



FURTHER RECORDS OF POLYCHAETES FROM GUJARAT COAST

*By*

A. MISRA AND R. K. CHAKRABORTY  
*Zoological Survey of India, Calcutta.*

(With 10 Text-figures)

Our knowledge of the polychaete fauna of Gujarat coast is limited with about 65 species now recorded (Dalal and Dubale, 1975 & 1976 ; Rao and Soota, 1981 ; Soota, Misra and Chakraborty, 1981). While studying the unnamed polychaete material collected from different coral-inhabited regions of Gujarat coast, we came across several specimens hitherto not recorded from the area (marked with an asterisk) and few others with some unrecorded structural variations.

Although the polychaetes are not the dominant fauna of a particular habitat, they have certain important place in the complex food chain prevailed in that area. Moreover, the variety and abundance of species present can be used as an indication of the cleanliness of the environment in which they live (Moore, 1972).

SYSTEMATIC ACCOUNT

Family : AMPHINOMIDAE

\* ***Euphrosyne myrtosa*** Savigny, 1818

*Euphrosyne myrtosa* Savigny, 1818, *Histoire naturelle des animaux sans vertebres* : 332 ; Fauvel, 1953, *The Fauna of India, Annelida, Polychaeta* : 101.

*Material* : 1 ex., ZSI Reg. No. An 1387/1 ; Veraval, Port area ; B. P. Halder ; 24.1.1978.

*Remarks* : Earlier recorded from Tamil Nadu coast.

Family : NEREIDAE

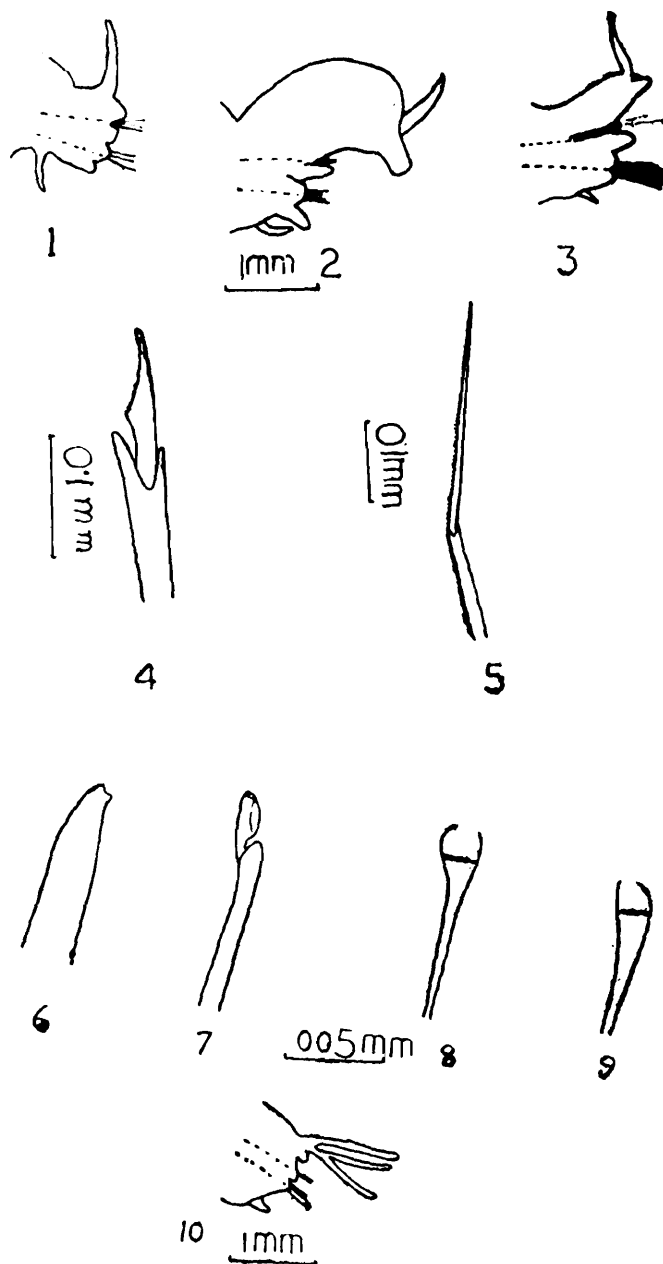
***Nereis (Neanthes)*** sp.

(Text-figs. 1-5)

*Material* : 1 ex. ; ZSI. Reg. No. An 1445/1, Jalandar, Fort Diu ; B. P. Halder ; 27.1.1978.

*Description* : Length 90 mm ; body colour pale brown ; arrangement of the paragnaths on the proboscis is as : Gr I=2 points, Gr. II=4 oblique rows of conicals, Gr. III=3 transverse rows of conicals, Gr. IV=3 rows and few irregularly arranged conicals, Gr. V=nil, Gr. VI=3

points in one side and very faint in another side, Gr. VII & Gr. VIII = a single row of 7 conicals; anterior feet with two lobes and a large dorsal cirrus, the superior lobes gradually expanding with longer dorsal cirrus towards the posterior end where it lamellate, in mid-posterior region it is globular in about 8 to 10 segments; notosetae homogomph spinigers throughout, neurosetae include both spinigers and falcigers.



Text-figs. 1. Anterior feet of *Nereis (Neanthes)* sp. 2. Mid-posterior feet of *Nereis (Neanthes)* sp. 3. Posterior feet of *Nereis (Neanthes)* sp. 4. Falciger of *Nereis (Neanthes)* sp. 5. Spiniger of *Nereis (Neanthes)* sp. 6, 7, 8. Simple, compound and comb setae of *Eunice* sp. 9, 10. Feet with gills and comb setae of *Marphysa sanguinea*.

*Remarks*: This species is closely related to *N. (Nereis) coutierei* Gravier particularly with respect to the arrangement of paragnaths. But the absence of notopodial falcigers from the posterior feet, the structure of anterior, mid-posterior and posterior parapodia and large size of the species under study distinctly differentiate them.

\* *Nereis (Neanthes) willeyi* Day, 1934

*Nereis willeyi* Day, 1934, *J. Linn. Soc. zool.*, 39 : 39.

**Material** : 1 ex., (heteronereis) ; Z. S. I. Reg. No. An 1388/1 ; Veraval ; *B. P. Haldar* ; 24.1.1978.

**Description** : Arrangement of the paragnaths on the proboscis is as : Gr. I=0, Gr. II=3-4 conicals forming an oblique double row, Gr. III=an oval patch ; Gr. IV=a wedge-shaped cluster ; Gr. V=O, Gr. VI=rosette of six, Gr. VII & VIII=3 to 4 irregular rows of numerous dots.

**Remarks** : First record of the heteronereis stage of this species from the Indian waters (Puri), is by Soota & Rao (1977).

\* *Nereis (Nereis) coutierei* Gravier, 1899

*Nereis coutierei* Gravier, 1899, *Bull. Mus. Hist. nat.*, 5 : 237 ; Fauvel, 1953, *The Fauna of India, Annelida, Polychaeta* : 187.

*Nereis (Nereis) coutierei*, Day, 1967, *Brit. Mus. (Nat. Hist.) Lond.*, Publ. No. 656 : 311.

**Material** : 2 exs, ZSI. Reg. No. An 1381/1 ; Veraval ; *B. P. Haldar* ; 24.1.1978.

**Remarks** : Earlier recorded from Andamans and Gulf of Mannar.

\* *Perinereis cultrifera* (Grube, 1840)

*Nereis cultrifera* Grube, 1840, *Actinien Echinodermen...Mittelmeeres* : 74 ; *Perinereis cultrifera*, Fauvel, 1953, *The Fauna of India, Annelida, Polychaeta* : 206.

**Material** : *P. cultrifera* var. *typica* (Grube, 1840)—1 ex ; ZSI. Reg. No. An 1228/1 ; Wanakbara beach, Diu ; *B. P. Haldar* ; 26.1.1978. 1 ex. ; ZSI Reg. No. An 1385/1 ; Jalandar beach, Fort Diu ; *B. P. Haldar* ; 27.1.1978.

*P. cultrifera* var. *floridana* Ehlers, 1887—1 ex ; ZSI Reg. No. An 1221/1 Jalandar beach, Fort Diu ; *B. P. Haldar* ; 27.1.1978.

*P. cultrifera* var. *helleri* Grube, 1878—1 ex ; ZSI Reg. No. An 1235/1 ; Jalandar beach, Fort Diu ; *B. P. Haldar* ; 27.1.1978.

**Remarks** : All the three varieties are recorded for the first time from the area. Earlier records of *typica* from Andamans and Cape comorin ; of *floridana* from Cape comorin and of *helleri* from Andamans, Gulf of Mannar and Bombay Harbour.

***Perinereis nuntia* (Savigny, 1820)**

*Lycoris nuntia* Savigny, 1820. *Systeme des annelides...Syrie, etc.* 33 ; *Perinereis nuntia*, Fauvel, 1953, *The Fauna of India, Annelida, Polychaeta* : 212.

**Material** : *P. nuntia* var. *typica* Savigny, 1820—2 exs, Z. S. I. Reg. No. An 1446/1, Adatara, Okha ; *Daniel & Party* ; 11.11.1968.

*P. nuntia* var. *brevicirris* (Grube, 1867)—3 exs. ZSI Reg. No. An 1447/1 ; Pirotan Is. ; Daniel & Party ; 17.11.1968.

*P. nuntia* var. *heterodonta* Gravier, 1901—1 ex. ZSI Reg. No. An 1448/1 ; Veraval ; Daniel & Party ; 26.11.1968.

*P. nuntia* var. *vallata* (Grube, 1857)—1 ex ; ZSI Reg. No. An 1449/1 ; Gopnath ; Daniel & Party ; 30.11.1968.

*Remarks* : *Perinereis nuntia* (Savigny) is reported to occur in Gujarat coast. But there is no record of any variety from the area. Earlier records of *typica* from Andamans, Orissa coast, Gulf of Mannar, Pamban, Tuticorin and Bombay coast ; of *brevicirris* from Andamans, Gulf of Mannar, Cape comorin, Tuticorin and Bombay coast ; of *vallata* from Bombay coast. *P. nuntia* var. *heterodonta* is recorded for the first time from the Indian waters.

#### \**Pseudonereis rotnestiana* Augener, 1913

*Pseudonereis rotnestiana* Augener, 1913. *Die Fauna Sudwest-Australiens*, 4 : 184 ; Fauvel, 1953, *The Fauna of India, Annelida, Polychaeta* : 217.

*Material* : 1 ex. ; ZSI Reg. No. An 1389/1 ; Jolandar, Fort Diu ; B. P. Haldar ; 27.1.1978. 3 exs. ZSI Reg. No. An 1382/1 ; Okha beach ; K. N. Reddy ; 12.4.1977. 5 exs ; ZSI. Reg. No. An 1390/1 ; Veraval ; B. P. Haldar ; 24.1. 1978.

*Description* : Arrangement of paragnaths on the proboscis is as Gr. I=2-5 conicals, Gr. II=an oval patch of pectinate and conicals, Gr. III=4 distinct rows of pectinates, Gr. IV=several rows of small pectinates and a few conicals in front, Gr. V=nil, Gr. VI=5-6 conicals in a row, Group VII & VIII=Two alternating rows of large conicals ; anterior feet with two rounded unequal notopodial lobes and long dorsal cirrus, the superior lobe is gradually becoming large and flattened and then lamellated with the dorsal cirrus in a terminal notch ; notosetae homogomph spinigers throughout and neurosetae stout falcigers with short blades and homogomph spinigers.

*Remarks* : This is the first record of the species from the peninsular region of India. Earlier record is from the Andamans.

#### Family NEPHTYIDAE

#### \**Nephtys (Nephtys) polybranchia* Southern, 1921

*Nephtys polybranchia* Southern, 1921, *Mem. Indian Mus.* 5 : 607 ; Fauvel, 1953, *The Fauna of India, Annelida, Polychaeta* : 227.

*Material* : 1 ex. ; ZSI Reg. No.—An 1383/1 ; Umbargaon ; B. P. Haldar ; 12.2.1978.

*Remarks* : The camerated setae are not restricted to the anterior feet, as is recorded in original description. Here, these are gradually diminished in number towards the posterior end. Earlier recorded from Gangetic delta, Chilka lake, Vizagapatnam and Cochin back waters.

Family EUNICIDAE

**Eunice** sp.

(Text-figs. 6-8)

*Material* : 1 ex (incomplete) ; ZSI Reg. No. An 1444/1 ; Okha beach ; 13.8.1972.

*Description* : Body with 65 segments, gills begin about 16th foot, all simple, very long and persist to the last segment, dorsal cirri long but gradually decrease towards the posterior end ; acicular setae faintly bidentate, simple setae, compound falcigers and comb setae present.

*Remarks* : Setae characters resembling the species *E. marenzelleri* Gravier. But the origin of gill on the 28th foot differentiate this species from the species under study.

**Marphysa sanguinea** (Montagu, 1815)

(Text-figs. 9 & 10)

*Nereis sanguinea* Montagu, 1815, *Trans. Linn. Soc. Lond.* II : 20.

*Marphysa sanguinea*, Fauvel, 1953, *The Fauna of India, Annelida, Polychaeta* ; 245.

*Material* : 1 ex. ; ZSI Reg. No. An 1384/1 ; Mithapur beach, Okha ; K. N Reddy ; 11.4.1977.

*Description* : Numerous comb setae with fine teeth ; gills starting from 24th feet, gradually increasing only upto with 3-4 filaments and gradually decreasing towards the hind part of body.

*Remarks* : The fine teeth in the comb setae and gills with comparatively less number of filaments may be considered as variations due to different eco-niches. So far recorded from Andamans, Andhra and Gujarat coast.

Family CIRRATULIDAE

\* **Cirriformia filigera** (Delle Chiaje, 1825)

*Cirriformia filigera* Delle Chiaje, 1825, *Memorie Salla...Napoli*, 3 : 178.

*Audouinia filigera*, Fauvel, 1953. *The Fauna of India, Annelida, Polychaeta* : 331.

*Cirriformia filigera* Day, 1967, *Brit. Mus. (nat. Hist.) London Publ.* No. 656 : 518.

*Material* : 5 exs., ZSI. Reg. No. An 1450/1 ; Dwaraka ; Daniel & party ; 14.11.1968.

*Remarks* : Earlier recorded from Andamans, Rameswaram Island, Cape camorin.

**\*Cirriformia punctata (Grube, 1859)**

*Cirratulus punctatus* Grube, 1859, *Annulata oerstediana* : 107.

*Audouinia semicineta*, Fauvel, 1953, *The Fauna of India, Annelida, Polychaeta* : 330 ;  
*Cirriformia punctata*, Day, 1967. *Brit. Mus. (nat. Hist.) London Publ. No. 656* : 517.

*Material* : 1 ex., ZSI. Reg. No. An 1451/1, Dwaraka ; *Daniel* and party ; 14.11.1968.

*Remarks* : This is the first record of the species from the peninsular region of India. Earlier recorded from the Andamans.

## Family SABELLIDAE

**\*Hypsicomus phaeotaenia (Schmarda, 1861)**

*Sabella phaeotaenia* Schmarda, 1861 *Neve, Wirbellare um die Erde* : 35.

*Hypsicomus, phaeotaenia*, Fauvel, 1953, *The Fauna of India, Annelida, Polychaeta*, : 447.

*Material* : 1 ex., ZSI Reg. No. 1386/1 ; Veraval ; *B. P. Haldar* ; 24.1.1978.

*Remarks* : Earlier recorded from the Andamans, Gulf of Mannar, Pamban, Kilakarai.

## SUMMARY

The present paper deals with 11 species belonging to 8 genera and 6 families, of which 9 recorded for the first time from Gujarat and the rest showed interesting variations. Among the 7 varieties under 2 species reported here, 6 form new locality records including 1 from the Indian waters. Structural variations and distribution within India, are also included.

## ACKNOWLEDGEMENTS

We are grateful to Dr. B. K. Tikader, Director, Zoological Survey of India, Calcutta for his kind permission in the completion of this work. We are also indebted to Dr. T. D. Soota, Deputy Director, Zoological Survey of India, Jodhpur for his kind help and encouragement during the course of study.

## REFERENCES

- DALAL, N. M. & DUBALE, M. S. 1975. Polychaetes of Saurashtra sea coast. *Proc. 62nd Indian Sci. Congr. Ass.*, Abstracts, III : 185.
- DALAL, N. M. & DUBALE, M. S. 1976. Polychaetes of Saurashtra sea coast. *Proc. 63rd Indian Sci. Congr. Ass.*, Abstracts, III : 216.