Rec. zool. Surv. India : **111**(Part–4) : 29-39, 2011

EUNICID POLYCHAETES (ANNELIDA) FROM GREAT NICOBAR ISLAND, INDIA : II. ORDER : EUNICIDA

R. Rajasekaran* and Olivia J. Fernando
Centre of Advanced Study in Marine Biology, Annamalai University, Parangipettai-608502, Tamil Nadu, India
(*sekar_10677@yahoo.co.in)

INTRODUCTION

Polychaetes collected from Great Nicobar Island (6°45´-7°15´ N lat. and 93°38´-93°55´ E long) shows a distinct distribution based on the kind of substrate like coral reefs, mangroves, sandy substrate and sea grass beds. The substrate plays an important role in determining the species composition of various habitats (Sanders, 1958). The nereids of Great Nicobar Island has been previously described (Rajasekaran & Fernando, 2009). The present paper describes representatives of the seven families namely Eunicidae, Lumbrinereidae, Arabellidae, Dorvilleidae, Oenonidae, Onuphidae and Hartmanniellidae. Eunicids occur in all benthic environments. In shallow temperate waters they are commonly encountered on rocky reefs, typical in such habitats as crevices and algal holdfasts. In the tropics they are especially common among dead corals. Many eunicids build robust parchment-like tubes which may have a complex branching shape, but other eunicid taxa, especially burrowers in soft sediments, do not construct permanent tubes. They are among the largest polychaetes and a number of species may exceed 1 m in length. As their large and complex jaws suggest, many species are carnivorous, although others apparently are omnivorous. Some species are sometimes referred to as "blood worms" for their well-developed parapodial branchiae that are often blood-red.

Great Nicobar Island has fairly rich polychaete fauna which shares with several other areas like the Gulf of Mannar, Lakshadweep, Andaman Islands and Gujarat coast which also have coral reefs (Kumaraswamy Achari, 1969; Soota, *et al.*, 1980; Soota *et al.*, 1981; Misra and Chakraborty 1983 & 1991). The rich diversity of polychaete fauna of Great Nicobar Island may probably be due to the presence of a wide range of eco-niches and practically undisturbed geographic conditions with least pollution.

METHODS

Great Nicobar Island, the southern most Island of this archipelago, in fact the southern most land piece of India, is situated between 6°45´-7°15´N lat. and 93°38´-93°55´ E long (Fig. 1). The island lies about 482 km south of Port Blair and 145 km north of the northern tip of Sumatra. The total geographical area approximates to 1044 sq. km.

The materials for the present study were collected from December 2000 the February 2004 from live corals, dead corals, beach rocks, seagrass beds and mangrove sediments of the intertidal region of 13 selected stations. The sediment samples collected were sieved through a 0.5mm sieve. Polychaetes associated with dead corals were collected by breaking them with a hammer and chisel. Before fixation, polychaetes were dropped into strong alcohol to have their pharynx everted, as it is helpful in identification of this group. They were fixed in 10% formalin diluted with seawater and later transferred to 70% ethanol. The proboscis jaws and other structures of the parapodia were examined under a microscope. The features of the polychaetes studied were drawn with a prism type Camera Lucida and the measurements were taken using a micro-occulometer.

SYSTEMATIC ACCOUNT

List of species

Family EUNICIDAE, Savigny, 1818

1. *Eunice* (*Palolo*) *siciliensis* (Grube, 1840)
2. *Eunice antennata* (Savigny, 1818)
3. *Eunice indica* Kinberg, 1865

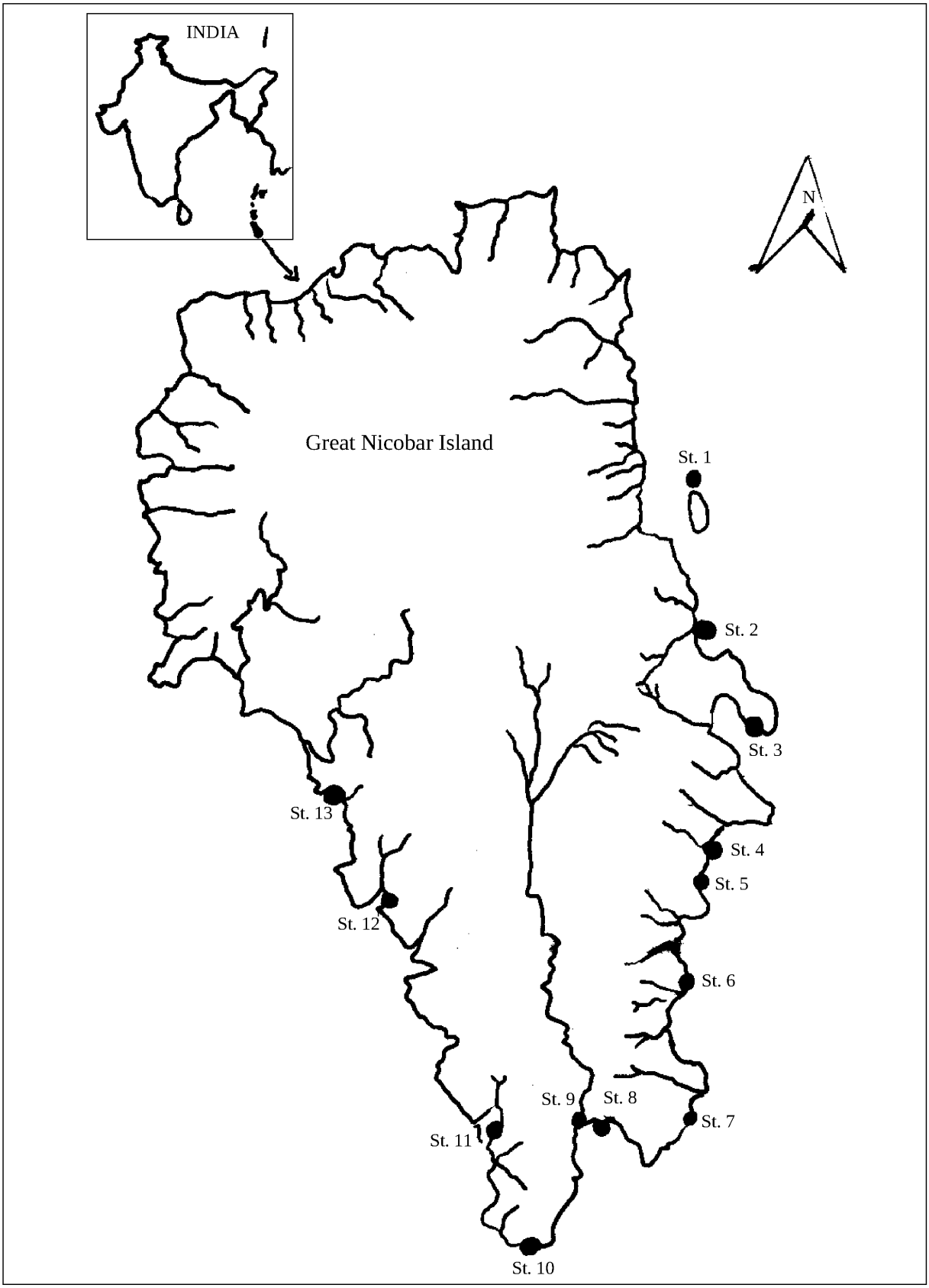

Fig. 1 : Map of Great Nicobar Island

4. *Eunice vittata* (Delle Chiaje, 1828)**
5. *Eunice savigny* Grube, 1878*
6. *Euniphysa tubifex* (Crossland, 1904)*
7. *Eunice coccinea* Grube, 1878*
8. *Eunice petersi* Fachald,1992
9. *Eunice paupera* Grube,1878
10. *Marphysa mossambica* (Peters, 1854)
11. *Marphysa macintoshi* Crossland, 1903*
12. *Marphysa corallina* (Kinberg, 1865)
13. *Lysidice collaris* Grube, 1870
14. *Lysidice ninetta* Aud. and M. Edwards, 1833
15. *Nematonereis hebes* (Grube 1840)*
16. *Lumbrineris tetraura* (Schmarda, 1861)
17. *Arabella iricolor iricolor* (Montagu,1804)

* new record from Andaman & Nicobar Islands

** new record from Indian waters

1. ***Eunice (Palolo) siciliensis*** (Grube, 1840)

1840. *Eunice sicillensis* Grube, *Actinien Echinodermen und Wiirmen des Adriatischen und Mittelmeeres* : 83; Fauvel, 1923, Polychaetes errantes. *Faune Fr*, Paris,V : 405; Gravier, 1900, Contribution a l'etude des annelids polychetes. I[st] partie. *Nouv. Archs. Mus. Hist. nat., Paris* (ser. 4) **2** : 261, pl. 13 figs. 78-49, text figs. 130-133.

Material : 58 specimens collected from St. 1, 2, 4-8, 10-13 during December, 2000 to February, 2001.

Habitat : Boring into dead corals and beach rocks.

Description : Body 200-350 mm long with anterior region cylindrical and posterior region flattened. Prostomium is notched. Antennae are smooth. Anterior parapodia without branchiae. Branchiae are first present on segment 60 and usually simple filaments. Dorsal cirri are long, smooth, slender anteriorly and gradually diminish in size posteriorly. Simple capillary setae and compound falciger. There are no pectinate and subacicular setate.

Remarks : Present materials agree well with the Day (1967) description.

Distribution : India : Andaman & Nicobar Islands, Gulf of Mannar, Lakshadweep and Gujarat.

Elsewhere : Tropical Indo-west Pacific and Atlantic Oceans, Mediterranean Sea.

2. ***Eunice antennata*** (Savigny, 1818)

1818. *Leodice antennata* Savigny, Annelides. In : J.B. Lamarck ed. *Histoire naturelle des animaux sans vertebras.* 612 pp. Paris.

1904. *Eunice antennata* Crossland, On the marine fauna of Zanzibar and British East Africa from collection made by Cyril Crossland in the years 1901 and 1902. Polychaeta. Pt. III. *Proc. Zool. Soc., Lond.*, : 312, pl. 22 figs. 1-7, text figs. 56-60; Fauvel, 1953, *The fauna of India including Pakistan, Ceylon, Burma and Malaya* : 240, fig. 118 f-g.

Material : 32 specimens collected from St. 1, 2, 5, 7, 11 and 13 during December, 2000 to February, 2001.

Habitat : Boring into dead corals and beach rocks.

Description : Body 30 to 155 mm, the dorsal cirri and anal cirri are moniliform. Branchiae first start on setigerous segment 6, well developed between segments 10 and 25, where they have 6 or 7 filaments, decrease to 2 or 3 in median region; thereafter the number increases again in posterior segments. Acicular setae are first present in setigerous segment 19; they are yellow, tridentate and distally hooded. Other setae include slender capillary, bidentate compound falcigers with rounded hood, and pectinate setae with lateral.

Remarks : Present materials agree well with the earlier descriptions.

Distribution : India : Lakshadweep, Gulf of Mannar, Andaman & Nicobar Islands, Pamban, Krusadai and Shingle Island, Tuticorin and Maharashtra Coast.

Elsewhere : Red Sea, Persian Gulf, Indian Ocean, Philippine Island, Pacific Ocean, Indo-China, Ceylon (Sri Lanka).

3. ***Eunice indica*** Kinberg, 1865

1865. *Eunice indica* Kinberg, Annulata nova. *Ofvers. K. Vetensk Akad. Forh.*, **21** : 562; Crossland, 1904, On the marine fauna of Zanzibar and British East Africa from collection made by Cyril Crossland in the years 1901 and 1902. Polychaeta. Pt. III. *Proc. Zool. Soc., Lond* : 318, Pl. 21. figs. 9-12; Fauvel, 1953, *The fauna of India including Pakistan, Ceylon*, Burma and Malaya: 241, fig. 119.

Material : 21 specimens collected from St. 2, 3 and 11 during December, 2000 to February, 2001.

Habitat : Boring into dead corals.

Description : Body 20-24 mm long. A dark red spot is present on the median anterior border of each segment from the third. Prostomium in slightly notched in front. First branchiae single filament; all other branch pectinate; maximum 8 filaments. Branchiae are present from setigerous segment 3 to 23. Branchiae terminating well before posterior end, present on less than 55% of total number of setigers. Subacicular setae are yellow, distally tridentate, and occur as a transverse series of 4 in a parapodium. Compound setae distally bidentate and covered by a pointed hood.

Remarks : Present materials agree well with the original descriptions.

Distribution : India : Andaman & Nicobar Islands.

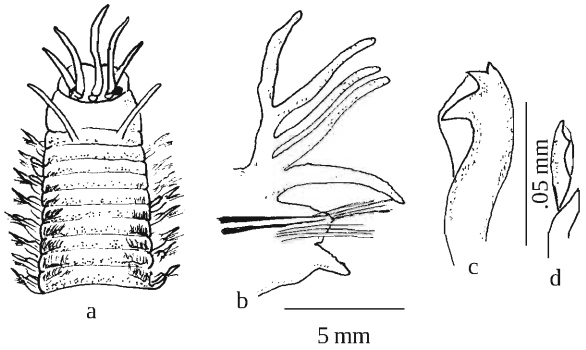

Fig. 2 : Eunice vittata

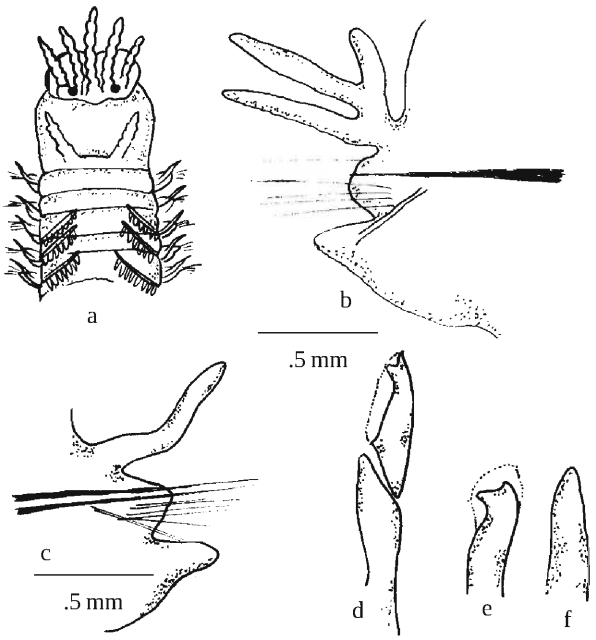

Fig. 3 : *Eunice savigny*

Elsewhere : Japan, New Calendonia, Gambier Islands, Indian Ocean, Persian Gulf, Red Sea.

4. ***Eunice vittata*** (Delle Chiaje, 1828)
(Fig. 2a-d)

1828. *Nereis vittot.*, Delle Chiaje, *Memorie sulla storia e notomia degli animali senze vertebre del regno di Napoli*, Naples, **3** : 195.

1923. *Eunice vittata*, Fauvel, 1923, Polychaetes errantes. *Faune Fr*. Paris, **V** : 404, fig. 158 h-n.

Material : 14 specimens collected from St. 2, 4 and 5 during December, 2000 to February, 2001.

Habitat : Boring into dead corals.

Description : Body 30-35 mm long. Anterior segments with red bars which fade in alcohol. Antennae and cirri smooth, without annulations; the longest or median one extends back to sixth segment. A pair of circular eyes at the outer bases of the median antenna. Tentacular cirri are smooth, extend forward not quite to the front of the prostomium. Branchiae are first present from the third parapodia and continue back to segment 45; they have 10 to 18 filaments. Acicula yellow with blunt tips, slightly curved. Acicular setae yellow and tridentate with small apical tooth. Compound setae falcigerous, distally bifid and covered with a pointed hood.

Remarks : This is the first record of the species from Indian waters.

Distribution : *Elsewhere* : Australia.

5. ***Eunice savigny*** Grube, 1878
(Fig. 3 a-f)

1878. *Eunice savigny*, Grube, Annulata Semperiana. Beitrage zur Kenntniss der Anneliden-fauna der Philippinen nach den von Herrn Prof. Semper mitgebrachten Sammlungen. *Mem. Acad. Sci. S. Peterb.*, **25** : 150; Ehlers, 1908, Die boden sassigen Annelidan aus der Sammlungen der deutschen Tiefsee-Expedition. *Wiss. Ergebn. dt. Tiefsee-Exped.*, Valdivia, **16** : 88, Pl. IX. fig. 7-13; Fauvel, 1932, Annelida polychaeta of the Indian Museum, Calcutta. *Mem. Indian Mus.*, **12** : 136.

Material : 8 specimens collected from St. 2 and 8 during December, 2000 to February, 2001.

Habitat : Boring into dead corals and beach rocks.

Description : Body 55-60 mm long. Prostomium has a deep cleft at its anterior margin. Prostomial antennae are annulated. Eyes are large, purplish brown. Branchiae first present from parapodium 3, have 6 filaments on the tenth, 8 on the twentieth, 7 on the thirtieth, 3 on the fortieth and absent after parapodium 50. Compound falcigers have a secondary tooth and distally rounded. Acicula thick and pointed. Subacicular setae are translucent yellow, distally bidentate and hooded; the subdistal tooth is large and directed laterally.

Remarks : This is the first record of the species from Andaman and Nicobar Island.

Distribution : India : Bombay.

Elsewhere : Philippines, Ceylon (Sri Lanka), Persian Gulf, South Africa.

6. ***Euniphysa tubifex*** Crossland, 1904
(Fig. 4 a-g)

1904. *Eunice tubifex* Crossland, On the marine fauna of Zanzibar and British East Africa from collection made by Cyril Crossland in the years 1901 and 1902. Polychaeta. Pt. III. *Proc. Zool. Soc., Lond* : 303, pl. 21 figs. 1-8; Day, 1951, The Polychaete fauna of South Africa. Part I: The intertidal and estuarine Polychaeta of Natal and Mosambique. *Ann. Natal. Mus.*, **12**(I) : 38.

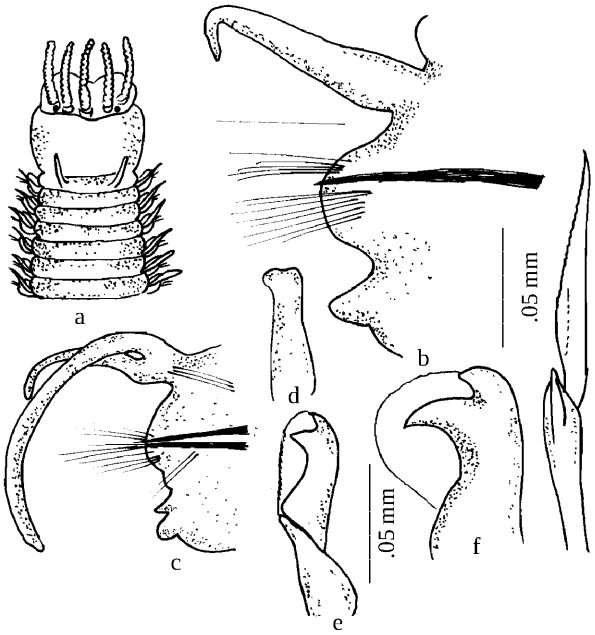

Fig. 4 : *Euniphysa tubifex*

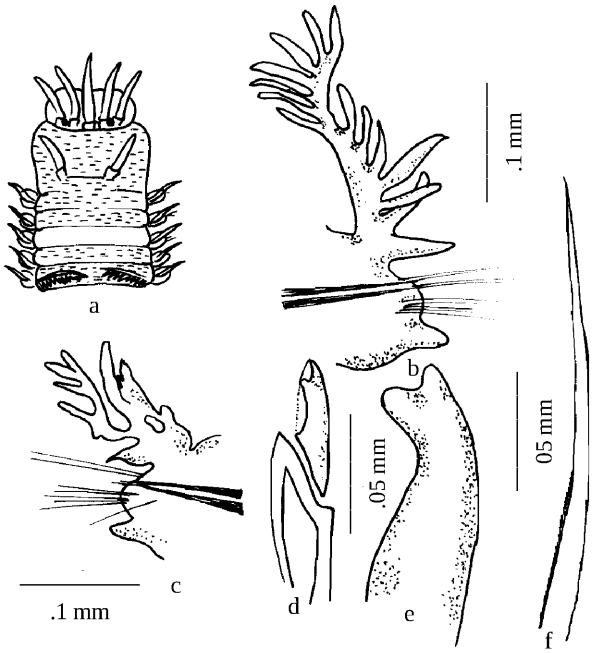

Fig. 5 : *Eunice coccinea*

Material : 21 specimens collected from St. 2 and 13 during December, 2000 to February, 2001.

Habitat : Boring into dead corals and beach rocks.

Description : Body 35-37 mm long. Antennae slender digitiform and deeply annulated. Branchiae from setigers 17 as single filament maximum 4 filaments by setiger 30; maximum number retained to posterior end of segments. Filaments longer than notoodial cirri, slender, filiform. Dorsal cirri without articulations. Limbate setae longer than all other setae, narrow, marginally smooth. Anterior parapodia with dense masses of compound spinigers. Shafts of spinigers slightly inflated, smooth, with distinct distal beaks. Spinigers replaced by compound falcigers from early branchial setigers. Shafts of falcigers inflated, marginally smooth, without distal peaks. Heads distinct, bidentate. Aciculae paired, thick, inferior aciculae black; superior aciculae light brown; all aciculae distally geniculate. Subacicular hooks slender, bidentate. Hooks first present from setiger 29.

Remarks : This is the first record of the species from Andaman & Nicobar Island.

Distribution : India : Gulf of Mannar and Krusadai Island.

Elsewhere : South Australia, Philippine Islands, Indian Ocean, Atlantic Ocean.

7. ***Eunice coccinea*** Grube, 1878

(Fig. 5 a-f)

1878. *Eunice coccinea* Grube, Annulata Semperiana. Beitrage zur Kenntniss der Anneliden-fauna der Philippinen nach den von Herrn Prof. Semper mitgebrachten Sammlungen. *Mem. Acad. Sci. S. Peterb.*, **25** : 153; Crossland, 1904, On the marine fauna of Zanzibar and British East Africa from collection made by Cyril Crossland in the years 1901 and 1902. Polychaeta. Pt. III. *Proc. Zool. Soc., Lond* : 297, Pl. 20. figs. 6-7, text figs. 46-51; *Fauvel*, 1953, *The fauna of India including Pakistan, Ceylon, Burma and Malaya* : 236, fig. 118a-e.

Material : 8 specimens collected from St. 10, 11 and 12 during December, 2000 to February, 2001.

Habitat : Crevices of both rocks and dead corals.

Description : Body 140-145 mm long. Anteriorly deep brown with white dots, a pale bar on the setiger 4. Prostomial lobes frontally rounded and dorsally inflated. Branchiae present, pectinate, distinctly longer than notopodial cirri. Branchiae from setiger 6 to end of body. Antennae and tentacular cirri smooth. First branchiae with 3 filaments; maximum 10 filaments at about setiger 15. The median and posterior acicular lobes short, rounded. Limbate setae slender. Shafts of compound falcigers tapering, marginally smooth. Acicular hooks amber colored to dark brown, bidentate hooks. Hooks first present from setiger 38-39.

Remarks : This is the first record of the species from Andaman & Nicobar Island.

Distribution : India : Lakshadweep.

Elsewhere : Red sea, Atlantic Ocean, Gulf of Guinea.

8. ***Eunice petersi*** Fauchald, 1992

1854. *Eunice punctata* Peters, Uber die Gattung *Bdella* Savigny, (*Limnatus*, Moquin-Tandon) und die in

Mossambique beobachteten Anneliden. *Mber. Akad. Wiss. Berlin*, : 611.

1957. *Eunice afra* var. *punctata* Day, The Polychaete fauna of South Africa. Part 4 : New species from Natal and Mosambique. *Ann. Natal Mus*., **14** : 89.

1992. *Eunice pertersi* Fauchald, A review of the genus Eunice (Eunicidae : Polychaeta) based upon type material. *Smithsonian Contributions to Zoology*, **523** : 267, fig. 89 a-i.

Material : 38 specimens collected from St. 1-8, 10-13 during December, 2000 to February, 2001.

Habitat : Boring into beach rocks and dead corals.

Description : Body 130-140 mm long for 181 segments, brown, dotted with tiny white punctations only over the anterior portion. Prostomial antennae smooth. Peristomial cirri about as long as the peristomial segment. Branchiae are first present from about segment 16, with 2-4 filaments; they are pectinately divided and attain a maximum of 8 filaments at setiger 30 ; the last 10 segments lack them. There are 2 acicula each of the first 28 to 30 parapodia, and only one in others. Acicular hooks are first present in segment 30; they are distally bidentate and subdistal tooth directed laterally. Other setae are of three kinds: slender capillary, pectinate, and bidentate compound falcigers in which the hood is distally rounded.

Remarks : Present material agree well with the original descriptions.

Distribution : India : Lakshadweep, Gulf of Mannar and Andaman & Nicobar Islands.

Elsewhere : South Africa.

9. ***Eunice paupera*** Grube, 1878

1878. *Eunice paupera* Grube, Annulata Semperiana. Beitrage zur Kenntniss der Anneliden-fauna der Philippinen nach den von Herrn Prof. Semper mitgebrachten Sammlungen. *Mem. Acad. Sci. S. Peterb*., **25** : 160.

1932. *Eunice afra* var. *paupera* Fauvel, Polychaeta of Indian Museum, Calcutta. *Mem. Ind. Mus.*, **12** : 135.

1992. *Eunice paupera* Fauchald, A review of the genus Eunice (Eunicidae : Polychaeta) based upon type material. *Smithsonian Contributions to Zoology*, **523** : 256-258.

Material : 45 specimens collected from St. 2-8, 11 and 12 during December, 2000 to February, 2001.

Habitat : Boring into beach rocks and dead corals.

Description : Body 100-120 mm long. Antennae smooth. Peristomial cirri short. Branchiae present from setiger 19, maximum 3-4 filaments, gradually decreasing posteriorly and completely absent on the last few setigers. Dorsal cirri long in first 4 setigers, as long as antennae, thereafter relatively short through remainder of prebranchial and early branchial setigers, increasing in length in segments with bifid and trifid branchiae, decreasing in length in far posterior setigers. Ventral cirri basally inflated in mid body, again becoming tapering in second half of body. Compound falcigers with short, bidentate appendages. Aciculae black. Subacicular hooks black, bidentate, first present from setiger 23.

Remarks : Present materials agree well with the earlier descriptions.

Distribution : India : Lakshadweep, Gujarat coast and Andaman & Nicobar Island.

Elsewhere : Red Sea, Malay Archipelago, Philippines, New Caledonia.

10. ***Marphysa mossambica*** (Peters, 1854)

1854. *Eunice mossambica* Peters, Naturwissenschaftliche Reise nach Mosambique in 1842 bis 1848 ausgeführt. Akademie der Wissenschaften zu Berlin, Monatsberichten : 610-614.

1903. *Marphysa mossambica* Crossland, On the marine fauna of Zanzibar and British East Africa from collection made by Cyril Crossland in the years 1901 and 1902. Polychaeta. Pt. I and II. *Proc. zool. Soc. Lond.*, : 139, pl. figs. 7-10.

Material : 16 specimens collected from St. 1, 4 and 13 during December, 2001 to February, 2002.

Habitat : Boring in dead corals and rocks.

Description : Body 270-350 mm in length and flattened after the first few segments, Anterior margin of head deeply bilobed. Five smooth antennae, 1.5 times prostomial length. Anterior parapodial gill absent. Gills appear on the 25th-33rd foot according to size, reach a maximum of six to eight filaments and persist to the end of the body. Setae are all simple capillaries through-out, all with very narrow striated blades. No comb-setae. Acicula shading from yellow to black with straight blunt ends. Acicula setae pale, bidentate and only half the thickness of the acicula, not present in all feet.

Remarks : Present material agree well with the earlier descriptions.

Distribution : India : Andaman & Nocobar Islands, Pondichery, Kilakarai, Gulf of Mannar, Tuticorin and Gangetic delta.

Elsewhere : Widely distributed in Indo-Pacific region, Red Sea, East Africa, Singapore, Fiji and Australia.

11. ***Marphysa macintoshi*** Crossland, 1903
(Fig. 6 a-d)

1903. *Marphysa macintoshi* Crossland, Crossland, On the marine fauna of Zanzibar and British East Africa from collection made by Cyril Crossland in the years 1901

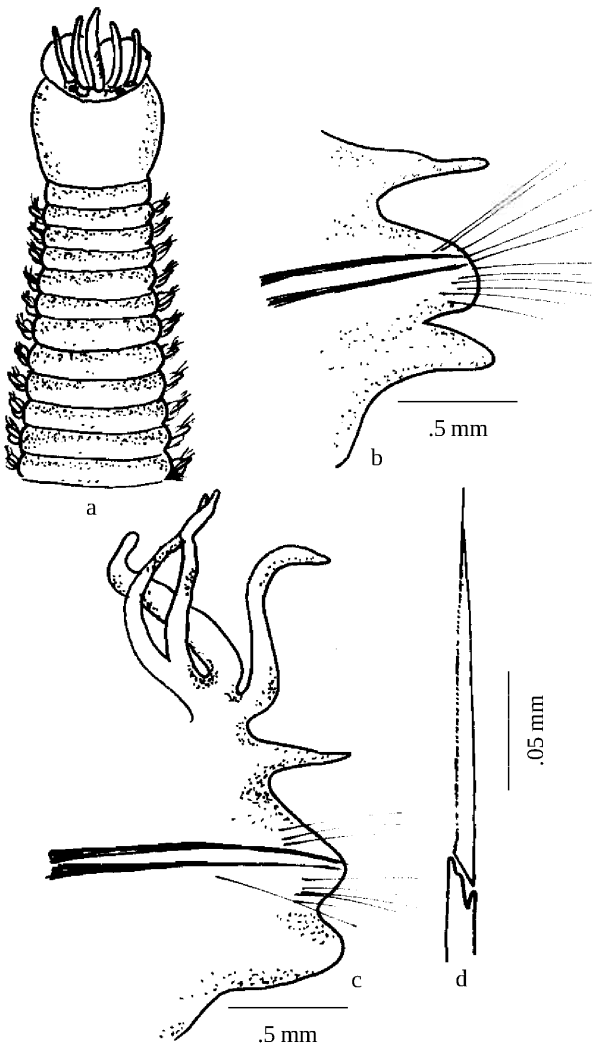

Fig. 6 : *Marphysa macintoshi*

and 1902. Polychaeta. Pt. I and II. *Proc. zool. Soc. Lond.*, : 137, pl. 14 figs. 3-6, text-figs. 12.

Material : 9 specimens collected from St. 4 and 11 during December, 2001 to February, 2002.

Habitat : Free living in sandy soil of lower littoral zone.

Description : Body 200-220 mm long, slender, rounded or somewhat flattened. Palps partially fused and the anterior margin of the head is not obviously bilobed. Antennae smooth, about as long as the prostomium. Eyes not defined. Mandibles normal. Anterior parapodial gill absent. Gills appear on 20th-50th foot according to size, reach a maximum of six filaments and gradually decrease towards the end of the body. Acicula bluntly pointed and brown with pale tips. A single brown unidentate acicula seta. Notosetae are winged capillaries and comb setae; neurosetae are compound spiniger with knife-shaped blades.

Remarks : Agrees well with the earlier description (Day, 1967). This is the first record of the species from Andaman and Nicobar Island.

Distribution : India : Krusadai Island, Pulicate Lake, Gopalpur (Orissa) and Lakshadweep.

Elsewhere : Philippnies, Australia, Singapore, Red Sea, East Africa.

12. ***Marphysa corallina*** (Kinberg, 1865)

1865. *Nauphanata corallina* Kinberg, Annulata nova. *Ofvers. K. Vetensk Akad. Forh.*, **21**(10) : 564.

1948. *Marphysa corallinaa* Hartman, The marine annelids erected by Kinberg with notes on some other types in the Sewdish State Museum. *Ark. Zool.*, **42**A(I) : 81, pl. 11 fig. 4-7.

Material : 12 specimens collected from St. 4 and 11 during December, 2000 to February, 2001.

Habitat : Boring in both beach rocks and dead corals.

Description : Body 200-220 mm long, the anterior part rounded and the posterior part flattened. Prostomium bilobed. Antennae smooth, about 1.5 times as long as prostomium. Gills star from 20th-50th foot according to size, reach a maximum of six filaments and continue to the posterior end with a reduced number of filaments. Comb setae with 20-25 teeth. Neurosetae compound falciger. Acicula dark with pale blunt tips, acicular setae pale and bidentate with small guards.

Remarks : Present material agree well with the Day (1967) descriptions.

Distribution : India : Andaman & Nicobar Islands, Visakhapatnam, Pondichery, Gulf of Mannar, Pamban, Tuticorin, Travancore, Daman, Marmagoa Bay, Gujarat, Cochin estuary. Lakshadweep and Gopalpur (Orissa).

Elsewhere : Indian and Atlantic Oceans, Mediterranean and Red Sea, Australia, New Caledonia.

13. ***Lysidice collaris*** Grube, 1870

1870. *Lysidice collaris* Grube, Beschreibung neuer oder wenig beakannten von Heron Ehrenberg gesammalter Anneliden aus den Rothen Meeres. *Mber. Akad. Wiss. Berlin*, : 495.

Material : 32 specimens collected from St. 1, 2, 5, 7, 8, 11 and 13 during December, 2000 to February, 2001.

Habitat : Boring in dead corals.

Description : Prostomium is distinctly bilobed in front and has two reniform eyes located near the outer base of the paired antennae. The 3 prostomial antennae are slender. Second dental plate with three heavy teeth. In anterior segments the dorsal cirri are slenderer than ventral ones. In posterior segments the dorsal cirri become shorter. Setae include capillary setae, bidentate

composite falcigers, comb setae and bidentate subacicular hooks are first present at setiger 21 and continue posteriorly.

Remarks : Present materials agree well with the Day (1967) descriptions.

Distribution : India : Andaman & Nicobar Islands, Kilakarai, Pamban, Gujarat coast and Gulf of Mannar.

Elsewhere : Indian Ocean, Pacific Ocean, Persian Gulf, Red Sea.

14. ***Lysidice ninetta*** Audouin & Milne Edwards, 1833

1833. *Lysidice ninetta* Audouin & Milne Edwards, Classification des Annelides et descriptions de celles qui habitent les cotes de la France. *Annls. Sci. Nat.*, **28** : 235.

Material : 23 specimens collected from St. 5, 8, 10 and 11 during December, 2001 to February, 2002.

Habitat : Boring in dead corals.

Description : Body 75-100 mm long, reddish with white spots and white bar on setiger 2 and 5. Prostomial antennae short, three in number, peristomial appendages and gills absent. Parapodia each with a bluntly conical dorsal cirrus, rounded ventral cirrus and a broad setigerous lobe. Setae include capillaries, pectinate setae, composite falcigers and bidentate acicular hooks. Acicula black with blunt tips. Bidentate subacicular hooks from setiger 22-25 onwards.

Remarks : Present materials agree well with the Day (1967) descriptions.

Distribution : India : Lakshadweep, Kilakarai, Pamban and Andaman & Nicobar Isalnds.

Elsewhere : Red Sea, Indo- West Pacific, North Atlantic, North Carolina, Mediterranean Sea, Angola.

15. ***Nematonereis hebes*** Verrill, 1900 (Fig. 7 a-e)

1840. *Lumbriconereis unicornis* Grube, *Actinien Echinodermen und Wiirmen des Adriatischen und Mittlelmeeres* : 80.

1861. *Nematonereis unicornis* Schmarda, *Neue wirbellose Thiere beobschtet und gesammelt auf einer Reise um die Erde* 1853 *bis* 1857. I. *Turbellarien, Rotatirien und Anneliden*, 164 pp.

1900. *Nematonereis hebes* Verrill, Additions to the Turbellaria, Nemertina, and Annelida of the Bermudas, with revisions of some New England genera and species. Transactions of the Connecticut Academy of Arts and Sciences, **10**(2) : 595-671.

Material : 9 specimens collected from St. 2, 5 and 12 during December, 2001 to February, 2002.

Habitat : Boring in dead corals and seagrass soft sediments.

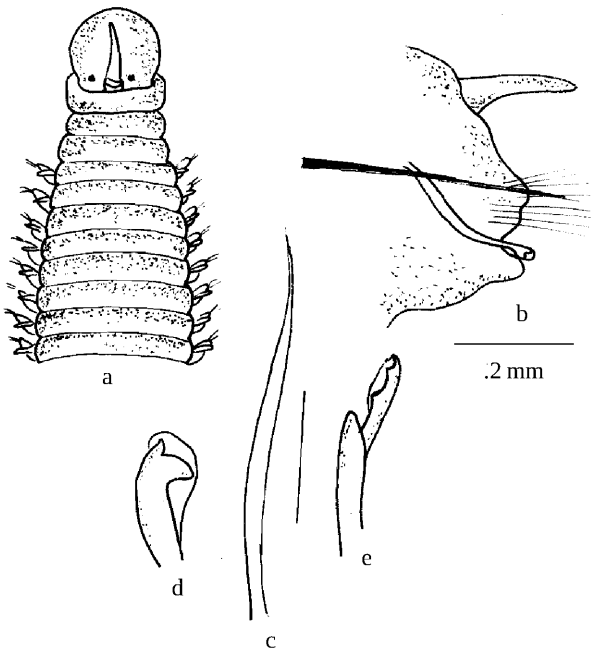

Fig. 7 : *Nematonereis hebes*

Description : The body is filiform and about 50 mm long; orange anteriorly and greenish posteriorly. The prostomium is depressed oval and has a single short antenna (Fig. 7.a). A pair of semicircular eyes located on the postlateral part of the prostomium, behind the antennal base. There are no tentacular cirri. Parapodia have digitiform dorsal cirri and short, conical ventral cirri; branchiae are lacking (Fig. 7.b). Superior setae include winged capillary (Fig. 7.c) and broad comb setae. Inferior seate bidentate hooded falcigers (Fig. 7.e). Subacicular hooks usually occur singly in a fascicle; they are black, distally bidentate and hooded (Fig. 7.d), and first present in segment 20 and continue to the end.

Remarks : This is the first record of the species from Andaman & Nicobar Islands.

Distribution : India : Gulf of Mannar, Pamban, Krusadai Island and Cheval Paar.

Elsewhere : Australia, Malay Archipelagao, Indo-China, Indian Ocean, Suez Canal, Mediterranean Sea.

16. ***Lumbrineris tetraura*** (Schmarda, 1861)

1861. *Notocirrus tetraurus* Schmarda, Schmarda, *Neue wirbellose Thiere beobschtet und gesammelt auf einer Reise um die Erde* 1853 *bis* 1857. I. *Turbellarien, Rotatirien und Anneliden* : 117, 6 figs.

1868. *Lumbriconereis impatiens* Claparede, Les Annelides chetopodes du Golfe de Naples. *Mem. Soc. Phys. Hist. nat., Geneve*, 19(2) : 445; Fauvel, 1923, Polychetes errants. *Faune Fr.*, **5** : 429, fig. 171 a-l.

1953. *Lumbriconereis tetraura* : Day, The Polychaete fauna of South Africa. Part 2 : Errant species from Cape shores and estuaries. *Ann. Natal Mus.*, **12**(3) : 435.

Material : 9 specimens collected from St. 4, 6 and 11 during December, 2002 to February, 2003.

Habitat : Littoral soft sediments.

Description : Prostomium pale, short, blunt, depressed conical. Parapodia are obvious throughout, even from the first, where they have a broad, postsetal lobe and spreading setal fascicles. Simple winged capillary, hooded hooks are present from the first segment and 3 acicula. Fifth parapodium is provided with 7 to 10 hooks in addition to superior and inferior limbate setae. The presetal lobe is a short, compressed pad. The postsetal lobe is a broad, oblique, acicular lobe, directed outward; this form is maintained through about 20 segments; after that it is elongate and more slender, erect. The parapodial base becomes elongate in a similar way further back, but directed laterally. Setae and acicula are clear yellow. The simple hooks in anterior segments shorter, stouter hooks occur between parapodia 25 and 40. Limbate setae are absent after segment 61. Posterior parapodia are provided with only simple, hooded hooks, with many small teeth distally.

Remarks : Present materials agree well with the Day (1967) descriptions.

Distribution : India : Ganjam, Andaman & Nicobar Islands, Visakhapatnam and Vellar estuary.

Elsewhere : Gulf of Mexico & South West Africa.

17. ***Arabella iricolor*** (Montagu, 1804)

1804. *Nereis irricolar* Montagu, Descriptions of several marine animals found on the south coast of Devonshire. *Trans. Linn. Soc. Lond.*, **7** : 82.

1923. *Arabella irricolar* Fauvel, Polychetes errants. *Faune Fr.*, **5** : 438, fig. 175 a-h.

Material : 11 specimens collected from St. 1 and 8 during December, 2002 to February, 2003.

Habitat : Boring in dead corals.

Description : Body color grey iridescent. Body is long, cylindrical and measures 60 mm for 100 segments. Prostomium bluntly conical with 4 eyes in a transverse row along its posterior margin, there are no appendages. First 1-2 segments achaetous, dorsal cirri rudimentary, ventral cirri absent. Parapodia bilobed with unequal lobes. Setae are only simple limbate and geniculate, with serrations at the base of the wing.

Remarks : Agrees well with the description of Day (1967).

Distribution : India : Andaman & Nicobar Islands, Gulf of Mannar, Waltair coast, Madras coast, Visakhapatanam, Krusadai island, Pamban, Shingle Island and Godavary estuary.

Elsewhere : Pacific, Atlantic and Indian Oceans, Australia, Japan, Marshall Island, Mediterranean Sea, British Channel.

DISCUSSION

In the present study 17 species were collected from the Great Nicobar Island, of which 6 species are new records to entire Andaman & Nicobar Islands of which one species is a new record to Indian waters. Earlier studies on polychaetes of Andaman and Nicobar Islands, (except for the Great Nicobar Island) has been compiled by Soota *et al.* (1980). Of the 161 species listed by him only 26 species from order Eunicida due to the fact that several different ecosystems had been sampled. Eunicida collected from Great Nicobar Island shows a distinct distribution based on the kind of substrate like coral reefs, mangroves, sandy substrate and sea grass beds. The substrates play an important role in determining the species composition of various habitats (Sanders, 1958).

One of the main problem in studying the infauna of coral reefs is taking the Eunicida out of the coral colony without damaging them which will render it difficult for identification. Eunicida are really the most important boring animals in coral rocks (Ebbs,1966). Coral destruction by polychaetes has been observed by Hutching (1986) from Great Barrier reef of Australia. In the present study, 15 species of polychaetes were collected from coral habitats. The most important coral degrading polychaete belongs to the family is Eunicidae (Hartman, 1954). Boring is effected chiefly by the abrasion action of hard pharyngeal structures, such as those possessed by nereids and eunicids (Ebbs, 1966). Although there is little published information on the polychaete fauna of coral reef present work has indicated that it supports a rich and diverse fauna of polychaetes. The importance of the boring activity of polychaetes was recognized by Hutching (1986) who regards them as the “prime and most effective agents” in the destruction of corals. This view is also being supported by Vittor and Johnson (1997).

Observations based on substratum preference by Eunicida revealed that dead corals harbored the largest number of Eunicida. This is probably because corals

are hard, stable substrates that are elevated from the sea bottom avoiding the loose sandy silty particles entering inside the tubes. Corals also provide a good protection from predators. At the time of settlement, the larvae are very much susceptible to predation and to being dislodged by water currents. Algae that are present on the dead coral also provide protection against water current and predators to the pelagic larvae of Eunicida at the time of settlement and initial penetration into coral. As these Algae are found only on the surface of dead coral, Eunicida give more preference to dead coral rather than live coral. Hutchings (1981) also observed most Eunicida in dead corals from Great Barrier Reef.

SUMMARY

The present paper deals with 17 species of polychaetes of the Order, Eunicida. Six species are recorded for the first time from entire Andaman & Nicobar Islands of which one species is a new record to Indian waters.

ACKNOWLEDGEMENTS

We thank the Director Dr. T. Balasubramanian, CAS in Marine Biology, Annamalai University for providing facilities. First author thanks to Ministry of Environment & Forest, Government of India for fellowship during the study period.

REFERENCES

Daniel, A. and A. Ghosh, 1964. On some Polychaetes from Little Andamans. *Curr. Sci.*, **33**(8) : 249.

Day, J.H., 1967. A monograph on the Polychaeta of Southern Africa. Pts. I and II, *Brit. Mus. (Nat. Hist.), Publ.* No., **656** : 1-878.

Ebbs, N.K., Jr., 1966. The Coral inhabiting polychaetes of the northern Florida reef tract. Part I. Aphroditidae, Polynoidae, Amphinomidae, Eunicidae and Lysaretidae. *Bull. Mar. Sci.*, **16**(3) : 485-555.

Fauvel, P. 1932. Polychaeta of Indian Museum, Calcutta. *Mem. Ind. Mus.*, **12** : 1-262.

Fauvel, P., 1953. Annelida Polychaeta. The Fauna of India including Pakistan, Ceylon, Burma and Malaya. The Indian Press Ltd., Allahabad. 507pp.

Hartman, O., 1954. Marine annelids from the northern Marshall Islands. *Prof. Pap. U.S. geol. Surv.*, **260**-Q : 615-644.

Hutchings, P.A, 1981. Polychaete recruitment on to dead coral substrates at Lizard Island, Great Barrier reef, Australia. *Bull. Mar. Sci.*, **31**(2) : 410-423.

Hutchings, P.A., 1986. Biological destruction of Coral reefs : A review. *Coral reef*, **4** : 239-252.

Kumaraswamy Achari, G.P., 1969. Catalogue of polychaetes in the reference collections of the Central Marine Fisheries Research Institute. *Bull. Cent. Mar. Fish. Res. Inst.*, **7** : 31-40.

Misra, A., 1995. Polychaete fauna of Hugli-Malta Estuary, West Bengal. *Zool. Surv. India, Estuarine Ecosystem Series*, Part 2 : 93-155.

Misra, A. and R.K., Chakraborty, 1983a. Further records of polychaetes from Gujarat coast. *Rec. zool. Surv. India*, **81**(1&2) : 69-75.

Misra, A. and R.K., Chakraborty, 1983b. Notes on the tubicolous polychaete *Pectinaria (Pectinaria) antipoda* Schmarda from Lakshadweep, Arabian sea. *Rec. zool. Surv. India*, **81**(1&2) : 325-330.

Misra, A. and R.K., Chakraborty, 1991. Polychaetes from Lakshadweep. Fauna of Lakshadweep. Zool. Surv. India, *State Fauna series*, **2** : 137-165.

Misra, A., R.K., Chakraborty and T.D., Soota, 1987. Fauna of Orissa : Polychaeta, Zool. Surv. India, *State Fauna Series*, **1**: 69-89 .

Nageswara Rao, C.A. 1998. Polychaete fauna of Mahanadi Estuary, Orissa. Zool. Surv. India, *Esturine Ecosystem Series*, **3** : 199-209.

Nageswara Rao, C.A. and T.D., Soota, 1977. On some polychaetes from Tamil Nadu coast. *Newsl. zool. Surv. India*, **3**(5): 331-335.

Nageswara Rao, C.A and T.D., Soota, 1981. On some polychaetes from Gujarat Coast. *Rec. zool. Surv. India*, **79** : 73-82.

Parulekar, A.H., 1971. Polychaete from Maharashtra and Goa. *J. Bombay nat. Hist. Soc.*, **68**(3) : 726-749.

Rajasekaran and O.J., Fernando, 2009. Polychaetes (Annelida) from Great Nicobar Island, India : I. Family : Nereidae. *Rec. zool. Surv. India*, **108**(4) : 21-36.

Sanders, H.L., 1958. Benthic studies in Buzzards Bay, I. Animal–Sediment relation ships. Limnology and Oceanography, **3** : 245-258.

Soota, T.D. and C.A. Nageswara Rao, 1977a. On some polychaetes from Andaman and Nicobar islands. *Rec. zool. Surv. India*, **73**(1-4) : 197-210.

Soota, T.D. and C.A., Nageswara Rao, 1977b. On some polychaetes from Orissa coast. *Rec. zool. Surv. India*, **73**(1-4) : 327-336.

Soota, T.D., A., Misra and R.K., Chakraborty, 1980. Polychaete fauna of Andaman and Nicobar islands. *Rec. zool. Surv. India.*, **77** : 55-69.

Soota, T.D., A., Misra and R.K., Chakraborty, 1981. Polychaete fauna of Gujarat coast. *Rec. zool. Surv. India.*, **79**(1&2) : 93-104.

Southern, R., 1921. Polychaeta of the Chilka Lake and also of fresh and brackish waters in other parts of the India. *Mem. Indian Mus*., **5**(8) : 563-659.

Sunder Raj, S.K. and P.J., Sanjeeva, Raj, 1987. Polychaeta of the Pulicat Lake (Tamil Nadu). *J. Bombay nat. Hist. Soc*., **84**(1) : 84-104.

Tampi, P.R.S. and K., Rangarajan, 1964. Some polychaetous annelids from the Andaman waters. *J. mar. biol. Ass. India*, **6**(1) : 98-123.

Vittor, B.A., and P.G., Johnson, 1997. Polychaete abundance, diversity and trophic role in Coral reef communities at Grand Bahama Island and the Florida middle Ground. *Proc. Third Inter. Coral reef Sym.* Rosenstical School of Marine and Atm. Science Uni. Of Miami, : 163-168.