------|
| Discodorididae (continuation) | *Jorunna rubescens* (Bergh, 1876)     | ○                                  | ● ● ●                    | MAU          |
|                        | *Pelodoris murrea* (Abraham, 1877)     | ○ ○                               | ●                        | MAU          |
|                        | *Platydoris scabra* (Cuvier, 1804)     | ●                                  | ●                        | MAU          |
|                        | *Discodoris coerulescens* (Bergh, 1888)| ●                                  |                          | MAU          |
|                        | *Discodoris concinniformis* (Bergh, 1888) | ○                                  |                          | MAU          |
|                        | *Sebadoris fragilis* (Alder & Hancock, 1864) | ○ ○                               | ●                        | MAU          |
|                        | *Sebadoris nubilosa* (Pease, 1871)     | ○                                  |                          | MAU          |
| Dorididae              | *Doripus granulosa* (Pease, 1860)      | ○                                  |                          | MAU          |
|                        | *Doris verrucosa* (Linnaeus, 1758)     |                                   |                          | MAU          |
|                        | *Doris venosa* (Quoy & Gaimard, 1832)  | ○                                  |                          | MAU          |
| Dotidae                | *Doto indica* (Bergh, 1888)            | ●                                  |                          | MAU          |
| Goniodorididae         | *Trapania naeva* (Gosliner & Fahey, 2008) | ●                                  |                          | MAU, *       |
|                        | *Dendrodoris carbunculosa* (Relaart, 1858) | ●                                  |                          | MAU          |
|                        | *Dendrodoris denisoni* (Angas, 1864)   |                                   | ●                        | MAU          |
|                        | *Dendrodoris fumata* (Rüppell & Leuckart, 1830) | ○ ○                               | ● ●                      | MAU          |
|                        | *Dendrodoris krusensternii* (Gray, 1850) | ○                                  |                          | MAU          |
|                        | *Dendrodoris limbata* (Cuvier, 1804)   | ●                                  |                          | MAU          |
|                        | *Dendrodoris nigra* (Stimpson, 1855)   | ● ●                              | ●                        | MAU          |
|                        | *Dendrodoris pastulosa* (Alder & Hancock, 1864) | ●                                  |                          | MAU          |
|                        | *Dendrodoris tuberculosa* (Quoy & Gaimard, 1832) | ●                                  |                          | MAU          |
| Phyllidiidae           | *Phyllidia alyta* (Yonow, 1996)        | ●                                  | ● ● ●                    | MAU          |
|                        | *Phyllidia coelestis* (Bergh, 1905)    | ●                                  |                          | MAU          |
|                        | *Phyllidia ocellata* (Cuvier, 1804)    | ○                                  | ● ● ●                    | MAU          |
|                        | *Phyllidia marindica* (Yonow & Hayward, 1991) | ○ ○                               | ● ● ●                    | MAU          |
|                        | *Phyllidia multituberculata* (C. E. Boettiger, 1918) | ●                                  |                          | MAU          |
|                        | *Phyllidia variolosa* (Lamarck, 1801)  | ○ ○                              | ●                        | MAU, *       |
|                        | *Phyllidia rueppelii* (Bergh, 1869)    | ○                                  |                          | MAU          |
|                        | *Phyllidiella meandrina* (Pruvot-Fol, 1957) | ○ ○                              | ● ● ●                    | MAU          |
| Family          | Species                        | Systematics | Website | Distribution |
|-----------------|--------------------------------|-------------|---------|--------------|
| Phyllidiidae    | Phyllidiella pustulosa          | Bergh (1886) | Yonow & Haynard (1991) | MAU |
|                 | (Cuvier, 1804)                 |             |         |              |
|                 | Phyllidiella rosans            | Bergh (1879)|         | MAU          |
|                 | (Bergh, 1899)                  |             |         |              |
|                 | Phyllidiella striata           | Bergh (1889)|         | MAU          |
|                 | Phyllidiella zeylanica         | (Relaart, 1859)|           | MAU |
|                 | (Bergh, 1889)                  |             |         |              |
|                 | Phyllidiopsis cardinalis       | (Bergh, 1876)|         | MAU          |
|                 | (Pruvot-Fol, 1957)            |             |         |              |
|                 | Phyllidiopsis gemmata          | (Bergh, 1879)|         | MAU          |
|                 | Phyllidiopsis loricata         | (Bergh, 1873)|         | MAU          |
|                 | Phyllidiopsis zixhaensis       | (Lin, 1983) |         | MAU          |
| Aegiridae       | Notodoris citrina              | (Bergh, 1875) |         | MAU |
|                 | Notodoris minor                | Eliot (1904)|         | MAU          |
|                 | Notodoris gardineri            | Eliot (1906)|         | MAU          |
| Polyceridae     | Gymnodoris striata             | Eliot (1908)|         | MAU          |
|                 | Gymnodoris citrina             | Bergh (1877)|         | MAU          |
|                 | Gymnodoris ceylonica           | Relaart (1858)|           | MAU |
|                 | Gymnodoris crocea              | Bergh (1889)|         | MAU          |
|                 | Martadoris limaciformis        | Eliot (1908)|         | MAU          |
|                 | Nembrotha cristata             | Bergh (1877)|         | MAU          |
|                 | Nembrotha kubaryana            | Bergh (1877)|         | MAU          |
|                 | Nembrotha lineolata            | Bergh (1903)|         | MAU          |
|                 | Plocamopherus margaretae       | Vallès & Gosliner, 2006) |         | MAU |
|                 | Roboastra gracilis             | Bergh (1877)|         | MAU          |
|                 | Tambja affinis                 | Eliot (1904)|         | MAU          |
|                 | Tambja morosa                  | Bergh (1877)|         | MAU          |
|                 | Tyrannodoris luteolineata      | Baba, 1936) |         | MAU          |
| Hexabranchidae  | Hexabranchus sanguineus        | (Rüppell & Leuckart, 1830)|         | MAU, * |
|                 | Antaeaeolidiella indica         | Bergh (1888)|         | MAU          |
|                 | Baeolidia moebii                | Bergh (1888)|         | MAU, * |
|                 | Cerberilla affinis             | Bergh (1888)|         | MAU          |
|                 | Limenandra fusiformis           | Baba, 1949) |         | MAU          |
Conclusion and Future Works

This review summarises the existing nudibranch species from the Republic of Mauritius (Table 1). Previous researches concerned the description of existing species however, no information of the time of collection was provided. In contrast to species belonging to the Phyllidiidae, many nudibranchs are nocturnal hence, further inventories need to be carried out to assess their biodiversity and distribution. To date, 60 species have been identified by systematic work. Together with internet records, the number of nudibranchs species found in the Republic of Mauritius would amount to 105 belonging to 20 families (excluding undescribed taxa and those recorded as cf., table 1). Further studies pertaining to resolve the issue of species complexity and clarifying morphological characteristic of Anteaeolidiella indica are required. Additionally, further works concerning the abundance of nudibranchs found in the Republic of Mauritius should be carried out. Marine protected areas are designed for biodiversity conservation and detailed study on its biodiversity is essential. Rodrigues Island is strictly reinforcing the management of its marine reserves, comparison of the different species found in both marine reserves and non-marine reserves will bring out surplus information relating to the diversity of nudibranchs. With a wide maritime zone and considered as a striking biodiversity hotspot, further species might be discovered from both Mauritius and Rodrigues altogether with key molecules of medical importance.

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