

ON A SMALL COLLECTION OF ANNELIDA POLYCHAETA OF THE INDIAN MUSEUM, CALCUTTA.

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The collection of Polychaeta under report consists of worms from two distinct regions. The majority are from the Andamans and the coasts or backwaters of Travancore and Cochin States, where they were found either in sea-water or in brackish waters of variable salinity.

More interesting are those collected from the tanks and cisterns of the Calcutta Waterworks at Pulta in, very likely, quite fresh water¹. These freshwater species are indeed, only four in number :

Dendronereides heteropoda Southern.

Lycastis indica Southern.

Nereis cricognatha Ehlers.

Nephtys oligobranchia Southern.

Of the first, only two specimens were found. Southern's type specimens came from brackish pools and salt lakes in Barantolla, near Calcutta. I have already recorded this species (1932, p. 87) from the bottom sand in an unfiltered water tank, Calcutta, and from Basra (Shat-el-Arab), 70 miles from the sea, in quite fresh water.

Lycastis indica Southern, like most species of *Lycastis*, is another fresh and brackish water species, though it appears also to live on the sea-shore like *Ly. ouanaryensis* Gravier, a very closely allied species from Guiana. The specimens from Pulta are smaller and not so numerous as those from the Travancore and Cochin backwaters, especially Kayamkulam Kāyal.

Nephtys oligobranchia Southern is another small euryhaline Polychaete living in fresh or brackish water and, occasionally, in the sea. It is very plentiful in the Pulta cisterns.

But the most common Polychaete of the Calcutta Waterworks seems to be *Nereis cricognatha* Ehlers; large numbers of this species were collected, most of them atokous, but with a few epitokous males and females. The occurrence of this species in fresh water is a little amazing, for, to my knowledge, it has been met with only in seawater, with perhaps the one exception of the record by Annandale on the shores of the Hooghly at Budge-Budge, in water of unstated salinity.²

¹I have no data as regards the salinity.

[During the monsoon months, June to September, the water in the tanks is certainly fresh, but from January onwards up to the end of May the salinity gradually rises approximately up to 4.0 to 6.0 at the lowest ebb and 8.0 at the highest flood. The salinity is expressed as chlorine figures in parts per 100,000 of Hooghly river water as per records for the years 1937 and 1938. Ed. R. I. M.]

²[Budge-Budge is within twenty miles below Calcutta and is, presumably, subject to the usual variations in salinity that occur in Calcutta, but there are no records of salinity for Budge-Budge. The range of variation might, if anything, be greater here because of the Rupnarain and Damodar rivers which empty their flood waters into the Hooghly below Calcutta. Ed. R. I. M.]

Most of the species mentioned in this note were described in my previous paper (1932), the only exceptions being: *Lepidasthenia microlepis* Potts, *Phyllochaetopterus ellioti* Crossland and *Sabella porifera* Grube already recorded from Krusadai (Fauvel, 1930), *Audouinia semicineta* Ehlers and *Sabella melanostigma* Schmarda, very likely new to India, the rare *Syllis okadai* Fauvel, from Japan and Annam, and, last but not the least, *Pista indica*, a very peculiar new species of this genus.

Family APHRODITIDAE Savigny.

Genus **Hermione** Blainville.

Hermione hystrix (Savigny).

Hermione hystrix, Fauvel, 1932, p. 10.

East coast of Port Bonington, Stewart Sound, Andamans. Two specimens.

Habitat.—Indian and Atlantic Oceans.

Genus **Iphione** Kinberg.

Iphione muricata (Savigny).

Iphione muricata, Fauvel, 1932, p. 12.

Port Bonington, Stewart Sound; Port Blair (coral reef, in crevices amongst dead coral, between tide marks); Long Island and Sound I. (on coral rocks and under stones) in the Middle and North Andamans respectively. Several large and small specimens.

Habitat.—Indian and Pacific Oceans.

Genus **Harmothoe** Kinberg.

Harmothoe ampullifera (Grube).

Harmothoe ampullifera, Fauvel, 1932, p. 22.

Neendakara, Travancore (at the edge of the sand-bar away from the sea). A single fine specimen.

Habitat.—Indian Ocean.

Genus **Gastrolepidia** Schmarda.

Gastrolepidia clavigera Schmarda.

Gastrolepidia clavigera, Fauvel, 1932, p. 25.

East coast of Port Bonington, Stewart Sound, Andamans.

A very dark broken specimen without elytra and most of the appendages. The large and conspicuous ventral lamellae are characteristic, as well as the few curved and spinulose dorsal setae, and the large unidentate hooked ventral setae, with a few slenderer spinulose superior ones.

Habitat.—Indian and Pacific Oceans.

Genus **Lepidasthenia** Malmgren.**Lepidasthenia microlepis** Potts.*Lepidasthenia microlepis*, Potts, 1910, p. 343, pl. xix, fig. 17.*Lepidasthenia microlepis*, Horst, 1917, p. 85, pl. xix, fig. 9.*Lepidasthenia microlepis*, Fauvel, 1930, p. 510.

Ross I., Andamans (on coral stones).

This rather large specimen is broken into two parts and is incomplete behind. In the anterior part, two dark segments alternate with three or four paler ones, and further on one dark segment alternates with a paler one up to the 22nd segment. Behind, they are all dark with a thin transverse darker streak. The colouration is somewhat similar to that of *L. elegans* Grube. The ventral setae are unidentate, and there are no giant ones. Dorsal setae are lacking. The elytra are very small, hardly as broad as the elytophore.

On a specimen from New Caledonia, I found a few bidentate setae in the feet. According to Potts and Seidler, they occur only on the anterior feet. There seems to exist some variation, perhaps in relation with age and size (?).

Habitat.—Maldives, Andamans, Malay Archipelago, Durban, and New Caledonia.

Family AMPHINOMIDAE Savigny.

Genus **Eurythoe** Kinberg.**Eurythoe complanata** (Pallas).*Eurythoe complanata*, Fauvel, 1932 p. 45.

Long I., Middle Andaman ; Between Blair Reef and Chatham Causeway, Ross I., Chatham I., Phoenix Bay, Viper Island, and Mithakhari, all the localities in Port Blair, Andamans.

Large and small specimens, some broken, others regenerated, represent this ubiquitous species of coral reefs.

Habitat.—Tropical, all over the world.

Genus **Chloeia** Savigny.**Chloeia flava** (Pallas).*Chloeia flava*, Fauvel, 1932, p. 55.

Phoenix Bay, Port Blair, S. Andaman.

The colour of the species is rather variable.

Habitat.—Indian and Pacific Oceans, and Japan.

Family PHYLLODOCIDAE Grube.

Genus **Phyllodoce** Savigny.**Phyllodoce tenuissima** Grube.*Phyllodoce tenuissima*, Fauvel, 1932, p. 70.

Between N. Bay and N. Corbyn's Cove, Port Blair, Andamans (among coral débris).

The body of this species is very long and slender. Specimens are 350 mm. long and more, with a width of 2-3 mm. only. The dorsal cirri are broadly lanceolate or ovate. The back is streaked with dark blue, iridescent, transverse lines.

Habitat.—Ceylon, Nicobars, Andamans, Philippine Islands, South Australia, and New Zealand.

Family SYLLIDAE Gube.

Genus *Syllis* Savigny.

Syllis exilis Gravier.

Syllis exilis, Fauvel, 1932, p. 77.

South Point, Port Blair, Andamans (from under stones at low tide).

Two fine specimens with stout arched back giving them an appearance somewhat like that of an *Eusyllis*. The dorsal cirri are alternating and have numerous well marked articles. The shaft of the lower setae is swollen and the simple hook is bent ; but none of these hooks is as large and curved as in *Syllis fusco-suturata* Augener, which I regard as only a variety of *S. exilis*.

Habitat.—Indian and Pacific Oceans.

Syllis closterbranchia Schmarda.

Syllis closterbranchia, Fauvel, 1932, p. 77.

South Corbyn's Cove, Port Blair, Andamans. One specimen.

Habitat.—Indian and Pacific Oceans.

Syllis okadai Fauvel.

Syllis okadai, Fauvel, 1934, p. 307, figs. 1-2.

South Corbyn's Cove, Port Blair, Andamans.

The coloration of this species which I first described from Seto (Japan) is strikingly characteristic, though somewhat variable. The dark ground color of the back is speckled with white dots. On the anterior part of the body, four pale contiguous segments form a broad white collar separated from a second white collar by three dark segments. On the Andaman specimen, this second white collar is wanting, but the pattern of the after-part of the body is normal. The tentacles and dorsal cirri are rather short, with distinct articles. The shaft of the setae is swollen under the terminal piece which is a broad, short, unidentate hook. Such bristles recall those in *S. exilis*.

In addition to the above mentioned, I have seen two other specimens from the Gulf of Siam (1939, p. 292).

Habitat.—Seto (Japan), Gulf of Siam, and Andamans.

Family NEREIDAE Johnston.

Genus *Lycastis* Savigny.*Lycastis indica* Southern.

Lycastis indica, Southern, 1921, p. 578, pl. xix, fig. 2.

Lycastis indica, Fauvel, 1932, p. 82, pl. ii, figs. 1-2.

? *Lycastis ouanaryensis*, Gravier, 1901, p. 359, figs. 1-10.

East and West Narakal, backwater between Ernakulam and Edappalli, Vypin and Cheriya Kadamakudi, all in Cochin State; Puttankari, Kayankulam Kayal, Veli Lake, Trivandrum, Quilon, and Vembanad Lake, all in Travancore State; Cisterns of Calcutta Waterworks at Pulta; Andamans.

The very large quantity of specimens whose size varies from 12 mm. to 50-60 mm., and even 140-150 mm., enabled me once more to verify the variability of a number of characters such as the disposition of the eyes more or less in a line and their size, the number of teeth in the jaws, and the length of the dorsal cirri, a variability which I had already remarked upon (1932).

One of the leading characters described by Southern is the absence of dorsal setae, though he had found one from the tenth foot backwards on two of the five specimens he examined.

In the material of the Zoological Survey of India, I occasionally found 1-2 slender dorsal setae on a small specimen from the Salt Lakes, near Calcutta. On the specimens 50-60 mm. long from a cistern at Pulta, the dorsal setae were missing on most of the feet except a few anterior ones which bore one or two. Large specimens from Kayankulam Kayal, 140-150 mm. long, 5 mm. broad, showed hardly one or two feet, irregularly distributed, and bearing a single dorsal seta. In the other hand, smaller specimens from other localities bore 1-2, rarely more, dorsal setae on many feet.

The size and shape of the dorsal cirri are liable to a rather wide range of variation. Though they are never as broad as the nearly heart-shaped cirri of *L. meraukensis*, their length varies materially. In large specimens the number of dorsal cirri of the posterior region is much increased, and the cirri are recurved on the back, giving to the Nereid the Phyllocid appearance already noticed by de Saint-Joseph.

In short, the likeness between *L. indica* and *L. ouanaryensis* is very striking. As the normal occurrence of a few dorsal setae in the anterior feet, at least, is confirmed, the gap between the two species is still less.

Both species partake of the same euryhaline behaviour. *L. indica* ranges from fresh water (Pultra Cisterns) to brackish water and probably sea water (Andamans). *L. ouanaryensis* lives in fresh water of marshes and in brackish water of estuaries, and between tide-marks at Cayenne. *Lycastis senegalensis* Saint-Joseph (1901, p. 217, pl. viii, figs. 1-7), another species with few dorsal setae and long narrow dorsal cirri, seems hardly distinct, as far as one can judge from the bad figures of the author.

A careful comparison of numerous specimens of the same size of these three species would be necessary to settle the question of their synonymy. If conspecific, the name *L. senegalensis* would have the priority.

Habitat.—India, Macassar, and Guiana (?).

Genus **Tylonereis** Fauvel.**Tylonereis bogoyawlenskyi** Fauvel.

Tylonereis bogoyawlenskyi, Fauvel, 1932, p. 83.

Neendakara Bar, and Veli Lake, Travancore.

The specimens from Veli Lake are plentiful, but unfortunately more or less soft. Nevertheless they are well characterised by their trilobed ventral setigerous lobe.

Habitat.—Persian Gulf, Gulf of Manaar, and Travancore.

Genus **Dendronereis** Peters.**Dendronereis aestuarina** Southern.

Dendronereis aestuarina, Fauvel, 1932, p. 86.

Kayankulam Kayal and Vembanad Lake, Travancore. Very numerous atokous specimens were collected, some with the proboscis extruded. They fit in well with Southern's description.

Habitat.—Gangetic Delta, Madras, Travancore, and Taleh Sap.

Genus **Dendronereides** Southern.**Dendronereides heteropoda** Southern.

Dendronereides heteropoda, Fauvel, 1932, p. 87, pl. ii, figs. 3-9.

Vallarpadam, a cochin Harbour; a cistern in Calcutta Waterworks at Pulta. On the shore at Vällarpādam only somewhat doubtful débris was seen. The two specimens from Pulta were typical ones.

Habitat.—Calcutta, Bombay, Vällarpādam in Cochin Harbour, Diamond Isles, and Shat-el-Arab.

Genus **Nereis** Cuvier.**Nereis jacksoni** Kinberg.

Nereis jacksoni, Fauvel, 1932, p. 97.

South Point, Port Blair, Andamans (from stones).

Only two small atokous specimens represent this widely distributed species of tropical seas.

Habitat.—Indian and Pacific Oceans.

Nereis chilkaensis Southern.

Nereis chilkaensis, Fauvel, 1932, p. 94.

Neendakara Bar, Travancore.

A few female specimens full of eggs, in an incipient state of epitoky, bear rudimentary lamellae on their feet.

Habitat.—Chilka Lake, Ennur Backwater, Madras, Pamban, and Travancore.

Nereis glandicineta Southern.

Nereis glandicineta, Fauvel, 1932, p. 92.

Kumbalam Island and Narakal, Cochin State.

The specimens are very numerous. On the everted proboscis of many of them, the denticles of the groups VI are missing altogether, as well as those of the groups VII-VIII, thus giving the worms the appearance of a *Ceratonereis*. On a few others, the denticles of groups VI are very small, translucent, and can only be detected by the use of a very strongly, slanting light and a rather high magnification.

Several females full of eggs, but still atokous, were "green in life" There was also an epitokous male specimen. The feet and bristles are typical.

Habitat.—India, Singapore, Gulf of Siam, and Pulo Kondor (South China Sea).

Nereis cricognatha Ehlers.

Nereis cricognatha, Fauvel, 1932, p. 91.

Pulta Survey, Calcutta Waterworks ; Andamans.

With the exception of a few specimens from the Andamans, a striking quantity of this species comes from the Calcutta Waterworks at Pulta, in the mud at the bottom of pre-settling tanks, among débris in the cisterns, in Sponges and among the colonies of *Modiola* growing in the water-mains.

Most of them are atokous, a few subepitokous, and still fewer males and females are fully epitokous. They show the usual variation in the number of the denticles of the groups I, V and VI.

This species, which shows a great likeness to *Nereis succinea*, is also euryhaline. Judging by its plentiful occurrence in the Calcutta Waterworks, where it appears to be the commonest Polychaete worm, it seems to thrive well equally in fresh- and brackish-water as in salt water of the sea.

The proboscis is very nearly a like in both species, but in *N. succinea* the dorsal cirri in the posterior part of the body are greatly enlarged.

Habitat.—New Zealand, Bass Straits, Philippine Islands, and India (Krusadai, Hooghly, Calcutta).

Genus **Perinereis** Kinberg.**Perinereis cultrifera** Grube.

Perinereis cultrifera, Fauvel, 1932, p. 104.

Neendakara Bar, Travancore.

Only one specimen belonging to the variety *perspicillata* Grube.

Habitat.—Cosmopolitan.

Perinereis aibuhitensis Grube.

Perinereis aibuhitensis, Fauvel, 1932, p. 106.

Shoal Bay Creek, Andamans.

A single atokous specimen.

Habitat.—Philippine Islands, Malay Archipelago, China, and India.

Perinereis nigro-punctata Horst.

Perinereis nigro-punctata, Fauvel, 1932, p. 107.

South Corbyn's Cove, Port Blair, Andamans.

The back of the specimen still retains the usual pattern of three transverse black spots across each segment. The proboscis shows a few anomalies, group V consists of a single large paragnath, and there are two flattened transverse teeth in one of the groups VI and only one in the other.

Habitat.—Malay Archipelago, India, and Australia.

Perinereis cavifrons Ehlers.

Perinereis cavifrons, Fauvel, 1932, p. 107.

Backwater between Ernakulam and Edappalli, Cochin; Ashtamudi Kayal, Quilon, and Chevara in Travancore. One of the specimens from Chevara is an epitokous male, all the others are atokous.

Habitat.—Java, and India.

Perinereis neocaledonica Pruvot.

Perinereis neocaledonica, Fauvel, 1932, p. 107.

Near Jones Point, Sound I., N. Andaman (under stones).

The single specimen present is very large: 175 mm. long and 6 mm. broad. The everted proboscis bears two stout, smooth, black jaws. Group V consists of a large denticle and a small one. Groups I and II are missing, as in the specimens from the Arabian Sea and New-Hebrides, previously described. The tentacles and tentacular cirri are very short.

Habitat.—New-Caledonia, New-Hebrides, Andamans, and the Arabian Sea.

Genus **Pseudonereis** Kinberg.**Pseudonereis anomala** Gravier.

Pseudonereis anomala, Fauvel, 1932, p. 112.

South Point, Port Blair, Andamans (from stones).

There were three atokous worms and an epitokous male.

Habitat.—Indian Ocean, Madagascar, Malay Seas, and Australia.

Family NEPHTHYDIDAE Grube.

Genus **Nephtys** Cuvier.**Nephtys oligobranchia** Southern.

Nephtys oligobranchia, Fauvel, 1932, p. 119.

Cisterns at Pulta, Calcutta Waterworks.

The numerous specimens of this species are all from the Calcutta Waterworks, where it appears to thrive in large quantities. They are small, their average size ranging from 10 to 20 mm. in length.

This species lives in waters of variable salinity, that is, in fresh-brackish-, or even sea-water.

Habitat.—India, Mergui (Burma), and Gulf of Siam.

Family GLYCERIDAE Grube.

Genus **Glycera** Savigny.

Glycera alba Rathke.

Glycera alba, Fauvel, 1932, p. 133.

Vendurutti, Cochin State.

Only a small specimen.

Habitat.—Atlantic and Indian Oceans, Red Sea, India, and Annam.

Genus **Goniada** Aud.-Edw.

Goniada emerita Aud.-Edw.

Goniada emerita, Fauvel, 1932, p. 120.

Vendurutti, Cochin State.

A very small one, with stout acicular dorsal setae.

Habitat.—Atlantic Ocean, Mediterranean Sea, India, and Japan (?).

Family EUNICIDAE Grube.

Genus **Eunice** Cuvier.

Eunice aphroditois (Pallas).

Eunice aphroditois, Fauvel, 1932, p. 133.

S. W. of Long Island, M. Andaman (amidst coral rocks); South Point Port Blair, Andamans; South of Long Island, M. Andaman.

The specimen from the first named locality was "Dark blue in life, parapodial lobes tipped white, yellowish brown spots" Though it is only 80 mm. long and 9 mm. broad, it is still entire, the back part being regenerated. There is no trace of a white collar on the now dark-chestnut back ground, which is spotted with faint transparent dots (in alcohol). It agrees with the young, blue-coloured (in life) form of the species.

Several large pieces from the last-named locality (fixed in Carnoy's fluid)—one anterior, two posterior and a middle part—belong to two big specimens whose body is now a grayish yellow, with dark spots, but without any trace of a collar. Another, from South Point, 112 cm. long and 15-20 mm. broad is yellowish, more or less speckled with dark spots, and without collar. On the other hand, three other large anterior fragments from the same locality show faint traces of a pale collar on segments 4-5. The first gill appears on the already branched 5th setigerous segment.

Habitat.—Atlantic, Indian, and Pacific Oceans, and the Mediterranean Sea.

Eunice antennata Savigny.

Eunice antennata, Fauvel, 1932, p. 138.

South Point (from stones) and Phoenix Bay, Port Blair, Andamans.
Several small specimens.

Habitat.—Indian and Pacific Oceans.

Genus **Marphysa** Quatrefages.**Marphysa sanguinea** (Montagu).

Marphysa sanguinea, Fauvel, 1932, p. 141.

East Narakal and backwater between Ernakulam and Edappalli, Cochin State ; Neendakara Bar, Kayankulam Kayal, Chevara, and Quilon in Travancore State.

The specimens from muddy ground are more slender and rounded than the others, as I have already noticed (1932).

Habitat.—Atlantic, Indian, and Pacific Oceans.

Marphysa stragulum (Grube).

Marphysa stragulum, Fauvel, 1932, p. 143.

Cheppanam, Cochin State.

A small worm bears both knife-like and falcigerous setae and gills only on a few anterior segments, which is characteristic of the species.

Habitat.—Philippine Islands, and India.

Genus **Diopatra** Aud.-Edw.

Munambam Bar, Travancore State.

A few very small specimens, some of them in a dried state, cannot be identified specifically.

Genus **Arabella** Grube.

In sandy pools between tide-marks midway from Blair Reef to Chatham Causeway, Port Blair.

A fragment without head, may belong to this genus.

Genus **Lumbriconereis** Blainville.**Lumbriconereis heteropoda** Marenzeller.

Lumbriconereis heteropoda, Fauvel, 1932, p. 153.

Neendakara Bar, Travancore.

Numerous fragments with long, erect ligules on the posterior feet and hooks.

Habitat.—Red Sea, India, Japan, and California.

Lumbriconereis pseudobifilaris Fauvel.

Lumbriconereis pseudobifilaris, Fauvel, 1932, p. 154, pl. vi, figs. 7-13.

West Narakal, Cochin State; Munambam Bar, Travancore State.

This species, first described from Akyab (Burma) is distinguished by the absence of hooks, all its setae being winged capillaries, and by the presence of very long ligules in the posterior feet.

Habitat.—Akyab (Burma), and India.

Family CHAETOPTERIDAE Aud.-Edw.

Genus **Phyllochaetopterus** Grube.

(?) **Phyllochaetopterus elioti** Crossland.

(?) *Phyllochaetopterus elioti*, Fauvel, 1930a, p. 41.

“Tough leathery tubes buried in sand between Chatham Causeway and Blair Reef,” Port Blair (Feb. 12, 1934, H. S. Rao).

From these horny tubes, coated with sand, I succeeded in extracting only the anterior part of the worm with big palps, two eyes and two small tentacles, which I refer somewhat doubtfully to *Ph. elioti*, a species which, with a very similar tube, was previously found at Krusadai.

Habitat.—Zanzibar, and India.

Family CIRRATULIDAE Carus.

Genus **Audouinia** Quatrefages.

Audouinia semicincta Ehlers.

Audouinia semicincta, Fauvel, 1935, p. 339.

South Corbyn's Cove, Port Blair, Andamans.

Only one small black specimen with tentacular cirri ringed alternately black and white.

Habitat.—Pacific Ocean, Annam, India, and the Red Sea (?).

Family CHLORAEMIDAE Malmgren.

Genus **Stylarioides** Delle Chiaje.

Stylarioides parmatus Grube.

Stylarioides parmatus, Fauvel, 1932, p. 179.

Between Blair Reef and Chatham Causeway, Port Blair. “In madreporarian coral mass.”

The two specimens are provided with the characteristic oval shield coated with sand. The numerous, rather slender, gills are borne on a horse-shoe-like peduncle. The palps are stout.

Habitat.—Indian Ocean, and New Zealand.

Family OPHELIIDAE Grube.

Genus **Polyophthalmus** Quatrefages.**Polyophthalmus pictus** Dujardin.

Polyophthalmus pictus, Fauvel, 1932, p. 191.

South Point (from stones in low tide) and South Corbyn's Cove, Port Blair, Andamans.

The specimens in the collection are all very small and discoloured.

Habitat.—Atlantic, Indian, and Pacific Oceans.

Family TEREPELLI DAE Grube.

GENUS **Terebella** Linne.**Terebella ehrenbergi** Grube.

Terebella ehrenbergi, Fauvel, 1932, p. 226.

Near Jones Point, Sound I., Stewart Sound, North Andaman (under stones).

This discoloured specimen, nearly translucent, still bears its three pairs of gills.

Habitat.—Red Sea, India, Andamans, Annam, and Japan.

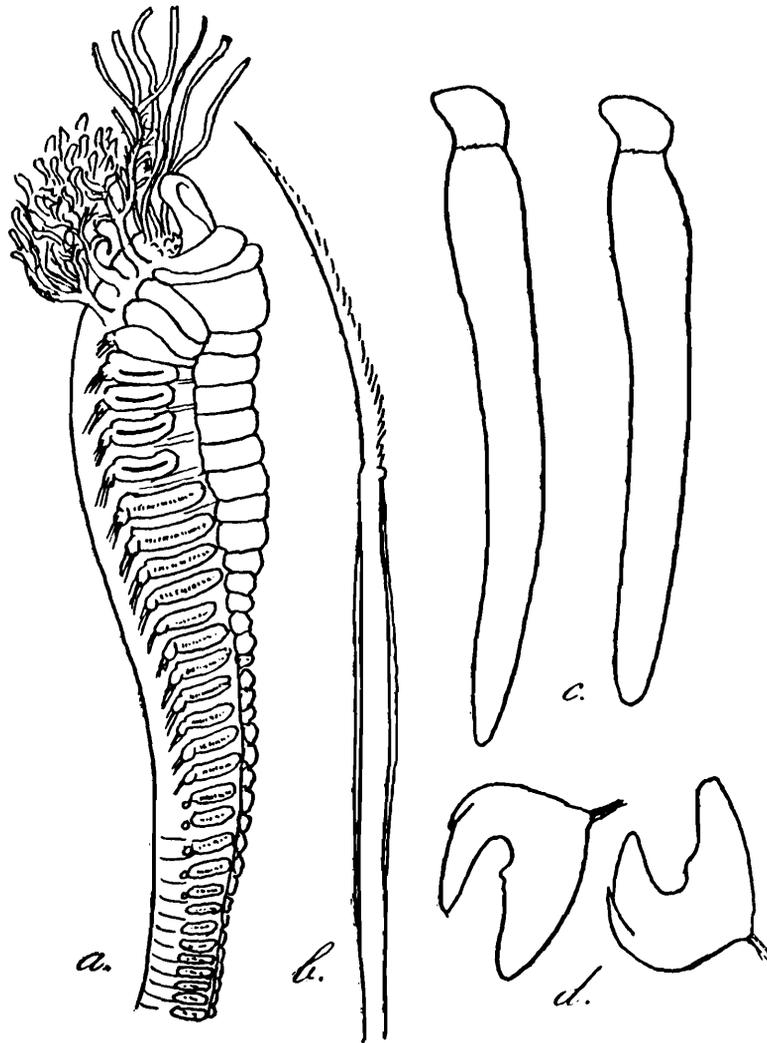
Genus **Pista** Malmgren.**Pista indica**, sp. nov.

West Narakal, Cheppanam, Chêriya Kadamakudi and backwater between Ernakulam and Edappalli—all in Cochin State.

Specific characters.—Body rather short and plump, abdomen cylindrical, with numerous short, crowded segments. 16 thoracic setigerous segments. Prostomium eyeless, with lobe bearing long and rather thick grooved tentacles. Buccal segment expanded into a dorsal arched lip. Obsolete lateral lobes on segments 2-3, 8 to 9 ventral scutes. Three pairs of bushy gills, all about the same size. Pygidium without papillae. Dorsal setae capillary, with narrow wings and a finely serrated tip. Uncini from the 2nd setigerous segment. The first four uncinigerous tori short, with a transverse row of big, long, brown hooks with a smooth tip. On the next two tori, a single row of small avicular uncini, the succeeding thoracic and abdominal segments bearing two alternating rows. Length of worm—15-30 mm. and, thorax 2-2.5 mm. broad. Colour lost in alcohol.

The 17 specimens of this curious Terebellid are all provided with 16 thoracic setigerous segments and three pairs of gills. In appearance they are much like *Terebelli lapidaria*, an equally short and stiff species. Their most striking feature, at first sight, is the presence of four

conspicuous brown streaks on each side of the thorax (text-fig. *a*). On closer examination, these brown streaks resolve into a transverse row of



Pista indica: *a.* Anterior part: \times ca. 10. *b.* Thoracic bristle: \times 400. *c.* Big thoracic hooks: \times 160. *d.* Uncini: \times 520.

very large blunt hooks, with a long and thick shaft. They recall those in *Trichobranchus* and in *Terebellides*, but are straighter and smooth at the tip (text-fig. *c*). On the 5th uncinigerous segment (6th setigerous) there is a sudden change from these big brown hooks to the usual avicular uncini. They are rather like those in *Polymnia*, with 1 to 2 slender teeth above the main fang, but very small compared to the big hooks (text-fig. *d*). They are set in a single transverse row on uncinigerous tori 5-6, which are materially longer than the four preceding ones. Next, these tori gradually decrease in length and bear two opposite alternating rows of uncini, nearly to the end of the body.

On the first abdominal segment, there is a small knob above the torus. Further back, the segments are short, densely crowded, and the tori nearly meet on the middle ventral line, without forming pinnules.

The dorsal setae are very peculiar for a *Pista*, for they are serrated at the tip, as in the genus *Amphitrite* (text-fig. *b*).

The ventral scutes are thick transverse pads up to the 9th setigerous segment. The buccal segment and the two following ones are more or less swollen. The side lobes of segments 2-3 are obsolete, reduced to a simple fold which is even wanting on swollen specimens. The gills, borne on a stout stalk, are large and bushy, all the three pairs being about the same size.

In spite of its dorsal setae with serrated tip, this species belongs to the genus *Pista*, for all its other characters agree with it. In *Pista*, the gills are branched and vary from one to three pairs, eyes are sometimes present and as often missing. Thoracic segments vary from 15 to 17. To my mind, the most striking feature of the genus is the difference between thoracic hooks, a number of the anterior ones being provided with an elongated basal process, differing thus, more or less markedly, from the usual type found in the following segments.

As I have already stated (1932, p. 232), the genus shows a tendency to form a descending series of forms, from those having the uncini with a huge chitinous shaft, as in *Pista robustiseta* and *P. mirabilis*, to those with only a slender and reduced process, with many intermediate stages.

The anterior hooks of *P. indica*, though more or less like those of *Pista mirabilis* and *P. robustiseta*, show a still more exaggerated condition of that peculiar feature with their broad shaft and their blunt tip without teeth at the vertex.

The serrated tip of the dorsal setae is unusual in the genus, but *P. polybranchiata* has dorsal setae with fine serrations seen only under a high magnification, and so also a few *Amphitrite*, in which the serration of the tip of the dorsal setae can only be detected under a very high magnification (*A. cirrata*, *A. alcicornis*).

In short, such a slight feature as the minute serrations of the tip of the dorsal setae can hardly be regarded as of generic value when in all other features the present species agrees with *Pista*.

Habitat.—India.

Family SABELLIDAE Malmgren.

Genus *Sabella* Linné.

Sabella melanostigma Schmarda.

Sabella melanostigma, Johansson, 1927, p. 121, (Synonymy).

Sabella melanostigma, Mesnil and Fauvel, 1939, p. 23.

Sabella bipunctata, Baird, Fauvel, 1914, p. 149, pl. vii, figs. 18-21.

Sabella guinensis, Augener, 1918, p. 565, pl. vi, figs. 149, pl. vii, figs. 247-249.

In sandy pools at low tide between Blair Reef and Chatham Causeway, Port Blair, Andamans.

This rather large *Sabella* has lost its branchial tuft. The ventral groove is missing or very obsolete, and then only on the posterior part. The pick-axe setae are very peculiar with their end very thin, translucent and shaped like a coal-scuttle.

Habitat.—Tropical Atlantic, Andamans, Malay Seas, and Japan.

Sabella porifera Grube.

Sabella porifera, Fauvel, 1930, p. 60.

South of Long I., Middle Andamans.

I have already recorded this species from Rameswaram.

It is easily identified by the four stout glandular pads at the base of the gills. The branchial lobes, though not coiled spirally, describe each a little more than a half circle. There are no eyes on the gills.

Habitat.—Red Sea, Indian Ocean, and Australia.

Genus **Dasychone** Sars.**Dasychone serratibranchis** Grube.

Dasychone serratibranchis, Fauvel, 1932, p. 236.

Between Jones and Mitchell Points, Sound I., North Andaman (between tide-marks).

Owing to the poor condition of the specimen, the discoloured eyes on the gills can hardly be detected and the dorsal stylodes are quite obsolete. The body is short, plump, and has lateral eye-spots.

Habitat.—India, Philippine Islands, New Zealand, and Australia.

Family SERPULIDAE Burmeister.

Genus **Ficopomatus** Southern.**Ficopomatus macrodon** Southern.

Ficopomatus macrodon, Fauvel, 1932, p. 248.

Cheppanam, Cochin State.

A small Pelecypod shell is coated with a colony of numerous tiny Serpulid tubes. These tubes are round, with a single dorsal ridge, more or less high and wavy in its distal part.

The operculum and setae of the worms are typical. Though the setae have a marked likeness to those of *Mercierella*, both operculum and tube are quite different.

Habitat.—Cochin State, Ennur backwater, Taleh-Sap, and Gulf of Siam.

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