

## Marine biodiversity of Costa Rica: Class Polychaeta (Annelida)

Harlan K. Dean

Department of Invertebrates. Museum of Comparative Zoology. 26 Oxford St. Harvard University. Cambridge, MA 02138 (USA).

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**Abstract:** Three hundred and thirty two species of polychaetes belonging to 50 families are reported for Costa Rica based on previously published reports. In a few families, available material was re-examined and appropriate changes in species identifications were made. Only three species, (*Glycera oxycephala* Ehlers, 1887; *Hemipodia pustulata* (Friedrich 1956); and *Scolepis (Scolepis) squamata* (Müller, 1806)) have been reported from the Caribbean coast of Costa Rica, and these three species have also been reported from the Pacific Coast. The families with more than 15 species are the Spionidae (26), Cirratulidae (24), Nereididae (21), Lumbrineridae (19) and Paraonidae (16). Despite extensive sampling on the Pacific coast over the last 25 years, the Costa Rican polychaete fauna, especially that of the Caribbean coast, remains poorly known.

**Key words:** Annelida, Polychaeta, biodiversity, polychaete worms, Gulf of Nicoya, Golfo Dulce, Costa Rica.

The first published reports of polychaetes collected in Costa Rica were described in a series of reports by Grube (1856, 1857, 1859) on species collected mainly from Puntarenas. Only a few scattered reports were published in subsequent years (Mörch 1863, Augener 1922) until Treadwell 1928a) published a list of species collected from Cocos Island (Treadwell 1928a) and a new species of *Phyllodoce* from the Gulf of Nicoya (Treadwell 1928b). This was followed by a series of papers by Hartman (1939a, b, 1940, 1944a, b) reporting on the Allan Hancock cruises in the eastern Pacific with many subtidal polychaete records from Costa Rica. Fauchald (1973) and Dexter (1974) later identified intertidal polychaetes, mostly from sandy beaches on both the Caribbean and Pacific coasts of Costa Rica. Nichols Driscoll (1976) provided the first records of the subtidal polychaete fauna from Golfo Dulce. In a survey of eastern Pacific Spirorbidae, Knight-Jones *et al.* (1979) included several species collected at various sites along the Pacific coast of Costa Rica. In the early 1980's the

cooperative efforts of the University of Delaware and the Universidad de Costa Rica led to the publication of several long lists of mainly subtidal polychaetes from the Gulf of Nicoya (Golfo de Nicoya) estuary (Vargas *et al.* 1985, Maurer *et al.* 1988, and Dean 1996a). Vargas (1987, 1988, 1989, 1996) also published several lists of polychaetes as part of his analysis of the infaunal community of the intertidal sandflats of Punta Morales. Dean (1996b) and Leon-Morales and Vargas (1998) expanded on the earlier work of Nichols Driscoll (1976) in Golfo Dulce with a list of polychaetes collected by the R/V Victor Hensen cruises in 1993 and 1994. More recent published works of selected polychaete taxa collected in Costa Rica include Dean (1998a, b, 2001a, b) and Bögge-mann (2002).

This list of published records of the polychaete fauna of Costa Rica is an attempt to both summarize what is known of the polychaete fauna of Costa Rica and to correct improper or misleading identifications. Many of the original species designations have been

modified by modern workers and every attempt has been made to include all synonyms and nomenclatural changes in the list. Also, some of the recent material collected in the Gulf of Nicoya and Golfo Dulce was re-examined and necessary corrections were made in the original species designations for some families.

It is noted in the remarks section for many of these species that the original species designation may be in error and the material, if available, should be re-examined. This is most often due to the reported species occurrence for Costa Rica being well outside the published range for that species. In other cases, a more intensive analysis by modern workers may have revealed that what was originally considered a single species with a wide geographic range is actually two or more recognizable similar species. Finally, some species reported from Costa Rican waters by early workers have been poorly described, the type material has been lost, and they have not been collected since their original description. The validity of these species is, therefore, doubtful.

The present list of species includes 332 species of polychaetes reported from Costa Rica belonging to 50 of the approximately 80 recognized families. It must be noted, however, that this number may be somewhat high since many species have only been identified to the genus level (or sometimes just to family). Many of those specimens are probably occurrences of more fully identified species already included in the list. Any overestimates due to the inclusion of these incompletely identified species are probably compensated for by the incomplete sampling efforts. For example, there have only been 3 species of polychaetes (the glycerids *Glycera oxycephala* and *Hemipodia pustulata* and the spionid *Scolecopsis (Scolepis) squamata*) reported from the Caribbean coast of Costa Rica (all three have also been reported from Pacific Costa Rica as well). If more intensive sampling, especially

on the Caribbean coast, was conducted it would be even more apparent that the polychaete fauna of Costa Rica is very high.

The families with the greatest number of species recorded from Costa Rica are the Spionidae, Cirratulidae, Nereididae, and Lumbrineridae. These families are usually well represented in the benthos often with a high abundance of species but, again, there may be a sampling effect involved here too. The higher number of species reported in the families Cirratulidae, Nereididae, Capitellidae and Pilargiidae may be at least partially due to those families having been sampled more intensively from intertidal sites and/or having undergone more rigorous taxonomic analysis (Dean 1998a, 2001a, b.). If material from some other families were to be re-examined, perhaps many more species would be recognized.

Despite the shortcomings in the data it is apparent from this list that the polychaete fauna of Costa Rica is highly diverse and, in all likelihood, is more diverse on the Pacific coast.

Hopefully, this review will facilitate future work by acting as a much needed reference to what is presently known about this fauna. The polychaetes usually make up approximately 50% of the species present in most marine benthic communities and are considered an important food source for many other organisms. Also, as pointed out by Blake (1997a), their often rapid generation times and high reproductive potential allow the polychaetes to respond very quickly to changes in their environment. This has resulted in the utilization of opportunistic polychaete species such as *Mediomastus*, *Polydora*, *Streblospio*, etc., as so-called "indicator" species in the monitoring of ecological disturbances such as pollution (Reish 1979, Blake 1997a). Any analysis of the health of the benthos requires knowledge of the polychaete fauna and it is hoped that this list will facilitate the ecological assessment of marine environments well as stimulate future research in Costa Rica.

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**Acoetidae**

*Acoetes mortenseni* (Monro 1928)

Costa Rican records: Golfo de Nicoya, Vargas *et al.* 1985: 337, Maurer *et al.* 1988: 48 (both as *Panthalis marginata*), Dean 1996a: 75 (as *Panthalis mortenseni*)

Habitat: Subtidal, muddy sand, 18 m.

Distribution: Known from California (USA) to Pacific Panama (Pettibone 1989).

*Panthalis marginata* Hartman 1939a  
= *Acoetes mortenseni*

*Panthalis mortenseni* (Monro 1928)  
= *Acoetes mortenseni*

*Polyodontes oculus* (Treadwell 1901)

Costa Rican records: Golfo de Nicoya, Maurer *et al.* 1988: 48, Dean 1996a: 75 (both as *Polyodontes oculus*).

Habitat: Subtidal, muddy sand to sand, 13-18 m.

Distribution: Reported in the Caribbean Sea and from the Gulf of California (Mexico) to Panama and Ecuador in the Eastern Pacific (Pettibone 1989).

**Acrocirridae**

*Acrocirrus* sp.

Costa Rican record: Golfo Dulce - Nichols Driscoll, 1976: 290 (listed in the Cirratulidae).

Habitat: Subtidal, 64 m.

**Ampharetidae**

*Amphicteis scaphobranchiata* Moore 1906

Costa Rican records: Golfo Dulce - Dean 1996b: 83, León-Morales & Vargas 1998: 85.

Habitat: Subtidal, mud (?).

Distribution: Reported from Washington State (USA) to Baja California (Mexico) in the eastern Pacific as well as the Gulf of Mexico (Hilbig 2000a).

*Amphicteis* sp.

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 334, Maurer *et al.* 1988: 46.  
Habitat: Subtidal, mud.

*Amphicteis obscurior* Chamberlin 1919  
= *Amphicteis* sp.

*Isolda bipinnata* (Fauchald 1977)  
= *Mellina* sp.

*Mellina* sp.

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 334, Maurer *et al.* 1988: 46, Dean 1996a: 71 (all as *Isolda bipinnata* Fauchald).

Habitat: Subtidal, sandy mud, 15-22 m.

**Amphinomidae**

*Chloeia entypa* Chamberlin 1919

Costa Rican record: Chatham Bay, Cocos Island - Hartman 1939b: 8.

Habitat: Subtidal, mostly sand.

Distribution: *C. entypa* has been recorded from California to Ecuador in the eastern Pacific (Hartman 1939b), however, Kudenov (1995) has indicated that *C. pinnata* Moore 1911 may be the senior synonym of this species.

*Chloeia euglochis* Ehlers 1887  
= *Chloeia viridis*

*Chloeia pseudeuglochis* Augener 1922

Costa Rican record: Culebra Bay, Golfo de Papagayo - Augener 1922: 39.

Habitat: Intertidal to shallow subtidal

Remarks: Augener made no drawings and differentiated this species from *C. euglochis* only by the presence of distally entire neurosetae. The neurosetae of *C. pinnata* have small teeth proximal to the small prong of the forked setae but the tines themselves are smooth (Kudenov 1995). It is probable Augener's specimen was *C. pinnata*.

*Chloeia viridis* Schmarda 1861

Costa Rican records: Cocos Island - Treadwell 1928a: 450, off Nuez Island (Isla Manuelita), Hartman 1940: 205. Golfo de Santa Elena, Salinas Bay - Hartman 1940: 205.

Habitat: Subtidal, 11-90 m, rock, coral & corallines

Distribution: *C. viridis* has been reported from the western Atlantic and Caribbean Sea as well as the eastern Pacific from the Gulf of California to Panama (Fauchald 1977, Gathof 1984).

*Eurythoe complanata* (Pallas 1776)

Costa Rican records: Cocos Island, Puerto Culebra - Hartman 1940: 202. Golfo de Santa Elena, Playa Blanca & Parker Bay - Hartman 1940: 202, Treadwell 1941: 18.

Habitat: Intertidal to shallow subtidal.

Distribution: Considered circumtropical (Salazar-Vallejo 1996-1997).

*Eurythoe* sp.

Costa Rican record: Golfo de Nicoya - Maurer *et al.* 1984: 51

Habitat: Collected by shrimp trawl.

*Hermodice carunculata* (Pallas 1766)

Costa Rican record: Golfo de Santa Elena, Port Parker - Treadwell 1941: 17.

Habitat: Intertidal to shallow subtidal

Distribution: *H. carunculata* is characterized as a warm-water Atlantic species (Salazar-Vallejo 1996-1997) and Treadwell's report from the eastern Pacific is doubtful.

*Linopherus annulata* (Hartmann-Schröder 1965)  
= *Linopherus spiralis*

*Linopherus kristiani* Salazar-Vallejo 1987

Costa Rican record: Golfo Dulce - Dean 1996b: 83.

Habitat: Subtidal mud.

Distribution: Previously described from western Mexico by Salazar-Vallejo (1987)

*Linopherus spiralis* (Wesenberg-Lund 1949)

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 334, Maurer *et al.* 1988: 46 (both as *L. annulata*), Vargas 1989: 1909.

Habitat: Intertidal sandy mud.

Distribution: This species was described by Wesenberg-Lund (1949) from the Iranian Gulf, and Hartmann-Schröder (1992) later tentatively identified material from the central Atlantic. This report from the Pacific needs to be verified.

*Notopygos crinita* Grube 1855

Costa Rican record: Cocos Island - Treadwell 1928a: 450

Habitat: Subtidal, 183 m.

Distribution: Salazar-Vallejo (1996-1997) characterized this species as trans-Atlantic and Treadwell's identification of material from Cocos Island is dubious.

*Notopygos ornata* Grube 1856

Costa Rican records: Puntarenas, Golfo de Nicoya - Grube 1856: 53. Golfo de Santa Elena, Parker Bay - Hartman 1940: 207, Treadwell 1941: 18.

Habitat: intertidal to shallow subtidal? Corals.

Distribution: Fauchald (1977) reports this species to occur in warm waters in the western Atlantic and the eastern Pacific. Hartman (1940) reported its occurrence from the Gulf of California (Mexico) to the Galapagos in the eastern Pacific.

### Aphroditidae

*Aphrodita* sp.

Costa Rican record: SE of Judas Point (Punta Judas) - Treadwell 1941: 21.

Habitat: Subtidal, mud, 90 m.

*Aphrodita japonica* Marenzeller 1879

Costa Rican record: Cabo Blanco, Nicoya Peninsula - Dean 1996a: 71.

Habitat: Subtidal.

Distribution: Fauchald (1977) reported this species from the North Pacific and Eastern Pacific and Hartman (1939a) reported its distribution in the eastern Pacific Ocean from California (USA) to Ecuador

### Capitellidae

*Capitella capitata* (Fabricius 1780)  
species complex

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 334, Maurer *et al.* 1988: 46, Dean 1996b: 83 (as *Paraheteromastides* sp.), Dean 2001a: 71-73.

Habitat: subtidal mud, 40-43 m, intertidal muddy sand and amongst mangrove roots.

Distribution: Cosmopolitan with equatorial submergence (Warren 1991) but known to occur as a complex of sibling species (Grassle and Grassle 1976).

*Dasybranchus lumbricoides* Grube 1878

Costa Rican record: Golfo de Nicoya - Dean 2001a: 73, Dittman & Vargas 2001: 283.

Habitat: Intertidal muddy sand

Distribution: Reported from the eastern and western Pacific as well as the western Atlantic and Gulf of Mexico. It has been collected in the eastern Pacific from California to Panama as well as the Galapagos Islands in intertidal or shallow waters (Dean 2001a).

*Decamastus nudus* Thomassin 1970

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 335, Maurer *et al.* 1988: 46, Dean (1996a): 71 (all as *N. tenuis* Moore), Dean 2001a: 73-75.

Habitat: Subtidal muds to sands, 11-42 m, intertidal muddy sand.

Distribution: Originally described from Madagascar (Thomassin 1970), but since reported from the Gulf of California, Mexico (Hernández-Alcántara and Solís-Weiss 1998) and the Pacific Coast of Costa Rica (Dean 2001a) in the eastern Pacific.

*Heteromastus filiformis* (Claparède 1864)

Costa Rican record: Golfo de Nicoya - Dean 2001a: 75.

Habitat: Intertidal, muddy sand and sand.

Distribution: Reported from numerous sites in the Atlantic and Pacific Ocean as well as the Mediterranean Ocean and Australia (Blake 2000a).

*Leiochrides cf. pallidior* (Chamberlin 1918)

Costa Rican record: Golfo de Nicoya - Dean 2001a: 75-76.

Habitat: Subtidal muddy sand, 18 m.

Distribution: Reported from intertidal and shallow subtidal waters in California and the Pacific coast of Costa Rica (Dean 2001a).

*Mastobranthus variabilis* Ewing 1984

Costa Rican record: Golfo de Nicoya - Dean 2001a: 76.

Habitat: Subtidal muddy sand, 18 m.

Distribution: Originally described from the Gulf of Mexico (Ewing 1984b) and since reported from the Gulf of California, Mexico (Hernández-Alcántara and Solís-Weiss 1998) and the Golfo de Nicoya, Costa Rica (Dean 2001a).

*Mediomastus ambiseta* (Hartman 1947)

Costa Rican records: Golfo de Nicoya - Dean 1996a: 71 (as *M. californiensis* Hartman (in part)), Dean 2001a: 76-78. Golfo Dulce - Dean 1996b: 83.

Habitat: Subtidal mud to sand, 11-50 m, Intertidal muddy sand and amongst mangrove roots.

Distribution: Known from the East and West coasts of North America as well as the Gulf of Mexico (Warren *et al.* 1994). *M. ambiseta* is known from California to Golfo Dulce in Costa Rica (Dean 2001a).

*Mediomastus californiensis* Hartman 1944

Costa Rican records: Golfo de Nicoya - Maurer & Vargas 1984: 101, Vargas *et al.* 1985: 335, Vargas 1987: 304, 1988: 294, 1989: 1909, Maurer *et al.* 1987: 138, Maurer *et al.* 1988: 46, Dean 1996a: 71, Vargas 1996: 359, Dittman & Vargas 2001: 283, 287, Dean 2001a: 78-80. Golfo Dulce - Dean 1996b: 83, León-Morales & Vargas 1998: 85.

Habitat: Subtidal mud to sand, 9-200 m intertidal muddy sand and sand.

Distribution: *M. californiensis* has been reported from both coasts of North America and the Gulf of Mexico (Ewing 1984a), numerous sites from the Pacific coast of Mexico (Salazar-Vallejo 1981, de León-González 1994a, Hernández-Alcántara and Solís-Weiss 1998), and the Golfo de Nicoya and Golfo Dulce in Costa Rica (Dean 2001a).

*Notomastus hemipodus* Hartman 1947

Costa Rican records: —Golfo de Nicoya - Maurer & Vargas 1984: 101 (as *N. luridis*

Verrill), Maurer *et al.* 1987: 138 (as *N. luridis* Verrill), Vargas 1987: 304, Maurer *et al.* 1988: 46 (as *N. luridis* Verrill), Dean 1996a: 71 (as *N. luridis* Verrill), Dean 2001a: 80.

Habitat: Subtidal mud to sand, 9-46 m, intertidal muddy sand and amongst mangrove roots.

Distribution: Both coasts of North America and the Gulf of Mexico (Ewing 1984a), the Gulf of California, Mexico (Hernández-Alcántara and Solís-Weiss 1998) and Golfo de Nicoya, Costa Rica (Dean 2001a).

*Notomastus lineatus* Claparède 1870

Costa Rican record: Golfo de Nicoya, Punta Morales - Dean 2001: 81-82.

Habitat: intertidal fine sand

Distribution: Cosmopolitan, numerous reports from Pacific Mexico (Salazar-Vallejo 1985, Hernández-Alcántara and Solís-Weiss 1998) and the Golfo de Nicoya, Costa Rica (Dean 2001a).

*Notomastus tenuis* Moore 1909

Costa Rican record: Golfo de Nicoya - Dean 2001a: 83.

Habitat: Subtidal muddy sand to sand, 14-24 m.

Distribution: Known in the Eastern Pacific from Canada to Mexico with an additional "questionable" record from the Gulf of Mexico (Dean 2001a).

*Notomastus tenuis* (*sensu* Maurer *et al.* 1988)  
= *Decamastus nudis*

*Mediomastus* sp.

Costa Rican record: Golfo Dulce - Nichols Driscoll, 1976: 290.

Habitat: Subtidal, sand, 64 m.

**Chaetopteridae**

*Mesochaetopterus alipes* Monro 1928

= *Spiochaetopterus costarum*

*Mesochaetopterus* sp.

= *Spiochaetopterus costarum*

*Phyllochaetopterus* sp.

= *Spiochaetopterus costarum*

*Phyllochaetopterus socialis* (Claparède 1870)

= *Spiochaetopterus costarum*

*Spiochaetopterus costarum* (Claparède 1870)

Material examined: Sta. 28, 9°52'16" N, 84°45'30" W, 26 m. Golfo Dulce, intertidal.

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 335, Maurer *et al.* 1988: 46 (both as *Mesochaetopterus* sp. & *Phyllochaetopterus* sp.), Maurer & Vargas 1984: 101 (as *Phyllochaetopterus* sp.), Dean 1996a: 71 (as *Mesochaetopterus alipes* and *Phyllochaetopterus socialis*).

Habitat: Subtidal, mud to sand, 11-35 m, Intertidal, mud.

Distribution: This species is widespread and has been reported from Canada to California in the eastern Pacific (Blake 2000b).

**Chrysopetalidae**

*Chrysopetalum macrophthalmum*

Hartmann-Schröder 1959

Costa Rican record: Golfo de Nicoya, Puntarenas - Hartmann-Schröder 1959: 94-96.

Habitat: Intertidal, sand.

Distribution: Reported by Hartmann-Schröder from El Salvador and Costa Rica in the eastern Pacific (Hartmann-Schröder 1959).

*Paleaquor nicoyensis* Watson-Russel 1986

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 335 (as *Paleanotus heterosetae*), Maurer *et al.* 1988: 46 (as *Paleanotus* sp.), Watson Russell 1986: 170-172, Dean 1996a: 71.

Habitat: Subtidal, mud to sand, 11-44 m.  
 Distribution: Known only from the Golfo de Nicoya (Watson Russell 1986).

*Paleanotus heterosetae* Hartman  
 = *Paleaquor nicoyensis*

*Paleonotus* sp.  
 = *Paleaquor nicoyensis*

### Cirratulidae

*Aphelochaeta longisetosa*  
 (Hartmann-Schröder 1965)  
 = *A. glandaria* = *Cirratulus* sp.

*Aphelochaeta glandaria* Blake 1996

Material examined: *Sta. 24*, 9°49'25" N, 84°41'20" W, 11 m, sand, Oct 1980 (50), Jan 1981 (2), Apr 1981 (2); Jun 1981 (1), Aug 1981 (1). *Sta. 29*, 9°54'55" N, 84°45'15" W, 18 m, muddy sand, Jul 1980 (19); Oct 1980 (26); Jan 1981 (460); Apr 1981 (19); Jun 1981 (32); Apr 1982 (49). *Sta. 30*, 9°54'40" N, 84°45'50" W, 18 m, muddy sand, Oct 1980 (2); Jan 1981 (4); Apr 1981 (5); Aug (1).

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 335, Maurer *et al.* 1988: 46 (as *Tharyx multifilis*), Dean 1996a: 71 (as *A. longisetosa*). Golfo Dulce - Dean 1996b: 83 (as *A. longisetosa*), León-Morales & Vargas 1998: 85 (as *A. longisetosa* (in part)).

Habitat: Subtidal muddy sand to sand, 11-18 m.

Distribution: Previously known only from central and southern California, USA (Blake 1996a).

*Aphelochaeta marioni* (Saint Joseph, 1894)

Costa Rican record: Golfo Dulce - Nichols Driscoll, 1976: 291.

Habitat: Subtidal, muddy sand, 64 m.

Distribution: This species has been reported from numerous regions, however, this species may actually be a complex of morphologically

similar species (see Blake 1996 for a review of this issue).

*Aphelochaeta monilaris* (Hartman 1960)

Costa Rican record: Golfo Dulce - Nichols Driscoll, 1976: 291 (as *Tharyx monilaris*).

Habitat: Subtidal, muddy sand, 64 m.

Distribution: Widespread in the eastern Pacific (Blake 1996a)

*Aphelochaeta multifilis* 1909

Habitat: Subtidal, muddy sand and sandy mud, 64- 70 m.

Costa Rican record: Golfo Dulce - Nichols Driscoll, 1976: 291 (as *Tharyx multifilis*).

Distribution: Presently known only from California, USA (Blake 1996a).

*Caulleriella alata* (Southern 1914)  
 = *C. magnaoculata*

*Caulleriella bioculata* (Keferstein 1862 )  
 = *C. magnaoculata*

*Caulleriella magnaoculata*  
 Hartmann-Schröder 1962

Material examined: *Sta. 28*, 9°52'16" N, 84°45'30" W, 26 m, mud, Jun 1981 (1). *Sta. 29*, 9°54'55" N, 84°45'15" W, 18 m, muddy sand, Jul 1980, (2); Oct 1980 (25); Jan 1981 (22); Apr 1981 (20); June 1981 (15); Apr 1982, (2). Intertidal: Punta Morales, 10°N, 84°58' W, south side, intertidal sandy mud, Jun 1986 (2), Aug 1996 (1)

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 335 (as *Caulleriella bioculata* & *Caulleriella* sp.), Maurer *et al.* 1988: 46 (as *Caulleriella alata* and *Caulleriella bioculata*), Dean 1996a: 71 (as *Caulleriella alata*).

Habitat: Subtidal mud and sand, 11-26 m, intertidal, sandy mud.

Distribution: *C. magnaoculata* is known from Peru (Blake 1996a).



*Chaetozone corona*  
Berkeley & Berkeley 1941

Costa Rican records: Golfo Dulce - Vargas *et al.* 1985: 335, Maurer *et al.* 1988: 46, Dean 1996b: 83, León-Morales & Vargas 1998: 85.

Habitat: Subtidal muds.

Distribution: Previously reported from southern California and western Mexico (Blake 1996a).

*Chaetozone hedgepethi* Blake 1996

Material Examined: *Sta.* 24, 9°49'25" N, 84°41'20" W, 11 m, sand, Aug 1981 (1).

Costa Rican records: Golfo de Nicoya - Dean 1996a: 72 (as *Chaetozone* sp. B).

Habitat: Subtidal, sand, 11 m.

Distribution: Previously known from northern California (Blake 1996a).

*Chaetozone setosa* Malmgren 1867  
= *Chaetozone* sp. D = *Chaetozone* sp. E

*Chaetozone* sp.

Costa Rican record: Golfo Dulce - Nichols Driscoll, 1976: 290.

Habitat: Subtidal, muddy sand, 64 m.

*Chaetozone* sp. B  
= *Chaetozone hedgepethi* (in part)  
= *Chaetozone* sp. X (in part)

*Chaetozone* sp. D

Material Examined: *Sta.* 24, 9°49'25" N, 84°41'20" W, 11 m, sand, Oct 1980, (1). *Sta.* 28, 9°52'16" N, 84°45'30" W, 26 m, mud, Jan 1981 (2); Apr 1981 (1); June 1981 (3); Aug 1981 (1). *Sta.* 30, 9°54'40" N, 84°45'50" W, 18 m, muddy sand, Jun 1981, (1).

Costa Rican record: Golfo de Nicoya - Dean 1996a: 72 (as *Chaetozone setosa*).

Habitat: Subtidal mud to sand, 11-26 m.

*Chaetozone* sp. E

Material Examined: *Sta.* 29, 9°54'55" N, 84°45'15" W, 18 m, muddy sand, Oct 1980, (1).

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 335, Maurer *et al.* 1988: 46, Maurer & Vargas 1985: 464, Dean 1996a: 72 (all as *Chaetozone setosa*).

Habitat: Subtidal, muddy sand, 18 m.

*Chaetozone* sp. X

Material Examined: *Sta.* 29, 9°54'55" N, 84°45'15" W, 18 m, muddy sand, Oct 1980, (1).

Costa Rican record: Golfo de Nicoya - Dean 1996a: 72 (as *Chaetozone* sp. B (in part)).

Habitat: Subtidal, muddy sand, 18 m.

*Cirratulus cirratulus* (Müller 1766)

Costa Rican record: Golfo Dulce - Nichols Driscoll, 1976: 291.

Habitat: Subtidal, sandy mud and muddy sand, 64-254 m.

Remarks: Blake (1996a) has indicated that many of the identifications of this species from the eastern Pacific are questionable. The Costa Rican material should be re-examined.

*Cirratulus* sp.

Material Examined: *Sta.* 24, 9°49'25" N, 84°41'20" W, 11 m, sand, Jan 1981 (1). *Sta.* 28, 9°52'16" N, 84°45'30" W, 26 m, mud, Jul 1980 (1); Oct 1980 (3); Jan 1981 (1); Apr 1981 (2); June 1981 (3); Aug 1981 (4).

Costa Rican record: Golfo de Nicoya - Dean 1996a: 71 (as *Aphelochaeta longisetosa* (in part)).

Habitat: Subtidal, mud and sand, 11-26 m.

*Cirratulus* sp. A

Costa Rican record: Golfo Dulce - Nichols Driscoll, 1976: 291

Habitat: Subtidal, sandy mud, 70 m.

*Cirratulus* sp. B

Costa Rican record: Golfo Dulce - Nichols Driscoll, 1976: 291.

Habitat: Subtidal, sandy mud, 70 m.

*Cirriformia spirobrancha* (Moore 1904)

Costa Rican record: Golfo Dulce - Nichols Driscoll, 1976: 291.

Habitat: Subtidal, sandy mud, 70 m.

Distribution: Previously reported from northern, central and southern California (Blake 1996a).

*Monticellina cryptica* Blake 1996

Material Examined: *Sta.* 24, 9°49'25" N, 84°41'20" W, 11 m, sand, Oct 1980 (127); Jan 1981 (1); Jun 1981 (7). *Sta.* 28, 9°52'16" N, 84°45'30" W, 26 m, mud, Oct 1980 (2). *Sta.* 29, 9°54'55" N, 84°45'15" W, 18 m, muddy sand, Jul 1980, (6); Oct 1980 (9); Jan 1981 (18); Apr 1981 (3); Jun 1981 (7); Aug 1981 (17); Apr 1982 (6). *Sta.* 30, 9°54'40" N, 84°45'50" W, 18 m, muddy sand, Oct 1980 (1); Jan 1981 (3); Apr 1981 (4).

Costa Rican records: Golfo de Nicoya - Dean 1996a: 72 (as *Tharyx* sp. B).

Habitat: Subtidal, mud to sand, 11-26 m.

Distribution: Described from continental shelf depths off California by Blake (1996a).

*Montecellina secunda*

(Banse & Hobson 1968)

Material Examined: *Sta.* 24, 9°49'25" N, 84°41'20" W, 11 m, sand, Oct 1980 (1); Jun 1981 (2); Aug 1981 (1). *Sta.* 29, 9°54'55" N, 84°45'15" W, 18 m, muddy sand, Jan 1981 (73); Apr 1981 (2). *Sta.* 30, 9°54'40" N, 84°45'50" W, 18 m, muddy sand, Jan 1981 (2).

Costa Rican records: Golfo de Nicoya - Dean 1996a: 72 (as *Monticellina* sp. A).

Habitat: Subtidal, muddy sand to sand, 11-18 m.

Distribution: Previously reported from Washington State, USA (Blake 1996a).

*Monticellina serratiseta*

(Banse & Hobson 1968)

Material Examined: *Sta.* 30, 9°54'40" N, 84°45'50" W, 18 m, muddy sand, Oct 1980 (1).

Costa Rican record: Golfo de Nicoya - Dean 1996a: 71 (as *Monticellina tessellata* (in part)).

Habitat: subtidal muddy sand, 18 m.

Distribution: Known previously from shallow waters in Puget Sound, Washington, USA (Blake 1996a).

*Monticellina tessellata* (Hartman 1960)

Material Examined: *Sta.* 24, 9°49'25" N, 84°41'20" W, 11 m, sand, Oct 1980 (89); Jan 1981 (1); Aug 1981 (1). *Sta.* 29, 9°54'55" N, 84°45'15" W, 18 m, muddy sand, Jul 1980, (4); Oct 1980, (4); Jan 1981 (16); Apr 1981 (1); June 1981 (1); Aug 1981 (28). *Sta.* 30, 9°54'40" N, 84°45'50" W, 18 m, muddy sand, Jan 1981 (1).

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 335, Maurer *et al.* 1988: 46 (both as *Tharyx tessellata*), Dean 1996a: 72 (in part).

Habitat: Subtidal mud to sand: 11-18 m.

Distribution: Central and southern California, USA (Blake 1996a).

*Monticellina* sp. A

= *Monticellina secunda*

*Monticellina* sp. B

Material Examined: *Sta.* 28, 9°52'16" N, 84°45'30" W, 26 m, mud, Oct 1980 (1). *Sta.* 29, 9°54'55" N, 84°45'15" W, 18 m, muddy sand, Jan 1981 (1); Aug 1981 (2) Apr 1982 (1).

Costa Rican records: Golfo de Nicoya - Dean 1996a: 72 (as *Monticellina tessellata* (in part)).

Habitat: Subtidal mud to muddy sand, 18-26 m.

cf *Tharyx epitoca* Monro 1930

Costa Rican record: Golfo Dulce - Nichols Driscoll, 1976: 290.

Habitat: Subtidal, muddy sand, 64 m.

Distribution: Originally described from the Antarctic and Uschakov (1950) reported it from the Sea of Okothsk, Russia. The Costa Rican record is highly doubtful.

*Tharyx marioni* (Saint-Joseph 1894)  
= *Aphelochaeta marioni*

*Tharyx monilaris* Hartman 1960  
= *Aphelochaeta monilaris*

*Tharyx multifilis* Moore 1909  
= *Aphelochaeta multifilis*  
(sensu Nichols Driscoll 1976)  
= *Aphelochaeta glandaria*

*Tharyx parvus* Berkeley 1929

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 335, Maurer *et al.* 1988: 46, Vargas 1987: 304, Vargas 1989: 1909.

Habitat: intertidal muddy sand & subtidal mud.

Distribution: Previously reported from British Columbia, Canada, to northern California (USA) in the eastern Pacific (Blake 1996a).

*Tharyx tessellata* Hartman 1960  
= *Monticellina tessellata*

*Tharyx* sp. A = *Tharyx* sp. X

*Tharyx* sp. B = *Monticellina cryptica*

*Tharyx* sp. X

Material Examined: *Sta.* 24, 9°49'25" N, 84°41'20" W, 11 m, sand, Oct 1980 (7); Jan 1981 (2); Apr 1981 (4); Jun 1981 (18) Aug 1981 (33). *Sta.* 28, 9°52'16" N, 84°45'30" W, 26 m, mud, Jul 1980 (1); Oct 1980 (4); Apr 1981 (8); June 1981 (4); Aug 1981 (6). *Sta.* 29, 9°54'55" N, 84°45'15" W, 18 m, muddy sand, Jan 1981 (3); June 1981 (1); Aug 1981 (58). *Sta.* 30, 9°54'40" N, 84°45'50" W, 18 m,

muddy sand, Oct 1980 (7); Jan 1981 (13); Apr 1981 (9); Aug 1981 (17). *Sta.* 33, 9°53'40" N, 84°53'20" W, 11 m, mud, Jul 1980 (1). *Sta.* 36, 9°55'32" N, 84°45'20" W, 18 m, sandy mud, Jul 1980 (2).

Costa Rican records: Golfo de Nicoya - Dean 1996a: 72 (as *Tharyx* sp. A (in part)).

Habitat: Subtidal mud to sand, 11-26 m.

### Cossuridae

*Cossura brunnea* Fauchald 1972

Costa Rican Records: Golfo de Nicoya - Vargas *et al.* 1985: 335, Maurer *et al.* 1988: 47 (both as *Cossura rostrata*), Dean 1996a: 72. Golfo Dulce - Dean 1996b: 83, León-Morales & Vargas 1998: 85.

Habitat: Subtidal, mud to muddy sand, 11-18 m.

Remarks: This species has been recorded from Oregon to western Mexico in the eastern Pacific as well as in the western Atlantic but seems to be restricted to deeper (>1600 m) waters (Hilbig 1996). This identification needs to be substantiated.

*Cossura laeviseta* Hartmann-Schröder 1962

Costa Rican record: Golfo de Nicoya - Dean 1996a: 72.

Habitat: Subtidal, mud to sand, 11-26 m.

Remarks: Reported only from its type locality in the shallow subtidal of Peru (Hartmann-Schröder 1962), thus the Costa Rican specimens need to be re-examined.

*Cossura rostrata* Fauchald 1972  
= *Cossura brunnea*

Cossuridae sp.

Costa Rican record: Golfo Dulce - Nichols Driscoll, 1976: 290.

Habitat: Subtidal, mud, 64-70 m.

**Dorvilleidae**

*Anisoceras vittata* Grube 1856  
= *Dorvillea vittata*

*Anisoceras bioculata* Grube 1856  
= *Dorvillea bioculata*

*Dorvillea bioculata* (Grube 1856)

Costa Rican record: Puntarenas - Grube 1856: 62.

Habitat: Subtidal?

Remarks: Hartman (1959) regarded this species as indeterminable

*Dorvillea (Schistomeringos) annulata*  
(Moore 1906)

Costa Rican record: Golfo de Nicoya - Dean 1996a: 72 ( as *Schistomeringos annulata*).

Habitat: Subtidal, sand, 11 m.

Distribution: known from Washington (USA) to Western Mexico (Hilbig 1995a).

*Dorvillea (Schistomeringos) pacifica*  
(Westheide 1977)

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 335, Maurer *et al.* 1988: 47 (both as *Schistomeringos longicornis*), Dean 1996a: 72.

Habitat: Subtidal, mud to sand, 11-26 m.

Distribution: Reported only from the Galapagos Islands (Westheide 1977).

*Dorvillea vittata* (Grube 1856)

Costa Rican record: Puntarenas - Grube 1856: 61 (as *Anisoceras vittata*)

Habitat: Subtidal?

Distribution: Known only from the single record from Costa Rica.

Dorvilleidae sp.

Costa Rican record: Golfo Dulce - Nichols Driscoll, 1976: 83.

Habitat: Subtidal, mud, 70 m.

*Meiodorvillea* sp.

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 335, Maurer *et al.* 1988: 47  
Habitat: Subtidal, mud.

*Pettibonea* sp. A

Costa Rican record: Golfo de Nicoya; Dean 1996a: 72.

Habitat: Subtidal, muddy sand to sand, 11-18 m.

*Pettibonea* sp. B

Costa Rican record: Golfo de Nicoya - Dean 1996a: 72.

Habitat: Subtidal, mud, 26 m.

*Pettiboneia duofurca* Wolf 1987

Costa Rican records: Golfo Dulce - Dean 1996b: 83, León-Morales & Vargas 1998: 85.

Habitat: Subtidal, mud.

Distribution: Known only from the Gulf of Mexico (Wolf, 1987) so this material should be re-examined.

*Pettiboneia* sp.

Costa Rican records: Golfo Dulce - Dean 1996b: 83, León-Morales & Vargas 1998: 85.

Habitat: Subtidal, mud.

*Schistomeringos annulata* (Moore 1906)  
= *Dorvillea (Schistomeringos) annulata*

*Schistomeringos longicornis* (Ehlers 1901)  
= *Dorvillea (Schistomeringos) pacifica*

*Schistomeringos pacifica* Westheide 1977  
= *Dorvillea (Schistomeringos) pacifica*

**Eulepethidae**

*Grubeulepis ecuadorensis* Pettibone 1969

Costa Rican records: Golfo de Nicoya - Maurer *et al.* 1988: 47 (as *Grubeulepis* sp.), Dean 1996a: 72.

Habitat: Subtidal, muddy sand, 18 m.

Distribution: Previously reported subtidally in "Amuck" at 36.5 m. from the coast of Ecuador (Pettibone 1969).

*Grubeulepis* sp. = *Grubeulepis ecuadorensis*

*Pareulepis* sp.

Costa Rican record: Golfo Dulce - Nichols Driscoll, 1976: 287.

Habitat: Subtidal, sandy mud (?), 254 m.

### Eunicidae

*Eunice violacea* Grube 1856

Costa Rican record: Near Puntarenas - Grube 1856: 55-56

Habitat: Subtidal?

Distribution: Fauchald (1992a) regards this as an indeterminable species.

*Eunice cedroensis* Fauchald 1970

Costa Rican record: Golfo de Nicoya - Dean 1996a: 72.

Habitat: Subtidal, mud to muddy sand, 20-46 m.

Distribution: Described from Baja California, Mexico (Fauchald 1970).

*Eunice lucei* Grube 1856

Costa Rican record: near Puntarenas - Grube 1856: 57-58.

Habitat: Subtidal?

Remarks: Hartman (1959) listed this species as indeterminable.

*Eunice mutilata* Webster 1884

Costa Rican records: Golfo de Santa Elena, Parker Bay, Hartman 1944a: 113-114.

Habitat: Subtidal, sandy mud, 10-20 m.

Distribution: Common in the tropical Eastern Pacific and Western Atlantic Ocean (Fauchald 1977).

*Eunice quadriocculata* Grube 1856  
= *Marphysa quadriocculata*

*Eunice schemacephala* Schmarda 1861

Costa Rican record: Golfo Dulce - Nichols Driscoll, 1976: 288 (as *E. schemacephala* (sic))

Habitat: Subtidal, mud, 70 m.

Remarks: Fauchald (1992a) regards this as an indeterminable species.

*Eunice vittatopsis* Fauchald 1970

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 335, Maurer *et al.* 1988: 47. Golfo Dulce - Dean 1996b: 83, León-Morales & Vargas 1998: 85.

Habitat: Subtidal, mud.

Distribution: known in the Eastern Pacific from California (USA) to Panama (Fauchald 1977).

*Marphysa conferta* Moore 1911

Costa Rican record: Golfo Dulce - Dean 1996b: 83.

Habitat: Subtidal, mud.

Distribution: Previously reported from southern California (USA) to Baja California, Mexico (Hilbig 1995b).

*Marphysa quadriocculata* (Grube 1856)

Costa Rican record: Puntarenas - Grube 1856: 60.

Habitat: Subtidal?

Remarks: This species was characterized by Hartman (1944a) as incompletely known and has not been reported since its description.

*Palola siciliensis* (Grube 1840)

Costa Rican record: Golfo de Santa Elena, Parker Bay, Hartman 1944a: 131.

Habitat: Subtidal, in coral.

Distribution: Reported to be widespread in warmer waters but many records of this species could be suspect following Fauchald's (1992a) review of type material.

### Flabelligeridae

#### *Pherusa* sp.

Costa Rican record: Golfo Dulce - Nichols Driscoll 1976: 290.

Habitat: Subtidal, mud to sand, 70-254 m.

#### *Pherusa inflata* (Treadwell 1914)

Costa Rican record: Golfo de Nicoya - Dean 1996a: 72.

Habitat: Subtidal, mud to sand, 11-26 m.

Distribution: Reported in the intertidal to shallow subtidal from Oregon to southern California in the eastern Pacific (Blake 2000b).

#### *Pherusa capulata* (Moore 1909)

Costa Rican record: Golfo Dulce - Dean 1996b: 83.

Habitat: Subtidal, sandy mud to sand, 75 - 200 m.

Distribution: Reported from intertidal to deep subtidal sandy sediments off the California coast (Blake 2000b).

#### *Pherusa* sp.

Costa Rican record: Golfo Dulce - Dean 1996b: 83

Habitat: Subtidal, mud.

### Glyceridae

#### *Glycera americana* Leidy 1855

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 335, Maurer *et al.* 1988: 47.

Habitat: Subtidal, mud.

Distribution: Reported in the Western Atlantic from Massachusetts (USA) to Argentina and in the eastern Pacific from the Straights of Magellan to Panama (Böttgeman 2002).

#### *Glycera brevicirris* Grube 1870

Costa Rican records: Gulf of Nicoya - Böttgeman 2002: 46

Habitat: Subtidal, muddy sand, 20-22 m.

Distribution: Widespread, reported from Costa Rica and Panama in the eastern Pacific (Böttgeman 2002).

#### *Glycera capitata* Oersted, 1842 = *Hemipodia californiensis*

#### *Glycera convoluta* Keferstein 1862 = *Glycera prosobranchia*

#### *Glycera dibranchiata* Ehlers 1868 = *Glycera guatemalensis*

#### *Glycera gigantea* Quatrefages 1865

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 335, Maurer *et al.* 1988: 47 (both as *Glycera papillosa* Grube).

Habitat: Subtidal, mud.

Distribution: *Glycera gigantea*, described from the French coast, has been synonymized with *G. fallax* which is known from the eastern North Atlantic and Mediterranean Sea (Böttgeman 2002). The Costa Rica material needs to be re-examined.

#### *Glycera guatemalensis* Böttgeman & Fiege 2001

Material examined: Golfo de Nicoya, red para camaron (shrimp trawl), Oct. 1975.

Costa Rican record: Golfo de Nicoya - Dean 1996a: 72.

Habitat: Collected by shrimp net at 36.7 m.

Distribution: Reported previously only from the type locality, Guatemala. (Böttgeman & Fiege 2001).

*Glycera longipinnis* Grube 1878  
= *G. sphyrabranchia*

*Glycera oxycephala* Ehlers 1887

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 335, Maurer *et al.* 1988: 47. Caribbean, Manzanillo - Böggemann 2002: 40.

Habitat: Intertidal to subtidal sand and rubble.

Distribution: Widespread in temperate and tropical seas (Böggemann 2002).

*Glycera papillosa* Grube 1857  
= *Glycera gigantea*

*Glycera prosobranchia*  
Böggemann & Fiege 2001

Material examined: *Sta.* 24, 9°49'25" N, 84°41'20" W, 11 m, sand, Oct 1980 (28); Jan 1981 (4); Apr 1981 (2); Aug 1981 (7). *Sta.* 29, 9°54'55" N, 84°45'15" W, 18 m, muddy sand, Oct 1980 (5); Jan 1981 (6); Apr 1981 (9); Jun 1981 (10); Aug, 1981 (6); Apr 1982 (13).

Habitat: Subtidal, sandy mud to sand, 10-28 m.

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 335, Maurer *et al.* 1988: 47, Dean 1996a: 72 (all as *Glycera convoluta*), Böggemann & Fiege 2001: 38-39.

Distribution: East Pacific, Mexico to Panama; Caribbean Panama (Böggemann & Fiege 2001).

*Glycera robusta* Ehlers 1868  
= *Glycera tessellata*

*Glycera sphyrabranchia* Schmarda 1861

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 335, Maurer *et al.* 1988: 47 (both as *Glycera longipinnis*).

Habitat: Subtidal, mud.

Distribution: This species is known from tropical seas including both the Atlantic and Caribbean coasts of Panama (Böggemann 2002).

*Glycera tessellata* Grube 1863

Material examined: Golfo de Nicoya, *Sta.* 24, 9°49'25" N, 84°41'20" W, 11 m, sand, Aug 1981 (1). *Sta.* 28, 9°52'16" N, 84°45'30" W, 26 m, mud, Oct 1980 (1). *Sta.* 29, 9°54'55" N, 84°45'15" W, 18 m, muddy sand, Jan 1981 (5); Apr 1982 (1). *Sta.* 34, 9°55'30" N, 84°50'05" W, 24 m, sand, Jul 1980, (1).

Habitat: Subtidal, in broken shell sediments and mud to sand, 18-46 m.

Costa Rican records: Golfo de Santa Elena, Playa Blanca - Hartman 1940: 247. Golfo de Nicoya - Dean 1996a: 72 ( as *G. robusta*).

Distribution: Böggemann (2002) states that this species is found on both sides of the north Atlantic, the Red Sea, the Mediterranean, both sides of southern Africa, the Caribbean Sea, and the Gulf of Mexico. He reported its distribution in the Pacific as from the Indo-Pacific and the northwestern Pacific but mentions that he has examined the type of *Glycera fundicola* Chamberlin 1919 from Peru and believes it to also be *G. tessellata*.

*Hemipodus armatus* Hartman 1950  
= *Hemipodia pustatula*

*Hemipodia pustatula* (Friedrich 1956)

Material examined: Punta Morales, intertidal sandy mud (3).

Habitat: Intertidal, sandy beaches

Costa Rican records: Caribbean, Cahuita & Puerto Viejo - Fauchald 1973: 22 (as *Hemipodus armatus* Hartman 1950), Limon Cahuita, & Puerto Viejo - Dexter, 1974: 56 (as *Hemipodus armatus* Hartman 1950), Carretera, Cahuita, Puerto Vargas, Manzanillo & Gandoca - Böggemann 2002: 83. Pacific coast, Samara & Tamarindo - Fauchald 1973: 22 (as *Hemipodus armatus* Hartman 1950), Playa Matapalo, Guiones, Playa Sámara, Playa Carrillo, Punta Islita, Montezuma - Böggemann 2002: 83.

Distribution: Böggemann (2002) reports this species from the western Atlantic coast of South America and from Mexico to Chile in

the eastern Pacific. Böggeman (2002) feels that *Hemipodia armata* (Hartman 1950) (= *Hemipodus armatus*) may be a variant of *H. pusatula* in which case the name *Hemipodia armata* would take precedence

*Hemipodia californiensis* (Hartman 1938)

Habitat: Intertidal and subtidal, mud to sand, 11-26 m.

Costa Rican records: Pacific coast, Golfo de Nicoya - Vargas *et al.* 1985: 335, Maurer *et al.* 1988: 47 (both as *Glycera capitata*), Dean 1996a: 72 (as *Hemipodus simplex* (Grube 1857), Playa Matapalo and Playa Flamingo - Böggemann 2002: 82. Golfo Dulce - Dean 1996b: 83, León-Morales & Vargas 1998: 85 (all as *Glycera capitata*).

Distribution: Reported in the eastern Pacific from California (USA) to Peru as well as southeastern South America (Böggemann 2002).

*Hemipodus simplex* (Grube 1857)  
= *Hemipodia californiensis*

### Goniadidae

*Glycinde armigera* Moore 1911

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 335, Maurer *et al.* 1988: 47, Vargas 1987: 304, 1988: 294, 1989: 1909. Golfo Dulce - Nichols Driscoll 1976: 288.

Habitat: Subtidal, mud, 64-254 m.

Distribution: From British Columbia (Canada) to Central America in the eastern Pacific (Hilbig 1997a).

*Glycinde multidentis* F. Müller 1859

Costa Rican records: Golfo de Papagayo, Bahía Coco & Golfo de Santa Elena, Bahía Salinas - Hartman 1940: 249-251. Golfo de Nicoya - Dean 1996a: 72.

Habitat: Subtidal, muddy sand, 4-18 m.

Remarks: Hartman (1940) reported this species from Brazil to Panama and the

Galapagos Islands but de León-González (1988) pointed out that Hartman's material was different from *G. multidentis* and could possibly have been *G. armigera* or *G. solitaria*. *Glycinde solitaria* has since been reported from the Gulf of California, Mexico (Hernández-Alcántara & Solís-Weiss (1991) and the Costa Rican material should be re-examined.

*Glycinde pacifica* Monro 1928

Costa Rican records: Golfo Dulce - Vargas *et al.* 1985: 335, Maurer *et al.* 1988: 47, Dean 1996b: 83, León-Morales & Vargas 1998: 85.

Habitat: Subtidal, mud.

Remarks: *G. pacifica* was described from Pacific Panama and has not been collected since. Hartman (1950) reported that this species is perhaps identical with *G. armigera* and specimens should be re-examined.

*Glycinde paucignatha*  
Hartmann-Schröder 1959

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 335, Maurer *et al.* 1988: 47 (both as *Goniadides* sp.).

Habitat: Subtidal, mud.

Distribution: *G. paucignatha* has only been reported from the type locality in Alaska so the records from Costa Rica are suspect.

*Goniada brunnea* Treadwell 1906

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 335, Maurer *et al.* 1988: 47 (both as *Goniada maculata*), Dean 1996a: 72.

Habitat: Subtidal, muddy sand to sand, 11-18 m.

Distribution: Reported in the central and eastern Pacific from Alaska to California (USA) and from the Western North Atlantic Ocean by Hilbig (1997a), however, she cautions that this species could easily be confused with *Goniada maculata* Oersted so this material should be re-examined.

*Goniada maculata* Oersted 1843  
= *Goniada brunnea*



*Goniadides* sp.  
= *Glycinde paucignatha*

### Hesionidae

*Glyphohesione nicoyensis* Dean 1998a

Material examined: Golfo de Nicoya, *Sta.* 23, 9°48'35" N, 84°43'50" W, 35 m, mud, Jul 1980 (1). *Sta.* 24, 9°49'25" N, 84°41'20" W, 11 m, sand, Jun 1981, (4); Aug 1981 (4). *Sta.* 28, 9°52'16" N, 84°45'30" W, 26 m, mud, Jul 1980 (2); Oct 1980, (1); Jan 1981, (2); Jun 1981, (2); Aug 1981, (3). *Sta.* 29, 9°54'55" N, 84°45'15" W, 18 m, muddy sand, Jul 1980 (2); Aug 1981, (3). *Sta.* 30, 9°54'40" N, 84°45'50" W, 18 m, muddy sand, Oct 1980, (3); Jan 1981, (4); Apr 1981, (2); Jun 1981, (2). Punta Morales, 10°04'N, 85°58'W, intertidal, Lagartos sand flat, Aug 1996; muddy sand (1), intertidal, boat ramp, sand (1), intertidal, rocky sand (1), intertidal, sand (1).

Costa Rican record: Golfo de Nicoya - Dean 1998a: 257-262.

Habitat: Golfo de Nicoya, subtidal, mud to sand, 11-25 m; intertidal

Distribution: Described from the Golfo de Nicoya (Dean 1998a).

*Gyptis brunnea* (Hartman 1961)

Costa Rican records: Golfo Dulce - Dean 1996b: 83 (listed as a Phyllodocidae), León-Morales & Vargas 1998: 85.

Habitat: Subtidal, mud.

Distribution: Reported only from California, USA, (Hilbig 1997b) so the Costa Rican material should be re-examined.

*Gyptis* cf. *hians* Fauchald & Hancock, 1981

Material Examined: *Sta.* 24, 9°49'25" N, 84°41'20" W, 11 m, sand, Apr 1981 (1).

Costa Rican record: Golfo de Nicoya - Dean 1996a: 72 (as *Gyptis plurisetis*).

Habitat: Subtidal, sand, 11 m.

Distribution: Collected previously from Oregon to California, USA, (Hilbig 1997b) so the Costa Rican material needs to be re-examined.

*Gyptis plurisetis* Hilbig = *Gyptis* cf. *hians*

*Gyptis* sp. A

Costa Rican record: Golfo de Nicoya - Dean 1996a: 72.

Habitat: Subtidal, muddy sand, 18 m.

*Leocrates* sp. = *Microphthalmus* sp.

*Microphthalmus* sp.

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 335, Maurer *et al.* 1988: 46 (as *Leocrates* sp.), Vargas 1989.

*Parahesion* sp.

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 335 (as *Syllidia* sp.), Maurer *et al.* 1988: 47 (as "*Syllidia*" sp.).

Habitat: Subtidal, mud.

*Podarke minuta* Hartmann-Schröder 1959  
= *Podarke pugettensis*

*Podarke pugettensis* Johnson 1901

Material Examined: *Sta.* 24, 9°49'25" N, 84°41'20" W, 11 m, sand, Oct 1980 (3); Jan 1981 (4); Apr 1981 (2); Aug 1981 (3). *Sta.* 28, 9°52'16" N, 84°45'30" W, 26 m, mud, Jul 1980, (1); Oct 1980 (2); Jan 1981 (2); Apr 1981 (1); June 1981 (7); Aug 1981 (1). *Sta.* 29, 9°54'55" N, 84°45'15" W, 18 m, muddy sand, Jul 1980 (9); Jan 1981 (139); Apr 1981 (10); June 1981 (14); Aug 1981 (54); Apr 1982 (20).

Costa Rican record: Golfo de Nicoya - Dean 1996a: 72 (as *Podarke minuta* (in part)).

Habitat: Subtidal, mud to sand, 11-26 m.

Distribution: The reported distribution of this species is Washington State to central

California, USA, (Hilbig 1997b) so the Costa Rican material needs to be re-examined.

*Podarkeopsis brevipalpa*  
(Hartmann-Schröder 1959)

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 335, Maurer *et al.* 1988: 47, Dean 1996a: 72. Golfo Dulce - Dean 1996b: 83, León-Morales & Vargas 1998: 85.

Habitat: Subtidal, mud to sand, 11-26 m.

Distribution: Reported from California (USA) to El Salvador. But Hilbig (1997b) indicates this species could be confused with *P. glabra* (Hartman 1961) thus the Costa Rican material should be re-examined.

**Longosomatidae**

*Heterospio catalinensis* Hartman 1944

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 335, Maurer *et al.* 1988: 47.

Habitat: Subtidal, mud

Distribution: Reported from California in the eastern Pacific and there is also a report of this species in the Mediterranean (Borowski 1994).

**Lumbrineridae**

*Angeneria* (sic) = *Augenaria* sp.

Habitat: Subtidal muds, sandy silt, 70 m.

Costa Rican record: Golfo Dulce - Nichols Driscoll, 1976: 288.

*Eranno chilensis* Kinberg 1865

Costa Rican record: Golfo Dulce - Dean 1996b: 83 (as *Ninoe chilensis*)

Habitat: Subtidal mud.

Distribution: Orensanz (1990) re-examined the type material and substantiated records of what was then known as *N. chilensis* from

Chile to Panama in the eastern Pacific. He indicated that *Ninoe foliosa* Fauchald 1972 from western Mexico may also be this species.

*Lumbrinerides acuta* (Verrill 1875)

Costa Rican records: Golfo Dulce - Nichols Driscoll, 1976: 288 (as *Lumbrineris acuta*). Golfo de Nicoya - Vargas *et al.* 1985: 335, Maurer *et al.* 1988: 47 (both as *Lumbrineris acuta*).

Habitat: Subtidal silty sand, 64 m.

Remarks: *Lumbrinerides acuta* has been reported from Georges Bank to the Gulf of Mexico in the western Atlantic, and southern California to western Mexico in the eastern Pacific (Solis-Weiss *et al.* 1995)

*Lumbrineris acuta* (Verrill 1875)

= *Lumbrinerides acuta*

*Lumbrineris brevicirra* (Schmarda 1861)

= *Scoletoma tetraura*

*Lumbrineris inflata* Moore 1911

Costa Rican records: Golfo Dulce - Nichols Driscoll, 1976: 288. Golfo de Nicoya - Vargas *et al.* 1985: 336, Maurer *et al.* 1988: 47.

Habitat: Subtidal muds, 64-70 m.

Distribution: Widely distributed and known in the eastern Pacific from British Columbia (Canada) to western Mexico (Hilbig 1995c).

*Lumbrineris latreilli*

Audouin & Edwards 1834

Costa Rican records: Golfo de Papagayo, Puerto Culebra - Hartman 1944: 158-159. Golfo Dulce - Nichols Driscoll 1976: 288.

Habitat: Subtidal in muds, sand and shell, 64 m.

Distribution: This species has a wide distribution and extends from British Columbia (Canada) to western Mexico in the east Pacific (Hilbig 1995c).

*Lumbrineris limicola* Hartman 1944

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 336, Maurer *et al.* 1988: 47, Dean 1996a: 72.

Habitat: Subtidal muddy sand to sand, 11-18 m.

Distribution: Central California (USA) to western Mexico (Hilbig 1995c).

*Lumbrineris moorei* Hartman 1941

Costa Rican record: Golfo Dulce - Nichols Driscoll, 1976: 288.

Habitat: Subtidal sand, 64 m.

Distribution: Recorded from western Mexico to Pacific Panama (Fauchald 1973).

*Lumbrineris tetraura* (Schmarda 1861)  
= *Scoletoma tetraura**Lumbrineris zonata* (Johnston 1901)

Costa Rican record: Golfo Dulce - Nichols Driscoll, 1976: 289.

Habitat: Subtidal mud, 70 m.

Distribution: Fauchald (1973) reported this species in the Eastern Pacific from Washington State (USA) to Panama.

*Lumbrineris* sp. = *Scoletoma monroi**Lumbrineris* spp.

Costa Rican record: Golfo de Nicoya - Dittman & Vargas 2001: 287.

Habitat: Intertidal, muddy sand.

*Ninoe chilensis* Kinberg, 1865  
= *Eranno chilensis**Kuwaita dolichognatha* Rioja 1941

Costa Rican records: Golfo de Nicoya - Dean 1996a: 72, (as *Ninoe dolichognatha*)

Habitat: Subtidal muddy sand, 18 m.

Remarks: Carrera-Parra & Orensanz (2002) included this species within the genus

*Kuwaita*. Recorded from western Mexico (Salazar-Vallejo 1981).

*Ninoe fusca* Moore 1911 = *Paraninoe fusca**Ninoe foliosa* Fauchald 1972

Costa Rican records: Golfo de Nicoya - Dean 1996a: 73. Golfo Dulce - Dean 1996b: 83.

Habitat: Subtidal sand and mud, 11 m.

Remarks: As stated above, Orensanz (1990) indicates that this species actually be *Eranno chilensis*.

*Ninoe gemmea* Moore 1911

Costa Rican record: Golfo Dulce - Nichols Driscoll, 1976: 289.

Habitat: Subtidal silty sand, 64 m.

Distribution: Hilbig (1995c) reports this species only from central and southern California so its occurrence in Costa Rica is questionable.

*Ninoe* sp. A

Costa Rican record: Golfo Dulce - Nichols Driscoll, 1976: 289.

Habitat: Subtidal sandy mud, 70 m.

*Ninoe* sp. B

Costa Rican record: Golfo Dulce - Nichols Driscoll, 1976: 289.

Habitat: Subtidal sandy mud, 70 m.

*Paraninoe fusca* (Moore 1911)

Costa Rican record: Golfo Dulce - Nichols Driscoll, 1976: 289.

Habitat: Subtidal, sand, 64 m.

Remarks: Levenstein (1977) established the new genus *Paraninoe* with *P. fusca* as the type species. He pointed out, however, that the members of this genus are found mainly from deep water and *P. fusca*, known off California (USA), is found at depths of 2770-4036 m. The Costa Rican record of this species is questionable.

*Scoletoma erecta* (Moore 1904)

Costa Rican record: Golfo de Nicoya - Dean 1996a: 73.

Habitat: Subtidal, mud to sand, 11-26 m.

Distribution: This species ranges from California (USA) to Panama in the eastern Pacific (Fauchald 1977).

*Scoletoma monroi* (Fauchald 1970)

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 336, Maurer *et al.* 1988: 47 (both as *Lumbrineris* sp.), Dean 1996a: 73.

Habitat: Subtidal, mud to sand, 11-26 m.

Distribution: This species is reported only from western Mexico (Fauchald 1970).

*Scoletoma platylobata* (Fauchald 1970)

Costa Rican records: Golfo de Nicoya - Dean 1996a: 73. Golfo Dulce - Dean 1996b: 83, León-Morales & Vargas 1998: 85.

Habitat: Subtidal mud, 26 m.

Distribution: Reported only from Baja California (Mexico) by Fauchald (1970).

*Scoletoma tetraura* (Schmarda 1861)

Costa Rican records: Golfo de Santa Elena, Parker Bay - Hartman 1944: 147-148. Golfo de Nicoya - Vargas *et al.* 1985: 336, Maurer *et al.* 1988: 47 (both as *Lumbrineris brevicirra*), Vargas 1987: 304, 1988: 294, 1989: 1909, 1996: 359, (as *Lumbrineris tetraura*), Dean 1996a: 83.

Habitat: Subtidal mud to sand, 11-26 m.; intertidal sandy mud and coral.

Distribution: Reported from California (USA) to Chile (Hilbig 1995c) and it was the most common species collected by Díaz-Castañeda & Rodríguez-Villanueva (1998) in samples taken in Baja California (Mexico).

**Lysaretidae**

*Aglaurides fulgida* (Savigny 1818)  
= *Oenone fulgida*

*Oenone fulgida* (Savigny 1818)

Costa Rican record: Golfo de Santa Elena, Playa Blanca, Parker Bay - Hartman 1944: 185-186.

Habitat: Subtidal, subtidal, mud, sand, algae, coral, 5-9 m.

Distribution: Reported intertidally to 40 m. from the Gulf of California (Mexico) to Peru in the eastern Pacific and also from Bermuda to the West Indies in the eastern Atlantic and Caribbean Sea (Hartman 1944a).

**Magelonidae**

*Magelona* (cf) *californica* Hartman 1944

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 336, Maurer *et al.* 1988: 47, Dean 1996a: 73.

Habitat: Subtidal, mud, 46 m.

Distribution: Known from Japan and California to Mexico in the Eastern Pacific Ocean. (Hernández-Alcántara & Solís-Weiss 2000).

*Magelona pacifica* Monro 1933

Costa Rican records: Golfo de Nicoya - Maurer & Vargas 1984: 101, Vargas *et al.* 1985: 336, Vargas 1987: 304, 1996: 359, Maurer *et al.* 1988: 47, Dean 1996a: 73. Golfo Dulce - Dean 1996b: 83.

Habitat: Subtidal, mud to sand, 11-18 m. Intertidal, muddy sand.

Distribution: Known in the eastern Pacific Ocean from California (USA) to Panama (Hernández-Alcántara & Solís-Weiss 2000).

*Magelona pitelkai* Hartman 1944

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 335, Maurer *et al.* 1988: 47, Dean 1996a: 73.

Habitat: Subtidal, mud to sand, 11-26 m.

Distribution: Known from California (USA) to Mexico in the eastern Pacific (Hernández-Alcántara & Solís-Weiss 2000).

*Magelona riojai* Jones 1963

Costa Rican record: Pacific coast, Jaco beach - Fauchald 1973: 25.

Habitat: Intertidal, sand beach

Distribution: Known from the Caribbean Sea and Mexico to Costa Rica in the eastern Pacific (Fauchald 1973).

*Magelona* sp. A

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 336, Maurer *et al.* 1988: 47, Dean 1996a: 73.

Habitat: Subtidal, mud to sand, 9-26 m.

Remarks: This is an as yet undescribed species.

*Magelona* sp. B

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 336, Maurer *et al.* 1988: 47, Dean 1996a: 73. Golfo Dulce - Dean 1996b: 83, León-Morales & Vargas 1998: 85.

Habitat: Subtidal, mud to sand, 11-26 m.

Remarks: This is an as yet undescribed species.

**Maldanidae***Clymenella* sp.

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 336, Maurer *et al.* 1988: 47.

Habitat: Subtidal, mud.

*Isocirrus longiceps* (Moore 1923)

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 336, Maurer *et al.* 1988: 47.

Habitat: Subtidal, mud.

Distribution: Previously reported from California and Washington State, USA (Banse & Hobson 1968).

## Maldanidae sp. A

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 336 (as Maldanidae sp. B), Maurer *et al.* 1988: 47.

Habitat: Subtidal, mud.

**Nephtyidae***Aglaophamus dicirris* Hartman 1950  
= *Aglaophamus verrilli**Aglaophamus tabogensis* (Monro 1933)

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 336, Maurer *et al.* 1988: 47, Dean 1996a: 73.

Habitat: Subtidal, muddy sand to sand, 11-18 m.

Distribution: Reported only from Panama in the Eastern Pacific Ocean (Fauchald 1977).

*Aglaophamus verrilli* (McIntosh 1885)

Habitat: Subtidal, mud to muddy sand, 18-20 m.

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 336, Maurer *et al.* 1988: 47 (both as *A. dicirris*), Dean 1996a: 73. Golfo Dulce - Dean 1996b: 83, León-Morales & Vargas 1998: 85.

Distribution: Widespread, from California to Panama in the Eastern Pacific (Hilbig 1997c).

*Nephtys monroi* Hartman 1950

Costa Rican records: Golfo de Nicoya, Punta Morales - Vargas *et al.* 1985: 336, Maurer *et al.* 1988: 47 (in part as *Nephtys* sp.), Vargas 1989: 1909.

Habitat: Intertidal, sandy mud.

Distribution: Reported only from Panama in the Eastern Pacific Ocean (Fauchald 1977).

*Nephtys panamensis* Monro 1928

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 336, Maurer *et al.* 1988: 47, Dean 1996a: 73.

Habitat: Subtidal, muddy sand, 9-22 m.

Distribution: Known from the Gulf of California to Panama (Kudenov 1980).

*Nephtys singularis* Hartman 1950

Costa Rican records: Pacific coast, Jaco, Samara, Tamarindo & Golfo de Nicoya, Puntarenas - Fauchald 1973: 22.

Habitat: Intertidal, sand beach.

Distribution: Known in the Eastern Pacific from Mexico to Guatemala (Kudenov 1980).

*Nephtys* sp.

Costa Rican records: Golfo Dulce - Nichols Driscoll, 1976: 288. Golfo de Nicoya - Vargas *et al.* 1985: 336, Maurer *et al.* 1988: 47.

Habitat: Subtidal, mud, 64 m.

**Nereididae**

*Ceratonereis singularis* Treadwell 1929

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 336 (as *C.* sp.), Maurer *et al.* 1988: 47 (as *Ceratonereis irritabilis*). Golfo Dulce - Dean 1996b: 83 (as *Ceratonereis crosslandi*), Dean 2001b: 39-41.

Habitat: shallow subtidal, coral rubble

Distribution: From Mexico to Panama in the eastern Pacific and North Carolina to Columbia in the Western Atlantic and Gulf of Mexico (Perkins 1980), de León-González & Solis Weiss (2000).

*Ceratonereis* sp.

Costa Rica record: Golfo Dulce - Nichols Driscoll 1976: 287

Habitat: subtidal, 64 meters

*Gymnonereis crosslandi* (Monro 1933)

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 336, Maurer *et al.* 1988: 47 (as *Ceratocephale crosslandi*), Vargas 1988: 294, Dean 1996a: 73 (as *Ceratocephale loveni*), Dean 2001b: 41-42. Golfo Dulce - Dean 1996b: 83, León-Morales & Vargas 1998: 85.

Habitat: muddy to sandy sediments, subtidal, 13-46 m and intertidal.

Distribution: From California (USA) to Panama in the eastern Pacific and the Gulf of Mexico (Hilbig 1997d). Also reported from western Mexico by de León-González & Solis-Weiss (2000).

*Laeonereis brunnea* Hartmann-Schröder 1959

Costa Rican records: Golfo de Nicoya & Golfo Dulce - Dean 2001b: 43-44.

Habitat: intertidal muddy to sandy sediments.

Distribution: Known from the type locality (El Salvador) and Costa Rica in the Eastern Pacific Dean (2001b).

*Leptonereis laevis* Kinberg 1866

Costa Rican records: Golfo de Nicoya - Dean 1996a: 73 (as *Neanthes* sp. E), Dean 2001b: 44-46.

Habitat: subtidal muddy sand to sand, 11-18 m.

Distribution: Reported from the Gulf of California, Mexico to Ecuador (Dean 2001b).

*Neanthes micromma* Harper 1979

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 336 (as *N.* sp.), Maurer *et al.* 1988: 47 (as *Neanthes* sp. B an *Nectoneanthes* sp.), Dean 1996a: 73 (as *Neanthes* sp. B (in part)), Dean 2001b: 46-47. Golfo Dulce - Dean 2001b: 46-47.

Habitat: subtidal mud to muddy sand, 11-40 m, also intertidal muds.

Distribution: Reported from the Gulf of Mexico and in the Eastern Pacific from the

Gulf of California (Mexico) to Costa Rica (Dean 2001b).

*Neanthes obscura* Treadwell 1928  
= *Perinereis helleri*

*Neanthes pseudonoodti* Fauchald 1977

Costa Rican record: Golfo Dulce - Dean 2001b: 47-48.

Habitat: shallow subtidal, coral rubble

Distribution: Known from the Pacific coast of Panama and Costa Rica (Dean 2001).

*Neanthes roosevelti* Hartman 1939b

Costa Rican record: Golfo Dulce - Dean 2001b: 48-50.

Habitat: shallow subtidal, vermetid reef.

Distribution: Known only from the Galapagos Islands and Golfo Dulce in Costa Rica (Dean 2001b).

*Neanthes succinea* (Frey & Leuckart 1847)

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 336, Dean 1996a: 73 (as *Nereis* sp. B (in part), Vargas 1996: 359, Dean 2001b: 51-52.

Habitat: intertidal muds to gravel, under rocks and in mangrove roots, subtidal sand, 11 meters, amongst cultured mussels

Distribution: *N. succinea*, as presently described, is considered a cosmopolitan species. (de León-González & Solis-Weiss 2000).

*Neanthes* sp. A

Costa Rican record: Golfo de Nicoya - Maurer *et al.* 1988: 47

Habitat: subtidal, mud.

*Nereis costaricensis* Dean 2001

Costa Rican record: Golfo de Nicoya - Dean 2001b: 52-53.

Habitat: intertidal soupy muds.

Distribution: Known only from the type locality, Punta Morales, Costa Rica.

*Nereis oligohalina* (Rioja 1946)

Costa Rican record: Golfo de Nicoya & Golfo Dulce - Dean 2001b: 53-56.

Habitat: intertidal sand and mangrove roots, shallow subtidal, vermetid reefs.

Distribution: Known from North Carolina to Mexico in the western Atlantic and from California (USA) to Costa Rica in the eastern Pacific (Dean 2001b).

*Nereis rigida* Grube 1857

Costa Rican record: Puntarenas - Grube 1857: 162.

Habitat: Intertidal to shallow subtidal?

Distribution: Reported from the Pacific coast of Costa Rica and the Caribbean Sea (Augener 1906).

*Nereis riisei* Grube 1857

Costa Rican record: Golfo de Papagayo - Dean 2001b: 56-58.

Habitat: rocky intertidal.

Distribution: This species has been reported in the Eastern Pacific from California to Panama (Dean 2001b).

*Nereis zonata* Malmgren 1867

Costa Rican records: Golfo de Nicoya - Dean 1996a: 73 (as *Nereis riisei*), Dean 2001b: 58-59.

Habitat: subtidal muddy sand to sand, 11-18 m.

Distribution: Considered a cosmopolitan species known from both sides of the Atlantic Ocean, the Mediterranean Sea, Japan, and the Eastern Pacific (Dean 2001b).

Nereidae sp. 1

Costa Rican record: Golfo de Nicoya - Dittman & Vargas 2001: 283.

Habitat: Intertidal, muddy sand.

*Nereis* sp.

Costa Rican record: Golfo Dulce - Nichols Driscoll, 1976: 288.

Habitat: subtidal, 64-254 meters.

*Perinereis helleri* Grube 1878

Costa Rican record: Cocos Island - Treadwell 1928a: 472 (as *Neanthes obscura*).

Habitat: subtidal.

Distribution: Widespread in the Pacific Ocean with records from the Phillipines, Australia, Indonesia, India and Chile (Hutchings *et al.* 1991).

*Perinereis seridentata*  
(Hartmann-Schröder 1959)

Costa Rican records: Golfo de Nicoya & Golfo Dulce - Dean 2001b: 59-61.

Habitat: Intertidal muddy sand to sand and amongst mangrove roots.

Distribution: Known from El Salvador to Costa Rica in the Eastern pacific (Dean 2001b).

*Platynereis dumerilii*  
(Audouin & Milne-Edwards 1834)

Costa Rican record: Golfo de Papagayo - Dean 2001b: 61-63.

Habitat: Rocky intertidal.

Distribution: *P. dumerilii* is considered a cosmopolitan species (Dean 2001b).

*Pseudonereis gallapagensis* Kinberg 1866

Costa Rican record: Golfo Dulce - Dean 2001b: 63-64.

Habitat: shallow subtidal, coral rubble.

Distribution: Widespread in tropical to temperate coastal regions on rock or coral substrates (Dean 2001b).

**Oeonidae***Arabella panamensis* Colbath 1989

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 334, Maurer *et al.* 1988: 46 (as *Arabella mutans*), Dean 1996a: 71, Colbath, 1989: 296-297.

Habitat: Subtidal, muddy sand, 18 m.

Remarks: A juvenile specimen from the Golfo de Nicoya was tentatively identified by Colbath (1989) as *Arabella panamensis* but, to this date, it has only been definitively reported from Pacific Panama.

*Arabella semimaculata* (Moore 1911)

Costa Rican record: Pacific coast, Bahia Herradura - Dean 1996a: 71.

Habitat: Intertidal

Distribution: Eastern Pacific Ocean from California to Mexico (Blake 1995a).

*Arabellida* sp. (*Arabella* ??)

Costa Rican record: Golfo Dulce - Nichols Driscoll, 1976: 289.

Habitat: Subtidal, mud, 64-70 m.

*Drilonereis falcata* Moore 1911

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 334, Maurer *et al.* 1988: 46, Dean 1996a: 71.

Habitat: Subtidal, muddy sand, 18 m.

Distribution: Possibly cosmopolitan, reported from California to Panama in the East Pacific (Fauchald 1977, Blake 1995a).

*Drilonereis nuda* Moore 1909

Costa Rican record: Golfo de Nicoya - Dean 1996a: 71.

Habitat: Subtidal, sand to muddy sand, 11-18 m.



Distribution: California to Mexico in the eastern Pacific Ocean (Blake 1995a).

cf *Notocirrus californiensis* Hartman 1944

Costa Rican record: Golfo Dulce - Nichols Driscoll 1976: 289.

Habitat: Subtidal, mud, 254 m.

Remarks: Known in the East Pacific Ocean from Washington State (USA) to Mexico (Banse & Hobson 1968, Hernández-Alcántara & Solís-Weiss 1991).

### Onuphidae

*Americanuphis reesei* Fauchald 1973

Costa Rican records: Golfo de Nicoya - Vargas 1996: 369.

Habitat: Intertidal sand.

Distribution: Pacific Panama and Costa Rica (Fauchald 1977).

*Diopatra farallonensis* Fauchald 1968

Costa Rican records: Golfo de Nicoya - Dean 1996a: 73. Golfo Dulce - Dean 1996b: 83, León-Morales & Vargas 1998: 85.

Habitat: Subtidal, mud, 42 m.

Distribution: Reported from Mexican waters in the tropical eastern Pacific (de León-González 1994b).

*Diopatra neotridens* Hartman 1944

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 336, Maurer *et al.* 1988: 47.

Habitat: Subtidal, mud.

Distribution: Fauchald (1968) reports this species from Baja California (Mexico) to Panama in the Eastern Pacific.

*Diopatra ornata* Moore 1911

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 336, Maurer *et al.* 1988: 47, Dean 1996a: 73, Vargas 1996: 359. Golfo

Dulce - Dean 1996b: 83, León-Morales & Vargas 1998: 85, Dittman & Vargas 2001: 287.

Habitat: Subtidal, mud to sand, 11-18 m.

Distribution: Eastern Pacific Ocean from Canada to Panama (Fauchald 1977, de León-González 1994b).

*Diopatra tridentata* Hartman 1944

Costa Rican records: Golfo de Santa Elena, Port Parker - Hartman 1944: 61-63. Golfo de Nicoya - Vargas *et al.* 1985: 336, Maurer *et al.* 1988: 47, Dean 1996a: 73.

Habitat: Subtidal, muddy sand to sand, 11-18 m.

Distribution: Known in the Eastern Pacific from California to Columbia; also reported from the Caribbean Sea (Fauchald 1968).

*Hyalinoecia juvenalis* Moore 1911

Costa Rican record: Golfo de Santa Elena, Playa Blanca & Port Parker - Hartman 1944: 46-47.

Habitat: Subtidal, sandy mud.

Distribution: Reported from California to Panama in the Eastern Pacific (Fauchald 1968).

*Kinbergonuphis microcephala*  
(Hartman 1944)

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 336, Maurer *et al.* 1988: 47, Dean 1996a: 73 (all as *Onuphis microcephala*).

Habitat: Subtidal, sandy mud, 9 m.

Distribution: Reported only from the Gulf of California, Mexico (Fauchald 1982) so the Costa Rican record needs to be re-examined.

*Kinbergonuphis vexillaria* (Moore 1911)

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 336, Maurer *et al.* 1988: 47, Dean 1996a: 73 (all *Onuphis vexillaria*).

Habitat: Subtidal, mud to sand, 11-46 m.

Distribution: Tropical Eastern Pacific from California (USA) to Mexico (de León-González 1994b).

*Kinbergonuphis* sp. A

Costa Rican record: Golfo de Nicoya - Dean 1996a: 73.

Habitat: Subtidal, mud, 18 m.

*Mooreonuphis nebulosa* (Moore 1911)

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 336, Maurer *et al.* 1988: 47, Dean 1996a: 73 (all as *Onuphis nebulosa*).

Habitat: Subtidal, muddy sand, 20 m.

Distribution: California to Panama in the Eastern Pacific and the Gulf of Mexico (Fauchald 1968, Hilbig 1995d).

*Naineris* sp.

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 336, Maurer *et al.* 1988: 47,

Habitat: Subtidal, mud.

*Onuphis microcephala* Hartman 1944  
= *Kinbergonuphis microcephala**Onuphis nebulosa* Moore 1911  
= *Mooreonuphis nebulosa**Onuphis vexillaria* Moore 1911  
= *Kinbergonuphis vexillaria**Onuphis* sp.

Costa Rican record: Golfo Dulce - Nichols Driscoll 1976: 288.

Habitat: Subtidal, mud, 64-354 m.

**Opheliidae***Ammotrypane bermudiensis* Treadwell 1936  
= *Ophelina bermudiensis**Armandia brevis* (Moore 1906)

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 336, Maurer *et al.* 1988: 47 (both as *Armandia* sp.), Dean 1996a: 73. Golfo Dulce - Dean 1996b: 83.

Habitat: Subtidal, mud to muddy sand, 18 m.

Remarks: Previously reported from Alaska to California in the eastern Pacific (Blake 1997a).

*Armandia salvadoriana*

Hartmann-Schröder 1956

Costa Rican records: Golfo de Nicoya - Dean 1996a: 73, Vargas 1988: 294, 1989: 1909.

Habitat: Subtidal, muddy sand, 7-18 m; Intertidal, muddy sand.

Distribution: Previously reported only from El Salvador (Hartmann-Schröder 1959).

*Euzonus (Thoracophelia) furciferus*  
(Ehlers 1897)

Costa Rican record: Pacific coast, Playa Espadilla, Quepos - Fauchald 1973: 27.

Habitat: Intertidal, sand beach.

Distribution: Originally described from Chile and subsequently reported from Pacific Panama (Fauchald 1973).

*Ophelina bermudiensis* (Treadwell 1936)

Costa Rican record: Golfo de Santa Elena, Piedra Blanca Bay, Port Parker - Treadwell 1941: 23 (as *Ammotrypane bermudiensis*).

Habitat: Subtidal, shelly mud, 6 m.

Remarks: The only records are from Bermuda so the Costa Rican record is questionable.

*Ophelina* sp.

Costa Rican record: Golfo de Nicoya - Dean 1996a: 73.

Habitat: Subtidal, muddy sand, 18 m.

**Orbiniidae***Leitoscoloplos elongatus* (Johnson 1901)  
= *Leitoscoloplos pugettensis*

*Leitoscoloplos pugettensis* (Pettibone 1957)

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 336, Maurer *et al.* 1988: 47, Dittman & Vargas 2001: 283 (all as *Haploscoloplos elongatus*), Dean 1996a: 74 (as *Leitoscoloplos elongatus*).

Habitat: Subtidal, mud to sand, 11-26 m.

Distribution: Reported in the eastern Pacific from Alaska to Chile (Blake 1996c).

*Naineris* sp.

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 336, Maurer *et al.* 1988: 47.

Habitat: Subtidal, mud.

*Orbinia johnsoni* (Moore 1909)

Costa Rican record: Pacific coast, Samara - Fauchald 1973: 24.

Habitat: Intertidal, sand beach.

Distribution: Known in the eastern Pacific from California (USA) to Costa Rica (Fauchald 1973).

*Orbinia riseri* (Pettibone 1957)

= *Scoloplos riseri*

*Scoloplos armiger* (Müller 1766)

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 336, Maurer *et al.* 1988: 47 (both as *Scoloplos acmeceps*), Dean 1996a: 74

Habitat: Subtidal, muddy sand to sand, 11-22 m.

Distribution: Cosmopolitan, reported from the eastern North Pacific from California (USA) to western Mexico (de León-González & Rodríguez 1996).

*Scoloplos ohlini* Ehlers 1901

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 336, Maurer *et al.* 1988: 47, Dean 1996a: 74.

Habitat: Subtidal, muddy sand to sand, 11-20 m.

Distribution: Reported from southern South America to western Mexico as well as New Zealand (Hartman 1957, Rainer 1981).

*Scoloplos riseri* (Pettibone 1957)

Costa Rican record: Golfo de Nicoya - Dean 1996a: 74 (as *Orbinia riserii*).

Habitat: Subtidal, muddy sand, 18 m.

Remarks: *Scoloplos riseri* was described by Pettibone (1957) from Woods Hole, Massachusetts (USA) in the western Atlantic Ocean as a member of the genus *Scoloplos* despite possessing subpodal ventral papillae on some anterior segments. Pettibone (1963) later reported *S. riseri* as also occurring in the Gulf of Mexico. Otherwise, there have been no other reports of this species and the record from Costa Rica is highly suspect.

*Scoloplos tribulosos* (Ehlers 1879)

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 336, Maurer *et al.* 1988: 47 (both as *Scoloplos rubra*), Dean 1996a: 74.

Habitat: Subtidal, mud to sand, 11-26 m.

Distribution: Known from Chile and Southern Argentina (Hartmann-Schröder 1991) so the Costa Rican record needs to be re-examined.

*Scoloplos treadwelli* Eisig 1914

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 336, Maurer *et al.* 1988: 47, Dean 1996a: 74.

Habitat: Subtidal, mud to sand, 11-26 m.

Distribution: Amphi-American, known from western Mexico in the Eastern Pacific (de León-González & Rodríguez 1996).

**Oweniidae***Owenia* spp.

Costa Rican record: Golfo de Nicoya - Dittman & Vargas 2001: 287.

Habitat: Intertidal, muddy sand.

**Paraonidae***Aricidea (Acmira) catherinae* Laubier 1967

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 336, Maurer *et al.* 1988: 47 (both as *Cirrophorus neopolitanus*), Dean 1996a: 74. Golfo Dulce - Dean 1996b: 83, León-Morales & Vargas 1998: 85 (all as *Aricidea (Acesta) catherinae*).

Habitat: Subtidal, mud to sand, 11-44 m.

Distribution: Widespread in the western North Atlantic. The Caribbean, and the Mediterranean but only reported from California (USA) in the eastern Pacific (Blake 1996d).

*Aricidea (Acmira) finitima* Strelzov 1973

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 336, Maurer *et al.* 1988: 47 (both as *Aricidea assimilis*), Dean 1996a: 74 (as *Aricidea (Acesta) finitima*).

Habitat: Subtidal, mud to sand, 11-26 m.

Distribution: Identified from the South Atlantic and North Pacific and also reported from California in the eastern Pacific (Strelzov 1973).

*Aricidea (Acmira) longicirrata*  
Hartmann-Schröder 1965

Costa Rican record: Golfo de Nicoya - Dean 1996a: 74 (as *Aricidea (Acesta) longicirrata*).

Habitat: Subtidal, sand, 11 m.

Distribution: Described from Chile in the southeastern Pacific Ocean (Strelzov 1973).

*Aricidea (Acmira) lopezi*  
Berkeley & Berkeley 1956

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 336, Maurer *et al.* 1988: 47, Vargas 1987: 304, Vargas 1988: 294, 1989: 1909, Dittman & Vargas 2001: 283 (all as *Acesta lopezi* Reish).

Habitat: Subtidal and Intertidal, sandy mud and mud.

Distribution: Widespread, reported from Canada to southern California in the eastern Pacific (Blake 1996d).

*Aricidea (Acmira) minima* Strelzov 1973

Costa Rican record: Golfo de Nicoya - Dean 1996a: 74 (as *Aricidea (Acesta) minima*).

Habitat: Subtidal, muddy sand to sand, 11-18 m.

Distribution: Reported only from the South Atlantic Ocean (Strelzov 1973) so the Costa Rican occurrence is suspect.

*Aricidea (Acmira) mirifica* Strelzov 1973

Costa Rican record: Golfo de Nicoya - Dean 1996a: 74 (as *Aricidea (Acesta) mirifica*).

Habitat: Subtidal, mud to muddy sand, 18-26 m.

Distribution: Reported from the Antarctic, New Guinea and southern California, USA (Strelzov 1973).

*Aricidea (Allia) sp.*

Costa Rican records: Golfo Dulce - Dean 1996b: 83, León-Morales & Vargas 1998: 85.

Habitat: Subtidal, mud.

*Aricidea (Aricidea) fragilis* Webster 1879

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 336, Maurer *et al.* 1988: 47, Dean 1996a: 74.

Habitat: Subtidal, mud to sand, 11-26 m.

Distribution: *A. (A.) fragilis* has been reported from the western Atlantic, the Gulf of Mexico, the Adriatic, western Africa, the south China Sea and the Yellow Sea (Strelzov 1973). It has not been recorded from the Pacific so this Costa Rican record is questionable.

*Aracidia assimilis* Tebble  
= *Aracidia (acmira) finitima**Acesta lopezi* (Berkeley & Berkeley 1956)  
= *Aricidea (Acmira) lopezi*

*Aricidea* sp. A

Costa Rican record: Golfo de Nicoya - Dean 1996a: 74.

Habitat: Subtidal, mud to sand, 11-26 m.

*Aricidea* sp. B

Costa Rican record: Golfo de Nicoya - Dean 1996a: 74.

Habitat: Subtidal, mud to muddy sand, 18-26 m.

*Aricidea* sp. C

Costa Rican record: Golfo de Nicoya - Dean 1996a: 74.

Habitat: Subtidal, muddy sand, 18 m.

*Cirriphorus neopolitanus* (Cerruti 1909)  
= *Aricidia (Acmira) catherinae*

*Levensenia gracilis* (Tauber 1879)

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 337 (as *Tauberia gracilis*), Maurer *et al.* 1988: 47 (as *Tauberia* sp.), Dean 1996a: 74. Golfo Dulce - Dean 1996b: 83, León-Morales & Vargas 1998: 85.

Habitat: Subtidal, mud to sand, 11-44 m.

Distribution: Widespread, reported from Japan and South Africa as well as from Chile to California, USA (Imajima 1997).

*Paradoneis* (cf) *forticirratu*s (Strelzov 1973)

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 337, Maurer *et al.* 1988: 47 (both as *Paraonella platybranchia*), Dean 1996a: 74 (as *Paraonis forticirratu*s).

Habitat: Subtidal, mud to sand, 9-26 m.

Distribution: Reported from both sides of the North Pacific Ocean including California in the Eastern Pacific (Strelzov 1973).

*Paradoneis lyra* (Southern 1914)

Costa Rican record: Golfo Dulce - Nichols Driscoll, 1976: 289.

Habitat: Subtidal, mud, 64-70 m.

Distribution: Known from the eastern Atlantic Ocean and North Sea with records from the western Atlantic, South Africa, Venezuela, and the eastern Pacific from California to western Mexico (Mackie 1991).

*Paraoneis* sp. A

Costa Rican record: Golfo Dulce - Nichols Driscoll, 1976: 290.

Habitat: Subtidal, mud, 70 m.

*Paraoneis* sp. B

Costa Rican record: Golfo Dulce - Nichols Driscoll, 1976: 290.

Habitat: Subtidal, mud, 70 m.

*Paraoneis lyra* (Southern 1914)  
= *Paradoneis lyra*

*Paraoneis* (cf) *forticirratu*s (Strelzov 1973)  
= *Paradoneis* (cf) *forticirratu*s

*Paraonella platybranchia* (Hartman 1961)  
= *Paradoneis* (cf) *forticirratu*s

*Tauberia* sp. = *Levensenia gracilis*

*Tauberia gracilis* (Tauber 1879)  
= *Levensenia gracilis*

**Pectinariidae**

*Pectinaria californiensis* Hartman 1941

Costa Rican records: Punta Morales, Golfo de Nicoya - Vargas 1987: 304, 1988: 294, 1989: 1909.

Habitat: Intertidal, muddy sand

Distribution: Hartman (1941) described this species from the California (USA) coast and van der Heiden & Hendrickx (1982) have reported it from western Mexico

*Pectinaria gouldii* Verrill 1837

Costa Rican record: Golfo de Nicoya, off Bahia Ballena - Treadwell 1941: 23.

Habitat: Intertidal, mangrove mud.

Remarks: This species is reported only from the western Atlantic and Caribbean Sea (Hartman 1941) so this identification is questionable.

### Pholoidea

*Pholoe asperus* (Johnson 1897)

Costa Rican record: Golfo de Nicoya - Dean 1996a: 75 (as *P. minuta*).

Habitat: Subtidal, muddy sand to sand, 11-18 m.

Remarks: This species is known from the eastern Pacific from Alaska to Chile and is the only species of this genus known to occur in this area (Blake 1995).

*Pholoe minuta* (Fabricius 1780) = *P. asperus*

### Phyllocoidea

*Eteone lighti* Hartman 1936  
= *Hypereteone aesturina*

*Eteone* sp.

Costa Rican record: Golfo Dulce - Nichols Driscoll, 1976: 287.

Habitat: Subtidal mud, 70 m.

*Genetyllis castanea* (Maranzeller 1879)  
= *Phyllococe madeirensis*

*Hypereteone aesturina*  
(Hartmann-Schröder 1959)

Material examined: Golfo de Nicoya: Sta. 15, 9°57'40" N, 84°47'00" W, 15 m, sandy mud Jul 1980 (1). Sta. 28, 9°52'16" N, 84°45'30" W, 26 m, mud, Oct 1980 (1).

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 337, Maurer *et al.* 1988: 47 (both as *Mysta* sp.), Dean 1996a: 74 (as *Eteone lighti* (in part))

Habitat: Subtidal sandy mud, 9-26 meters.

Distribution: Previously known only from El Salvador in the eastern Pacific.

*Mysta* sp. = *Hypereteone aesturina*

*Paranaitis polynoides* Moore 1909

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 337 (as *P. sp.*), Maurer *et al.* 1988: 47.

Habitat: Subtidal, mud.

Distribution: Collected in the Gulf of Mexico and the eastern and western Pacific Ocean. In the eastern Pacific it has been reported from western Canada to California (Blake 1997b).

*Paranaitis* sp.

Costa Rican record: Golfo de Nicoya - Golfo Dulce; Dean 1996b: 83.

Habitat: Subtidal mud

*Phyllococe (Anaitides) panamensis*  
Treadwell 1917

Costa Rican record: Golfo de Nicoya - Dean 1996a: 74.

Habitat: Subtidal, muddy sand, 18 meters.

Distribution: Known only from the Pacific coast of Panama (Fauchald 1977).

*Phyllococe flavescens* Grube 1857

Costa Rican record: Puntarenas. Golfo de Nicoya - Grube 1857: 172.

Habitat: Intertidal to shallow subtidal?

Distribution: Described from the Golfo de Nicoya, Costa Rica and not reported elsewhere. Pleijel (1991) regards this as a *nommen dubium*.

*Phyllococe madeirensis* (Langerhans 1880)

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 337, Maurer *et al.* 1988: 47 (both as *Genetyllis castanea*), Dean 1996a: 74. Golfo Dulce - Dean 1996b: 83.

Habitat: Subtidal mud to sand, 11-24 m.

Distribution: Considered to be cosmopolitan but not previously reported from the eastern Pacific (Mountford 1991). The closely related *P. medipapillata*, differing only by its lack of eversible nuchal organs, has been reported from California, USA (Blake 1997) and the Costa Rican material needs to be re-examined.

*Phyllodoce nicoyensis* Treadwell 1928b

Costa Rican records: Golfo de Nicoya - Treadwell 1928b: 1-3, Dean 1996a: 74

Habitat: Subtidal, sandy mud, 9 m.

Distribution: Known from the Golfo de Nicoya, Costa Rica.

*Phyllodoce puntarenae* Grube 1857

Costa Rican records: Puntarenas, Golfo de Nicoya - Grube 1857: 169-170.

Habitat: Intertidal or shallow subtidal.

Distribution: Described from the Golfo de Nicoya, Costa Rica and not reported since.

### Pilargidae

*Ancistargis* sp. = *Ancistrostylis papillosa* Jones

*Ancistrostylis hamata* (Hartman 1960)

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 337, Maurer *et al.* 1988: 48 (both as *Ancistrostylis* sp.), Dean 1996a: 74, 1998b: 59. Golfo Dulce - Dean 1996b: 83, 1998b: 59.

Habitat: Subtidal mud to sand, 11-200 m.

Distribution: Reported in the Eastern Pacific from California (USA) to Costa Rica as well as the French Mediterranean (Dean 1998b).

*Ancistrostylis hartmanae* Pettibone 1966

Costa Rican records: Golfo Dulce - Dean 1998b: 60.

Habitat: Intertidal muddy sand.

Distribution: Known from the Western Atlantic from Chesapeake Bay to the Gulf of Mexico and only from Costa Rica in the Eastern Pacific (Dean 1998b)

*Ancistrostylis jonesi* Pettibone 1966

Costa Rican records: Golfo de Nicoya - Dean 1998b: 60.

Habitat: Subtidal mud to sand, 11-26m.

Distribution: Mexico to Costa Rica in the Eastern Pacific. Chesapeake Bay to Eastern Mexico in the Atlantic. (Dean 1998b)

*Ancistrostylis papillosa* (Jones 1961)

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 337, Maurer *et al.* 1988: 48 (both as *Ancistargis* sp.), Dean 1998b: 60-61.

Habitat: Subtidal mud to sand, 11-46 m.

Distribution: Reported from Florida & Texas in the Gulf of Mexico with the Costa Rican record unique to the Eastern Pacific (Dean 1998b).

*Ancistrostylis* sp. = *Ancistrostylis hamata*

*Cabira incerta* Webster 1879

Costa Rican records: Golfo de Nicoya - Dean 1996a: 74 (in part), Dean 1998b: 55.

Habitat: Subtidal mud to sand, 11-26 m, intertidal coarse sand.

Distribution: Reported from Costa Rica in the Eastern Pacific and Chesapeake Bay to Argentina in the Atlantic (Dean 1998b).

*Loandalia riojai* Salazar-Vallejo 1987(1986)

Costa Rican records: Golfo de Nicoya - Dean 1998b: 53-54.

Habitat: Subtidal muddy sand, 18 m.

Distribution: Known in the Eastern Pacific from the Gulf of California (Mexico) to Pacific Costa Rica (Dean 1998b).

*Parandalia tricuspis* (Müller 1859)

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 337 (as *P. fauveli*), Maurer

*et al.* 1988: 48 (as *Parandalia* sp.), Dean 1996a: 74, Dean 1998b: 55.

Habitat: Subtidal mud and sand, 11-35 m.

Distribution: The only record from the Eastern Pacific is from Costa Rica, known otherwise from the Gulf of Mexico to Argentina in the Atlantic (Salazar-Vallejo & Orensanz 1991).

*Parandalia* sp. = *Paranalia tricuspis*

*Parandalia fauveli*

(Berkeley & Berkeley 1941)

= *Parandalia tricuspis*

*Pilargis berkeleyae* Saint-Joseph 1899

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 337, Maurer *et al.* 1988: 48, Dean 1996a: 74, Dean 1998b: 55 & 59.

Habitat: Subtidal muddy sand, 18 m.

Distribution: Recorded from Canada to Costa Rica in the Eastern Pacific, the Gulf of Mexico to Argentina in the Western Atlantic (Dean 1998b).

*Sigambra ocellata* (Hartmann-Schröder 1959)

Costa Rican record: Golfo de Nicoya - Dittman & Vargas 2001: 283

Habitat: Intertidal, muddy sand.

Distribution: Eastern Pacific.

*Sigambra pettiboneae*

Hartmann-Schröder, 1979

Costa Rican records: Golfo Dulce - Dean 1998b: 51.

Habitat: Intertidal muddy sand.

Distribution: Known from Australia and Costa Rica in the eastern Pacific (Dean 1998b).

*Sigambra tentaculata* (Treadwell 1941)

Costa Rican records: Golfo de Nicoya - Maurer & Vargas 1984: 101 (in part), Vargas *et al.* 1985: 337, Maurer *et al.* 1987: 138, Maurer *et al.* 1988: 48 (in part), Dean 1996a: 74, Dean 1998b: 51. Golfo Dulce - Nichols Driscoll,

1976: 28, León-Morales & Vargas 1998: 85, Dean 1996b: 83, Dean 1998b: 51.

Habitat: Subtidal mud to sand, 11-200 m, intertidal mud to coarse sand.

Distribution: Ranges from California (USA) to Costa Rica in the Eastern Pacific and New York (USA) to Argentina in the Western Atlantic (Dean 1998b).

*Sigambra vargasi* Dean 1998

Costa Rican record: Golfo de Nicoya - Dean 1998b: 52-53.

Habitat: Subtidal mud to sand, 11-46 m.

Distribution: Known only from the Golfo de Nicoya, the type locality (Dean 1998b).

*Sigambra* sp. A

Costa Rican record: Golfo Dulce - Dean 1998b: 51-52.

Habitat: Intertidal muddy sand.

*Synelmis albini* (Langerhans 1881)

= *Synelmis emiliae*

*Synelmis emiliae* Salazar-Vallejo 2003

Costa Rican records: Golfo de Nicoya - Maurer & Vargas 1984: 101 (in part), Vargas *et al.* 1985: 337, Maurer *et al.* 1987: 138, Maurer *et al.* 1988: 48 (in part), Vargas 1988: 294, Vargas 1989: 1909, Dean 1996a: 74, Dean 1998b: 49-51 (all as *Synelmis albini*).

Habitat: Subtidal mud to sand, 9-46 m, intertidal mud to coarse sand.

Remarks: Salazar-Vallejo (2003) revised the genus *Synelmis* and included specimens from the Gulf of Nicoya with those from the Gulf of California (Mexico), the type locality, as *S. emiliae*.

## Pisionidae

*Pisione remota* (Southern 1914)

Costa Rican record: Pacific: Quepos, Playa Espadilla; Coco, Playita Blanca, Playas de Coco-Fauchald: 1973: 19-20.



Habitat: Intertidal, sandy beaches  
 Distribution: Considered to be cosmopolitan (Helgason *et al.* 1990).

*Pisionidens indica* (Aiyar and Alikuhni 1940)

Costa Rican records: Caribbean, Cahuita South - Fauchald 1973: 20, Dexter 1974: 56.

Habitat: intertidal, calcareous sand, sandy beaches.

Distribution: Originally described from India and subsequently reported from sandy beaches on the Pacific coast of Mexico by Dexter (1976) and Salazar-Vallejo (1990).

#### Poecilochaetidae

*Poecilochaetus tropicus* Okuda 1935

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 337, Maurer *et al.* 1988: 48 (both as *Poecilochaeta johnsoni*), Dean 1996a: 74.

Habitat: Subtidal, muddy sand, 18 m.

Distribution: Known from the Solomon Islands, Palau, and Japan in the western Pacific Ocean (Imajima 1989) so the Costa Rican specimens should be re-examined.

*Poecilochaeta johnsoni* Hartman 1939a  
 = *P. tropicus*

#### Polynoidae

*Harmothoe balboensis* Monro 1928

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 337, Maurer *et al.* 1988: 48 (both as *Harmothoe* sp.), Dean 1996a: 74.

Habitat: Subtidal, mud to sand, 11-26 m.

Distribution: Known only from Pacific Panama (Fauchald 1977).

*Harmothoe hirsuita* Johnson 1897

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 337, Maurer *et al.* 1988: 48.

Habitat: Subtidal, mud.

Distribution: Known from California to Panama in the eastern Pacific (Ruff 1995).

*Harmothoe lunulata* (delle Chiaje 1841)

Costa Rican record: Golfo de Nicoya - Dean 1996a: 74.

Habitat: Subtidal, mud to sand, 11-26 m.

Distribution: Reported from the Atlantic Ocean, North Sea, Mediterranean Sea and from Pacific Canada to Mexico in the Eastern Pacific (Hartman 1963, 1968)

*Harmothoe* sp. = *Harmothoe balboensis*

*Harmothoinae* sp.

Costa Rican record: Golfo de Nicoya - Dean 1996a: 75.

Habitat: Subtidal, sand, 11 m.

*Iphione ovata* Kinberg 1855

Costa Rican record: Pacific: Golfo de Santa Elena, Parker Bay - Hartman 1939a: 27.

Habitat: Intertidal.

Distribution: Gulf of California to Ecuador, the Galapagos and Hawaii (Hartman 1939a).

*Lepidasthenia picta* Treadwell 1928  
 = *Lepidasthenia varius*

*Lepidasthenia varius* Treadwell 1917

Costa Rican record: Pacific: Golfo de Santa Elena, Port Parker - Treadwell 1941: 18-19.

Habitat: Subtidal, coral bottom, 3-7 m.

Remarks: According to Hartman (1959) *Lepidasthenia picta* is synonymous with *L. varius*. This species is found in the tropical Atlantic Ocean as well as the Galapagos Islands and Panama (Fauchald 1977).

*Lepidonotus squamatus* (Linnaeus 1767)

Costa Rican record: Golfo de Nicoya - Dean 1996a: 74.

Habitat: Subtidal, muddy sand, 18 m.

Remarks: *Lepidonotus squamatus*, reported from western Canada by Berkeley & Berkeley (1954), was later identified by Ruff (1995) as *Lepidonotus spiculus* (Treadwell 1906). The Costa Rican material, therefore, needs to be re-examined.

*Lepidonotus tomentosus* (Grube 1856)

Costa Rican record: Puntarenas - Grube 1856: 45 (as *Polynoe tomentosa*)

Habitat: Subtidal?

Distribution: Other than the Costa Rican type locality this species has been reported only from French Guiana in northeastern South America (Fauvel 1919).

*Polynoe tomentosa* Grube 1856  
= *Lepidonotus tomentosus*

*Polynoe* sp.

Costa Rican record: Golfo de Nicoya - Dean 1996a: 75.

Habitat: Subtidal, sand, 11 m.

**Questidae**

*Questidae* sp.

Costa Rican record: Golfo Dulce - Nichols Driscoll, 1976: 289.

Habitat: Subtidal, sandy mud, 70 m.

**Sabellariidae**

*Idanthyrsus pennatus* (Peters 1855)  
= *Idanthyrsus cretus*

*Idanthyrsus cretus* Chamberlin 1919

Costa Rican records: Puerto Culebra & Playita Blanca, Golfo de Papagayo - Hartman 1944: 336 (as *I. pennatus*), Kirtley 1994: 95.

Habitat: Shallow subtidal, in coral clumps.

Distribution: Galapagos Islands, Northwest South America to Costa Rica in the eastern Pacific Ocean (Kirtley 1994).

*Sabellaria gracilis* Hartman 1944

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 337, Maurer *et al.* 1988: 48.

Habitat: Subtidal, mud.

Distribution: Reported in the eastern Pacific from California to Oregon on the west coast of the USA (Kirtley 1994).

*Sabellida* (*Sabellaria* ??) sp.

Costa Rican record: Golfo Dulce - Nichols Driscoll 1976: 291.

Habitat: Subtidal, sandy mud, 70 m.

**Sabellidae**

*Chone minuta* Hartman 1944

Costa Rican record: Golfo Santa Elena, Playita Blanca; Golfo de Papagayo, Playas del Coco - Fauchald 1973: 28.

Habitat: Intertidal, sand beach.

Distribution: Known in the eastern Pacific from California to Pacific Panama (Fauchald 1973, Fauchald & Reimer 1975).

*Chone mollis* (Bush 1904)

Costa Rican records: Golfo de Nicoya - Vargas 1987: 304, 1989: 1909.

Habitat: Intertidal, muddy sand.

Remarks: Reported previously only from California (Banse 1972).

*Chone* sp.

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 337, Maurer *et al.* 1988: 48, Maurer & Vargas 1984: 101.

Habitat: Subtidal, mud.

*Euratella* sp.

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 337, Maurer *et al.* 1988: 48.  
Habitat: Subtidal, mud.

*Sabella crassicornis* Sars 1851

Costa Rican record: Golfo Dulce - Pettibone 1954: 334-335.

Habitat: Subtidal, mud.

Distribution: Widespread, reported from both coasts of Mexico by Salazar-Vallejo (1981).

*Sabella pacifici* Grube 1859

Costa Rican record: Puntarenas - Grube 1859: 113.

Habitat: Subtidal?

Remarks: Described from Puntarenas by Grube and not encountered since. Hartman (1959) lists this species as questionable.

**Serpulidae***Hydroides crucigera* (Mörch 1863)

Costa Rican record: In Pacific Ocean near Puntarenas - Mörch 1863: 378 (as *Hydroides (Eucarphus) crucigera*).

Habitat: subtidal, in *Margaritifera barbata*, 25 m.

Distribution: Known from Mexico (Salazar-Vallejo 1985) to Panama (Monro 1933b) in the eastern Pacific as well as Hawaii (Straughan 1969).

*Pomatostegus kröyeri* Mörch 1863

Costa Rican record: Puntarenas, Mörch 1863: 399.

Habitat: Subtidal

Distribution: This species is only known from this single report and is questionable (Hartman 1959).

*Schizocraspedon* sp.

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 337, Maurer *et al.* 1988: 48.  
Habitat: Subtidal, mud.

*Serpula stellatus* (Abildg 1789)

Costa Rican record: Puntarenas - Grube 1859: 113.

Habitat: Subtidal, 44 m.

Remarks: It is probable that Grube was referring to *Pomatostegus stellatus* (Abildgaard 1789) which is considered circumtropical (Nishi 1995) and has been reported from the Pacific side of Panama and Mexico (Monro 1933b, Fauvel 1943).

*Spirobranchus giganteus giganteus*  
(Pallas 1766)

Costa Rican record: Puntarenas - Mörch, 1863: 405( as *S. incrassatus*)

Habitat: Subtidal, attached to *Margaritifera* sp.

Remarks: Ten Hove (1970) examined Mörch's material, as well as the material of Bush (1905) from California (USA) and Rioja (1941, 1942 and others) from western Mexico, and concluded that they were all specimens of *S. giganteus giganteus* (Pallas 1766). This species is found in the Caribbean, the Gulf of Mexico, and the coast of Brazil & probably extends from California (USA) to the Galapagos in the eastern Pacific (ten Hove 1970).

*Spirobranchus incrassatus* Kroyer 1863  
= *S. giganteus giganteus*

cf *Vermiliopsis multiannulata* (Moore 1923)

Costa Rican record: Golfo Dulce - Nichols Driscoll, 1976: 292.

Habitat: Subtidal, mud, 70 m.

Remarks: ten Hove (1975) examined Moore's type specimen & found it to belong to the

*Vermiliopsis infundibulum/glandifera* group while Moore's cotypes were specimens of *Pseudovermilia conchata*. Hartman's (1969) material collected from California was a mixture of *P. conchata* ten Hove 1975 and *P. occidentalis* (McIntosh 1885). Both *P. conchata* and *P. occidentalis* have been reported from western Mexico (Salazar-Vallejo 1985) and Nichols Driscoll's material should be re-examined.

### Sigalionidae

*Eusigalion spinosum* Hartman 1939a  
= *Sigalion spinosus*

*Psammolyce spinosa* Hartman 1939a

Costa Rican record: Chatham Bay, Cocos Island - Hartman 1939a: 72-74.

Habitat: Subtidal, coarse white sand, 73-84 m.

Distribution: Recorded in the eastern Pacific from California to Western Mexico and Cocos Island (Hartman 1939a). Fauchald (1977) also reported this species from the Atlantic side of Panama.

*Psammolyce antipoda* (Schmarda) *anoculata*  
Hartman 1939a

Costa Rican record: Pacific: Golfo de Santa Elena, Playa Blanca - Hartman 1939a: 77.

Habitat: Intertidal, shale beach.

Distribution: *P. antipoda* was described by Schmarda (1861) from New Zealand and it has since been reported from widely scattered regions including Australia, the Red Sea, the Philippines and Ceylon (Amoureux *et al.* 1978).

*Sigalion spinosus* (Hartman 1939a)

Costa Rican record: Chatham Bay, Cocos Island - Hartman 1939a: 57-59 (as *Eusigalion spinosum*).

Habitat: Subtidal, coarse white sand, 20-125 m.

Distribution: Reported from California to Central America and the Galapagos Islands in the Eastern Pacific Ocean as well as the Gulf of Mexico (Blake 1995c).

*Sigalion* sp.

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 337, Maurer *et al.* 1988: 48, Dean 1996a: 75.

Habitat: Subtidal, muddy sand to sand, 11-18 m.

*Sigalionidae* sp.

Costa Rican records: Golfo de Nicoya - Maurer *et al.* 1988: 48, Dean 1996a: 75.

Habitat: Subtidal, sand, 11 m.

*Sthenelais fusca* Johnson 1897

Costa Rican records: Golfo de Papagayo, Cocos Bay & Golfo de Santa Elena, Parker Bay, Hartman 1939a: 61-62, 63-64 (as *Sthenelais variabilis colorata* Monro). Golfo de Nicoya, Vargas *et al.* 1985: 337, Maurer *et al.* 1988: 48 (both as *S. sp.*), Dean 1996a: 75.

Habitat: Subtidal, mud to sand, root masses of eelgrass, under stones, 4-90 m.

Distribution: Known from California (USA) to Peru in the eastern Pacific (Blake 1995c).

*Sthenelais helenae* Kinberg 1855

Costa Rican record: Pacific coast, Playa Cocal & Jaco - Fauchald 1973: 19 (as *S. maculata* Kinberg).

Habitat: Intertidal, sand beach.

Remarks: Pettibone (1971) synonymized Hartman's *S. maculata* with *S. helenae*. Fauchald (1973) indicated that his specimens from Costa Rica and Panama agreed with Hartman's (1939a) description but he was apparently unaware of the synonymy. This species has been reported in the eastern Pacific from Chile to western Mexico (Pettibone 1971).

*Sthenelais maculata* Hartman 1939a  
= *Sthenelais helenae*

*Sthenelais* sp. = *Sthenelais fusca*

*Sthenelanella uniformis* Moore 1910

Costa Rican record: Golfo Dulce - Dean 1996b: 83.

Habitat: Subtidal, mud.

Distribution: Known from California (USA) to Ecuador in the eastern Pacific (Blake 1995).

*Sthenelais variabilis colorata* Hartman 1939a  
= *Sthenelais fusca*

### Spionidae

*Apoprionospio pygmaea* (Hartman 1961)

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 337, Maurer *et al.* 1988: 48, Dean 1996a: 75.

Habitat: Subtidal, mud to muddy sand, 9-35 m.

Distribution: Reported from Southern California (USA) to Baja California (Mexico) in the eastern Pacific; also from the Gulf of Mexico to Virginia, USA (Blake 1996e).

*Caraziella citrona* (Hartman 1941)

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 337, Maurer *et al.* 1988: 48 (both as *Caraziella hobsonae* Blake), Vargas 1988: 294, 1989: 1909, 1996: 359 (as *Polydora citrona*), Dittman & Vargas 2001: 287.

Habitat: Intertidal sandy mud.

Remarks: Blake (1996e) indicates that *C. citrona* may not now exist and most records of the species are probably *C. calafia* which ranges from California (USA) to Mexico. The Costa Rican material needs to be reexamined.

*Caraziella hobsonae* Blake 1979  
= *C. citrona*

*Dipolydora socialis* (Schmarda 1861)

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 337, Maurer *et al.* 1988: 48, Dean 1996a: 75 (all as *Polydora socialis*).

Habitat: Subtidal, mud to sand, 11-26 m.

Distribution: Widespread, known from the Atlantic, the Gulf of Mexico, and western Canada to Chile in the East Pacific (Blake 1996e).

*Dispio glabrilamellata*  
Blake & Kudenov 1978a

Costa Rican record: Golfo de Nicoya - Dean 1996a: 75.

Habitat: Subtidal, muddy sand, 18 m.

Distribution: Known only from Australia (Blake & Kudenov 1978) so the Costa Rican record is suspect.

*Dispio* (cf) *uncinata* Hartman 1951

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 337, Maurer *et al.* 1988: 48, Dean 1996a: 75.

Habitat: Subtidal, muddy sand, 18 m.

Distribution: Reported from the North Atlantic, the Gulf of Mexico and the Caribbean as well as from California to Central America in the eastern Pacific (Foster 1971).

*Laonice antarctica* Hartman 1953  
= *L. bassensis*

*Laonice bassensis* Blake & Kudenov 1978b

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 337, Maurer *et al.* 1988: 48 (both as *Laonice antarctica*), Dean 1996a: 75.

Habitat: Subtidal, muddy sand, 20 m.

Distribution: This species is reported only from Australia and the Costa Rican record is doubtful.

*Laonice* sp.

Costa Rican records: Golfo Dulce, Dean 1996b: 83, León-Morales & Vargas 1998: 85.

Habitat: Subtidal, mud.

*Malacoceros indicus* (Fauvel 1928)

Costa Rican records: Golfo de Nicoya, Vargas *et al.* 1985: 337, Maurer *et al.* 1988: 48 (both as *M. vanderhorsti*), Dean 1996a: 75.

Habitat: Subtidal, muddy sand to sand, 11-18 m.

Remarks: Blake (1996e) indicates that *M. indicus* is the only member of the genus known in the East Pacific. This species is widespread having been reported from both sides of the south Atlantic, the western north Atlantic, Indian Ocean, and both sides of the Pacific Ocean.

*Malacocerus vanderhorsti* (Augener 1927)  
= *M. indicus**Nerinides maculata* Hartman 1961  
= *Spio maculata**Nerine cirratulus hirsutus* (Treadwell 1928)  
= *Spio hirsuta**Paraprionospio pinnata* (Ehlers 1901)

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 337, Maurer *et al.* 1988: 48, Dean 1996a: 75, Maurer & Vargas 1984: 101, Vargas 1987: 304, 1988: 294, 1989: 1909: 1996: 359, Dittman & Vargas 2001: 283, 287. Golfo Dulce - Dean 1996b: 83, León-Morales & Vargas 1998: 85, Rostad & Hansen 2002: 93.

Habitat: Subtidal, mud to sand, 11 m, intertidal muddy sand

Distribution: Cosmopolitan, from California to Chile in the Eastern Pacific (Maciolek 1985).

*Polydora cornuta* Bosc 1802

Costa Rican record: Golfo de Nicoya - Dean 1996a: 75.

Habitat: Subtidal, sand, 11 m.

Distribution: Widespread in North America (Blake 1996e), perhaps spread by human activities (Radashevsky & Hsieh 2000).

*Polydora citrona* Hartman 1941  
= *Caraziella citrona**Polydora socialis* (Schmarda 1861)  
= *Dipolydora socialis**Prionospio (Aquilaspio) sp.*

Costa Rican record: Golfo Dulce - Dean 1996b: 83.

Habitat: Subtidal, mud.

Remarks: De León-González (1998) has reported *P. (Aquilaspio) aucklandica* (Augener 1923) (previously known only from the Indo-Pacific) from western Mexico. The Costa Rican material should be re-examined.

*Prionospio cristata* Foster 1971  
= *P. ehlersia**Prionospio delta* Hartman 1965

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 337, Maurer *et al.* 1988: 48, Punta Morales, Vargas 1987: 304, 1988: 294, 1989: 1909.

Habitat: Intertidal, sandy mud and subtidal, mud.

Distribution: Reported from the eastern and western Atlantic and from Oregon (USA) to the Gulf of California (western Mexico) in the eastern Pacific (Maciolek 1985).

*Prionospio ehlersi* Fauvel 1928

Costa Rican records: Golfo Dulce - Vargas *et al.* 1985: 337, Maurer *et al.* 1988: 48 (both as *Prionospio cristata*), Dean 1996b: 83, León-Morales & Vargas 1998: 85.

Habitat: Subtidal, mud.

Distribution: Cosmopolitan, known from California (USA) to Western Mexico in the eastern Pacific (Maciolek 1985).

*Prionospio (Minuspio) lighti* Maciolek 1985

Costa Rican record: Golfo Dulce - Dean 1996b: 83.

Habitat: Subtidal, mud.

Distribution: Known from Washington State to California (USA) in the East Pacific (Blake 1996e).

*Prionospio (Minuspio) (cf) pulchra*  
Imajima 1990

Costa Rican record: Golfo de Nicoya - Dean 1996a: 75.

Habitat: Subtidal, mud to sand, 11-26 m.

Remarks: *P. pulchra* is only known from Japan (Imajima 1990) and is similar to *P. lighti* from the eastern Pacific. The Costa Rican material should be re-examined.

*Prionospio (Minuspio) sp.*

Costa Rican records: Golfo Dulce - Dean 1996b: 75, León-Morales & Vargas 1998: 85.

Habitat: Subtidal, mud.

*Prionospio (Minuspio) multibranchiata*  
Berkeley 1927

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 338, Maurer *et al.* 1987: 138, Maurer *et al.* 1988: 48, Maurer & Vargas 1984: 101, Dean 1996a: 75.

Habitat: Subtidal, mud to sand, 11-35 m.

Distribution: Reported from the Gulf of Mexico and from Vancouver (Canada) to Washington state (USA) in the eastern Pacific (Maciolek 1985).

*Prionospio (Prionospio) dubia* Day 1961

Costa Rican records: Golfo de Nicoya - Dean 1996a: 75.

Habitat: Subtidal, mud to sand, 11-26 m.

Distribution: Widespread in the Atlantic and Pacific Oceans and the Mediterranean Sea; recorded from California (USA) in the eastern Pacific (Blake 1996e).

*Pygospio sp.*

Costa Rican record: Golfo Dulce - Nichols Driscoll, 1976: 291.

Habitat: Subtidal, mud, 70 m.

*Prionospio spp.*

Costa Rican record: Golfo de Nicoya - Dittman & Vargas 2001: 287.

Habitat: Infrtidal, muddy sand.

*Scoelelepis agilis* (Verrill 1873)  
= *Scoelelepis (Scoelelepis) squamata*

*Scoelelepis (Scoelelepis) squamata*  
(Müller 1806)

Costa Rican records: Caribbea, Puerto Viejo - Fauchald 1973: 25, Dexter, 1974: 56. Pacific coast, Puntarenas - Fauchald 1973: 25: Cocos Island - Treadwell 1928a: 478-479 (as *Spio hirsuita* Treadwell).

Habitat: Intertidal, sand beach; subtidal.

Distribution: Recorded from both sides of the Atlantic and the Mediterranean as well as the eastern Pacific from Canada to western Mexico (de León-González 1998).

*Scoelelepis sp.*

Costa Rican record: Golfo de Nicoya - Dean 1996a: 75.

Habitat: Subtidal, muddy sand, 18 m.

*Spio blakei* (Blake & Kudenov 1978)

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 338, Maurer *et al.* 1988: 48 (both as *Spio pettiboneae*), Dean 1996a: 75.

Habitat: Subtidal, sand, 13 m.

Remarks: This species was described from Australia as *Spio pacifica* by Blake & Kudenov (1978) but Maciolek (1990) pointed out that this name was preoccupied by *S. martinensis pacifica* from Pacific Canada and therefore renamed the Australian species as *Spio blakei*. Van der Heiden & Hendrickx (1982) and de León González (1998), however, have both recorded *S. pacifica* (Blake & Kudenov 1978) from western Mexico.

*Spio maculata* (Hartman 1961)

Costa Rican record: Golfo Dulce - Nichols Driscoll, 1976: 292 (as *Nerinides maculata*).

Habitat: Subtidal, mud.

Distribution: Recorded in the eastern Pacific from Southern California (USA) and Western Mexico (Blake 1996e).

*Spio pettiboneae* Foster = *S. blakei*

## Spionidae sp. A

Costa Rican record: Golfo Dulce - Nichols Driscoll, 1976: 292.

Habitat: Subtidal mud, 70 m.

## Spionidae sp. B

Costa Rican record: Golfo Dulce - Nichols Driscoll, 1976: 292.

Habitat: Subtidal, mud, 64-70 m.

*Spiophanes duplex* (Chamberlin 1919)

Material Examined: Golfo de Nicoya: *Sta.* 24, 9°49'25" N, 84°41'20" W, 11 m, sand, Jul 1980 (3), Oct 1980 (2), Aug 1981 (4). *Sta.* 29, 9°54'55" N, 84°45'15" W, 18 m, muddy sand, Oct 1980 (14), Jan 1981 (1), Jun 1981 (5), Apr 1982 (5). *Sta.* 30, 9°54'40" N, 84°45'50" W, 18 m, muddy sand, Oct 1980 (2).

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 338, Maurer *et al.* 1988: 48 (both as *Spiophanes missionenesis* & *Spiophane soederstroemi*), Dean 1996a: 75, Vargas 1987: 304, 1988: 294, 1989: 1909, 1996: 359 (all as *S. soederstromi*), Rostad & Hansen 2001: 93.

Habitat: Subtidal, mud to sand, 11-26 m, intertidal, sandy mud.

Distribution: Gulf of Mexico and central California (Blake 1996e).

*Spiophanes kroeyeri* Grube 1860

Costa Rican record: Golfo Dulce - Dean 1996b: 83 (as *S. krøyeri*).

Habitat: Subtidal, mud.

Distribution: Cosmopolitan in the northern hemisphere, California to Chile in the eastern Pacific (Blake 1983, 1996e).

*Spiophanes missionenesis* Hartman  
= *Spiophanes duplex*

*Spiophanes soederstromi* Hartman 1953  
= *Spiophanes duplex*

**Spirorbidae**

*Pileolaria berkeleyana* (Rioja 1942)

Costa Rican records: Golfo de Papagayo, Playa del Cocos & Golfo Dulce, Rincon - Knight-Jones *et al.* 1979: 437.

Habitat: Intertidal, on stones and shells.

Distribution: Known in the Eastern Pacific from California (USA) to Panama, the Galapagos Islands and Easter Island; also reported from the Canary Islands (Knight-Jones *et al.* 1979).

*Pileolaria marginata* Knight-Jones 1978

Costa Rican records: Golfo de Papagayo, Playa del Cocos - Knight-Jones *et al.* 1979: 439. Golfo Dulce, Rincon - Knight-Jones *et al.* 1979: 439

Habitat: Intertidal.

Distribution: Reported from California to Costa Rica in the eastern Pacific (Knight-Jones *et al.* 1979).

*Pileolaria (Simplicaria) Pseudomilitaris*  
Thiriot-Quievreux 1965

Costa Rican records: Golfo de Papagayo, Playa del Cocos - Knight-Jones *et al.* 1979: 441. Pacific coast, Bahía de Coronado and Dominican - Knight-Jones *et al.* 1979: 441. Golfo Dulce, Rincon - Knight-Jones *et al.* 1979: 441.

Habitat: Intertidal, on stones and shells.

Distribution: Known from both sides of the Pacific Ocean, from California to Panama and the Galapagos in the Eastern Pacific (Knight-Jones *et al.* 1979).



*Spirorbis marioni* (Caullery & Mesnil 1897)

Habitat: Intertidal, on rocks and stones.

Costa Rican records: Golfo de Papagayo, Playa del Cocos - Knight-Jones *et al.* 1979: 426. Pacific coast, Bahía de Coronado & Dominical - Knight-Jones *et al.* 1979: 426. Golfo Dulce, Rincon, Knight-Jones *et al.* 1979: 426.

Distribution: Known in the Pacific Ocean from Mexico to Panama, the Galapagos Islands, Hawaii & Easter Island (Knight-Jones *et al.* 1979).

**Sternaspidae**

*Sternaspis scutata* (Ranzani 1817)  
= *Sternaspis major*

*Sternaspis cf. major* Chamberlin 1919

Material examined:

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 337, Maurer *et al.* 1988: 48, Dean 1996a: 75 (all as *Sternaspis scutata*).

Habitat: Subtidal, mud to sand, 11-26 m.

Remarks: This species was described from incomplete material collected in the Gulf of California (Mexico). There has been no record of this species since and the type material has apparently been lost (Petersen 2000).

**Syllidae**

*Ehlersia heterochaeta* (Moore 1909)

Costa Rican records: Golfo de Nicoya - Maurer & Vargas 1984: 464, Vargas *et al.* 1985: 338, Maurer *et al.* 1988: 48, Dean 1996a: 75. Golfo Dulce - Dean 1996b: 83 (last 2 as *L. cornuta*).

Habitat: Subtidal, mud to sand, 9 M.

Distribution: Known in the Eastern Pacific from Canada to Mexico (Kudenov & Harris 1995).

*Exogone brevi antennata*  
Hartmann-Schröder 1959

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 338, Maurer *et al.* 1988: 48 (both as *Exogone* sp.), Dean 1996a: 75.

Habitat: Subtidal, muddy sand, 22 m.

Distribution: *E. brevi antennata* was described from El Salvador and is probably circumtropical (San Martín, 1991).

*Exogone* sp.

Costa Rican record: Golfo Dulce - Nichols Driscoll, 1976: 287.

Habitat: Subtidal, mud, 70 m.

*Exogone* sp. (*sensu* Maurer *et al.* 1988)  
= *Exogone brevi antennata*

*Odontosyllis polycera* (Schmarda 1861)

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 338, Maurer *et al.* 1988: 48.

Habitat: Subtidal, mud.

Distribution: This species has been reported from the tropical Atlantic and Pacific Oceans including Pacific Panama (Fauchald 1977).

*Pseudosyllides curacaoensis* Augener 1927

Costa Rican records: Golfo de Nicoya - Maurer & Vargas 1984: 464, Vargas *et al.* 1985: 338, Maurer *et al.* 1988: 48.

Habitat: Subtidal.

Remarks: This species is known only from the Caribbean. Góngora-Garza and de León-González (1993) have described a new species, *P. mexicana*, from Pacific Mexico therefore the Costa Rican specimens need to be reexamined.

Syllidae sp. 1 (*Sphaerosyllis?*)

Costa Rican record: Golfo de Nicoya, Punta Morales - Vargas 1988: 294.

Habitat: Intertidal, muddy sand.

**Terebellidae**

*Amphitrite robusta* Johnson 1901  
= *Neoamphitrite robusta*

*Eupolymnia nebulosa* (Montagu 1818)

Costa Rican record: Golfo Dulce - Dean 1996b: 83.

Habitat: Subtidal, mud.

Distribution: This is a widespread species and has been reported from western Mexico by Salazar-Vallejo (1985).

*Loimia ingens* (Grube 1878)

Costa Rican record: Golfo de Nicoya - Dean 1996a: 75.

Habitat: Subtidal, sandy mud, 15 m.

Remarks: *Loimia ingens* has been reported from widespread areas including California in the eastern Pacific Ocean (Hutchings, 1977), however, Hutchings and Glasby (1988) view *L. ingens* as a species complex.

*Loimia medusa* (Savigny 1818)

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 338, Maurer *et al.* 1988: 48.

Habitat: Subtidal, mud.

Distribution: Currently considered cosmopolitan although Hutchings and Glasby (1988) indicate this may be an artifact of an inaccurate original description (Hilbig 2000b).

*Lysilla* sp.

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 338, Maurer *et al.* 1988: 48, Dean 1996a: 75.

Habitat: Subtidal, sandy mud, 15 m.

*Naneva* sp. = *Streblosoma crassibranchia*

*Neoamphitrite robusta* (Johnson 1901)

Costa Rican record: Golfo de Nicoya - Dean 1996a: 75 (as *Amphitrite robusta*)

Habitat: Subtidal, muddy sand, 22 m.

Distribution: Reported in the Eastern Pacific from Alaska to California (Hilbig 2000) and the Costa Rican material needs to be re-examined.

*Polycerine* sp.

Costa Rican record: Golfo Dulce - Nichols Driscoll, 1976: 291.

Habitat: Subtidal mud, 70 m.

*Pseudampharete* sp.

Costa Rican record: Golfo de Nicoya - Dean 1996a: 75.

Habitat: Subtidal, muddy sand, 14 m.

*Scionides* sp.

Costa Rican record: Golfo Dulce -Dean 1996b: 83.

Habitat: Subtidal, mud.

*Streblosoma comatus* (Grube 1859)

Costa Rican record: Puntarenas - Grube 1859: 109 (as *Terebella comata*).

Habitat: Subtidal?

Distribution: Reported from Chile to California in the East Pacific (Fauvel 1943) but Glasby and Hutchings (1987) examined the type specimen from Chile and indicated that other records of this species may be erroneous. The Costa Rican material, as well as other eastern Pacific records, needs to be re-examined.

*Streblosoma crassibranchia* Treadwell 1914

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 338, Maurer *et al.* 1988: 48 (both as *Naneva* sp.), Dean 1996a: 75.

Habitat: Subtidal, mud to sand, 20 m.

Distribution: Reported from California to Panama in the Eastern Pacific as well as Atlantic Panama (Fauchald 1977).

*Terebella comata* Grube 1859  
= *Streblosoma comatus*

*Terebella alata* Grube 1859

Costa Rican record: Puntarenas - Grube 1859: 110.

Habitat: Subtidal?

Remarks: Hartman (1959) lists this species as questionable.

*Terebella frondosa* Grube 1859

Costa Rican record: Puntarenas - Grube 1859: 110.

Habitat: Subtidal?

Remarks: Hartman (1959) lists this species as questionable.

*Terebella gorgonae* Monro 1933

Costa Rican record: Golfo de Santa Elena, Port Parker - Treadwell 1941: 23.

Habitat: Subtidal, coral, 4 m.

Distribution: Known only from Panama and the Galapagos Islands (Fauchald 1977).

**Tomopteridae**

*Tomopteris opaca* Treadwell 1928  
= *Tomopteris nisseni*

*Tomopteris nisseni* Rosa 1908

Costa Rican records: Off Cocos Island - Treadwell 1928a: 463-364. Pacific coast, 20 miles S of Cabo Blanco - Treadwell 1941: 22 (both as *Tomopteris opaca*).

Habitat: Pelagic, deep water (910-1280 m.)

Distribution: Hartman 1956 synonymized *T. opaca* with *T. nisseni* which is a widespread species in the Atlantic Ocean with additional scattered records from the eastern Pacific (Fernández-Álamo, 2000).

**Trichobranchidae**

*Thelepus* sp.

Costa Rican record: Golfo de Nicoya - Dean 1996a: 75.

Habitat: Subtidal, mud to muddy sand, 18-26 m.

*Terebellides californica* Williams 1984

Costa Rican records: Golfo Dulce - Dean 1996b: 83, León-Morales & Vargas 1998: 85.

Habitat: Subtidal, mud.

Distribution: Recorded in the eastern Pacific from western Mexico to Oregon, USA (Williams 1984).

*Terebellides reishi* Williams 1984

Costa Rican records: Golfo de Nicoya - Vargas *et al.* 1985: 338, Maurer *et al.* 1988: 48 (both as *Terebellides stroemi*), Dean 1996a: 75.

Habitat: Subtidal, sand, 24 m.

Remarks: Known from California but Williams (1984) indicates that specimens of *Terebellides* examined from Central America and northern South America may be a different species.

*Terebellides stroemi* Sars = *T. reishi*

**Trochochaetidae**

*Trochochaeta kirkegaardii* Pettibone 1976

Costa Rican records: Golfo de Nicoya - Maurer & Vargas 1984: 101, Vargas *et al.* 1985: 338, Maurer *et al.* 1988: 48, Dean 1996a: 75.

Habitat: Subtidal, mud, 40 m.

Distribution: This species has been reported only from the West African coast (Pettibone 1976) so this material should be re-examined.

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A. Vargas, Jenaro Acuña, both of CIMAR, and Rocío Córdoba (UICN/ORMA). Additionally, the Ernst Mayer Library, Museum of Comparative Zoology, Harvard University, has provided access to the extensive, and sometimes hidden, polychaete literature.

### RESUMEN

Un total de 332 especies de poliquetos pertenecientes a 50 familias han sido informados para Costa Rica con base en publicaciones. En unas pocas familias, el material disponible fue re-examinado y se hizo los cambios apropiados en la identificación de las especies. Solamente tres especies (*Glycera oxycephala* Ehlers, 1887; *Hemipodia pustulata* (Friedrich 1956); y *Scolepis (Scolepis) squamata* (Muller, 1806)) han sido reportados para la costa del Caribe de Costa Rica y estas especies también están presentes en la costa Pacífica. Las familias con más de 15 especies son: Spionidae (26), Cirratulidae (24), Nereididae (21), Lumbrineridae (19) y Paraonidae (16). No obstante el intenso esfuerzo de colecta hecho en la costa Pacífica durante los últimos 25 años, la fauna de poliquetos de Costa Rica, especialmente la de la costa Caribe, permanece poco conocida.

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