

## POLYCHAETA (ANNELIDA) OF THE NATUNA ISLANDS, SOUTH CHINA SEA

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**ABSTRACT.** – One-hundred and twenty-nine polychaete species in 38 families are reported from continental shelf sediments off the Natuna Islands, South China Sea. Less than half (52) of all species identified could be assigned Linnaean binomial names because of the poor state of taxonomy for most groups in the region. Diagnoses and/or remarks are provided for most taxa and voucher specimens of all identified taxa are deposited in Museums in Indonesia, Singapore and Australia. Among the Linnaean-named species, twenty-three are reported for the first time from the South China Sea. Twelve genera and one family (Hartmaniellidae) are also new records for the area. A preliminary assessment of biogeographical affinities indicated that of the 52 Linnaean-named species reported herein, six species (12%) appear to be restricted to the South China Sea, 17 species (33%) occur in both the South China Sea and neighbouring Indo-Malayan peninsula, and 41 species (79%) are Indo-West Pacific endemics. A few species appear to have a wider pantropical or cosmopolitan distribution, but these records in particular need to be verified.

**KEY WORDS.** – Annelida, Polychaeta, annotated checklist, South China Sea, Natuna Islands, systematics, taxonomy.

### INTRODUCTION

Polychaete worms of the Natuna Islands (formerly Bunguran Islands), Sunda Shelf, South China Sea (Fig. 1) collected during a joint research cruise by the research vessel BARUNA JAYA VIII (29 July to 3 August 2001) are reported. The polychaete fauna of the Natuna Islands is virtually unknown, although there have been several significant taxonomic studies conducted in the region – Grube (1878) (Philippines), Pillai (1965) (Philippines and Indonesia), Gallardo (1968) (South Vietnam), and recently Eibye-Jacobsen (2002) (Andaman Sea). The SIBOGA Expedition (1899-1900) also yielded much polychaete material, which has been worked up in several separate taxonomic studies (see also catalogue of Bleeker & van der Spoel, 1992); however, these studies are generally less relevant to the present study because much of the material was collected from waters deeper than 1000 m from the eastern part of the Indonesian archipelago.

Paxton & Chou (2000) provide a checklist of polychaetes from the South China Sea, and Tan & Chou (1993) a checklist of polychaetes from Singapore. According to Paxton & Chou (2000), which was based mainly on literature records, the South China Sea region has 661 species in 54 families. The

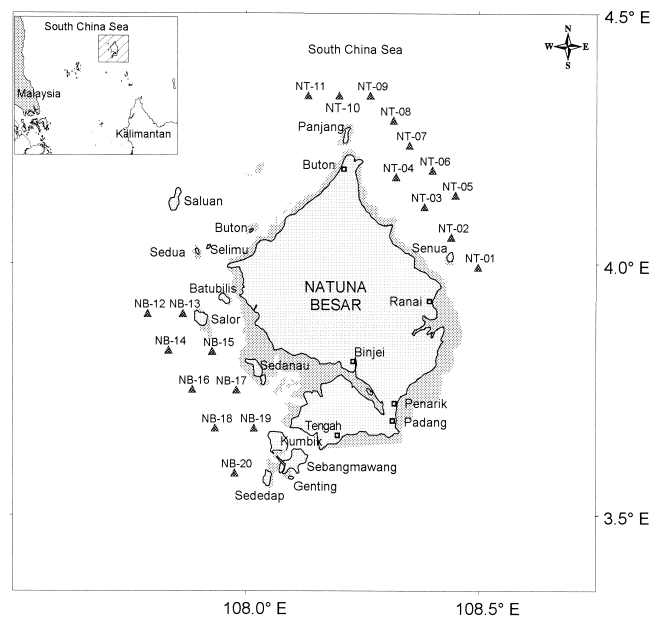


Fig. 1. Map of Natuna Island and its location in the South China Sea. The 20 stations sampled by the BARUNA JAYA VIII from 29 July to 3 August 2001 are indicated with NB (west Natuna) and NT (east Natuna) prefixes. Station details are indicated in Table 2.

Singapore study, based on both survey and published literature records, yielded 64 species in 28 families; these authors noted that the majority of species apparently belonged to the Indo-Malayan subregion of the Indo-West Pacific province.

The present study yielded 129 species and subspecies in 38 families. Less than half (52) of all species identified could be assigned Linnaean names because of the lack of regional taxonomic revisions and also because many taxa are suspected of being new to science. Specimens unable to be positively identified were assigned a morpho-species number, and a diagnosis is provided. Voucher specimens have been deposited with three different museums in the region to facilitate future comparative studies.

No new taxa are described in this paper because of the low numbers of specimens at our disposal; further collections around the Indonesian archipelago will undoubtedly increase the number of specimens available for many taxa, enabling descriptions of new taxa in the future.

Among the named species, twenty-three are reported for the first time from the South China Sea. Twelve genera and one family (Hartmaniellidae) are also new records for the area. Based on distributional records in the literature a preliminary assessment of biogeographical affinities can be made. Of the 52 Linnaean-named species reported herein, six species (12%) appear to be restricted to the South China Sea, 17 species (33%) occur in both the South China Sea and neighbouring Indo-Malayan peninsula, and 41 species (79%) are Indo-West Pacific endemics (Table 1). A few species appear to have a wider pantropical or cosmopolitan distribution, but these records in particular need to be verified.

## MATERIALS AND METHODS

Eleven stations at East Natuna and nine stations at West Natuna were sampled from 29 July to 3 August 2001; sediments ranged from sand-mud with coral rubble to soft mud and depths ranged from 40 to 105 m (Fig. 1; Table 2). At each station two replicate macrobenthic samples were taken with a Van Veen grab, covering an area 0.01m<sup>2</sup>, and the samples were screened with sieves of mesh size 0.5 mm. After screening, the polychaete material was fixed in 10% formalin, washed and transferred to 70% ethanol for study.

Wilson et al. (2003) was used primarily for family and generic level identification. Specimens in poor condition that could not be identified beyond family are not reported. Families are arranged as per Paxton & Chou (2000); species are arranged alphabetically within each family.

Abbreviations used in this paper: NB: Natuna Barat (West Natuna); NT: Natuna Timur (East Natuna); NTM: Museum & Art Gallery of the Northern Territory, Darwin, Australia; MZB: Museum of Zoology, Bogor, Indonesia; ZRC: Zoological Reference Collection of the Raffles Museum of Biodiversity Research, Department of Biological Sciences,

The National University of Singapore, Singapore; and SCS: South China Sea.

## SYSTEMATICS

### CLASS POLYCHAETA

#### FAMILY POLYNOIDAE

##### *Harmothoe* sp.

*Material examined.* – 1(NTM W18639), NB19B.

*Remarks.* – Species identification is not possible as the specimen is in poor condition.

#### FAMILY SIGALIONIDAE

##### *Horstleanira vanderspoeli* Pettibone, 1970b

*Material examined.* – 1(NTM W18486), NT02B; 1(MZB POL79), NB13A; 1(NTM W18601), NB15A; 1(ZRC 2003.445), NB16B.

*Remarks.* – The present specimens agree with Pettibone's (1970b) type description. This is the first record of the genus and species from the SCS.

##### *Sigalion* sp.

*Material examined.* – 1(NTM W18579), NT10A.

*Remarks.* – The specimen has three small antennae, elytra with fringing papillae comprising a central stem and 3-5 long radiating branches, and brown pigmentation on the prostomium and on the edge of the elytra. Although the specimen is complete and in good condition it is not possible to identify it to species because the genus contains two poorly-known Indo-Pacific species, *S. amboinensis* Grube and *S. bandaensis* Horst (Mackie & Chambers, 1990), which would first need to be re-examined.

##### *Sthenelais* sp. 1

*Material examined.* – 1(NTM W18586), NB12A.

*Remarks.* – This *Sthenelais* species is characterised by having short-bladed falcigerous neurochaetae with a very long inner spine (1.5 times length of main tooth) in addition to simple spinous neurochaetae. Elytra are missing. It does not correspond to any of the species currently known from the SCS or reported by Gallardo (1968).

##### *Sthenelais* sp. 2

*Material examined.* – 1(NTM W18569), NT08B.

Table 1: Distribution of Linnaean-named species identified in this study. Distributional information for non-SCS regions sourced from the literature. Indo-Malayan includes material reported from the Andaman Sea (Eibye-Jacobsen, 2002). Extra-limital refers to any area outside the Indo-West Pacific region. √ = previous record; \* = new record for the SCS.

Species	SCS	Indo-Malayan	Indo-West Pacific	Extra-limital
<i>Horstileanira vanderspoeli</i>	*	√		
<i>Pareulepis malayana</i>	√	√		
<i>Chloeia violacea</i>	√		√	
<i>Pseudeurythoe oligobranchia</i>	√			
<i>Phyllodoce (A.) madeirensis</i>	√	√		√
<i>Leocrates wesenberglundae</i>	*		√	
<i>Litocorsa annamita</i>	√			
<i>Sigambra bassi</i>	*			√
<i>Sigambra hanaokai</i>	√		√	
<i>Synelmis rigida</i>	*		√	
<i>Gymnonereis phuketensis</i>	*	√		
<i>Leonnates persica</i>	√		√	
<i>Aglaophamus tepens</i>	√			
<i>Micronephtys sphaerocirrata</i>	√		√	
<i>Nephtys oligobranchia</i>	√		√	
<i>Paralacydonia paradoxa</i>	√		√	√
<i>Glycera madagascariensis</i>	*		√	
<i>Glycera macintoshi</i>	√		√	
<i>Glycera nicobarica</i>	√	√	√	
<i>Glycera onomichiensis</i>	√	√	√	
<i>Glycera tessellata</i>	*		√	√
<i>Eunice indica</i>	√		√	
<i>Ninoe bruuni</i>	√	√		
<i>Kinbergonuphis pseudobranchiata</i>	√			
<i>Scoloplos (L.) gracilis</i>	√	√	√	
<i>Scoloplos (L.) rubra orientalis</i>	√	√		
<i>Prionospio (M.) multibranchiata</i>	*			√
<i>Prionospio (M.) ?delta</i>	*			√
<i>Prionospio (P.) ehlersi</i>	√			√
<i>Prionospio (P.) komaeti</i>	√	√		
<i>Prionospio (P.) malayensis</i>	√	√		
<i>Spiophanes kroeyeri</i>	*	√	√	√
<i>Magelona cincta</i>	*	√		√
<i>Magelona crenulifrons</i>	√	√		
<i>Magelona gemmata</i>	*		√	
<i>Cossura dimorpha</i>	*		√	
<i>Cirratulus annamensis</i>	√			
<i>Diplocirrus erythroporus</i>	√			
<i>Pherusa eruca indica</i>	√		√	
<i>Armandia bipapillata</i>	*		√	
<i>Ophelina sibogae</i>	*	√	√	
<i>Sternaspis laevis minor</i>	*	√		
<i>Mediomastus warrenae</i>	*	√		
<i>Notomastus hemipodus</i>	*	√		√
<i>Promastobranchnus orbiculatus</i>	*	√		
<i>Myriochele picta</i>	√		√	
<i>Auchenoplax crinita</i>	√			√
<i>Amaeana apheles</i>	*		√	
<i>Streblosoma prora</i>	*		√	
<i>Terebellides narribri</i>	*		√	
<i>Bispira tricyclia</i>	√		√	
<i>Laonome andamanensis</i>	*	√		
<b>TOTAL</b>	<b>52</b>	<b>20</b>	<b>26</b>	<b>11</b>

Table 2: Station details for the BARUNA JAYA VIII cruise to the South China Sea. NT = Natuna Timur (East Natuna); NB = Natuna Barat (West Natuna).

Station code	Latitude (N)	Longitude (E)	Depth (m)	Collection date	Substrata
NT01	3° 59.48'	108° 29.95'	66.0	29 Jul. 2001	Sandy-mud, coral rubble
NT02	4° 03.02'	108° 26.48'	60.0	29 Jul. 2001	Sandy-mud, coral rubble
NT03	4° 06.62'	108° 23.00'	64.0	29 Jul. 2001	Sandy-mud, coral rubble
NT04	4° 10.19'	108° 19.32'	68.0	29 Jul. 2001	Sandy-mud, coral rubble
NT05	4° 08.02'	108° 27.01'	73.5	30 Jul. 2001	Soft mud (grey colour)
NT06	4° 11.02'	108° 24.04'	70.0	30 Jul. 2001	Soft mud (grey colour)
NT07	4° 14.02'	108° 21.07'	66.0	30 Jul. 2001	Soft mud (grey colour)
NT08	4° 17.01'	108° 19.00'	71.0	30 Jul. 2001	Sandy-mud (white sand)
NT09	4° 20.00'	108° 16.00'	60.0	30 Jul. 2001	Sandy-mud, compact sediment
NT10	4° 20.00'	108° 12.00'	49.0	30 Jul. 2001	Sandy-mud, coral rubble
NT11	4° 20.00'	108° 08.00'	51.0	30 Jul. 2001	Sandy-mud, coral rubble
NB12	3° 53.93'	107° 47.29'	54.0	2 Aug. 2001	Sandy-mud
NB13	3° 53.93'	107° 51.84'	44.0	2 Aug. 2001	Sandy-mud
NB14	3° 49.35'	107° 49.99'	52.0	2 Aug. 2001	Muddy-sand
NB15	3° 49.43'	107° 55.61'	40.0	2 Aug. 2001	Soft mud
NB16	3° 44.90'	107° 53.05'	54.0	3 Aug. 2001	Soft mud
NB17	3° 44.82'	107° 58.76'	48.0	3 Aug. 2001	Soft mud
NB18	3° 40.28'	107° 56.00'	56.0	3 Aug. 2001	Soft mud
NB19	3° 40.29'	108° 01.01'	50.0	3 Aug. 2001	Soft mud
NB20	3° 34.92'	107° 58.54'	105.0	3 Aug. 2001	Soft mud

**Remarks.** – This *Sthenelais* species is characterised by the absence of simple spinous neurochaetae and in having long-bladed neuropodial falcigers in which the inner spine extends short of the main tooth. Elytra have many different sized surface papillae and are fringed with short, unbranched marginal papillae. It does not correspond to any of the species currently known from the SCS or reported by Gallardo (1968).

***Willeysthenelais cf. horsti* Pettibone, 1971**

**Material examined.** – 1(NTM W18490), NT02A.

**Remarks.** – Differs slightly from *W. horsti* in having 5-7 long slender papillae at the medial base of the ventral cirri, which are approximately equal in length to the ventral cirri. More specimens are required in order to confirm identification.

FAMILY EULEPETHIDAE

***Pareulepis malayana* (Horst, 1913)**

**Material examined.** – 1(NTM W18572), NT08B.

**Remarks.** – The present specimen differs from both Horst's (1913) and Gallardo's (1968) account of the species in having two pairs of well-defined red eyespots, but this may not be a significant difference as eyespots may fade in ethanol.

FAMILY AMPHINOMIDAE

***Chloeia violacea* Horst, 1910**

**Material examined.** – 1(ZRC 2003.416), NT07B; 1(MZB POL51), NT08A; 1(NTM W18632), NB18B.

**Remarks.** – The present specimens agree well with the type description and with Gallardo's (1968) account of this species except that the Natuna specimens are very short-bodied, viz. 2.0-3.5 mm in length for 11-13 chaetigers.

***Pseudeurythoe oligobranchia* Wu, Shen & Chen, 1975**

**Material examined.** – 1(ZRC 2003.414), NT07A; 3(NTM W18538), NT07B; 1(MZB POL70), NT09A.

**Remarks.** – Although *Pseudeurythoe* was considered by Fauchald (1977) to be a junior synonym of *Linopherus*, we tentatively treat it as valid for this study. Two species have been reported previously from the SCS: *P. hirsuta* Wesenberg-Lund and *P. oligobranchia* Wu, Shen & Chen. The latter species was found at three East Natuna stations. The specimens agree well the type description of Wu et al. (1975) except that branchiae occur on chaetigers 3-7 rather than 3-8. Known only from the SCS.

*Pseudeurythoe* sp. 2

**Material examined.** – 1(NTM W18524), NT06A.

**Remarks.** – The specimen differs from both *P. hirsuta* and *P. oligobranchia* in having branchiae occurring on chaetigers 3-23 and two pairs of very prominent eyespots. Possibly a new species.

## FAMILY EUPHROSINIDAE

*Euphrosine* sp.

**Material examined.** – 1(NTM W18576), NT09A.

**Remarks.** – This small specimen (about 2 mm long for 12 chaetigers) is not in good condition. According to Kudenov (1987), the caruncle is of type K-1, the ringent notochaetae are type IIA, and the branchiae are branching with the tips not subdistally expanded. The specimen does not agree with either of the previously reported species from the SCS, *E. foliosa* Audouin & Milne Edwards or *E. myrtosa* Savigny.

## FAMILY PHYLLODOCIDAE

*Paranaitis* sp.

**Material examined.** – 1(NTM W18577), NT09A.

**Remarks.** – The only specimen, a mature female, is in good condition. It does not agree with any of the known valid species in the genus (species characteristics compared by Kato & Pleijel (2003)). This specimen has almost circular dorsal cirri, a pair of large eyes, and an indistinct nuchal papilla. The proboscis is retracted (not dissected) so important characters of the pharynx could not be checked. Dark brown bands of pigment are present dorsally on at least the first 60 chaetigers. Ova are orange-coloured. The only other *Paranaitis* reported from the SCS, *P. zeylanica* (Willey) is regarded as *Phyllodocidae incertae sedis* by Kato & Pleijel (2003).

*Phyllodoce (Anaitides) madeirensis* Langerhans, 1880

**Material examined.** – 1(ZRC 2003.409), NT05B; 1(MZB POL53), NT08A; 1(NTM W18648), NB20B.

**Remarks.** – The present specimens agree with the description of this species by Uschakov (1972). All specimens have a dorsomedial row of five papillae at the proximal base of the everted proboscis, which is characteristic of *P. (Anaitides) madeirensis* but not other related species (Eibye-Jacobsen, 1992). *Phyllodoce (Anaitides) madeirensis* has been previously reported from Singapore (Tan & Chou, 1993).

## FAMILY HESIONIDAE

*Gyptis* sp.

**Material examined.** – 1(NTM W18622), NB17B.

**Remarks.** – Possibly a new species, as it does not resemble the only other member of *Gyptis* reported from the SCS, *G. labata* (Hessle). *Gyptis labata* is thought to be a junior synonym of *G. pacifica* (Hessle) according to Pleijel (1998). The present specimen differs from the account of *G. pacifica* by Imajima & Hartman (1964) in having smooth, rather than articulated, dorsal cirri. The report of *Gyptis* cf. *marauibinae* from the SCS (Paxton & Chou 2000) is most likely a misidentification because as *G. marauibina* has been moved to *Podarkeopsis* (Pleijel, 1998).

*Leocrates wesenberglundae* Pettibone, 1970a

**Material examined.** – 1(NTM W18602), NB15A.

**Remarks.** – A single specimen in good condition. This is the first record of this species from the SCS; originally described from the Gulf of Oman.

*Ophiodromus* sp.

**Material examined.** – 1(MZB POL35), NT06A; 1(NTM W18535), NT07A.

**Remarks.** – Species identification is not possible because of the poor condition of the specimens. In addition to the two previously reported species from the SCS – *O. berrisfordi* Day and *O. pugettensis* (Johnson) – there are at least five other species described from the Indo-Pacific region (Pleijel, 1998).

*Psamathe* sp.

**Material examined.** – 1(MZB POL36), NT06A; 1(NTM W18606), NB15A.

**Remarks.** – Species-level identification is not possible as the two specimens are in poor condition, with the antennae and tentacular cirri missing, and some dorsal cirri also missing. This is the first record of the genus from the SCS.

## FAMILY PILARGIDAE

*Litocorsa annamita* Gallardo, 1968

**Material examined.** – 2(MZB POL3), NT01B; 1(NTM W18542), NT02B; 1(NTM W18502), NT03A; 1(NTM W18506), NT04A; 1(NTM W18546), 3(NTM W18549), NT08A; 1(NTM W18563), NT08B; 4(NTM W18574), NT09A; 2(ZRC 2003.432), NB12A; 1(MZB POL84), NB13B; 3(MZB POL103), NB17B; 1(NTM W18642), NB19B.

**Remarks.** – The specimens agree well with the description of Gallardo (1968). The notopodial spines in the present material begin on chaetigers 12 to 23. This species, listed under *Synelmis* by Paxton & Chou (2000), has been moved to *Litocorsa* by Licher & Westheide (1994). Darbyshire & Mackie (2003) also report notopodial spines from chaetiger 12 (range 12 to 18) on specimens from Brunei (South China Sea). Known only from the SCS.

**?*Otopsis* sp.**

**Material examined.** – 1(MZB POL4), NT01B; 1(MZB POL48), NT07B; 2(NTM W18650), NB20B.

**Remarks.** – The present specimens agree with the concept of *Otopsis* as described by Katzmann et al., (1974) in having distally bifid capillary neurochaetae, and in lacking furcate neurochaetae and stout, slightly curved notopodial spines; however, they differ from *Otopsis* in having very distinctive tridentate spines with a long terminal arista from midbody segments. This type of chaeta is apparently unique among pilargids.

***Pilargis* sp.**

**Material examined.** – 1(MZB POL95), NB15B; 1(NTM W18621), NB17A.

**Remarks.** – *Pilargis* is represented in the SCS by two taxa: *P. mohri* Gallardo and *P. verrucosa pacifica* Uschakov. The present specimens differ from the accounts of these two species in having prominent red chromatophores at the dorsal and ventral bases of all parapodia, except the anterior- and posterior-most ones.

***Sigambra bassi* (Hartman, 1945)**

**Material examined.** – 1(NTM W18644), NB19B.

**Remarks.** – The present specimen agrees with the description of this species by Blake (1997). This species differs from *S. hanaokai* and the other species reported from the SCS – *S. tentaculata* (Treadwell) – in having notopodial hooks from chaetigers 11-15 (chaetiger 12 in the present specimen). First published record of this species from the SCS.

***Sigambra hanaokai* (Kitamori, 1960)**

**Material examined.** – 1(MZB POL73), NB12A; 3(NTM W18596), NB13B; 1(ZRC 2003.448), NB18A.

**Remarks.** – The specimens here resemble closely the account of the species given by Kitamori (1960).

***Sigambra* sp. 3**

**Material examined.** – 1(NTM W18495), NT03A.

**Remarks.** – This specimen differs from *S. bassi* and *S. hanaokai* in lacking notopodial hooks in the first 20 chaetigers, in having a very long median antenna (several times longer than the lateral ones), and in having pigmented posterior brain lobes, which are visible dorsally through the integument of anterior chaetigers.

***Synelmis rigida* (Fauvel, 1919)**

**Material examined.** – 2(NTM W18523), NT06A; 2(NTM W18609), NB15B; 1(MZB POL97), NB16B; 3(MZB POL101), NB17B; 2(ZRC 2003.447), NB18A.

**Remarks.** – The present specimens agree well the description of this species by Salazar-Vallejo (2003). Notopodial spines are first present from chaetigers 11-19, which agrees with Salazar-Vallejo's findings. This is the first record of this species from the SCS, although it is widespread in shallow tropical Indo-Pacific waters. The record of *S. albini* (Langerhans) from the SCS (Paxton & Chou, 2000) is likely to be a due to misidentification as this species is thought to be restricted to the eastern subtropical Atlantic Ocean (Salazar-Vallejo, 2003); it is probably attributable to *S. rigida*.

FAMILY SYLLIDAE

**Remarks.** – Four species of Syllidae known previously from the SCS were erroneously omitted from the checklist of Paxton & Chou (2000): *Psammosyllis wui* Ding & Westheide, *Petitia amphophthalma* Siewing, *Pionosyllis homocirrata* (Hartmann-Schröder), *Pionosyllis corallicola* Ding & Westheide, and *Syllides sanyaensis* Ding & Westheide (Ding & Westheide, 1997).

**Exogininae species undetermined**

**Material examined.** – 1(NTM W18552), NT08A.

**Remarks.** – The specimen is in poor condition.

***Pionosyllis* sp.**

**Material examined.** – 1(NTM W18481), NT01B; 1(ZRC 2003.408), NT05B; 1(MZB POL34), NT06A; 1(NTM W18551), NT08A; 1(MZB POL67), NT08B.

**Remarks.** – The present material is characterised by having 2 pairs of red eyes, with the anterior pair equal in size to the posterior ones; an extremely long median antenna (extending to chaetiger 16); alternating dorsal cirri length, with the longest ones on chaetiger 1; bidentate compound falcigers with a large difference in blade length (4-5 times) between longest (dorsal-most) and shortest (ventral-most) ones. Two

species have been reported from the SCS: *P. homocirrata* (Hartmann-Schröder) and *P. corallicola* Ding & Westheide (Ding & Westheide, 1997), but our specimens do not resemble either species.

#### *Typosyllis* sp. 1

**Material examined.** – 1(NTM W18485), NT02B; 1(MZB POL30), NT06A.

**Remarks.** – This material is distinguished by having a pharynx extending to the posterior edge of chaetiger 6, a proventricle extending posteriorly from the pharynx to chaetiger 13 (or 15), dorsal cirri on chaetiger 1 not dorsally displaced, tapered aciculae, and compound chaetae including very long bladed falcigers (resembling spinigers) as well as normal looking falcigers. The specimens do not correspond to any of the eight species currently known from the SCS: *T. cornuta* (Rathke), *T. cf. rosea* Imajima, *T. alternata* (Moore), *T. armillaris* (Müller), *T. magnipectinis* (Storch), *T. monilata* Imajima, *T. prolifera* (Krohn) and *T. variegata* (Grube). Note that *T. cornuta* and *T. cf. rosea* were listed under *Ehlersia* by Paxton & Chou (2000); the present generic assignments follow Licher (1999).

#### *Typosyllis* sp. 2

**Material examined.** – 1(NTM W18491), NT02A; 1(MZB POL124), NB20B.

**Remarks.** – These specimens have a long pharynx extending posteriorly to chaetigers 11-12, a proventricle that extends posteriorly from the pharynx to chaetigers 21-23, dorsal cirri on chaetiger 1 dorsally displaced (in line with the lateral margins of the prostomium), aciculae including tapered ones and, in anterior chaetigers, finer ones with the tip bent at right angles to the shaft, and compound chaetae that are all typical falcigers, with some long-bladed ones but not spiniger-like as in *Typosyllis* sp. 1. The specimens differ from all previously reported species from the SCS.

### FAMILY NEREIDIDAE

#### *Ceratocephale* sp.

**Material examined.** – 1(NTM W18489), NT02B.

**Remarks.** – This species does not appear to correspond to any named species of *Ceratocephale*. It resembles most closely *C. hartmanae* Banse in having mid-dorsal flaps beginning on mid-body segments, enlarged cirrophores from chaetiger 9 and double ventral cirri from chaetiger 3, but differs from this species in having eyes.

#### *Ceratonereis* sp.

**Material examined.** – 1(MZB POL69), NT08B.

**Remarks.** – The specimen belongs to the subgenus *Ceratonereis* (*Ceratonereis*) according to Hartmann-Schröder (1985); but here we follow recent trends to elevate Hartmann-Schröder's subgenera – *Ceratonereis*, *Composetia* and *Simplisetia* – to full genera (e.g., Khlebovitch, 1996; Wilson et al., 2003). According to Hartmann-Schröder, three species of *Ceratonereis* are known from the SCS and Indonesian region: *C. japonica* Imajima, *C. tenuipalpa* (Pflugfelder) and *C. ternatensis* Fischli. The absence of paragnaths in area I of the present specimen precludes the possibility that it is *C. japonica*. The other two species are too poorly known to enable detailed comparison.

#### *Gymnonereis phuketensis* Hylleberg & Nateewathana, 1988

**Material examined.** – 1(NTM W18521), NT06A; 1(MZB POL81), NB13B; 1(ZRC 2003.434), NB19B.

**Remarks.** – The specimen agrees well the original type description of *Gymnonereis phuketensis*. This is the first record of this species in the SCS.

#### *Leonnates persica* Wesenberg-Lund, 1949

**Material examined.** – 1(NTM W18510), NT05A; 1(MZB POL57), NT08A; 1(ZRC 2003.442), NB15A; 1(NTM W18626), NB17B.

**Remarks.** – The present specimens agree well the type description of *Leonnates persica*.

#### *Nectoneanthes* sp.

**Material examined.** – 1(MZB POL23), NT04A.

**Remarks.** – The present specimen differs from the three previously reported members of this genus from the SCS – *N. ijimai* (Izuka), *N. multignatha* Wu et al. and *N. oxypoda* (Marenzeller) – in having large numbers of small paragnaths in all areas of the pharynx, including more than 30 in area I. It possibly represents a new species. The taxonomic status of the genus *Nectoneanthes* is uncertain with Wilson (1988) synonymising it with *Neanthes* but Khlebovitch (1996) accepting the genus as valid.

### FAMILY NEPHTYIDAE

#### *Aglaophamus tepens* Fauchald, 1968

**Material examined.** – 2(NTM W18504), NT04A; 1(NTM W18514), NT05B; 1(MZB POL31), NT06A; 1(NTM W18525), NT07A; 1(MZB POL76), NB12A; 1(NTM W18608), NB15B; 1(NTM W18616), NB16B; 1(ZRC 2003.449), NB18A; 2(ZRC 2003.452), NB18B; 1(MZB POL121), NB19B.

**Remarks.** – The present material agrees well with Fauchald's (1968) description of the species. The species was apparently

overlooked by Paxton & Chou (2000). Known only from the SCS.

***Aglaophamus cf. vietnamensis* Fauchald, 1968**

**Material examined.** – 2(NTM W18503), NT03A; 1(MZB POL33), NT06A; 2(MZB POL39), NT06B; 1(ZRC 2003.412), NT07A; 1(ZRC 2003.421), NT08A; 3(NTM W18588), NB12A; 1(ZRC 2003.438), NB14B; 1(MZB POL87), NB15A; 4(NTM W18610), NB15B; 1(MZB POL104), NB18A; 1(NTM W18645), NB20A.

**Remarks.** – The present material differs from Fauchald's (1968) account of the species in having a pair of small eyespots on the posterior prostomium and branchiae beginning on chaetigers 12 or 13 (chaetiger 8 according to Fauchald). No specimen has the proboscis fully everted, and dissection of the largest specimen (12 mm long, 1.3 mm wide, 57 chaetigers; ZRC 2003.412) failed to allow an estimation of the number of rows of proboscidial papillae. Possibly an undescribed species.

***Aglaophamus* sp.**

**Material examined.** – 1(NTM W18500), NT03A.

**Remarks.** – This specimen is characterised by the absence of eyes, branchiae from chaetiger 5/6 (left/right side difference), which are very small over the first few chaetigers, superior lobe of neuropodia slender, present to chaetiger 27 only (i.e. over anterior 1/3 of body), and notopodia with a ventral digitiform lobe between the acicular lobe and the branchiae. *Aglaophamus* is well represented in the SCS with nine named species, including *A. tepens* above. The present specimen may represent another, undescribed, species but more specimens are required for confirmation.

***Micronephtys sphaerocirrata* (Wesenberg-Lund, 1949)**

**Material examined.** – 1(MZB POL54), NT08A; 1(NTM W18560), NT08B.

**Remarks.** – The two specimens agree with both the type description and the account of Fauchald (1968).

***Micronephtys* sp.**

**Material examined.** – 2(NTM W18483), NT02B; 1(MZB POL11), NT03A; 2(MZB POL24), NT05A; 2(MZB POL27), NT05B; 1(MZB POL40), NT07A; 4(NTM W18543), NT08A; 5(NTM W18545), NT08B; 1(NTM W18573), NT09A; 1(ZRC 2003.439), NB14B; 2(NTM W18640), NB19B; 2(ZRC 2003.458), NB20B.

**Remarks.** – These specimens differ from *M. sphaerocirrata* in having two pairs of closely-set red eyes on the posterior part of the prostomium (cf. a single pair on the 3<sup>rd</sup> chaetiger in *M. sphaerocirrata*), ovoid parapodial cirri (spherical in *M. sphaerocirrata*), and a patch of brown pigment on the anterior

part of the prostomium. Like *M. sphaerocirrata* they have very long chaetae (combined length of parapodia and chaetae approximately equal to body width). Only one specimen (MZB POL24) had the pharynx everted; pharyngeal papillae appear shorter and less abundant than those of *N. sphaerocirrata*. No gametes were observed, but the specimens appeared to be mature. Probably an undescribed species.

***Nephtys oligobranchia* Southern, 1921**

**Material examined.** – 1(MZB POL56), NT08A; 2(NTM W18641), NB19B.

**Remarks.** – The two specimens agree with the type description and the redescription of Fauchald (1968).

***Nephtys cf. punctata* Hartman, 1938**

**Material examined.** – 3(ZRC 2003.417), NT07B; 3(NTM W18547), NT08A; 3(MZB POL64), NT08B; 1(ZRC 2003.443), NB15A; 1(NTM W18628), NB18A.

**Remarks.** – The present material differs from *N. punctata* as redescribed by Hilbig (1997) in having subdermal eyespots on chaetiger 2, well-developed dorsal cirri, although not as elongate as shown by Hilbig (1997: fig. 13.10), and the proximal proboscis lacks wart-like papillae. Possibly a new species.

FAMILY PARALACYDONIIDAE

***Paralacydonia paradoxa* Fauvel, 1913**

**Material examined.** – 1(ZRC 2003.401), NT01A; 1(MZB POL2), NT01B; 1(ZRC 2003.405), NT03A; 3(NTM W18508), NT05A; 1(NTM W18517), NT05B; 3(MZB POL41), NT07A; 2(NTM W18556), NT08A.

**Remarks.** – This species, which was placed under the family Lacydoniidae by Paxton & Chou (2000), is widely distributed and occurs in continental shelf to deep sea sediments. Although three species including *P. paradoxa* have been described, two are now considered junior synonyms of *P. paradoxa*. The specimens correspond well to previous descriptions of the species; a pair of deep-set red eyespots is present in most specimens.

FAMILY GLYCERIDAE

***Glycera madagascariensis* Böggeman & Fiege, 2001**

**Material examined.** – 1(MZB POL90), NB15A; 1(NTM W18638), NB19B.

**Remarks.** – Böggemann (2002) provides a detailed description of the species, which has not been reported previously outside of Madagascar.



***Glycera macintoshi* Grube, 1877**

**Material examined.** – 1(MZB POL83), NB13B.

**Remarks.** – Böggemann (2002) provides a detailed description of the species and reports it for the first time from the SCS.

***Glycera nicobarica* Grube, 1868**

**Material examined.** – 1(ZRC 2003.410), NT06A; 1(MZB POL92), NB15B; 1(NTM W18477), NB17B; 2(MZB POL116), NB19B.

**Remarks.** – Böggemann (2002) provides a detailed description of the species.

***Glycera onomichiensis* Izuka, 1912**

**Material examined.** – 1(MZB POL14), NT03A; 1(MZB POL113), 1(NTM W18633), NB18B.

**Remarks.** – Böggemann (2002) provides a detailed description of the species.

***Glycera tessellata* Grube, 1863**

**Material examined.** – 1(NTM W18474), NB18B.

**Remarks.** – Böggemann (2002) provides a detailed description of the species. This species has a very wide distribution, including the Indo-Pacific, but this is the first record from the SCS.

FAMILY GONIADIDAE

***Glycinde* cf. *oligodon* Southern, 1921**

**Material examined.** – 1(ZRC 2003.424), NT08A; 1(NTM W18615), 1(MZB POL98), NB16B.

**Remarks.** – Böggemann & Eibye-Jacobsen (2002) report *Glycinde* cf. *oligodon* from the Andaman Sea. Our specimens agree with the description given by these authors, which differs in several aspects from Southern's type description, including the more elongated prostomium and the presence of eyespots on the subdistal annulus in addition to the pair on the proximal annulus of the prostomium. This may represent a new species.

FAMILY DORVILLEIDAE

***Protodorvillea* sp.**

**Material examined.** – 1(NTM W18580), NT10A.

**Remarks.** – Species determination is not possible as the

specimen is not in good condition (antennae are missing). This is the first record of the genus from the SCS.

FAMILY EUNICIDAE

***Eunice indica* Kinberg, 1865**

**Material examined.** – 1(MZB POL77), NB13A; 1(NTM W18600), NB14B.

**Remarks.** – The specimens have yellow, tridentate subacicular hooks, branchiae beginning on chaetiger 3 and ending before the midbody and thus belong to group C1 of Fauchald (1970). They agree with the description of the species given by Fauchald (1992), except that the guards of the compound falcigers, although pointed, are not as highly tapered as figured by Fauchald.

***Eunice* sp. 2**

**Material examined.** – 1(NTM W18566), NT08B.

**Remarks.** – The specimen, which is fragmented, has antennae and palps that are more or less smooth, the subacicular hooks are yellow and bidentate, and the hoods of the compound falcigers are distally squared. Based on Fauchald (1970) the specimen should belong to group A1 or A2. None of the 11 species of *Eunice* listed in Paxton & Chou (2000) belongs to either of these groups, so this is possibly a new species.

FAMILY HARTMANIELLIDAE

***Hartmaniella* sp.**

**Material examined.** – 1(NTM W18512), NT05A; 1(NTM W18520), NT06A; 1(NTM W18595), NB13B; 3(MZB POL88), NB15A.

**Remarks.** – The family Hartmaniellidae is known for three species worldwide: *H. erecta* Imajima from Japan, *H. fujianensis* He & Wu, from the Taiwan Strait, and *H. tulearensis* (Amoureux) from Madagascar; it has not been previously reported from the SCS. The present material appears to be closest to the unnamed species of Eibye-Jacobsen & Oug (2002) from the Andaman Sea but differs from that species in the form of the maxillae and in the development of the parapodia of chaetiger 1. The present material, which is all in good condition with pharynges partially or wholly everted, has all maxillae free from each other. By comparison, the Andaman Sea form apparently has maxillae III and IV of the right side fused into a larger square-shaped, strongly sclerotised plate. In both forms the parapodia of chaetiger 1 are reduced in size slightly compared to subsequent ones, but unlike the Andaman Sea form the larger specimens of this study (e.g. MZB POL88) do not have significantly fewer chaetae than subsequent parapodia. In this latter feature, our material is closer to *H. erecta*, but differs from this species in several features, including having 1-3 acicula per parapodium (only 1 for *H. erecta*), knife-shaped

carriers (elliptical for *H. erecta*), and only 4 teeth on maxillae II (cf. 5 on right side and 6 on left side for *H. erecta*). The Natuna specimens differ from *H. fujianensis* which has 7 teeth on maxillae II. The present specimens have bilobed notopodial cirri beginning on chaetigers 6 or 7, unlike *H. fujianensis*, *H. erecta*, and the Andaman Sea form, which have them on chaetiger 6 only (He & Wu, 1986; Eibye-Jacobsen & Oug, 2002). The Natuna specimens possibly belong to a new species or, alternatively, may be conspecific with the Andaman Sea specimen.

#### FAMILY LUMBRINERIDAE

##### *Abyssoninoe* sp.

**Material examined.** – 1(NTM W18513), NT05B; 1(MZB POL122), NB20A; 1(ZRC 2003.457), NB20B.

**Remarks.** – This species is characterised by having yellow aciculae and weakly bidentate maxillae III. All known species of this genus, including the recently described *A. phuketensis* Oug (Oug, 2002) have unidentate Maxillae III. This is the first record of this genus in the SCS.

##### *Lumbrinerides* sp.

**Material examined.** – 2(ZRC 2003.420), NT08A; 1(NTM W18565), NT08B; 1(MZB POL71), NT09A.

**Remarks.** – This species is characterised by its very elongate prostomium and having simple hooded hooks beginning on chaetigers 7-9. It is apparently an undescribed form, appearing to be very similar to the *Lumbrinerides* sp. of Oug (2002). This is the first record of this genus in the SCS.

##### *Ninoe bruuni* Gallardo, 1968

**Material examined.** – 3(NTM W18536), NT007A; 1(MZB POL82), NB13B; 1(ZRC 2003.440), NB14A.

**Remarks.** – The present specimens agree well the description of Gallardo (1968) except that in our specimens the cutting edge – subdistal flange – of maxillae IV is adorned with a large number of very fine teeth (not countable under high power, dissecting microscope) compared to Gallardo's account of 9-11 fine serrations.

#### FAMILY OENONIDAE

##### *Arabella (Notopsilus)* sp.

**Material examined.** – 1(NTM W18597), NB13B.

**Remarks.** – The present specimen has dentate maxillae I and lacks modified chaetae (spines); therefore it belongs to the subgenus *Notopsilus*, as currently circumscribed. Jaw dentition resembles somewhat the specimens described as

*Arabella novecrinita asymmetrica* Crossland. However, species identification is problematic at present for this group because not all currently known species have been ascribed subgenera. The entire genus is in need of review.

#### FAMILY ONUPHIDAE

##### *Kinbergonuphis pseudobranchiata* (Gallardo, 1968)

**Material examined.** – 1(MZB POL20), NT03A; 1(ZRC 2003.406), NT04A; 1(NTM W18509), NT05A; 1(NTM W18558), NT08A; 1(MZB POL107), NB18B.

**Remarks.** – The present specimens have a brown transverse stripe on the peristomium and subsequent segments, dorsally and laterally between the parapodia. Branchiae are initially represented by a single lobe on chaetigers 5-10, then two branchial lobes from chaetiger 11 to about chaetiger 60; absent thereafter. Ceratophores are smooth. The species is known only from the SCS; first record of the genus *Kinbergonuphis* from the SCS since Gallardo originally described the species under *Onuphis*.

##### *Kinbergonuphis* sp. 2

**Material examined.** – 1(MZB POL9), NT02B; 4(NTM W18494), NT03A; 1(ZRC 2003.435), NB13B.

**Remarks.** – Specimens have brown pigment laterally between the parapodia. Branchiae begin on chaetigers 1-3 as a single long slender filament (longer than dorsal cirrus) and continue to about mid-body. Ceratophores with about 10 rings.

##### *Kinbergonuphis* sp. 3

**Material examined.** – 1(NTM W18505), NT03A; 1(NTM W18519), NT06A; 1(MZB POL52), NT08A; 1(MZB POL80), NB13B; 1(ZRC 2003.451), NB18B; 1(ZRC 2003.456), NB20B.

**Remarks.** – This species is distinguished by an absence of branchiae and the presence of short, weakly ringed ceratophores. Brown dorsal bands occur posteriorly in some specimens.

#### FAMILY ORBINIIDAE

##### *Leitoscoloplos* sp.

**Material examined.** – 1(NTM W18630), NB18A.

**Remarks.** – The single specimen is in poor condition and not identifiable to species.

##### *Scoloplos (Leodamas) gracilis* Pillai, 1961

**Material examined.** – 2(NTM W18478), NT01B; 1(ZRC 2003.450), NB18B; 1(MZB POL106), NB19B.

**Remarks.** – The present specimens agree well with the description of Pillai (1961).

***Scoloplos (Leodamas) rubra orientalis* Gallardo, 1968**

**Material examined.** – (NTM W18575), NT09A.

**Remarks.** – The single specimen, an anterior fragment, agrees with the description of Gallardo (1968).

FAMILY PARAONIDAE

***Cirrophorus* sp.**

**Material examined.** – 1(NTM W18578), NT09A.

**Remarks.** – The species is characterised by having branchiae on chaetigers 4-18, and in this respect appears to differ from the unnamed species of Lovell (2002) from the Andaman Sea, which has branchiae on chaetigers 4-24. However, the position of the last branchiferous segment can vary within a species, so more material needs to be examined before a positive identification can be made. This is the first record of the genus from the SCS.

***Levinsenia* sp.**

**Material examined.** – 1(NTM W18562), NT08A.

**Remarks.** – The species is characterised by having branchiae on chaetigers 5-16. The segment on which branchiae begin is variable within in this genus, therefore it is important to examine a range of specimens of different sizes for accurate species determination. The present specimen is similar to *Levinsenia* sp. 1 of Lovell (2002) from the Andaman Sea, which in turn is similar to the cosmopolitan species *Levinsenia gracilis* (Tauber).

***Paradoneis* sp.**

**Material examined.** – 1(NTM W18619), NB17A.

**Remarks.** – The specimen has branchiae on chaetigers 5-11, which differs from the only previously described member of the genus from the SCS, *P. lyra* (Southern), which has branchiae starting on chaetiger 4. The two species of *Paradoneis* reported by Lovell (2002), *P. ?armata* (Glémarec) and *Paradoneis* sp. 1 also have branchiae from chaetiger 4.

***Paraonis* sp.**

**Material examined.** – 1(NTM W18498), NT03A.

**Remarks.** – The specimen has branchiae on chaetigers 4-8. This is the first record of the genus from the SCS; it was not reported from the Andaman Sea by Lovell (2002).

FAMILY SPIONIDAE

***Laonice* cf. *cirrata* (Sars, 1851)**

**Material examined.** – 1(MZB POL85), NB14B; 1(MZB POL111), NB18B.

**Remarks.** – The present specimens, which are posteriorly incomplete, differ slightly from *L. cirrata* as characterised by Blake (1996). Nuchal organs continue posteriorly to chaetiger 45 (cf. chaetigers 12-30 for *L. cirrata*) and genital pouches begin between chaetigers 15 and 16 (cf. chaetigers 18-26 for *L. cirrata*). *Laonice cirrata* is a temperate to cold water species thought to be restricted to the medium-high latitudes of both hemispheres (Blake, 1996).

***Paraprionospio* sp.**

**Material examined.** – 1(MZB POL44), NT07A; 1(MZB POL60), NT08A.

**Remarks.** – The present material is possibly conspecific with *Paraprionospio* sp. 2 of Sigvaldadóttir (2002), which in turn is most similar to the Form CII of Yokoyama & Tamai (1981). It may be distinguished from other species of *Paraprionospio* by having transverse dorsal crests on chaetigers 11 to 25 (or 27), neuropodial non-limbate capillaries appearing on chaetiger 9, and a distinctive filament at the base of the third branchiae. The absence of pigment spots on the peristomium and the absence of a papilla on the posterior margin of the peristomium distinguish the present form from Form CII.

According to Blake (1996) *P. pinnata* probably does not occur in the western Pacific. Therefore, reports of this species from the Indo-Pacific (Paxton & Chou 2000) should be re-evaluated in any future revision of the group.

***Prionospio (Minuspio) multibranchiata* Berkeley, 1927**

**Material examined.** – 1(MZB POL63), NT08A; 1(ZRC 2003.453), NB19B.

**Remarks.** – This is the first record of this species in the SCS; it was first described from Vancouver Island, British Columbia. *Prionospio multibranchiata* Fauvel from Krusadai Island, Gulf of Manaar is a junior homonym, and material of this species has been referred to *P. polybranchiata* Fauvel (Sigvaldadóttir, 1998).

***Prionospio (Minuspio) ? delta* Hartman, 1965**

**Material examined.** – 1(MZB POL99), MB16B.

**Remarks.** – The specimen has lost some of its branchiae, so species identification must remain tentative. The species was originally described from shelf depths off north-eastern South America.

***Prionospio (Prionospio) ehlersi* Fauvel, 1928**

**Material examined.** – 1(MZB POL47), NT07A; 1(NTM W18539), NT07B; 1(MZB POL62), NT08A; 1(MZB POL72), NT10A; 1(ZRC 2003.436), NB13B; 1(MZB POL86), NB14B; 1(NTM W18603), NB15A; 1(ZRC 2003.446), NB17B; 1(NTM W18629), NB18A; 1(MZB POL114), NB18B; 1(MZB POL126), NB19B; 2(MZB POL118), NB19B.

**Remarks.** – The present material agrees with Blake's (1996) redescription of the species. However, according to Blake the species is restricted to the Atlantic and eastern Pacific, so all records from the Indo-Pacific need to be re-evaluated. The similar species, *P. (P.) saccifera* Mackie & Hartley, which has been reported from Hong Kong and the Andaman Sea (Sigvaldadóttir, 2002), has inter-parapodial pouches from chaetigers 2/3 whereas the Natuna material has pouches beginning on chaetigers 4/5, which is typical of *P. (P.) ehlersi*.

***Prionospio (Prionospio) komaeti* Hylleberg & Natheewathana, 1991**

**Material examined.** – 1(MZB POL61), NT08A.

**Remarks.** – This species has been reported previously from the SCS and Singapore (Paxton & Chou 2000; Tan & Chou, 1993).

***Prionospio (Prionospio) malayensis* Hylleberg & Natheewathana, 1991**

**Material examined.** – 8(MZB POL66), NT08A; 1(NTM W18544), NT08A; 1(ZRC 2003.423), NT08A.

**Remarks.** – This species has been reported previously from both the SCS and Singapore (Paxton & Chou 2000; Tan & Chou, 1993).

***Spio cf. pettiboneae* Foster, 1971**

**Material examined.** – 1(MZB POL43), NT07A.

**Remarks.** – The present specimen closely resembles the description of *S. pettiboneae* by Ward (1987), except that the prostomium is more rounded and the anal cirri, although inflated, are shorter than in the specimen from Hawai'i. The genus has not been previously reported from the SCS.

***Spio* sp. 1**

**Material examined.** – 1(MZB POL117), NT03A.

**Remarks.** – A *Spio* with two pairs of small red eyespots, a caruncle ending at chaetiger 2, nuchal organ continuing posteriorly to chaetiger 15, and branchiae basally fused to the notopodial postchaetal lamellae. Possibly a new species.

***Spiophanes kroeyeri* Grube, 1860**

**Material examined.** – 1(MZB POL117), NB19B.

**Remarks.** – The present specimen is similar to material described by Blake & Kudenov (1978) as *Spiophanes* cf. *kroeyeri* from east and south-east Australia, differing only in that the notopodial lobe of chaetiger 1 is relatively larger than subsequent ones in the present specimen. It also resembles *Spiophanes malayensis* Caullery from the Malay Archipelago. However, differences between these two species can only be determined following a revision of *S. kroeyeri*, and its allies including *S. malayensis*. Sigvaldadóttir (2002) reports *S. kroeyeri* from the Andaman Sea. The other species of *Spiophanes* previously reported from the SCS, *S. bombyx*, differs from *S. kroeyeri* in having a T-shaped prostomium.

***Spiophanes* sp. 2**

**Material examined.** – 1(MZB POL21), NT03A.

**Remarks.** – A *Spiophanes* with the prostomium rounded anteriorly, large spines on chaetiger 1, tridentate hooks and no bacillary chaetae.

***Spiophanes* sp.**

**Material examined.** – 1(MZB POL45), NT07A; 1(NTM W18604), NB15A.

**Remarks.** – Incomplete specimens with rounded prostomium, short median antenna and nuchal organs extending to at least chaetiger 28.

**Spionidae, undetermined genus**

**Material examined.** – 1(MZB POL38), NT06A.

**Remarks.** – A spionid with the prostomium rounded anteriorly, caruncle extending to the beginning of chaetiger 2, no occipital antenna, chaetiger 1 reduced, branchiae apinnate/smooth, extend from chaetigers 5 to 15. Most genera of Spionidae have branchiae starting on chaetiger 1 or 2; none of the currently described genera have branchiae from chaetiger 5. Possibly a new genus, but further specimens are required to check the validity of these features.

**FAMILY MAGELONIDAE**

***Magelona cincta* Ehlers, 1908**

**Material examined.** – 1(MZB POL10), NT02B.

**Remarks.** – This is the first record of this species from the SCS, although it has been reported from Phuket, Thailand (Nateewathana & Hylleberg, 1991), and there is an undocumented report of a form similar to *M. cincta* from Taiwan (Paxton & Chou, 2000).

***Magelona crenulifrons* Gallardo, 1968**

**Material examined.** – 1(MZB POL18), NT02B; 1(NTM W18582), NT03A; 1(MZB POL37), NT06A; 1 (NTM W18583), NT07B; 1(ZRC 2003.419), NT07B; 1(NTM W18475), NT08A; 1(MZB POL100), NB016B.

**Remarks.** – The specimens agree with the descriptions of Gallardo (1968) and Nateewathana & Hylleberg (1991).

***Magelona gemmata* Mortimer & Mackie, 2003**

**Material examined.** – 1(MZB POL6), NT02A.

**Remarks.** – The specimen agrees well with the type description of the species. *Magelona gemmata* belongs to the *M. longicornis* group of species (Mortimer & Mackie, 2003) of which *M. pacifica* is also a member; therefore identification of a form similar to *M. pacifica* from Taiwan in Paxton & Chou (2000) should be checked.

FAMILY COSSURIDAE

***Cossura dimorpha* (Hartman, 1976)**

**Material examined.** – 1(NTM W18530), 1(NTM W18531), NT07A; 1(MZB POL50), 1(ZRC 2003.422), NT08A.

**Remarks.** – The present material is characterised by having the dorsal filament arising from the posterior margin of chaetiger 3 or anterior margin of chaetiger 4 (difficult to determine as specimens are very small), and 25-28 thoracic chaetigers. It agrees well the description of Hartman (1976). The species was originally described under *Cossurella*, and reported in Paxton & Chou (2000) as *Cossurella diamorpha* [sic], but was moved to *Cossura* by Read (2000). This is the first record of this species from the SCS.

FAMILY POECILOCHAETIDAE

***Poecilochaetus* sp. 1**

**Material examined.** – 1(NTM W18592), NB13B; 1(MZB POL94), NB15B; 1(NTM W18614), NB16B; 1(ZRC 2003.455), NB19B.

**Remarks.** – The present material is characterised by having an unapillated body surface, the absence of branchiae, a median nuchal lobe extending posteriorly to chaetigers 5-7, lateral nuchal lobes extending to the posterior margin of chaetiger 2, chaetigers 2 & 3 bearing neuropodial falcate spines which are faintly hirsute distally, and ampullaceous (=bottle-shaped) cirri on chaetigers 7-13. This description does not correspond to any of the eight named species currently known from the SCS.

***Poecilochaetus* sp. 2**

**Material examined.** – 1(MZB POL91), NB15A ;1(NTM W18618), NB17A.

**Remarks.** – The present material resembles *Poecilochaetus* sp. 1 but differs in having a median nuchal lobe extending posteriorly to chaetigers 3-4, vestigial lateral nuchal lobes, and ampullaceous cirri on chaetigers 7 to 11 (or 12). This description does not correspond to any of the eight named species currently known from the SCS.

FAMILY CIRRATULIDAE

***Chaetozone* sp.**

**Material examined.** – 1(NTM W18570), NT08B.

**Remarks.** – The single specimen has two types of chaetae – long, smooth capillaries on the anterior part of the body (1.5 times as long as body width), and smooth spines of alternating lengths arranged in fan-like fascicles on the posterior part of the body. Both the short and longer spines have a slight constriction midway along their length. This does not match the descriptions of the two previously reported species in the SCS, *C. flagellifera* Gallardo and *C. maotienae* Gallardo.

***Cirratulus annamensis* Gallardo, 1968**

**Material examined.** – 1(NTM W18487), NT02B; 1(ZRC 2003.404), NT03A; 2(NTM W18518), NT06A; 1(NTM W18532), NT07A; 1(MZB POL55), NT08A; 1(ZRC 2003.429), NT09A; 1(MZB POL93), NB15B.

**Remarks.** – The present specimens agree with Gallardo's (1968) description of this species except for the distribution of the small black pigment spots, which are scattered on the anterodorsal surface in Gallardo's specimens but on the anterolateral and anteroventral surface on the present specimens. Known only from the SCS.

***Cirriformia* sp.**

**Material examined.** – 1(ZRC 2003.402), NT02B; 1(NTM W18526), NT07A; 1(MZB POL49), NT07B; 1(NTM W18555), NT08A; 1(MZB POL75), NB12A; 1(NTM W18627), NB17B.

**Remarks.** – These specimens have only two pairs of palps (on chaetiger 3), and acicular chaetae are restricted to the neuropodia of posterior-most segments; the remaining chaetae are capillary. The material is unlike any of the six previously reported *Cirriformia* species in the SCS. The group of cirratulids having multiple (>2) palps on anterior segments including *Cirriformia* is taxonomically poorly known, and will require revision before new specimens can be accurately identified.

***Monticellina* sp. 1**

**Material examined.** – 1(MZB POL8), NT02A; 1(ZRC 2003.403), NT02B; 1(MZB POL42), NT07A; 2(NTM W18561), NT08A; 2(NTM W18607), NB15B; 1(NTM W18646), NB20A.

**Remarks.** – The present material is similar to *M. tessellata* (Hartman) from shelf and slope depths off California, but differs in lacking a mid-dorsal ridge on anterior chaetigers. The Natuna material probably represents a new species; it is conspecific with Gallardo's (1968) *Tharyx* sp. A.

***Monticellina* sp. 2**

**Material examined.** – 1(MZB POL110), NB18B; 1(NTM W18637), NB19B.

**Remarks.** – These two specimens differ from *Monticellina* sp. 1 in having reddish-brown pigment on the anterior body, moniliform-shaped segments posteriorly, and having only one type of saw-toothed chaeta – with long attenuated tips. This material is probably the same as Gallardo's (1968) *Tharyx* sp. B.

***Tharyx* sp.**

**Material examined.** – 1(NTM W18540), NT07B.

**Remarks.** – The single specimen has very long capillary chaetae on anterior and midbody segments (two times body width) and the knobbed-tipped chaetae, which are typical for the genus, are restricted to posterior segments. This is likely to represent a new species.

FAMILY FLABELLERIGIDAE

***Brada* sp.**

**Material examined.** – 1(MZB POL102), NB17B.

**Remarks.** – The present specimen differs from the only other species of *Brada* reported from the SCS, *B. ferruginea* Gallardo in the form of the neurochaetae, which lack the pseudoarticulation of *B. ferruginea*, in having very long parapodial papillae (equal in length to neurochaetae), and in having longer cephalic chaetae, which is more typical of the genus.

***Diplocirrus erythroporus* Gallardo, 1968**

**Material examined.** – 1(MZB POL29), NT05B; 1(NTM W18612), NB15B.

**Remarks.** – The present material agrees well the description of Gallardo (1968). In the more complete specimen the body narrows dramatically at about chaetiger 14-15. Known only from the SCS.

***Pherusa eruca indica* (Fauvel, 1928)**

**Material examined.** – 1(MZB POL123), NB20B.

**Remarks.** – The single specimen agrees well the description of this subspecies by Gallardo (1968).

***Pherusa* sp. A (see Gallardo, 1968)**

**Material examined.** – 1(MZB POL59), NT08A.

**Remarks.** – The single specimen agrees well with Gallardo's (1968) description of this morpho-species.

***Piromis* sp.**

**Material examined.** – 1(NTM W18472), NT02A; 1(MZB POL19), NT03A; 1(ZRC 2003.418), NT07B; 2(MZB POL58), NT08A; 1(ZRC 2003.433), NB12A; 1(NTM W18620), NB17A; 1(MZB POL105), NB18A; 1(MZB POL112), NB18B.

**Remarks.** – The specimens differ from the only other species of the genus previously reported from the SCS, *P. congoensis* (Grube), which was redescribed by Gallardo (1968), in possessing distally fluted (approaching bidentate) neurochaetae in posterior segments; anteriorly chaetae are similar to those figured by Gallardo (1968: figs. 4-7).

FAMILY OPHELIIDAE

***Armandia bipapillata* Hartmann-Schröder, 1974**

**Material examined.** – 1(NTM W18557), NT08A.

**Remarks.** – The specimen agrees well with the description of Hartmann-Schröder (1974); it has 32 chaetigers, with branchiae present on chaetigers 2-32. Lateral eyespots are present on chaetigers 7-18. The anal funnel is not elongated and has a pair of brown ventral pigment patches. This is the first record of the species from the SCS.

***Ophelina sibogae* (Caullery, 1944)**

**Material examined.** – 1(MZB POL89), NB15A; 1(NTM W18634), NB18B.

**Remarks.** – The two specimens agree well with Caullery's account of the species. This is the first record of the species from the SCS.

***Ophelina* sp.**

**Material examined.** – 1(NTM W18488), NT02B.

**Remarks.** – Species determination is not possible because most of the branchiae have fallen off. The anal funnel apparently lacks marginal papillae, so this specimen is unlikely to be conspecific with *O. sibogae*.

FAMILY STERNASPIDAE

*Sternaspis laevis minor* Caullery, 1944

**Material examined.** – 1(MZB POL16), NT03A; 1(MZB POL32), NT06A; 2(MZB POL65), NT08A; 2(ZRC 2003.427), NT08B; 1(NTM W18605), NB15A; 3(MZB POL96), NB15B; 1(NTM W18476), NB19B.

**Remarks.** – The specimens agree well with Caullery's description of the species. This is the first record of the species from the SCS.

*Sternaspis* sp. 1

**Material examined.** – 1(MZB POL46), NT07A; 1(ZRC 2003.444), NB15B; 1(NTM W18473), NB16B; 1(MZB POL115), NB18B.

**Remarks.** – This taxon, which most likely represents an undescribed species, may be distinguished by the distinctive ventral caudal shield which has a reddish-black colouration and very strong rib lines radiating from the medially-joined halves of the shield. It has 12 posterior segments.

FAMILY CAPITELLIDAE

*Mediomastus warrenae* Green, 2002

**Material examined.** – 1(NTM W18624), NB17B.

**Remarks.** – The present specimen agrees with the type description of Green (2002). This is the first record of a named species of *Mediomastus* in the SCS.

*Notomastus hemipodus* Hartman, 1947

**Material examined.** – 1(NTM W18507), NT05A.

**Remarks.** – We have followed Green's (2002) strict concept of the genus, that is, capitellids having 11 chaetigers with capillary chaetae, hooded hooks confined to abdominal noto- and neuropodia, and hooks that have more than two teeth in the basal row above the main fang. The single specimen from Natuna exhibits the same hook dentition and the characteristic methyl green staining pattern of this species, as described by Green (2002). This is the first record of the species from the SCS.

*Notomastus* cf. *latericeus* Sars, 1851

**Material examined.** – 1(MZB POL22), NT04A; 1(NTM W18515), NT05B; 1(ZRC 2003.411), NT06A; 1(NTM W18527), NT07A; 1(MZB POL78), NB13A.

**Remarks.** – The present specimens agree with the descriptions of this species by Gallardo (1968) and Green (2002) in having a biramous chaetiger 1 and globular protruberances

(= protruded lateral organs according to Green) on the anterior abdomen, positioned dorsal to the superior edge of the neuropodia. However, the present specimens differ from these other accounts in having fewer teeth on the neuropodial hooks, with only 1 or 2 rows surmounting the main fang.

*Notomastus* sp. 3

**Material examined.** – 1(NTM W18550), NT08A.

**Remarks.** – A *Notomastus* lacking neurochaetae on chaetiger 1, and showing a strong methyl green banding pattern over the last few thoracic chaetigers and the first few abdominal ones; thereafter, abdominal chaetigers display strong double bands before and after each pair of parapodia. The specimen differs from the five *Notomastus* species known from the SCS (Paxton & Chou 2002).

*Notomastus* sp. 4

**Material examined.** – 1(MZB POL13), NT03A; 1(NTM W18554), NT08A; 1(ZRC 2003.430), NT09A.

**Remarks.** – A *Notomastus* lacking neurochaetae on chaetiger 1, and showing a strong uniform methyl green staining on the thorax and a total absence of any banding pattern on the abdomen. The thorax is strongly aereolated. The specimen differs from the five *Notomastus* species known from the SCS (Paxton & Chou 2002).

*Promastobranthus orbiculatus* Green, 2002

**Material examined.** – 1(MZB POL28), NT05B; 1(ZRC 2003.441), NB15A; 1(NTM W18635), NB18B.

**Remarks.** – The specimens here agree with the description of the species by Green (2002) except that genital pores are present (in the largest specimen) on three consecutive chaetigers (10/11, 11/12, 12/13); however, this is possibly size-related as genital pores could not be detected on the smaller specimens. This is the first record of the species from the SCS.

?*Scyphoproctus* sp.

**Material examined.** – 1(NTM W18631), NB18A.

**Remarks.** – The single specimen is missing the posterior end, so generic identification is tentative (*Scyphoproctus* has a distinctive spinose anal plate). This is the first record of a species of *Scyphoproctus* from the SCS. Five species of the genus were reported from the Andaman Sea (Green 2002), but none resemble the present specimen.

FAMILY MALDANIDAE

**Maldanidae undetermined**

*Material examined.* – 2(NTM W18611), NB15B.

*Remarks.* – Two different maldanid species were found in this sample but both lacked posterior ends, making identification beyond family difficult.

FAMILY OWENIIDAE

***Myriochele picta* Southern, 1921**

*Material examined.* – 1(NTM W18649), NB20B.

*Remarks.* – The present specimen is very similar to Southern's material, but is larger (12 mm in length) and more highly pigmented, with the head and first 6-7 chaetigers dark brown, and the remaining body light brown; only the mid-venter and the neuropodia lack pigment.

FAMILY PECTINARIIDAE

**?*Pectinaria* sp.**

*Material examined.* – 1(NTM W18497), NT03A.

*Remarks.* – The specimen is very small and in poor condition, hence the questionable identification.

FAMILY AMPHARETIDAE

***Amphicteis* cf. *weberi* Caullery, 1944**

*Material examined.* – 1(NTM W18492), NT02A; 1(MZB POL12), NT03A; 1(ZRC 2003.425), NT08B.

*Remarks.* – The present material is very similar to the type description of *A. weberi*, especially in the form and arrangement of the branchiae. It differs however in that the paleae are very well developed in our specimens, extending anteriorly to just beyond the tip of the prostomium. Also, the Natuna specimens have three pairs of small red eyespots on the prostomium, whereas eyespots were not mentioned by Caullery in the type description.

***Auchenoplax crinita* Ehlers, 1887**

*Material examined.* – 1(MZB POL25), NT05A; 1(ZRC 2003.407), NT05B; 1(ZRC 2003.415), NT07A; 1(NTM W18541), NT07B; 1(MZB POL74), NB12A; 1(NTM W18598), NB13B; 2(NTM 18613), NB16B; 1(MZB POL120), NB19B.

*Remarks.* – This material agrees with Gallardo's (1968) description of *A. crinita*, except that the present specimens have a pair of eyespots; they may have faded in Gallardo's

(1968) specimens. Indeed Gallardo's specimens may be conspecific with specimens of *A. mesos* Hutchings from eastern Australia, as both lack eyespots, have similar uncini, and two pairs of long neuropodial tori on chaetigers 3 & 4, with those on chaetiger 3 ventrally displaced. It could not be determined whether the type specimens of *A. crinita*, from Florida, had eyespots or not.

***Eclysippe* sp.**

*Material examined.* – 1(NTM W18571), NT08B; 1(ZRC 2003.428), NT09A; 1(MZB POL119), NB19B.

*Remarks.* – Species identification is not possible because the branchiae are missing on all specimens. The genus is only represented by two described species, *Eclysippe vanelli* (Fauvel), originally from Morocco and *E. trilobata* (Hartman), from the eastern Pacific, so the present specimens are likely to be new.

***Pavelius* sp.**

*Material examined.* – 1(NTM W18499), NT03A; 1(MZB POL108), NB18B; 1(ZRC 2003.454), NB19B.

*Remarks.* – *Pavelius* is a monotypic genus, represented only by *P. uschakovi* Kuznetsov & Levenstein. The present specimens differ from this species in having a pair of cirriform anal cirri (cirri absent in *P. uschakovi*) and in having a large crenulated lower lip (lip absent in *P. uschakovi*). It is likely to represent a new species. This is the first record of this genus in the SCS.

FAMILY TERESELLIDAE

***Amaeana apheles* (Hutchings, 1974)**

*Material examined.* – 1 (NTM W18534), NT07A; 1(NTM W18548), NT08A; 1(NTM W18567), NT08B; 1(ZRC 2003.437), NB13B; 1(MZB POL125), NB20B.

*Remarks.* – An *Amaeana* with 10 notochaetigerous segments and a long achaetous region between the last thoracic chaetiger and the start of the abdominal neuropodia; only 1 thick spine per neuropodium. The specimens agree well the description of the species by Hutchings & Glasby (1986). This is the first record of this species in the SCS and outside Australia. *Amaeana trilobata* (Sars) reported by Hutchings (1990) from Hong Kong has 9-10 notochaetigerous segments, but it may be distinguished from *A. apheles* by having 3-8 acicular spines in abdominal neuropodia.

***Amaeana* cf. *yirrarn* Hutchings, 1997**

*Material examined.* – 2(NTM W18501), NT03A; 1(ZRC 2003.426), NT08B; 1(MZB POL109), NB18B.



**Remarks.** – An *Amaeana* with 12-13 notochaetigerous segments; elongate nephridial papillae at ventral bases of notopodia of chaetigers 1-5(or 7); one blunt-tipped spine in each abdominal neuropodium; notochaetae of one type (smooth, no wings), graded in length. The present specimens are similar to the account of *A. yirrarn* by Hutchings (1997), however they differ in the form of the notopodial capillaries (winged for *A. yirrarn*), and in having a different distribution of nephridial papillae, although this latter feature is known to be dependent on the individual's sexual maturity. Possibly a new species.

***Streblosoma prora* Hutchings & Glasby, 1987**

**Material examined.** – 1(NTM W18516), NT05B.

**Remarks.** – The single specimen agrees with the description of Hutchings & Glasby (1987). See Hutchings & Glasby (1987) for an account of how this species differs from the other named species in the SCS region, *S. cespitosa* (Willey) and other Indo-Pacific species. This is the first record of the species from the SCS. Paxton & Chou (2000) overlooked *Streblosoma duplicata* Hutchings described from Hong Kong, which differs from *S. prora* in having fewer branchiae, uncini of the posterior thorax arranged in a closed loop (rather than gently curved rows) and in the form of the uncini, in which the button is located forward of the main fang rather than directly under its apex as in *S. prora*.

**?*Proclea* sp.**

**Material examined.** – 1(NTM W18617), NB16B.

**Remarks.** – The generic identification is questionable as the specimen has 17 notochaetigerous segments (*Proclea* usually have 16 pairs). The notochaetae are of two different lengths, both smooth-winged capillaries. A well-developed ventrolateral lobe is present on segment 2. Amphitritines lacking branchiae, including *Proclea*, are generally very poorly known at both species and generic levels and revision is required in order to confirm identification.

FAMILY TRICHOBRANCHIDAE

***Artacamella* sp.**

**Material examined.** – 1(NTM W18496), NT03A.

**Remarks.** – The single specimen is in poor condition with only one branchia remaining; species level identification is not possible. This is the first record of the genus in the SCS. The report of *Filibbranchus* sp. in Paxton & Chou (2000) should be referred to *Trichobranchus*, as the former is a junior synonym of the latter.

***Terebellides narribri* Hutchings & Peart, 2000**

**Material examined.** – 1 (MZB POL1), NT01A; 1(MZB POL5), NT02A; 1(MZB POL15), NT03A; 1(ZRC 2003.413), NT07A; 1(ZRC 2003.431), NB12A; 1(NTM W18590), NB13A; 1 (NTM W18599), NB14B; 1(NTM W18623), NB17B.

**Remarks.** – The present material agrees well with the description in Hutchings & Peart (2000). The size of the geniculate chaetae of the first neuropodia in our specimens decreased from the dorsal end of the fascicle to the ventral end. Further, the fusion of the branchial lobes was less in smaller specimens. Reports of *Terebellides stroemi* in the SCS all need to be re-examined as this name has been widely misapplied to a number of similar looking *Terebellides* species in Australia and elsewhere (Williams, 1984; Hutchings & Peart, 2000). This is the first record of the species from the SCS.

FAMILY SABELLIDAE

***Bispira tricyclia* (Schmarda, 1861)**

**Material examined.** – 1(NTM W18480), NT01A; 1(MZB POL26), NT05B.

**Remarks.** – Although the present material agrees with the description of *B. tricyclia* of Knight-Jones & Perkins (1998), both specimens are less than 10 mm in total length, considerably smaller than their specimens. The species has a widespread Indo-Pacific distribution according to Knight-Jones & Perkins (1998).

***Chone* sp. 4 Fitzhugh, 2002**

**Material examined.** – 1(MZB POL68), NT08B; 1(NTM W18643), NB19B.

**Remarks.** – This unnamed species of Fitzhugh (2002) appears to be conspecific with the present specimens.

***Chone* sp.**

**Material examined.** – 1(NTM W18479), NT01A; 1(NTM W18482), NT02B; 1(NTM W18533), NT07A; 1(NTM W18564), NT08B.

**Remarks.** – Species identification is not possible because of the poor state of the material.

***Euchone* sp.**

**Material examined.** – 1(NTM W18591), NB13A.

**Remarks.** – This specimen is characterised by having the anal depression occurring over 3 chaetigers and 6 abdominal chaetigers anterior to the anal depression. This combination of features is rare among species of *Euchone*, only occurring

in *E. incolor* Hartman, 1965 (Fitzhugh, 2002); however, as *E. incolor* was originally reported off New England, USA in shelf to abyssal depth, the present specimen is unlikely to be this species.

***Laonome andamanensis* Fitzhugh, 2002**

**Material examined.** – 1(NTM W18537), NT07B.

**Remarks.** – The present specimen agrees well with Fitzhugh’s type description. This is the first record of the species from the SCS.

***Perkinsiana* sp.**

**Material examined.** – 1(NTM W18528), NT07A.

**Remarks.** – Species identification is not possible because of the poor condition of the specimen. This is the first record of the genus in the SCS.

***Pseudopotamilla* sp.**

**Material examined.** – 2(NTM W18584), NT10A.

**Remarks.** – The specimen has 10 pairs of radioles, five pairs of which bear eyespots; the ventralmost four pairs and the dorsalmost pair lack eyespots. The largest eyespots are on the dorsal radioles. The only previously named member of this genus from the SCS is *P. reniformis* (Müller), but considering that this species occurs on hard substrata in shallow water in the Mediterranean (Knight-Jones et al., 1991), it is unlikely to be conspecific with the present specimen.

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