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Annotated checklist of polychaetes from deeper waters of the Sunda Strait and eastern Indian Ocean off southwest Java, Indonesia

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Abstract. A total of 110 species belonging to 30 families are reported from 48 beam trawl and dredge samples (depth range 92–1,796 m) collected during the South Java Deep-Sea (SJADES) Biodiversity Expedition 2018 from deeper waters along the Sunda Strait to the eastern Indian Ocean off southwest Java. The total number of polychaete species recorded from Indonesian waters has been increased to 749 species, with 14 genera and 29 species being recorded in this country for the first time. A checklist of polychaete species from this expedition is reported together with taxonomical notes and recorded distributions.

Key words. SJADES 2018, Polychaeta, Annelida, deep-water, trawl, dredge

INTRODUCTION

Prominent marine biodiversity explorations that involved collections and discoveries of polychaetes around Indonesia begun in the 1600s, gaining momentum during the 1970–1980s as exemplified by the MUSORSTOM, Rumphius, and Snellius expeditions, but whose intensity subsequently slackened in the 1990s till the current day (see Glasby & al-Hakim, 2017). More recently, Pamungkas & Glasby (2019) compiled the first checklist of known polychaete species present in Indonesian waters based on published literature as well as records from the Global Biodiversity Information Facility (GBIF) and Ocean Biodiversity Information System (OBIS). A total of 713 species from 55 families had been reported from Indonesian waters (Pamungkas & Glasby, 2019), which however, revealed that only sparse information is available for the polychaetes that occur along the Sunda Strait to the eastern Indian Ocean off Southwest Java. The paucity of information in this region is likely attributable to the relatively few surveys being undertaken there (Glasby & al-Hakim, 2017).

Earlier records of polychaetes in the Sunda Strait were largely from shallow waters. Sluiter's (1882) description of *Sternaspis spinosa* Sluiter, 1882, which was probably also the first account of polychaete species from this region, originated from dredge collections by Sluiter in the vicinity of Bay of Batavia (Jakarta Bay) between 1878 and 1891. Sluiter also visited the Krakatoa islands in the Sunda Strait during 1888 and 1889, less than a decade following its 1883 eruption. From the visits, he made observations on live coral formations at the coast of Krakatoa (Sluiter, 1890) but later also described a species of echiuran, *Bonellia pumicea* Sluiter, 1891, found in a piece of pumice collected off the volcanic island at the depth of 9 fathoms (equivalent to 16 m; Sluiter, 1891). The next account on polychaetes in the Sunda Strait was only made 33 years later and also from the volcanic beach of Krakatoa (Mortensen, 1923), which was part of a Danish expedition to the Malay Archipelago in 1922 that surveyed the islands of Indonesia, in particular the Kei Islands, and also involved trawling and dredging activities at 31 shallow water stations (18–75 m) in the Sunda Strait (Mortensen, 1923). One of Mortensen's motivations to survey the fauna in the Sunda Strait, which was in search of populations of large stalked crinoid species of *Rhizocrinus*, was unfortunately met with negative results despite the fairly intensive dredging. However, the survey yielded brief documentation on other fauna, such as his observation of small spionids living in the black volcanic sand at the beach east coast of Krakatoa (Mortensen, 1923). The spionids encountered resembled *Scolelepis squamata* (Müller, 1806) in their burrowing posture and feeding behaviour.

Subsequent expeditions in the 20th century that covered the Sunda Strait tended to overlook the polychaete fauna (Dana Report, 1934; Shimada & Soesilo, 2006; Sumiono, 2009), which led to a gap in knowledge on their diversity and distributions. The Carlsberg Foundation's Oceanographical Expedition Round the World 1928–30 (Dana Expedition 1928–30) focused on pelagic surveys and while there were 667 stations in total including five sampling stations along the Sunda Strait towards the south of Java (Dana Report, 1934), no polychaetes appear to have been collected/studied

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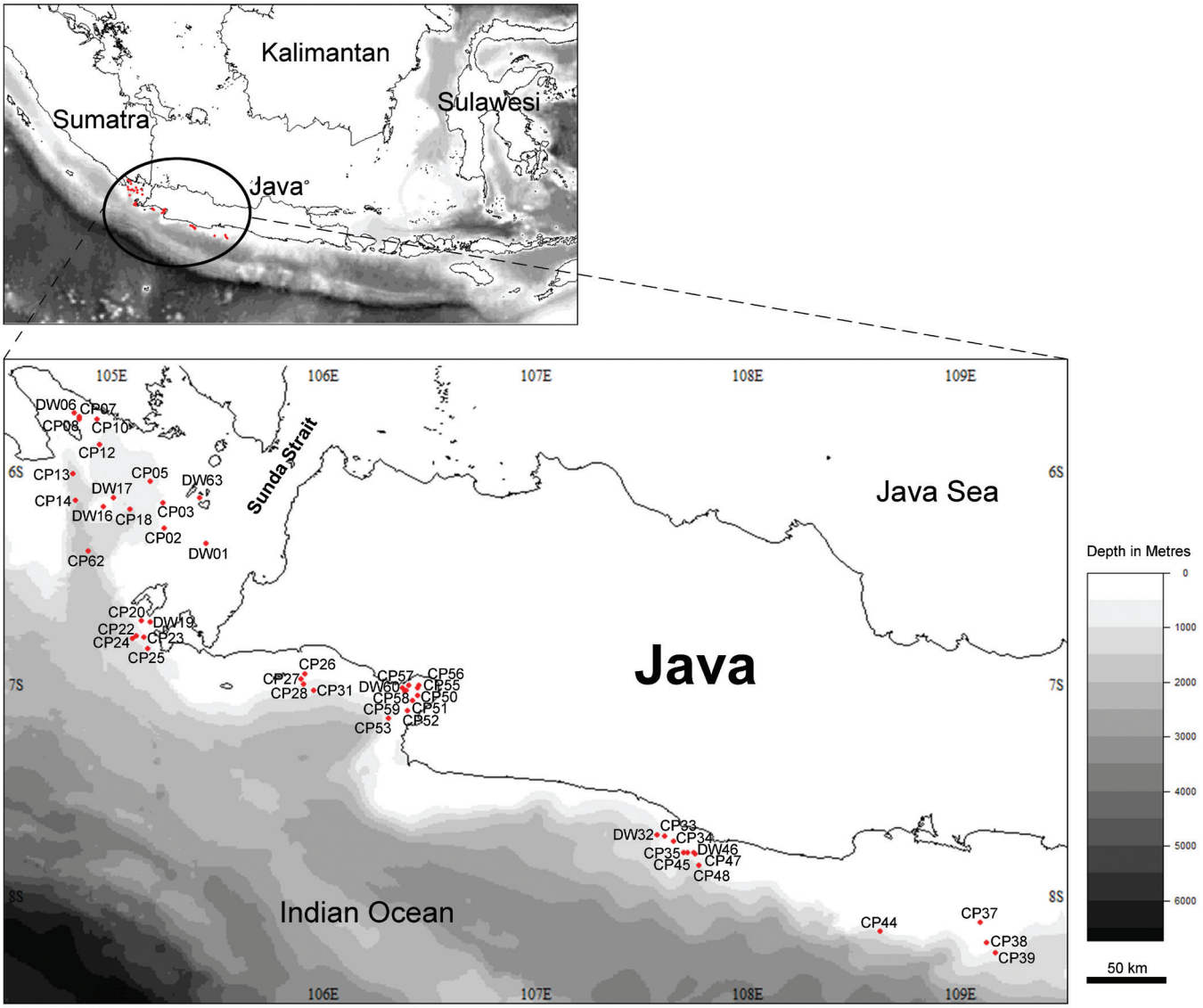

Fig. 1. Map of sampling locations (see Table 1 for coordinates). Station code: DW = Dredge; CP = Beam trawl. Image based on bathymetry data from the GEBCO_2014 Grid (version 20150318), as displayed through the GEBCO Digital Atlas, published by the British Oceanographic Data Centre on behalf of the IOC and IHO, 2003.

throughout the expedition. Other explorations in the region, e.g., the Indonesia–Korea deep sea fishery trawl survey during 1972 and 1975 that sampled the south of Java (Sumiono, 2009) and the Japan-Indonesia Deep Sea Fishery Resources Joint Exploration Project during 2004–2005 that surveyed the deep Indian Ocean off west Sumatra and south Java (Shimada & Soesilo, 2006) greatly enhanced the understanding of fishery resources but no polychaete data were collected. More recently, the Widya Nusantara Expedition 2015 (E-WIN 2015) (Wahyudi et al., 2016), which covered the Sunda Strait, southwest of West Java and also west Sumatra, undertook box corer collections of benthic organisms alongside their main focus of oceanographic research and reported that polychaetes were the most abundant taxon present in every sampling station (Wahyudi et al., 2016). In the report, the benthic invertebrates were given very brief taxonomic treatment wherein only taxonomic categories in low resolution (e.g., Echinodermata, Arthropoda, Annelida, Mollusca) was provided, and were also restricted to those from around Enggano Island (southwest of Sumatra). Specimens from the Widya Nusantara Expedition 2015 may be the first known collection of polychaetes collected near the Sunda Strait since Mortensen's (1923) account. Other past deep-water marine biodiversity surveys in Indonesia, e.g., the Siboga expedition (1899–1900) that collected a large number of polychaete specimens which subsequently led to multiple taxonomic publications (see Bleeker & van der Spoel, 1992), were mainly from the eastern part of the Indonesian archipelago.

This checklist aims to provide information on the diversity and distribution of polychaete species from deeper waters at the northeastern edge of the Indian Ocean off the southern coast of West Java, including the Sunda Strait in Indonesia, based on material collected using the beam trawl and dredge during the two-week SJADES Biodiversity Expedition.

MATERIAL AND METHODS

The joint Indonesia–Singapore research cruise—South Java Deep-Sea (SJADES) Biodiversity Expedition 2018—was conducted in the deeper waters off the Sunda Strait and along the southern coast of West Java, Indonesia (Fig. 1, Table 1). Sampling was carried out from the research vessel BARUNA JAYA VIII between 24 March and 4 April 2018, covering a total of 63 stations located between Sunda Strait (6°20.489′S; 105°26.890′E) and Cilacap (8°19.850′S; 109°16.743′E) at depths ranging from about 100 m to 2,300 m. The polychaete specimens examined for this checklist were collected from 48 beam trawl and dredge samples (92–1,796 m), while those collected using box corer and multiple corer were excluded. The net mesh size for the beam trawl and dredge was 3 cm, with an additional net with a smaller mesh (0.5 cm) attached on the inside of the cod end. Sediment collected was sieved through 5 mm and 1 mm mesh size sieves. Prior to fixation, the specimens were narcotised using 7.5% magnesium chloride solution and several were selected for photography using Nikon D800 with 60mm micro lens (Figs. 2–4). All specimens were fixed in 10% borax-buffered formalin for about three weeks and later transferred to 80% ethanol for long term preservation. For each taxonomic name given in this checklist, the representative material examined are listed in the following format—station number, then number of specimens examined from that station in parentheses. Sampling locations are indicated in Fig. 1 and station details (sampling date, coordinate, types of sampling gear used, and water depth) in Table 1. Material examined were deposited in the Museum Zoologicum Bogoriense (MZB), Research Center for Biology, Indonesian Institute of Sciences, Cibinong, Indonesia and the Zoological Reference Collection (ZRC) of the Lee Kong Chian Natural History Museum, National University of Singapore, Singapore. Considering the uncertainties in the polychaete classification system (e.g., Rouse & Fauchald, 1997; Weigert & Bleidorn, 2016) and for the ease of reference, polychaete families in this checklist are arranged alphabetically, and similarly for genera and species within each family. The nomenclature used here mainly follows the World Register of Marine Species (WoRMS) and is supported by recent taxonomic literature.

SYSTEMATICS

Phylum Annelida

Family Acoetidae

Acoetes sp. 1
(Fig. 2A, B)

Material examined. DW01 (3 specimens), DW06 (2 specimens), DW19 (2 specimens), DW60 (1 specimen).

Remarks. These specimens shared some similar characters (i.e., notochaetae and neurochaetae of chaetiger 2 not especially abundant; palps with irregular flecks of pigment or transversely banded with brownish pigmentation; presence of single digitiform branchium near cirrophores and elytrophores) with *A. melanonota* (Grube, 1876) from the Philippines. However, our material differed in having palps with longitudinal rows of short papillae throughout the palp length, tentacular cirri length similar to median antenna, second neuropodium with distinct ventral bract, and median antenna with 1–3 lateral papillae, with style mostly projecting beyond the tips of ommatophores. These characters altogether did not appear to agree with any of the currently known *Acoetes* species. Solitary entoprocts attached in between the parapodia were observed from the ventral surface of a few specimens.

Distribution. Sunda Strait, Indonesia to south of West Java, eastern Indian Ocean, 100–294 m (this study).

Acoetes sp. 2

Material examined. CP02 (1 specimen), CP56 (7 specimens), CP57 (1 specimen).

Remarks. These specimens closely resembled *A. jogasimae* (Izuka, 1912) from Japan (see Imajima, 1997) and *A. pacifica* (Treadwell, 1914) from California, off San Diego. However, the present specimens differed from both species by the presence of longitudinal brown pigmented bands and minute papillae on the palps.

Distribution. Sunda Strait, Indonesia to south of West Java, eastern Indian Ocean, 183–281 m (this study).

Euarche sp. 1

Material examined. CP02 (5 specimens).

Remarks. Prostomium oval, anterior and posterior eyes about the same size, palps four times longer than lateral antennae, median antenna extends over prostomium anterior margin. Lateral antennae and palps with brown spots.

Distribution. Sunda Strait, Indonesia, 257–281 m (this study).

Euarche sp. 2
(Fig. 2C)

Material examined. DW19 (1 specimen).

Remarks. Prostomium hexagonal, anterior eyes twice as large as posterior eyes, palps three times longer than lateral antennae, median antenna extends over prostomium anterior margin. Median and lateral antennae with brown spots.

Distribution. Sunda Strait, Indonesia, 172–182 m (this study).

Eupanthalis sp.

Material examined. CP26 (1 specimen), CP33 (1 specimen).

Table 1. Station data for the South Java Deep-Sea (SJADES) Biodiversity Expedition 2018. Station code: DW = Dredge; CP = Beam trawl.

Station	Date	Start (on ground)		Depth (m)	End (off ground)		Depth (m)
DW01	24-Mar-18	6° 20.489′ S	105° 26.890′ E	100	6° 20.431′ S	105° 26.214′ E	104
CP02	24-Mar-18	6° 16.066′ S	105° 15.053′ E	257	6° 14.668′ S	105° 15.256′ E	281
CP03	24-Mar-18	6° 08.941′ S	105° 14.817′ E	398	6° 08.590′ S	105° 15.100′ E	283
CP05	24-Mar-18	6° 02.737′ S	105° 11.107′ E	928	6° 03.229′ S	105° 10.642′ E	929
DW06	25-Mar-18	5° 43.413′ S	104° 49.712′ E	266	5° 43.779′ S	104° 50.060′ E	294
CP07	25-Mar-18	5° 44.678′ S	104° 51.151′ E	379	5° 44.917′ S	104° 52.061′ E	409
CP08	25-Mar-18	5° 45.126′ S	104° 51.080′ E	425	5° 45.225′ S	104° 51.710′ E	442
CP10	25-Mar-18	5° 45.399′ S	104° 56.098′ E	429	5° 46.183′ S	104° 56.565′ E	446
CP12	25-Mar-18	5° 52.252′ S	104° 56.786′ E	615	5° 52.728′ S	104° 56.422′ E	698
CP13	26-Mar-18	6° 00.521′ S	104° 49.410′ E	1259	6° 00.828′ S	104° 49.428′ E	1268
CP14	26-Mar-18	6° 08.044′ S	104° 50.086′ E	1528	6° 08.518′ S	104° 49.879′ E	1539
DW16	26-Mar-18	6° 09.803′ S	104° 57.976′ E	103	6° 09.606′ S	104° 58.208′ E	92
DW17	26-Mar-18	6° 07.333′ S	105° 00.762′ E	448	6° 07.221′ S	105° 00.865′ E	469
CP18	26-Mar-18	6° 10.758′ S	105° 05.589′ E	1060	6° 11.587′ S	105° 05.735′ E	1073
DW19	27-Mar-18	6° 42.551′ S	105° 11.143′ E	182	6° 42.762′ S	105° 10.967′ E	172
CP20	27-Mar-18	6° 42.320′ S	105° 08.682′ E	325	6° 42.879′ S	105° 09.018′ E	362
CP22	27-Mar-18	6° 46.458′ S	105° 07.068′ E	864	6° 47.450′ S	105° 07.613′ E	870
CP23	27-Mar-18	6° 46.739′ S	105° 09.239′ E	559	6° 45.924′ S	105° 08.360′ E	571
CP24	27-Mar-18	6° 47.344′ S	105° 06.039′ E	1044	6° 47.914′ S	105° 06.485′ E	1068
CP25	27-Mar-18	6° 50.185′ S	105° 10.353′ E	876	6° 50.923′ S	105° 10.776′ E	937
CP26	28-Mar-18	6° 57.221′ S	105° 54.754′ E	517	6° 56.664′ S	105° 55.315′ E	727
CP27	28-Mar-18	6° 58.624′ S	105° 53.745′ E	481	6° 58.937′ S	105° 53.363′ E	557
CP28	28-Mar-18	7° 00.194′ S	105° 54.624′ E	957	6° 59.778′ S	105° 55.224′ E	1022
CP31	28-Mar-18	7° 01.755′ S	105° 57.422′ E	1763	7° 01.911′ S	105° 56.762′ E	1796
DW32	29-Mar-18	7° 42.583′ S	107° 34.535′ E	977	7° 42.556′ S	107° 35.030′ E	805
CP33	29-Mar-18	7° 42.912′ S	107° 36.559′ E	525	7° 43.255′ S	107° 37.234′ E	312
CP34	29-Mar-18	7° 44.464′ S	107° 39.018′ E	243	7° 44.575′ S	107° 39.447′ E	234
CP35	29-Mar-18	7° 47.677′ S	107° 41.904′ E	603	7° 47.681′ S	107° 42.477′ E	686
CP37	30-Mar-18	8° 07.462′ S	109° 05.639′ E	163	8° 07.864′ S	109° 06.470′ E	166
CP38	30-Mar-18	8° 13.038′ S	109° 07.689′ E	290	8° 13.150′ S	109° 08.216′ E	295
CP39	30-Mar-18	8° 15.885′ S	109° 10.163′ E	528	8° 16.060′ S	109° 10.944′ E	637
CP44	31-Mar-18	8° 10.065′ S	108° 37.439′ E	1013	8° 09.802′ S	108° 37.145′ E	970
CP45	1-Apr-18	7° 47.670′ S	107° 43.126′ E	851	7° 47.151′ S	107° 43.595′ E	684
DW46	1-Apr-18	7° 47.716′ S	107° 44.896′ E	654	7° 47.905′ S	107° 45.190′ E	540
CP47	1-Apr-18	7° 47.972′ S	107° 45.298′ E	530	7° 48.257′ S	107° 45.706′ E	476
CP48	1-Apr-18	7° 51.120′ S	107° 46.245′ E	689	7° 51.718′ S	107° 46.375′ E	637
CP50	2-Apr-18	7° 03.322′ S	106° 26.673′ E	383	7° 03.762′ S	106° 26.334′ E	425
CP51	2-Apr-18	7° 04.874′ S	106° 25.396′ E	569	7° 05.348′ S	106° 25.044′ E	657

Station	Date	Start (on ground)		Depth (m)	End (off ground)		Depth (m)
CP52	2-Apr-18	7° 07.740′ S	106° 23.719′ E	1156	7° 07.819′ S	106° 23.580′ E	1124
CP53	2-Apr-18	7° 09.610′ S	106° 18.632′ E	1521	7° 10.184′ S	106° 17.714′ E	1714
CP55	3-Apr-18	7° 01.013′ S	106° 26.772′ E	378	7° 01.116′ S	106° 26.421′ E	379
CP56	3-Apr-18	7° 00.299′ S	106° 27.247′ E	183	7° 00.393′ S	106° 26.790′ E	255
CP57	3-Apr-18	7° 00.429′ S	106° 24.407′ E	269	7° 00.455′ S	106° 24.198′ E	223
CP58	3-Apr-18	7° 01.692′ S	106° 23.558′ E	564	7° 01.997′ S	106° 23.258′ E	505
CP59	3-Apr-18	7° 02.252′ S	106° 23.270′ E	579	7° 02.668′ S	106° 22.981′ E	659
DW60	3-Apr-18	7° 01.088′ S	106° 22.477′ E	161	7° 01.420′ S	106° 22.289′ E	256
CP62	4-Apr-18	6° 22.449′ S	104° 53.654′ E	1623	6° 22.279′ S	104° 53.830′ E	1630
DW63	4-Apr-18	6° 07.293′ S	105° 25.076′ E	250	6° 07.277′ S	105° 25.725′ E	208

Remarks. Distal border of pharynx with 15 pairs of papillae, mid-dorsal papillae about 2.5 times longer than the other papillae. Two pairs of hooked jaws each with 6–7 lateral teeth. Prostomium with two pairs of non-pigmented sessile eyes. Anterior pair much larger, appear as whitish oval protuberances; the smaller posterior pair transversely elongate-oval, located at the postero-lateral corner of the prostomium. Palps stout, long, about 7.7 times longer than prostomium, with longitudinal rows of short papillae throughout the palp length. All tentacular cirri lost but there were two bundles of chaetae at each side of the tentaculophores; chaetae finely spinous. These specimens did not resemble any of the currently known *Eupanthalis* species.

Distribution. South of West Java, eastern Indian Ocean, 312–727 m (this study).

Eupolyodontes sp.

(Fig. 2D)

Material examined. DW19 (1 specimen).

Remarks. Prostomial branchiae absent. Small occipital median antenna present, with raised nuchal lobe. Ventral palps extending slightly beyond ommatophores. Parapodial branchiae numerous, present on dorsal, anterior, and posterior sides of parapodia. Branchiae simple, tubular, beginning on segment 7 till end of fragment (70 segments). The specimen resembled *E. gulo* (Grube, 1855) from the Red Sea but differed by having slightly hooked tips upper neurochaetae, with long hairs distally and shorter hairs subdistally, instead of tapered tips upper neurochaetae.

Distribution. Sunda Strait, Indonesia, 172–182 m (this study).

Panthalis sp.

Material examined. CP12 (1 specimen), CP23 (2 specimens), CP26 (5 specimens), CP27 (5 specimens), CP33 (8 specimens), CP34 (2 specimens), CP50 (1 specimen), CP51 (7 specimens), CP55 (1 specimen), CP58 (7 specimens), CP59 (1 specimen).

Remarks. Prostomium with a pair of wide, cylindrical ommatophores, no eye pigment. Some lenses with faint brownish tinge on the tips, but mostly whitish, separated with ommatophores by a darker line. Some with darker ommatophores and prostomium region. Median antenna with one or few small lateral papillae on the ceratophore, with style projecting beyond the tips of ommatophores (similar to prostomium length). Lateral antennae attached ventral to ommatophores, with tips extending well beyond the ommatophores, the visible tips almost as long as or slightly shorter than the prostomium. Tentaculophores lateral to prostomium, each with two acicula and small bundle of long capillary chaetae, few small papillae on the inner dorsal side. The overall prostomium (including the ommatophores) shape and chaetae type were similar to *Panthalis oerstedi* Kinberg, 1856 described from western Sweden [refer to Pettibone (1989)] but our specimens differed in having two aciculae at the tentaculophores and the presence of lateral papillae on the ceratophore of the median antenna. The combination of the characters did not fully correspond to any of the currently known *Panthalis* species.

Distribution. Sunda Strait, Indonesia to south of West Java, eastern Indian Ocean, 234–727 m (this study).

Family Ampharetidae

Amage madurensis (Caullery, 1944)

Paramage madurensis Caullery, 1944: 94–96, fig. 76.

Material examined. CP56 (1 specimen).

Distribution. Madura Sea, 69–91 m (Caullery, 1944); south of West Java, eastern Indian Ocean, 183–255 m (this study).

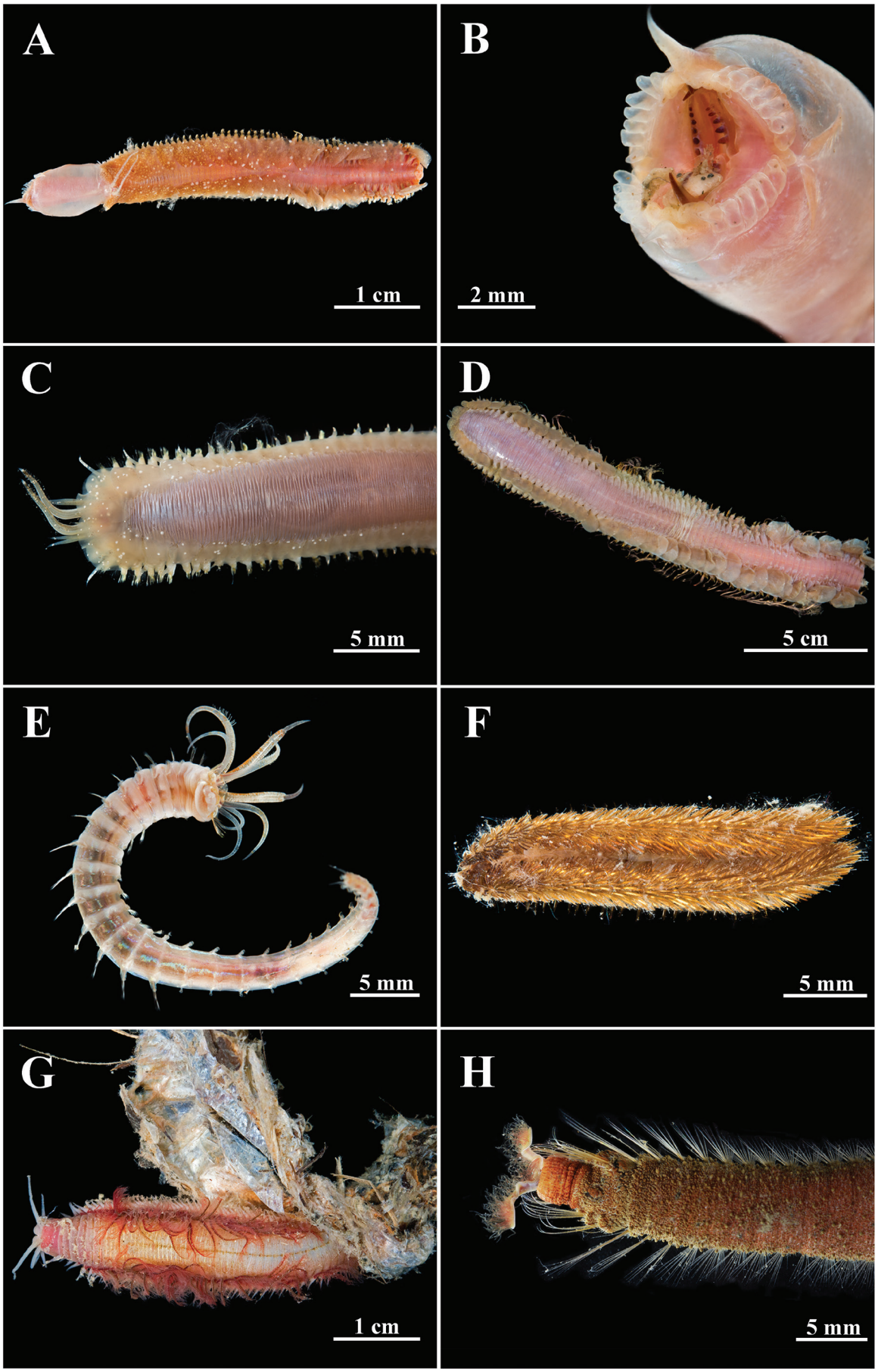

Fig. 2. Photographs of live specimens. A, *Acoetes* sp. 1, anterior fragment, dorsal view with pharynx everted; B, *Acoetes* sp. 1, distal end of pharynx; C, *Euarche* sp. 2, anterior end, dorsal view; D, *Eupolyodontes* sp., anterior fragment, dorsal view; E, *Amphicteis gunneri*, entire specimen, ventral view; F, *Pontogenia macleari*, entire specimen, dorsal view; G, *Eunice* sp. 3, anterior end, dorsal view; H, *Treadwellius bifidus*, anterior end, dorsal view.

Amphicteis gunneri (M. Sars, 1835)
(Fig. 2E)

Amphitrite gunneri M. Sars, 1835: 50, 51, pl. 11 fig. 30.
Amphicteis gunneri—Imajima & Hartman, 1964: 331, 332; Day, 1967b: 695, 696, fig. 35.2 g–n.

Material examined. CP24 (1 specimen), DW63 (1 specimen).

Remarks. Eyespots not observed in the present specimens. This differed from the accounts of Imajima & Hartman (1964) and Day (1967b) that described eyespots at the base of prostomium.

Distribution. Cosmopolitan, 12–631 m (Imajima & Hartman, 1964); Sunda Strait, Indonesia, 208–1,068 m (this study).

Amphicteis sp.

Material examined. CP47 (1 specimen).

Remarks. Sixteen paleae chaetae on either side, long, and slightly curved. Branchiae four pairs but only the posterior one available, others broken. Branchiae present from segment 3 to 5; anterior and outermost branchiae on segment 3, innermost branchiae on segment 4, and one posterior branchiae on segment 5. Posterior part broken, only six abdominal segments observed. This specimen differed from other Indonesian *Amphicteis* species: *A. malayensis* Caullery, 1944, *A. quadridentata* Caullery, 1944, *A. theeli* Caullery, 1944, and *A. sibogae* Caullery, 1944, none of which have branchiae on segment 5 (Caullery, 1944).

Distribution. South of West Java, eastern Indian Ocean, 476–530 m (this study).

Lysippe sp.

Material examined. CP58 (1 specimen).

Remarks. Thirteen thoracic uncinigers. Four pairs of branchiae, annulated, and separated by a small median gap. The anterior part of prostomium broken, thus buccal tentacles could not be examined. Paleae present. This specimen differed from three other *Lysippe* species that similarly have 13 thoracic uncinigers, paleae, and four pairs of branchiae: *L. mexicana* Fauchald, 1972, *L. labiata* Malmgren, 1866, and *L. nipponica* Reuscher, Fiege & Imajima, 2015. In *L. mexicana*, the first and second pairs of branchiae are annulated, while the third and fourth pairs are smooth (Fauchald, 1972). *Lysippe labiata* has buccal tentacles and it was originally described from the Spitsbergen, Norway (Malmgren, 1866), it is unlikely to be distributed in the oceanic region of this study. In *L. nipponica*, the first three pairs of branchiae are annulated and the fourth pair is unknown. Reuscher et al. (2015) also described the first and second pairs of branchiae in *L. nipponica* to have smooth tapering tips.

Distribution. South of West Java, eastern Indian Ocean, 505–564 m (this study).

Melinnopsis sp. 1

Material examined. CP45 (3 specimens).

Remarks. Thirteen thoracic uncinigers. Buccal tentacles smooth. Branchiae four pairs, smooth, and fused basally. Post branchial dorsal membrane vestigial. Abdomen broken. These specimens differed from other *Melinnopsis* species that have 13 thoracic uncinigers: *M. angolensis* Hilbig, 2005, *M. moorei* (Hartman, 1960), *M. tetradentata* Imajima, 2001, *M. armipotens* (Moore, 1923), *M. mcintoshi* Reuscher, Fiege & Imajima, 2015, and *M. augeneri* Reuscher, Fiege & Imajima, 2015. The post branchial dorsal membrane of *M. angolensis*, *M. moorei*, and *M. tetradentata* is crenulated (Hartman, 1960; Imajima, 2001; Hilbig, 2005), while that of *M. armipotens* and *M. mcintoshi* is well-developed (Moore, 1923; Reuscher et al., 2015). Buccal tentacles of *M. augeneri* are annulated. In addition, the dorsal part of innermost branchiae of *M. augeneri* is covered with transverse rows of cilia (Reuscher et al., 2015).

Distribution. South of West Java, eastern Indian Ocean, 684–851 m (this study).

Melinnopsis sp. 2

Material examined. CP26 (1 specimen), CP27 (1 specimen), CP33 (3 specimens), CP50 (4 specimens), CP51 (6 specimens).

Remarks. Thirteen thoracic uncinigers. Branchiae four pairs with no median gap among them, finely articulated, and basally free in proximity. Post branchial dorsal membrane vestigial. These specimens differed from *Melinnopsis* sp. 1, which has branchiae that are smooth and fused basally.

Distribution. South of West Java, eastern Indian Ocean, 312–727 m (this study).

Paiwa sp.

Material examined. CP57 (1 specimen).

Remarks. Fourteen thoracic uncinigers. Buccal tentacles smooth. No glandular ridges. Abdominal notopodia rudiment. Abdominal part broken. Branchiae four pairs and subulate. The outer pairs of branchiae arose from segment 2, while the inner ones arose from segment 3. Paleae small. This specimen differed from *P. abyssi* Chamberlin, 1919, which is the only described species of the genus *Paiwa*. In *P. abyssi*, white glandular ridges are present between two parapodia. While the branchiae of *P. abyssi* are described to be subulate, similar to our specimen, their arrangement was not described (Chamberlin, 1919) and thus could not be compared.

Distribution. South of West Java, eastern Indian Ocean, 223–269 m (this study).

Phyllocomus balinensis Holthe, 2000

Phyllocomus balinensis Holthe, 2000: 64, 65, fig. 6.

Material examined. DW46 (1 specimen).

Distribution. Bali Sea, Indonesia, 545 m (Holthe, 2000); south of West Java, eastern Indian Ocean, 540–654 m (this study).

Family Aphroditidae

Aphrodita sp. 1

Material examined. CP05 (1 specimen), CP22 (1 specimen), CP24 (1 specimen), CP50 (1 specimen).

Remarks. Prostomium rounded to ovoid with a pair of conspicuous hemispherical ocular peduncles, without pigment. Two fascicles of unidentate, golden brown notochaetal spines, upper fascicle with about 2–5, lower fascicle with about 3–5. Above the upper notochaetal spines with fan of about 6–10 long, golden-yellow notochaetae with slightly hooked tips, entangled amongst the dorsum felt. These specimens closely resembled *A. limosa* (Horst, 1916) collected from deep water (835 m) off the Indonesian Archipelago, by having a pair of large, raised hemispherical ocular peduncles, without eye pigment, hooked tips notochaetae entangled in felt and neurochaetae with slightly curved tips and plumose edge. However, our specimens differed in having 15 pairs of elytra and the presence of notochaetal spines while *A. limosa* has 17 pairs of elytra, without stout notochaetal spines.

Distribution. Sunda Strait, Indonesia to south of West Java, eastern Indian Ocean, 383–1,068 m (this study).

Aphrodita sp. 2

Material examined. CP08 (1 specimen).

Remarks. Prostomium ovoid with raised hemispherical ocular area, without pigment. Neuropodia with 7–11 neurochaetae per neuropodium; three tiers of long, brown neurochaetae with slightly curved tips and plumose edge (some anterior segment neurochaetae with straight blunt tips, smooth). Dorsal surface of notopodia with three fascicles of hooked tips notochaetae with tubercles on the shaft. Distal halves of all the notochaetae with more tubercles, lesser towards the proximal region. The combination of characters in this specimen differed from the other Indo-Pacific *Aphrodita* species (Hutchings & McRae, 1993; Imajima, 2001, 2003, 2005).

Distribution. Sunda Strait, Indonesia, 425–442 m (this study).

Aphrodita sp. 3

Material examined. CP37 (1 specimen), CP38 (1 specimen).

Remarks. Prostomium ovoid with raised hemispherical ocular area, without pigment. Neuropodia with 9–14 neurochaetae per neuropodium; three tiers of long, brown neurochaetae with slightly curved and pilose tips (some with plumose margin only). Dorsal surface of notopodia with two fascicles of hooked tips notochaetae with tubercles on the shaft. Distal halves of all the notochaetae with more tubercles and fine hairs, only few tubercles at the proximal region. The combination of characters in our specimens differed from the other Indo-Pacific *Aphrodita* species (Hutchings & McRae, 1993; Imajima, 2001, 2003, 2005).

Distribution. South of West Java, eastern Indian Ocean, 163–295 m (this study).

Laetmonice malayana Horst, 1916

Laetmonice malayana Horst, 1916: 73, 74; Horst, 1917: 56, pl. 13 figs. 4–6; Hutchings & McRae, 1993: 327–329, fig. 40.

Material examined. CP22 (3 specimens), CP23 (1 specimen), CP48 (1 specimen).

Remarks. The harpoon notochaetae in our specimens were observed to have 3–4 recurved fangs, displaying a slight variation to those in Hutchings & McRae (1993) and Horst (1917) that were described with 2–3 and 3 recurved fangs respectively. Some anterior short harpoon notochaetae smooth. Most of the long harpoon notochaetae with broken tips or lost.

Distribution. Indonesian Archipelago, 798–959 m (Horst, 1916); Sunda Strait, Indonesia to south of West Java, eastern Indian Ocean, 559–870 m (this study).

Laetmonice viridescens Horst, 1917

Laetmonice viridescens Horst, 1917: 58, 59, pl. 14 figs. 1, 2; Hutchings & McRae, 1993: 337, fig. 48.

Material examined. CP07 (1 specimen).

Remarks. In Horst (1917) and the expanded description by Hutchings & McRae (1993), the elytra of *L. viridescens* are covered with felt and the dorsum is tan in alcohol. However, the elytra of this specimen examined were not covered in felt and dorsum was cream-coloured in alcohol except for the dark pigmented elytrophores. Most of the long harpoon notochaetae with broken tips or lost.

Distribution. Indonesian Archipelago, 472 m (Horst, 1917); Sunda Strait, Indonesia, 379–409 m (this study).

Laetmonice yarramba Hutchings & McRae, 1993

Laetmonice yarramba Hutchings & McRae, 1993: 339–341, figs. 50, 51.

Material examined. CP07 (1 specimen), CP34 (4 specimens).

Remarks. In the type description, this species has 31 segments and harpoon notochaetae with smooth shafts but some varied in having tuberculated shafts. The specimens examined here had up to 33 segments and most of the harpoon chaetae shafts were covered with small tubercles.

Distribution. Shark Bay to Lake Macquarie, Australia, 60–523 m (Hutchings & McRae, 1993); Sunda Strait, Indonesia to south of West Java, eastern Indian Ocean, 234–409 m (this study).

Pontogenia macleari (Haswell, 1883)
(Fig. 2F)

Hermione macleari Haswell, 1883: 273.
Pontogenia nuda Horst, 1917: 62, pl. 14 figs. 5–7.
Pontogenia macleari—Hutchings & McRae, 1993: 345–348, figs. 55, 56.

Material examined. DW19 (1 specimen).

Remarks. The specimen agreed with previous descriptions but the secondary teeth in the second and third segment bidentate neurochaetae are rather inconspicuous.

Distribution. Australia (Ball's Pyramid and Port Molle); New Caledonia; Indonesian Archipelago, 25.6–274 m (Hutchings & McRae, 1993); Hainan Island, 2–48 m (Barnich et al., 2004); Sunda Strait, Indonesia, 172–182 m (this study).

Family Capitellidae

Dasybranchus sp.

Material examined. DW19 (1 specimen), DW32 (1 specimen), CP35 (1 specimen), CP50 (1 specimen), CP56 (1 specimen).

Remarks. The characteristics of abdominal tori (arrangement, size, and number of teeth) of these specimens resembled *Dasybranchus caducus* (Grube, 1846) which was also recorded from the Indian Ocean (Day, 1967b), but the position of the genital pores were difficult to determine. In addition, branchiae were not observed (probably lost) due to the poor condition of the mid-posterior abdominal segments.

Distribution. Sunda Strait, Indonesia to south of West Java, eastern Indian Ocean, 172–977 m (this study).

Rashgua rubrocincta Wesenberg-Lund, 1949

Rashgua rubrocincta Wesenberg-Lund, 1949: 336–338, figs. 37, 38.

Material examined. DW16 (1 specimen), DW19 (2 specimens), CP20 (2 specimens), CP23 (1 specimen), CP35 (1 specimen), CP50 (1 specimen), CP51 (1 specimen).

Distribution. Gulf of Iran, Indian Ocean, 7–22 m (Wesenberg-Lund, 1949); Sunda Strait, Indonesia to south of West Java, eastern Indian Ocean, 92–686 m (this study).

Family Chaetopteridae

Mesochaetopterus sp.

Material examined. CP62 (1 specimen).

Remarks. The single specimen was in poor condition and could not be identified beyond genus.

Distribution. Sunda Strait, Indonesia, 1,623–1,630 m (this study).

Family Eunicidae

Eunice guttata Baird, 1869

Eunice guttata Baird, 1869: 350; Fauchald, 1992: 165, 166, fig. 53f–j, tables 27, 28.

Material examined. CP51 (1 specimen).

Distribution. Between Bombay and Singapore, Indian Ocean (Fauchald, 1992); south of West Java, eastern Indian Ocean, 569–657 m (this study).

Eunice cf. *polybranchia* (Verrill, 1880)

Leodice polybranchia Verrill, 1880: 358.
Eunice polybranchia—Fauchald, 1992: 271–273, fig. 91a–h, tables 13, 27, 28.

Material examined. CP20 (1 specimen).

Remarks. The specimen resembled *Eunice polybranchia* described from the New England, USA (Verrill, 1880) but differed in the position of the eyes and outer antennae (A-I). Eyes of this specimen was located behind bases of A-I, while those of *E. polybranchia* is located between bases of A-I and A-II. In addition, A-I of this specimen was close to the next antennae, while that of *E. polybranchia* is separated by a gap (Fauchald, 1992).

Distribution. Sunda Strait, Indonesia, 325–362 m (this study).

Eunice sp. 1

Material examined. CP52 (1 specimen).

Remarks. Ceratostyles probably with long articulations. Peristomial cirri probably articulated, reaching middle of prostomium. Branchiae pectinate, present on more than 65% of total number of chaetigers from chaetiger 3 to near posterior end. Subacicular hooks light yellow, bidentate, and paired.

Distribution. South of West Java, eastern Indian Ocean, 1,124–1,156 m (this study).

Eunice sp. 2

Material examined. CP23 (2 specimens), CP48 (1 specimen).

Remarks. Ceratostyles with short articulations. Peristomial cirri probably articulated, reaching middle of prostomium. Branchiae pectinate, present on less than 55% of total number of chaetigers from chaetiger 3 to chaetiger 54. Subacicular hooks light yellow, bidentate, and single.

Distribution. Sunda Strait, Indonesia to south of West Java, eastern Indian Ocean, 559–689 m (this study).

Eunice sp. 3

(Fig. 2G)

Material examined. CP14 (1 specimen), CP52 (1 specimen).

Remarks. Ceratostyles without articulations. Peristomial cirri not articulated, reaching anterior end of peristomium. Branchiae pectinate, present on less than 55% of total number of chaetigers from chaetiger 3 to chaetiger 62–65 depending on the length of body. Subacicular hooks light yellow, bidentate, and paired in some chaetigers.

Distribution. Sunda Strait, Indonesia to south of West Java, eastern Indian Ocean, 1,124–1,539 m (this study).

Eunice sp. 4

Material examined. CP13 (2 specimens), CP18 (3 specimens).

Remarks. Ceratostyles without articulations. Peristomial cirri not articulated, reaching middle of prostomium. Branchiae pectinate, present on less than 55% of total number of chaetigers from chaetiger 3 to chaetiger 59. Subacicular hooks light yellow, bidentate, and paired in some chaetigers.

Distribution. Sunda Strait, Indonesia, 1,060–1,268 m (this study).

Eunice sp. 5

Material examined. DW32 (1 specimen).

Remarks. Ceratostyles with short articulations. Peristomial cirri not articulated, reaching middle of prostomium. Branchiae pectinate, maximum five filaments, present from chaetiger 8 to the end of fragment (possibly more than 65% of total number of chaetigers). Subacicular hooks black, bidentate, and single.

Distribution. South of West Java, eastern Indian Ocean, 805–977 m (this study).

Eunice sp. 6

Material examined. CP55 (1 specimen), CP57 (6 specimens).

Remarks. Ceratostyles without articulations. Peristomial cirri articulated, reaching middle of prostomium. Branchiae pectinate, maximum 16 filaments, present from chaetiger 3 to the end of fragment. Subacicular hooks light yellow, tridentate, and single.

Distribution. South of West Java, eastern Indian Ocean, 223–379 m (this study).

Family Flabelligeridae

Paratherochaeta coronata (Ehlers, 1908)

Stylarioides coronatus Ehlers, 1908: 121–123, pl. 16 figs. 3–8; Caullery, 1944: 35, fig. 26.
Paratherochaeta coronata—Salazar-Vallejo, 2013: 252, 253, fig. 10.

Material examined. CP56 (1 specimen).

Distribution. Western Indian Ocean and Java Sea, 1,300–3,300 m (Salazar-Vallejo, 2013); south of West Java, eastern Indian Ocean, 183–255 m (this study).

Pherusa nipponica Salazar-Vallejo, 2014

Pherusa nipponica Salazar-Vallejo, 2014a: 29, 30, fig. 10.

Material examined. CP02 (1 specimen), CP47 (1 specimen).

Distribution. Tokyo Bay, Japan, 250–260 m (Salazar-Vallejo, 2014a); Sunda Strait, Indonesia to south of West Java, eastern Indian Ocean, 257–530 m (this study).

Therochaeta sp.

Material examined. DW46 (1 specimen).

Remarks. Body without large tubercles, sparsely covered by fine sediment grains. First few chaetigers with cortex cemented by sediment particles, forming an anterior shield; without marked constriction between chaetigers 2 and 3. Anterior dorsal margin of first chaetiger with triangular anterior lobe. All notochaetae multiarticulate capillaries, with short articles basally, longer articles continued to the distal end. Neurochaetae multiarticulate capillaries in chaetigers 1–4. Chaetigers 5–10 with pseudocompound hooks, three per ramus; each with ankylosed, short articles, blade smooth. Stout golden yellow falcate neurohooks from chaetiger 11, 3–4 per ramus; each with ankylosed, short articles. Posterior end of the specimen lost. The combination of characters differed from all the other described *Therochaeta* species (Salazar-Vallejo, 2013). The specimen was collected from a mollusc shell.

Distribution. South of West Java, eastern Indian Ocean, 540–654 m (this study).

Treadwellius bifidus (Fauvel, 1932)

(Fig. 2H)

Stylarioides bifidus Fauvel, 1932: 182–184, text-fig. 31, pl. 7 figs. 15, 16; Fauvel, 1953: 349, 350, figs. 181, 182.
Treadwellius bifidus—Salazar-Vallejo, 2011: 194, 195, fig. 14.

Material examined. DW17 (1 specimen), DW19 (2 specimens), CP20 (1 specimen), CP33 (1 specimen), CP50 (1 specimen), CP55 (3 specimens), CP56 (2 specimens), CP57 (2 specimens).

Distribution. Northeastern Indian Ocean, from Oman to southern India, 465–1,054 m (Salazar-Vallejo, 2011); Sunda Strait, Indonesia to south of West Java, eastern Indian Ocean, 172–525 m (this study).

Trophoniella sp. 1

(Fig. 3A)

Material examined. DW01 (7 specimens), DW06 (3 specimens), DW19 (1 specimen).

Remarks. Specimens with thick tunic not coated by sediment grains, tongue-shaped branchial plate with abundant branchial filaments, notochaetae multiarticulate and ankylosed neurochaetae in posterior chaetigers. These specimens with multiarticulate aristate neurochaetae from chaetiger 3 to the posterior end, dorsal body papillae in four longitudinal rows and have no notopodial lobes. The combination of characters differed from all the other described *Trophoniella* species (Salazar-Vallejo, 2012; Jimi & Fujiwara, 2016; Chaibi et al., 2019).

Distribution. Sunda Strait, Indonesia, 100–294 m (this study).

Trophoniella sp. 2

Material examined. CP35 (1 specimen).

Remarks. Anterior end damaged. Tunic partially embedded with small, variable sediment particles (e.g., sand, shell fragments, foraminifera), such that individual papillae are not detected, unless the cortex is removed. Ankylosed unidentate neurospines from median or posterior chaetigers, each with short articles present to the subdistal region. Anterior chaetigers have no dorsal tubercles, with notopodial lobes.

Distribution. South of West Java, eastern Indian Ocean, 603–686 m (this study).

Family Glyceridae

Glycera cf. *alba* (O.F. Müller, 1776)

Nereis alba O.F. Müller, 1776: 217.
Glycera alba—Böggemann, 2002: 72, 73, figs. 109–111; Imajima, 2003: 107–109, fig. 64.

Material examined. CP57 (2 specimens).

Remarks. The specimens differed from *Glycera alba* as redescribed by Böggemann (2002) and Imajima (2003) in having branchiae first present at chaetiger 14 [chaetiger 17–30 in Böggemann (2002); chaetiger 20 in Imajima (2003)] and longer than prechaetal lobes, especially in mid-body region, about two times longer than prechaetal lobe (branchiae as long as prechaetal lobe in descriptions).

Distribution. South of West Java, eastern Indian Ocean, 223–269 m (this study).

Glycera cinnamomea Grube, 1874

Glycera cinnamomea Grube, 1874: 327, 328; Böggemann, 2002: 69, 70, figs. 97–99.

Material examined. DW16 (1 specimen).

Remarks. Only single digitiform branchiae, starting from about chaetiger 30 to last chaetiger, situated dorsally on posterior side of parapodia bases instead of 1–5 digitiform branchial rami in description (Böggemann, 2002).

Distribution. Indian Ocean, Red Sea, Persian Gulf, East and South China Sea, Indo-Pacific, intertidal–1,427 m (Böggemann, 2002); Sunda Strait, Indonesia, 92–103 m (this study).

Glycera nicobarica Grube, 1866

Glycera nicobarica Grube, 1866: 178; Böggemann, 2002: 57, 58, figs. 67–69.

Material examined. CP07 (1 specimen).

Remarks. Simple, retractile, digitiform branchiae, situated medially on anterior side of parapodia starting from about chaetiger 25.

Distribution. Indian Ocean, coasts of Japan, East and South China Sea, Indo-Pacific, intertidal–143 m (Böggemann, 2002); Sunda Strait, Indonesia, 379–409 m (this study).

Glycera tesselata Grube, 1863

Glycera tesselata Grube, 1863: 41, 42, pl. 4 fig. 4; Böggemann, 2002: 47, 48, figs. 37–39.

Material examined. CP18 (2 specimens), CP34 (1 specimen), CP47 (1 specimen), CP50 (1 specimen), CP51 (1 specimen), CP57 (2 specimens), CP58 (1 specimen).

Distribution. Northwestern and northeastern Atlantic, Gulf of Mexico, Caribbean Sea, Mediterranean Sea, Red Sea, south coasts of Africa, Indo-Pacific, northwestern Pacific, 2–4,066 m (Böggemann, 2002); Sunda Strait, Indonesia to south of West Java, eastern Indian Ocean, 223–1,073 m (this study).

Glycera sp.

Material examined. DW32 (1 specimen).

Remarks. Conical prostomium consisting of about 10 rings. Proboscis with two types of papillae: (1) numerous conical to digitiform papillae with straight, median, longitudinal ridges; (2) fewer shorter and broader, oval to globular papillae

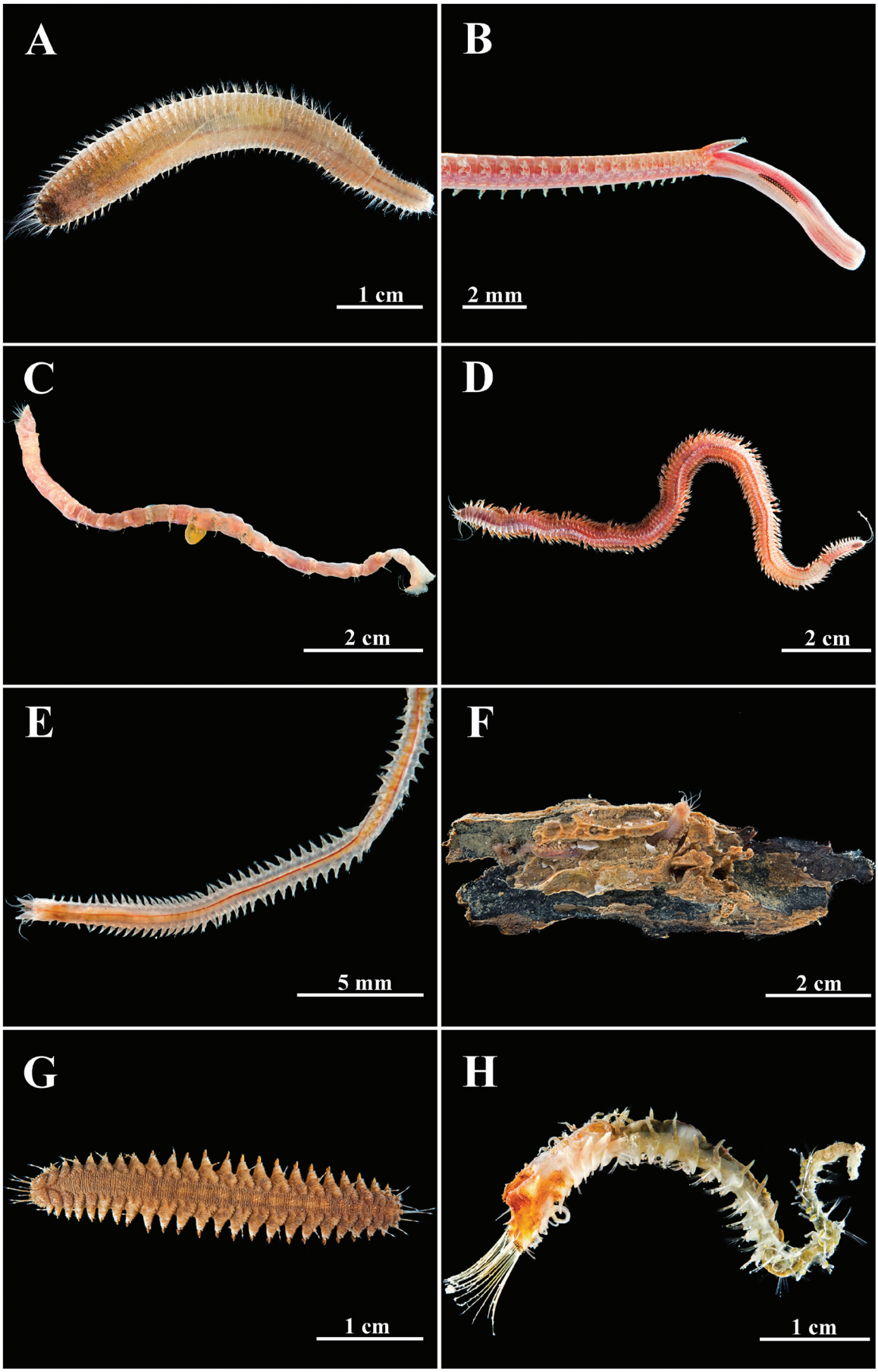

Fig. 3. Photographs of live specimens. A, *Trophoniella* sp. 1, entire specimen, ventrolateral view; B, *Goniada vorax*, anterior end, lateral view with proboscis everted; C, *Metasychis gotoi*, entire specimen, lateral view; D, *Ceratonereis* sp., entire specimen, dorsal view; E, *Nereis* cf. *grayi*, anterior end, dorsal view; F, *Nereis* sp., anteroventral view in its habitat; G, *Hermenia acantholepis*, entire specimen, dorsal view; H, *Gesaia* sp., entire specimen, lateral view.

with ridges. Ailerons with deeply incised base. First two parapodia uniramous, following parapodia biramous. Two slender triangular to digitiform prechaetal lobes; both lobes of about the same length or neuropodial lobe slightly longer and wider than notopodial lobe. One shorter, rounded to blunt triangular postchaetal lobe. Dorsal cirri from chaetiger 3, conical to oval; inserted on body wall far above parapodial base. Ventral cirri conical to blunt triangular, shorter than prechaetal lobes, about as long as postchaetal lobe; in posterior parapodia slightly wider than the anterior ones. Situated termino-ventrally on parapodia. Branchiae absent. The combination of characters in this specimen did not correspond to any described *Glycera* species.

Distribution. South of West Java, eastern Indian Ocean, 805–977 m (this study).

Family Goniadidae

Goniada maculata Örsted, 1843

Goniada maculata Örsted, 1843: 33, pl. 1 figs. 16, 23, pl. 6 figs. 91, 95, 97, 98; Böggemann, 2005: 104–114, figs. 57, 58.

Material examined. DW32 (1 specimen).

Remarks. The specimen agreed well with the description (Böggemann, 2005), but the anterior neuropodial postchaetal lobes were inconspicuous.

Distribution. North Atlantic, Caribbean Sea, Barents Sea, Mediterranean Sea, east and southeast Atlantic, Bering Sea, north Pacific, southeast Pacific, intertidal–3,859 m (Böggemann, 2005); south of West Java, eastern Indian Ocean, 805–977 m (this study).

Goniada vorax (Kinberg, 1865)
(Fig. 3B)

Leonnatus vorax Kinberg, 1865: 247.
Goniada vorax—Böggemann, 2005: 126–130, figs. 67, 68.

Material examined. CP58 (1 specimen).

Remarks. The short notopodial postchaetal lobes that usually begin to occur at the mid-posterior region were rather inconspicuous in our specimen. The long, tongue-shaped anterior segment notopodial lobes that are typical for larger specimens of *Goniada vorax* were observed.

Distribution. West Atlantic, Caribbean Sea, northeast Atlantic, Mediterranean Sea, Indian Ocean, northwest and southwest Pacific, 7.32–512 m (Böggemann, 2005); south of West Java, eastern Indian Ocean, 505–564 m (this study).

Family Hesionidae

Hesione cf. *horsti* Salazar-Vallejo, 2018

Hesione horsti Salazar-Vallejo, 2018: 263–265, figs. 21, 22.

Material examined. DW16 (1 specimen).

Remarks. The long (6–13 times as long as wide) bidentate neurochaetal blades of our specimen resembled those described in the type specimen, having minute subequal teeth, mostly directed distally. However, the neuraciculae of our specimen was black, not pale; the tapered acicular lobe of our specimen was longer, about 3–4 times longer than the small round lower lobe and the posterior margin of the prostomium truncate instead of semicircular in outline.

Distribution. Sunda Strait, Indonesia, 92–103 m (this study).

Leocratides filamentosus Ehlers, 1908

Leocratides filamentosus Ehlers, 1908: 63, 64, pl. 6 figs. 8–12; Pettibone, 1970a: 230–232, figs. 27–29; Jimi et al., 2017: 137–139, figs. 3, 4.

Material examined. CP39 (1 specimen).

Remarks. Lateral antennae and median antenna lost. Three out of four described *Leocratides* species were known to associate with hexactinellid sponges (Pettibone, 1970a; Jimi et al., 2017). Our specimen was also found among the hexactinellid sponges (*Semperella* sp.), with several large spicules penetrating the body wall.

Distribution. Sagami Bay, Japan to Indonesia, 213–677 m (Jimi et al., 2017); south of West Java, eastern Indian Ocean, 528–637 m (this study).

Paralamprophaea diplognatha (Monro, 1926)

Leocrates diplognathus Monro, 1926: 313–315, figs. 1, 2; Pettibone, 1970a: 218, 219, fig. 16.
Paralamprophaea diplognatha—Salazar-Vallejo, 2020: 94–96, figs. 54, 55.

Material examined. DW16 (1 specimen).

Remarks. Antennae as long as palps; palpophores about three times longer than palpostyles. Neurochaetae about 15–20 per bundle, bidentate compound falcigers, most with chaetal guard reaching subdistal tooth, however there were some with chaetal guard projected distally in a very delicate arista, reaching distal tooth.

Distribution. South China Sea to the Philippines, 73–182 m (Salazar-Vallejo, 2020); Sunda Strait, Indonesia, 92–103 m (this study).

Family Lumbrineridae

Lumbrineris amboinensis Grube, 1877

Lumbriconereis amboinensis Grube, 1877: 532.
Lumbrineris amboinensis—Carrera-Parra, 2006: 9, fig. 1F–J.

Material examined. CP27 (1 specimen), CP50 (1 specimen), CP51 (2 specimens).

Distribution. Ambon and Kai Islands, Indonesia, 413–436 m (Carrera-Parra, 2006); south of West Java, eastern Indian Ocean, 383–657 m (this study).

Lumbrineris latreilli Audouin & Milne Edwards, 1833

Lumbrineris latreilli Audouin & Milne Edwards, 1833: 242–244, pl. 12 figs. 13–15; Day, 1967a: 438, fig. 17.16p–t; Carrera-Parra, 2006: 35–37, fig. 11F–J.

Material examined. CP07 (2 specimens), CP22 (2 specimens), CP51 (1 specimen).

Distribution. Northeastern Atlantic and Mediterranean Sea, questionably cosmopolitan (Carrera-Parra, 2006); Southern Africa, intertidal–499 m (Day, 1967a); Sunda Strait, Indonesia to south of West Java, eastern Indian Ocean, 379–870 m (this study).

Ninoe sp.

Material examined. CP03 (1 specimen).

Remarks. Postchaetal branchiae present from segment 6 to 47. Maxilla I forceps-like, maxilla II consists of 7+7 teeth, maxilla III consists of 1+1 teeth, and maxilla IV consists of 1+1 teeth. Posterior chaetae consist of winged capillary chaetae, compound chaetae, and simple multidentate hooded hooks.

Distribution. Sunda Strait, Indonesia, 283–398 m (this study).

Family Maldanidae

Maldane sarsi Malmgren, 1865

Maldane sarsi Malmgren, 1865: 188; Day, 1967b: 645, fig. 30.8a–e.

Material examined. CP02 (1 specimen), CP20 (1 specimen), DW32 (1 specimen), CP39 (2 specimens), CP45 (1 specimen), CP47 (1 specimen), CP48 (2 specimens), CP56 (1 specimen).

Remarks. The ventral edge of anal plate in specimens from CP39 and CP48 more serrated than the other specimens.

Distribution. Cosmopolitan from the Arctic to Antarctic, 1–999 m (Day, 1967b); Sunda Strait, Indonesia to south of West Java, eastern Indian Ocean, 183–977 m (this study).

Metasychis gotoi (Izuka, 1902)
(Fig. 3C)

Maldane gotoi Izuka, 1902: 109–111, pl. 3 figs. 1–8.
Asychis gotoi—Imajima & Shiraki, 1982: 75–77, fig. 36a–l.

Material examined. CP02 (4 specimens), CP10 (1 specimen), CP20 (1 specimen).

Distribution. Sagami Bay, Japan, 146 m (Izuka, 1902); Indo-West Pacific area, 40–2,770 m (Imajima & Shiraki, 1982); Sunda Strait, Indonesia, 257–446 m (this study).

Family Nephtyidae

Aglaophamus urupani Nateewathana & Hylleberg, 1986

Aglaophamus urupani Nateewathana & Hylleberg, 1986: 198–202, figs. 3–5.

Material examined. DW06 (2 specimens), CP55 (2 specimens).

Distribution. Thailand, Andaman Sea, 10–30 m (Nateewathana & Hylleberg, 1986); Sunda Strait, Indonesia to south of West Java, eastern Indian Ocean, 266–379 m (this study).

Family Nereididae

Ceratonereis sp.
(Fig. 3D)

Material examined. CP02 (1 specimen), CP10 (16 specimens), CP50 (1 specimen).

Remarks. Associated with wood. Brown pigmentation, especially on anterior segments and prostomium. Prostomium indented. Palps extend beyond antennae. Peristomium longer than subsequent chaetigers. Tentacular cirri reaches chaetiger 4, mildly annulated. Jaw crenulations four to five, extremely subtle, almost smooth. Paragnaths detach easily in preserved specimens, present on maxillary ring only, area I (0-3), II (8-39, arranged in a crescent with an annexed square, pyramidal cones), III (9-68, cones with sharp curves, some with melted base), and IV (8-41, mix of melted base, curved cones, and pyramidal cones with short apices). Dorsal cirri inserted mid of notopodia, at anterior chaetigers 1.5 times notopodia length, at midbody and posterior chaetigers 0.5 to 1 time notopodia length. Notopodia 2 ligules with knobbed distal end, prechaetal lobe very reduced. Neuropodia ventral ligule more slender than notopodia, prechaetal lobe subulate, chaetal lobe distally flat. Ventral cirri subequal length as neuropodia. Notochaetae homogomph long spinigers. Supra-acicular neurochaetae homogomph long spinigers, sesquigomph long spinigers (occasional), and sesquigomph falcigers. Infra-acicular neurochaetae sesquigomph spinigers, homogomph spinigers (occasional), and sesquigomph falcigers. Falcigers moderately long, with blunt distal tooth. Natatory paddle chaetae present in two epitokous specimens.

Distribution. Sunda Strait, Indonesia to south of West Java, eastern Indian Ocean, 257–446 m (this study).

Composetia sp.

Material examined. CP02 (1 specimen).

Remarks. Preserved incomplete body without pigments, 31 chaetigers. At chaetiger 10, body width excluding parapodia 3.4 mm, length 0.8 mm. Eyes colourless. Jaw with 15 small serrations and a long sharp distal tooth. Paragnath only on maxillary ring, area I (2), II (3, 3), III (3 or 8, undetermined because some were detached), and IV (1, 1, seated on raised cushion). Dorsal cirri subequal length as notopodia throughout. Notopodial dorsal ligule, notoacicular ventral ligule, and neuropodial ventral ligule subulate, distal tapering, lengths subequal. Notochaetal lobe is bilobal, reduced, in between notopodial ligules. Neuropodial prechaetal lobe subequal length as ligules, distal round. Neurochaetal lobe low broad triangle. Chaetae on parapodia 10 and 25 homogomph long spinigers and homogomph long falcigers with blunt tip. Notochaetae spinigers, supra-acicular neurochaetae anterior falcigers and posterior spinigers, and infra-acicular neurochaetae few spinigers and many falcigers.

Distribution. Sunda Strait, Indonesia, 257–281 m (this study).

Neanthes bongcoi Pillai, 1965

Neanthes bongcoi Pillai, 1965: 142–144, fig. 12; Bakken, 2006: 28–30, fig. 1.

Material examined. CP02 (1 specimen), CP56 (1 specimen).

Remarks. Specimens agreed well with the original (Pillai, 1965) and Bakken's (2006) descriptions, apart from the presence of a single cone paragnath on area V in one specimen as well as the subequal or slightly shorter dorsal cirri than notopodial ligules on the anterior segments. Additional observations of each jaw: 7–8 broad wave-like teeth and one distal sharp tooth of equal size. Paragnaths on area VII–VIII were more similar to Pillai's (1965) in their two rows arrangement compared to a single row in Bakken (2006). Pillai (1965) described 6 paragnaths in each row, while our specimens had 10–13 in each row.

Distribution. Philippines (Pillai, 1965); western and north Australia, intertidal–20 m (Bakken, 2006); Sunda Strait, Indonesia to south of West Java, eastern Indian Ocean, 183–281 m (this study).

Nereis cf. *grayi* Pettibone, 1956
(Fig. 3E)

Nereis (*Nereis*) *grayi* Pettibone, 1956: 282–284, fig. 3.
Nereis grayi—Taylor, 1984: 31-35–31-38, figs. 31-33, 31-34.

Material examined. CP26 (1 specimen).

Remarks. Complete individual with 126 chaetigers. Our specimen generally agreed with Pettibone's (1956) type description and Taylor's (1984) description of *Nereis grayi* from the western Atlantic Ocean, apart from the lower paragnath count on area IV (3 versus 10 to 13 in the type description and up to 13 in Taylor [1984]). Other details observed in our specimen included jaws light brown with two different kinds of serration, small and narrow for 4 distal teeth and broad crenulations for 9 proximal teeth; smooth (unserrated) notopodial homogomph falcigers first appeared on chaetiger 24 (versus chaetiger 27 in holotype); notochaetae comprised only homogomph falcigers from chaetiger 33 until posterior segments.

Distribution. South of West Java, eastern Indian Ocean, 517–727 m (this study).

Nereis sumbawensis Horst, 1924

Nereis (*Lycoris*) *sumbawensis* Horst, 1924: 162, 163, pl. 32 figs. 4, 5.

Material examined. CP34 (2 specimens), CP37 (4 specimens).

Remarks. Our specimens agreed with the original description. A complete specimen from CP34 had 73 chaetigers. Here, we provide descriptions of several characters observed in our specimens to supplement those in the original description. Pharynx may be pigmented grey-green. Jaw dark brown, with six broad teeth and one distal tooth. Paragnaths, brown coloured: area I (3–5 cones), II (10–20, 12–23, pointy cones, 2–3 neat rows in a crescent), III (23–33 cones, uneven sized, including lateral clusters comprising 2–3 cones each), IV (16–40, 10–39, cones and pyramidial bars), and VII-VIII (14–31 cones, smaller than oral ring paragnaths, in 4–6 vertical clusters). Parapodia on anterior segments attached more ventrally. Dorsal cirri longer than notopodial ligules on posterior segments. Notopodial prechaetal lobe well-developed in anterior segments, reduced to a small cylindrical shape by chaetiger 23–26. Notochaetae homogomph long spinigers, at least nine. Supra-acicular neurochaetae with postero-positioned homogomph long spinigers and antero-positioned heterogomph falcigers. Infra-acicular neurochaetae with dorsal-positioned homogomph long spinigers and ventral-positioned heterogomph falcigers (may be fused). Specimens from station CP34 showed early stage epitoky with presence of cloudy material in the coelom, elongated parapodia, and globular-shaped bases of dorsal and ventral cirri in the posterior segments.

Distribution. Lesser Sunda Islands, 274 m (Horst, 1924); south of West Java, eastern Indian Ocean, 163–243 m (this study).

Nereis sp.
(Fig. 3F)

Material examined. CP18 (1 specimen), CP25 (1 specimen), CP27 (1 specimen), CP28 (1 specimen), CP31 (1 specimen), CP33 (1 specimen), CP37 (1 specimen), CP39 (1 specimen), CP51 (2 specimens), CP57 (1 specimen).

Remarks. Specimens from CP31, CP37, and CP39 at varying stages of epitoky. Preserved specimens white, eyes colourless. Palpostyle cylindrical, flattened at distal edge. Jaw 5–7 rounded crenulations that angle towards the distal end, distal tooth small. Paragnaths present on maxillary and oral rings, oral ring ones smaller than maxillary ring, area

I (1–7), II (13–45, in neat rows arranged as a crescent), III (21–77), IV (11–90), V (0, except one specimen that counted 1), VI (2–9, 3–10), and VII–VIII (13 to around 100). Dorsal cirri short on anterior segments, subsequently longer than notopodia up to two times. Notopodia 2 ligules, with triangular distal end. Neuropodial ventral ligule smaller than notopodial ligules, prechaetal lobe digitiform. Notochaetae homogomph spinigers on anterior segments. Notopodial falciger with single median tooth, first appear between chaetiger 22 and chaetiger 30, replace spinigers by chaetiger 30. Supra-acicular neurochaetae homogomph long spinigers, sesquigomph spinigers (occasional), and heterogomph falcigers. Infra-acicular neurochaetae heterogomph spinigers and heterogomph falcigers.

Distribution. Sunda Strait, Indonesia to south of West Java, eastern Indian Ocean, 163–1,796 m (this study).

Nicon pettiboneae de León-González & Salazar-Vallejo, 2003

Nicon maculata—Wu & Sun, 1979: 101, fig. 4a–k.
Nicon pettiboneae de León-González & Salazar-Vallejo, 2003: 373, 374, fig. 4.

Material examined. CP37 (5 specimens), CP56 (1 specimen).

Remarks. Our specimens agreed with the type description and the addition of four observations as follows: jaw with 6–7 teeth, light brown; longest tentacular cirri reached chaetiger 8; gradual shape change of neuropodial postsetal lobe (from digitiform to broad triangular) occurring between chaetiger 19 and chaetiger 47; and homogomph spinigers not always present in infracicular neurosetae. Our specimens also matched the description of *Nicon maculata* sensu Wu & Sun (1979), which had neuropodial "homogomph falcigers" that resembled the recognised sesquigomph form of *N. pettiboneae* and had no neurosetal spinigers, which probably alluded to their intermittent presence such as in our specimens. Examination of the specimens in Wu & Sun (1979) would be necessary to properly redetermine their taxonomy.

Distribution. New Caledonia region and Philippines, 181–588 m (de León-González & Salazar-Vallejo, 2003); East and South China Sea, 37–144 m (Wu & Sun, 1979); south of West Java, eastern Indian Ocean, 163–255 m (this study).

Family Onuphidae

Hyalinoecia tubicola (O.F. Müller, 1776)

Nereis tubicola Müller, 1776: 217.
Hyalinoecia tubicola—Day, 1967a: 411, 412, fig. 17.9l–r; Imajima, 1999: 31–34, figs. 18a–h, 19a–s.

Material examined. CP23 (1 specimen), CP24 (1 specimen), CP28 (1 specimen), CP52 (1 specimen).

Distribution. North Atlantic from Greenland and Norway to the Gulf of Mexico and South America and Senegal, Mediterranean Sea, Indian Ocean, New Zealand and Japan, 1–999 m (Day, 1967a; Imajima, 1999); Sunda Strait, Indonesia to south of West Java, eastern Indian Ocean, 559–1,156 m (this study).

Hyalinoecia cf. *tubicola* (O.F. Müller, 1776)

Nereis tubicola Müller, 1776: 217.
Hyalinoecia tubicola—Day, 1967a: 411, 412, fig. 17.9l–r; Imajima, 1999: 31–34, figs. 18a–h, 19a–s.

Material examined. DW16 (2 specimens).

Remarks. Branchiae simple and present from chaetiger 21. Frontal antennae subulate. All branchiae longer than dorsal cirri. These slightly differed from *H. tubicola* in terms of the shape of frontal antennae and the length of first branchiae. Frontal antennae of our specimens were subulate, while those of *H. tubicola* are ovoid (Day, 1967a; Imajima, 1999). In addition, all branchiae of our specimens were longer than dorsal cirri, while the first branchiae of *H. tubicola* are shorter than dorsal cirri (Day, 1967a).

Distribution. Sunda Strait, Indonesia, 92–103 m (this study).

Hyalinoecia sp. 1

Material examined. CP03 (2 specimens), CP20 (2 specimens).

Remarks. In these specimens, branchiae occurred from chaetiger 14 onwards, while in most other congeners, branchiae are present from chaetiger 16–30: *H. papillata* Imajima, 1999, *H. tubicola* (O.F. Müller, 1776), *H. acuta* Imajima, 1999, *H. bathyalis* Lechapt, 1997, *H. branchiata* Treadwell, 1934, *H. artifex* Verrill, 1880, *H. brevicirris* Grube, 1878, *H. incubans* Orensanz, 1990, *H. brevicornis* Grube, 1878, *H. juvenalis* Moore, 1911, *H. stricta* Moore, 1911, and *H. tecton* Chamberlin, 1919. Other *Hyalinoecia* species lack branchiae altogether: *H. abranchiata* Lechapt, 1997 and *H. bermudensis* (Hartman, 1965). Branchiae were not described in *H. camiguina* Grube, 1878, *H. leucacra* Chamberlin, 1919, and *H. varians* Baird, 1869.

Distribution. Sunda Strait, Indonesia, 283–398 m (this study).

Hyalinoecia sp. 2

Material examined. CP22 (3 specimens), CP23 (3 specimens), CP24 (3 specimens), CP25 (3 specimens).

Remarks. Branchiae present from chaetiger 18–19. There are three described *Hyalinoecia* species with branchiae present from chaetiger 18 or 19: *H. brevicornis* Grube, 1878, *H. acuta* Imajima, 1999, and *H. tecton* Chamberlin, 1919. The type description for *H. brevicornis* is brief, thus comparison with this species is difficult. *H. acuta* has nuchal grooves on the peristomium and pointed hoods on the anterior parapodia (Imajima, 1999), but these characters were not observed in our specimens. Peristomium of *H. tecton* is larger than

segment 2 (Chamberlin, 1919), while in our specimen was smaller than segment 2.

Distribution. Sunda Strait, Indonesia, 559–1,068 m (this study).

Onuphis holobranchiata Marenzeller, 1879

Onuphis holobranchiata Marenzeller, 1879: 132–134, pl. 4 fig. 1; Fauchald, 1982: 48.
Nothria holobranchiata—Imajima & Hartman, 1964: 244, 245.
Onuphis (*Nothria*) *holobranchiata*—Day, 1967a: 424, fig. 17.13f–g.

Material examined. CP45 (2 specimens), CP58 (3 specimens).

Distribution. Tropical Indian Ocean (1–99 m) and Japan (Day, 1967a); south of West Java, eastern Indian Ocean, 505–851 m (this study).

Paradiopatra cf. *quadricuspis* (M. Sars in G.O. Sars, 1872)

Onuphis quadricuspis M. Sars in G.O. Sars, 1872: 407, 408.
Paradiopatra quadricuspis—Budaeva & Fauchald, 2011: 396–400, figs. 66–70, table 15.

Material examined. CP20 (1 specimen), CP44 (1 specimen).

Remarks. These specimens differed slightly from Budaeva & Fauchald's (2011) description of *Paradiopatra quadricuspis* in the annulation pattern of the ceratophores. Our specimens had ceratophores with annulations of equal lengths but ceratophores of *P. quadricuspis* in Budaeva & Fauchald (2011) with uneven annulation lengths, rings at the distal end are longer than the ones at the proximal.

Distribution. Sunda Strait, Indonesia to south of West Java, eastern Indian Ocean, 325–1,013 m (this study).

Rhamphobrachium chuni Ehlers, 1908

Rhamphobrachium chuni Ehlers, 1908: 76–78, pl. 9 figs. 6–15; Day, 1967a: 420.
Rhamphobrachium (*Rhamphobrachium*) *chuni*—Paxton, 1986: 86, 87, fig. 6a–f.

Material examined. DW17 (3 specimens), DW19 (1 specimen).

Distribution. Indo-Pacific: East Africa, India, Indonesia, Philippines, ?New Zealand, ?64–1,362 m (Paxton, 1986); Sunda Strait, Indonesia, 172–469 m (this study).

Rhamphobrachium (*Spinigerium*) sp.

Material examined. CP07 (3 specimens).

Remarks. Posterior region for all three specimens damaged. Branchiae from chaetiger 8 to the posterior end of the fragments (chaetigers 17–25), single filament only. These specimens differed from other *Rhamphobrachium* (*Spinigerium*) species that has single filament branchiae: *R.* (*S.*) *pettiboneae* Paxton, 1986, or species with single or maximum two filament branchiae: *R.* (*S.*) *pyriforme* Paxton, 1986 and *R.* (*S.*) *ehlersi* Monro, 1930. Branchiae of these three species present from chaetiger 10–14 (Paxton, 1986) while branchiae of our specimens present from chaetiger 8.

Distribution. Sunda Strait, Indonesia, 379–409 m (this study).

Family Opheliidae

Ophelina sp.

Material examined. CP26 (1 specimen), CP57 (1 specimen).

Remarks. Terminal palpode present. Branchiae present from chaetiger 2 to almost the posterior end. Anal tube and funnel damaged. Ventral anal papilla unpaired.

Distribution. South of West Java, eastern Indian Ocean, 223–727 m (this study).

Family Orbiniidae

Leitoscoloplos bifurcatus (Hartman, 1957)

Haploscoloplos bifurcatus Hartman, 1957: 277–279.
Leitoscoloplos bifurcatus—Hutchings & Rainer, 1979: 760, 761; Zhadan et al., 2015: 786, figs. 5, 6.

Material examined. CP02 (1 specimen).

Remarks. Prostomium of this specimen is shorter than the achaetigerous segment, while that of *L. bifurcatus* described by Zhadan et al. (2015) have same length as the achaetigerous segment.

Distribution. South Australia, Victoria, New South Wales, Queensland, Northern Territory, intertidal–15 m (Hartman, 1957; Hutchings & Rainer, 1979); Sunda Strait, Indonesia, 257–281 m (this study).

Leodamas cf. *brevithorax* (Eibye-Jacobsen, 2002)

Scoloplos (*Leodamas*) *brevithorax* Eibye-Jacobsen, 2002: 87–89, figs. 6, 7.

Material examined. CP55 (1 specimen), CP56 (1 specimen), CP57 (1 specimen).

Remarks. Our specimens resembled *L. brevithorax* (Eibye-Jacobsen, 2002) described from the Andaman Sea, Indian Ocean with a slight difference in branchiae start position. Branchiae starts from chaetiger 6 in *L. brevithorax* (Eibye-Jacobsen, 2002) but from chaetiger 5 in our specimens.

Distribution. South of West Java, eastern Indian Ocean, 183–379 m (this study).

Phylo nudus (Moore, 1911)

Aricia nuda Moore, 1911: 311–315, pl. 21 figs. 172–176; Fauvel, 1932: 162, 163, fig. 25a–d.
Phylo nudus—Hartman, 1957: 268.

Material examined. DW06 (1 specimen), CP25 (1 specimen).

Distribution. Southern California, 379–909 m (Moore, 1911) and Burma (Myanmar), Bay of Bengal, 62 m (Fauvel, 1932); Sunda Strait, Indonesia, 266–937 m (this study).

Family Pectinariidae

Pectinaria capensis (Pallas, 1766)

Nereis cylindraria capensis Pallas, 1766: 118–122, pl. 9 figs. 1, 2.
Pectinaria (*Amphictene*) *capensis*—Day, 1967b: 683, 684, fig. 34.2a–d.

Material examined. CP20 (1 specimen).

Distribution. South Africa, Indian Ocean, 1–99 m (Day, 1967b); Sunda Strait, Indonesia, 325–362 m (this study).

Petta tenuis Caullery, 1944

Petta tenuis Caullery, 1944: 75, fig. 61

Material examined. CP23 (2 specimens), DW32 (1 specimen).

Distribution. Indonesia, 275 m (Caullery, 1944); Sunda Strait, Indonesia to south of West Java, eastern Indian Ocean, 559–977 m (this study).

Family Phyllodocidae

Phyllodoce madeirensis Langerhans, 1880

Phyllodoce (*Anaitis*) *madeirensis* Langerhans, 1880: 307, 308, pl. 17 fig. 44.
Phyllodoce (*Anaitides*) *madeirensis*—Fauvel, 1953: 120, 121, fig. 59d–h; Uschakov, 1972: 131, 132.
Phyllodoce madeirensis—Mountford, 1991: 161–166, figs. 2, 3A–C.

Material examined. CP20 (1 specimen).

Remarks. A row of three small papillae observed at the dorsomedial proximal part of the proboscis, instead of 4–6 papillae according to Uschakov (1972). Mountford's (1991) account of *P. madeirensis* noted the presence of 4–6 papillae at the middorsal region of the proboscis in some of the specimens but other specimens examined lack of this medio-dorsal row of papillae.

Distribution. Pacific Ocean, China, Annam, Philippine Islands, Australia, Malay Archipelago; Indian Ocean, Persian Gulf, Red Sea; Atlantic Ocean, Mediterranean Sea (Fauvel, 1953); Cosmopolitan from 33°N (Madeira) to 37°S (Tristan da Cunha), 8–231 m (Mountford, 1991); Sunda Strait, Indonesia, 325–362 m (this study).

Family Polynoidae

Eunoe yedoensis McIntosh, 1885

Eunoe yedoensis McIntosh, 1885: 75, pl. 15 fig. 4, pl. 19 fig. 9, pl. 10_A figs. 11, 12

Material examined. CP39 (12 specimens).

Remarks. Six of the specimens associated with hexactinellid sponges (*Semperella* sp.).

Distribution. Sagami Bay, south of Tokyo (formerly Yedo), Japan, 631 m (McIntosh, 1885); South of West Java, eastern Indian Ocean, 528–637 m (this study).

Eunoe sp.

Material examined. CP39 (2 specimens).

Remarks. Notochaetae all similar, stout, with numerous rows of spines and blunt tips. Neurochaetae unidentate, with numerous rows of spines in distal region. Upper neurochaetae straight, slender, tapering to fine capillary tips; all other neurochaetae stout, with falcate tips. Neuropodial supra-acicular process long, digitiform. All elytra lost.

Distribution. South of West Java, eastern Indian Ocean, 528–637 m (this study).

Harmothoe sp.

Material examined. DW06 (1 specimen), CP39 (2 specimens).

Remarks. Two pairs of conspicuous eyes, anterior pair dorsolateral at widest part of prostomium and posterior pair dorsally near the hind margin of prostomium. Cephalic peaks area and ceratophores of median and lateral antennae with dark pigmentation. Dorsum with pigmented transverse bands, observed from about segment 10–12 to the posterior end. Notochaetae with spinous rows of serrations; short notochaetae with relatively short bare rounded to pointed tips, longer notochaetae with long bare pointed tips. Neurochaetae with distinct rows of spines, mostly bidentate with small secondary tooth, few upper and lower neurochaetae unidentate. Neuropodial supra-acicular process slender, digitiform. All elytra lost. One of the specimens from CP39 was associated with hexactinellid sponges (*Semperella* sp.) and another was collected from a xenophorid shell.

Distribution. Sunda Strait, Indonesia to south of West Java, eastern Indian Ocean, 266–637 m (this study).

Hermenia acantholepis (Grube, 1876)
(Fig. 3G)

Polynoe acantholepis Grube, 1876: 61.
Hermenia acantholepis—Pettibone, 1975: 239–241, figs. 3, 4; Hanley & Burke, 1991: 62–64, fig. 19; Imajima, 1997: 81–84, figs. 38, 39.

Material examined. DW17 (1 specimen).

Distribution. Widely distributed in Indo-Pacific Region: Japan, Indochina, Philippines, Indonesia, Australia, New Caledonia, Sri Lanka (formerly Ceylon), Maldives, Madagascar, Gulf of Suez, intertidal–73 m (Pettibone, 1975); Coral Sea, 16–95 m (Hanley & Burke, 1991); Sunda Strait, Indonesia, 448–469 m (this study).

Family Sabellariidae

***Gesaia* sp.**
(Fig. 3H)

Material examined. CP07 (3 specimens), CP08 (1 specimen), CP20 (1 specimen).

Remarks. Five to six pairs of conical opercular papillae spirally arranged from nuchal hooks to ventral distal end of the opercular lobes, similar to the arrangement described in Zhang et al. (2020) of the genus. Around 15–18 simple tentacular filaments along margins of buccal cavity, differed from all other congeners which have only 3–5 tentacular filaments (Kirtley, 1994; Zhang et al., 2020). One to two inner paleae on each opercular lobe, surface of inner paleae with transverse lines. Thecae of outer paleae ornamented. The outer paleae thecae with slightly serrated distal edges at the proximal area, heavily serrated margins at the middle to distal-middle part and weakly serrated margins at the distalmost region. Segment 1 with lobe-shaped neuropodia, with neurochaetae. Thoracic branchiae present, started from segment 2. Parathoracic neurochaetae only capillaries with plumose distal margins. *Gesaia* has been reported from deep waters of all major oceans (Kirtley, 1994; Zhang et al., 2020).

Distribution. Sunda Strait, Indonesia, 325–442 m (this study).

Family Serpulidae

***Hyalopomatus* sp.**
(Fig. 4A)

Material examined. DW06 (1 specimen).

Remarks. Tube white, opaque, circular in cross-section. Tube surface with rugose sculpturing, with few transverse ridges (except for the erect distal end, with smooth shiny surface and at least 10 circular rings); attached to substrate at proximal end only, distal end free. Membranous semi-transparent operculum globular, soft, with more or less flattened top, slightly differentiated into distal cap; pseudoperculum absent. Peduncle thin (similar as radioles), cylindrical, smooth and annulated (annulation more conspicuous at distal part). Radioles of live specimen light orange colour, around 10 pairs of radioles, radiolar eyes absent. The combination of the smooth and rugose tube surface is similar to *H. variorugosus* Ben-Eliahu & Fiege, 1996 from the Mediterranean, however, our specimen did not possess the 'flap-like' structures on the tube surface as described in *H. variorugosus*. It also differed in the operculum, peduncle, and number of radioles. This genus contains mainly bathyal and abyssal species (ten Hove & Kupriyanova, 2009). This specimen was attached on a plastic sheet.

Distribution. Sunda Strait, Indonesia, 266–294 m (this study).

***Protula* sp.**
(Fig. 4B)

Material examined. DW06 (1 specimen), CP07 (3 specimens).

Remarks. Tube white, opaque, circular in cross-section; attached to substrate at proximal end only, distal end free. Tube surface without hyaline outer layer, with simple transverse striations and few transverse ridges. Radioles arranged in two semi-circles, around 16–32 per lobe. Orange to reddish-orange ocellar clusters on radioles observed in live specimen. Collar trilobed, short, tonguelets absent. Thoracic membrane wide, continuing to the end of thorax. Collar and thoracic membrane of live specimen orange-ish (semi-transparent). Seven thoracic segments, with uncinigerous tori present from segments 3–4 to segment 7. Specimens attached on plastic packaging sheet and also inside empty mollusc shells. The specimens did not resemble the Indo-West Pacific species. As pointed out by previous studies (e.g., ten Hove, 1984; ten Hove & Kupriyanova, 2009), the phylogenetic basis for this genus is ill-defined and in need for revision. Species in this genus have been described based on small differences, thus, very hard to distinguish.

Distribution. Sunda Strait, Indonesia, 266–409 m (this study).

***Serpula* sp.**

Material examined. CP07 (1 specimen), CP08 (1 specimen).

Remarks. Tubes with tinge of orange (CP08) to mostly orange colour on a white background, with hyaline overlay, tube inner part white. Subtrapezoidal (CP08) to almost circular in cross-section with two very faint lateral longitudinal ridges and two more prominent laterodorsal ones, with slightly flattened area in between. Two to three transverse ridges near the tube distal region, tubes completely attached to the substrate. Operculum with shallow symmetrical funnel (larger one with slightly raised central disc), lacking bulbous basal part. Funnel has 27 (CP08) to 39 radii with blunt tips, without tubercles. Pseudoperculum short, club-shaped. Collar chaetae of two types: simple capillaries and bayonet-shaped chaetae, basal boss rasped, no large basal teeth observed between proximal rasp and chaetal tip; distal part of chaetal shaft preceding boss serrated (basal boss barely developed, proximal rasp present (CP08)). Similar collar chaetae can be found on two other Serpula species, i.e., *S. vittata* Augener, 1914 from western Australia and *S. planorbis* (Southward, 1963) from the Atlantic. *Serpula vittata* has a distinct tube which dotted with small deep-brown speckles between the

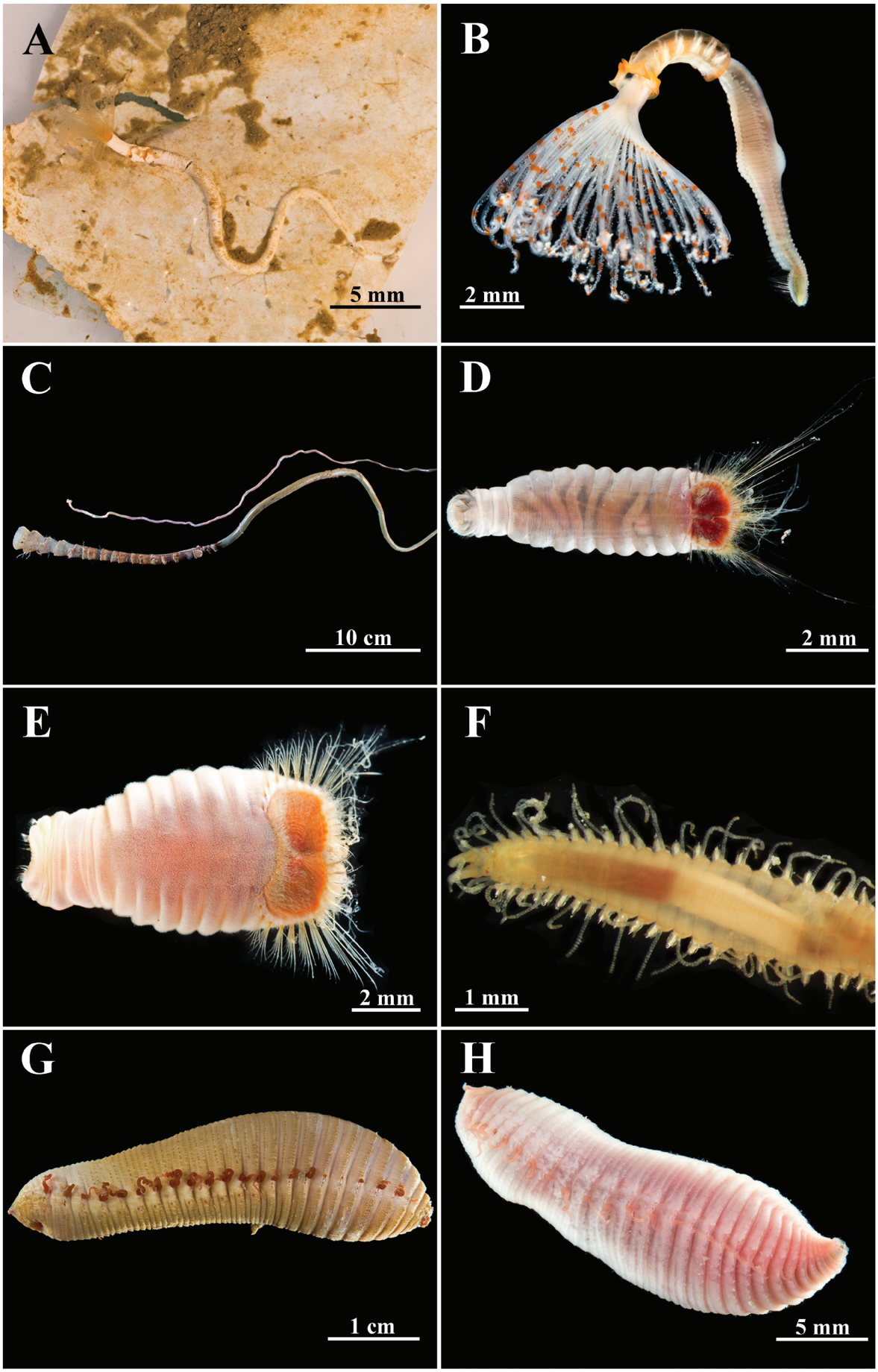

Fig. 4. Photographs of live specimens. A, *Hyalopomatus* sp., specimen in tube; B, *Protula* sp., entire specimen, lateral view; C, tube of Siboglinidae sp.; D, *Petersenaspis palpallatoci*, entire specimen, ventral view; E, *Sternaspis thorsoni*, entire specimen, ventral view; F, *Syllis* sp., anterior end, dorsal view; G, *Travisia* cf. *horsti*, entire specimen, lateral view; H, *Travisia* sp., entire specimen, lateral view.

longitudinal ridges (Imajima, 1982; as *S. palauense*) to transverse brown band (Kupriyanova et al., 2015); while *S. planorbis* has white tube without longitudinal keel and operculum funnel with only 20 radii (Southward, 1963; as *Paraserpula planorbis*). Specimen from CP08 probably represented the juvenile form.

Distribution. Sunda Strait, Indonesia, 379–442 m (this study).

Family Siboglinidae

Siboglinidae sp.
(Fig. 4C)

Material examined. CP02 (1 siboglinid tube).

Remarks. Tube morphology resembled those of *Paraescarpia echinospica* Southward, Schulze & Tunnicliffe, 2002 described from the Lihir Island, Papua New Guinea and the Java Trench. Total length of tube about 920 mm having a segmented anterior region with large funnel-shaped collars or flanges at the anterior margins of the segments. The anteriormost funnel was 20 mm wide. Below the segmented region, the tube was smooth and about 7 mm in diameter, tapering gradually to about 5 mm and then to about 2 mm. The thin wire-like posterior region of the tube continues for about 490 mm. The tube wall was stiff. No specimen was observed inside the tube.

Distribution. Sunda Strait, Indonesia, 257–281 m (this study).

Family Sigalionidae

Ehlersileanira incisa (Grube, 1877)

Sthenelais incisa Grube, 1877: 519, 520.
Sthenelais simplex Ehlers, 1887: 60, pl. 13 figs. 2, 3, pl. 14 figs. 1–6.
Leanira vulturis Horst, 1917: 118, 119, pl. 25 figs. 5–7.
Leanira incisa—Hartman, 1944: 13, 14, pl. 1 figs. 1–4, pl. 2 figs. 9–11.
Ehlersileanira incisa—Pettibone, 1970b: 19–23, figs. 10–12.

Material examined. CP12 (3 specimens), CP22 (1 specimen), CP26 (1 specimen), CP27 (2 specimens), CP33 (3 specimens), CP48 (1 specimen), DW63 (2 specimens).

Remarks. The specimens agreed with the description in Pettibone (1970b) except for the relative sizes between the lateral auricles and the prostomium. Illustrations in Pettibone (1970b) showed lateral auricle sizes to be much smaller than the prostomium, whereas in our specimens they were of subequal sizes and were similar to illustrations of *Sthenelais simplex* in Ehlers (1887) and *Leanira incisa* in Hartman (1944). The latter two species were synonymised by Pettibone (1970b) with *E. incisa*.

Distribution. North and South Atlantic: off West Africa, South and Central America, Gulf of Mexico, Florida, West Indies; Malay Archipelago; Philippine Islands; Izu peninsula, Japan, 15–930 m (Pettibone, 1970b); Sunda Strait, Indonesia to south of West Java, eastern Indian Ocean, 208–870 m (this study).

Labioleanira sp.

Material examined. CP28 (1 specimen), CP35 (1 specimen), CP47 (1 specimen), CP48 (2 specimens).

Remarks. Oval prostomium slightly pigmented or non-pigmented. Eye spots and nuchal organs not observed (one pair of faint eye spots observed in CP35 specimen). Lateral auricles prominent. Both dorsal cirri and dorsal tubercles were not observed on segment 3, except for a very small protuberance on one of the specimens. Rudimentary branchiae present from segment 15, with larger digitiform branchiae at about segment 22–25. No simple spinous neurochaetae observed. Small papilla observed from the posterior side of the parapodial base starting from segment 16. Ventral cirri subulate with articulated tips. The combination of characters in these specimens differed from the other currently known *Labioleanira* species.

Distribution. South of West Java, eastern Indian Ocean, 476–1,022 m (this study).

Leanira sp.

Material examined. CP05 (2 specimens), CP14 (2 specimens), CP22 (1 specimen), CP23 (1 specimen), CP25 (1 specimen), CP26 (2 specimens), CP27 (1 specimen), CP28 (1 specimen), CP47 (1 specimen), CP48 (1 specimen), CP50 (1 specimen), CP51 (1 specimen), CP53 (2 specimens), CP55 (1 specimen), CP59 (5 specimens).

Remarks. The specimens resembled *L. alba* Moore, 1910 from the Pacific Ocean off San Diego with the presence of simple neurochaetae, tubular segmental papillae, and having no labial lobes. In *L. alba*, there are up to five simple spinous neurochaetae and no stylodes on tentacular parapodium. However, in our specimens, up to two simple spinous neurochaetae were observed, while stylodes were observed on tentacular parapodium of some of the specimens. Oval prostomium pigmented, ranging from light to dark brown in alcohol.

Distribution. Sunda Strait, Indonesia to south of West Java, eastern Indian Ocean, 378–1,714 m (this study).

Sthenelais sp.

Material examined. CP27 (1 specimen), CP33 (2 specimens).

Remarks. Elytra fragile, semi-transparent to opaque, only first few pairs observed, others lost; surface covered with microtubercles. First pair with fringe of papillae on anterior and lateral margins with numerous submarginal papillae concentrated on lateral and anterior areas of elytra. Following few pairs with lateral fringe of papillae and a few submarginal ones. No eye spots observed from the

prostomium. Beginning on segment 6–7, posterior side of the parapodia (near notopodial base) each with a small ovate papilla and a slightly larger fan-shaped/cup-shaped ctenidium. Neurochaetae compound spinigers and/or falcigers, simple spinous neurochaetae absent. Anterior segment neurochaetae with compound spinigers, started from segments 20–21 observed with compound spinigerous upper and lower neurochaetae, middle ones compound falcigers with short blades and bifid tips. Neurochaetae of median (from segments 30–40) to more posterior parapodia all compound falcigers. Upper neurochaetae with fine bifid tips, blades long, middle ones with stout bifid tips, blades short, lower ones similar to middle neurochaetae but slender, some with longer blades. The combination of characters in these materials did not correspond to the other Indo-Pacific *Sthenelais* species.

Distribution. South of West Java, eastern Indian Ocean, 312–557 m (this study).

Family Spionidae

Laonice sp.

Material examined. CP52 (1 specimen).

Remarks. Prostomium anteriorly bluntly rounded, clearly fused with peristomium. Caruncle reaching chaetiger 2, with nuchal organs extending to at least chaetiger 44 (dorsal epidermis had split, exposing the interior of the body). Branchiae are likely to be present from chaetiger 2 (faint scar observed) to at least chaetiger 37. The anterior few branchiae are partially fused to the notopodial postchaetal lobe at the base only, branchiae at the subsequent middle segments are lost, a few branchiae observed at chaetigers 35–37 free from the postchaetal lobe. Genital pouch first present between chaetiger 10–11 at one side and between chaetigers 9–10 at another side. Notochaetae and neurochaetae arranged in two rows. Start of sabre chaetae difficult to determine, probably from chaetiger 17. Neuropodial hooks first appeared around chaetiger 50. Hooks are bidentate in side view, but observed some with a pair of apical teeth on the main fang. Hood margin smooth. Most of the characters of our specimen fell within the range of *L. cirrata* (M. Sars, 1851), a widespread temperate to cold water species described from the Arctic Ocean. However, the numeric characters for the *Laonice* group with fused prostomium and peristomium are highly variable. Three of the characters normally used (i.e., last chaetiger with nuchal organ and branchiae; first occurrence of sabre chaetae) could not be determined due to the poor condition of this specimen.

Distribution. South of West Java, eastern Indian Ocean, 1,124–1,156 m (this study).

Spiophanes sp.

Material examined. CP23 (1 specimen).

Remarks. The single specimen had chaetal spreader type "1+2", with undulate opening, well developed on chaetigers 5–7. The only other species currently known to have the same chaetal spreader type is *S. berkeleyorum* Pettibone, 1962, a common species along the North American Pacific coast. Our specimen differed from *S. berkeleyorum* in the presence of ventrolateral intersegmental pouches (started between chaetigers 14–15), lower number of neuropodial hooks (mostly five per row) and intense staining by methyl green at the prostomium, peristomium, and the ventral region of chaetigers 1–8.

Distribution. Sunda Strait, Indonesia, 559–571 m (this study).

Family Sternaspidae

Caulleryaspis sundaensis Chuar & Salazar-Vallejo, 2021

Material examined. CP18 (1 specimen).

Remarks. New sternaspid species described from material collected during SJADES 2018 (see this volume).

Distribution. Sunda Strait, Indonesia, 1,060–1,073 m (this study).

Petersenaspis palpallatoci Sendall & Salazar-Vallejo, 2013

(Fig. 4D)

Petersenaspis palpallatoci Sendall & Salazar-Vallejo, 2013: 61, 62, fig. 19.

Material examined. DW60 (1 specimen).

Remarks. The specimen differs slightly from the type description by having 12 posterior shield marginal chaetal fascicles instead of 10.

Distribution. Philippines islands to Sarawak, Malaysia, 5.5–93 m (Sendall & Salazar-Vallejo, 2013); south of West Java, eastern Indian Ocean, 161–256 m (this study).

Sternaspis cf. *britayevi* Zhadan, Tzetlin & Salazar-Vallejo, 2017

Sternaspis britayevi Zhadan et al., 2017: 76, 77, fig. 1.

Material examined. CP56 (1 specimen).

Remarks. Ventro-caudal shield for *Sternaspis britayevi* dark orange in colour, with shallow anterior depression. Our specimen differed from the type description by having dark reddish ventro-caudal shield and slightly deeper anterior depression.

Distribution. South of West Java, eastern Indian Ocean, 183–255 m (this study).

Sternaspis piotrowskiae Salazar-Vallejo, 2014

Sternaspis piotrowskiae Salazar-Vallejo, 2014b: 166–168, fig. 1.

Material examined. CP14 (1 specimen), CP17 (1 specimen), CP23 (1 specimen), CP50 (1 specimen), CP53 (3 specimens).

Distribution. Philippines islands, 272–636 m (Salazar-Vallejo, 2014b); Sunda Strait, Indonesia to south of West Java, eastern Indian Ocean, 383–1,714 m (this study).

Sternaspis thorsoni Sendall & Salazar-Vallejo, 2013
(Fig. 4E)

Sternaspis thorsoni Sendall & Salazar-Vallejo, 2013: 50–52, fig. 15.

Material examined. DW60 (1 specimen).

Remarks. This specimen differed slightly from the type description in having small fascicles of fine capillary chaetae (2–3 chaetae per fascicle) at pre-shield region and five posterior shield marginal chaetal fascicles.

Distribution. Arabian Sea, probably reaching Andaman Sea, 3–110 m (Sendall & Salazar-Vallejo, 2013); south of West Java, eastern Indian Ocean, 161–256 m (this study).

Family Syllidae

Syllis sp.
(Fig. 4F)

Material examined. CP35 (1 specimen).

Remarks. Live specimen yellow, no colour pattern. Colour in alcohol beige, opaque. Two pairs of reddish eyes. Three articulated antennae, median antenna incomplete, arising between posterior eyes. Pharynx (reddish-brown colour) for this preserved specimen is contracted, therefore it is difficult to observe the marginal papillae and pharyngeal tooth. Pharyngeal tube extending over 8–9 segments (observation from live specimen images). Proventricle extending through 6–7 segments, with about 26 proventricular muscle rings, with longitudinal midline. All chaetae are compound heterogomph, distal part of shafts with spines, bidentate blades: anteriorly 15–16, midbody about 13, posteriorly 7–9 per parapodium. Dorsal falciger with longer blades than ventral ones. Anterior parapodia with four aciculae, three tapered or slightly oblique at tip and the other distally curving. Mid-body parapodia with three aciculae, all simple, tapered. Only two aciculae on posterior parapodia, one pointed, the other with slightly rounded tip. All aciculae slightly protruding from parapodia. The specimen could not be positively identified to species level but could be assigned to the *armillaris*-complex according to Licher's (1999) definition mainly based on chaetae and aciculae characters.

Distribution. South of West Java, eastern Indian Ocean, 603–686 m (this study).

Family Terebellidae

Amphitrite malayensis Caullery, 1944

Amphitrite malayensis Caullery, 1944: 104, fig. 85.

Material examined. CP02 (1 specimen), CP24 (1 specimen), CP35 (1 specimen), CP50 (1 specimen), CP51 (3 specimens).

Distribution. Indonesia, 959 m (Caullery, 1944); Sunda Strait, Indonesia to south of West Java, eastern Indian Ocean, 257–1,068 m (this study).

Artacama cf. *proboscidea* Malmgren, 1866

Artacama proboscidea Malmgren, 1866: 394, 395; Day, 1967b: 733–735, fig. 36.6d–g.

Material examined. CP53 (1 specimen).

Remarks. This specimen agreed with the type description of *A. proboscidea*. However, nephridial papilla cannot be observed although Day (1967b) observed that those of *A. proboscidea* are present on segments 3, 6, 7, 8, and 9.

Distribution. South of West Java, eastern Indian Ocean, 1,521–1,714 m (this study).

Artacama sp.

Material examined. CP53 (1 specimen).

Remarks. Proboscis papillated. Tentacular lobe horseshoe-shaped. Seventeen thoracic chaetigers present. Tentacles very short. No eye-spots. Two pairs of branchiae on segment 3 (simple branchiae) and segment 4 (tuft branchiae). Seventeen bundles of notochaetae present from segment 4. Uncini present from segment 5 and in double rows on the posterior thorax. This specimen differed from other *Artacama* species, i.e., *A. canadensis* McIntosh, 1915, *A. coniferi* Moore, 1905, *A. crassa* Hartman, 1967, *A. globosa* Hartman & Fauchald, 1971, *A. proboscidea* Malmgren, 1866, and *A. valparaisiensis* Rozbaczylo & Méndez, 1996, in that they have three pairs of branchiae from segment 2 to 4 instead. Meanwhile, branchiae of *A. benedeni* Kinberg, 1866, *A. challengeriae* McIntosh, 1885, and *A. zebuensis* McIntosh, 1885 have not been described and thus are not available for comparison.

Distribution. South of West Java, eastern Indian Ocean, 1,521–1,714 m (this study).

Neoamphitrite sibogae (Caullery, 1944)

Amphitrite robusta var. *sibogae* Caullery, 1944: 105, 106, fig. 86.

Material examined. CP02 (1 specimen).

Distribution. Indonesia, 538 m (Caullery, 1944); Sunda Strait, Indonesia, 257–281 m (this study).

Pista brevibranchia Caullery, 1915

Pista brevibranchia Caullery, 1915a: 76; Caullery, 1944: 152–154, fig. 121; Day, 1967b: 737, 738, fig. 36.7d–g.

Material examined. CP56 (5 specimens), DW60 (1 specimen).

Distribution. Indonesia, 520–2,060 m (Caullery, 1944); south of West Java, eastern Indian Ocean, 161–256 m (this study).

Pista cf. *curtiuncata* Hartmann-Schröder, 1981

Pista curtiuncata Hartmann-Schröder, 1981: 58, figs. 134–136; Hutchings & Glasby, 1988: 41, 42, fig. 16a.

Material examined. CP34 (1 specimen), CP45 (1 specimen), CP48 (1 specimen), CP51 (1 specimen).

Remarks. These specimens differed slightly from previous descriptions of *P. curtiuncata* in terms of the pattern of branchiae. The main branches of our specimens were not branched, while those of *P. curtiuncata* are themselves branched (Hutchings & Glasby, 1988).

Distribution. South of West Java, eastern Indian Ocean, 234–851 m (this study).

Terebella sp.

Material examined. CP33 (1 specimen), CP56 (3 specimens).

Remarks. Branchiae arborescent and present on segment 2 to 4. Notochaetae 21 to 22 and present from segment 4 to within 12–16 segments from the pygidium. Ventral pads on eleven segments. Pygidium short. Uncini with three arcs of denticles above the main fang.

Distribution. South of West Java, eastern Indian Ocean, 183–525 m (this study).

Terebellinae sp.

Material examined. CP37 (1 specimen).

Remarks. Small terebellid with length of about 2 cm. Proboscis absent. Thoracic uncini in double rows. Three branchiae articulated dichotomous, three pairs present from segment 2 to 4. Thirty-nine smooth tipped notochaetae, present from segment 4. Uncini were too small to observe. Lateral lappets could not be observed due to their poor condition.

Distribution. South of West Java, eastern Indian Ocean, 163–166 m (this study).

Family Travisiidae

Travisia cf. *horsti* Caullery, 1944
(Fig. 4G)

Travisia horsti Caullery, 1944: 47, 48, fig. 40; Dauvin & Bellan, 1994: 174, 175 (key to the Travisiinae); Rizzo & Salazar-Vallejo, 2020: 3–6 (key to species of *Travisia*).

Material examined. CP13 (1 specimen), CP22 (1 specimen), CP25 (1 specimen).

Remarks. The overall morphology of the specimens resembled the type description but there were differences in segment and branchiae counts. Our specimens had 28–29 segments consisting 24–25 chaetigers and 4–5 achaetigerous segments as well as 22–23 pairs of branchiae versus Caullery's (1944) 28 chaetigers and 21 pairs of branchiae. Only one specimen (from CP13) had the pigmented pygidial knob as described by Caullery (1944).

Distribution. Sunda Strait, Indonesia, 864–1,268 m (this study).

Travisia sp.
(Fig. 4H)

Material examined. CP13 (1 specimen).

Remarks. Body fusiform, colour in alcohol pinkish. Prostomium pointed conical. Around 28 or 29 segments (mid-body damaged), 25 chaetigers, three or four achaetigerous segments. The first 15 or 16 segments triannulate, next four segments biannulate, last nine segments uniannulate. Interramal pores observed on some of the segments, but specimen not in good condition for clear observation; same for the nephridiopores. With small parapodial lappets throughout, less conspicuous towards the posterior end. Branchiae present on chaetiger 2 to 23 (22 pairs), each simple, annulated, cirriform. Entire body surface granular except for prostomium, papillae small and compact. Anterior body papillae not uniform in size, those of posterior side of annuli slightly larger; papillae size similar started from mid-body. Anal opening cylindrical, cirri not observed.

Distribution. Sunda Strait, Indonesia, 1,259–1,268 m (this study).

Family Trichobranchidae

Terebellides intoshi Caullery, 1915

Terebellides intoshi Caullery, 1915b: 111, figs. 1, 2; Caullery, 1944: 186–188, fig. 149.

Material examined. CP45 (1 specimen), CP48 (3 specimens).

Distribution. Indonesia, 330–2,798 m (Caullery, 1944); south of West Java, eastern Indian Ocean, 637–851 m (this study).

***Terebellides jorgeni* Hutchings, 2007**

Terebellides jorgeni Hutchings, 2007: 76–80, figs. 1–3.

Material examined. CP31 (2 specimens), CP48 (1 specimen).

Distribution. West and south coast of Africa, Bali Indonesia, and Tasman Sea, 430–4,360 m (Hutchings, 2007); south of West Java, eastern Indian Ocean, 637–1,796 m (this study).

***Terebellides stroemii* M. Sars, 1835**

Terebellides stroemii M. Sars, 1835: 48–50, pl. 12 fig. 31; Hutchings & Peart, 2000: 254–258, figs. 13f, 16a–c, table 3.

Material examined. CP02 (1 specimen), CP45 (3 specimens).

Distribution. Widely reported from around the world but probably restricted to Northern Europe, intertidal to about 3,000 m (Holthe, 1986; Hutchings & Peart, 2000); Sunda Strait, Indonesia to south of West Java, eastern Indian Ocean, 257–851 m (this study).

DISCUSSION

A total of 110 polychaete species in 30 families were identified from the material collected using trawl and dredge during the SJADES Biodiversity Expedition, of which 36 are new records (Table 2) for Indonesian waters relative to the most current (and also the first) Indonesian polychaete checklist compiled by Pamungkas & Glasby (2019). These 36 new records included 14 genera observed for the first time in Indonesian waters (Table 2). In addition, a new sternaspid species was also described based on the material from this expedition: *Caulleryaspis sundaensis* Chuar & Salazar-Vallejo, 2021. These new records included several species earlier described/reported from Indonesia but not captured in Pamungkas & Glasby (2019): *Hesione horsti* was described by Salazar-Vallejo (2018) based on type material from Indonesia collected during the Siboga expedition; *Hermenia acantholepis* was reported by Horst (1917) as *Lepidonotus acantholepis*, also from the Siboga expedition; Böggemann (2002) examined material from Indonesia identified as *Glycera cinnamomea*, similarly for *Goniada vorax* in Böggemann (2005). This study has increased the total polychaete species recorded in Indonesian waters from 713 species (Pamungkas & Glasby, 2019) to 749 species.

Polychaetes that occur in the Sunda Strait and off southwest Java appear to include species with different biogeographical distributions. Among the 48 Linnean-named species identified from this expedition, nearly 30% (14 species) have been recorded only from Indonesian waters and are possibly endemic. There is a larger percentage of species (40% or 19 species) whose occurrences have also been documented eastwards from the study region at the Indo-Pacific and East Pacific, as compared to 11% or five species that have known distributions westwards from the study region at the Indian Ocean and the Andaman Sea. Ten species were noted as having 'cosmopolitan' distributions as referenced from earlier literature, implying that they could occur worldwide, including *Amphicteis gunneri*, *Glycera tesselata*, *Goniada maculata*, *Goniada vorax*, *Maldane sarsi*, *Hyalinoecia tubicola*, *Phyllodoce madeirensis*, *Hermenia acantholepis*, *Ehlersileanira incisa*, and *Terebellides stroemii*. Further taxonomic treatment of these 'cosmopolitan' species using molecular data may clarify their actual biogeographical ranges, although this is beyond the scope of this checklist. Several studies of deep-water fauna (Pawlowski et al., 2007; Havermans et al., 2013; Georgieva et al., 2015) have also suggested that species found at deeper waters could have extended distribution ranges.

Comparing the depth distribution of the Linnean-named species in our study in relation to their respective previous records, 20 species were shown to occur deeper than previously recorded, nine species occurred shallower than previously recorded, while depth ranges of four species were expanded both ways and 15 species occurred within their previously recorded depth ranges. Species whose depth distributions have expanded considerably included *Amage madurensis* (183–255 m compared to 69–91 m previously), *Rashgua rubrocincta* (92–686 m compared to 7–22 m previously), *Paratherochaeta coronata* (183–255 m compared to 1,300–3,300 m previously), *Glycera nicobarica* (379–409 m compared to 0–143 m previously), *Aglaophamus urupani* (266–379 m compared to 10–30 m previously), *Neanthes bongcoi* (183–281 m compared to 0–20 m previously), *Onuphis holobranchiata* (505–851 m compared to 1–99 m previously), *Leitoscoloplos bifurcatus* (257–281 m compared to 0–15 m previously), *Pectinaria capensis* (325–362 m compared to 1–99 m previously), *Petta tenuis* (559–977 m compared to 275 m previously), *Hermenia acantholepis* (448–469 m compared to 0–95 m previously), and *Petersenaspis palpallatoci* (161–256 m compared to 5.5–93 m previously).

Specimens were identified to species level, as far as possible, but many could only be identified to the genus level or as species with unassigned names. These unassigned species may represent undescribed species, specimens with some morphological variations from named species or could not be positively identified due to the incompleteness of specimens. This checklist advances the current knowledge of the polychaete diversity around Indonesian waters, especially around the Sunda Strait and eastern Indian Ocean off southwest Java. In order to complement the current data, further studies of polychaete materials collected by box corer and multiple corer are needed to provide a fuller picture of the diversity in this region. Preliminary observations of infaunal polychaetes revealed the dominant families were the Cossuridae, Cirratulidae, Paraonidae, and Spionidae, which were mostly not collected by trawl/dredge due to their small size (pers. obs.). Additional new records from these families are likely to surface as well.

Table 2. New records of polychaete species found in Indonesian waters compared to Pamungkas & Glasby (2019). The asterisk symbol (✱) indicates new polychaete species described using material from this expedition.

Family	Species	Authority	New record of genus	New record of species
Acoetidae	*Euarche* sp.		✓	
	Eupanthalis sp.		✓	
Ampharetidae	*Melinnopsis* sp.		✓	
	Paiwa sp.		✓	
Aphroditidae	*Laetmonice yarramba*	Hutchings & McRae, 1993		✓
Capitellidae	*Rashgua rubrocincta*	Wesenberg-Lund, 1949	✓	✓
Eunicidae	*Eunice guttata*	Baird, 1869		✓
	Eunice cf. *polybranchia*	(Verrill, 1880)		✓
Flabelligeridae	*Pherusa nipponica*	Salazar-Vallejo, 2014		✓
	Therochaeta sp.		✓	
	Treadwellius bifidus	(Fauvel, 1932)	✓	✓
Glyceridae	*Glycera* cf. *alba*	(O.F. Müller, 1776)		✓
	Glycera cinnamomea	Grube, 1874		✓
Goniadidae	*Goniada maculata*	Örsted, 1843		✓
	Goniada vorax	(Kinberg, 1865)		✓
Hesionidae	*Hesione* cf. *horsti*	Salazar-Vallejo, 2018		✓
	Paralamprophaea diplognatha	(Monro, 1926)	✓	✓
Lumbrineridae	*Lumbrineris latreilli*	Audouin & Milne Edwards, 1833		✓
Nephtyidae	*Aglaophamus urupani*	Nateewathana & Hylleberg, 1986		✓
Nereididae	*Neanthes bongcoi*	Pillai, 1965		✓
	Nereis cf. *grayi*	Pettibone, 1956		✓
	Nicon pettiboneae	de León-González & Salazar-Vallejo, 2003	✓	✓
Orbiniidae	*Leitoscoloplos bifurcatus*	(Hartman, 1957)		✓
	Leodamas cf. *brevithorax*	(Eibye-Jacobsen, 2002)		✓
	Phylo nudus	(Moore, 1911)		✓
Pectinariidae	*Pectinaria capensis*	(Pallas, 1766)		✓
Polynoidae	*Eunoe yedoensis*	McIntosh, 1885		✓
	Hermenia acantholepis	(Grube, 1876)	✓	✓
Sabellariidae	*Gesaia* sp.		✓	
Serpulidae	*Hyalopomatus* sp.		✓	
Sternaspidae	*Caulleryaspis sundaensis*	Chuar & Salazar-Vallejo, 2021		✱
	Petersenaspis palpallatoci	Sendall & Salazar-Vallejo, 2013	✓	✓
	Sternaspis cf. *britayevi*	Zhadan, Tzetlin & Salazar-Vallejo, 2017		✓
	Sternaspis piotrowskiae	Salazar-Vallejo, 2014		✓
	Sternaspis thorsoni	Sendall & Salazar-Vallejo, 2013		✓
Terebellidae	*Artacama* cf. *proboscidea*	Malmgren, 1866	✓	✓
TOTAL			14	29

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