

POLYCHAETE FAUNA OF GUJARAT COAST

*By*

T. D. SOOTA, A. MISRA AND R. K. CHAKRABORTY

*Zoological Survey of India, Calcutta*

(With 1 Text-figure)

INTRODUCTION

Our knowledge of the polychaete fauna of Gujarat coast is mainly based on the works of Fauvel (1953) and Rao and Soota (1981). Some additional records have also been listed by Dalal and Dubale (1975 and 1976). The polychaete fauna of Gujarat coast has some resemblance to that of Gulf of Mannar and the Andaman and Nicobar Islands, and this similarity may be to some extent due to the occurrence of coral reefs in all these areas.

The present paper deals with 25 species of polychaetes from the unnamed collection of the Zoological Survey of India, of which four show interesting variations and twelve form new locality records for the area including two for the Indian waters. An upto date list of the species of polychaetes so far known from Gujarat coast has also been given.

SYSTEMATIC ACCOUNT

Family APHRODITIDAE Savigny, 1818

Subfamily POLYNOINAE Malmgren, 1867

**Lepidonotus tenuisetosus** (Gravier, 1901)

*Material* : 10 exs. ; Z. S. I. Reg. No. An 1063/1 ; locality—west of Ghogla (Diu) ; habitat—among algal weeds alongwith isopods ; coll. *B. P. Haldar* ; 29. i. 1978. 1 ex. ; Z. S. I. Reg. No. An 1121/1 ; locality—Diu-fort ; habitat—within crevices in rock boulders ; coll. *B. P. Haldar* ; 26. i. 1978.

*Description* : A small bulb-like projection placed ventrally on either side of each segment from 7th to the last.

*Remarks* : Earlier reported from Andaman Islands ; Port Canning, Sundarbans ; off Puri, Orissa ; Tamil Nadu ; and Gujarat.

**Lepidonotus (Thormora) jukesi** (Baird, 1865)

*Material* : 3 exs. ; Z. S. I. Reg. No. An 1093/1 ; locality—Jaleshwar beach, Veraval ; habitat—within crevices in coral rocks along mid-littoral zone ; coll. *B. P. Haldar* ; 21. i. 1978.

*Description* : Elytra tough, unfringed, and covering body completely ; notosetae of two kinds, neuroseta of one.

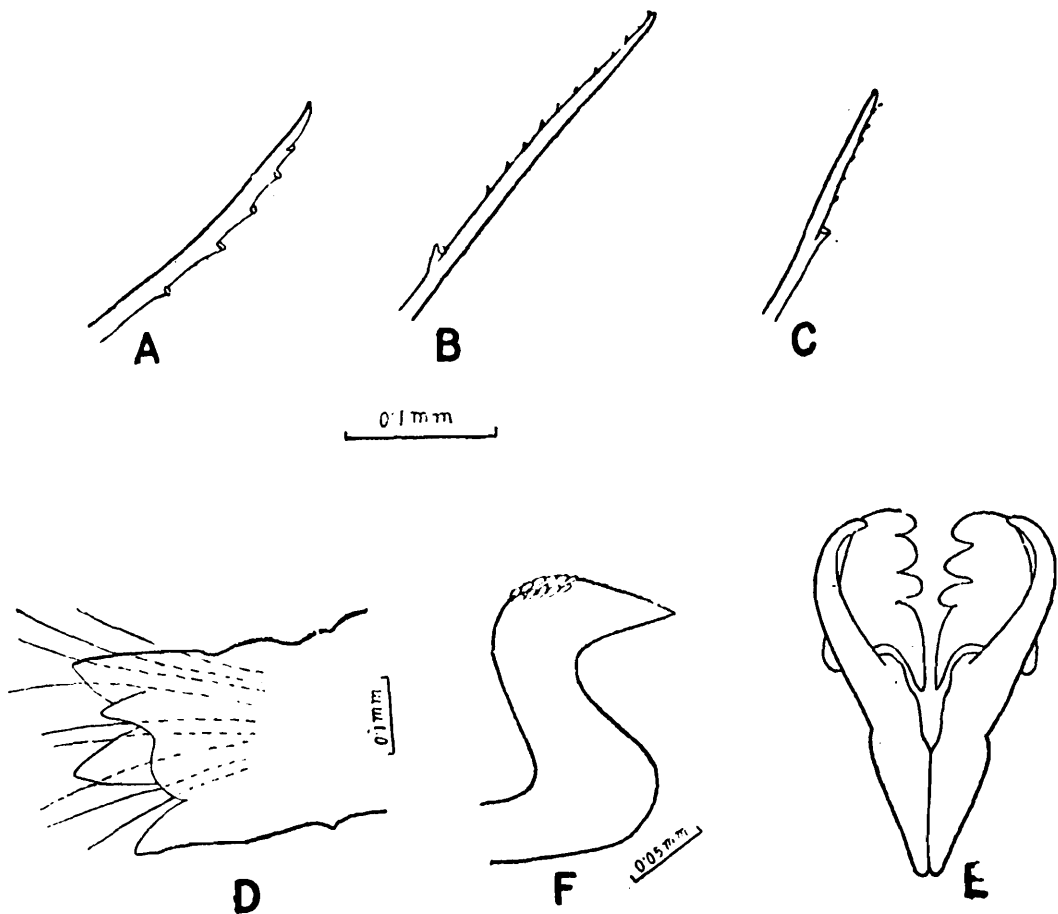
*Remarks* : Earlier reported from Andaman Islands and Gujarat.

**Scalisetosus fragilis** (Claparède, 1868)

(Text-fig. 1 A—C)

*Material* : 1 ex. ; Z. S. I. Reg. No. An 1094/1 ; locality—Vanakbara ; habitat—within dead oyster rocks formed over boulders in mid-littoral mud flat ; coll. B. P. Haldar ; 26. i. 1978.

*Description* : Body very fragile ; antenna three; median longest ; dorsal cirri not observable due to fragility ; elytra very delicate, with very small papillae and fringes ; notosetae stout with 6-8 very coarse spinous pockets, with basal one largest ; neurosetae of two kinds,



Text-fig. 1.—(A—C) *Scalisetosus fragilis* (Claparède), A. Notosetae, B. Superior neurosetae, C. Inferior neurosetae ; D. *Glycera tessellata* (Grube) Parapodium from mid-body ; E. *Lysidice natalensis* Kinberg, mandible ; F. *Branchiomma serratibranchis* (Grube) thoracic uncini.

superior with large spinous pockets towards base, body with vestigial serrations and finely bidentate tip ; inferior with short unidentate tip, fine serrations, and only one basal spinous pocket.

Though the present specimen shares setal characters both with *S. longicirrus* and *S. fragilis*, in all other characters it resemble the latter, to which, therefore, it is referred.

*Remarks* : This is the first record of the species from Gujarat coast. It was earlier reported as *S. pellucidus* (Ehler) from Andaman Islands, and Kilakarai, South India.

Family AMPHINOMIDAE Savigny, 1818

**Eurythoe complanata** (Pallas, 1766)

*Material* : 1 ex. ; Z. S. I. Reg. No. An 1095/1 ; locality—Nagoa (Diu) ; habitat—within crevices in boulders ; coll. *B. P. Haldar* ; 29. i. 1978.

*Remarks* : Commonly found on coral reefs of the Indian mainland and the Andamans.

Family PHYLLODOCIDAE Williams, 1851

Subfamily PHYLLODOCINAE Williams, 1851

**Eulalia viridis** (Linnaeus, 1767)

*Material* : 1 ex. ; Z. S. I. Reg. No. An 1096/1 ; locality—Diu-Fort ; habitat—among algal weeds along with amphipods, and isopods and crabs ; coll. *B. P. Haldar* ; 26. i. 1978.

*Remarks* : Earlier reported from Gulf of Mannar and Gujarat.

Family SYLLIDAE Grube, 1850

Subfamily Syllinae Rioja, 1925

**Syllis (Syllis) gracilis** Grube, 1840

*Material* : 2 exs. ; Z. S. I. Reg. No. An 1097/1 ; locality—Devka (Daman) ; habitat—within crevices in sand stones in association with amphipods and isopods ; coll. *B. P. Haldar* ; 10. ii. 1978.

*Remarks* : Earlier reported from Andaman Islands, Tamil Nadu, and Gujarat.

Family NEREIDAE Johnston, 1865

**Nereis (Neanthes) indica** Kinberg, 1866

*Material* : 2 exs. ; Z. S. I. Reg. No. An 1249/1 ; locality—Kuda ; habitat—within spaces of Oyster shells formed over sand stones ; coll. *B. P. Haldar* ; 31. i. 1978.

*Remarks* : Earlier reported from Waltair, Gulf of Mannar, and Gujarat.

**Perinereis vancaurica** (Ehlers, 1868)

*Material* : 5 exs. ; Z. S. I. Reg. No. An 1250/1 ; locality—Kudo ; habitat—underneath boulders along sandy beach ; coll. *B. P. Haldar* ; 31. i. 1978.

*Remarks* : Earlier reported from Nicobar Islands and Gujarat.

**Pseudonereis variegata** (Grube, 1857)

*Material* : 2 exs. ; Z. S. I. Reg. No. An 1062/1 ; locality—Jalandhar ; habitat—underneath stones along with isopods and amphipods ; coll. *B. P. Haldar* ; 27. i. 1978.

*Description* : Probosis with group I=1, II=conical arranged in 4 transverse rows forming a triangle, III=several conicals arranged in 3 transverse rows, IV=5 transverse rows of conicals and cluster of several conicals and bars, V=one point, VI=a single large bar on each side, VII and VIII=a single row of conicals forming a belt.

*Remarks* : The specimens agree in all characters with *P. variegata* excepting for the arrangement of paragnaths of VII and VIII groups which show a single row as in *P. anomala*.

*Remarks* : Earlier reported from Andaman Island, Orissa, Gulf of Mannar, Goa, and Gujarat.

## Family GLYCERIDAE Grube, 1850

**Glycera alba** (Müller, 1788)

*Material* : 1 ex. ; Z. S. I. Reg. No. An 1101/1 ; locality—Ghogha ; habitat—sandy soil of beach ; coll. *B. P. Haldar* ; 2. ii. 1978.

*Remarks* : This is first record of the species from Gujarat. Earlier reported from Ganjam, Orissa ; Cochin backwaters ; and Goa.

**Glycera tessellata** Grube, 1863

(Text-fig. 1 D)

*Material* : 1 ex. ; Z. S. I. Reg. No. An 1102/1 ; locality—Nani (Daman) ; habitat—underneath fine sand along mid-littoral zone ; coll. *B. P. Haldar* ; 9. ii. 1978.

*Description* : Presetal lobes of parapodia triangular and similar, post-setal ones short and dissimilar, one rounded, other long and conical.

*Remarks* : This is the first record of the species from Gujarat. Earlier reported from Andaman Islands ; Doarakara, Sunderbans ; and off Puri, Orissa,

Family EUNICIDAE Savigny, 1818

Subfamily EUNICINAE Savigny, 1818

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

*Material* : 1 ex. ; Z. S. I. Reg. No. An 1011/1 ; locality—Diu-Fort ; habitat—within crevices under muddy stones along mid-littoral zone ; coll. *B. P. Haldar* ; 26. i. 1978.

*Remarks* : Earlier reported from Andaman Islands, Gulf of Mannar, and Gujarat.

**Lysidice natalensis** Kinberg, 1865

(Text-fig. 1 E)

*Material* : 5 exs. ; Z. S. I. Reg. No. An 1103/1 ; locality—Holiday camp-chorwad ; habitat—within crevices in rocks in association with urochordates, boring bivalves and sipuncula ; coll. *B. P. Haldar* ; 23. i. 1978.

*Description* : The specimens agree in all characters with *L. collaris* excepting for the second dental plate which shows four teeth as in *natalensis* instead of three as in *collaris*. On the basis of this character, the specimens are referred to *natalensis*.

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

**Marphysa sanguinea** (Montagu, 1815)

*Material* : 1 ex. ; Z. S. I. Reg. No. An 1104/1 : locality—Umbargaon (Daman) ; habitat—free-living forms underneath sandy soil of lower littoral zone ; coll. *B. P. Haldar* ; 12. ii. 1978.

*Remarks* : Very widely distributed. Earlier reported from Andaman Islands, Andhra Pradesh, Tamil Nadu, Kerala, Goa, and Gujarat.

Subfamily LUMBRINERINAE Malmgren, 1867

**Lumbrinereis heteropoda** (Marenzeller, 1879)

*Material* : 1 ex. ; Z. S. I. Reg. No. An 1105/1 ; locality—Holiday camp—Chorwad ; Habitat—within crevices in rocks ; coll. *B. P. Haldar* ; 23. i. 1978.

*Remarks* : Earlier reported from Marmugao Bay, Goa ; and Bombay coast.

**Lumbrinereis polydesma** (Southern, 1921)

*Material* : 5 exs. ; Z. S. I. Reg. No. An 1106/1 ; locality—Nani (Daman) ; habitat—free-living forms within crevices in rocks in soft mud ; coll. *B. P. Haldar* ; 9. ii. 1978. 1 ex. ; Z. S. I. Reg. No. An 1107/1 ; locality—Devka (Daman) ; coll. *B. P. Haldar* ; 10. ii. 1978.

*Remarks* : This is the first record of this estuarine species from marine waters of Gujarat. Earlier reported from Chiriya Island, Chilka lake, Orissa.

**Lumbrinereis pseudobifilaris** (Fauvel, 1932)

*Material* : 6 exs. ; Z. S. I. Reg. No. An 1061/1 ; locality—Marwad (Daman) ; habitat—below boulders occurring along sandy beach ; coll. *B. P. Haldar* ; 13. ii. 1978.

*Remarks* : Earlier reported from Kerala (Narrakal), and Gujarat.

**Lumbrinereis simplex** (Southern, 1921)

*Material* : 1 ex. ; Z. S. I. Reg. No. An 1108/1 ; locality—Ghogha ; habitat—within soft mud covered by algal formations ; coll. *B. P. Haldar* ; 2. ii. 1978. 1 ex. ; Z. S. I. Reg. No. An 1109/1 ; locality—Devka (Daman) ; coll. *B. P. Haldar* ; 10. ii. 1978.

*Remarks* : This is the first record of this estuarine species from marine waters of Gujarat. Earlier reported from Chilka lake, Orissa.

## Family FLABELLIGERIDAE Saint-Joseph, 1894

**Pherusa permata** (Grube, 1878)

*Material* : 1 ex. ; Z. S. I. Reg. No. An 1010/1 ; locality—Diu-Fort ; habitat—within crevices in rocks in association with amphipods ; coll. *B. P. Haldar* ; 26. i. 1978.

*Remarks* : This is the first record of the species from Gujarat. Earlier reported from Tamil Nadu.

## Family SABELLARIDAE Johnston, 1865

**Sabellaria cementarium** Moore, 1906

*Material* : 6 exs. ; Z. S. I. Reg. No. An 1111/1 ; locality—Kuda ; habitat—within hard tubes on side of sand stone rock in lower littoral zone ; coll. *B. P. Haldar* ; 31. i. 1978.

*Description* : Tubes thick and firmly cemented ; opercular stocks short, each with three concentric rows of paleae, outer ending in a

long, smooth spine, middle short, smooth, spoon-like, and inner long spoon-like with pointed tip and serrated sides.

*Remarks* : This is the first record of the species from Gujarat. Earlier reported from Tuticorin.

Family TERESELLIDAE Grube, 1851

Subfamily TERESELLINAE Grube, 1850

*Lanice socialis* (Willey, 1905)

*Material* : 1 ex. ; Z. S. I. Reg. No. An 1060/1 : locality—Port area, Veraval ; habitat—within tubes embedded in flat corelline bed ; coll. B. P. Haldar ; 24. i. 1978.

*Description* : Thoracic notosetae winged capillaries, thoracic neurosetae uncini avicular and in double row, opposed back to back from 7th setiger.

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

*Nicolea gracilibranchis* (Grube, 1878)

*Material* : 1 ex. ; Z. S. I. Reg. No. An 1112/1 ; locality—Nani (Daman) ; habitat—within tough tubes embeded in fine sandy mud near lower littoral zone ; coll. B. P. Haldar ; 9. ii. 1978.

*Remarks* : This is the first record of the species from Gujarat. Earlier reported from Tamil Nadu.

Family SABELLIDAE Malmgren, 1867

Subfamily SABELLINAE Rioja, 1923

*Branchiomma serratibranchis* (Grube. 1878)

(Text-fig. 1F)

*Material* : 2 exs. ; Z. S. I. Reg. No. An 1113/1 ; locality—Nani (Daman) ; habitat—within soft and tough tubes in crevices on sides of rocks in mid-littoral zone ; coll. B. P. Haldar ; 9. ii. 1978. 7 exs. ; Z. S. I. Reg. No. An 1114/1 ; locality—Devka ; coll. B. P. Haldar ; 10. ii. 1978.

*Description* : Body uniformly brown or pale with purple colour band ; branchial lobes semicircular without eyes ; stylodes small, triangular lobe-like ; thoracic uncini with broad necks and with 4-5 rows of small coarse teeth above main one.

*Remarks* : This is the first record of the species from Gujarat. Earlier reported from Andaman Islands and Pamban.

**Sabellastarte sanctijosephi** (Gravier, 1906)

*Material* : 7 exs. ; Z. S. I. Reg. An 1009/1 ; locality—Devka (Daman) ; habitat—within tough tubes coated with mud and occurring along boulders, scattered rocks and mud which form mid-littoral zone ; coll. *B. P. Haldar* ; 10. ii. 1978.

*Description* : Branchial lobe symmetrical, without stylodes and eye spots ; thoracic notosetae simple, winged capillary of unequal size ; thoracic neurosetae in single row of auvicular unicini with several small teeth above main one.

*Remarks* : Earlier reported from Andaman Islands, Tamil Nadu, and Gujarat.

**Laonome indica** Southern, 1921

*Material* : 2 exs ; Z. S. I. Reg. No. An 1008/1 ; locality—Devka (Daman) ; habitat—within soft and smooth tubes along rocks in mid-littoral mud flats ; coll. *B. P. Haldar* ; 10. ii. 1978.

*Description* : Branchial lobes symmetrical without stylodes and eye spots ; notosetae of two kinds, one long and narrow capillaries, and the other soft spatulate ; thoracic unciniae stout with several small teeth in 4-5 rows above main one.

*Remarks* : This is the first record of this estuarine form from marine waters of Gujarat. Earlier reported from Chilka lake, Orissa.

A list of polychaetes hitherto known from Gujarat coast.

Family APHRODITIDAE Savigny, 1818

Subfamily APHRODITINAE Savigny, 1818

[=Hermioinae Grube, 1875 ]

*Aphrodita aculeata* Linnaeus, 1758

*Hermonia hystrix* (Savigny, 1820)

[=*Hermione hystrix* (Savigny, 1820) : Fauvel, 1953]

Subfamily POLYNOINAE Malmgren, 1867

*Eunoe pallida* (Ehlers, 1908)

*Lepidonotus cristatus* (Grube, 1876)

*L. carinulatus* (Grube, 1870)

*L. tenuisetosus* (Gravier, 1901)

*L. (Thormora) jukesi* (Baird, 1865)

*Paralepidonotus ampulliferus* (Grube, 1878)

[=*Harmothoe ampullifera* (Grube, 1878) : Fauvel, 1953]



*Scalissetosus fragilis* (Claparede, 1868)

[= *S. pellucidus* (Ehlers, 1864) : Fauvel, 1953]

Family AMPHINOMIDAE Savigny, 1818

*Amphinome rostrata* (Pallas, 1766)

*Eurythoe complanata* (Pallas, 1766)

*Pareurythoe borealis* (Sars, 1862)

[= *Eurythoe borealis* Sars, 1862 : Dalal and Dubale, 1975]

Family PHYLLODOCIDAE Williams, 1851

Subfamily PHYLLODOCINAE Williams, 1851

*Eulalia viridis* (Müller, 1771)

Family HESIONIDAE Malmgren, 1867

*Hesione splendida* Savigny, 1818

[= *Hesione pantherina* Risso, 1826 : Fauvel, 1953]

*Leocrates claparedii* (Costa, 1868)

Family SYLLIDAE Grube, 1850

Subfamily SYLLINAE Rioja, 1925

*Syllis (Syllis) gracilis* Grube, 1840

*S. (Typosyllis) variegata* Grube, 1860

Family NEREIDAE Johnston, 1865

*Ceratonereis burmensis* Monto, 1937

*C. costae* (Grube, 1840)

*Dendronereides heteropoda* Southern, 1921

*Namalycastis indica* (Southern, 1921)

[= *Lycastis indica* Southern, 1921 : Fauvel, 1953]

*Nereis (Lycoris) heteromorpha* Horst, 1924

*N. (Neanthes) diversicolor* Müller, 1776

*N. (Neanthes) indica* Kinberg, 1866

*N. (Nereis) persica* Fauvel, 1911

[= *N. zonata persica* Fauvel, 1953]

*Perinereis nigropunctata* (Horst, 1889)

*P. nuntia* (Savigny, 1820)

*P. vancaurica* (Ehlers, 1868)

*Pseudonereis anomala* Gravier, 1901

*P. variegata* (Grube, 1857)

[= *P. gallapagensis* Kinberg, 1866 : Fauvel, 1953]

*Platynereis abnormis* (Horst, 1924)

*Tylonereis bogoyawalenskyi* Fauvel, 1911

Family GLYCERIDAE Grube, 1850

*Glycera alba* (Müller, 1788)

*G. tessellata* Grube, 1863

*Goniada emerita* Audouin & Milne Edwards, 1833

Family EUNICIDAE Savigny, 1818

Subfamily EUNICINAE Savigny, 1818

*Eunice australis* Quatrefages, 1865

*E. (Nacidion) gracilis* Crossland, 1904

*E. tentaculata* Quatrefages, 1865

*E. (Palolo) siciliensis* Grube, 1840

*Lysidice collaris* Grube, 1870

*Lysidice natalensis* Kinberg, 1865

*Marphysa sanguinea* (Montagu, 1815)

Subfamily ONUPHINAE Kinberg, 1865

*Diopatra neapolitana* Dellechiaje, 1841

Subfamily LUMBRINERINAE Malmgren, 1867

*Lumbrinereis heteropoda* (Marenzeller, 1879)

*L. polydesma* (Southern, 1921)

*L. pseudobifilaris* (Fauvel, 1932)

*L. simplex* (Southern, 1921)

Subfamily ARABELLINAE Hartman, 1944

*Arabella iricolor iricolor* (Montagu, 1804)

[= *Arabella iricolor* (Montagu, 1804) : Fauvel, 1953]

Family CIR RATULIDAE Carus, 1863

*Cirriformia tentaculata* (Montagu, 1808)

[= *Audouinia tentaculata* (Montagu, 1808) : Fauvel, 1927]

Family ORBINIIDAE Hartman, 1942

*Naineris laevigata* (Grube, 1855)

Family OPHELIDAE Malmgren, 1867

*Ophelina acuminata* Oersted, 1843

[ = *Ammotrypane aulogaster* Rathke, 1843 ]

Family CAPITELLIDAE Grube, 1862

*Notomastus latericeus* Sars, 1851

Family FLABELLIGERIDAE Saint Joseph, 1894

*Pherusa parmata* (Grube, 1878)

[ = *Stylarioides parmatus* Grube, 1878 : Fauvel, 1953 ]

Family SABELLARIIDAE Johnston, 1865

*Sabellaria cementarium* Moore, 1906

Family TERESELLIDAE Grube, 1851

Subfamily TRICHOBRANCHINAE Malmgren, 1866

*Terebellides stroemi* Sars, 1835

Subfamily THELEPINAE Malmgren, 1866

*Streblosoma persica* (Fauvel, 1908)

Subfamily TERESELLINAE Grube, 1850

*Lanice socialis* (Willey, 1905)

*Loimia medusa* (Savigny, 1820)

*Nicolea gracilibranchis* (Grube, 1878)

*Terebella ehrenbergi* Grube, 1870

Family SABELLIDAE Malmgren, 1867

Subfamily SABELLINAE Rioja, 1923

*Branchiomma serratibranchis* (Grube, 1878)

[ = *Dasychone serratibranchis* (Grube, 1878) : Fauvel, 1953 ]

*Laonome indica* Southern, 1921

*Sabella fusca* Grube, 1870

[ = *S. porifera* Grube, 1878 ] : Fauvel, 1953 ]

*Sabellastrate sanctijosephi* (Gravier, 1906)

[ = *S. indica* Savigny, 1820 : Fauvel, 1953 ]

#### SUMMARY

The paper lists 25 species of polychaetes from Gujarat coast and now present in the unnamed collection of the Zoological Survey of India. Twelve new locality records, including two for Indian waters, have

been reported and variations where encountered, also dealt with at appropriate places in the text. An upto date list of the species of polychaetes so far known from Gujarat coast has also been given.

#### ACKNOWLEDGEMENTS

The authors are grateful to Dr. T. N. Ananthakrishnan, Director, Zoological Survey of India, Calcutta, for his kind help and encouragement as well as his personal interest in the present work.

#### REFERENCES

- DALAL, N. M. AND DUBALE, M. S. 1975. Polychaetes of Saurashtra sea coasts. *Proc. 62nd Indian Sci. Congr. Ass.*, Abstracts, III : 185.
- DALAL, N. M. AND DUBALE, M. S. 1976. Polychaetes of saurashtra sea coasts. *Proc. 63rd Indian Sci. Congr. Ass.*, Abstracts, III : 216.
- DAY, J. H. 1967. *A monograph on the Polychaeta of Southern Africa.* Part I & II. (Brit. Mus. (nat. Hist.) London) : 878 pp.
- FAUVEL, P. 1953. *The Fauna of India, Annelida, Polychaeta* : 507 pp.
- HARTMANN, O. 1959. Catalogue of the Polychaetous annelids of the world Part I & II. *Occ. Papers Allan Hancock Foundation Publication*, 23 : 1-628.
- RAO, C. A. N. AND SOOTA, T. D. (1981) On some polychaetes from Gujarat coast *Rec. zool. Surv. India*.