

Nephtyid Polychaetes from the west Coast of Phuket Island, Andaman Sea, Thailand, with Description of five new Species*

A. NATEEWATHANA and J. HYLLEBERG

(Communicated by P. A. HUTCHINGS)

NATEEWATHANA, A., & HYLLEBERG, J. Nephtyid polychaetes from the west coast of Phuket Island, Andaman Sea, Thailand, with description of five new species. *Proc. Linn. Soc. N.S.W.* 108 (3), (1985) 1986: 195-215.

Eight species of nephtyids have been collected in the Andaman Sea off the west coast of Phuket Island, Thailand, as part of a three-year programme on studies of marine macrobenthos. The polychaetes were collected during April 1980 – June 1982 from quantitative samples obtained at 15 stations ranging in depth from 10 to 30m. The eight species, comprising five new species and three new records from Thailand, are *Aglaophamus phuketensis* n. sp., *Aglaophamus urupani* n. sp., *Aglaophamus* cf. *verrilli* (McIntosh, 1885), *Inermonephtys* cf. *gallardi* Fauchald 1968, *Inermonephtys patongi* n. sp., *Micronephtys sphaerocirrata* (Wesenberg-Lund, 1949), *Nephtys danida* n. sp. and *Nephtys phasuki* n. sp.

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* Miscellaneous Contribution No. 21 from the Phuket Marine Biological Center, Thailand.

INTRODUCTION

Hartman (1950) provided a review of the morphological and taxonomic features of the family Nephtyidae and recognized three genera, *Aglaophamus*, *Micronephtys* and *Nephtys*. Fauchald (1968) added a fourth genus, *Inermonephtys*. Thirteen species of nephtyids have been found in the northern Indian Ocean (Hartman, 1974). Until now the polychaete fauna in the Andaman Sea has been little studied. Only one species, *Nephtys malmgreni* Théel, was recorded from the Andaman Sea (Fauvel, 1953). The present work enlarges our knowledge of nephtyids from the Andaman Sea on the basis of an ecological survey off Phuket Island, Thailand.

MATERIALS AND METHODS

The present collections have been obtained along an approximately 40km-long stretch of the west coast of Phuket Island (8°N, 98° 20'E), Andaman Sea, Thailand, as part of a three-year ecological survey (Hylleberg *et al.*, 1985b) from 1980-1982. The material was collected from fifteen stations, ranging in depth from 10-30m, off four bays: the open bays of the Airport, Bang Tao, and Kamala, and the sheltered bay of Patong (fig. 1 in Hylleberg and Nateewathana, 1984a). The distribution of the nephtyids is described in Hylleberg and Nateewathana (1984b) where *Aglaophamus* sp.1 and sp.2 refer to *A. phuketensis* n.sp. and *A. urupani* n.sp., respectively. *Inermonephtys* sp.1 = *I. patongi* n.sp., and *Nephtys* sp.1 and sp.2 = *N. danida* n.sp. and *N. phasuki* n.sp., respectively. Details of the sediment of the various stations are described in Hylleberg *et al.* (1985a).

A total of 780 nephtyids were collected and identified. Holotypes and paratypes are deposited in the Reference Collection of Phuket Marine Biological Center (PMBC), Phuket 83000, Thailand (Boonprakob and Hylleberg, 1983). Duplicate specimens

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A total of 780 nephtyids were collected and identified. Holotypes and paratypes are deposited in the Reference Collection of Phuket Marine Biological Center (PMBC), Phuket 83000, Thailand (Boonprakob and Hylleberg, 1983). Duplicate specimens

(paratypes) will be deposited at the Australian Museum, Sydney (AM), the British Museum (Natural History), London (BMNH), the Smithsonian Institution, Washington (USNM), and the Zoological Museum, Copenhagen (ZMC).

All animals were fixed in 10% formalin and later transferred to 70% alcohol before identification. In order to see morphological details of undissected specimens under the microscope the polychaetes were stained with methylene blue. After examination in water (Wild M5 and M7) the stain was removed in alcohol, which was used for permanent storage of the specimens. Details of parapodia were observed at a maximum magnification of 1250 times (Wild M11 and Zeiss Ergaval).

DESCRIPTION OF THE SPECIES

Aglaophamus Kinberg, 1866

Eversible pharynx with 14-22 longitudinal rows of papillae. Interramal cirri involute. Acicula distally hooked in most species.

Aglaophamus phuketensis n.sp.

Figs 1A-F, 2

Holotype: A complete specimen with 74 setigers; length 25mm. — Airport Bay (station 2), Phuket Island, Thailand; very coarse sand, 20m depth, 7.4.1981 (PMBC no. 3159).

Paratypes will be deposited as follows: -1, PMBC (no. 3160): Anterior fragment with 51 setigers, pharynx everted. Patong Bay (station 12), very fine sand, 30m depth, 29.6.1981. -2, USNM: Complete specimen with 85 setigers, length 18.2mm, Bang Tao Bay (station 6), very fine sand, 10m depth, 29.6.1981. -3, BMNH: Complete specimen with 75 setigers, length 18.0mm, Kamala Bay (station 8), fine sand, 10m depth, 23.12.1981. -4, AM: Complete specimen with 84 setigers, length 22.1mm, Kamala Bay (station 8), fine sand, 10m depth, 10.4.1980. -5, ZMC: Complete specimen with 55 setigers, length 9.6mm, Airport Bay (station 2), coarse sand, 20m depth, 26.4.1982.

Material Examined: A total of 238 specimens was collected from the four bays, Airport Bay, Bang Tao Bay, Kamala Bay, and Patong Bay, from very coarse sand to silty clay at depths of 10-30m.

Description: The longest complete specimen had 85 setigers, a length of 25mm and a width of 1.5mm. Body white in alcohol. The pygidium terminates in a long cirriform process.

Prostomium subpentagonal and somewhat longer than wide, in holotype 0.45mm long and 0.4mm wide (Fig. 1A,B); one pair of antennae, which are slender and about half as long as the prostomium; one pair of ventro-lateral palps of about the same size and shape as the antennae; eyespots absent; one pair of small nuchal organs present at the corners of the prostomium.

Pharynx distally with 20 bifid papillae surrounding the buccal aperture, proximal region with 14 longitudinal rows of subterminal papillae, each row with 3-6 slender papillae decreasing in size proximally. A long and slender middorsal papilla present (Fig. 2), proximal surface of the pharynx smooth.

All parapodia biramous, projecting up to 0.8mm, including setae, from the body. First setiger with parapodia reduced and directed forward, lying adjacent to prostomium; notopodium with prominent conical acicular lobe surrounded by small pre- and postacicular lamellae, notopodial cirrus small; neuropodium with prominent acicular lobe, inconspicuous pre- and postacicular lamellae, neuropodial cirrus elongate, about the same size as the antennae. At the third setiger, notopodium with conical acicular lobe, low rounded preacicular lamellae, postacicular lamella best developed above level

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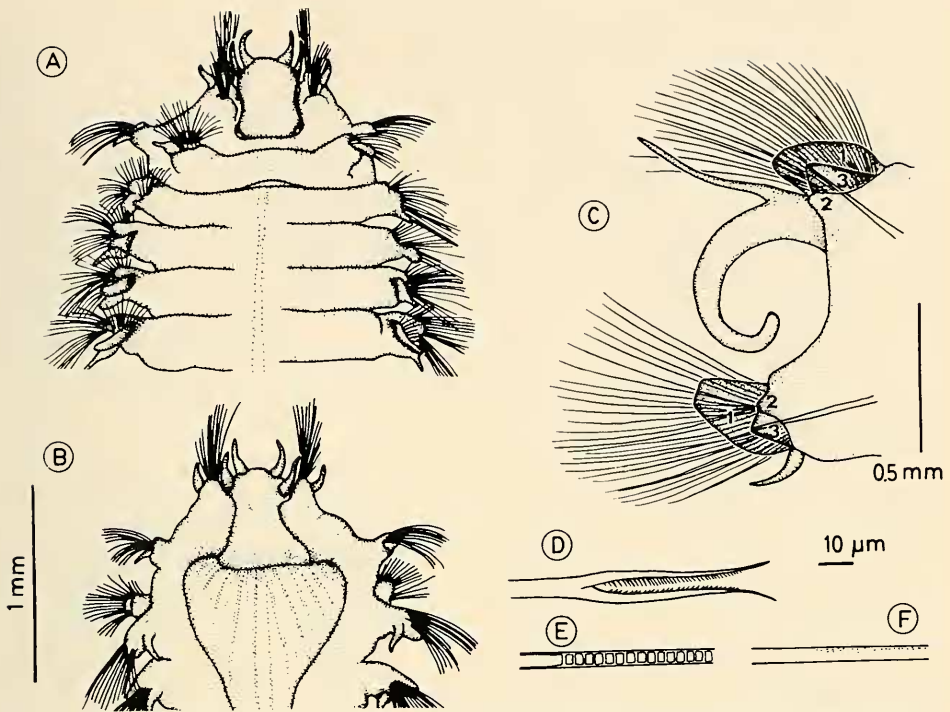


Fig. 1. *Aglaophamus phuketensis* n.sp.: A, anterior end, dorsal view. B, anterior end, ventral view. C, twenty-fifth setiger, anterior view. The numbers 1-3 refer to postacicular, preacicular, and acicular lobes, respectively. D, lyrate seta. E, part of barred seta. F, part of subulate seta.

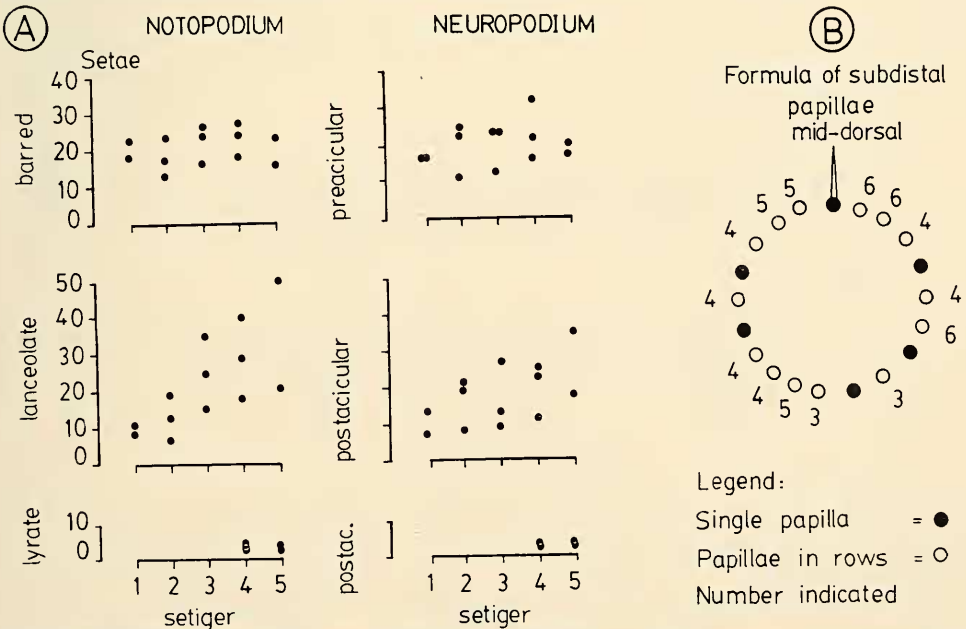


Fig. 2. *Aglaophamus phuketensis*: A, counts of setae at the first five setigers. B, count of subdistal papillae on pharynx.

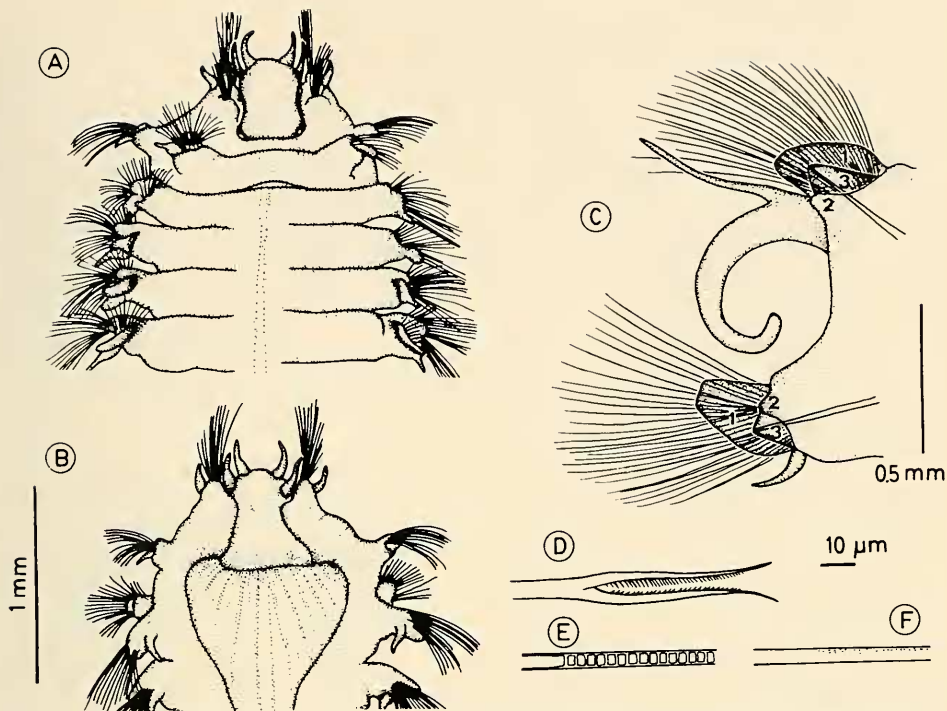


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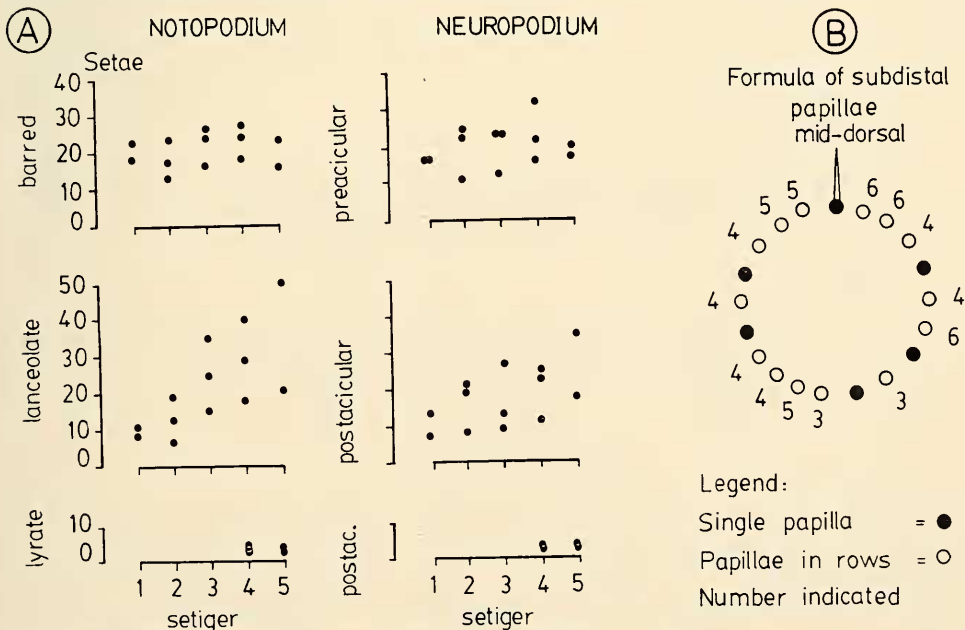


Fig. 2. *Aglaophamus phuketensis*: A, counts of setae at the first five setigers. B, count of subdistal papillae on pharynx.

of the acicular lobe, notopodial cirrus long; neuropodium with conical acicular lobe, pre- and postacicular lamellae similar to those of the notopodium. Interramal cirri involute, first present at setiger 3, continuing until the last setiger, full sized between setiger 10 and setiger 30, and then gradually decreasing in size. At the twenty-fifth setiger (Fig. 1C), notopodium with rounded conical preacicular lamella, conical and pointed acicular lobe, postacicular lamella rounded and much bigger than the acicular lobe, notopodial cirrus long and slender; neuropodium thick at the base, preacicular lamella of notopodium, conical and rounded, postacicular lamella much longer than the acicular lobe, neuropodial cirrus slender and tapering.

Acicular stout, single in all parapodial rami, extending to apex of the acicular lobes, tips fine, strongly curved.

Setae of three types: barred, lanceolate (smooth to spinose), and lyrate (Fig. 1E-F). Barred setae present in preacicular position, lanceolate setae in postacicular position. First setiger with barred and lanceolate setae in notopodium, barred setae in neuropodium. Lyrate setae first present from setiger 4 (Fig. 2).

Variation encountered within this species was examined by scanning the collected material and random samples were taken for detailed counting and dissection. Setal counts at the first five setigers are shown in Fig. 2. It was not possible to distinguish accurately between spinose, spinulose and capillary setae (Rainer and Hutchings, 1977) so these setae are referred to as lanceolate setae. Noto- and neuropodia were similar with respect to type and number of setae in the anterior segments. As a whole, the taxonomic characters were constant; barred and lanceolate setae present in all parapodia, lyrate setae started at setiger 4, interractal cirri started at setiger 3 and continued to the last setiger although the size decreased posteriorly. The number of setigers in 12 complete specimens averaged 73 ± 12 (s.d.).

Etymology: The species is named after Phuket Island, Andaman Sea, Thailand.

Discussion: *Aglaophamus phuketensis* is characterized by 14 rows of subdistal papillae on pharynx, 3-6 papillae in each row, presence of middorsal papilla, absence of eyespots, interractal cirri start at setiger 3, and lyrate setae at setiger 4. This combination of characters has so far only been reported in *A. tepens* Fauchald, 1968. The two species may be distinguished by the following characters:

A. phuketensis

- i) interractal cirri present until the last setiger
- ii) the neuropodial postacicular lamella is about twice as long as the acicular lobe and has a cut-off, triangular shape at setiger 25
- iii) the ventral cirrus is slender and tapering at setiger 25

A. tepens

- i) interractal cirri present from setiger 3 to 25
- ii) the neuropodial postacicular lamella is about the same length as the acicular lobe and is a rounded square shape at setiger 25
- iii) the ventral cirrus is short and stout at setiger 25.

Aglaophamus urupani n.sp.

Figs 3A-F, 4 and 5

Holotype: A complete specimen with 64 setigers; length 15.5mm. — Patong Bay (station 12), Phuket Island, Thailand; very fine sand, 30m depth, 18.6.1982 (PMBC no. 3102).

Paratypes will be deposited as follows: -1, PMBC (no. 3103): Complete specimen with 57 setigers, length 11mm, Kamala Bay (station 10), fine sand, 10m depth, 18.6.1982. -2, USNM: Complete specimen with 62 setigers, length 18.5mm, Kamala Bay (station 9),

of the acicular lobe, notopodial cirrus long; neuropodium with conical acicular lobe, pre- and postacicular lamellae similar to those of the notopodium. Interramal cirri involute, first present at setiger 3, continuing until the last setiger, full sized between setiger 10 and setiger 30, and then gradually decreasing in size. At the twenty-fifth setiger (Fig. 1C), notopodium with rounded conical preacicular lamella, conical and pointed acicular lobe, postacicular lamella rounded and much bigger than the acicular lobe, notopodial cirrus long and slender; neuropodium thick at the base, preacicular lamella of notopodium, conical and rounded, postacicular lamella much longer than the acicular lobe, neuropodial cirrus slender and tapering.

Acicular stout, single in all parapodial rami, extending to apex of the acicular lobes, tips fine, strongly curved.

Setae of three types: barred, lanceolate (smooth to spinose), and lyrate (Fig. 1E-F). Barred setae present in preacicular position, lanceolate setae in postacicular position. First setiger with barred and lanceolate setae in notopodium, barred setae in neuropodium. Lyrate setae first present from setiger 4 (Fig. 2).

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Aglaophamus urupani n.sp.

Figs 3A-F, 4 and 5

Holotype: A complete specimen with 64 setigers; length 15.5mm. — Patong Bay (station 12), Phuket Island, Thailand; very fine sand, 30m depth, 18.6.1982 (PMBC no. 3102).

Paratypes will be deposited as follows: -1, PMBC (no. 3103): Complete specimen with 57 setigers, length 11mm, Kamala Bay (station 10), fine sand, 10m depth, 18.6.1982. -2, USNM: Complete specimen with 62 setigers, length 18.5mm, Kamala Bay (station 9),

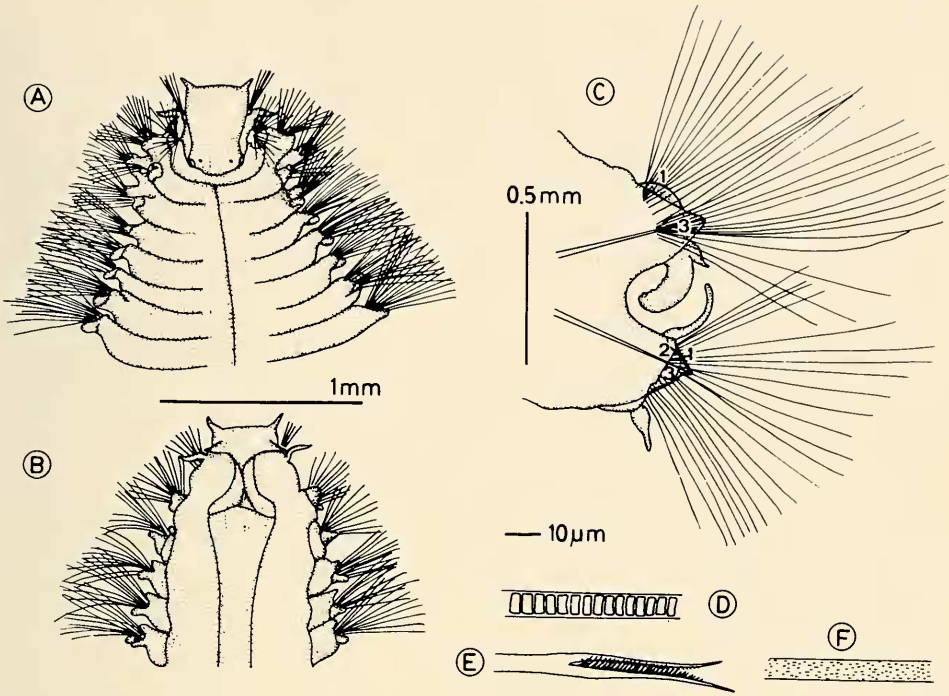


Fig. 3. *Aglaophamus urupani* n.sp.: A, anterior end, dorsal view. B, anterior end, ventral view. C, twenty-fifth setiger, anterior view. The numbers 1-3 refer to postacicular, preacicular, and acicular lobes, respectively. D, part of barred seta. E, lyrate seta. F, spinose part of subulate seta.

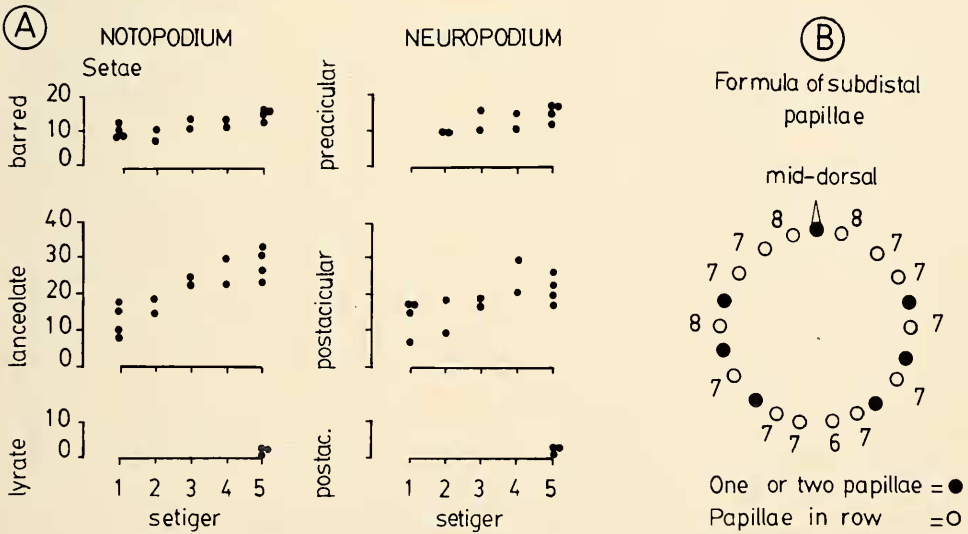


Fig. 4. *Aglaophamus urupani* n.sp.: A, counts of setae at the first five setigers. B, count of subdistal papillae on pharynx.

fine sand, 10m depth, 11.6.1980. -3, BMNH: Complete specimen with 52 setigers, length 9.0mm, Bang Tao Bay (station 4), very fine sand, 30m depth, 15.10.1980. -4, AM: Complete with 68 setigers, length 22.2mm, Patong Bay (station 13), very fine sand, 20m depth, 11.6.1980. -5, ZMC: Complete specimen with 59 setigers, length 13.3mm, Patong Bay (station 12), very fine sand, 30m depth, 27.2.1982.

Material Examined: A total of 156 specimens was collected from the four bays, Airport Bay, Bang Tao Bay, Kamala Bay, and Patong Bay, from fine sand to silty clay at depths of 10-30m.

Description: The longest complete specimen had 68 setigers, a length of 22.2mm and a width of 1.8mm. Body white in alcohol. The pygidium terminates in a long cirriform process.

Prostomium approximately rectangular (Fig. 3A), in holotype 0.5mm long, 0.3mm wide, anteriorly truncate, one pair of short, conical antennae on the frontal margin of prostomium; one pair of ventrolateral palps about the same size and shape as the antennae (Fig. 3B). Two eyespots present near the posterior margin of prostomium, a pair of nuchal organs at the corners of the posterior margin of prostomium (Fig. 3A).

Pharynx distally with 20 bifid papillae, dorsal and ventral median papillae absent. Subdistal region with a short middorsal papilla about two times as long as the neighbouring papillae, shorter subdistal papillae decreasing in length towards base of pharynx, arranged in 14 rows proximally, 6-8 papillae per row; no warts (verrucae) present. In some of the distal rows the papillae are doubled resulting in 20 papillae when counted around the pharynx (Fig. 4).

All parapodia biramous, projecting up to 1.2mm, including setae. First parapodium reduced; notopodium directed forward, prominent conical acicular lobe, obscure pre- and postacicular lamellae; neuropodium directed forward, conical acicular lobe, obscure pre- and postacicular lamellae; both notopodial and neuropodial cirrus elongated, approximately of the same size as antennae and palps but longer than those of the succeeding setigers. Second parapodium directed forward, noto- and neuropodium with low, rounded acicular lobes, obscure pre- and postacicular lamellae, notopodial and neuropodial cirri with broad base. Interramal cirri first present as small knobs from setiger 2 to 11. They start from setiger 12, increase gradually in length until they become fully involuted at setiger 16; absent from the last 13 setigers. From the 3rd setiger, notopodium with small, rounded postacicular lamellae, gradually changing to become conical at setiger 8 and half-circular at the following setigers. At the 8th setiger, notopodium with prominent acicular lobe, broadly-rounded preacicular lamellae, conical postacicular lamellae, dorsal and interrampal cirri small; neuropodium with prominent conical acicular lobe, preacicular lamella broad and about the same size as the more conical postacicular lamella, neuropodial cirrus somewhat larger than notopodial cirrus. By 25th setiger (Fig. 3C) notopodium with half-circular postacicular lamella, conical acicular lobe, preacicular lamella broad and inconspicuous, notopodial cirrus short and conical; neuropodium with rounded, short postacicular lamella, conical acicular lobe, small preacicular lamella, neuropodial cirrus well-developed. Notopodial cirri present to the last setiger. Long slender superior neuropodial cirrus first present at setiger 15, absent from the last 14 setigers.

Acicula single, with curved tips, extending to the apex of acicular lobes in all parapodial rami. Acicula at anterior and middle part of body with a few granules of red pigment, posteriorly clear and colourless.

Setae of three types: barred, lyrate and lanceolate (smooth to spinose) (Fig. 3D,E,F). Barred setae restricted to preacicular position, lyrate setae to postacicular position, lanceolate setae predominantly postacicular (Fig. 4). First setiger with barred and lanceolate setae in notopodium; lanceolate only in neuropodium. Preacicular

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Pharynx distally with 20 bifid papillae, dorsal and ventral median papillae absent. Subdistal region with a short middorsal papilla about two times as long as the neighbouring papillae, shorter subdistal papillae decreasing in length towards base of pharynx, arranged in 14 rows proximally, 6-8 papillae per row; no warts (verrucae) present. In some of the distal rows the papillae are doubled resulting in 20 papillae when counted around the pharynx (Fig. 4).

All parapodia biramous, projecting up to 1.2mm, including setae. First parapodium reduced; notopodium directed forward, prominent conical acicular lobe, obscure pre- and postacicular lamellae; neuropodium directed forward, conical acicular lobe, obscure pre- and postacicular lamellae; both notopodial and neuropodial cirrus elongated, approximately of the same size as antennae and palps but longer than those of the succeeding setigers. Second parapodium directed forward, noto- and neuropodium with low, rounded acicular lobes, obscure pre- and postacicular lamellae, notopodial and neuropodial cirri with broad base. Interramal cirri first present as small knobs from setiger 2 to 11. They start from setiger 12, increase gradually in length until they become fully involuted at setiger 16; absent from the last 13 setigers. From the 3rd setiger, notopodium with small, rounded postacicular lamellae, gradually changing to become conical at setiger 8 and half-circular at the following setigers. At the 8th setiger, notopodium with prominent acicular lobe, broadly-rounded preacicular lamellae, conical postacicular lamellae, dorsal and interrampal cirri small; neuropodium with prominent conical acicular lobe, preacicular lamella broad and about the same size as the more conical postacicular lamella, neuropodial cirrus somewhat larger than notopodial cirrus. By 25th setiger (Fig. 3C) notopodium with half-circular postacicular lamella, conical acicular lobe, preacicular lamella broad and inconspicuous, notopodial cirrus short and conical; neuropodium with rounded, short postacicular lamella, conical acicular lobe, small preacicular lamella, neuropodial cirrus well-developed. Notopodial cirri present to the last setiger. Long slender superior neuropodial cirrus first present at setiger 15, absent from the last 14 setigers.

Acicula single, with curved tips, extending to the apex of acicular lobes in all parapodial rami. Acicula at anterior and middle part of body with a few granules of red pigment, posteriorly clear and colourless.

Setae of three types: barred, lyrate and lanceolate (smooth to spinose) (Fig. 3D,E,F). Barred setae restricted to preacicular position, lyrate setae to postacicular position, lanceolate setae predominantly postacicular (Fig. 4). First setiger with barred and lanceolate setae in notopodium; lanceolate only in neuropodium. Preacicular

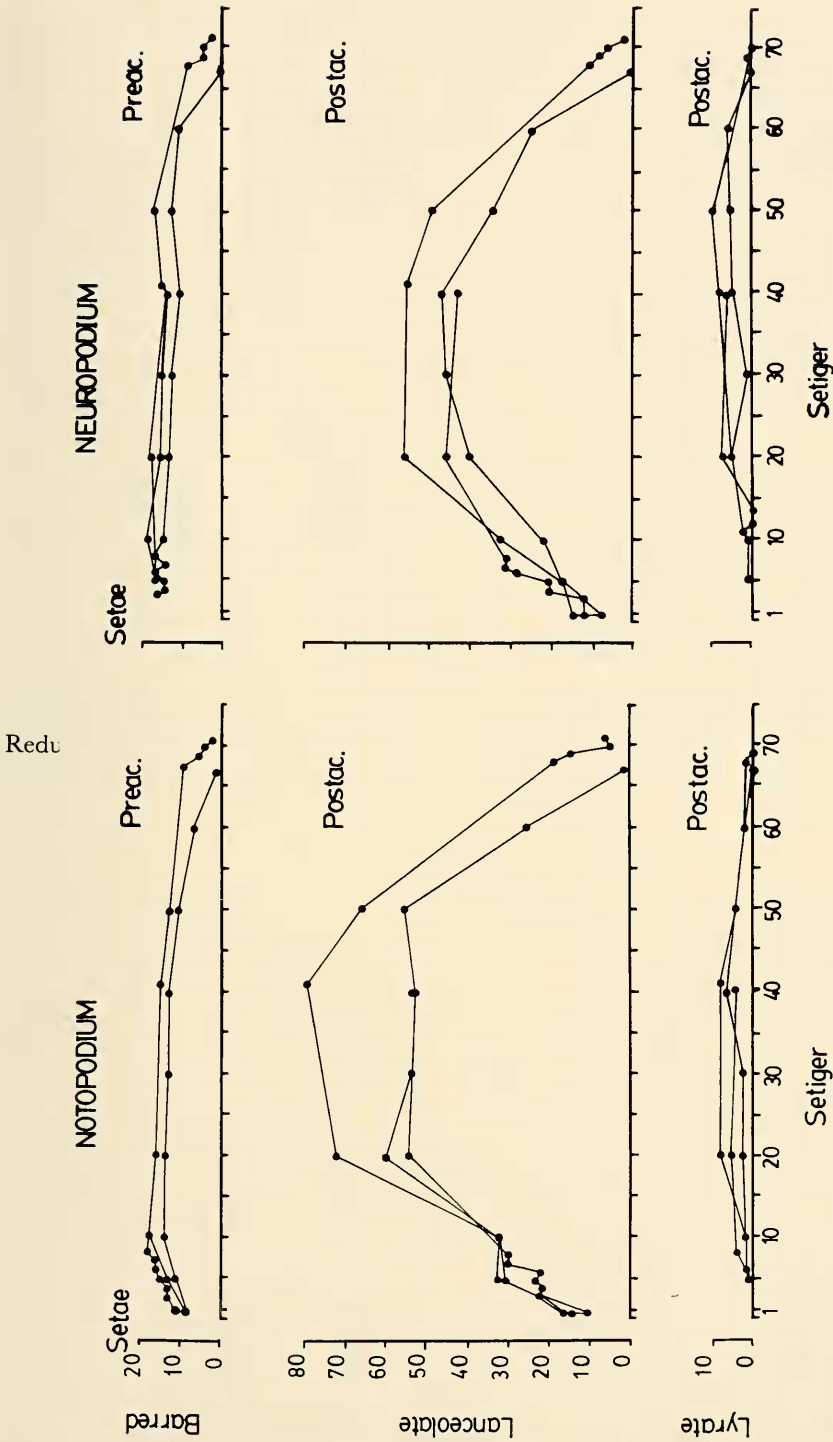


Fig. 5. *Aglaophamus urupani* n. sp.: Count of setae along the body of two complete specimens (65 & 71 setigers) and one anterior fragment (40 setigers).

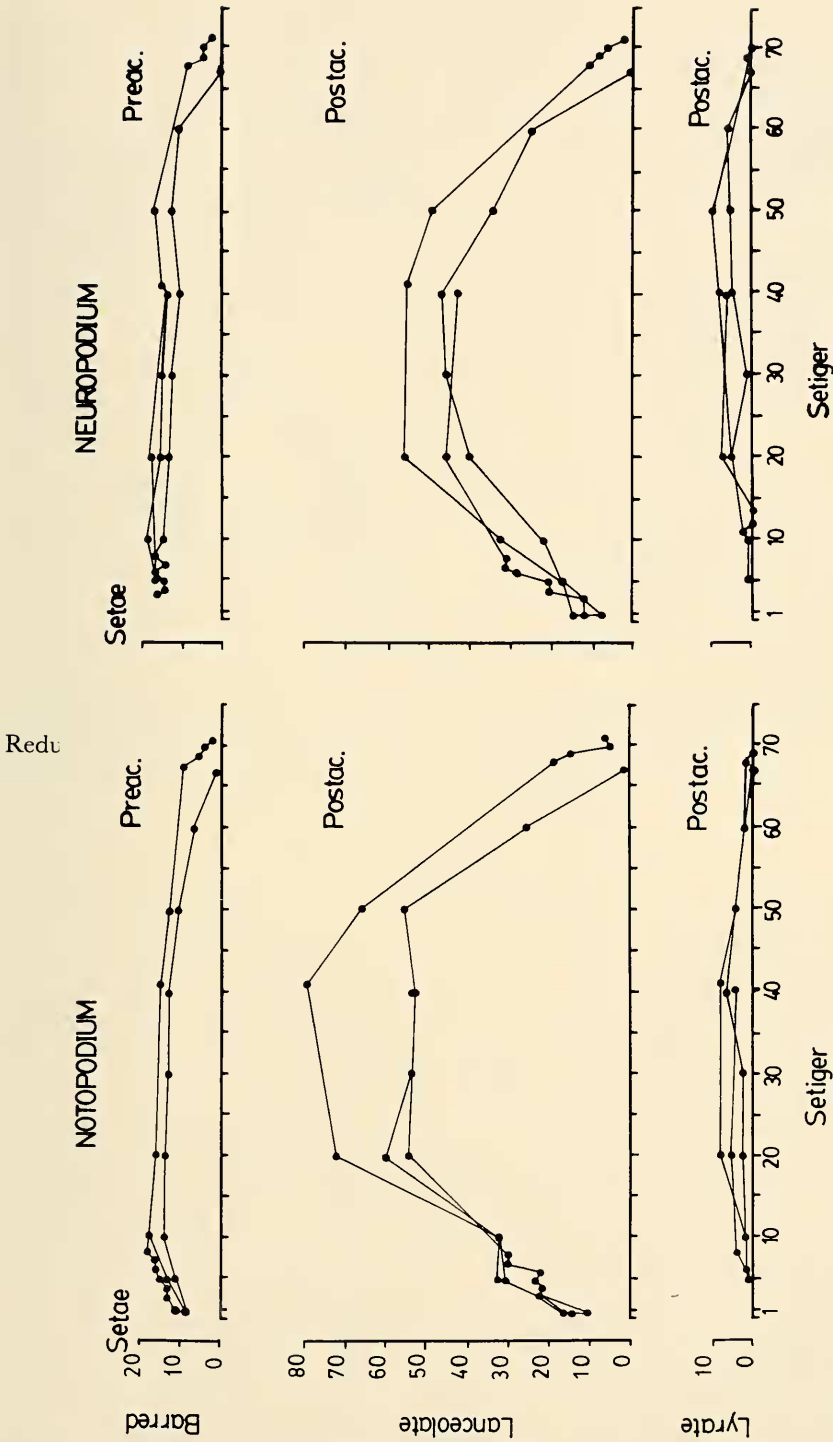


Fig. 5. *Aglaophamus urupani* n. sp.: Count of setae along the body of two complete specimens (65 & 71 setigers) and one anterior fragment (40 setigers).

barred setae in neuropodium first present from setiger 2. Both barred and lanceolate setae present throughout the body; greatest number present between 20th to 40th setiger and then gradually decreasing to about 2-3 at the last setiger (Fig. 5). Lyrate setae small (measuring about 50 μm), subequal branches and armed with numerous long spines, first present from setiger 5 and absent from the last 2-3 setigers.

Setal counts are shown in Fig. 5. The number of lanceolate setae peaked between setiger 20 and 50 in both noto- and neuropodia. Barred and lyrate setae varied little along the body apart from a fast increase and decrease in the anterior and posterior segments, respectively. As a whole, this species displayed moderate individual variation.

The following variation was found among 14 specimens: first interramal cirrus (defined as the first cirrus with a recognizable notopodial cirrus) at setiger 7 to 10 (11 records at setiger 8); interramal cirri disappeared gradually at the posterior 7 to 16 segments; superior neuropodial cirri were found from setiger 14 to 16 (10 records at setiger 15), such cirri disappeared gradually at the posterior 7 to 17 segments; the number of setigers in these 14 complete specimens averaged 60 ± 8 (s.d.).

Etymology: The species is named after the former Director of PMBC Mr Urupan Boonprakob in recognition of his support of our studies.

Discussion: *Aglaothamus urupani* is characterized by a pharynx with 14 rows of subdistal papillae, 6-8 papillae in each row, presence of middorsal papilla, presence of eyespots, interramal cirri start at setiger 8 (7 to 12) and lyrate setae at setiger 5. This combination of characters is not found in other species within the genus.

Aglaothamus urupani resembles *A. dibranthis* Hartman, 1950, *A. malmgreni* Théel, 1879, *A. orientalis* Fauchald, 1968, and *A. vietnamensis* Fauchald, 1968, but may be distinguished by the following characters: Interramal cirri start at setiger 4-5 in *A. dibranthis*. Eyespots, middorsal papilla, and lyrate setae are absent in *A. malmgreni*. Interramal cirri start at setiger 3 in *A. orientalis*. Eyespots are absent in *A. vietnamensis*. In addition, *A. vietnamensis* has rudimentary postacicular lamellae compared with well-developed postacicular lamellae especially at the notopodium in *Aglaothamus urupani*.

Aglaothamus cf. *verrilli* (McIntosh, 1885)

Figs 6A-F, 7

Material Examined: A total of 27 specimens has been sampled at depths between 10 and 20m.

Description: Based on a complete specimen from Kamala Bay (station 10), fine sand, 10m depth, 18.6.1982 (PMBC no. 3169), 95 setigers, pharynx fully everted. Length 29.6mm, width 2.2mm, excluding setae, pharynx 2.7mm wide and 3.2mm long. Colour in alcohol white. The pygidium terminates in a filiform process.

Prostomium (Fig. 6A) rectangular, 0.3mm wide and 0.5mm long; antennae and palps short, conical and almost the same size; small nuchal organs at the posterior corners of prostomium; one pair of small black eyes on posterior fifth of prostomium.

Everted pharynx divided into short muscular distal region and longer inflated proximal region; distal region with 20 bifid papillae and a pair of short, simple middorsal and midventral papillae surrounding a dorsoventral slit; proximal region with 22 longitudinal rows of 4-7 subdistal papillae decreasing in size towards base of pharynx, proximal surface smooth (no warts). No middorsal subdistal papilla (Fig. 7).

All parapodia biramous, projecting about one third of the body width in the anterior part. First parapodium reduced, directed anteriorly; notopodium with a conical acicular lobe, inconspicuous pre- and postacicular lamellae and notopodial cirrus; neuropodium with low, rounded acicular lobe and neuropodial cirrus; notopodial cirrus cirriform and somewhat longer than the neuropodial cirrus which is more slender and

barred setae in neuropodium first present from setiger 2. Both barred and lanceolate setae present throughout the body; greatest number present between 20th to 40th setiger and then gradually decreasing to about 2-3 at the last setiger (Fig. 5). Lyrate setae small (measuring about 50 μm), subequal branches and armed with numerous long spines, first present from setiger 5 and absent from the last 2-3 setigers.

Setal counts are shown in Fig. 5. The number of lanceolate setae peaked between setiger 20 and 50 in both noto- and neuropodia. Barred and lyrate setae varied little along the body apart from a fast increase and decrease in the anterior and posterior segments, respectively. As a whole, this species displayed moderate individual variation.

The following variation was found among 14 specimens: first interramal cirrus (defined as the first cirrus with a recognizable notopodial cirrus) at setiger 7 to 10 (11 records at setiger 8); interramal cirri disappeared gradually at the posterior 7 to 16 segments; superior neuropodial cirri were found from setiger 14 to 16 (10 records at setiger 15), such cirri disappeared gradually at the posterior 7 to 17 segments; the number of setigers in these 14 complete specimens averaged 60 ± 8 (s.d.).

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Discussion: *Aglaothamus urupani* is characterized by a pharynx with 14 rows of subdistal papillae, 6-8 papillae in each row, presence of middorsal papilla, presence of eyespots, interramal cirri start at setiger 8 (7 to 12) and lyrate setae at setiger 5. This combination of characters is not found in other species within the genus.

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Aglaothamus cf. *verrilli* (McIntosh, 1885)

Figs 6A-F, 7

Material Examined: A total of 27 specimens has been sampled at depths between 10 and 20m.

Description: Based on a complete specimen from Kamala Bay (station 10), fine sand, 10m depth, 18.6.1982 (PMBC no. 3169), 95 setigers, pharynx fully everted. Length 29.6mm, width 2.2mm, excluding setae, pharynx 2.7mm wide and 3.2mm long. Colour in alcohol white. The pygidium terminates in a filiform process.

Prostomium (Fig. 6A) rectangular, 0.3mm wide and 0.5mm long; antennae and palps short, conical and almost the same size; small nuchal organs at the posterior corners of prostomium; one pair of small black eyes on posterior fifth of prostomium.

Everted pharynx divided into short muscular distal region and longer inflated proximal region; distal region with 20 bifid papillae and a pair of short, simple middorsal and midventral papillae surrounding a dorsoventral slit; proximal region with 22 longitudinal rows of 4-7 subdistal papillae decreasing in size towards base of pharynx, proximal surface smooth (no warts). No middorsal subdistal papilla (Fig. 7).

All parapodia biramous, projecting about one third of the body width in the anterior part. First parapodium reduced, directed anteriorly; notopodium with a conical acicular lobe, inconspicuous pre- and postacicular lamellae and notopodial cirrus; neuropodium with low, rounded acicular lobe and neuropodial cirrus; notopodial cirrus cirriform and somewhat longer than the neuropodial cirrus which is more slender and

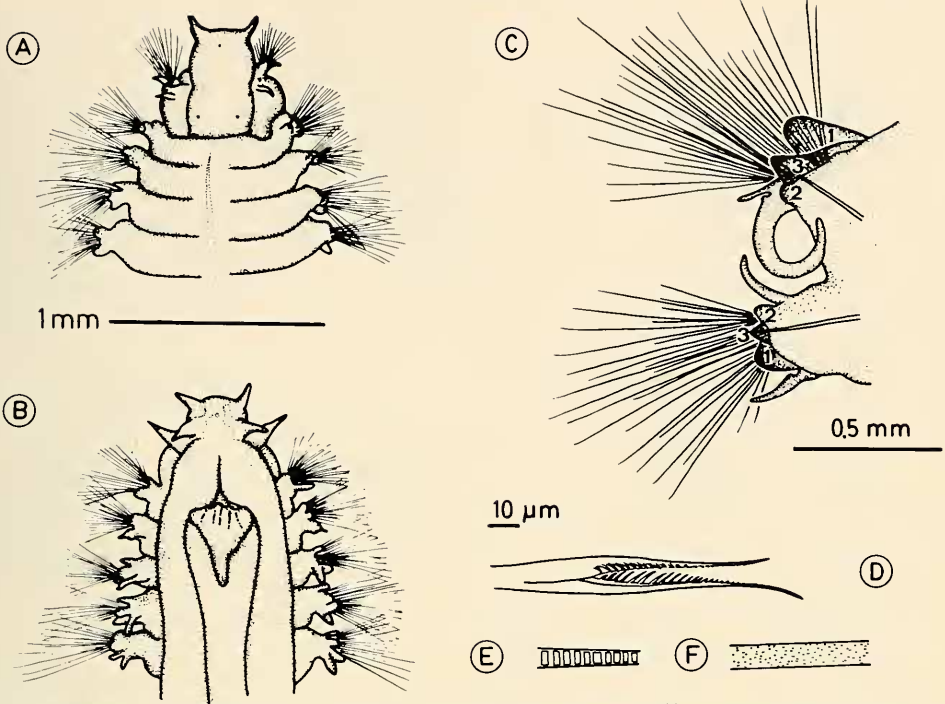


Fig. 6. *Aglaophamus cf. verrilli* (McIntosh, 1885): A, anterior end, dorsal view. B, anterior end, ventral view. C, twenty-fifth setiger, anterior view. The numbers 1-3 refer to postacicular, preacicular, and acicular lobes, respectively. D, lyrate setae. E, barred seta. F, spiny part of lanceolate seta.

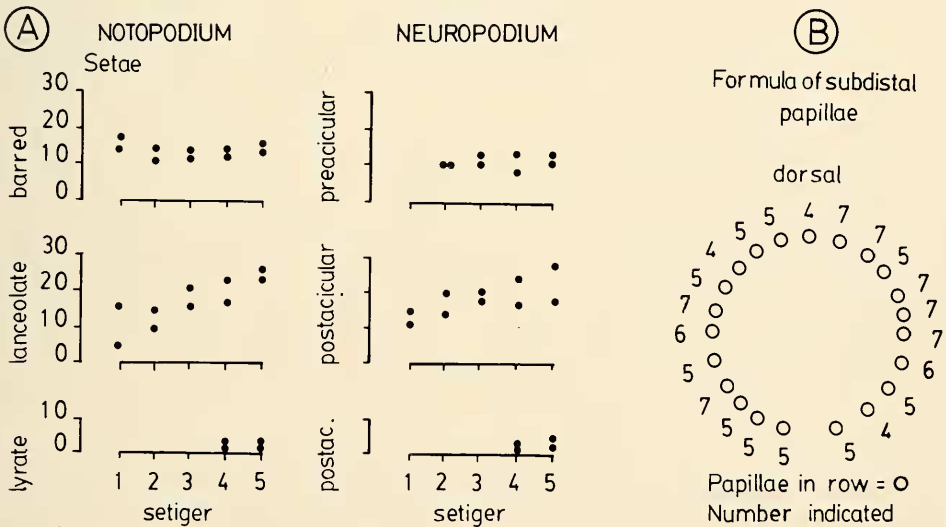


Fig. 7. *Aglaophamus cf. verrilli*: A, counts of setae at the first five setigers. B, count of subdistal papillae on pharynx.

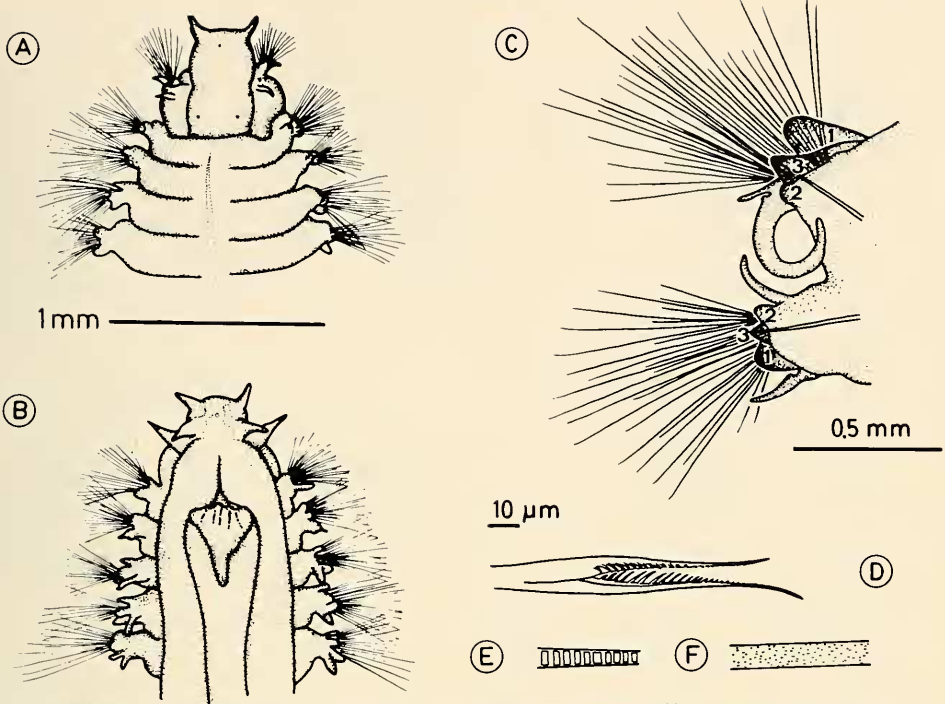


Fig. 6. *Aglaophamus cf. verrilli* (McIntosh, 1885): **A**, anterior end, dorsal view. **B**, anterior end, ventral view. **C**, twenty-fifth setiger, anterior view. The numbers 1-3 refer to postacicular, preacicular, and acicular lobes, respectively. **D**, lyrate setae. **E**, barred seta. **F**, spiny part of lanceolate seta.

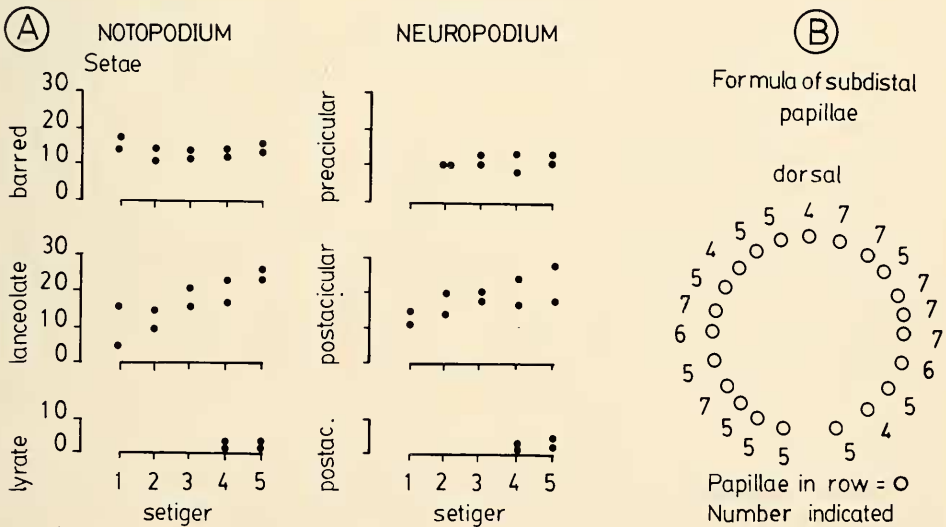


Fig. 7. *Aglaophamus cf. verrilli*: **A**, counts of setae at the first five setigers. **B**, count of subdistal papillae on pharynx.

enlarged basally, both cirri longer than antennae and palps. Second parapodium basically similar to remaining parapodia; notopodial cirrus as long as the neuropodial cirrus, enlarged basally, shorter than the cirrus of first setiger. Notopodial cirrus and notopodial postacicular lamella expanded to full size at setiger 4; neuropodial cirrus and neuropodial postacicular lamella reach full size at setiger 3. Interramal cirrus recognizable as small knobs from setiger 2, start fully developed from setiger 6, absent from the last 6 setigers. Superior neuropodial cirrus present from setiger 7, digitate, inwardly curved. Parapodium of setiger 25 (Fig. 6C) with conical acicular lobes; notopodial postacicular lamella auricular, about half of the lobe attached superior to the fascicle, notopodial cirrus slender, tapering and half as long as the superior neuropodial cirrus, preacicular notopodial lamella reduced but in most specimens almost as well developed as the preacicular neuropodial lamella, postacicular neuropodial lamella smaller than the corresponding notopodial lamella.

Acicula extending to apex of acicular lobes, tip curved. A single aciculum in all parapodial rami.

Setae of three types: preacicular barred setae, postacicular lanceolate setae, and lyrate setae both in pre- and postacicular position. First setiger: notopodium with barred and lanceolate setae, neuropodium only with lanceolate setae. From setiger 2, neuropodia with barred and lanceolate setae (Fig. 7). The number of setae increases gradually until maximum at setiger 30-50, carrying more than 30 lanceolate setae in both rami. The number of setae decreases gradually towards the pygidium.

Variation in *Aglaophamus* cf. *verrilli* was studied by examining 10 complete specimens. The interramal cirrus was fully developed from setiger 6 and disappeared at the posterior 6 to 10 segments; the superior neuropodial cirrus started gradually at setiger 7 to 9 and disappeared gradually from the posterior 2 to 10 setigers; the number of setigers averaged 85 ± 11 (s.d.).

Discussion: *Aglaophamus* cf. *verrilli* is characterized by 22 rows of subdistal papillae, 4 to 7 papillae in each row, absence of middorsal papilla, presence of eyespots, interramal cirri start at setiger 6 and lyrate setae at setiger 4.

This combination of characters is found in *A. dicirris* (Hartman, 1950) considered synonymous with *A. verrilli* (McIntosh, 1885) by Rainer and Hutchings (1977). There is also a strong resemblance to *A. dicirroides* Fauchald, 1968, but this species can be distinguished by the lyrate setae (with one long and one very short spurlike limb), and interramal cirri commencing at setiger 3.

The differences between our material and *A. verrilli* are lack of a papillated proximal surface of the pharynx (Hartman, 1950) referred to as pharyngeal verrucae by Rainer and Hutchings (1977). Furthermore, the outer edges of the noto- and neuropodial postacicular lamellae are about level with the tips of the acicular lobes. In *A. verrilli* the postacicular lamellae project significantly beyond the tips of the acicula. In *A. verrilli* the notopodial postacicular lamellae are located directly behind the acicular lobes. In our material these lamellae are somewhat superior to the acicular lobes. These differences seem not so important that the erection of a new species is justified, and we have chosen to place our material in the vicinity of *A. verrilli*.

Inermonephtys Fauchald, 1968

Eversible pharynx without papillae. Interramal cirri involute, acicula distally hooked.

enlarged basally, both cirri longer than antennae and palps. Second parapodium basically similar to remaining parapodia; notopodial cirrus as long as the neuropodial cirrus, enlarged basally, shorter than the cirrus of first setiger. Notopodial cirrus and notopodial postacicular lamella expanded to full size at setiger 4; neuropodial cirrus and neuropodial postacicular lamella reach full size at setiger 3. Interramal cirrus recognizable as small knobs from setiger 2, start fully developed from setiger 6, absent from the last 6 setigers. Superior neuropodial cirrus present from setiger 7, digitate, inwardly curved. Parapodium of setiger 25 (Fig. 6C) with conical acicular lobes; notopodial postacicular lamella auricular, about half of the lobe attached superior to the fascicle, notopodial cirrus slender, tapering and half as long as the superior neuropodial cirrus, preacicular notopodial lamella reduced but in most specimens almost as well developed as the preacicular neuropodial lamella, postacicular neuropodial lamella smaller than the corresponding notopodial lamella.

Acicula extending to apex of acicular lobes, tip curved. A single aciculum in all parapodial rami.

Setae of three types: preacicular barred setae, postacicular lanceolate setae, and lyrate setae both in pre- and postacicular position. First setiger: notopodium with barred and lanceolate setae, neuropodium only with lanceolate setae. From setiger 2, neuropodia with barred and lanceolate setae (Fig. 7). The number of setae increases gradually until maximum at setiger 30-50, carrying more than 30 lanceolate setae in both rami. The number of setae decreases gradually towards the pygidium.

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Inermonephtys Fauchald, 1968

Eversible pharynx without papillae. Interramal cirri involute, acicula distally hooked.

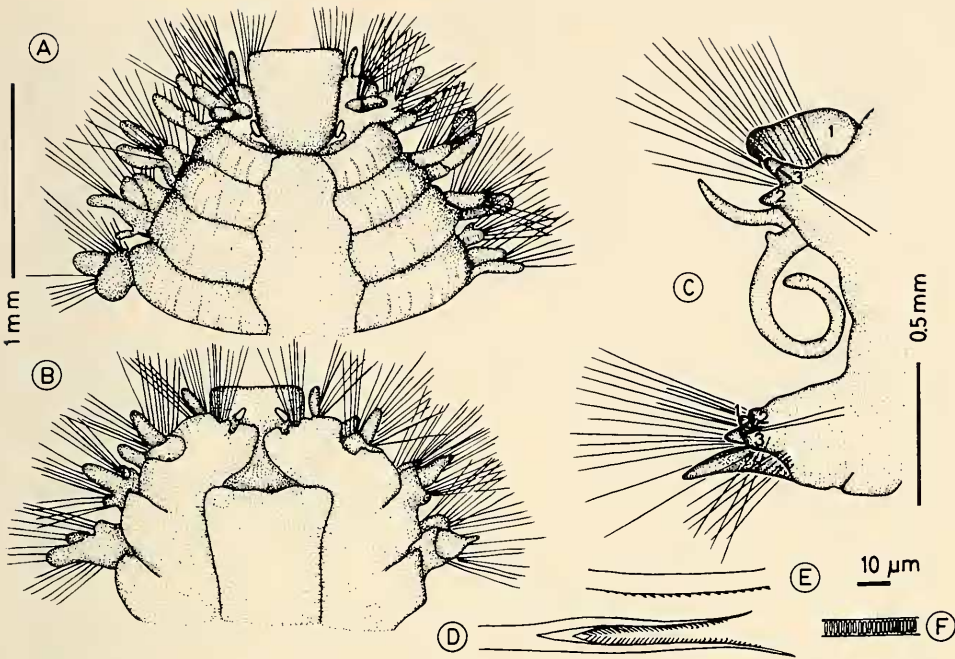


Fig. 8. *Inermonephtys* cf. *gallardi*: A, anterior end, dorsal view. B, anterior end, ventral view. C, twenty-fifth setiger, anterior view. The numbers 1-3 refer to postacicular, preacicular, and acicular lobes, respectively. D, lyrate seta. E, part of serrated, subulate seta. F, part of barred seta.

Inermonephtys cf. *gallardi* Fauchald, 1968

Figs 8A-F, 10

Material Examined: A total of 13 specimens were obtained from very fine sand, 10-30m depths of Airport, Bang Tao, Kamala and Patong Bays.

Description: Complete specimen (PMBC no. 3161). Body white in alcohol. Pygidium terminates in cirriform process.

Prostomium (Fig. 8A) small, nearly quadrangular, 0.65mm long, 0.6mm wide, with rounded frontal corners. One pair of minute palps on the ventral surface (Fig. 8B). A pair of oblong, rounded and stout nuchal organs present near the posterior corners of the prostomium. No eyespots. Eversible pharynx without papillae (seen in dissection).

All parapodia biramous. First setiger: notopodium and neuropodium placed close together; notopodium with reduced preacicular lamellae and acicular lobe, postacicular lamellae rounded, inflated and bigger than the preacicular lamellae and acicular lobe, notopodial cirri long and stout; neuropodium with rudimentary pre- and postacicular lamellae, small acicular lobe, neuropodial cirri similar to the notopodial cirri. Notopodium well developed from the 2nd setiger (Fig. 8C). Notopodium with rounded conical acicular lobe which distally terminates in a digitiform lobe, preacicular lamella conical and somewhat longer than the acicular lobe, postacicular lamella foliaceous, broad with rounded tip and bigger than the preacicular lamella and acicular lobe, notopodial cirri slender and digitiform. Neuropodium small at 2nd and 3rd setiger, fully developed from setiger 4. Neuropodia with acicular lobe, similar to the notopodial one, digitiform lobe on top of the aciculum at the inferior side, preacicular lamella conical and somewhat longer than the acicular lobe, postacicular lamella short and rounded,

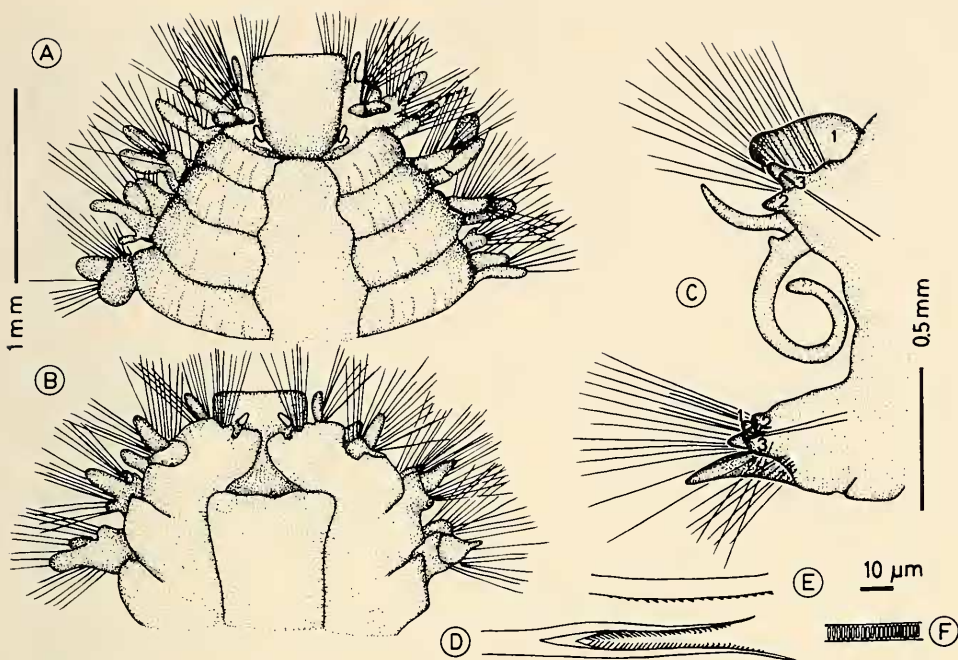


Fig. 8. *Inermonephtys* cf. *gallardi*: A, anterior end, dorsal view. B, anterior end, ventral view. C, twenty-fifth setiger, anterior view. The numbers 1-3 refer to postacicular, preacicular, and acicular lobes, respectively. D, lyrate seta. E, part of serrated, subulate seta. F, part of barred seta.

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All parapodia biramous. First setiger: notopodium and neuropodium placed close together; notopodium with reduced preacicular lamellae and acicular lobe, postacicular lamellae rounded, inflated and bigger than the preacicular lamellae and acicular lobe, notopodial cirri long and stout; neuropodium with rudimentary pre- and postacicular lamellae, small acicular lobe, neuropodial cirri similar to the notopodial cirri. Notopodium well developed from the 2nd setiger (Fig. 8C). Notopodium with rounded conical acicular lobe which distally terminates in a digitiform lobe, preacicular lamella conical and somewhat longer than the acicular lobe, postacicular lamella foliaceous, broad with rounded tip and bigger than the preacicular lamella and acicular lobe, notopodial cirri slender and digitiform. Neuropodium small at 2nd and 3rd setiger, fully developed from setiger 4. Neuropodia with acicular lobe, similar to the notopodial one, digitiform lobe on top of the aciculum at the inferior side, preacicular lamella conical and somewhat longer than the acicular lobe, postacicular lamella short and rounded,

neuropodial cirrus long, slender, with broad base and pointed tip. Interramal cirri present as small knobs from setiger 15, but start as involute cirri by setiger 20. Fully developed interramal cirri slender and fill the interramal space, length of cirri decreases slightly toward the end of body. In the hindmost setigers the notopodial cirrus becomes longer than the interramal cirri. Each interramal cirrus with a small accessory cirrus.

Two stout, parallel acicula in each acicular lobe, tips exposed.

Setae of three kinds: barred setae, lanceolate and lyrate. Barred setae restricted to preacicular position from 1st to 20th setiger in notopodium and to 17th setiger in neuropodium. Lanceolate setae restricted to postacicular position in noto- and neuropodia. Lyrate setae first present at setiger 4, one to three setae in noto- and neuropodia (Fig. 10).

Variation in setigers carrying the first curved interramal cirri was examined in 10 individuals. The range was 12 to 17 with dominance at setiger 15 (3 records), setiger 14(2), setiger 16(2), and one record at setiger 12, 13 and 17. Only three specimens were complete. The number of setigers ranged from 90 to 181. Two pairs of weak eyespots observed in smaller specimens.

Discussion: *Inermonephtys* cf. *gallardi* is characterized by interramal cirri present from setiger 12 to 20, usually from setiger 15, entire preacicular fascicles, postacicular lamellae about as long as the acicular lobes, often somewhat longer, acicular lobes carry erect digitiform lobes centrally from the projecting acicula.

The main difference between our material and *I. gallardi* Fauchald, 1968 is the division of noto- and neuropodial presetal lobes into two parts in *I. gallardi*, and, in consequence, presetal setae in two fascicles. None of our specimens shows this character. The setae form a continuous fascicle, in the shape of a horseshoe, surrounding the acicular lobe. This continuous fascicle can be subdivided into two portions each supported by undivided pre- and postacicular lamellae. Apart from this difference the Thai specimens fit the description of *I. gallardi* from Vietnam and our material is very close to this species.

Inermonephtys patongi n.sp.

Figs 9A-J, 10

Holotype: An anterior fragment with 101 setigers; length 45mm. — Kamala Bay (station 8). Phuket Island, Thailand; medium sand, 10m depth, 18.6.1982 (PMBC no. 3170).

Paratypes will be deposited as follows: -1, PMBC (no. 3171): Complete specimen with 131 setigers, length 25mm, Patong Bay (station 14), very fine sand, 10m depth, 7.4.1981. -2, USNM: Anterior fragment with 82 setigers, length 19.8mm, Patong Bay (station 14), very fine sand, 10m depth, 7.4.1981. -3, BMNH: Anterior fragment with 86 setigers, length 22.4mm, Patong Bay (station 14), very fine sand, 10m depth, 7.4.1981. -4, AM: Anterior fragment with 93 setigers, length 23.7mm, Patong Bay (station 11), very fine sand, 10m depth, 7.4.1981. -5, ZMC: Anterior fragment with 89 setigers, length 15mm, Patong Bay (station 14), very fine sand, 10m depth, 26.4.1982.

Material Examined: A total of 62 specimens were collected from Patong Bay and Kamala Bay, from medium sand to very fine sand at depths of 10-20m.

Description: Anterior fragment PMBC no. 3170. Body white in alcohol.

Prostomium subrectangular, 0.29mm long, 0.25mm wide, narrower posteriorly, straight margin anteriorly, rounded at the frontal corners (Fig. 9A). One pair of tiny palps on the ventral surface, nuchal organs digitiform, everted, attached approximately 1mm above the posterior margin of the prostomium, two pairs of faded eyespots close to the nuchal organs.

neuropodial cirrus long, slender, with broad base and pointed tip. Interramal cirri present as small knobs from setiger 15, but start as involute cirri by setiger 20. Fully developed interramal cirri slender and fill the interramal space, length of cirri decreases slightly toward the end of body. In the hindmost setigers the notopodial cirrus becomes longer than the interramal cirri. Each interramal cirrus with a small accessory cirrus.

Two stout, parallel acicula in each acicular lobe, tips exposed.

Setae of three kinds: barred setae, lanceolate and lyrate. Barred setae restricted to preacicular position from 1st to 20th setiger in notopodium and to 17th setiger in neuropodium. Lanceolate setae restricted to postacicular position in noto- and neuropodia. Lyrate setae first present at setiger 4, one to three setae in noto- and neuropodia (Fig. 10).

Variation in setigers carrying the first curved interramal cirri was examined in 10 individuals. The range was 12 to 17 with dominance at setiger 15 (3 records), setiger 14(2), setiger 16(2), and one record at setiger 12, 13 and 17. Only three specimens were complete. The number of setigers ranged from 90 to 181. Two pairs of weak eyespots observed in smaller specimens.

Discussion: *Inermonephtys* cf. *gallardi* is characterized by interramal cirri present from setiger 12 to 20, usually from setiger 15, entire preacicular fascicles, postacicular lamellae about as long as the acicular lobes, often somewhat longer, acicular lobes carry erect digitiform lobes centrally from the projecting acicula.

The main difference between our material and *I. gallardi* Fauchald, 1968 is the division of noto- and neuropodial presetal lobes into two parts in *I. gallardi*, and, in consequence, presetal setae in two fascicles. None of our specimens shows this character. The setae form a continuous fascicle, in the shape of a horseshoe, surrounding the acicular lobe. This continuous fascicle can be subdivided into two portions each supported by undivided pre- and postacicular lamellae. Apart from this difference the Thai specimens fit the description of *I. gallardi* from Vietnam and our material is very close to this species.

Inermonephtys patongi n.sp.

Figs 9A-J, 10

Holotype: An anterior fragment with 101 setigers; length 45mm. — Kamala Bay (station 8). Phuket Island, Thailand; medium sand, 10m depth, 18.6.1982 (PMBC no. 3170).

Paratypes will be deposited as follows: -1, PMBC (no. 3171): Complete specimen with 131 setigers, length 25mm, Patong Bay (station 14), very fine sand, 10m depth, 7.4.1981. -2, USNM: Anterior fragment with 82 setigers, length 19.8mm, Patong Bay (station 14), very fine sand, 10m depth, 7.4.1981. -3, BMNH: Anterior fragment with 86 setigers, length 22.4mm, Patong Bay (station 14), very fine sand, 10m depth, 7.4.1981. -4, AM: Anterior fragment with 93 setigers, length 23.7mm, Patong Bay (station 11), very fine sand, 10m depth, 7.4.1981. -5, ZMC: Anterior fragment with 89 setigers, length 15mm, Patong Bay (station 14), very fine sand, 10m depth, 26.4.1982.

Material Examined: A total of 62 specimens were collected from Patong Bay and Kamala Bay, from medium sand to very fine sand at depths of 10-20m.

Description: Anterior fragment PMBC no. 3170. Body white in alcohol.

Prostomium subrectangular, 0.29mm long, 0.25mm wide, narrower posteriorly, straight margin anteriorly, rounded at the frontal corners (Fig. 9A). One pair of tiny palps on the ventral surface, nuchal organs digitiform, everted, attached approximately 1mm above the posterior margin of the prostomium, two pairs of faded eyespots close to the nuchal organs.

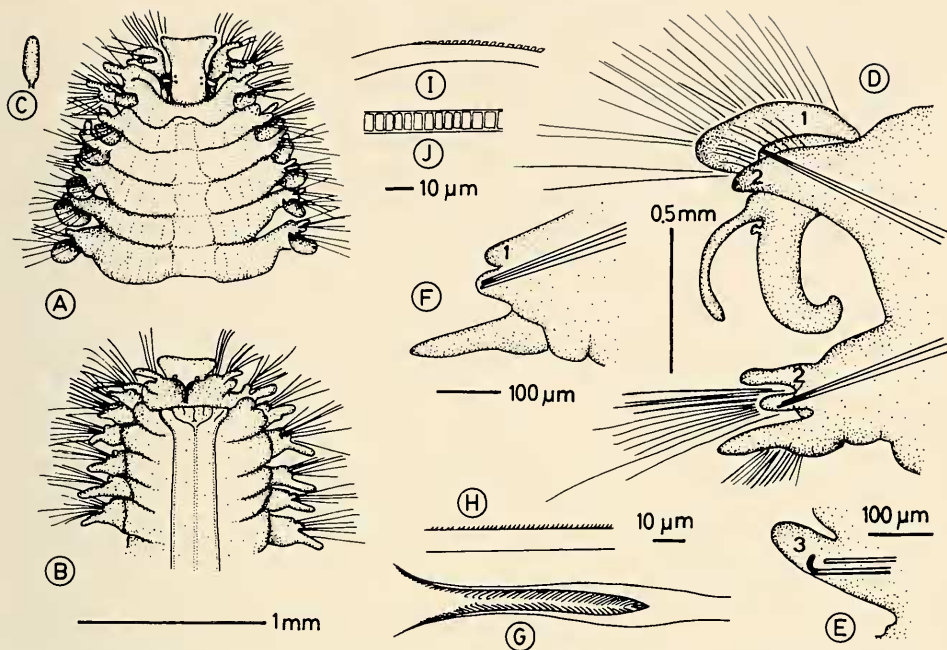


Fig. 9. *Inermonephtys patongi* n. sp.: A, anterior end, dorsal view. B, anterior end, ventral view. C, shape of everted nuchal organ. D, twenty-fifth setiger, anterior view. E, neuropodial acicular lobe showing curved, accumulated red pigment at tip of the lower aciculum. F, twenty-fifth setiger of juvenile, showing reduced acicular lobe and presetal lamella at neuropodium. G, lyrate seta. H, spinose part of postacicular lanceolate seta. I, serrated part of presetal seta. J, part of barred seta. The numbers 1-3 refer to postacicular, preacicular, and acicular lobes, respectively.

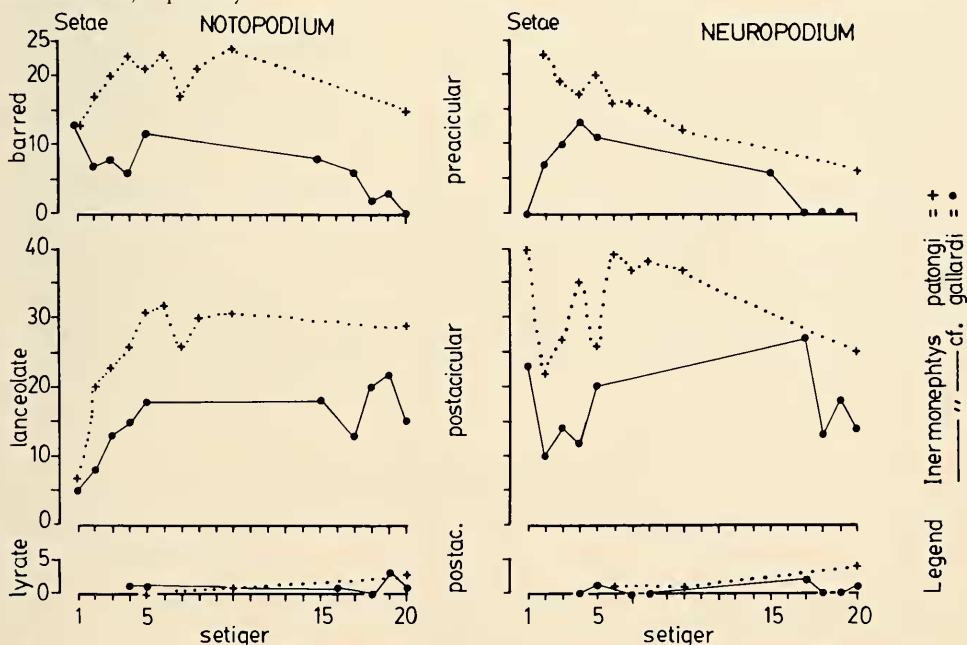


Fig. 10. *Inermonephtys cf. gallardi* and *Inermonephtys patongi* n.sp. Comparison of setal counts along the first 20 setigers.

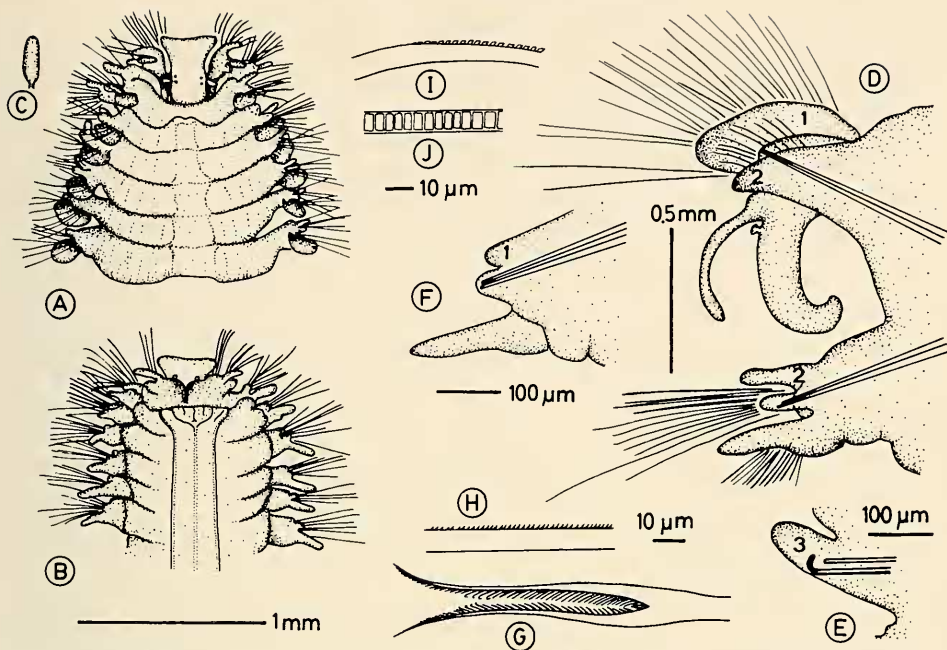


Fig. 9. *Inermonephtys patongi* n. sp.: A, anterior end, dorsal view. B, anterior end, ventral view. C, shape of everted nuchal organ. D, twenty-fifth setiger, anterior view. E, neuropodial acicular lobe showing curved, accumulated red pigment at tip of the lower aciculum. F, twenty-fifth setiger of juvenile, showing reduced acicular lobe and presetal lamella at neuropodium. G, lyrate seta. H, spinose part of postacicular lanceolate seta. I, serrated part of presetal seta. J, part of barred seta. The numbers 1-3 refer to postacicular, preacicular, and acicular lobes, respectively.

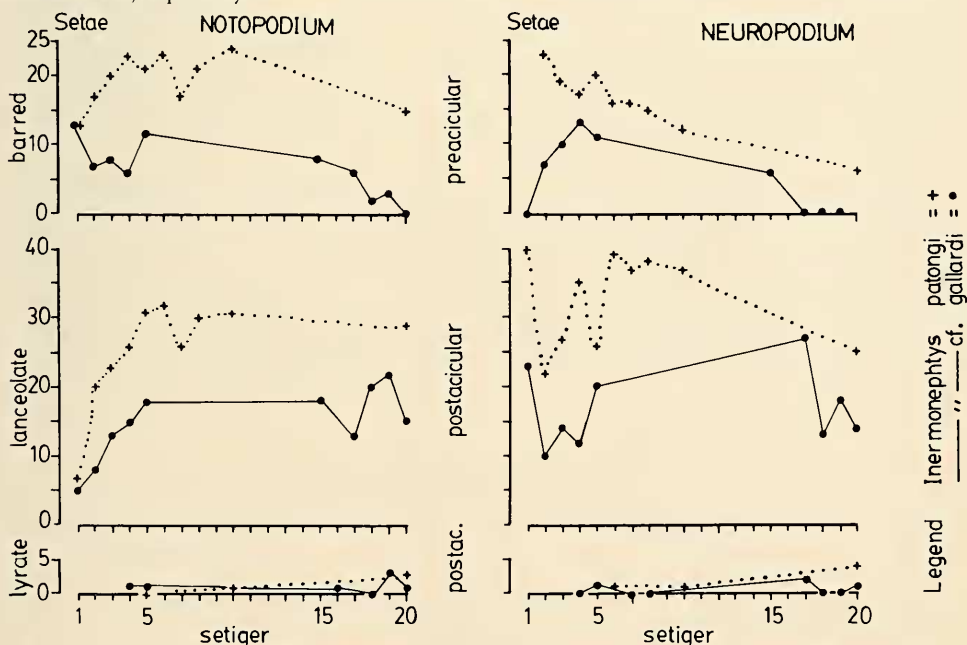


Fig. 10. *Inermonephtys cf. gallardi* and *Inermonephtys patongi* n.sp. Comparison of setal counts along the first 20 setigers.

Pharynx lacking papillae (seen in dissection).

All parapodia biramous. First parapodium directed anteriorly, both rami close together; notopodium with conical rounded acicular lobe, inconspicuous preacicular lamellae, postacicular lamellae rounded, inflated and well developed, notopodial cirri long and oval; neuropodium with conical acicular lobe, small and obscure pre- and postacicular lamellae, neuropodial cirri of the same shape and size as in the notopodium. From setiger 2 the noto- and neuropodium gradually increase in length until fully grown at setiger 7. At setiger 7, notopodium with rounded, digitiform acicular lobe, preacicular lamellae rounded and somewhat lower than the acicular lobe, postacicular lamellae inflated, triangular and much longer than the acicular lobe; neuropodium with two conical acicular lobes, separated by the acicular setae, inferior lobe rounded, inflated at the basis, superior lobe digitiform (Fig. 9E). Notopodial and neuropodial cirrus long and well-developed. Interramal cirrus first present as a small knob at setiger 5, start as involute cirri from setiger 6, filling the interrampal space at setiger 9, posteriorly reduced in size but present to the last setiger. At the posterior 11 setigers, notopodial cirrus longer than the interrampal cirrus (PMBC paratype). Interrampal cirri carry an accessory cirrus. Setiger 25: notopodium with long, digitiform acicular lobe, preacicular lamellae conical and longer than the acicular lobe, postacicular lamellae inflated, triangular, much bigger than other lobes, notopodial cirrus long and slender; neuropodium with long digitiform acicular lobe, appear as one lobe because the inferior lobe is reduced, preacicular lamellae conical similar to notopodial preacicular lamellae, longer than the acicular lobe in the holotype but shorter in juvenile specimens (Fig. 9F). In the latter, preacicular lamellae gradually become longer than acicular lobes after mid-body. Postacicular lamellae rudimentary, neuropodial cirrus large and digitiform.

Acicula clear, in anterior body two in each parapodial ramus, extending to about the middle of the digitiform acicular lobe, tips exposed (Fig. 9E).

Setae of three types: barred setae, lanceolate and lyrate. Barred setae restricted to preacicular position, lanceolate predominantly postacicular but occasionally in preacicular position, lyrate setae present both in noto- and neuropodia. First setiger with barred and lanceolate setae in notopodium, barred setae in neuropodium. Preacicular barred setae with clear crossbars present from 1st setiger to about setiger 25 in neuropodium and until setiger 35 in notopodium. Lyrate setae first present from setiger 6, one to seven setae in neuro- and notopodia (Fig. 10).

Variation in setigers carrying the first interrampal cirrus was examined in 37 individuals. The first interrampal cirrus was most frequent at setiger 6 (24 records) and setiger 7 (12 records). In one large anterior fragment, short digitiform cirri were present from setiger 3 but not fully developed until at setiger 7.

Etymology: The species is named after Patong Bay on the west coast of Phuket Island.

Discussion: *Inermonephtys patongi* is closely related to *I. inermis* (Ehlers, 1887) as described by Hartman (1940) and Fauchald (1968). It may be distinguished by the following characters:

Inermonephtys patongi

- i) interrampal cirri present from setiger 6 or 7
- ii) digitiform lobes on noto- and neuropodial acicular lobes
- iii) noto- and neuropodial preacicular lamellae longer than the acicular lobes at setiger 25
- iv) with accessory cirri
- v) with 13-25 barred setae in the anterior preacicular fascicles
- vi) with eyespots

Pharynx lacking papillae (seen in dissection).

All parapodia biramous. First parapodium directed anteriorly, both rami close together; notopodium with conical rounded acicular lobe, inconspicuous preacicular lamellae, postacicular lamellae rounded, inflated and well developed, notopodial cirri long and oval; neuropodium with conical acicular lobe, small and obscure pre- and postacicular lamellae, neuropodial cirri of the same shape and size as in the notopodium. From setiger 2 the noto- and neuropodium gradually increase in length until fully grown at setiger 7. At setiger 7, notopodium with rounded, digitiform acicular lobe, preacicular lamellae rounded and somewhat lower than the acicular lobe, postacicular lamellae inflated, triangular and much longer than the acicular lobe; neuropodium with two conical acicular lobes, separated by the acicular setae, inferior lobe rounded, inflated at the basis, superior lobe digitiform (Fig. 9E). Notopodial and neuropodial cirrus long and well-developed. Interramal cirrus first present as a small knob at setiger 5, start as involute cirri from setiger 6, filling the interrampal space at setiger 9, posteriorly reduced in size but present to the last setiger. At the posterior 11 setigers, notopodial cirrus longer than the interrampal cirrus (PMBC paratype). Interrampal cirri carry an accessory cirrus. Setiger 25: notopodium with long, digitiform acicular lobe, preacicular lamellae conical and longer than the acicular lobe, postacicular lamellae inflated, triangular, much bigger than other lobes, notopodial cirrus long and slender; neuropodium with long digitiform acicular lobe, appear as one lobe because the inferior lobe is reduced, preacicular lamellae conical similar to notopodial preacicular lamellae, longer than the acicular lobe in the holotype but shorter in juvenile specimens (Fig. 9F). In the latter, preacicular lamellae gradually become longer than acicular lobes after mid-body. Postacicular lamellae rudimentary, neuropodial cirrus large and digitiform.

Acicula clear, in anterior body two in each parapodial ramus, extending to about the middle of the digitiform acicular lobe, tips exposed (Fig. 9E).

Setae of three types: barred setae, lanceolate and lyrate. Barred setae restricted to preacicular position, lanceolate predominantly postacicular but occasionally in preacicular position, lyrate setae present both in noto- and neuropodia. First setiger with barred and lanceolate setae in notopodium, barred setae in neuropodium. Preacicular barred setae with clear crossbars present from 1st setiger to about setiger 25 in neuropodium and until setiger 35 in notopodium. Lyrate setae first present from setiger 6, one to seven setae in neuro- and notopodia (Fig. 10).

Variation in setigers carrying the first interrampal cirrus was examined in 37 individuals. The first interrampal cirrus was most frequent at setiger 6 (24 records) and setiger 7 (12 records). In one large anterior fragment, short digitiform cirri were present from setiger 3 but not fully developed until at setiger 7.

Etymology: The species is named after Patong Bay on the west coast of Phuket Island.

Discussion: *Inermonephtys patongi* is closely related to *I. inermis* (Ehlers, 1887) as described by Hartman (1940) and Fauchald (1968). It may be distinguished by the following characters:

Inermonephtys patongi

- i) interrampal cirri present from setiger 6 or 7
- ii) digitiform lobes on noto- and neuropodial acicular lobes
- iii) noto- and neuropodial preacicular lamellae longer than the acicular lobes at setiger 25
- iv) with accessory cirri
- v) with 13-25 barred setae in the anterior preacicular fascicles
- vi) with eyespots

Inermonephtys inermis

- i) interramal cirri present from setiger 4
- ii) noto- and neuropodial acicular lobes conical, pointed or with obtuse tip
- iii) noto- and neuropodial preacicular lamellae much shorter than the acicular lobes at setiger 25
- iv) without accessory cirri
- v) few barred setae in preacicular fascicles
- vi) no eyespots.

Micronephtys Friedrich, 1939

Pharynx with 22 rows of subdistal papillae. Interramal cirri reduced or absent; acicula blunt-tipped, but not capped.

Micronephtys sphaerocirrata (Wesenberg-Lund, 1949)

Nephtys sphaerocirrata. Wesenberg-Lund, 1949: 294-295, figs 24-25.

Nephtys (Micronephtys) sphaerocirrata. Day, 1967: 347-348, figs 15.3a-d.

Micronephtys sphaerocirrata. Fauchald, 1968: 17-18, figs 36-40.

Micronephtys sphaerocirrata. Rainer and Hutchings, 1977: 320, figs 12,41.

Material Examined: A total of 172 individuals were collected from Airport Bay, Kamala Bay and Patong Bay at depths between 10-20m.

Discussion: Wesenberg-Lund (1949) described material of *M. sphaerocirrata* from the Iranian Gulf with many pharyngeal papillae in each row, and Rainer and Hutchings (1977) suggested 8-11 papillae from the figure. According to Rainer and Hutchings (1977) and Day (1967), material of *M. sphaerocirrata* from South Africa lacked preacicular lobes and had 9 papillae in each subdistal row. Fauchald (1968) identified *M. sphaerocirrata* in material from Vietnam; his specimens had prominent preacicular lamellae and 14-16 papillae in each subdistal row. Australian specimens reported by Rainer and Hutchings (1977) had 8-11 papillae in each row and obsolete preacicular lamellae, and it was suggested that *M. sphaerocirrata* of Fauchald (1968) should be considered a separate species closely related to the Australian-South African species. Our specimens of *M. sphaerocirrata* have 8-11 papillae in each subdistal row in accordance with the latter materials. However, the Thai specimens differ in having the presetal notopodial lobe rudimentary but the presetal neuropodial lobe more developed and of the same size as the acicular lobe. It should be noted that the postsetal notopodial lobe is larger than the presetal noto- and acicular lobe. If we compare the lyrate seta of our specimens with the lyrate seta in Wesenberg-Lund's figure, they are very different. The lyrate seta of *M. sphaerocirrata* from South Africa (Day, 1967), Vietnam (Fauchald, 1968) and our material are the same. On this background we conclude that our material is identical with *M. sphaerocirrata* from South Africa and Australia.

Nephtys Cuvier, 1817

Eversible pharynx, generally with 20-22 rows of papillae. Interramal cirri recurved. Acicula in most forms with a distal cap.

Nephtys danida n.sp.

Figs 11A-H, 13

Holotype: A complete specimen with 47 setigers; length 9.5mm. — Bang Tao Bay

Inermonephtys inermis

- i) interramal cirri present from setiger 4
- ii) noto- and neuropodial acicular lobes conical, pointed or with obtuse tip
- iii) noto- and neuropodial preacicular lamellae much shorter than the acicular lobes at setiger 25
- iv) without accessory cirri
- v) few barred setae in preacicular fascicles
- vi) no eyespots.

Micronephtys Friedrich, 1939

Pharynx with 22 rows of subdistal papillae. Interramal cirri reduced or absent; acicula blunt-tipped, but not capped.

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Eversible pharynx, generally with 20-22 rows of papillae. Interramal cirri recurved. Acicula in most forms with a distal cap.

Nephtys danida n.sp.

Figs 11A-H, 13

Holotype: A complete specimen with 47 setigers; length 9.5mm. — Bang Tao Bay

(station 3), Phuket Island, Thailand; very fine sand, 10m depth, 27.2.1982 (PMBC no. 3163).

Paratypes will be deposited as follows: -1, PMBC (no. 3164): Anterior fragment with 35 setigers, length 5.1mm, Kamala Bay (station 9), very fine sand, 10m depth, 7.4.1981.

-2, USNM: Complete specimen with 42 setigers, length 6.4mm, Patong Bay (station 11), very fine sand, 10m depth, 26.4.1982. -3, BMNH: Complete specimen with 38 setigers, length 4.1mm, Patong Bay (station 14), very fine sand, 10m depth, 18.6.1982.

-4, AM: Complete specimen with 40 setigers, length 7.5mm, Patong Bay (station 14), very fine sand, 10m depth, 26.4.1982. -5, ZMC: Complete specimen with 42 setigers, length 5.7mm, Bang Tao Bay (station 3), very fine sand, 10m depth, 18.6.1982.

Material Examined: A total of 107 individuals were collected from very fine sand, 10m depth of Bang Tao, Kamala and Patong Bays.

Description: Body slightly swollen in anterior part, tapers gradually from 14th setiger to the last setiger. Pygidium with filiform process. Colour white in alcohol.

Prostomium rounded, quadrangular (in holotype 0.2×0.2 mm) (Fig. 11A); antennae conical, anteroecial; two pairs of palps present at ventral side, the distal pair conical and somewhat shorter than antennae, the proximal pair conical and about $\frac{1}{2}$ size of the first pair, placed close together (Fig. 11B). A pair of eyespots present on the posterior brain (not always visible through the integument, but seen in dissection. Nuchal organs obscure (Fig. 11C).

Pharynx of paratype (PMBC no. 3164) distally with 20 bifid papillae surrounding a dorsoventral slit, subdistal papillae in 18 (16?) longitudinal rows, each with 6-8 conical papillae directed proximally, decreasing in size towards the base of pharynx. No verrucae, no median papillae.

All parapodia biramous. First pair of parapodia reduced, noto- and neuropodium placed close together and directed forward; notopodium with conical, prominent acicular lobe, pre- and postacicular lamellae, including notopodial cirri, reduced; neuropodium with conical, pointed acicular lobe, pre- and postacicular lamellae small, inconspicuous and surrounding the base of acicular lobe, neuropodium cirri rounded, conical, about half size of neuropodial acicular lobe. Parapodia from 2nd to 14th setiger almost identical structure; notopodium and neuropodium widely separated, notopodium with conical prominent acicular lobe, low rounded inconspicuous preacicular lamellae, postacicular lamellae low, rounded and gradually increasing in size until somewhat higher than the acicular lobe at 14th setiger (Fig. 11D), notopodial cirri short, rounded, constricted at the base; neuropodium with conical acicular lobe, preacicular lamellae gradually developed from low, rounded lamellae in 2nd setiger to digitiform rounded shape at the 14th setiger but smaller than the acicular lobe; postacicular lamellae well developed, inflated, quadrangular in shape and much bigger than the acicular lobe and preacicular lamellae, neuropodial cirri short and oval. Interramal cirri recurved, thick, first present from 5th setiger, fully grown, then decreasing in size posteriorly to the last setiger. At 19th setiger: notopodium and neuropodium similar in structure, acicular lobe pointed, conical and prominent, preacicular lamellae small and rounded, but postacicular lamellae in notopodia rounded conical, shorter than acicular lobe and smaller than postacicular lamellae in neuropodia. At 30th setiger, noto- and neuropodia of similar shape; acicular lobe pointed and conical, preacicular lamellae small and rounded, postacicular lamellae broadly rounded, noto- and neuropodial cirri short and digitiform.

Acicula stout, distally striated, bluntly acute tips which are tapering and curved. A single aciculum present in both parapodial rami.

Setae of two types: barred (Fig. 11F) and lanceolate. Postacicular noto- and neurosetae of 1st setiger lanceolate, preacicular notosetae barred. Lanceolate postacicular

(station 3), Phuket Island, Thailand; very fine sand, 10m depth, 27.2.1982 (PMBC no. 3163).

Paratypes will be deposited as follows: -1, PMBC (no. 3164): Anterior fragment with 35 setigers, length 5.1mm, Kamala Bay (station 9), very fine sand, 10m depth, 7.4.1981.

-2, USNM: Complete specimen with 42 setigers, length 6.4mm, Patong Bay (station 11), very fine sand, 10m depth, 26.4.1982. -3, BMNH: Complete specimen with 38 setigers, length 4.1mm, Patong Bay (station 14), very fine sand, 10m depth, 18.6.1982.

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Material Examined: A total of 107 individuals were collected from very fine sand, 10m depth of Bang Tao, Kamala and Patong Bays.

Description: Body slightly swollen in anterior part, tapers gradually from 14th setiger to the last setiger. Pygidium with filiform process. Colour white in alcohol.

Prostomium rounded, quadrangular (in holotype 0.2×0.2 mm) (Fig. 11A); antennae conical, anteroecial; two pairs of palps present at ventral side, the distal pair conical and somewhat shorter than antennae, the proximal pair conical and about $\frac{1}{2}$ size of the first pair, placed close together (Fig. 11B). A pair of eyespots present on the posterior brain (not always visible through the integument, but seen in dissection. Nuchal organs obscure (Fig. 11C).

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All parapodia biramous. First pair of parapodia reduced, noto- and neuropodium placed close together and directed forward; notopodium with conical, prominent acicular lobe, pre- and postacicular lamellae, including notopodial cirri, reduced; neuropodium with conical, pointed acicular lobe, pre- and postacicular lamellae small, inconspicuous and surrounding the base of acicular lobe, neuropodium cirri rounded, conical, about half size of neuropodial acicular lobe. Parapodia from 2nd to 14th setiger almost identical structure; notopodium and neuropodium widely separated, notopodium with conical prominent acicular lobe, low rounded inconspicuous preacicular lamellae, postacicular lamellae low, rounded and gradually increasing in size until somewhat higher than the acicular lobe at 14th setiger (Fig. 11D), notopodial cirri short, rounded, constricted at the base; neuropodium with conical acicular lobe, preacicular lamellae gradually developed from low, rounded lamellae in 2nd setiger to digitiform rounded shape at the 14th setiger but smaller than the acicular lobe; postacicular lamellae well developed, inflated, quadrangular in shape and much bigger than the acicular lobe and preacicular lamellae, neuropodial cirri short and oval. Interramal cirri recurved, thick, first present from 5th setiger, fully grown, then decreasing in size posteriorly to the last setiger. At 19th setiger: notopodium and neuropodium similar in structure, acicular lobe pointed, conical and prominent, preacicular lamellae small and rounded, but postacicular lamellae in notopodia rounded conical, shorter than acicular lobe and smaller than postacicular lamellae in neuropodia. At 30th setiger, noto- and neuropodia of similar shape; acicular lobe pointed and conical, preacicular lamellae small and rounded, postacicular lamellae broadly rounded, noto- and neuropodial cirri short and digitiform.

Acicula stout, distally striated, bluntly acute tips which are tapering and curved. A single aciculum present in both parapodial rami.

Setae of two types: barred (Fig. 11F) and lanceolate. Postacicular noto- and neurosetae of 1st setiger lanceolate, preacicular notosetae barred. Lanceolate postacicular

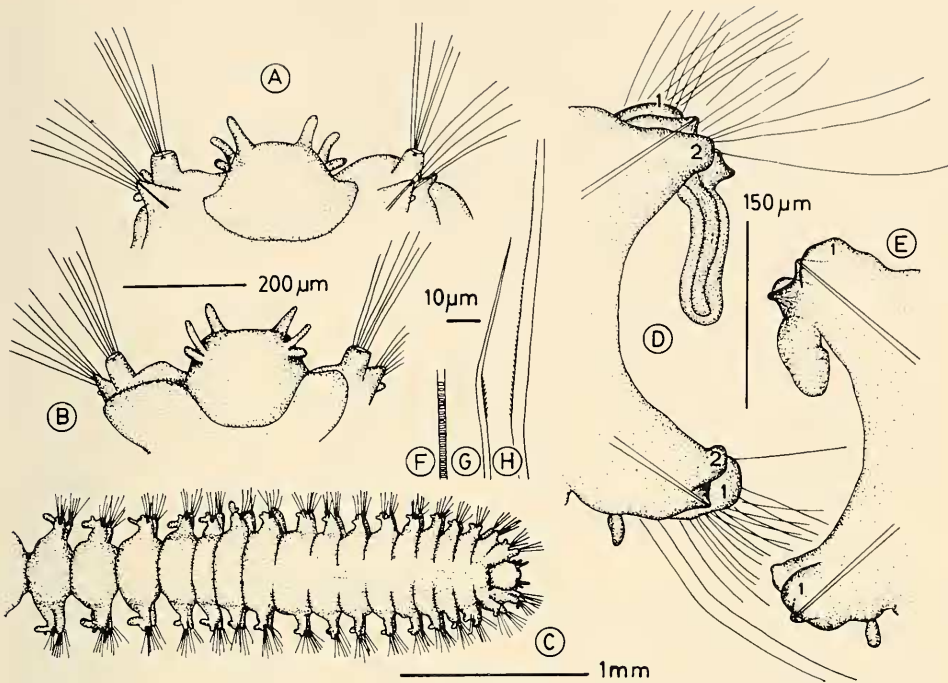


Fig. 11. *Nephtys danida* n.sp. A, anterior end, dorsal view. B, anterior end, ventral view. C, anterior body, dorsal view. D, fourteenth setiger, anterior view. E, twenty-fifth setiger, posterior view. F, part of barred seta. G, geniculate preacicular seta. H, part of postacicular spinose seta. The numbers 1 and 2 refer to post- and preacicular lamellae, respectively.

notosetae present from 2nd setiger. Barred setae continue to 13th setiger, with approximately 5 notosetae and 6 neurosetae in 5th setiger, 2 notosetae and 2 neurosetae in 13th setiger (Fig. 13). From 14th setiger to the last setiger, preacicular and postacicular noto- and neurosetae somewhat geniculate, lanceolate (Fig. 11G-H).

Etymology: The species is named after the Danish International Development Agency (DANIDA). This agency provided funds for construction of the Reference Collection Building of Phuket Marine Biological Center.

Discussion: The important character of *Nephtys danida* is the presence of two pairs of palps. This character is rare among nephtyids. A similar structure was recorded as deeply bifurcated or bifid palps in *Nephtys cornuta* Berkeley and Berkeley, 1945 and its subspecies *N. cornuta franciscana* Clark and Jones, 1955. According to Hartman (1968) the subspecies may not be separable from the stem species, except in smaller size; *N. cornuta cornuta* has up to 35 setigers with a total length of 10-12mm (Hartman, 1968), while *N. cornuta franciscana* has up to 31 setigers and a total length of 7.5mm (Banse, 1972). These small species are closely related but may be distinguished by the following characters:

Nephtys danida

- i) two pairs of palps present on the ventral side of the prostomium
- ii) absence of middorsal papilla
- iii) barred preacicular setae restricted to the first 13-14 setigers
- iv) pre- and postacicular lamellae well developed in both rami
- v) notopodial cirri without distal filament

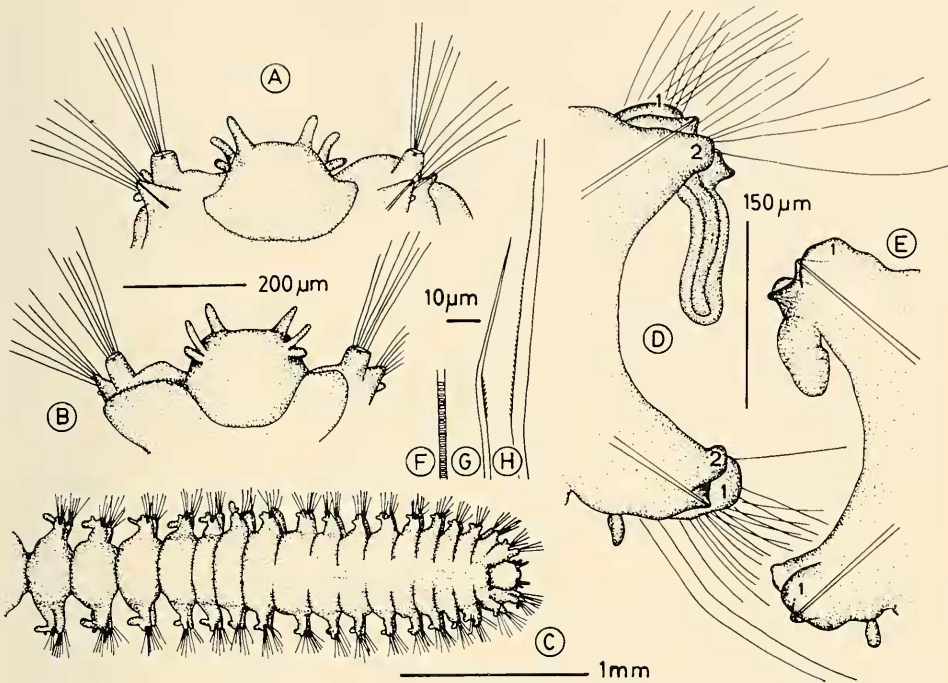


Fig. 11. *Nephtys danida* n.sp. A, anterior end, dorsal view. B, anterior end, ventral view. C, anterior body, dorsal view. D, fourteenth setiger, anterior view. E, twenty-fifth setiger, posterior view. F, part of barred seta. G, geniculate preacicular seta. H, part of postacicular spinose seta. The numbers 1 and 2 refer to post- and preacicular lamellae, respectively.

notosetae present from 2nd setiger. Barred setae continue to 13th setiger, with approximately 5 notosetae and 6 neurosetae in 5th setiger, 2 notosetae and 2 neurosetae in 13th setiger (Fig. 13). From 14th setiger to the last setiger, preacicular and postacicular noto- and neurosetae somewhat geniculate, lanceolate (Fig. 11G-H).

Etymology: The species is named after the Danish International Development Agency (DANIDA). This agency provided funds for construction of the Reference Collection Building of Phuket Marine Biological Center.

Discussion: The important character of *Nephtys danida* is the presence of two pairs of palps. This character is rare among nephtyids. A similar structure was recorded as deeply bifurcated or bifid palps in *Nephtys cornuta* Berkeley and Berkeley, 1945 and its subspecies *N. cornuta franciscana* Clark and Jones, 1955. According to Hartman (1968) the subspecies may not be separable from the stem species, except in smaller size; *N. cornuta cornuta* has up to 35 setigers with a total length of 10-12mm (Hartman, 1968), while *N. cornuta franciscana* has up to 31 setigers and a total length of 7.5mm (Banse, 1972). These small species are closely related but may be distinguished by the following characters:

Nephtys danida

- i) two pairs of palps present on the ventral side of the prostomium
- ii) absence of middorsal papilla
- iii) barred preacicular setae restricted to the first 13-14 setigers
- iv) pre- and postacicular lamellae well developed in both rami
- v) notopodial cirri without distal filament

- vi) a pair of eyespots present on the posterior brain (not always visible through the integument, but seen in dissection)

Nephtys cornuta cornuta Berkeley and Berkeley, 1945

- i) a pair of bifid palps present on the ventral side of the prostomium
- ii) middorsal papilla? (pharynx not described)
- iii) barred preacicular setae present in anterior segment and absent in the posterior half of the body
- iv) pre- and postacicular lamellae inconspicuous
- v) notopodial cirri with distal filament
- vi) no eyespots

Nephtys cornuta franciscana Clark and Jones, 1955

- i) a pair of bifid palps present on the ventral side of the prostomium
- ii) long slender middorsal papilla
- iii) barred preacicular setae in all segments
- iv) pre- and postacicular lamellae inconspicuous
- v) notopodial cirri with distal filament
- vi) a pair of eyespots present in the third setiger.

Nephtys phasuki n.sp.

Figs 12A-H, 13

Holotype: An anterior fragment with 30 setigers, length 8.5mm — Patong Bay (station 13), Phuket Island, Thailand; medium sand, 20m depth, 18.6.1982 (PMBC no. 3172).

Paratype: Anterior fragment with 31 setigers, length 10.6mm — Patong Bay (station 15), Phuket Island, Thailand; coarse sand, 10m depth, 10.4.1980 (PMBC no. 3173).

Material Examined: Only 6 specimens were collected from medium and coarse sand, 10-20m depth at Patong Bay.

Description: Prostomium slightly longer than wide (in holotype 0.3 × 0.25mm), slightly notched at the frontal margin. One pair of long, slender anteroectal antennae, about ½ length of prostomium, one pair of somewhat thinner and shorter palps at the ventral side of prostomium, antennae and palps close together. A pair of small, everted nuchal organs at the proximal corners of the prostomium. No eyespots visible.

Pharynx: None of the specimens had an extended pharynx. Dissection failed to reveal the number of subdistal papillae with any degree of certainty. The proximal pharynx is smooth.

All parapodia biramous. First pair of parapodia directed forward, lying adjacent to prostomium, noto- and neuropodia close together; notopodium with long, conical acicular lobe (Fig. 12D), inconspicuous pre- and postacicular lamellae, notopodial cirri small, rounded; neuropodium with small conical acicular lobe, much shorter than notopodial acicular lobe, pre- and postacicular lamellae forming a cylinder (Fig. 12D) much higher than — and surrounding — the acicular lobe, neuropodial cirri well developed, oblong and slightly shorter than antennae. Second setiger similar to the remaining setigers; notopodium with conical acicular lobe, preacicular lamellae low, rounded, somewhat lower than acicular lobe, postacicular lamellae rounded, nearly as high as acicular lobe. Postacicular lamellae increase gradually in size, until fully grown, rounded, inflated, longer than acicular lobe and preacicular lamellae at 5th setiger. The size is strongly reduced after 20th setiger. Recurved interramal cirri first present at 5th setiger. Notopodial cirri conical, broad base and digitiform tip. Neuropodium with slender conical acicular lobe, preacicular lamellae inflated, almost square in shape at 2nd setiger, then gradually changing to rounded oblong form, tips pointed towards inferior side at 3rd setiger and following setigers, lamellae never grow higher than acicular

- vi) a pair of eyespots present on the posterior brain (not always visible through the integument, but seen in dissection)

Nephtys cornuta cornuta Berkeley and Berkeley, 1945

- i) a pair of bifid palps present on the ventral side of the prostomium
- ii) middorsal papilla? (pharynx not described)
- iii) barred preacicular setae present in anterior segment and absent in the posterior half of the body
- iv) pre- and postacicular lamellae inconspicuous
- v) notopodial cirri with distal filament
- vi) no eyespots

Nephtys cornuta franciscana Clark and Jones, 1955

- i) a pair of bifid palps present on the ventral side of the prostomium
- ii) long slender middorsal papilla
- iii) barred preacicular setae in all segments
- iv) pre- and postacicular lamellae inconspicuous
- v) notopodial cirri with distal filament
- vi) a pair of eyespots present in the third setiger.

Nephtys phasuki n.sp.

Figs 12A-H, 13

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Material Examined: Only 6 specimens were collected from medium and coarse sand, 10-20m depth at Patong Bay.

Description: Prostomium slightly longer than wide (in holotype 0.3 × 0.25mm), slightly notched at the frontal margin. One pair of long, slender anteroectal antennae, about ½ length of prostomium, one pair of somewhat thinner and shorter palps at the ventral side of prostomium, antennae and palps close together. A pair of small, everted nuchal organs at the proximal corners of the prostomium. No eyespots visible.

Pharynx: None of the specimens had an extended pharynx. Dissection failed to reveal the number of subdistal papillae with any degree of certainty. The proximal pharynx is smooth.

All parapodia biramous. First pair of parapodia directed forward, lying adjacent to prostomium, noto- and neuropodia close together; notopodium with long, conical acicular lobe (Fig. 12D), inconspicuous pre- and postacicular lamellae, notopodial cirri small, rounded; neuropodium with small conical acicular lobe, much shorter than notopodial acicular lobe, pre- and postacicular lamellae forming a cylinder (Fig. 12D) much higher than — and surrounding — the acicular lobe, neuropodial cirri well developed, oblong and slightly shorter than antennae. Second setiger similar to the remaining setigers; notopodium with conical acicular lobe, preacicular lamellae low, rounded, somewhat lower than acicular lobe, postacicular lamellae rounded, nearly as high as acicular lobe. Postacicular lamellae increase gradually in size, until fully grown, rounded, inflated, longer than acicular lobe and preacicular lamellae at 5th setiger. The size is strongly reduced after 20th setiger. Recurved interramal cirri first present at 5th setiger. Notopodial cirri conical, broad base and digitiform tip. Neuropodium with slender conical acicular lobe, preacicular lamellae inflated, almost square in shape at 2nd setiger, then gradually changing to rounded oblong form, tips pointed towards inferior side at 3rd setiger and following setigers, lamellae never grow higher than acicular

lobe; postacicular lamellae conical, as high as acicular lobe at 2nd setiger, increasing in size until fully developed at 5th setiger, then the size decreases; neuropodial cirri small, short and oblong (Fig. 12C).

Acicula usually stout, striated, projecting curved tip (Fig. 12F). One aciculum in each ramus.

Setae of 2 types: barred and lanceolate; barred setae restricted to preacicular lamellae, first present in notopodia at 1st setiger and in neuropodia at 2nd setiger, then absent from about 17th setiger, lanceolate setae present in both noto- and neuropodia of 1st setiger until last setiger of fragment, short, more geniculate in preacicular lamellae, longer in postacicular lamellae (Figs 12G-H, 13).

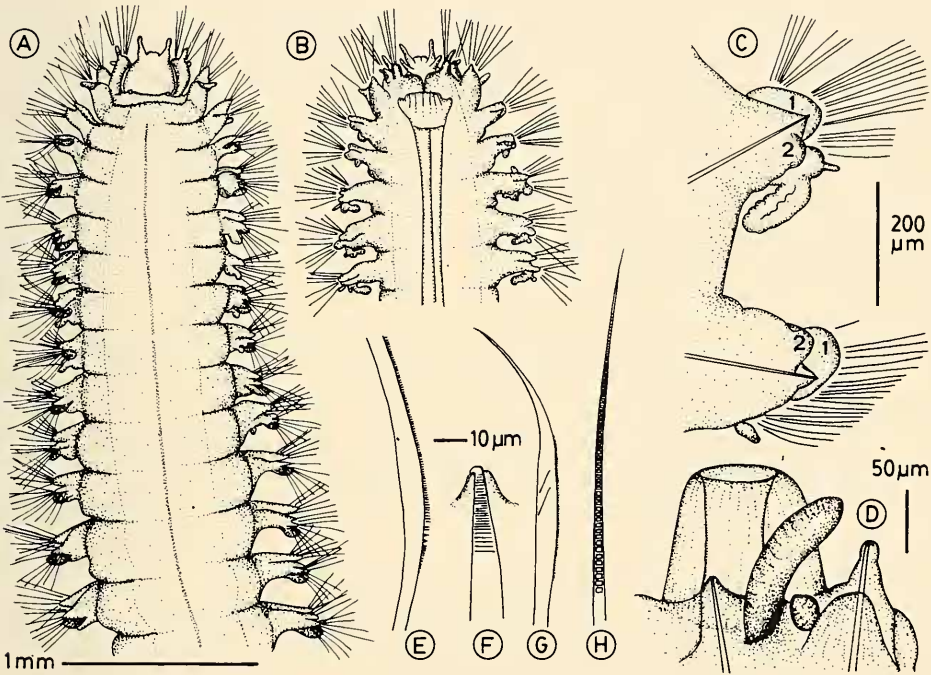


Fig. 12. *Nephtys phasuki* n. sp. A, anterior end, dorsal view. B, anterior end, ventral view. C, fourteenth setiger, anterior view. The numbers 1 and 2 refer to post- and preacicular lamellae, respectively. D, first setiger. E, part of spinose lanceolate seta. F, aciculum. G, geniculate preacicular seta. H, barred seta.

Etymology: The species is named after the present Director of PMBC, Mr Boonlert Phasuk. We are grateful for his support of polychaete studies.

Discussion: Only a few species of *Nephtys* resemble *Nephtys phasuki*. However, none of them has interramal cirri commencing at setiger 5 apart from *Nephtys inornata* Rainer and Hutchings, 1977 (see discussion by these authors). *Nephtys inornata* is a small species with a number of features similar to *Nephtys phasuki*, notably interramal cirri commence at 5th setiger, barred setae disappear by setiger 16 and proximal pharynx smooth. The two species may be distinguished by the following characters:

Nephtys phasuki

- i) neuropodial cirrus much longer than dorsal cirrus at 1st setiger
- ii) notopodial cirrus with digitiform lobe

lobe; postacicular lamellae conical, as high as acicular lobe at 2nd setiger, increasing in size until fully developed at 5th setiger, then the size decreases; neuropodial cirri small, short and oblong (Fig. 12C).

Acicula usually stout, striated, projecting curved tip (Fig. 12F). One aciculum in each ramus.

Setae of 2 types: barred and lanceolate; barred setae restricted to preacicular lamellae, first present in notopodia at 1st setiger and in neuropodia at 2nd setiger, then absent from about 17th setiger, lanceolate setae present in both noto- and neuropodia of 1st setiger until last setiger of fragment, short, more geniculate in preacicular lamellae, longer in postacicular lamellae (Figs 12G-H, 13).

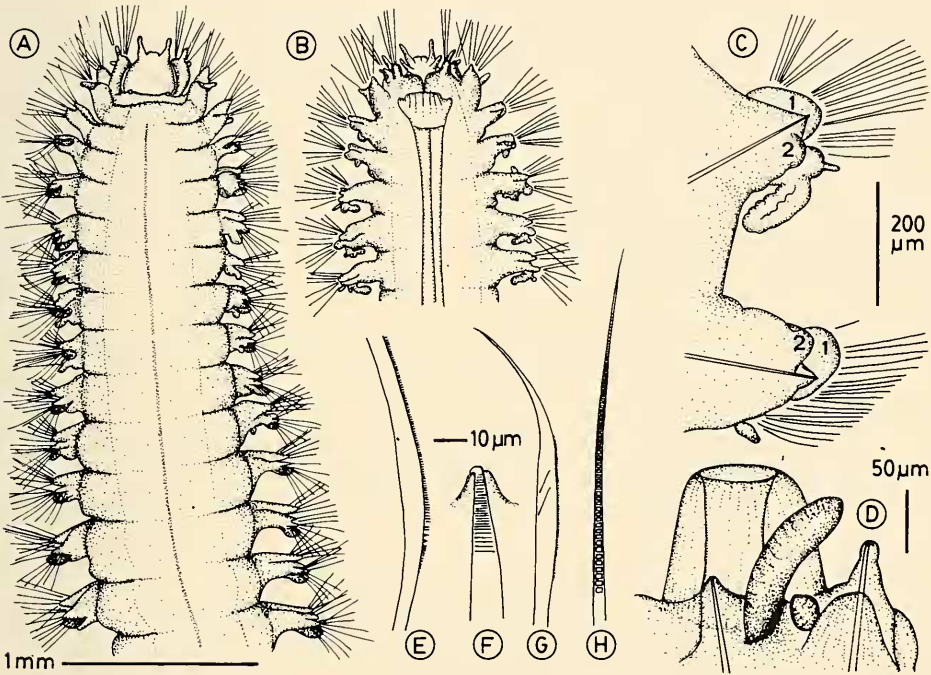


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Nephtys phasuki

- i) neuropodial cirrus much longer than dorsal cirrus at 1st setiger
- ii) notopodial cirrus with digitiform lobe

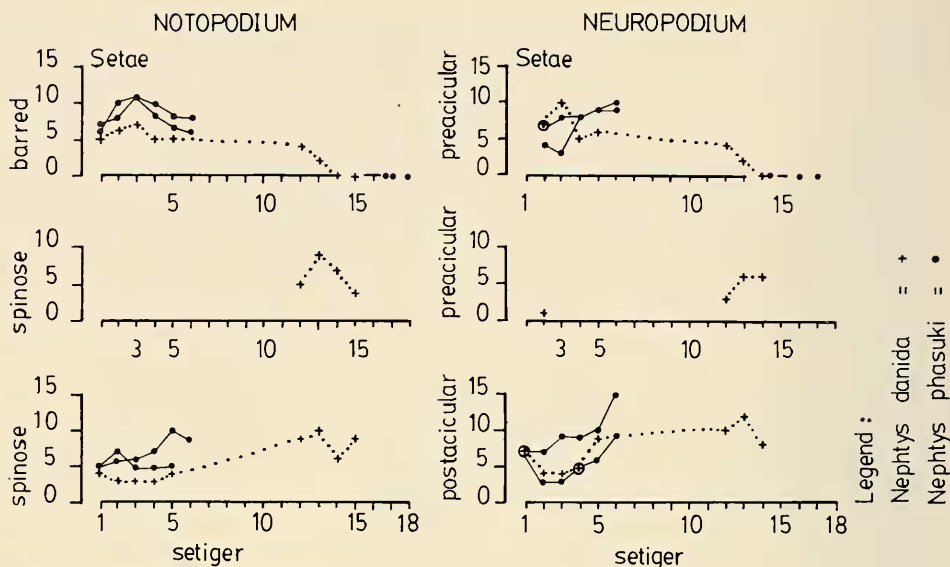


Fig. 13. *Nephtys danida* n.sp. and *Nephtys phasuki* n.sp. Counts of setae at the first 18 setigers.

- iii) neuropodial cirrus posterior to ventral junction of post- and preacicular lamellae

Nephtys inornata

- i) neuropodial cirrus slightly longer than dorsal cirrus at 1st setiger
 ii) notopodial cirrus pear-shaped
 iii) neuropodial cirrus at ventral junction of post- and preacicular lamellae.

ACKNOWLEDGEMENTS

We are most grateful to DANIDA, The Foreign Ministry of Denmark, for the support to PMBC and provision of travel funds. A budget from the Environmental Board of Thailand made the field work possible. This grant is sincerely acknowledged. We are indebted to Dr J. B. Kirkegaard, Dr M. E. Petersen and Dr Claus Nielsen for stimulating discussions and help in many ways. Comments by Dr P. Hutchings are sincerely acknowledged.

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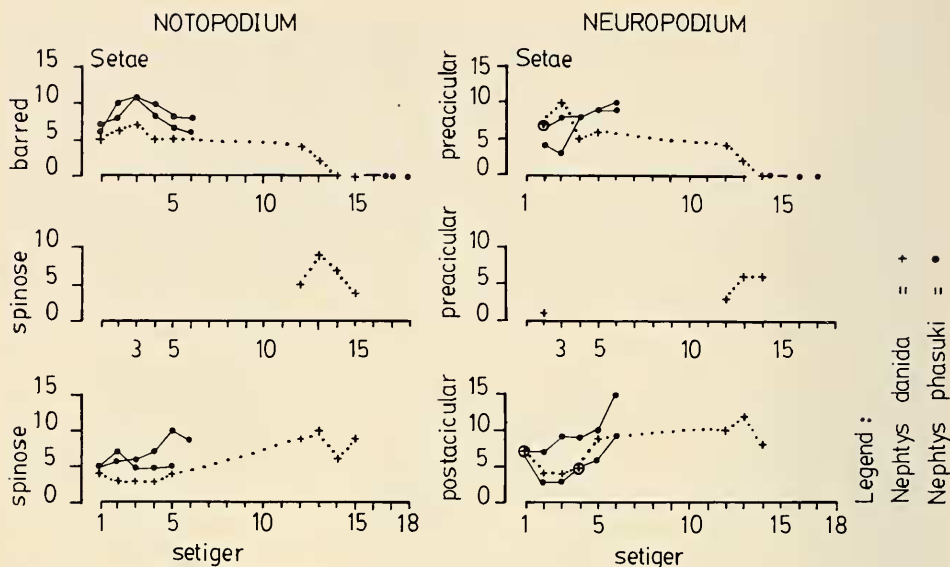


Fig. 13. *Nephtys danida* n.sp. and *Nephtys phasuki* n.sp. Counts of setae at the first 18 setigers.

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Nephtys inornata

- i) neuropodial cirrus slightly longer than dorsal cirrus at 1st setiger
 ii) notopodial cirrus pear-shaped
 iii) neuropodial cirrus at ventral junction of post- and preacicular lamellae.

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