

An Updated Checklist of Sea Slugs (Gastropoda, Heterobranchia) from Hong Kong Supported by Citizen Science

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Research on heterobranch sea slug diversity in Hong Kong was flourishing in the 1980–90s, with the first checklist and guidebook published and many new species and records documented later. This golden era of sea slug research ended abruptly, and no review nor any extensive collection has been done in the past 20+ years. In view of the extensive revision in heterobranch systematics in recent years, the current checklist can be considered out of date in both nomenclature and composition. Therefore, we are dedicated to providing a synthesis of the current state of knowledge on Hong Kong sea slug diversity by reviewing previous records and engagement of citizen science. An integration of previously published and unpublished records revealed the presence of 186 species, of which 107 species were documented by our citizen science programme with a further report of 71 new records. This yields a total of 257 species from 126 genera, 53 families and ten higher taxa, of which seven species have not been reported elsewhere from Hong Kong. While the present study has markedly illuminated our understanding of sea slug diversity in Hong Kong, the true biodiversity may be underestimated given the high proportion of novel records, especially when many previous records were not herein observed. Hong Kong likely harbours a greater sea slug diversity which awaits discovery from more rigorous sampling and a more inclusive citizen science programme.

Key words: Biodiversity, Indo-West Pacific, Nudibranch, Opisthobranch, South China Sea.

BACKGROUND

The first account of sea slugs from Hong Kong was briefly mentioned in Collingwood (1881), where the author was accompanied by an experienced local in search for nudibranchs, but happened to be unsuccessful. Not until a century later was the first glimpse into the rich sea slug diversity available in the publication of checklists and guidebook in the 1980s (Orr 1980 1981;

Tsi and Ma 1982; Britton 1984; Jensen 1985), courtesy of the late Dr. Brian Morton from The University of Hong Kong who organised a series of international workshops on Hong Kong and South China marine faunal and floral diversity and biology. These checklists collectively reported, as of old taxonomic classification, the presence of 91 species from 49 genera, 32 families and six orders (Anaspidea, Ascoglossa, Cephalaspidea, Notaspidea, Nudibranchia, Systellommatophora).

Nevertheless, some of the species reported were unidentified and their status will probably remain enigmatic due to the lack of vouchered specimens, clear colour photographs and/or detailed morphological descriptions. During the same period, Dr. Brian Darvell from The University of Hong Kong and other members from the South China Diving Club made an extensive collection of opisthobranch sea slugs from Hong Kong, later identified and studied by Dr. W. Bill Rudman from the Australian Museum. While over 230 species were collected, only a selection of 53 species from seven nudibranch families (Chromodorididae, Dorididae, Goniodorididae, Gymnodorididae, Myrrhinidae, Onchidorididae, Triophidae), together with materials from other places in the Indo-West Pacific, were detailed in a series of manuscripts, yielding 14 new species and 26 new records (Rudman 1982 1983 1985 1986a 1987a b 1990 1991; Rudman and Avern 1989; Rudman and Darvell 1990). In the following years, other researchers further contributed to the inventory of Hong Kong sea slug diversity with new species and records of nudibranch, cephalaspidean and sacoglossan, as well as the first record of acochlidiimorph (Jensen 1990 1994 1997; Lin 1990a 1992; Hughes 1991). Jensen (1998) provided the latest checklist of opisthobranch containing 134 species from 72 genera and six orders (Acochlidia, Aplysiomorpha, Cephalaspidea, Notaspidea, Nudibranchia, Sacoglossa). This essentially marked the end of a golden era of sea slug research in Hong Kong with no further extensive collection performed since then. Sporadic new records were only mentioned and illustrated in guidebooks of Indo-Pacific sea slugs (Coleman 2008; Gosliner et al. 2008), many of which referred to unpublished materials mentioned in Rudman and Darvell (1990). In view of the extensive revision in heterobranch systematics in recent years (Bouchet et al. 2017) and range shifts attributed to climate change documented in many species (Nimbs and Smith 2018; Goddard et al. 2018), the current integrated checklist of heterobranch sea slugs can be considered out of date in both nomenclature and composition. It is, therefore, timely to conduct a review of sea slug diversity in Hong Kong and provide a synthesis of the current state of knowledge. Since sea slugs are distinctive in colouration and slow-moving, they are popular with underwater photographers. As such, a citizen science programme was initiated in summer 2020 through fall 2021, and aimed to document the occurrence of sea slugs in Hong Kong and collect photographic evidence on potential new records—a method that has shown to be effective in other places (Kleitou et al. 2019; Smith and Davis 2019).

MATERIALS AND METHODS

Previous records of heterobranch sea slugs from Hong Kong and their distribution were retrieved from various literatures and guidebooks, and from the website ‘The Sea Slug Forum’ (<http://www.seaslugforum.net/>) affiliated with the Australian Museum and maintained by sea slug taxonomist Dr. Bill Rudman. An online platform was established in summer 2020 and maintained through fall 2021 (for a total of 18 months) for citizen scientists to upload photographs of sea slugs taken in Hong Kong, both prior to and after the establishment of the citizen science programme. Citizen scientists were asked to provide sighting information, including date, location, water depth, and the substratum or organism the sea slug attached to. All species were identified from photographs only and no specimens were collected and examined in the present study.

RESULTS

A review and integration of previously published records of sea slugs in Hong Kong, and unpublished records from The Sea Slug Forum, revealed the presence of 186 species. Over 1400 photographs were received from 37 citizen scientists and the Agriculture, Fisheries and Conservation Department (AFCD), Hong Kong SAR Government, with the majority of the photographs taken within the past two years and the oldest photograph dated back to five years ago. This dataset contributed a total of 178 species, 71 of which were newly recorded in Hong Kong. This greatly expands the inventory of Hong Kong sea slug diversity, yielding a total of 257 species from 126 genera, 53 families and ten higher taxa (Table 1). The biodiversity is highly dominated by nudibranchs (181 species, 70.5%), followed by sacoglossans (30 species, 11.6%), cephalaspideans (18 species, 7.0%), aplysiidans (9 species, 3.5%), systellommatophores (7 species, 2.7%), pleurobranchs (6 species, 2.3%) and acteonimorphs (3 species, 1.2%) (Table 1). Only one species is recorded for acochlidiimorph, ringiculimorph, and umbraculidan. Fifty-four of the species are unidentified or tentatively identified (due to differences in colouration, anatomy or distribution, or insufficient information for accurate identification), some of which may potentially represent species complexes or new species whose true identity remains obscure without morphological examination and molecular analysis. For one of the species, *Melibe* cf. *japonica*, which is considered an uncertain synonym of *Melibe viridis*, we decided to retain the use of the name given its much less ornamented body. Another two species are considered inquirendum (cephalaspidean

Philine vitrea (Philinidae), sacoglossan *Placida daguilaensis* (Limapontiidae)), but are still included in the present checklist as cross-references.

DISCUSSION

While Rudman and Darvell (1990) mentioned collecting over 230 species of opisthobranch sea slugs from Hong Kong, our review showed that past published and unpublished records only accounted for (not exclusively to opisthobranchs) a total of 186 species. This shows that our knowledge on Hong Kong sea slug diversity is very superficial and full of known unknowns. In other words, while a high diversity is recognised, only a portion of it is currently known with details. Greater sampling efforts are, therefore, required to supplement the recognised diversity. Citizen science

is herein shown to be effective in documenting sea slug occurrence and discovering new records. Nearly 70% of the species in the checklist were documented in the present study, and > 25% of the species were new to Hong Kong.

Compared to other subtropical regions in the Indo-Pacific with a similarly long (if not longer) history of research on sea slugs, Hong Kong is considered to have a relatively high sea slug diversity according to the present study, especially given its much smaller territorial area. For instance, 95 species have been reported from the Gujarat coast, India (Vadher et al. 2020), 105 species from Mauritius (Ah-Shee-Tee et al. 2019), 336 species from Thailand (256 species from the Gulf of Thailand alone) (Mehrotra et al. 2021), 382 species from the coast of New South Wales, Australia (Nimbs and Smith 2016), and 782 species from Taiwan (Chang 2012). The high diversity is possibly attributed

Table 1. Number of sea slug species and genus recorded in Hong Kong under each family and higher taxon. *, total number under the higher taxon

Taxa	Species (Genus)	Taxa	Species (Genus)
Acteonimorpha	3* (3)*	Dendrodorididae	8 (2)
Acteonidae	1 (1)	Phyllidiidae	5 (3)
Aplustridae	2 (2)	Polyceridae	19 (8)
Nudibranchia	181* (84)*	Pleurobranchida	6* (4)*
Aeolidiidae	10 (6)	Pleurobranchaeidae	3 (2)
Facelinidae	9 (6)	Pleurobranchidae	3 (2)
Myrrhinidae	3 (2)	Ringiculimorpha	1* (1)*
Arminidae	10 (2)	Ringiculidae	1 (1)
Bornellidae	1 (1)	Acochlidiimorpha	1* (1)*
Dotidae	3 (1)	Pseudunelidae	1 (1)
Lomanotidae	2 (1)	Aplysiida	9* (3)*
Scyllaeidae	1 (1)	Aplysiidae	9 (3)
Tethydidae	1 (1)	Cephalaspidea	18* (13)*
Abronicidae	1 (1)	Bullidae	1 (1)
Flabellinidae	2 (2)	Cylichnidae	1 (1)
Embletoniidae	1 (1)	Haminoeidae	2 (2)
Eubbranchidae	2 (1)	Aglajidae	8 (4)
Pseudovermidae	1 (1)	Gastropoteridae	2 (2)
Samlidae	1 (1)	Philinidae	3 (2)
Trinchesiidae	10 (3)	Philinoglossidae	1 (1)
Unidentiidae	1 (1)	Systellommatophora	7* (6)*
Madrellidae	1 (1)	Onchidiidae	7 (6)
Tritoniidae	4 (3)	Sacoglossa	30* (10)*
Actinocyclusidae	3 (2)	Oxynoidae	2 (2)
Cadlinellidae	1 (1)	Volvatellidae	1 (1)
Chromodorididae	36 (11)	Costasiellidae	3 (1)
Hexabanchidae	1 (1)	Limapontiidae	9 (3)
Discodorididae	21 (11)	Plakobrachidae	14 (2)
Dorididae	4 (3)	Platyhedylidae	1 (1)
Aegiridae	2 (1)	Umbraculida	1* (1)*
Calycidorididae	1 (1)	Umbraculidae	1 (1)
Goniodorididae	16 (4)		

to range overlap of regional fauna (which also explains the very high diversity in Taiwan), including those from the South China Sea, Japanese and East Australian waters, as well as from the Indian Ocean and central Pacific. Of the species with confirmed identities, the majority of them have broad distribution throughout the Indo-Pacific or Indo-West Pacific (52.9%), typically ranging from the Red Sea, East and South Africa to the central Pacific islands to the east, Japan and Korea to the north, and Australia to the south, with a few additional species extending further westward into the Mediterranean Sea and eastern Atlantic, eastward to the eastern Pacific and western Atlantic, or even having a circum-tropical/temperate distribution (e.g., the acteonimorph *Hydatina physis*, the aplysiidan *Bursatella leachii* and the sacoglossan *Ercolania coerulea*). Two-fifths of the species are restricted to the western and central Pacific, of which five of the nudibranchs (*Armina punctulata* (Arminidae), *Pseudovermis chinensis* (Pseudovermidae), *Phestilla fuscostriata* (Trinchesiidae), *Marionia echinomuriceae* (Tritoniidae) and *Lamellana gymnota* (Polyceridae)), one of the cephalaspideans (*Yokoyamaia orientalis* (Philinidae)), and one of the sagoclossans (*Gascoignella aprica* (Platyhedylidae)), have not been reported elsewhere from Hong Kong. The validity of most of these species remains uncertain as they are known only from the original descriptions. The relatively recently described trinchesiid nudibranch *P. fuscostriata* is, nevertheless, expected to have a wider distribution given the commonness of its coral host in the Indo-Pacific (Hu et al. 2020a). The present study, based on a citizen science effort, provided the most comprehensive checklist of sea slugs in Hong Kong to date. While our understanding of their diversity has been markedly illuminated, the biodiversity revealed may still be an underestimate given the high proportion of novel records, especially when there was a lack of observation of many previous records. A greater biodiversity is likely to occur, and awaiting discovery from more extensive and systematic surveys of diverse habitats and water depths, and a more inclusive and long-term citizen science programme. Enriching the biodiversity database with substratum preference, local distribution and relative abundance information, as well as complementing observation with microscopic morphological examination and molecular analysis, would further foster a greater understanding of sea slugs in Hong Kong.

Checklist of sea slugs from Hong Kong (HK)

Species recorded in the present study are indicated by asterisk (*).

Subclass Heterobranchia Infraclass Euthyneura Subterclass Acteonimorpha Superfamily Acteonoidea d'Orbigny, 1842 Family Acteonidae d'Orbigny, 1842

1. *Pupa solidula* (Linnaeus, 1758)
Previous HK record: Lin and Qi (1985), Lin (1990b), Jensen (1998).
Distribution: Indo-Pacific (from South Africa to Japan, New Caledonia and Fiji) (Coleman 2008).

Family Aplustridae Gray, 1847

2. *Bullina* cf. *nobilis* Habe, 1950
Previous HK record: Jensen (2000).
3. *Hydatina physis* (Linnaeus, 1758)* (Fig. 1A)
Previous HK record: None.
Distribution: circum-tropical/temperate (Coleman 2008).

Subterclass Ringipleura Superorder Nudipleura Order Nudibranchia Suborder Cladobranchia Superfamily Aeolidioidea Gray, 1827 Family Aeolidiidae Gray, 1827

4. *Anteaeolidiella* cf. *fijiensis* (Carmona, Bhavé, Salunkhe, Pola, Gosliner & Cervera, 2014)
Previous HK record: Orr (1981) (as *Aeolidia* cf. *foulisi*), Jensen (1998) (as *Aeolidia* cf. *foulisi*).
5. *Anteaeolidiella* cf. *indica* (Bergh, 1888)
Previous HK record: Orr (1981) (as *Aeolidiella* sp.).
6. *Anteaeolidiella lurana* (Ev. Marcus & Er. Marcus, 1967)* (Fig. 1B)
Previous HK record: Orr (1980 1981) (as *Aeolidiella takanosimensis*), Morton and Morton (1983) (as *Aeolidiella takanosinensis*), Jensen (1998) (as *Aeolidiella indica*).
Distribution: western Pacific (Hong Kong, Australia), Mediterranean (Italy, Spain), Atlantic (Canary Islands, the Caribbean, Bermuda) (Carmona et al. 2014a).
7. *Baeolidia* cf. *moebii* Bergh, 1888
Previous HK record: Orr (1980) (as *Aeolidiella* cf. *berghia*), Orr (1981) (as *Aeolidiella* sp.).
8. *Baeolidia salaamica* (Rudman, 1982)* (Fig. 1C)
Previous HK record: Orr (1980 1981) (as *Berghia japonica*), Jensen (1998) (as *Berghia japonica*).
Distribution: Indo-Pacific (from East Africa to Japan, South Korea, the Philippines, Papua New Guinea and Hawaii) (Carmona et al. 2014b).

9. *Bulbaeolidia alba* (Risbec, 1928)* (Fig. 1D)
Previous HK record: None.
Distribution: Indo-Pacific (from East Africa to Japan, Australia, French Polynesia, Midway Atoll and Hawaii) (Tibirica et al. 2017).
10. *Cerberilla ambonensis* Bergh, 1905* (Fig. 1E)
Previous HK record: Rudman (2001a) (as *Cerberilla* sp. 4).
Distribution: western Pacific (from Thailand to Indonesia, Solomon Islands and Australia) (Mehrotra et al. 2021).
11. *Cerberilla* cf. *incola* Burn, 1974
Previous HK record: Rudman (2001a) (as *Cerberilla* sp. 4).
12. *Limenandra fusiformis* (Baba, 1949)
Previous HK record: Tsi and Ma (1982), Jensen (1998).
Distribution: Indo-Western Pacific (Hong Kong, Japan, the Red Sea) (Jensen 1998; Gosliner et al. 2008).
13. *Spurilla braziliana* MacFarland, 1909* (Fig. 1F)
Previous HK record: Lin (1992) (as *Aeolidiella albopunctata*), Jensen (1998) (as *Aeolidiella albopunctata*), Gosliner et al. (2008) (as *Spurilla neapolitana*).
Distribution: Pacific (from Hong Kong, Australia and Japan to Hawaii, and to Costa Rica and Peru) and western Atlantic (from Florida and Mexico to Brazil and Chile) (Carmona et al. 2014c).

Family Facelinidae Bergh, 1889

14. *Caloria indica* (Bergh, 1896)* (Fig. 1G)
Previous HK record: Coleman (2008), Gosliner et al. (2008).
Distribution: Indo-Pacific (from East Africa to Fiji) (Mehrotra et al. 2021).
15. *Cratena* cf. *poshitraensis* Bharate, Padula, Apte & Shimpi, 2020* (Fig. 1H)
Previous HK record: None.
16. *Cratena* sp.* (Fig. 1I)
Previous HK record: None.
17. *Facelina* sp.* (Fig. 1J)
Previous HK record: None.
18. *Favorinus* sp.* (Fig. 1K)
Previous HK record: None.
19. *Phidiana anulifera* (Baba, 1949)* (Fig. 1L)
Previous HK record: Rudman (2001b).
Distribution: Indo-West Pacific (Hong Kong, India, Taiwan, Japan) (Gosliner 1979; Rudman 2001b).
20. *Phidiana militaris* (Alder & Hancock, 1864)* (Fig. 1M)
Previous HK record: Coleman (2008).
Distribution: Indo-West Pacific (from the Arabian

Sea to Hong Kong, Taiwan and the Philippines) and eastern Mediterranean (Israel) (Mehrotra et al. 2021).

21. *Sakuraeolis enosimensis* (Baba, 1930)* (Fig. 1N)
Previous HK record: Orr (1981) (as *Coryphella* sp.), Morton and Morton (1983), Jensen (1998).
Distribution: western Pacific (Hong Kong, Japan), introduced to eastern Pacific (California) (Behrens 1982; Jensen 1998).
22. *Sakuraeolis* sp.* (Fig. 1O)
Previous HK record: None.

Family Myrrhinidae Bergh, 1905

23. *Godiva* cf. *rachelae* Rudman, 1980* (Fig. 1P)
Previous HK record: None.
24. *Phyllodesmium magnum* Rudman, 1991* (Fig. 1Q)
Previous HK record: Orr (1980 1981) (as *Phyllodesmium* sp.), Rudman (1991), Jensen (1998), Coleman (2008), Gosliner et al. (2008).
Distribution: western Pacific (Hong Kong, Taiwan, Malaysia, the Philippines, Australia, Japan) (Mehrotra et al. 2021).
25. *Phyllodesmium opalescens* Rudman, 1991* (Fig. 1R)
Previous HK record: Rudman (1991), Jensen (1998), Gosliner et al. (2008).
Distribution: western Pacific (Hong Kong, Taiwan, the Philippines) (Min 2004; Mehrotra et al. 2021).

Superfamily Arminoidea Iredale & O'Donoghue, 1923 (1841) Family Arminidae Iredale & O'Donoghue, 1923 (1841)

26. *Armina* cf. *babai* (Tchang, 1934)
Previous HK record: Jensen (1997 1998).
27. *Armina comta* (Bergh, 1880)
Previous HK record: Orr (1980 1981) (as *Armina japonica*), Tsi and Ma (1982), Morton and Morton (1983) (as *Armina japonica*), Jensen (1997 1998).
Distribution: western Pacific (Hong Kong, Thailand, Japan) (Jensen 1998).
28. *Armina papillata* Baba, 1933
Previous HK record: Tsi and Ma (1982), Jensen (1997 1998).
Distribution: western Pacific (Hong Kong, Taiwan, Australia, Japan) (Tsi and Ma 1982; Jensen 1998; Nimbs and Smith 2016).
29. *Armina punctilopsis* Lin, 1992
Previous HK record: Lin (1992), Jensen (1998).
Distribution: Indo-West Pacific (Hong Kong, Pakistan) (Kazmi et al. 1996).
30. *Armina punctulata* Lin, 1990

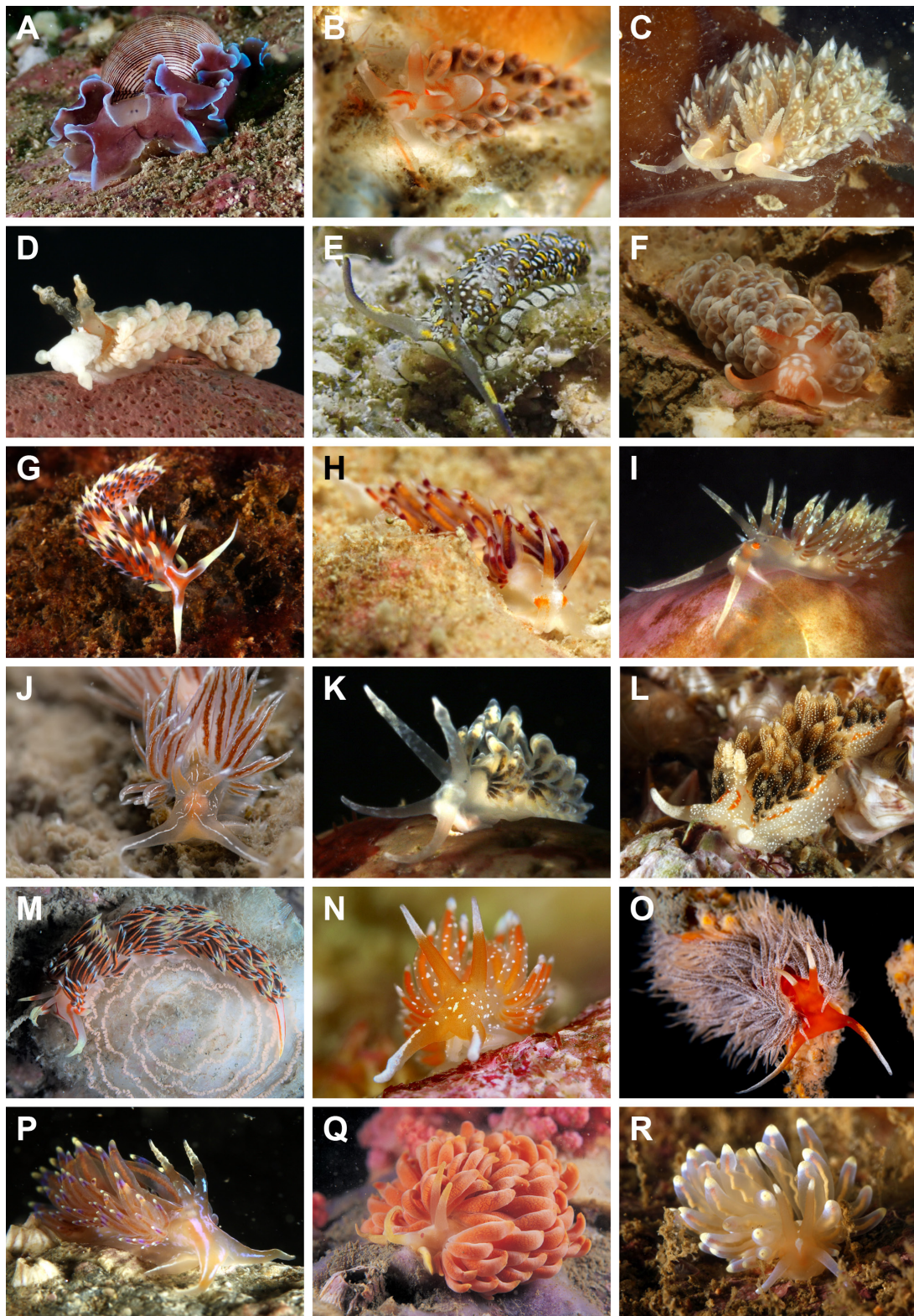


Fig. 1. (A) *Hydatina physis*; (B) *Anteaeolidiella lurana*; (C) *Baeolidia salaamica*; (D) *Bulbaeolidia alba*; (E) *Cerberilla ambonensis*; (F) *Spurilla braziliana*; (G) *Caloria indica*; (H) *Cratena* cf. *poshitraensis*; (I) *Cratena* sp.; (J) *Facelina* sp.; (K) *Favorinus* sp.; (L) *Phidiana anulifera*; (M) *Phidiana militaris*; (N) *Sakuraeolis enosimensis*; (O) *Sakuraeolis* sp.; (P) *Godiva* cf. *rachelae*; (Q) *Phyllodesmium magnum*; (R) *Phyllodesmium opalescens*. Photographs by Harmon Wong (A), Tim Lam (B–D, G–I, K, L, P, R), Rachel Wong (E), AFCD (F, Q), Henry Li (J), Caron Ka Lok Wong (M), Gary To (N) and Alice Au (O).

Previous HK record: Lin (1990a), Jensen (1997 1998).

Distribution: Hong Kong (Jensen 1998).

31. *Armina variolosa* (Bergh, 1904)
Previous HK record: Jensen (1997 1998), Coleman (2008), Gosliner et al. (2018).
Distribution: western Pacific (China, Japan) (Jensen 1998).
32. *Dermatobranchus albus* (Eliot, 1904)* (Fig. 2A)
Previous HK record: None.
Distribution: Indo-West Pacific (from East Africa to Japan and Papua New Guinea) (Gosliner and Fahey 2011).
33. *Dermatobranchus tongshanensis* Lin, 1981* (Fig. 2B)
Previous HK record: Jensen (2000).
Distribution: western Pacific (China) (Lin 1981).
34. *Dermatobranchus* sp. 1* (Fig. 2C)
Previous HK record: None.
35. *Dermatobranchus* sp. 2* (Fig. 2D)
Previous HK record: None.

Superfamily Dendronotoidea Allman, 1845

Family Bornellidae Bergh, 1874

36. *Bornella stellifera* (Adams & Reeve [in Adams], 1848)* (Fig. 2E)
Previous HK record: Orr (1980 1981), Morton and Morton (1983), Lin (1990b), Jensen (1998).
Distribution: Indo-Pacific (from South Africa to New Caledonia, Fiji and Japan) (Mehrotra et al. 2021).

Family Dotidae Gray, 1853

37. *Doto* sp. 1
Previous HK record: Gosliner et al. (2008 2018).
38. *Doto* sp. 2* (Fig. 2F)
Previous HK record: None.
39. *Doto* sp. 3* (Fig. 2G, H)
Previous HK record: None.

Family Lomanotidae Bergh, 1890

40. *Lomanotus vermiformis* Eliot, 1908* (Fig. 2I)
Previous HK record: None.
Distribution: Indo-Pacific (from the Red Sea to Taiwan, Australia and Fiji, and to Panama), and western Atlantic (Florida, Caribbean Sea) (Mehrotra et al. 2021).
41. *Lomanotus* sp.* (Fig. 2J)
Previous HK record: None.

Family Scyllaeidae Alder & Hancock, 1855

42. *Notobryon wardi* Odhner, 1936* (Fig. 2K)
Previous HK record: Picton (2002), Coleman (2008).
Distribution: western and central Pacific (Hong Kong, Japan, South Korea, Northern Mariana Islands, Marshall Islands, the Philippines, Indonesia, Australia, Hawaii) (Pola et al. 2012).

Family Tethydidae Rafinesque, 1815

43. *Melibe* cf. *japonica* Eliot, 1913 (uncertain synonym of *M. viridis*)* (Fig. 2L)
Previous HK record: None.

Superfamily Fionoidea Gray, 1857

Family Abronidae Korshunova, Martynov, Bakken, Evertsen, Fletcher, Mudianta, Saito, Lundin, Schrödl & Picton, 2017

44. *Abronica purpureoanulata* (Baba, 1961)* (Fig. 2M)
Previous HK record: Orr (1980 1981) (as *Catriona* cf. *purpureoanulata*), Jensen (1998) (as *Catriona* cf. *purpureoanulata*), Gosliner et al. (2008).
Distribution: western Pacific (Hong Kong, the Philippines, Japan) (Jensen 1998; Anderson 2008).

Family Flabellinidae Bergh, 1889

45. *Coryphellina lotos* Korshunova, Martynov, Bakken, Evertsen, Fletcher, Mudianta, Saito, Lundin, Schrödl & Picton, 2017* (Fig. 2N)
Previous HK record: None.
Distribution: western Pacific (Hong Kong, Japan). (Mehrotra et al. 2021).
46. *Flabellina* sp.* (Fig. 2O)
Previous HK record: None.

Family Embletoniidae Pruvot-Fol, 1954

47. *Embletonia gracilis* Risbec, 1928
Previous HK record: Hughes (1991) (as *Embletonia pulchra*), Jensen (1998) (as *Embletonia pulchra*).
Distribution: Indo-Pacific (from Christmas Island to Japan, Fiji and Hawaii) (Miller and Willan 1992; Jensen 1998).

Family Eubranchidae Odhner, 1934

48. *Eubranchius inabai* Baba, 1964
Previous HK record: Gosliner et al. (2008).
Distribution: western Pacific (Hong Kong, Taiwan,

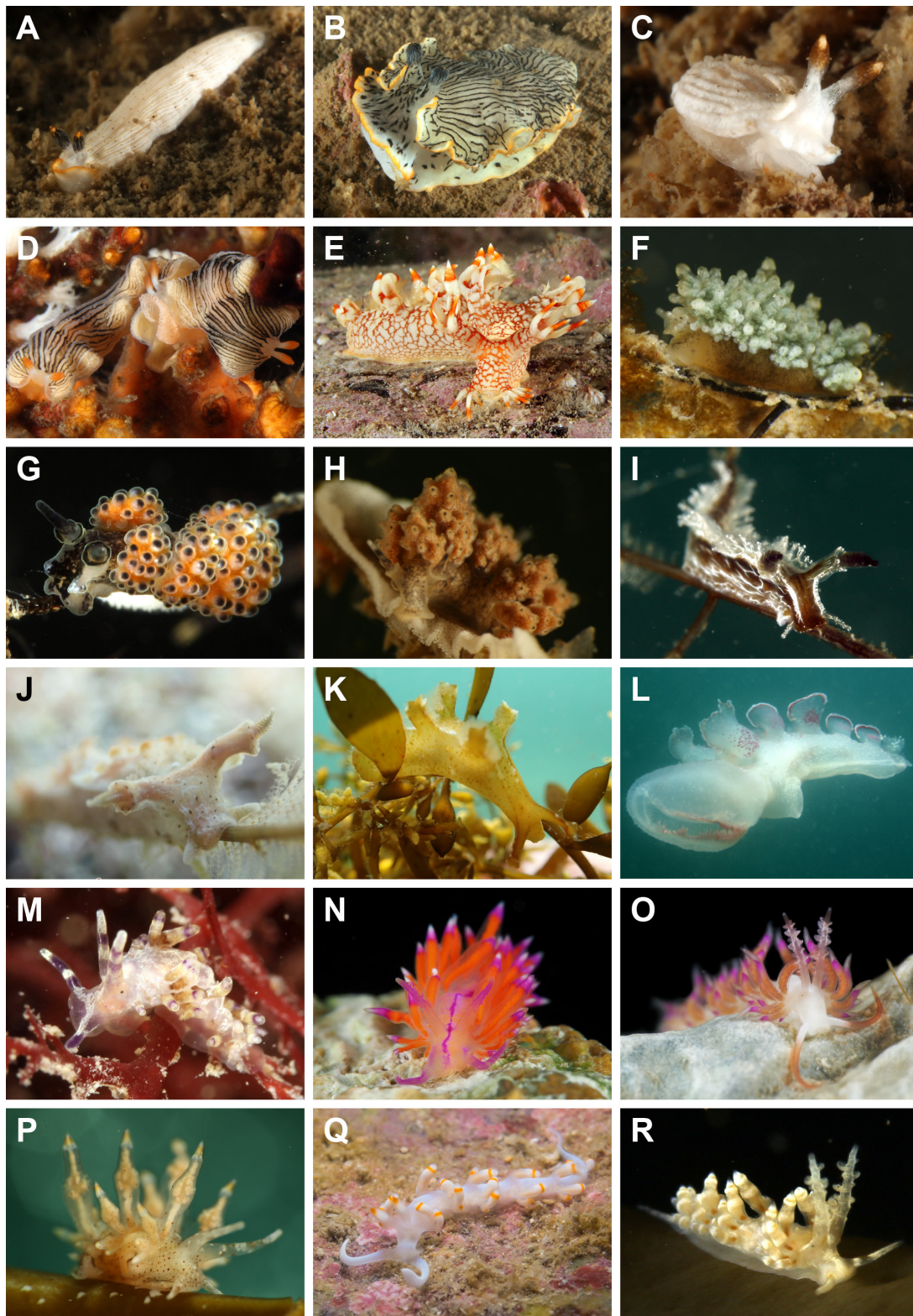


Fig. 2. (A) *Dermatobranchus albus*; (B) *Dermatobranchus tongshanensis*; (C) *Dermatobranchus* sp. 1; (D) *Dermatobranchus* sp. 2; (E) *Bornella stellifera*; (F) *Doto* sp. 2; (G, H) *Doto* sp. 3; (I) *Lomanotus vermiformis*; (J) *Lomanotus* sp.; (K) *Notobryon wardi*; (L) *Melibe* cf. *japonica*; (M) *Abronica purpureoanulata*; (N) *Coryphellina lotos*; (O) *Flabellina* sp.; (P) *Eubranchius rubropunctatus*; (Q) *Samla bicolor*; (R) *Catriona pinnifera*. Photographs by Tim Lam (A–E, G, I, L, M, R), AFCD (F, H, P), Alice Au (J), Tom Chan (K), Gary To (N), AFCD | Henry Tat Heng Ho (O), Henry Li (P) and Markus Rummel (Q).

Australia, Japan) (Baba 1964; Nimbs and Smith 2016).

49. *Eubbranchus rubropunctatus* Edmunds, 1969* (Fig. 2P)
Previous HK record: Picton (2001) (as *Eubbranchus* cf. *rubropunctatus*), Gosliner et al. (2008) (as *Eubbranchus* sp. 1).
Distribution: western Pacific (Hong Kong, Australia) (Marshall and Willan 1999; Gosliner et al. 2008).

Family Pseudovermidae Thiele, 1931

50. *Pseudovermis chinensis* Hughes, 1991
Previous HK record: Hughes (1991), Jensen (1998).
Distribution: Hong Kong (Jensen 1998).

Family Samlidae Korshunova, Martynov, Bakken, Evertsen, Fletcher, Mudianta, Saito, Lundin, Schrödl & Picton, 2017

51. *Samla bicolor* (Kelaart, 1858)* (Fig. 2Q)
Previous HK record: Orr (1980 1981) (as *Flabellina ornata*), Jensen (1998), Coleman (2008), Gosliner et al. (2008).
Distribution: Indo-Pacific (from South Africa to Japan, South Korea, Tonga and Hawaii) (Mehrotra et al. 2021).

Family Trinchesiidae Nordsieck, 1972

52. *Catriona pinnifera* (Baba, 1949)* (Fig. 2R)
Previous HK record: None.
Distribution: western and central Pacific (Hong Kong, Japan, Hawaii) (Baba 1961; Gosliner 1979; Present study).
53. *Phestilla fuscostriata* Hu, Zhang, Xie & Qiu, 2020* (Fig. 3A)
Previous HK record: Wong et al. (2017) (as *Tenellia* sp.), Hu et al. (2020a).
Distribution: western Pacific (Hong Kong, Thailand) (Mehrotra et al. 2021).
54. *Phestilla goniophaga* Hu, Zhang, Yiu, Xie & Qui, 2020* (Fig. 3B)
Previous HK record: Orr (1981) (as *Phestilla* sp.), Coleman (2008) (as *Phestilla* sp.), Gosliner et al. (2008) (as *Phestilla* sp.), Hu et al. (2020b).
Distribution: western Pacific (Hong Kong, Palau) (Hu et al. 2020b).
55. *Phestilla lugubris* (Bergh, 1870)* (Fig. 3C)
Previous HK record: Orr (1980) (as *Phestilla sibogae*), Morton and Morton (1983) (as *Phestilla sibogae*), Jensen (1998) (as *Phestilla sibogae*).
Distribution: Indo-Pacific (from East Africa to New

Caledonia and Hawaii) (Mehrotra et al. 2021).

56. *Phestilla melanobrachia* Bergh, 1874* (Fig. 3D, E)
Previous HK record: Orr (1981), Morton and Morton (1983), Jensen (1998), Gosliner et al. (2008).
Distribution: Indo-Pacific (from East Africa to Japan, Australia, Solomon Islands and Fiji) (Mehrotra et al. 2021).
57. *Phestilla* sp.* (Fig. 3F)
Previous HK record: None.
58. *Trinchesia diversicolor* Baba, 1975
Previous HK record: Orr (1981) (as *Trinchesia* sp.), Gosliner et al. (2008).
Distribution: western Pacific (Hong Kong, Taiwan, Japan, South Korea) (Baba 1975; Min 2004; Jie and Chan 2009).
59. *Trinchesia ornata* (Baba, 1937)* (Fig. 3G)
Previous HK record: Orr (1980) (as *Trinchesia* cf. *ornata*), Jensen (1998) (as *Trinchesia* cf. *ornata*), Coleman (2008), Gosliner et al. (2008).
Distribution: Indo-West Pacific (from South Africa to Russia and Australia) (Nimbs et al. 2016).
60. *Trinchesia yamasui* (Hamatani, 1993)* (Fig. 3H)
Previous HK record: None.
Distribution: Indo-Pacific (from the Red sea to Japan, Australia and Marshall Islands) (Hamatani 1993; Yonow 2015; Nimbs and Smith 2016).
61. *Trinchesia* sp.* (Fig. 3I)
Previous HK record: None.

Family Unidentiidae Millen & Hermosillo, 2012

62. *Unidentia aliciae* Korshunova, Mehrotra, Arnold, Lundin, Picton & Martynov, 2019* (Fig. 3J)
Previous HK record: None.
Distribution: western Pacific (Hong Kong, Thailand) (Mehrotra et al. 2021).

Superfamily Proctonotoidea Gray, 1853

Family Madrellidae Preston, 1911

63. *Madrella ferruginosa* Alder & Hancock, 1864* (Fig. 3K)
Previous HK record: None.
Distribution: Indo-Pacific (from East Africa to Japan, Australia, New Caledonia, Marshall Islands) (Gosliner and Fahey 2011).

Superfamily Tritonioidea Lamarck, 1809

Family Tritoniidae Lamarck, 1809

64. *Marionia echinomuriceae* Jensen, 1994* (Fig. 3L)
Previous HK record: Jensen (1994 1998).
Distribution: Hong Kong (Jensen 1998).

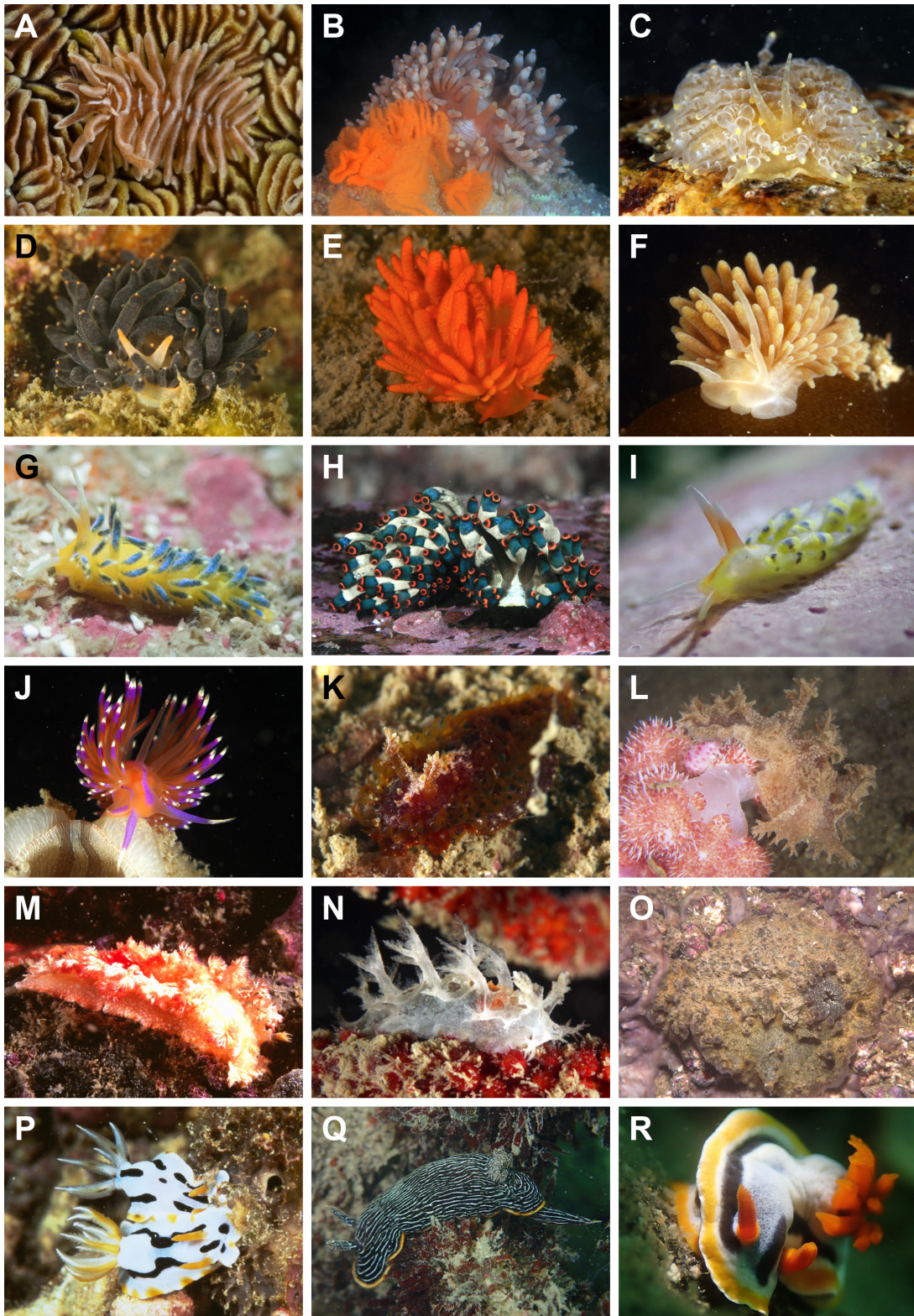


Fig. 3. (A) *Phestilla fuscostriata*; (B) *Phestilla goniophaga*; (C) *Phestilla lugubris*; (D, E) *Phestilla melanobranchia*; (F) *Phestilla* sp.; (G) *Trinchesia ornata*; (H) *Trinchesia yamasui*; (I) *Trinchesia* sp.; (J) *Unidentia aliciae*; (K) *Madrella ferruginosa*; (L) *Marionia echinomuriceae*; (M) *Marionia* cf. *rubra*; (N) *Tritonia* sp.; (O) *Actinocyclus papillatus*; (P) *Chromodoris diana*; (Q) *Chromodoris lineolata*; (R) *Chromodoris magnifica*. Photographs by AFCD | Henry Tat Heng Ho (A), Gary To (B), Tim Lam (C, F, J, K, N), AFCD (D, E, H, L, M, O, P), Grape Tang (G), Alice Au (I), Gomen See (Q) and AFCD | Chi Hung Yip (R).

65. *Marionia* cf. *rubra* (Ruppell & Leuckart, 1831)* (Fig. 3M)
Previous HK record: None.
66. *Tritonia* sp.* (Fig. 3N)
Previous HK record: None.
67. *Tritoniopsis elegans* (Audouin, 1826)
Previous HK record: Coleman (2008).
Distribution: Indo-Pacific (from East Africa to Australia, Fiji and Japan) (Coleman 2008).

Suborder Doridina

Infraorder Doridoidei

Superfamily Chromodoridoidea Bergh, 1891

Family Actinocyclusidae O'Donoghue, 1929

68. *Actinocyclus papillatus* (Bergh, 1878)* (Fig. 3O)
Previous HK record: Coleman (2008).
Distribution: Indo-West Pacific (from East Africa to Australia, Japan and South Korea) (Valdes 2002).
69. *Hallaxa iju* Gosliner & Johnson, 1994
Previous HK record: Coleman (2008), Gosliner et al. (2008).
Distribution: western and central Pacific (from Thailand to Australia, Japan, Marshall Islands and Hawaii) (Mehrotra et al. 2021).
70. *Hallaxa indecora* (Bergh, 1905)
Previous HK record: Coleman (2008).
Distribution: Indo-Pacific (from East Africa to Japan, Australia and American Samoa) (Mehrotra et al. 2021).

Family Cadlinellidae Odhner, 1934

71. *Cadlinella ornatissima* (Risbec, 1928)
Previous HK record: Rudman and Darvell (1990), Jensen (1998), Coleman (2008), Gosliner et al. (2008).
Distribution: Indo-Pacific (from East Africa to Japan, Tonga, Fiji and Marshall Islands) (Mehrotra et al. 2021).

Family Chromodorididae Bergh, 1891

Subfamily Chromodoridinae Bergh, 1891

72. *Ardeadoris* cf. *scottjohnsoni* Bertsch & Gosliner, 1989
Previous HK record: Orr (1980) (as *Chromodoris* sp.).
73. *Chromodoris diana* Gosliner & Behrens, 1998* (Fig. 3P)
Previous HK record: None.
Distribution: western Pacific (Hong Kong, Malaysia, the Philippines, Indonesia) (Gosliner and Behrens 1998).

74. *Chromodoris lineolata* (van Hasselt, 1824)* (Fig. 3Q)
Previous HK record: Orr (1980 1981), Rudman (1982), Tsi and Ma (1982), Lin (1990b), Rudman and Darvell (1990), Jensen (1998), Gosliner et al. (2008).
Distribution: western Pacific (Hong Kong, the Philippines, Indonesia, Palau, Australia, Japan) (Rudman 1982; Jensen 1998).
75. *Chromodoris magnifica* (Quoy & Gaimard, 1832)* (Fig. 3R)
Previous HK record: None.
Distribution: western Pacific (Hong Kong, Malaysia, Indonesia, the Philippines, Papua New Guinea, Australia) (Rudman 1982; Coleman 2008).
76. *Chromodoris mandapamensis* Valdés, Mollo & Ortea, 1999* (Fig. 4A)
Previous HK record: None.
Distribution: Indo-West Pacific (from South Africa, to Vietnam, Solomon Islands and New Caledonia) (Coleman 2008; Mehrotra et al. 2021).
77. *Chromodoris orientalis* (Rudman, 1983)* (Fig. 4B)
Previous HK record: Orr (1980 1981) (as *Chromodoris pallescens*), Morton and Morton (1983) (as *Chromodoris pallescens*), Rudman (1983), Lin (1990b), Rudman and Darvell (1990), Jensen (1998), Coleman (2008), Gosliner et al. (2008 2018) (as *Goniobranchus orientalis*).
Distribution: western Pacific (Hong Kong, Taiwan, Japan, South Korea) (Min 2004; Coleman 2008; Jie and Chan 2009).
78. *Chromodoris striatella* Bergh, 1877* (Fig. 4C)
Previous HK record: Rudman and Darvell (1990), Jensen (1998), Coleman (2008), Gosliner et al. (2008).
Distribution: western Pacific (Hong Kong, the Philippines, Indonesia, Australia, New Caledonia, Japan) (Coleman 2008).
79. *Diversidoris aurantionodulosa* Rudman, 1987* (Fig. 4D)
Previous HK record: Rudman (1987a), Rudman and Darvell (1990), Jensen (1998), Coleman (2008), Gosliner et al. (2008).
Distribution: Indo-West Pacific (from East Africa to Hong Kong and Australia) (Jensen 1998).
80. *Doriprismatica atromarginata* (Cuvier, 1804)* (Fig. 4E)
Previous HK record: Orr (1980 1981), Tsi and Ma (1982), Morton and Morton (1983), Lin (1990b), Rudman and Darvell (1990), Jensen (1998).
Distribution: Indo-Pacific (from East Africa to New Caledonia, Fiji, Japan and Hawaii) (Mehrotra et al. 2021).
81. *Glossodoris acosti* Matsuda & Gosliner, 2018*

- (Fig. 4F)
Previous HK record: Rudman and Darvell (1990) (as *Glossodoris cincta*), Jensen (1998) (as *Glossodoris cincta*).
Distribution: Indo-West Pacific (Hong Kong, the Philippines, Papua New Guinea, Christmas Island, Maldives) (Jensen 1998; Matsuda and Gosliner 2018).
82. *Glossodoris rufomarginata* (Bergh, 1890)
Previous HK record: Rudman (1986a), Rudman and Darvell (1990), Jensen (1998), Coleman (2008).
Distribution: Indo-Pacific (from East Africa to Fiji, French Polynesia, Japan, South Korea and Hawaii) (Rudman 1986a; Jensen 1998).
83. *Goniobranchus aureopurpureus* (Collingwood, 1881)* (Fig. 4G)
Previous HK record: Coleman (2008).
Distribution: Indo-West Pacific (from Andaman and Myanmar to Japan, South Korea, Australia and New Caledonia) (Mehrotra et al. 2021).
84. *Goniobranchus collingwoodi* (Rudman, 1987)* (Fig. 4H)
Previous HK record: Rudman (1987a), Rudman and Darvell (1990), Jensen (1998), Coleman (2008).
Distribution: Indo-West Pacific (from the Red Sea to Australia, New Caledonia and Solomon Islands) (Rudman 1987a; Yonow 2018).
85. *Goniobranchus fidelis* (Kelaart, 1858)* (Fig. 4I)
Previous HK record: Orr (1981), Rudman (1985), Rudman and Darvell (1990), Jensen (1998), Coleman (2008).
Distribution: Indo-Pacific (from East Africa to Japan, Fiji, Northern Mariana Islands and Marshall Islands) (Mehrotra et al. 2021).
86. *Goniobranchus geometricus* (Risbec, 1928)* (Fig. 4J)
Previous HK record: None.
Distribution: Indo-Pacific (from South Africa and Maldives to Japan, Australia, New Caledonia, Fiji and Marshall Islands) (Mehrotra et al. 2021).
87. *Goniobranchus hintuanensis* (Gosliner & Behrens, 1998)* (Fig. 4K)
Previous HK record: Coleman (2008) (as *Chromodoris hintantuensis*).
Distribution: Indo-Pacific (from Sri Lanka to Japan, Solomon Islands and Line Islands) (Gosliner and Behrens 1998).
88. *Goniobranchus rubrocornutus* (Rudman, 1985)
Previous HK record: Rudman (1985), Rudman and Darvell (1990), Jensen (1998), Coleman (2008), Gosliner et al. (2008).
Distribution: western and central Pacific (Hong Kong, Taiwan, the Philippines, Japan, Australia, Marshall Islands, American Samoa) (Rudman 1985; Jensen 1998).
89. *Goniobranchus setoensis* (Baba, 1938)* (Fig. 4L)
Previous HK record: None.
Distribution: Indo-West Pacific (from the Arabian Sea and Christmas Island to Japan, Australia and Marshall Islands) (Rudman 1986b).
90. *Goniobranchus sinensis* (Rudman, 1985)* (Fig. 4M, N)
Previous HK record: Orr (1980 1981) (as *Chromodoris marginata*), Rudman (1985), Lin (1990b), Rudman and Darvell (1990), Jensen (1998), Coleman (2008).
Distribution: Indo-West Pacific (from East Africa to China, Japan and Indonesia) (Mehrotra et al. 2021).
91. *Goniobranchus tumuliferus* (Collingwood, 1881)* (Fig. 4O)
Previous HK record: Orr (1980 1981), Rudman (1983), Rudman and Darvell (1990), Jensen (1998).
Distribution: western Pacific (from Thailand to Japan, Australia and New Caledonia) (Mehrotra et al. 2021).
92. *Goniobranchus cf. verrieri* (Crosse, 1875)* (Fig. 4P)
Previous HK record: None.
93. *Goniobranchus* sp.
Previous HK record: Gosliner et al. (2008) (as *Chromodoris* sp. 3), Gosliner et al. (2018) (as *Goniobranchus* sp. 4).
94. *Verconia hongkongiensis* (Rudman, 1990)* (Fig. 4Q)
Previous HK record: Rudman (1990), Jensen (1998), Gosliner et al. (2008 2018).
Distribution: western Pacific (Hong Kong, Taiwan, Japan) (Mehrotra et al. 2021).
95. *Verconia nivalis* (Baba, 1937)* (Fig. 4R)
Previous HK record: Orr (1980 1981), Rudman (1985), Rudman and Darvell (1990), Jensen (1998), Gosliner et al. (2008 2018).
Distribution: western Pacific (Hong Kong, Taiwan, Japan, South Korea) (Jensen 1998; Min 2004; Jie and Chan 2009).

Subfamily Miamirinae Bergh, 1891

96. *Ceratosoma trilobatum* (Gray, 1850)* (Fig. 5A)
Previous HK record: None.
Distribution: Indo-West Pacific (from the Red Sea to Japan, South Korea, Australia and New Caledonia) (Rudman 1988; Tibirica et al. 2017).
97. *Hypselodoris apolegma* (Yonow, 2001)* (Fig. 5B)
Previous HK record: None.
Distribution: western Pacific (Hong Kong, Malaysia, the Philippines, Australia, Japan)

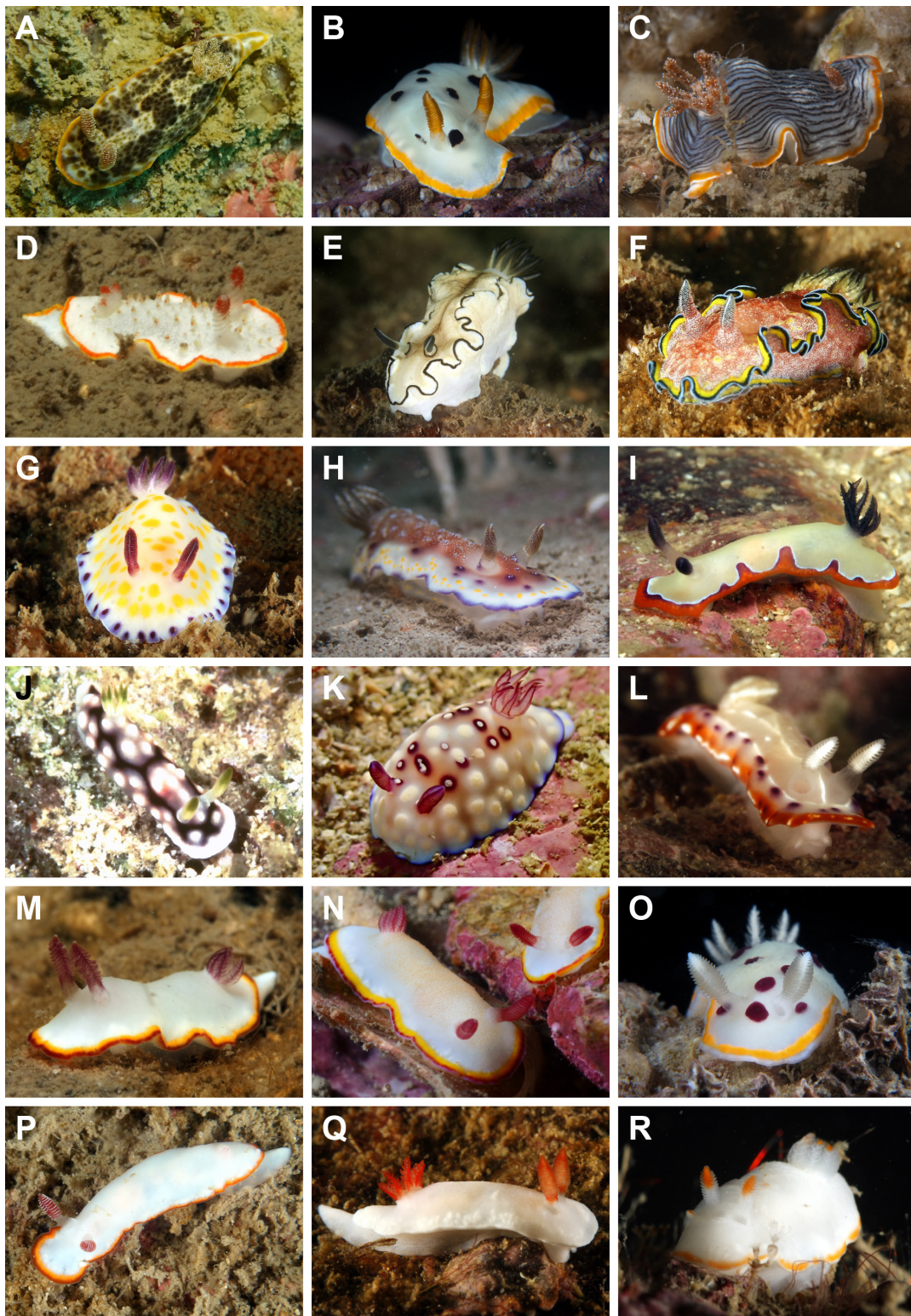


Fig. 4. (A) *Chromodoris mandapamensis*; (B) *Chromodoris orientalis*; (C) *Chromodoris striatella*; (D) *Diversidoris aurantonodulosa*; (E) *Doriprismatica atromarginata*; (F) *Glossodoris acostii*; (G) *Goniobranchus aureopurpureus*; (H) *Goniobranchus collingwoodi*; (I) *Goniobranchus fidelis*; (J) *Goniobranchus geometricus*; (K) *Goniobranchus hintuanensis*; (L) *Goniobranchus setoensis*; (M, N) *Goniobranchus sinensis*; (O) *Goniobranchus tumuliferus*; (P) *Goniobranchus* cf. *verrieri*; (Q) *Verconia hongkongiensis*; (R) *Verconia nivalis*. Photographs by Anniqua Law (A), Sze Yiu Ng (B, O), Simon Lorenz (C), Tim Lam (D–G, I, L, M, P–R), AFCD | Ho Nam Lam (H), AFCD (J), Cherie Wong (K) and AFCD | Yat Sing Lau (N).

(Coleman 2008; Epstein et al. 2019).

98. *Hypselodoris confetti* Gosliner & Johnson, 2018* (Fig. 5C)

Previous HK record: Orr (1981) (as *Hypselodoris kanga*), Rudman and Darvell (1990) (as *Hypselodoris kanga*), Jensen (1998) (as *Hypselodoris kanga*), Coleman (2008) (as *Hypselodoris kanga*), Gosliner et al. (2008) (as *Hypselodoris* sp. 2).

Distribution: western Pacific (Hong Kong, Thailand, the Philippines, Indonesia, Papua New Guinea) (Mehrotra et al. 2021).

99. *Hypselodoris decorata* (Risbec, 1928)* (Fig. 5D)

Previous HK record: None.

Distribution: western and central Pacific (Hong Kong, Malaysia, the Philippines, Indonesia, Papua New Guinea, Marshall Islands, New Caledonia, Vanuatu) (Mehrotra et al. 2021).

100. *Hypselodoris festiva* (Adams, 1861)* (Fig. 5E)

Previous HK record: Orr (1980 1981), Morton and Morton (1983), Rudman and Darvell (1990), Jensen (1998), Coleman (2008).

Distribution: western Pacific (Hong Kong, Taiwan, Japan, South Korea) (Jensen 1998; Coleman 2008; Jie and Chan 2009).

101. *Hypselodoris katherinae* Gosliner & Johnson, 2018* (Fig. 5F)

Previous HK record: None.

Distribution: western Pacific (Hong Kong, Malaysia, the Philippines, Indonesia) (Mehrotra et al. 2021).

102. *Hypselodoris maritima* (Baba, 1949)* (Fig. 5G)

Previous HK record: Orr (1980 1981), Rudman (1982), Tsi and Ma (1982), Morton and Morton (1983) (as *Chromodoris lineata* and *C. lineolata*), Rudman and Darvell (1990), Jensen (1998), Coleman (2008), Gosliner et al. (2008).

Distribution: western Pacific (from Thailand to Japan, Australia and New Caledonia) (Gosliner and Johnson 1999).

103. *Hypselodoris placida* (Baba, 1949)* (Fig. 5H)

Previous HK record: Orr (1980 1981), Rudman (1983), Rudman and Darvell (1990), Jensen (1998).
Distribution: western Pacific (Hong Kong, Japan) (Jensen 1998).

104. *Mexichromis festiva* (Angas, 1864)

Previous HK record: Orr (1980 1981) (as *Chromodoris* cf. *festiva*).

Distribution: western Pacific (Hong Kong, South Korea, Australia) (Coleman 2008; Jung et al. 2014).

105. *Mexichromis multituberculata* (Baba, 1953)* (Fig. 5I)

Previous HK record: Rudman and Darvell (1990), Jensen (1998), Gosliner et al. (2008).

Distribution: Indo-West Pacific (from the Red Sea to Indonesia, the Philippines, Japan and South Korea) (Mehrotra et al. 2021).

106. *Mexichromis similis* (Rudman, 1986)* (Fig. 5J)

Previous HK record: None.

Distribution: western Pacific (Malaysia, the Philippines, Hong Kong, Australia) (Rudman 1986b; Gosliner et al. 2018).

107. *Thorunna florens* (Baba, 1949)* (Fig. 5K)

Previous HK record: Rudman (1990), Jensen (1998), Gosliner et al. (2008).

Distribution: Indo-West Pacific (from Andaman Islands to Australia, Japan and South Korea) (Jung et al. 2013; Nimbs and Smith 2016).

Family Hexabanchidae Bergh, 1891

108. *Hexabanchus sanguineus* (Rüppell & Leuckart, 1830)

Previous HK record: Coleman (2008).

Distribution: Indo-Pacific (from East Africa and Maldives to Australia, Japan, Fiji and Hawaii) (Coleman 2008; Yonow 2012).

Superfamily Doridoidea Rafinesque, 1815

Family Discodorididae Bergh, 1891

109. *Asteronotus cespitosus* (van Hasselt, 1824)

Previous HK record: Tsi and Ma (1982), Jensen (1998).

Distribution: Indo-Pacific (from the Red Sea to Fiji and Solomon Islands) (Tibirica et al. 2017).

110. *Atagema intecta* (Kelaart, 1859)* (Fig. 5L)

Previous HK record: Orr (1980 1981) (as *Trippa* cf. *intecta*), Morton and Morton (1983) (as *Trippa interciala*), Lin (1990b), Jensen (1998) (as *Trippa* cf. *intecta*), Coleman (2008).

Distribution: Indo-Pacific (from East Africa to Japan, South Korea, Vanuatu, New Caledonia and Fiji) (Tibirica et al. 2017).

111. *Atagema spongiosa* (Kelaart, 1858)* (Fig. 5M)

Previous HK record: Orr (1980) (as *Asteronotus* cf. *areolata*), Orr (1981) (as *Doris areolata*), Jensen (1998) (as *Doris areolata*).

Distribution: Indo-Pacific (from East Africa and Christmas Island to Australia, South Korea and Fiji) (Mehrotra et al. 2021).

112. *Atagema* sp.* (Fig. 5N)

Previous HK record: None.

113. *Carminodoris pustulata* (Abraham, 1877)* (Fig. 5O)

Previous HK record: Jensen (1994 1998) (as *Carminodoris* cf. *pustulata*).

Distribution: western Pacific (Hong Kong,

- Australia, Japan) (Jensen 1998).
114. *Jorunna funebris* (Kelaart, 1859)
Previous HK record: Coleman (2008).
Distribution: Indo-Pacific (from East Africa to Japan, Vanuatu, New Caledonia and Fiji) (Mehrotra et al. 2021).
 115. *Jorunna parva* (Baba, 1938)* (Fig. 5P)
Previous HK record: Orr (1981) (as *Jorunna* sp.).
Distribution: Indo-West Pacific (from East Africa to Japan, South Korea, Northern Mariana Islands and Australia) (Tibirica et al. 2017).
 116. *Jorunna* cf. *ramicola* Miller, 1996* (Fig. 5Q)
Previous HK record: Orr (1981) (as *Jorunna* sp. (?)).
 117. *Paradoris* cf. *erythraeensis* (Vayssiere, 1912)
Previous HK record: Orr (1981) (as Doridacea sp.).
 118. *Peltodoris* cf. *aurea* Eliot, 1904
Previous HK record: Orr (1980) (as *Halgerda* sp.), Orr (1981), Jensen (1998).
 119. *Peltodoris murrea* (Abraham, 1877)
Previous HK record: Orr (1981), Jensen (1998).
Distribution: Indo-West Pacific (from East Africa to Australia and Japan) (Mehrotra et al. 2021).
 120. *Platydoridopsis ellioti* (Alder & Hancock, 1864)* (Fig. 5R)
Previous HK record: Morton and Morton (1983), Jensen (1998).
Distribution: Indo-West Pacific (from East Africa to Japan, Australia and New Caledonia) (Dorgan et al. 2002; Nimbs and Smith 2016).
 121. *Platydoridopsis* sp.
Previous HK record: Orr (1980) (as *Discodoris* sp.), Orr (1981).
 122. *Rostanga* cf. *arbutus* (Angas, 1864)
Previous HK record: Orr (1980 1981) (as *Rostanga arbutus*), Tsi and Ma (1982) (as *Rostanga arbutus*), Morton and Morton (1983) (as *Rostanga arbutus*).
 123. *Rostanga bifurcata* Rudman & Avern, 1989* (Fig. 6A)
Previous HK record: Rudman and Avern (1989), Coleman (2008), Gosliner et al. (2008).
Distribution: Indo-West Pacific (from East Africa to Hong Kong and Australia) (Tibirica et al. 2017).
 124. *Rostanga dentatus* Rudman & Avern, 1989* (Fig. 6B)
Previous HK record: Rudman and Avern (1989), Jensen (1998).
Distribution: western Pacific (Hong Kong, Australia) (Jensen 1998).
 125. *Rostanga orientalis* Rudman & Avern, 1989
Previous HK record: Rudman and Avern (1989), Jensen (1998).
Distribution: western Pacific (China, Thailand, Australia, South Korea) (Rudman and Avern 1989; Min 2004).
 126. *Sclerodoris apiculata* (Alder & Hancock, 1864)* (Fig. 6C)
Previous HK record: None.
Distribution: Indo-West Pacific (from the Red Sea, India to Hong Kong, Taiwan, Australia) (Rudman 1978; Nimbs and Smith 2016).
 127. *Sclerodoris* cf. *tuberculata* Eliot, 1904
Previous HK record: Orr (1980 1981) (as *Sclerodoris* sp.), Morton and Morton (1983) (as *Sclerodoris japonica* (?)), Jensen (1998) (as *Sclerodoris japonica* (?)).
 128. *Sebadoris fragilis* (Alder & Hancock, 1864)
Previous HK record: Orr (1980 1981), Morton and Morton (1983), Jensen (1998), Coleman (2008).
Distribution: Indo-Pacific (from East Africa to Australia, New Caledonia, Fiji, Japan and Hawaii) (Mehrotra et al. 2021).
 129. *Thordisa* sp.
Previous HK record: Orr (1980 1981) (as *Discodoris* sp.).
- ### Family Dorididae Rafinesque, 1815
130. *Doriopsis granulosa* Pease, 1860* (Fig. 6D)
Previous HK record: Orr (1981), Jensen (1998).
Distribution: Indo-Pacific (from East Africa to Australia, New Caledonia, Fiji, Japan and Hawaii) (Mehrotra et al. 2021).
 131. *Doris immonda* (Risbec, 1928)
Previous HK record: Orr (1980 1981) (as *Halgerda rubicunda*), Jensen (1998) (as *Halgerda rubicunda*).
Distribution: Indo-West Pacific (from the Red Sea to Australia and Japan) (Mehrotra et al. 2021).
 132. *Doris* sp.* (Fig. 6E)
Previous HK record: Orr (1980 1981) (as *Homodoris japonica*), Morton and Morton (1983) (as *Doris verrucosa*), Jensen (1998) (as *Doris verrucosa*).
 133. *Homodoris japonica* Bergh, 1882* (Fig. 6F)
Previous HK record: Orr (1980 1981) (as *Doris verrucosa*), Tsi and Ma (1982), Morton and Morton (1983), Lin (1990b), Jensen (1998).
Distribution: western Pacific (Hong Kong, Japan) (Jensen 1998).
- ### Superfamily Onchidoridoidea Gray, 1827
- #### Family Aegiridae Fischer, 1883
134. *Aegires exeches* Fahey & Gosliner, 2004* (Fig. 6G)
Previous HK record: Coleman (2008).
Distribution: western and central Pacific (Hong Kong, Taiwan, Japan, Papua New Guinea, Australia, Marshall Islands, Hawaii) (Fahey and

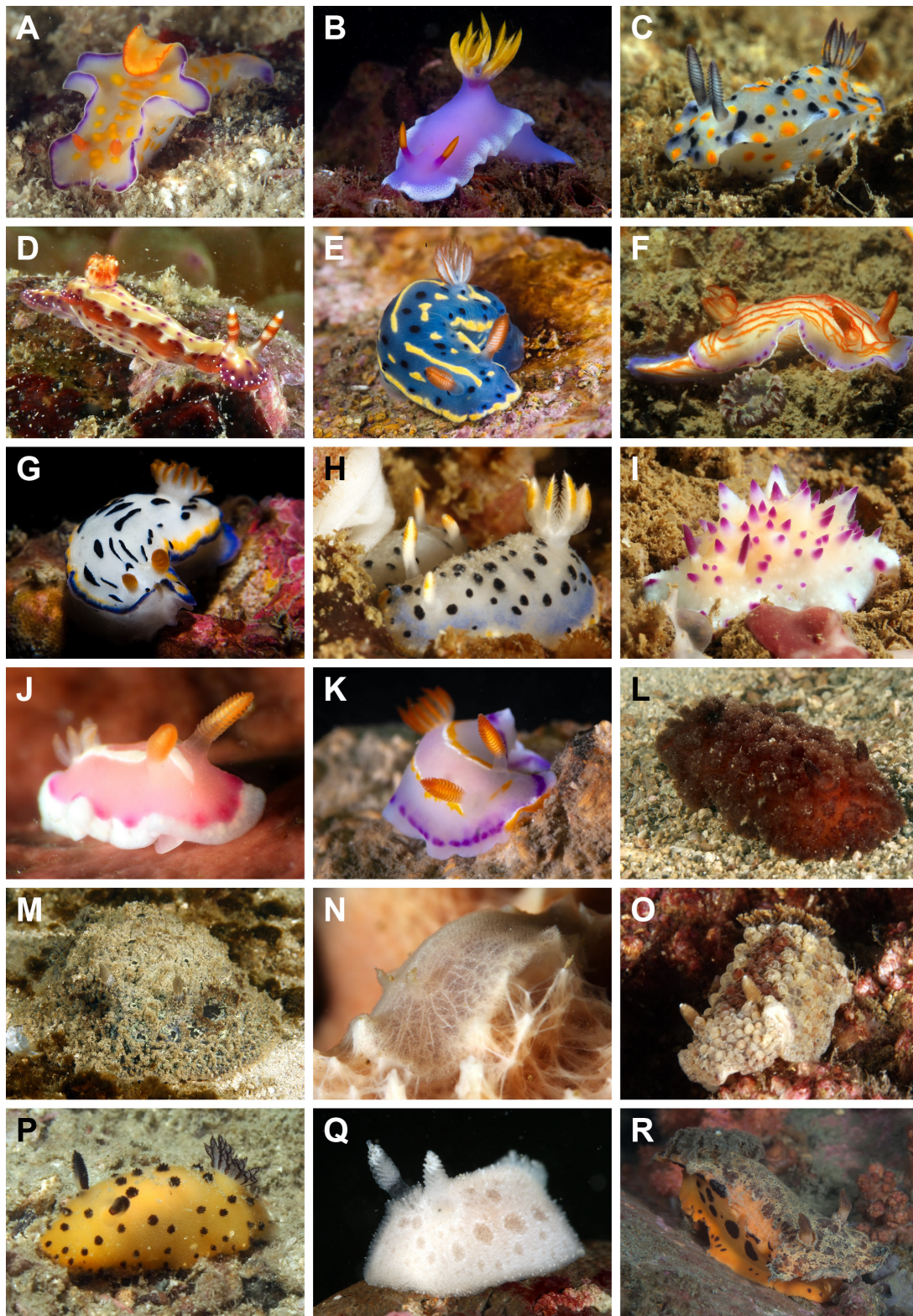


Fig. 5. (A) *Ceratosoma trilobatum*; (B) *Hypselodoris apolegma*; (C) *Hypselodoris confetti*; (D) *Hypselodoris decorata*; (E) *Hypselodoris festiva*; (F) *Hypselodoris katherinae*; (G) *Hypselodoris maritima*; (H) *Hypselodoris placida*; (I) *Mexichromis multituberculata*; (J) *Mexichromis similis*; (K) *Thorunna florens*; (L) *Atagema intacta*; (M) *Atagema spongiosa*; (N) *Atagema* sp.; (O) *Carminodoris pustulata*; (P) *Jorunna parva*; (Q) *Jorunna* cf. *ramicola*; (R) *Platydoris ellioti*. Photographs by Tim Lam (A, C, D, F, H–J, L–Q), AFCD | Wai Hong Yiu (B), Sze Yiu Ng (E, G), Alice Au (K) and Caron Ka Lok Wong (R).

Gosliner 2004; Coleman 2008).

135. *Aegires villosus* Farran, 1905* (Fig. 6H)

Previous HK record: None.

Distribution: Indo-Pacific (From India to Japan, Australia, New Caledonia and Tonga) (Fahey and Gosliner 2004).

Family Calycidorididae Roginskaya, 1972

136. *Diaphorodoris mitsuui* (Baba, 1938)* (Fig. 6I)

Previous HK record: Rudman and Darvell (1990), Jensen (1998), Coleman (2008), Gosliner et al. (2008).

Distribution: western Pacific (Hong Kong, Taiwan, Japan, South Korea, Papua New Guinea, Australia) (Coleman 2008; Jie and Chan 2009).

Family Goniodorididae H. Adams & A. Adams, 1854

137. *Goniodoridella savignyi* Pruvot-Fol, 1933* (Fig. 6J)

Previous HK record: Rudman and Darvell (1990), Jensen (1998).

Distribution: Indo-West Pacific (from East Africa to Japan, South Korea, Russia and Australia) (Coleman 2008).

138. *Goniodoris* cf. *castanea* Alder & Hancock, 1845

Previous HK record: Rudman and Darvell (1990), Jensen (1998).

139. *Goniodoris felis* Baba, 1949* (Fig. 6K)

Previous HK record: Rudman and Darvell (1990), Jensen (1998), Gosliner et al. (2008).

Distribution: western Pacific (Hong Kong, Taiwan, Japan, South Korea, possibly the Philippines) (Coleman 2008).

140. *Goniodoris joubini* Risbec, 1928

Previous HK record: Orr (1980 1981), Morton and Morton (1983) (as *Goniodoris glabrata*), Rudman and Darvell (1990), Jensen (1998), Coleman (2008), Gosliner et al. (2008).

Distribution: Indo-Pacific (from the Red Sea to Japan, Australia, New Caledonia and Marshall Islands) (Coleman 2008).

141. *Goniodoris* sp.* (Fig. 6L)

Previous HK record: None.

142. *Okenia barnardi* Baba, 1937* (Fig. 6M)

Previous HK record: Rudman and Darvell (1990), Jensen (1998), Rudman (2004).

Distribution: western Pacific (Hong Kong, Taiwan, Japan, South Korea) (Rudman 2004; Chang 2012).

143. *Okenia hiroi* (Baba, 1938)* (Fig. 6N)

Previous HK record: Rudman and Darvell (1990), Jensen (1998), Rudman (2004), Coleman (2008).

Distribution: western Pacific (Hong Kong, Japan, South Korea) (Jung et al. 2014).

144. *Okenia japonica* Baba, 1949* (Fig. 6O)

Previous HK record: Rudman and Darvell (1990), Jensen (1998), Rudman (2004), Gosliner et al. (2008 2018).

Distribution: western Pacific (Hong Kong, Taiwan, Japan, the Philippines) (Rudman 2004; Anderson 2008; Jie and Chan 2009).

145. *Okenia pilosa* (Bouchet & Ortea, 1983)* (Fig. 6P)

Previous HK record: Rudman and Darvell (1990), Jensen (1998), Rudman (2004), Gosliner et al. (2008).

Distribution: Indo-West Pacific (Hong Kong, Japan, Papua New Guinea, Australia, New Caledonia, India) (Rudman 2004).

146. *Okenia plana* Baba, 1960* (Fig. 6Q)

Previous HK record: Rudman and Darvell (1990), Jensen (1998), Rudman (2004), Gosliner et al. (2008).

Distribution: western Pacific (Hong Kong, Japan, the Philippines, Australia, New Zealand), introduced to eastern Pacific (California) (Rudman 2004).

147. *Okenia* sp.* (Fig. 6R)

Previous HK record: None.

148. *Trapania aurata* Rudman, 1987* (Fig. 7A)

Previous HK record: Rudman (1987b), Rudman and Darvell (1990), Jensen (1998), Coleman (2008), Gosliner et al. (2008 2018).

Distribution: western Pacific (Hong Kong, Australia, New Caledonia) (Coleman 2008).

149. *Trapania darvelli* Rudman, 1987* (Fig. 7B)

Previous HK record: Rudman (1987b), Rudman and Darvell (1990), Jensen (1998), Coleman (2008), Gosliner et al. (2008).

Distribution: western and central Pacific (Hong Kong, Taiwan, Malaysia, Solomon Islands, Marshall Islands) (Coleman 2008).

150. *Trapania japonica* (Baba, 1935)* (Fig. 7C)

Previous HK record: Rudman (1987b), Rudman and Darvell (1990), Jensen (1998).

Distribution: western Pacific (Hong Kong, Indonesia, Australia, Japan) (Jensen 1998).

151. *Trapania miltabrantha* Gosliner & Fahey, 2008* (Fig. 7D)

Previous HK record: None.

Distribution: western Pacific (Hong Kong, Thailand, Indonesia, Japan) (Mehrotra et al. 2021).

152. *Trapania toddi* Rudman, 1987

Previous HK record: Rudman (1987b), Rudman and Darvell (1990), Jensen (1998), Coleman (2008), Gosliner et al. (2008 2018).

Distribution: Indo-West Pacific (from the Red Sea

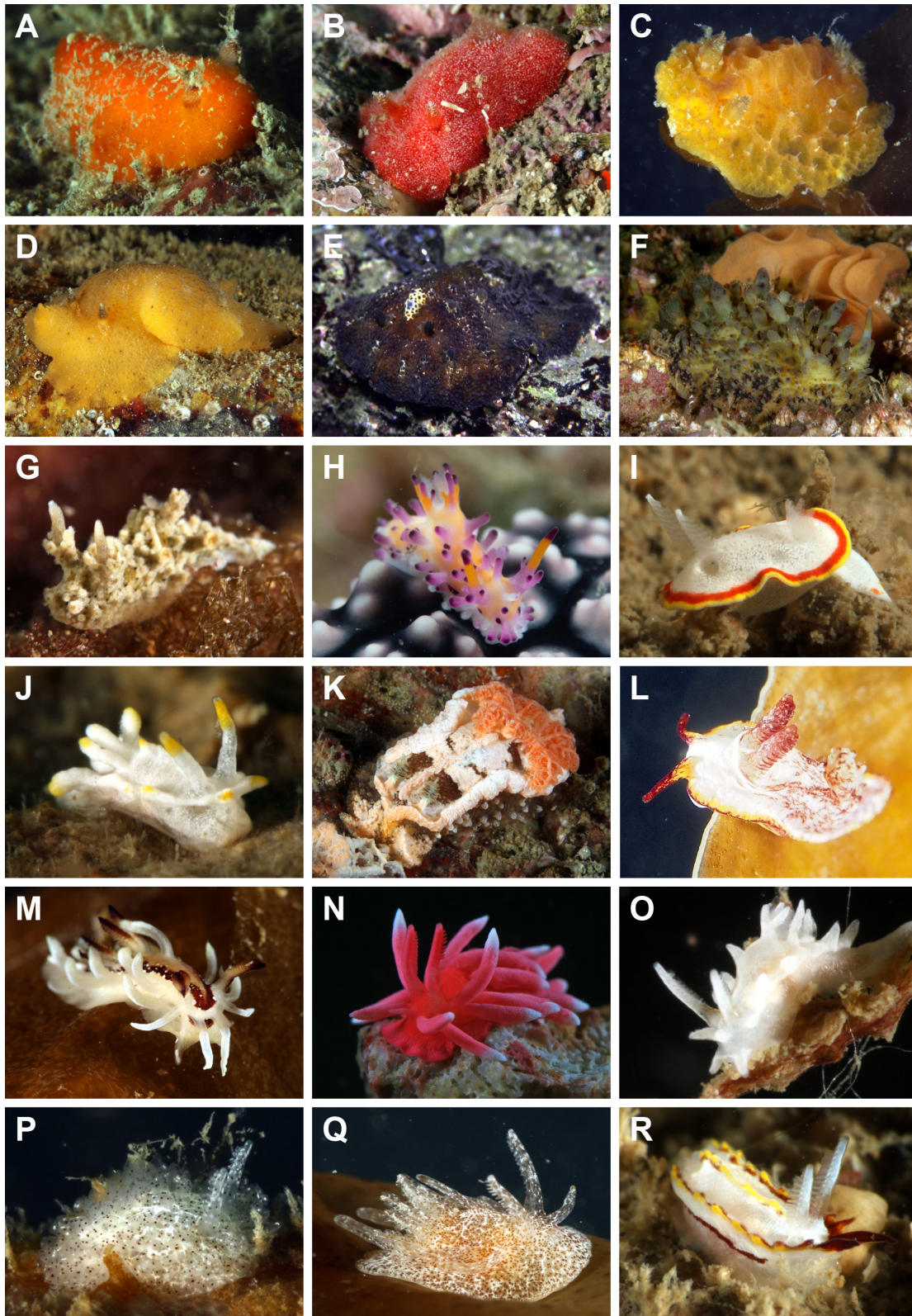


Fig. 6. (A) *Rostanga bifurcata*; (B) *Rostanga dentatus*; (C) *Sclerodoris apiculata*; (D) *Doriopsis granulosa*; (E) *Doris* sp.; (F) *Homiodoris japonica*; (G) *Aegires exeches*; (H) *Aegires villosus*; (I) *Diaphorodoris mitsuui*; (J) *Goniodoridella savignyi*; (K) *Goniodoris felis*; (L) *Goniodoris* sp.; (M) *Okenia barnardi*; (N) *Okenia hiroi*; (O) *Okenia japonica*; (P) *Okenia pilosa*; (Q) *Okenia plana*; (R) *Okenia* sp. Photographs by Tim Lam (A–G, I–M, O–R), Grape Tang (H) and Gary To (N).

to Japan, South Korea and Australia) (Coleman 2008).

Superfamily Phyllidioidea Rafinesque, 1814
Family Dendrodorididae O'Donoghue, 1924
(1864)

153. *Dendrodoris arborescens* (Collingwood, 1881)* (Fig. 7E)
 Previous HK record: Brodie et al. (1997) (as *Dendrodoris fumata* (black form)).
 Distribution: Indo-West Pacific (Hong Kong, Japan, Australia) (Debelius and Kuitert 2007).
154. *Dendrodoris fumata* (Rüppell & Leuckart, 1830)* (Fig. 7F, G)
 Previous HK record: Orr (1980 1981), Morton and Morton (1983), Brodie et al. (1997), Jensen (1998), Coleman (2008).
 Distribution: Indo-Pacific (from East Africa and Christmas Island to Japan, South Korea, Australia, New Caledonia and Fiji) (Mehrotra et al. 2021).
155. *Dendrodoris guttata* (Odhner, 1917)
 Previous HK record: Orr (1980 1981), Morton and Morton (1983), Jensen (1998), Coleman (2008).
 Distribution: Indo-West Pacific (from Andaman Islands to Australia, Japan and South Korea) (Coleman 2008).
156. *Dendrodoris krusensternii* (Gray, 1850)* (Fig. 7H)
 Previous HK record: Orr (1980 1981), Morton and Morton (1983), Lin (1990b), Jensen (1998).
 Distribution: Indo-Pacific (from East Africa to Japan, South Korea, Australia, New Zealand, New Caledonia, Fiji and Hawaii) (Tibirica et al. 2017).
157. *Dendrodoris nigra* (Stimpson, 1855)* (Fig. 7I, J)
 Previous HK record: Orr (1980 1981), Lin (1990b), Brodie et al. (1997), Jensen (1998).
 Distribution: Indo-Pacific (from East Africa and Christmas Island to Australia, New Zealand, New Caledonia and Fiji) (Mehrotra et al. 2021).
158. *Dendrodoris tuberculosa* (Quoy & Gaimard, 1832)
 Previous HK record: Rudman (2007), Coleman (2008).
 Distribution: Indo-Pacific (from East Africa to Japan, South Korea, Australia, Solomon Islands and Fiji) (Mehrotra et al. 2021).
159. *Dendrodoris* sp.* (Fig. 7K)
 Previous HK record: None.
160. *Doriopsilla miniata* (Alder & Hancock, 1864)* (Fig. 7L)
 Previous HK record: Orr (1980 1981), Morton and Morton (1983) (as *Doriopsilla areolata*), Jensen (1998), Coleman (2008).
 Distribution: Indo-West Pacific (Hong Kong, Japan, Australia, India, South Africa) (Coleman

2008).

Family Phyllidiidae Rafinesque, 1814

161. *Phyllidia ocellata* Cuvier, 1804* (Fig. 7M)
 Previous HK record: Rudman and Darvell (2001), Coleman (2008).
 Distribution: Indo-Pacific (from East Africa to Japan, South Korea, Australia, Solomon Islands, Fiji and Marshall Islands) (Mehrotra et al. 2021).
162. *Phyllidia picta* Pruvot-Fol, 1957
 Previous HK record: Orr (1980 1981) (as *Phyllidia varicosa*), Coleman (2008), Gosliner et al. (2008).
 Distribution: Indo-Pacific (from the Arabian Sea to Japan, South Korea, Australia, Solomon Islands, Vanuatu and Fiji) (Mehrotra et al. 2021).
163. *Phyllidia varicosa* Lamarck, 1801* (Fig. 7N)
 Previous HK record: Morton and Morton (1983), Lin (1990b), Jensen (1998).
 Distribution: Indo-Pacific (from East Africa and Maldives to Japan, Guam, Australia, New Caledonia and Fiji) (Mehrotra et al. 2021).
164. *Phyllidiella pustulosa* (Cuvier, 1804)* (Fig. 7O)
 Previous HK record: Orr (1980 1981) (as *Phyllidia* sp.), Tsi and Ma (1982), Jensen (1998).
 Distribution: Indo-Pacific (from the Red Sea to Japan, Guam, Australia, Line Islands, Tuamotu Islands and Hawaii) (Mehrotra et al. 2021).
165. *Phyllidiopsis cardinalis* Bergh, 1876* (Fig. 7P)
 Previous HK record: None.
 Distribution: Indo-Pacific (from East Africa to Japan, Guam, Australia, New Caledonia and Fiji) (Tibirica et al. 2017).

Superfamily Polyceroidea Alder & Hancock,
1845

Family Polyceridae Alder & Hancock, 1845
Subfamily Kalinginae Pruvot-Fol, 1956

166. *Kalinga ornata* Alder & Hancock, 1864* (Fig. 7Q)
 Previous HK record: Rudman and Darvell (1990), Jensen (1998 2000).
 Distribution: Indo-Pacific (from East Africa to Australia, Japan and Hawaii) (Coleman 2008).

Subfamily Nembrothinae Burn, 1967

167. *Tambja* cf. *pulcherrima* Willan & Chang, 2017* (Fig. 7R)
 Previous HK record: None.
168. *Roboastra* cf. *tentaculata* (Pola, Cervera & Gosliner, 2005)* (Fig. 8A)
 Previous HK record: None.

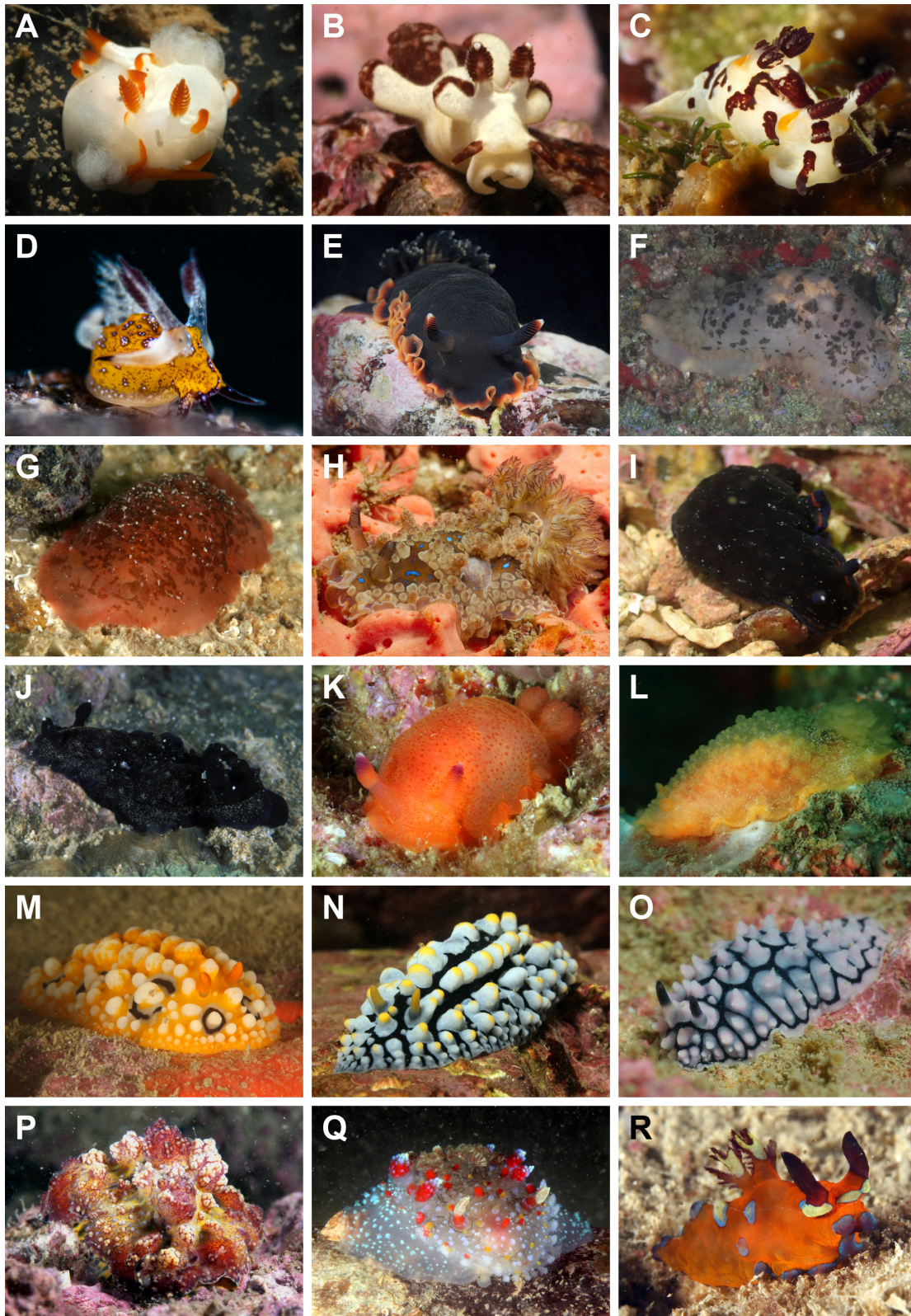


Fig. 7. (A) *Trapania aurata*; (B) *Trapania darvelli*; (C) *Trapania japonica*; (D) *Trapania miltabrancha*; (E) *Dendrodoris arborescens*; (F, G) *Dendrodoris fumata*; (H) *Dendrodoris krusensternii*; (I, J) *Dendrodoris nigra*; (K) *Dendrodoris* sp.; (L) *Doriopsilla miniata*; (M) *Phyllidia ocellata*; (N) *Phyllidia varicosa*; (O) *Phyllidiella pustulosa*; (P) *Phyllidiopsis cardinalis*; (Q) *Kalinga ornata*; (R) *Tambja* cf. *pulcherrima*; Photographs by Tim Lam (A–C, G, K, N, Q, R), Dik Cheung (D), Sze Yiu Ng (E), AFCD (F, J, M, P) and Gomen See (H, I, L, O).

Subfamily Polycerinae Alder & Hancock, 1845

169. *Gymnodoris alba* (Bergh, 1877)* (Fig. 8B)
Previous HK record: Rudman and Darvell (1990), Jensen (1998).
Distribution: Indo-Pacific (from East Africa to Australia, Japan and Hawaii) (Mehrotra et al. 2021).
170. *Gymnodoris amakusana* (Baba, 1996)* (Fig. 8C)
Previous HK record: Rudman and Darvell (1990) (as *Gymnodoris striata*), Coleman (2008).
Distribution: western Pacific (Hong Kong, Taiwan, Japan, Australia, New Caledonia) (Coleman 2008).
171. *Gymnodoris citrina* (Bergh, 1877)* (Fig. 8D)
Previous HK record: Orr (1980 1981), Morton and Morton (1983), Rudman and Darvell (1990), Jensen (1998), Coleman (2008) (as *Gymnodoris bicolor*).
Distribution: Indo-Pacific (from East Africa to Japan, Australia and Samoa) (Tibirica et al. 2017).
172. *Gymnodoris impudica* (Rüppell & Leuckart, 1830)* (Fig. 8E)
Previous HK record: Rudman and Darvell (1990), Jensen (1998), Coleman (2008).
Distribution: Indo-West Pacific (from East Africa to Japan, Solomon Islands, Australia and New Caledonia) (Mehrotra et al. 2021).
173. *Gymnodoris inornata* (Bergh, 1880)* (Fig. 8F)
Previous HK record: Orr (1980 1981), Lin (1990b), Rudman and Darvell (1990), Jensen (1998), Coleman (2008), Gosliner et al. (2008).
Distribution: Indo-West Pacific (from South Africa to Japan, Australia and New Caledonia) (Mehrotra et al. 2021).
174. *Gymnodoris nigricolor* Baba, 1960* (Fig. 8G)
Previous HK record: Tsi and Ma (1982), Rudman and Darvell (1990) (as *Gymnodoris cf. nigricolor*), Jensen (1998) (as *Cratena nigricolor*).
Distribution: Indo-West Pacific (Hong Kong, Japan, Solomon Islands, the Red Sea) (Coleman 2008; Mehrotra et al. 2021).
175. *Gymnodoris plebeia* (Bergh, 1877)
Previous HK record: Coleman (2008).
Distribution: western and central Pacific (Hong Kong, Japan, New Caledonia, Marshall Islands, Hawaii) (Kay and Young 1969; Coleman 2008).
176. *Gymnodoris subflava* Baba, 1949
Previous HK record: Rudman and Darvell (1990), Jensen (1998).
Distribution: Indo-West Pacific (from Andaman Islands to Hong Kong, the Philippines and Japan) (Jensen 1998; Debelius and Kuitert 2007).
177. *Gymnodoris* sp.* (Fig. 8H)
Previous HK record: Rudman and Darvell (1990).
178. *Lamellana gymnota* Lin, 1992

Previous HK record: Lin (1992), Jensen (1998).

Distribution: Hong Kong (Jensen 1998).

179. *Polycera fujitai* Baba, 1937* (Fig. 8I)
Previous HK record: Orr (1980 1981), Morton and Morton (1983), Jensen (1998).
Distribution: western Pacific (Hong Kong, Japan, New Zealand) (Jensen 1998; Miller 2001).
180. *Polycera* sp.* (Fig. 8J)
Previous HK record: None.

Subfamily Triophinae Odhner, 1941

181. *Kaloplocamus acutus* Baba, 1949* (Fig. 8K)
Previous HK record: Rudman and Darvell (1990), Jensen (1998), Coleman (2008), Gosliner et al. (2008).
Distribution: Indo-Pacific (from Andaman Islands to Japan, South Korea, Australia, New Caledonia and Hawaii) (Coleman 2008).
182. *Kaloplocamus ramosus* (Cantraine, 1835)* (Fig. 8L)
Previous HK record: Rudman and Darvell (1990) (as *Kaloplocamus cf. ramosus*), Jensen (1998) (as *Kaloplocamus cf. ramosus*), Jensen (2000), Gosliner et al. (2008).
Distribution: Indo-Pacific (from South Africa to Japan, South Korea, Australia and Hawaii), Mediterranean (Adriatic Sea), and eastern Atlantic (West Africa, Azores, Bay of Biscay) (Coleman 2008).
183. *Plocamopherus ceylonicus* (Kelaart, 1858)* (Fig. 8M)
Previous HK record: Rudman and Darvell (1990), Jensen (1998 2000), Coleman (2008), Gosliner et al. (2008).
Distribution: Indo-Pacific (from East Africa to Japan, Australia, New Caledonia and Marshall Islands) (Coleman 2008).
184. *Plocamopherus tilesii* Bergh, 1877* (Fig. 8N)
Previous HK record: Rudman and Darvell (1990), Jensen (1998 2000).
Distribution: Indo-West Pacific (from the Arabian Sea to Japan, South Korea and Australia) and eastern Mediterranean (Turkey) (Mehrotra et al. 2021).

Order Pleurobranchida**Superfamily Pleurobranchioidea Gray, 1827**
Family Pleurobranchaeidae Pilsbry, 1896

185. *Euselenops luniceps* (Cuvier, 1816)
Previous HK record: Tsi and Ma (1982), Jensen (1994 1998), Coleman (2008).
Distribution: Indo-West Pacific (from East Africa

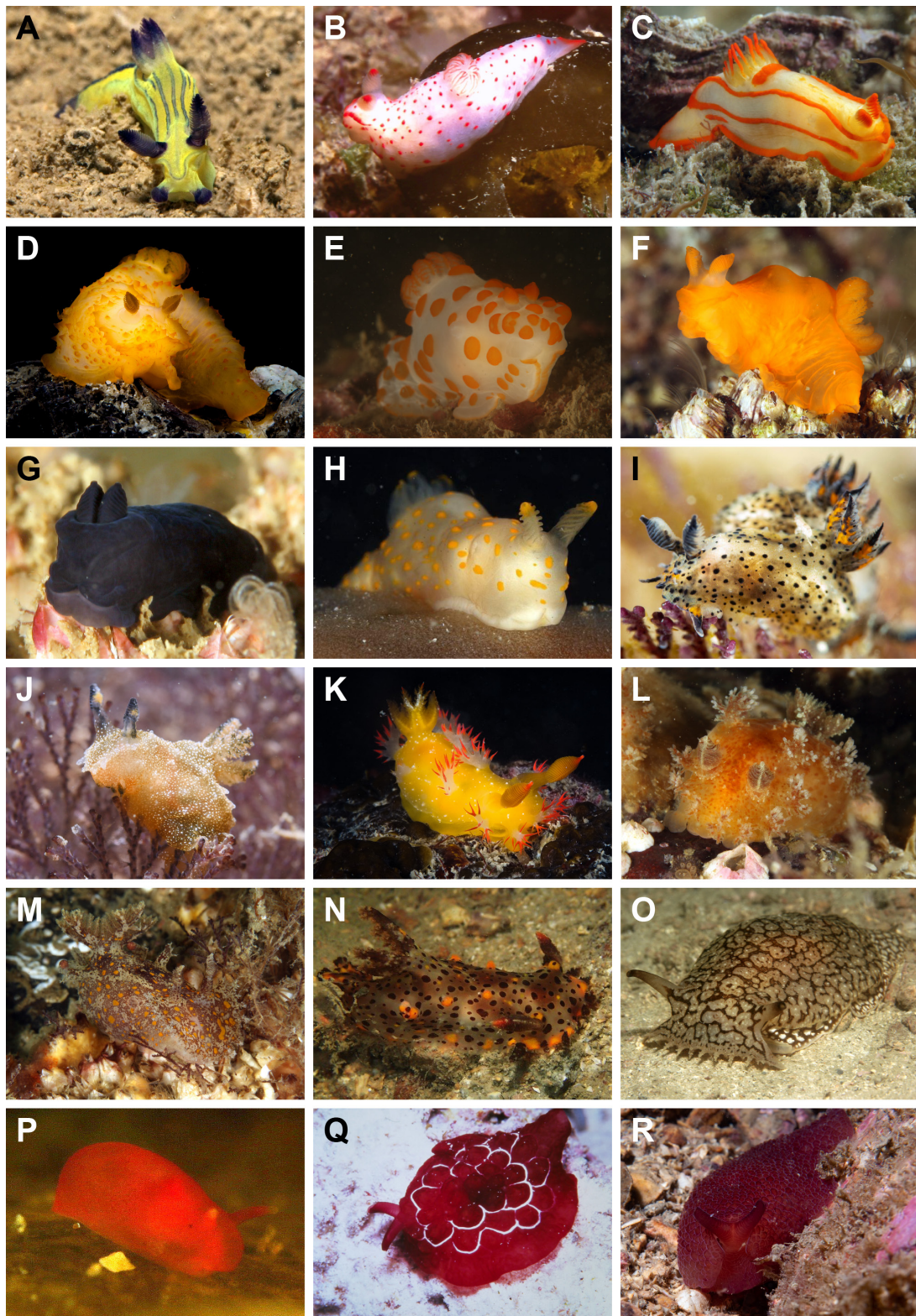


Fig. 8. (A) *Roboastra* cf. *tentaculata*; (B) *Gymnodoris alba*; (C) *Gymnodoris amakusana*; (D) *Gymnodoris citrina*; (E) *Gymnodoris impudica*; (F) *Gymnodoris inornata*; (G) *Gymnodoris nigricolor*; (H) *Gymnodoris* sp.; (I) *Polycera fujitai*; (J) *Polycera* sp.; (K) *Kaloplocamus acutus*; (L) *Kaloplocamus ramosus*; (M) *Plocamopherus ceylonicus*; (N) *Plocamopherus tilesii*; (O) *Pleurobranchaea brockii*; (P) *Berthellina citrina*; (Q) *Pleurobranchus forskalii*; (R) *Pleurobranchus peronii*. Photographs by Tim Lam (A, C, F–H, L, M, O, P), AFCD (B, E, Q), Sze Yiu Ng (D, K), WK Chow (I), Gomen See (J, N) and Wai Hong Yiu (R).

to Australia and Japan) (Coleman 2008).

186. *Pleurobranchaea brockii* Bergh, 1897* (Fig. 8O)
Previous HK record: Tsi and Ma (1982), Lin (1990b), Jensen (1994 1998), Gosliner et al. (2008).
Distribution: Indo-West Pacific (from East Africa to Australia and Japan) (Tibirica et al. 2017).
187. *Pleurobranchaea maculata* (Quoy & Gaimard, 1832)
Previous HK record: Tsi and Ma (1982), Jensen (1998).
Distribution: Indo-West Pacific (from Sri Lanka to Japan, Australia and New Zealand), introduced to western Atlantic (Argentina) (Willan 1983; Jensen 1998).

Family Pleurobranchidae Gray, 1827

188. *Berthellina citrina* (Rüppell & Leuckart, 1828)* (Fig. 8P)
Previous HK record: Morton and Morton (1983) (as *Berthellina delicata*), Jensen (1998).
Distribution: Indo-Pacific (from East Africa to Japan, Australia, New Zealand and Fiji) (Coleman 2008).
189. *Pleurobranchus forskalii* Rüppell & Leuckart, 1828* (Fig. 8Q)
Previous HK record: None.
Distribution: Indo-Pacific (from East Africa to Japan, Solomon Islands, Australia, New Caledonia and Fiji) (Mehrotra et al. 2021).
190. *Pleurobranchus peronii* Cuvier, 1804* (Fig. 8R)
Previous HK record: None.
Distribution: Indo-Pacific (from South Africa to South Korea, Australia, New Caledonia, Cook Islands and Hawaii) (Coleman 2008; Tibirica et al. 2017).

Superorder Ringiculimorpha Superfamily Ringiculoidea Philippi, 1853 Family Ringiculidae Philippi, 1853

191. *Ringicula doliaris* Gould, 1860
Previous HK record: Lin (1990b), Jensen (1998).
Distribution: western Pacific (China, Indonesia, Australia, Japan) (Jensen 1998; Beechey 2012).

Subterclass Tectipleura Superorder Acochlidiimorpha Superfamily Acochlidioidea K  the, 1935 Family Pseudunelidae Rankin, 1979

192. *Pseudunela cornuta* (Challis, 1970)
Previous HK record: Hughes (1991), Jensen (1998).
Distribution: western Pacific (Hong Kong,

Solomon Islands) (Jensen 1998).

Order Aplysiida Superfamily Aplysioidea Lamarck, 1809 Family Aplysiidae Lamarck, 1809

193. *Aplysia argus* R  ppell & Leuckart, 1830* (Fig. 9A)
Previous HK record: Tsi and Ma (1982) (as *Aplysia dactylomela*), Lin (1990b) (as *Aplysia dactylomela*), Jensen (1998) (as *Aplysia dactylomela*).
Distribution: Indo-Pacific (from East Africa to Hawaii and Samoa) (Jensen 1998).
194. *Aplysia concava* Bergh, 1905* (Fig. 9B)
Previous HK record: None.
Distribution: western Pacific (Hong Kong, Australia) (Burn 2006).
195. *Aplysia japonica* Sowerby, 1869* (Fig. 9C)
Previous HK record: None.
Distribution: western Pacific (Hong Kong, Japan, South Korea) (Golestani et al. 2019).
196. *Aplysia kurodai* Baba, 1937* (Fig. 9D)
Previous HK record: Tsi and Ma (1982), Lin (1990b), Jensen (1998).
Distribution: western Pacific (Hong Kong, Taiwan, Japan, South Korea) (Coleman 2008; Mehrotra et al. 2021).
197. *Aplysia nigrocincta* von Martens, 1880* (Fig. 9E)
Previous HK record: None.
Distribution: Indo-West Pacific (from East Africa to Hong Kong, the Philippines, Indonesia, Papua New Guinea and Vanuatu) (Mehrotra et al. 2021).
198. *Aplysia oculifera* Adams & Reeve, 1850* (Fig. 9F)
Previous HK record: None.
Distribution: Indo-West Pacific (from East Africa to Japan, South Korea and Australia) (Coleman 2008).
199. *Aplysia* sp.* (Fig. 9G)
Previous HK record: None.
200. *Bursatella leachii* Blainville, 1817* (Fig. 9H)
Previous HK record: Tsi and Ma (1982), Morton and Morton (1983), Lin (1990b), Jensen (1998).
Distribution: circum-tropical/temperate (Coleman 2008).
201. *Dolabrifera dolabrifera* (Rang, 1828)* (Fig. 9I)
Previous HK record: Lin (1990b).
Distribution: circum-tropical/temperate (Coleman 2008).

Order Cephalaspidea Superfamily Bulloidea Gray, 1827 Family Bullidae Gray, 1827

202. *Bulla ampulla* Linnaeus, 1758
Previous HK record: Tsi and Ma (1982), Morton

and Morton (1983), Lin (1990b), Jensen (1998).
Distribution: Indo-Pacific (from East Africa to Japan, Guam, Australia, Fiji and Line Islands) (Malaquias and Reid 2009).

Superfamily Cylichnoidea H. Adams & A. Adams, 1854

Family Cylichnidae H. Adams & A. Adams, 1854

203. *Semiretusa borneensis* (Adams, 1850)
Previous HK record: Lin (1990b) (as *Retusa boeensis*), Jensen (1998).
Distribution: western Pacific (China) (Jensen 1998).

Superfamily Haminoeidea Pilsbry, 1895
Family Haminoeidae Pilsbry, 1895

204. *Haloa japonica* (Pilsbry, 1895)* (Fig. 9J)
Previous HK record: Morton and Morton (1983), Jensen (1998).
Distribution: western Pacific (Hong Kong, Taiwan, Japan), introduced to eastern Pacific (Canada, USA), eastern Atlantic (Spain, France) and eastern Mediterranean (Italy, Greece) (Gosliner and Behrens 2006).
205. *Haminoea yamagutii* (Habe, 1952)
Previous HK record: Jensen (1998).
Distribution: western Pacific (Hong Kong, Japan) (Jensen 1998).

Superfamily Philinoidea Gray, 1850 (1815)
Family Aglajidae Pilsbry, 1895 (1847)

206. *Chelidonura amoena* Bergh, 1905* (Fig. 9K)
Previous HK record: None.
Distribution: Indo-West Pacific (from Christmas Island and Malaysia to Japan and Australia) (Coleman 2008).
207. *Chelidonura hirundinina* (Quoy & Gaimard, 1833)* (Fig. 9L)
Previous HK record: None.
Distribution: Indo-Pacific (from East Africa to Japan, Solomon Islands, Australia, Fiji and Hawaii) and western Atlantic (Florida, the Caribbean) (Coleman 2008).
208. *Niparaya regiscorona* (Bertsch, 1972)* (Fig. 9M)
Previous HK record: None.
Distribution: Indo-Pacific (eastward to Mexico) (Gosliner et al. 2018).
209. *Niparaya* sp.* (Fig. 9N)
Previous HK record: None.
210. *Philineopsis falciphallus* Gosliner, 2011* (Fig. 9O)
Previous HK record: None.
Distribution: Indo-West Pacific (Hong Kong, the

Red Sea, the Philippines, Indonesia, Marshall Islands, Australia) (Gosliner 2011).

211. *Philineopsis speciosa* Pease, 1860* (Fig. 9P)
Previous HK record: Jensen (1998).
Distribution: Indo-Pacific (from East Africa to Australia, Fiji, Japan, South Korea and Hawaii) (Mehrotra et al. 2021).
212. *Tubulophilinopsis lineolata* (H. Adams & A. Adams, 1854)* (Fig. 9Q)
Previous HK record: None.
Distribution: Indo-West Pacific (Hong Kong, Thailand, the Philippines, Australia) (Coleman 2008).
213. *Tubulophilinopsis pilsbryi* (Eliot, 1900)* (Fig. 9R)
Previous HK record: None.
Distribution: Indo-Pacific (from East Africa to Palau, Australia, Vanuatu, Fiji, Marshall Islands and Hawaii) (Mehrotra et al. 2021).

Family Gastropteridae Swainson, 1840

214. *Gastropteron minutum* Ong & Gosliner, 2017* (Fig. 10A)
Previous HK record: None.
Distribution: western and central Pacific (Hong Kong, the Philippines, Japan, Marshall Islands, Hawaii) (Ong et al. 2017; Gosliner et al. 2018).
215. *Siphopteron makisig* Ong & Gosliner, 2017* (Fig. 10B)
Previous HK record: None.
Distribution: western Pacific (Hong Kong, the Philippines, Indonesia, Australia) (Mehrotra et al. 2021).

Family Philinidae Gray, 1850 (1815)
Subfamily Philinae Gray, 1850 (1815)

216. *Philine paucipapillata* Price, Gosliner & Valdés, 2011* (Fig. 10C)
Previous HK record: Lin (1990b) (as *Philine orientalis*), Morton and Chiu (1990) (as *Philine orientalis*), Morton and Morton (1983) (as *Philine orientalis*), Jensen (1998) (as *Philine orientalis*), Price et al. (2011).
Distribution: western Pacific (Hong Kong, Cambodia) (Price et al. 2011).
217. *Philine vitrea* Gould, 1859 (taxon inquirendum)
Previous HK record: Lin (1990b), Jensen (1998).
Distribution: western Pacific (China, Japan) (Jensen 1998).
218. *Yokoyamaia orientalis* Lin, 1990
Previous HK record: Lin (1990a).
Distribution: Hong Kong (Lin 1990a).

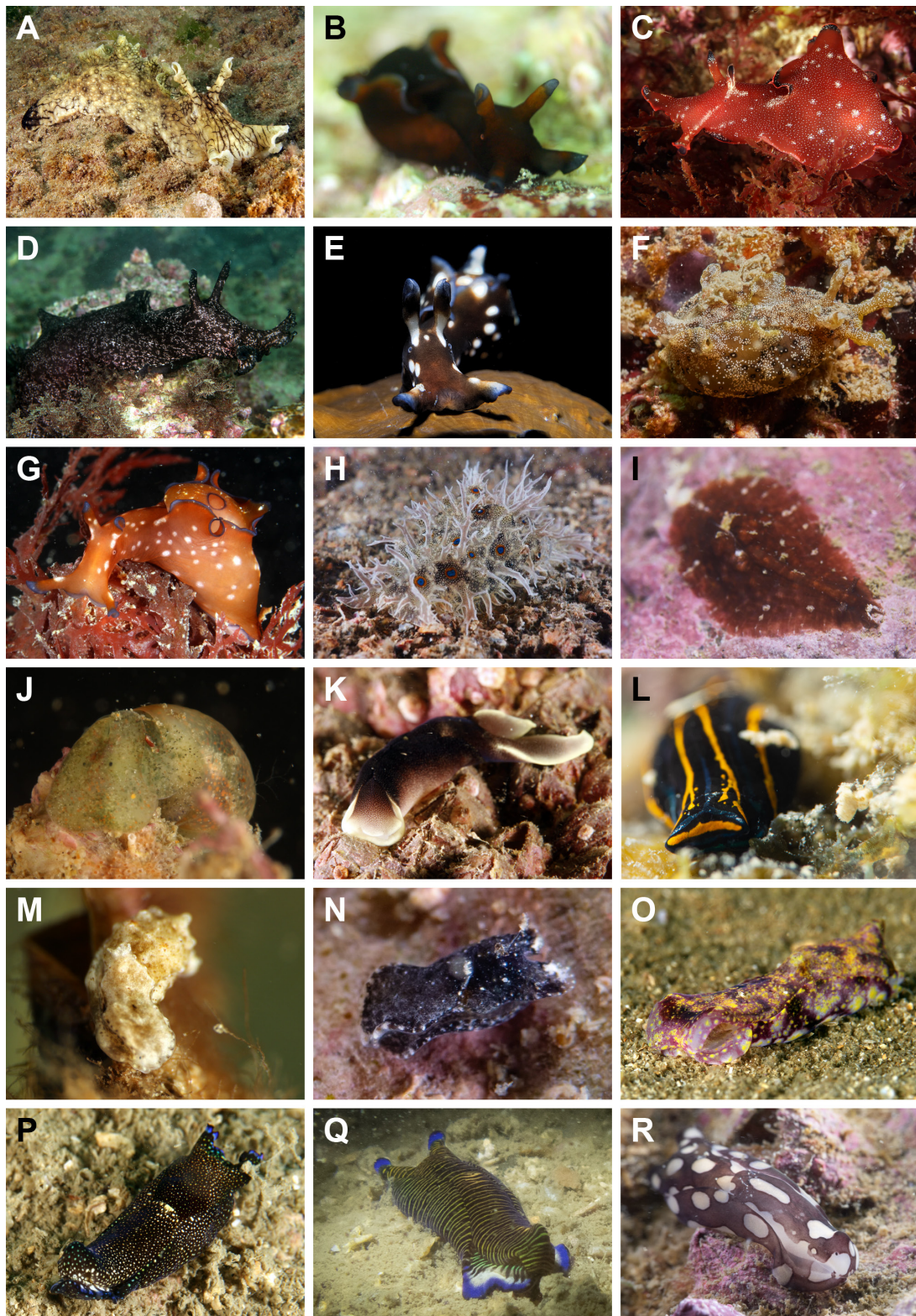


Fig. 9. (A) *Aplysia argus*; (B) *Aplysia concava*; (C) *Aplysia japonica*; (D) *Aplysia kurodai*; (E) *Aplysia nigrocincta*; (F) *Aplysia oculifera*; (G) *Aplysia* sp.; (H) *Bursatella leachii*; (I) *Dolabrifera dolabrifera*; (J) *Haloa japonica*; (K) *Chelidonura amoena*; (L) *Chelidonura hirundinina*; (M) *Niparaya regiscorona*; (N) *Niparaya* sp.; (O) *Philinopsis falciphallus*; (P) *Philinopsis speciosa*; (Q) *Tubulophilinopsis lineolata*; (R) *Tubulophilinopsis pilsbryi*. Photographs by Tim Lam (A–D, G, K, M, O, P), Sze Yiu Ng (E), Gomen See (F, H, I), AFCD (J), Bell Kwok (L), Alice Au (N), Grape Tang (Q) and Peggie Hon (R).

Family Philinoglossidae Hertling, 1932

219. *Philinoglossa* sp.
Previous HK record: Hughes (1991).

Superorder Eupulmonata**Order Systellommatophora****Superfamily Onchidioidea Rafinesque, 1815****Family Onchidiidae Rafinesque, 1815**

220. *Laspionchis boucheti* Dayrat & Goulding, 2019
Previous HK record: Bravo et al. (2021).
Distribution: Indo-West Pacific (Hong Kong, Malaysia, Singapore, Vietnam, the Philippines, Indonesia, Australia) (Dayrat et al. 2019a; Bravo et al. 2021).
221. *Onchidium stuxbergi* (Westerlund, 1883)
Previous HK record: Bravo et al. (2021).
Distribution: Indo-West Pacific (from Myanmar to southern China, the Philippines, and Indonesia) (Dayrat et al. 2019b).
222. *Paromoionchis tumidus* (Semper, 1880)* (Fig. 10D)
Previous HK record: Britton (1984), Bravo et al. (2021).
Distribution: Indo-West Pacific (from Andaman Islands to Australia and Japan) (Dayrat et al. 2019c).
223. *Peronia verruculata* (Cuvier, 1830)
Previous HK record: Morton and Morton (1983), Britton (1984).
Distribution: Indo-West Pacific (from East Africa to Japan, Australia and Vanuatu) (Solanki et al. 2017).
224. *Platevindex mortoni* Britton, 1984
Previous HK record: Britton (1984), Bravo et al. (2021).
Distribution: western Pacific (China) (Zhang et al. 2017).
225. *Platevindex* sp.
Previous HK record: Bravo et al. (2021).
226. *Wallaconchis graniferus* (Semper, 1880)
Previous HK record: Britton (1984) (as *Paraoncidium reevesii*), Bravo et al. (2021).
Distribution: western Pacific (China, the Philippines, Indonesia) (Goulding et al. 2018).

Superorder Sacoglossa**Superfamily Oxyinoidea Stoliczka, 1868 (1847)****Family Oxyinidae Stoliczka, 1868 (1847)**

227. *Lobiger sagamiensis* Baba, 1952* (Fig. 10E)
Previous HK record: Jensen (1985 1998 2003).
Distribution: western Pacific (Hong Kong, Japan)

(Jensen 1998).

228. *Oxynoe viridis* (Pease, 1861)* (Fig. 10F)
Previous HK record: None.
Distribution: Indo-Pacific (From Sri Lanka to the Philippines, Japan, Guam, Australia, New Caledonia, Fiji and French Polynesia) (Coleman 2008).

Family Volvatellidae Pilsbry, 1895

229. *Volvatella* cf. *viridis* Hamatani, 1976
Previous HK record: Jensen (1998 2003).

Superfamily Plakobranchoidea Gray, 1840**Family Costasiellidae Clark, 1984**

230. *Costasiella coronata* Swennen, 2007
Previous HK record: Jensen et al. (2014).
Distribution: western Pacific (Hong Kong, Thailand) (Swennen 2007; Jensen et al. 2014).
231. *Costasiella* cf. *kuroshimae* Ichikawa, 1993* (Fig. 10G)
Previous HK record: None.
232. *Costasiella pallida* K. R. Jensen, 1985
Previous HK record: Jensen (1985 1990 1998 2003).
Distribution: western Pacific (Hong Kong, Thailand) (Jensen 2003).

Family Limapontiidae Gray, 1847

233. *Ercolania boodleae* (Baba, 1938)* (Fig. 10H)
Previous HK record: Jensen (1985 1998 2003).
Distribution: western Pacific (Hong Kong, Japan, South Korea, Russia) (Jensen 2003; Klochko et al. 2010).
234. *Ercolania coerulea* Trinchese, 1892
Previous HK record: Jensen (1985 1998 2003), Gosliner et al. (2008 2018) (as *Ercolania* cf. *coerulea*).
Distribution: circum-tropical/temperate (Jensen 2003).
235. *Ercolania gopalai* (Rao, 1937)
Previous HK record: Jensen (1985 1998 2003).
Distribution: Indo-West Pacific (Hong Kong, India, Thailand, Vietnam) (Jensen 2003).
236. *Ercolania tentaculata* (Eliot, 1917)
Previous HK record: Jensen (1985 1998 2003).
Distribution: western Pacific (Hong Kong, Thailand) (Jensen 2003).
237. *Ercolania translucens* Jensen, 1993
Previous HK record: Jensen (1998 2003).
Distribution: Indo-West Pacific (Hong Kong, Thailand, Australia) (Jensen 2003).



Fig. 10. (A) *Gastropteron minutum*; (B) *Siphopteron makisig*; (C) *Philine paucipapillata*; (D) *Paromoionchis tumidus*; (E) *Lobiger sagamiensis*; (F) *Oxynoe viridis*; (G) *Costasiella* cf. *kuroshimae*; (H) *Ercolania boodleae*; (I) *Placida daguilaensis*; (J) *Placida kevinleei*; (K) *Stiliger ornatus*; (L) *Elysia flavomaculata*; (M) *Elysia* cf. *japonica*; (N) *Elysia leucolegnote*; (O) *Elysia marginata*; (P) *Elysia obtusa*; (Q) *Elysia trisinuata*; (R) *Elysia verrucosa*. Photographs by Alice Au (A), AFCD | Kevin Kin Chung Leung (B), Tim Lam (C, H–K), Chandler Tsang (D), AFCD (E, F, M, Q), Grape Tang (G), Gomen See (L), Sunny Chan (N), AFCD | Joseph Leung (O), Markus Rummel (P) and Simon Lorenz (R).

238. *Placida daguilaensis* Jensen, 1990 (taxon inquirendum)* (Fig. 10I)
Previous HK record: Jensen (1990 1998 2003).
Distribution: Indo-West Pacific (Hong Kong, India, Singapore, Japan) (Jensen 2015).
239. *Placida kevinleei* McCarthy, Krug & Valdés, 2017* (Fig. 10J)
Previous HK record: None.
Distribution: Indo-Pacific (from Indonesia to Japan, South Korea and Hawaii) (McCarthy et al. 2019).
240. *Stiliger aureomarginatus* Jensen, 1993
Previous HK record: Coleman (2008).
Distribution: Indo-West Pacific (Hong Kong, Malaysia, Taiwan, Japan, South Korea, Australia, New Zealand) (Coleman 2008).
241. *Stiliger ornatus* Ehrenberg, 1828* (Fig. 10K)
Previous HK record: None.
Distribution: Indo-West Pacific (from East Africa to Japan and Australia) (Trowbridge et al. 2008).
- Family Plakobranchidae Gray, 1840**
242. *Elysia atroviridis* Baba, 1955
Previous HK record: Jensen (1985 1998 2003).
Distribution: western Pacific (Hong Kong, Japan, South Korea) (Jensen 2003).
243. *Elysia chilensis* Eliot, 1916
Previous HK record: Jensen (1985 1992 1998 2003).
Distribution: Indo-West Pacific (Hong Kong, India, Thailand) (Jensen 2003).
244. *Elysia hirasei* Baba, 1955
Previous HK record: Rudman (2005).
Distribution: Indo-West Pacific (Hong Kong, India, Thailand, Japan, possibly South Africa) (Rudman 2005).
245. *Elysia flavomaculata* Jensen, 1990* (Fig. 10L)
Previous HK record: Jensen (1990 1998 2003).
Distribution: western Pacific (Hong Kong, South Korea) (Jensen 2003; Hong et al. 2008).
246. *Elysia cf. japonica* Eliot, 1913* (Fig. 10M)
Previous HK record: Jensen (1985 1998 2003) (as *Elysia japonica*).
247. *Elysia leucolegnote* Jensen, 1990* (Fig. 10N)
Previous HK record: Jensen (1990 1992 1998 2003).
Distribution: Indo-West Pacific (Hong Kong, Andaman Islands, Thailand, the Philippines) (Sanchez-Escalona 2019).
248. *Elysia marginata* (Pease, 1871)* (Fig. 10O)
Previous HK record: None.
Distribution: Indo-Pacific (from East Africa to Japan, Australia, Guam, Fiji, French Polynesia and Hawaii) (Mehrotra et al. 2021).
249. *Elysia nigrocapitata* Baba, 1957
Previous HK record: Jensen (1985 1998 2003).
Distribution: western Pacific (Hong Kong, Japan, South Korea) (Jensen 2003).
250. *Elysia obtusa* Baba, 1938* (Fig. 10P)
Previous HK record: Jensen (1998 2003), Coleman (2008).
Distribution: Indo-Pacific (Hong Kong, India, Taiwan, Japan, South Korea, Australia, Marshall Islands, Hawaii) (Mehrotra et al. 2021).
251. *Elysia trisinuata* Baba, 1949* (Fig. 10Q)
Previous HK record: Jensen (1985 1992 1998 2003).
Distribution: western Pacific (Hong Kong, Hainan Island, Taiwan, Japan) (Jensen 1998).
252. *Elysia verrucosa* Jensen, 1985* (Fig. 10R)
Previous HK record: Jensen (1985 1998 2003).
Distribution: western Pacific (Hong Kong, Taiwan) (Coleman 2008).
253. *Elysia* sp. 1* (Fig. 11A)
Previous HK record: None.
254. *Elysia* sp. 2* (Fig. 11B)
Previous HK record: None.
255. *Thuridilla gracilis* (Risbec, 1928)* (Fig. 11C)
Previous HK record: Jensen (2003) (as *Thuridilla bayeri*).
Distribution: Indo-Pacific (from East Africa to

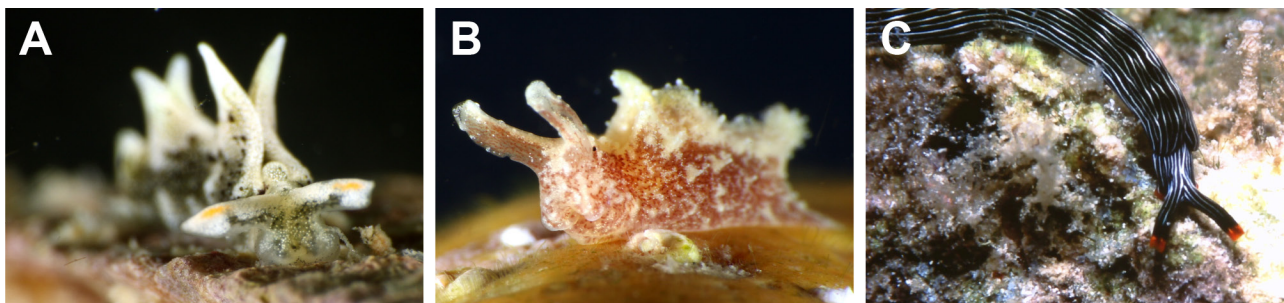


Fig. 11. (A) *Elysia* sp. 1; (B) *Elysia* sp. 2; (C) *Thuridilla gracilis*. Photographs by Tim Lam (A, B) and AFCD (C).

Japan, Guam, Australia, Fiji and Marshall Islands)
(Mehrotra et al. 2021).

**Superfamily Platyhedyoidea Salvini-Plawen,
1973**

Family Platyhedylidae Salvini-Plawen, 1973

256. *Gascoignella aprica* Jensen, 1985
Previous HK record: Jensen (1985 1998 2003).
Distribution: Hong Kong (Jensen 1998).

Order Umbraculida

Superfamily Umbraculoidea Dall, 1889 (1827)

Family Umbraculidae Dall, 1889 (1827)

257. *Umbraculum umbraculum* ([Lightfoot], 1786)
Previous HK record: Morton and Morton (1983)
(as *Umbraculum japonicum*), Lin (1990b), Jensen
(1998).
Distribution: circum-tropical/temperate (Coleman
2008).

CONCLUSIONS

Citizen science is known to be an effective approach in identifying and monitoring the biodiversity of various organisms. Through citizen science, the present study provided an update on the heterobranch sea slug diversity in Hong Kong after 20+ years of idle time. A total of 178 species were documented with photographic evidence, of which 71 were newly recorded. Together with the 186 previously published and unpublished records, the latest checklist comprises 257 species from 126 genera, 53 families and ten higher taxa. Given the high proportion of novel records, Hong Kong likely harbours an even greater sea slug diversity which awaits discovery from more extensive surveys, sampling and examination of specimens, as well as organising a more inclusive and long-term citizen science programme.

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Competing interests: LHC, VPFY, ZYK, GCLS, AW, DMB, LMT declare that they have no conflict of interest.

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