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Nota Científica

Scaleworms (Polychaeta: Polynoidae) from the Mexican Pacific and some other Eastern Pacific sites*

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ABSTRACT. Polynoids are a diverse group of polychaetes which, although not abundant, are almost always found in faunistic studies. In the Mexican Pacific, 83 species have been recorded; most have not been recently reviewed. The main problem with the recorded species is misidentification due to unclear taxonomic features. As part of a faunistic study and a taxonomic review of polynoids from the Mexican Pacific coast (MP), polynoid types and supplementary materials described for the MP and other Eastern Pacific (EP) sites were examined, principally for specimens from Arctonoinae, Lepidastheniinae, Lepidonotinae, and Polynoinae. Part of the results were systematized and are presented as an annotated list of the 30 species examined and a taxonomic key for the 61 polynoid species recorded in the MP; both include commentaries about the generic and specific status and geographic distribution of all the species. The list and key will facilitate the knowledge and study of polynoid biodiversity in the MP as well in the EP.

Key words: Polynoids, taxonomy, biodiversity, Mexican Pacific, Eastern Pacific Ocean.

Gusanos escamosos (Polychaeta: Polynoidae) del Pacífico mexicano y de otras localidades del Pacífico oriental*

RESUMEN. Los polinoidos forman un grupo diverso de poliquetos, aunque no son abundantes, frecuentemente se encuentran en todos los estudios faunísticos de bentos de fondos rocosos. En el Pacífico mexicano se han registrado 83 especies pero la mayoría de ellas no ha sido recientemente revisada. El principal problema en las especies registradas es que varias han sido confundidas debido a que sus características taxonómicas no son claras. Como parte de un estudio faunístico y de revisión taxonómica de los polinoidos del litoral del Pacífico mexicano (MP), se examinó material tipo y material adicional de las especies descritas en el MP y en otras localidades del Pacifico Este (EP), principalmente de las subfamilias Arctonoinae, Lepidastheniinae, Lepidonotinae and Polynoinae. Parte de los resultados se sistematizaron en una lista anotada con 30 especies examinadas y en una clave taxonómica para 61 especies registradas en el MP. Ambas incluyen comentarios acerca del estado genérico y especifico de las epecies y su distribución. Además, ambas facilitarán el conocimiento y estudio de la diversidad de los polinoidos en el MP y EP.

Palabras clave: polinoidos, taxonomía, biodiversidad, Pacífico mexicano, Pacífico oriental.

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Polynoidae is the most frequent family of scaleworms in all benthic studies. The species are distinguished by a prostomium bilobed with from one to three antennae on ceratophores; simple notochaetae and neurochaetae and paired elytrae or scale-like structures dorsally, alternating with one dorsal cirri on segments 2, 4, 5, 7, 9, …21, 23 and following an irregular pattern afterwards. They are found on different substrates, including some invertebrates (Pettibone, 1993a). Their bodies are often fragile and easily fragmented during fixation and the elytrae are usually detached, even though they are frequent in all faunistic studies. In the Mexican Pacific, polynoids are a diverse group. The species checklist has recorded 11 of the 20 subfamilies now recognized in Polynoidae (Muir, 1982; Hanley, 1989; Pettibone, 1989b; Marcus & Hourdez, 2002). This fauna includes species from abyssal and hydrothermal depths (Pettibone, 1976, 1985a, 1985b, 1985c) but most are from the littoral region. In this work, Polynoidae is being considered as the family recognized by Kinberg (1856) and accepted by Fauchald (1977) and Fauchald & Rouse (1997), not an uncertain category (Pleijel, 2001).

During the review of the original descriptions and posterior characterizations of the polynoid species from the Mexican Pacific (MP), the following problems were detected: some descriptions are brief and incomplete; extensive descriptions were not standardized; and descriptions are missing important features. Several species were described from Eastern Pacific (EP) sites and other regions of the world. The objective of this work is to clarify the generic and specific identity of some species by reviewing the available type and supplementary material of polynoid species recorded in the MP, principally those belonging to the subfamilies Arctonoinae Hanley, 1989; Lepidastheniinae Pettibone, 1989; Lepidonotinae Willey, 1902; and Polynoinae Kinberg, 1856. These species were selected because they are the most frequently encountered and have not been reviewed recently. This study will also contribute information about the group's biodiversity.

Based on the polychaete checklist from the tropical Eastern Pacific (Salazar-Vallejo & Londoño-Mesa, 2004) and a preliminary version for the Mexican Pacific (MP) coast (unpublished data). The original polynoid species descriptions and associated literature were located and examined. Type material and supplementary material from the following institutions were examined: American Museum of Natural History, New York (AMNH); Los Angeles County Museum of Natural History, Allan Hancock Foundation (LACM-AHF); Museum of Comparative Zoology, Harvard University (MCZ); Museum National d'Histoire Naturelle, Paris (MNHN); Swedish Museum of Natural History, Department of Invertebrate Zoology (SMNH); National Museum of Natural History, Smithsonian Institution (USNM); Zoologisches Museum, Museum für Naturkunde der Humboldt Universitat, Berlin (ZMB); and Zoologisk Museum, Universitet Kopenhagen, Denmark (ZMUC). All specimens were examined and dissected using a stereomicroscope. The parapodia and elytra as well as the ornamentation of antennae, cirri, and chaetae were examined with a compound microscope. Detailed characterizations and illustrations are in process and will be published elsewere.

This work represents part of the results of a larger project. The results are systematized in an annotated list of the 30 polynoid species examined and taxonomic keys for the 61 polynoid species recorded in the MP; species on the list are in alphabetical order. The synonymy and museum catalogue number for each species as well as commentaries about its taxonomic status and geographic distribution are included. For some species, a hyphen after the scientific name indicates the reference of their record in the region or a name change. The keys include 61 species recorded in the MP; these belong to 26 genera and 11 of the currently accepted subfamilies (Fauchald, 1977; Pettibone, 1976, 1989b; Muir, 1982; Hanley, 1989; Marcus & Hourdez, 2002) and are presented in alphabetical order. The keys for the subfamilies Arctonoinae, Lepidastheniinae, Lepidonotinae, and Polynoinae are based on the type and supplementary material examined, whereas the other subfamilies were based principally on bibliographic descriptions. Species with commentaries about their geographic distributions are indicated by numerical superindices.

This work clarifies the generic and specific identity of 30 species. Some species are synonymised and the synonymy of other species is confirmed; species previously considered to be junior synonyms are being reestablished. The 10 species that are regarded as undescribed were confused with species from other regions or misidentified as other species from the EP; the new species will be named in a forthcoming paper.

The supposed wide distribution of the following species is discarded as all these species were

confused with local species: *Lepidonotus humilis* Augener, 1922b; *Lepidonotus hupferii* Augener, 1918; *Chaetacantus magnificus* (Grube, 1875); *Lepidonotus caelorus* Moore, 1903; and *Lepidonotus hedleyi* Benham, 1915 .

SYSTEMATIC LIST OF SPECIES

Family Polynoidae Kinberg, 1856

Subfamily ADMETELLINAE Uschakov, 1977
- *Admetella* McIntosh, 1885
- *A. dolichopus* Chamberlin, 1919b
- *A. hastigerens* Chamberlin, 1919b
- *A. longipedata* McIntosh, 1885

Subfamily ARCTONOINAE Hanley, 1989
- *Arctonoe* Chamberlin, 1920
- *A. fragilis* Baird, 1863
- *A. pulchra* Johnson, 1897

Subfamily BRANCHINOTOGLUMINAE Pettibone, 1985a
- *Branchinotogluma* Pettibone, 1985a
- *B. grasslei* Pettibone, 1985a
- *B. hesleri* Pettibone, 1985a
- *B. sandersi* Pettibone, 1985a
- *Opistotrochopodus* Pettibone, 1985a
- *O. alvinus* Pettibone, 1985a

Subfamily BRANCHIPLICATINAE Pettibone, 1985b
- *Branchiplicatus* Pettibone, 1985b
- *B. cupreus* Pettibone, 1985b

Subfamily IPHIONINAE Baird, 1865
- *Iphione* Kinberg, 1856
- *I. muricata* Savigny, 1822
- *I. ovata* Kinberg, 1856
- *Iphionella* McIntosh, 1885
- *I. risensis* Pettibone, 1986

Subfamily LEPIDASTHENIINAE Pettibone, 1989b
- *Benhamipolynoe* Pettibone, 1970
- *B. cairnsi* Pettibone, 1989b
- *Lepidametria* Webster, 1879
- *L. gigas* Johnson, 1897
- *Lepidasthenia* Malmgren 1867
- *L. curta* Chamberlin, 1919b
- *L. digueti* Gravier, 1905
- *L. picta* Treadwell, 1928
- *L. ornata* Treadwell, 1937
- *L. virens* Blanchard, 1849

Subfamily LEPIDONOTINAE Willey, 1902
- *Chaetacantus* Seidler, 1924
- *C. pilosus* Treadwell, 1937
- *Halosydna* Kinberg, 1856
- *H. brevisetosa* Kinberg, 1856
- *H. fuscomarmorata* Grube, 1875
- *H. glabra* Hartman, 1939
- *H. hartmanae* Kudenov, 1975
- *H. johnsoni* Darboux, 1899
- *H. latior* Chamberlin, 1919a
- *H. leius* Chamberlin, 1919a n. comb.
- *H. nesiotes* Chamberlin, 1919b
- *H. parva* Kinberg, 1856
- *H. tuberculifer* Chamberlin, 1919a
- *Halosydna* sp. A. Hartman, 1939
- *Lepidonotus* Leach, 1816
- *L. clava* Montagu, 1808
- *L. nesophilus* Chamberlin, 1919b
- *L. spiculus* Treadwell, 1906
- *Thormora* Baird, 1865
- *T. johnstoni* Kinberg, 1856
- *T. setosior* Chamberlin, 1919 n. comb.
- *T. versicolor* Ehlers, 1901 n. comb.

Subfamily LEPIDONOTOPODINAE Pettibone, 1983
- *Lepidonotopodium* Pettibone, 1983
- *L. atalantae* Desbruyéres & Hourdez, 2000
- *L. fimbriatum* Pettibone, 1983
- *L. riftense* Pettibone, 1984
- *L. williamsae* Pettibone, 1984

Subfamily MACELLICEPHALINAE Hartmann-Schröder, 1971
- *Bathykurila* Pettibone, 1976
- *B. guaymensis* Pettibone, 1989a
- *Levensteiniella* Pettibone 1985c
- *L. kincaidi* Pettibone, 1985c

Subfamily MACELLICEPHALOIDINAE Pettibone, 1976
- *Macellicephaloides* Uschakov, 1955
- *M. alvini* Pettibone, 1989a

Subfamily POLYNOINAE Kinberg, 1856
- *Bylgides* Chamberlin, 1919a
- *B. macrolepidus* Moore, 1905
- *Gorgoniapolynoe* Pettibone, 1991
- *G. guadalupensis* Pettibone, 1991
- *Harmothoe* Kinberg, 1856
- *H. exanthema* Grube, 1856
- *H. fragilis* Moore, 1910
- *H. hirsuta* Johnson, 1897
- *H. imbricata* Linnaeus, 1767
- *H. sylliformia* Treadwell, 1928

H. triannulata Moore, 1910
Harmothoe sp. 1
Hemilepidia Schmarda, 1861
H. erythrotaenia Schmarda, 1861
Hesperonoe Chamberlin, 1919a
H. laevis Hartman, 1961
Lagisca Malmgren, 1865
L. extenuata Grube, 1840
L. mexicana Chamberlin, 1919b
L. multisetosa Moore, 1902
L. tenebricosa Moore, 1910 n. comb.
Malmgreniella Hartman, 1967
M. crassicirrata Johnson, 1897 n. comb.
Subadyte Pettibone, 1969
S. mexicana Fauchald, 1972

ANNOTATATED LIST OF POLYNOID SPECIES

Arctonoe pulchra (Johnson, 1897)

Polynoe pulchra Johnson, 1897: 177, pl. 7, figs, 34, 43, 43a; pl. 8, figs. 50, 50a, 50b.
Arctonoe pulchra – Ruff, 1995: 115-116, fig. 3.3 A-E.

Syntypes

LACM-AHF Poly 0045, *Polynoe pulchra*, Pac. Gr. Monterey County, Pacific Grove, commensal on *Holothuria californica* and *Lucapina crenulata*, 18 Jul 1896.
LACM-AHF Poly 0044, *Polynoe pulchra*, Pac. Gr. Monterey County, Pacific Grove, commensal on *Holothuria californica* and *Lucapina crenulata*, 18 Jul 1896
LACM-AHF Poly 1577, *Polynoe pulchra*, Pac. Gr. Monterey County, Pacific Grove, commensal on *Holothuria californica* and *Lucapina crenulata*, 18 Jul 1896.
LACM-AHF 1580, *Polynoe pulchra*, Pac. Gr. Monterey County, Pacific Grove, commensal on *Holothuria californica* and *Lucapina crenulata*, 18 Jul 1896.
LACM-AHF 1579, *Polynoe pulchra*, Pac. Gr. Monterey County, Pacific Grove, commensal on *Holothuria californica* and *Lucapina crenulata*, 18 Jul 1896.
LACM-AHF Poly 1578, *Polynoe pulchra*, Pac. Gr. Monterey County, Pacific Grove, commensal on *Holothuria californica* and *Lucapina crenulata*, 18 Jul 1896.
According to Ruff (1995) and Pettibone (1953), the species has been recorded from the Gulf of Alaska to Baja California, but not in other EP sites. This species is found as commensal on holothurids (*Holothuria californica*) and in the keyhole limpet (*Megathura crenulata*).

Chaetacanthus pilosus (Treadwell, 1937) reinstated

Lepidonotus pilosus Treadwell, 1937: 141-143, pl. 1, figs. 1-7.
Lepidonotus pomareae panamensis Hartman, 1939: 44, pl. 6, figs. 70-77 (*partim*).

Holotypes

AMNH 3531 *Lepidonotus pilosus* Treadwell, 1937, Arena Bank, Gulf of California, sta. 136, D-13, 20 Apr. 1936, NYZS, origin. No. 36382.
LACM-AHF 003 *Lepidonotus pomareae panamensis* Hartman, 1939, Bahía Honda, Panama, off North Island, Velero, sta. 863-38, 30-50 fms, 1 Mar.1938.
Hartman (1939) synonymised *C. pilosus* with *C. magnificus* (Grube, 1875) (Holotype ZMB 1059) from the Grand Caribbean. Both type materials were compared and their differences are sufficient to maintain both species as valid. The holotype of *L. p. panamensis* has the same features as *C. pilosus* and is herein regarded as a junior synonym.

Eunoe eura **Chamberlin, 1919**

Eunone eura Chamberlin, 1919b: 58-60, pl. 3, figs. 2-6.

Holotype

USNM 19355, Peru, 12°54'S 78°33'W, Albatross, sta. 4675, 3120 fms, id R. V. Chamberlin, 22 Nov. 1904.
The holotype is the only record for these species and it was not included in the MP checklist. *E. eura* was illustrated with an uncommon prostomium, which obscured its generic identity. Although the middle antennae ceratophore is prominent, its characteristics correspond to *Eunoe* and the generic identity is confirmed.

Halosydna brevisetosa **Kinberg, 1856**

Halosydna brevisetosa Kinberg, 1856: 385; – Rioja, 1963: 144-45, figs. 43-45.
Polynoe reticulata Johnson, 1897: 170-172, pl. 7, figs. 32, 41, pl. 8, fig. 47 (*partim*).
Lepidonotus johnsoni Darboux, 1899: 246, footnote (replacement name) (*partim*).
Halosydna johnsoni – Hartman, 1939: 34-35 (*partim*).

Holotype

SMNH 400, *Halosydna brevisetosa* San Francisco Bay, California, Exped. Eugenia.

Syntype

LACM-AHF 1584, *Polynoe reticulata*, San Pedro, California, probably commensal with "huge amphitrite", 06 Jan 1896, H.P. Johnson.
LACM-AHF 1583, *Polynoe reticulata*, San Pedro, California, probably commensal with "huge amphitrite", Aug. 1895. Id H.P. Johnson.
Because of its resemblance, this species has been confused and considered to be a synonym of *Halosydna johnsoni*, another species also described for Southern California. However, the present species can be distinguished by its neurochaetae with entire tip. Part of the type material of *H. johnsoni* (LACM-AHF 1583, 1584) belongs to *H. brevisetosa*. Rioja (1963) recorded this species from Macapule, Sinaloa, Mexico; the characterization and drawing correspond to characteristics observed in the specimens examined herein.

Halosydna fuscomarmorata (Grube, 1876)

Polynoe fuscomarmorata Grube, 1876: 62-63.

Halosydna fuscomarmorata – Augener, 1906: 117-119, pl. 3. figs. 41-44.

Halosydna fuscomarmorata – Hartman, 1939: 32, pl. 9, figs. 119, 120 (*partim*).

Syntype

ZMB 1171 *Polynoe fuscomarmorata*, Payta, Peru, Grube, Jelski leg.
Material dried out, only one parapodia and some elytra present.
Hartman (1939) recorded *H. fuscomarmorata* from Utria Port, Colombia and from Piñas Bay, Panama, but it has not been recorded in the PM. These specimens differ from the record (LACM-AHF 380-35) for Independencia Bay, which agrees with the characteristics observed in the available structures of the syntype.

Halosydna glabra Hartman, 1939

Halosydna glabra Hartman, 1939*:* 35-36, pl. 4, figs. 43-50.
Polynoe reticulata Johnson, 1897: 170-172, pl. 7, figs. 32, 41, pl. 8, fig. 47 (*partim*).
Lepidonotus johnsoni Darboux, 1899: 246, footnote (replacement name) (*partim*).
Halosydna johnsoni – Hartman, 1939: 34-35.

Syntypes

LACM-AHF 0013, *Halosydna glabra*, Concepción Bay, Baja California, 26°41'40"N 111°51'05"W, sta. 688-37, 12 fms, 16 March 1937.
LACM-AHF 0014, *Halosydna glabra*, Concepción Bay, Baja California, 26°41'40"N 111°51'05"W, sta. 688-37, 12 fms, 16 March 1937.
LACM-AHF 001591, *Polynoe reticulata,* Monterey, California, Pacific Grove, in tube of *Amphitrite* or *Thelepus* spp. 11 Jul 1896.
Hartman (1939) recorded the species from Piñas Bay, Panama (LACM-AHF 444-37); the material was examined and did not correspond to the species. Distribution is restricted to the MP. Hartman (1939) designed the holotype for *Halosydna glabra* but, according to the vial labels, two specimens were separated and labeled as syntypes. In the museum catalogue, the material is labeled as a lectotype and paralectotype, but has not been formally designated as such.

Halosydna hartmanae (Kudenov, 1975)

Malmgrenia hartmanae Kudenov, 1975: 175-176.
Halosydna hartmanae – Hanley, 1987: 160.

Holotype

LACM-AHF 001118 *Malmgrenia hartmanae*, Sonora, Mexico, among lateral chaetae of *Aphrodita mexicana*, 31°10'N, 113°50'W, 28 Feb. 1971, Id. Kudenov.
I agree with Hanley (1987), considering this species to be *Halosydna* because it has lateral antennae inserted terminally, the parapodia lack prechaetal and postchaetal lobes, and the elytra posterior to pair 12 alternate with dorsal cirri, although pairs 14 and 15 are exceptions. All these characteristics correspond with *Halosydna*.

Halosydna johnsoni (Darboux, 1899)

Polynoe reticulata Johnson, 1897: 170-172, pl. 7; figs. 32, 41; pl. 8, fig. 47.
Lepidonotus johnsoni Darboux, 1899: 246 footnote (replacement name) (*partim*).
Polynoe californica Johnson, 1901: 387 footnote (replacement name).
Halosydna johnsoni – Hartman, 1939: 34-35 (*partim*).

Syntypes

LACM-AHF 1585, *Polynoe reticulata* Johnson, 1897, Monterey, California. Pacific Grove, in tube of *Amphitrite* or *Thelepus* spp., Id. H.P. Johnson, 00747.

LACM-AHF 1582, *Polynoe reticulata,* San Pedro, California, on rocky shore, probably commensal with "huge *Amphitrite*", 25 Jan 1895. 000708 (2).
LACM-AHF 1581, *Polynoe reticulata*, San Pedro, Cal*,* rocky shore, probably commensal with *"huge Amphitrite",* 25 Jun 1895. Id H.P. Johnson, 000707 (1 of the 3 syntypes).
LACM-AHF No. 1588, *Polynoe reticulata*, Santa Catalina Island, Avalon, Cal., 31 May 1896, id. H.P. Johnson.
According to the museum catalogue, Johnson did not designated type material and several syntypes are his original material. In spite of that, some syntypes examined herein, or parts of them, do not correspond to the species and descriptions of Johnson (1897). Some correspond to *Halosydna brevisetosa* Kinberg, 1856 (LACM-AHF 1584, LACM-AHF 1583) and others to *Halosydna leius* (Chamberlin, 1919b) n. comb. (LACM-AHF 001587, LACM-AHF 00046). According to Hartman (1939), the combination *Polynoe reticulata* was already in use and, in a footnote, Darboux (1899) renamed it. Johnson (1901) also changed the name from *P. reticulata* to *P. californica*.

Halosydna latior Chamberlin, 1919

Halosydna latior Chamberlin, 1919b: 1-2.
Halosydna obtusa-cirrata Treadwell, 1937: 143-144, pl. 1, figs. 8-11.5.
Halosydna latior – Hartman, 1939: 32.

Holotype

MCZ 2138, *Halosydna latior* Chamberlin 1919, Mussel Point, Laguna Beach, California, Pacific, Coll. Hamilton.
Paratype
AMNH 2379, *Halosydna obtusa-cirrata* Treadwell, 1937, East of Cedros Island, Baja California, 22 May 1936, id. as *Halosydna obtusa- cirrata*, dried out.
Hartman (1939) synonymised *H. obtusa-cirrata* with *H. latior.* The paratype is dried out but it is possible to distinguish the same characteristics as in *H. latior,* mainly in the ornamentation on the middle and posterior elytrae and the same kind of chaetae, confirming the synonymy.

Halosydna leius (Chamberlin, 1919b) n. comb.

Lepidonotus leius Chamberlin, 1919b: 4.
Polynoe reticulata Johnson, 1897: 170-172, pl. 7, figs. 32, 41, pl. 8, fig. 47 (*partim*).
Halosydna johnsoni – Hartman (1939): 34-35 (*partim*).

Holotype

MCZ 2142, *Lepidonotus leius* Chamberlin 1919, Laguna Beach, California, Coll. W.A. Hilbaun, dredge, Original locality: label indicates "Laguna beach Po. 8".
The species was described from a single specimen. The number of elytrae or segments was not indicated and Chamberlin assigned the species to *Lepidonotus.* Herein, the species is being referred to as *Halosydna* because of the number of segments, elytra insertion, and characteristics of the parapodia and neurochaetae. Now there are new records of *Halosydna leius* (Chamberlin, 1919b) n. comb. at different sites off Baja California, Mexico. Some syntypes of *Halosydna johnsoni* (LACM- AHF 001587, LACM-AHF 00046, LACM-AHF 001586), or part of them, correspond to *H. leius* (Chamberlin, 1919b) n. comb.

Halosydna nesiotes (Chamberlin, 1919)

Polynoe nesiotes Chamberlin, 1919b: 72-74, pl. 8, fig. 8, pl. 9, figs. 1-5.
Malmgrenia nesiotes – Hartman, 1938: 122.
Halosydna nesiotes – Hanley, 1987: 160.

Holotype

USNM 19460 *Polynoe nesiotes* Chamberlin, 1919, Santa Margarita Island, Baja California, 1891, Albatross exp. 1891 Id. R.V. Chamberlin.
The holotype is dried out but its generic identity can be distinguished. The neurochaetae, number of elytrae and segments, and shape of neurochaetae and parapodia correspond to *Halosydna*; thus, the generic status is confirmed.

Halosydna parva Kinberg, 1856

Halosydna parva Kinberg, 1856: 385; 1910: 17-18, pl. 5, fig. 24.
Halosydna parva – Hartman 1939, 33, pl 21, figs. 265-267 (*partim*).

Holotype

SMNH 402, *Halosydna parva* Peru, Chincha Island, Leg Eugenie Exp. 1851, Sta. 531, Feb.-March, 1852, ident Kinberg.
Halosydna parva was recorded by Hartman (1939) from the MP. This material was examined and only part of it corresponded to *H. parva.* The material from Santa Rosalía, Mexico (LACM-AHF 610-37) corresponded to *Halosydna leius* (Chamberlin, 1919a) n. com.

Halosydna sp. A. Hartman, 1939

Halosydna species A. Hartman, 1939: 37, pl. 4, figs. 51-55.

LACM-AHF 719-37, Consag Rock, Baja California, Mexico, sta. 719-37, 10-25 fms, Velero, 24 March. 1937.

Although the specimen is complete and in poor condition with most of the elytra present, its features can be distinguished. More specimens were collected at the same site and the species will be formally described elsewhere.

Halosydna sp. B. Hartman, 1939

Halosydna species B. Hartman, 1939: 38, pl. 22, figs. 273-279.

LACM-AHF 617-37, San Juanico, Bay, Baja California, Mexico, Velero, sta. 617-37, 24 fms. 7 March 1937, sand and algae.

The specimen is incomplete but its generic identity can be determined. The elytra bear a fringe of papillae along the border; the surface presents abundant conical microtubercles and papillae and, on the two first pairs of elytra, prominent tubercles. These features correspond to the description, characterization, and drawing of Rioja (1963) of *Halosydna tuberculifer* Chamberlin, 1919a and records from Island Cedros, Baja California; the type material of *H. tuberculifer* Chamberlin, 1919a needs to be examined.

Harmothoe fragilis (Moore, 1910)

Harmothoe (*Evarne*) *fragilis* Moore, 1910: 353-357, pl. 29, figs. 29-30; pl. 30, figs. 31-33.
Harmothoe fragilis – Ruff, 1995: 128-130, figs. 3.9 A-F.

Cotype

USNM 17147, *Harmothoe* (*Evarne*) *fragilis*, Santa Barbara, Cal. Albatros, sta. 4418, 238 fms, 12 Apr. 1904, Id. Percy Moore.
The species has been recorded at different sites along the California coast (Hartman, 1968) and Colima, Mexico. The most recent record was by Barnich & Fiege (2000) from Banyuls, France, but their drawings do not correspond to the characteristics of the material examined herein; thus, the distribution is doubtful.

Harmothoe hirsuta Johnson, 1897

Harmothoe hirsuta Johnson, 1897: 182-183, pl. 6, figs. 27-29, pl. 7, figs. 38, pl. 8 fig., 53, 53a-c.

Syntype

MCZ 1935, San Pedro, California, Coll. H.P. Johnson. 25 Jul 1895, No. 433.

There are two syntype lots. The syntype LACM-AHF 0017 does not correspond to descriptions and drawings of Johnson (1897), whereas syntype MCZ1935 does. Recently, Ruff (1995) characterized and illustrated *Harmothoe hirsuta* using the syntype LACM-AHF 0017; this characterization should not be used. The species has been recorded at different sites from California, Mexico, and Panama, but its distribution should be checked.

Harmothoe sylliformia Treadwell, 1928

Harmothoe sylliformia Treadwell, 1928: 452- 454, figs. 1- 4

Holotype

AMNH 3527, Tagus Cove, Albemarle, Galapagos Island, 00°17'S, 91°34'W, sta. 84. 9 Jun 1925.

Paratype

AMNH 3528, Tagus Cove, Albemarle, Galapagos Island, 02°0'S, 89°30'W, sta. 84, T-3., 9 Jun. 1925.
The species is only known from its type locality. The material consists of juvenile specimens with 13-14 pairs of elytra, but the characteristics are well recognized.

Harmothoe triannulata Moore, 1910

Harmothoe triannulata Moore, 1910: 346-348, pl. 29, figs. 18-22.

Holotype

USNM 17154, Brockway Point, Santa Rosa, California, Albatross, sta. 4431, 41 fm, 15 Apr. 1904, id. Percy Moore.
The specimen is incomplete and in poor condition, but it is possible to recognize the features of *Harmothoe*. Pettibone (1953) synonymised *H. triannulata* with *H. extenuata* (Grube, 1840) from the Mediterranean Sea, but the two species are distinct and, herein, *H. extenuata* is referred to as *Lagisca extenuata* n. comb. Both species are maintained separate and differ as indicated in the key. The new combination is published elsewhere.

Lagisca mexicana (Chamberlin, 1919) n. comb.

Harmothoe mexicana Chamberlin, 1919b: 54 - 58, pl. 1, figs. 1-9; pl. 2, fig. 1.
Harmothoe mexicana – Fauchald, 1972: 24-25.

Syntypes

USNM 19370, *Harmothoe mexicana* Chamberlin, 1919, Mexico, 680 fms, Albatros, Sta. 3425, 21°19'N 106°24' W, 18 Apr. 1891, id R.V. Chamberlin.

MCZ 222, *Harmothoe mexicana* Chamberlin, 1919, Expedition USFC Albatross sta. 3425, off Cabo Corrientes, 21°19' N 106°24' W, depth 1244 m, Coll. A. Agassiz 18 Apr. 1891, labels reads "posterior end broken off a specimen, three specimens.
USNM 19737, *Harmothoe mexicana* Chamberlin, 1919, Off Mexico 21°N, 106°W, 680 fms, exped. Albatross, sta. 3425, 18 Apr. 1891, id. R.V. Chamberlin, three specimens.
Some materials are labeled as types and others as paratypes. Although Chamberlin (1919b) did not designate a holotype, the materials are regarded as syntypes. Because of the number of segments in the body, number of posterior cirrigerous segments, and shape of notochaetae, *H. mexicana* is referred to as *Lagisca mexicana* n. comb.

Lagisca tenebricosa (Moore, 1910) n. comb.

Harmothoe tenebricosa Moore, 1910: 351, pl. 29, figs. 23-28.
Eunoe exoculata Treadwell, 1923: 4-6, figs. 1 - 4.
Harmothoe exoculata – Hartman, 1938: 118 *synonimy.*

Holotype

USNM 16877, *Harmothoe tenebricosa* Moore, 1910, North of San Diego, California, 32°50'N 118°03'W, sta. 4400, 500 fms, through Santa Catalina and Santa Barbara.
Syntype
USNM 19148, *Eunoe exoculata* Treadwell, 1923, off Point Surf, Baja California, Albatross sta. 5698, 475 fms, 27 1911, id. A.L. Treadwell, 89741.
These materials share the same features, confirming the synonymy of both species. Due to the presence of prostomial peaks, number of posterior cirrigerous segments, and notochaetae shape, *H. tenebricosa* is referred to as *Lagisca tenebricosa* n. comb.

Lepidametria gigas (Johnson, 1897)

Polynoe gigas Johnson, 1897: 172-175, pl. 7, figs. 33, 42, pl. 8 figs. 48, 49.
Lepidametria gigas – Seidler, 1924: 145 -146.

Syntypes

LACM-AHF 0034, *Polynoe gigas*, Los Angeles County, San Pedro, commensal on *Amphitrite* sp. Coll. H.P. Johnson.
LACM-AHF 0035, *Polynoe gigas*, Los Angeles County, San Pedro, commensal on *Amphitrite* sp. Coll. H.P. Johnson, Jonson, Cotype.
LACM-AHF 1595, *Polynoe gigas,* Los Angeles County, San Pedro, commensal on *Amphitrite* sp. Coll. H.P. Johnson.
LACM-AHF 1596 *Polynoe gigas*, San Diego, Point Loma. Coll. W.M. Wheeler, 20 Jan. 1897.
MCZ 335a, San Pedro California, Sta. 5, Coll. H.P. Johnson, 27 Jun 1895.
Because of the shape of notopodia, presence of reduced notochaetae, neuropodia with incipient prechaetal and postchaetal lobes, and elytrae arrangement, the species belongs to *Lepidametria*. *L. gigas* has been recorded at different California sites. It has also been recorded at some sites off Mexico. Hartman (1939) recorded the species in the Galapagos; this distribution should be checked.

Lepidasthenia curta Chamberlin, 1919

Lepidasthenia curta Chamberlin, 1919b: 61-63, pl. 5, figs. 4-9.

Holotype

USNM19399 (1) Mexico, 21°15'N, 106°23'W, 676 fm. Albatross, sta. 3424, 18 Apr. 1891, id. R.V. Chamberlin (1919).
The species was described with a single specimen; thus, it is considered to be the holotype. Because of its characteristics, the generic identity is confirmed.

Lepidasthenia digueti Gravier, 1905

Lepidasthenia digueti Gravier, 1905: 160-173, figs. 2-9.
Lepidasthenia digueti – Fauvel, 1943: 4-5.

Syntype

MNHN-120, *Lepidasthenia digueti*, La Paz, Mexico, 1904, det. Ch. Gravier 1904.
The material is fragmented and incomplete but it is possible to distinguish the features of *Lepidasthenia* in the parapodia and neurochaetae. The species is known only from the type locality.

Lepidasthenia picta Treadwell, 1928 retained

Lepidasthenia picta Treadwell, 1928: 456-457, figs. 10-13.

Holotype

AMNH 3534, Gardner Bay, Hood, Galapagos Island, sta. 54, 25-27 Apr. 1925.
Hartman (1956) synonymised *Lepidasthenia picta* with *L. varia* Treadwell, 1917 from the Grand Caribbean. The materials of both species were examined and they are different species.

Lepidonotus nesophilus Chamberlin, 1919

Lepidonotus nesophilus Chamberlin 1919b: 75-78, pl. 4, figs. 1-7, pl. 5, fig. 13.

Holotype

USNM 19400, Galapagos Archipelago, Chatham Island, shore, Albatross exped. 8 Jan. 1905, Id. R.V. Chamberlin.

Hartman (1939) recorded *L. nesophilus* from Galapagos Island and the Tenacatitla Bay, Mexico, but the latter specimens do not correspond to *L. nesophilus;* the specimen is an undescribed species.

Lepidonotus spiculus (Treadwell, 1906)

Polynoe spicula Treadwell, 1906: 151-1152, fig. 11.

Lepidonotus caelorus – Hartman, 1939: 44. (*Non Moore, 1903*).

Lepidonotus spiculus – Ruff, 1995: figs. 3.16 A-H.

Syntypes

USNM 5203, Monterey Bay, California, Sta. 4551, 56-46 ftm, 1904 (3).

Lepidonotus spiculus was synonymised by Hartman (1938) with *L. caelorus* Moore, 1903 from Japan (USNM15733). Both type materials were examined and they are different. According to Ruff (1995), the species should be kept separated. Hartman (1939) recorded *L. caelorus* at different sites off California and Baja California, but these specimens correspond to *L. spiculus.*

Subadyte mexicana Fauchald, 1972

Subadyte mexicana Fauchald, 1972: 27-29, pl. 1, figs. a-e.

Subadyte mexicana – Pettibone 1993b: 685.

Subadyte mexicana – Ruff, 1995: 153-155, figs. 3.21 A-G.

Holotype

LACM-AHF 001008, Baja California, 15.5 miles from Natividad Island, Mexico, mud and glauconit, 27°38’00”N, 115 16’16” W to 27°32’48”N, 115°16’ 05“W sta. 7234-61, 461-433 m, 3 Jan 1961.

Paratype

LACM-AHF 001009, Baja California, Mexico, 15.5 miles from Natividad Island, mud and glauconitic, 27°38’00”N, 115°16’16”W to 27°32’48”N, 115°16’ 05 “W, sta. 7234-61, 461-433 m. 3 Jan. 1961.

Subadyte mexicana was described with incomplete specimens and without elytrae. Pettibone (1993b) and Ruff (1995) characterised the elytrae from non-type material from the MP.

Thormora johnstoni (Kinberg, 1856)

Lepidonotus johnstoni Kinberg, 1856: 384.

Lepidonotus johnstoni – Kinberg, 1858: 12, pl. 4, fig. 13, pl. 10, fig. 50.

Lepidonotus (*Thormora*) *johnstoni* Seidler, 1924: 92.

Thormora johnstoni – Hartman, 1949: 25-26, pl. 3, figs. 6-9 *partim.*

Syntypes

SMNH 391, *Lepidonotus johnstoni* Kinberg 1856, Panama, Pearl Island, St. Joseph, 40 m, 08°N 078°W, Leg Eugenie Exp. 1851-53 (2).

T. johnstoni has been recorded at several MP sites. The records of Hartman (1939) for Coronado Island and Concepcion Bay, Mexico (LACM-AHF 525-36 LACM-AHF 863-37) do not correspond to the species.

Thormora setosior (Chamberlin, 1919) n. comb.

Lepidonotus setosior Chamberlin, 1919b: 3-4.

Thormora johnstoni – Hartman, 1939: 50, pl. 7, figs. 96-98 (*partim,* non Kinberg, 1856).

Holotype

MCZ 2141, *Lepidonotus setosior* Chamberlin, Laguna Beach, California, W.A. Hilton, dredged, 1919.

Paratype

MCZ 2141, *Lepidonotus setosior* Chamberlin, 1919, Laguna Beach, dredged, turbin shell, Hilton.

Because of the presence of two kinds of notochaetae, anterior eyes near the basis of the lateral ceratophores, the species belongs to*Thormora*. Some of the specimens recorded by Hartman (1939) as *T. johnstoni* in the MP correspond to *T. setosior* n. comb.

Thormora versicolor (Ehlers, 1901) n. comb.

Lepidonotus versicolor Ehlers, 1901: 50-52, pl. 3, figs. 1-9.

Lepidonotus (Thormora) versicolor – Augener, 1922a, 173-174, fig. 1.

Syntypes

ZMB 3721, *Lepidonotus versicolor*, Juan Fernández Island, Chile, material dried out.

ZMB 6718, *Lepidonotus versicolor*, Juan Fernandez Island, Chile, Zool. Institute Gotting. 7 specimens in bad condition.

Although the specimens are in poor condition, it is possible to distinguish two kinds of notochaetae, spinous and not spinous, as in *Thormora*. Thus, *L. versicolor* is referred to as *Thormora versicolor* n. comb. The specimens recorded by Hartman (1939)

as *L. versicolor* from the Gulf of California (AHF 529-36 and AHF 728-37) do not correspond to the species. The most recent record is by Rozbaczylo & Castilla (1981) for the same type locality.

KEY FOR POLYNOIDAE RECORDED IN THE MEXICAN PACIFIC

Key for the subfamilies

1 Without median antenna; when present, inserted posterodorsally; elytral surface with polygonal or hexagonal areas ..... IPHIONINAE
– With median antenna, inserted frontally or in middle part of the prostomium; elytral surface without polygonal or hexagonal areas 2

2(1) Without lateral antennae; if present, as filaments attached to anterior border of prostomium; without eyes 3
– With lateral antennae, inserted on ceratophores; with eyes 7

3(2) With branchial process dorsally and laterally to notopodia 4
– Without branchial process 6

4(3) Notopodia with a bractea distally rounding the notochaetae ..... LEPIDONOTOPODINAE[1]
– Notopodia without a bractea 5

5(4) Branchiae as folded flattened sacks ..... BRANCHIPLICATINAE[1]
Prostomium truncated anteriorly, tentaculophores fused to prostomium; median antenna mediodorsal *Branchiplicatus*
elytra smooth, with veins; middle and posterior elytra with tubercles on posterior border ..... *B. cupreus*
– Branchiae as short cylindrical filaments ..... BRANCHINOTOGLUMINAE[1]

6(3) Notopodia with chaetae, with a projected short acicular lobe; ventral cirri inserted in middle part of the neuropodia ..... MACELLICEPHALINAE[2]
– Notopodia without chaetae, with projected long acicular lobe; ventral cirri inserted near the distal part of the neuropodia ..... MACELLICEPHALOIDINAE[2]
Prostomium with or without prostomial filaments; tentaculophores long, enclosing the prostomium ..... *Macellicephaloides*
cirrophore of dorsal cirri short or extending to tip of neuropodia ..... *M. alvini*

7(2) Ceratophores of lateral antennae inserted on the anterior border of prostomial lobes 8
– Ceratophores of lateral antennae inserted ventrally to prostomial lobes 10

8(7) Median antennae inserted in central part of the prostomium; tentacular segment not fused to the prostomium; neuropodia with a projected acicular lobe ..... ADMETELLINAE[2]
lateral antennae with process on ceratophores ..... *Admetella*
– Median antenna inserted frontally; tentacular segment fused to the prostomium; neuropodia with an acicular lobe not projected 9

9(8) Neuropodia with prechaetal and postchaetal lobes ..... LEPIDASTHENIINAE
– Neuropodia without prechaetal or postchaetal lobes ..... LEPIDONOTINAE

10(7) Neuropodial prechaetal lobe with a projected acicular lobe tapering diagonally .. POLYNOINAE
– Neuropodial prechaetal lobe rounded, without a projected acicular lobe ..... ARCTONOINAE
Middle elytra on segments 21, 23, 26, 28, 29, 31, 33, posterior elytra in an irregular arrangement; antennae and cirri short, thick ..... *Arctonoe*

Key for the species of each subfamily

ADMETELLINAE

1 Notopodia with chaetae; antennal process laminar ..... *Admetella longipedata*[3]
– Notopodia without chaetae; antennal process otherwise 2

2(1) Notopodia short; antennal process not fused *A. hastigerens*
– Notopodia long; antennal process fused ..... *A. dolichopus*

ARCTONOINAE

1 Elytra overlapping, covered dorsum; elytra with brownish pigmentation; mouth without edge. ..... *A. pulchra*
– Elytra not overlapping; dorsum uncovered; elytra without brownish pigmentation; mouth with thick edge ..... *A. fragilis*

BRANCHINOTOGLUMINAE

1 Posterior parapodia not modified, lateral ..... *Branchinotogluma* 2
– Posterior parapodia modified forming a circular organ, directed posteriorly ..... *Opistotrochopodus*
ventral lamellae on posterior segments .. *O. alvinus*

2(1) Branchiae with long filaments..... *B. hesleri*
– Branchiae with short filaments.....3

3(2) Branchiae on all segments.....*B. grasslei*
– Branchiae only on segments 19 - 21 ..*B. sandersi*
IPHIONIINAE
1 With eyes; prostomial lobes not deeply separated; lateral ceratophores with antennae..... *Iphione* 2
– Without eyes; prostomial lobes deeply separated; lateral ceratophores without antennae.... *Iphionella*
notochaetae capillary spinous .....*I. risensis*[4]

2(1) Elytral margin with fringe; notochaetae much larger than neurochaetae .....*I. muricata*[5]
– Elytral margin without fringe; notochaetae extending up to the neurochaeta tips ..... *I. ovata*

LEPIDASTHENIINAE

1 Posterior segments without elytra..... *Benhamipolynoe*
neurochaetae unidentate..... *B. cairnsi*
– Posterior segments with elytra.....2

2(1) Notopodia short; notochaetae only on anterior parapodia; elytra posterior to pair 12 alternate with one dorsal cirri; palps with papillae .. *Lepidametria* 3
– Notopodia absent; without notochaetae in all parapodia; elytra posterior to pair 12 alternate with two dorsal cirri; palps without papillae... *Lepidasthenia* 5

3(2) Middle elytra imbricate, covering the dorsal part; facial tubercle prominent, long. *Lepidametria* ..... sp. 1[6]
– Middle elytra not imbricate, dorsal part uncovered; facial tubercle small or incipient.....4
4(3) Supra-acicular neurochaetae of middle parapodia much thicker and darker than the sub-acicular neurochaetae, with entire tip.....*L. gigas*
– Supra-acicular neurochaetae of middle parapodia similar to the subacicular neurochaetae ..... *Lepidametria* ..... sp. 2[6]

5(2) Segment two with anterior border lobed..... *L. digueti*
– Segment two with anterior border not lobed.....6
6(5) Neuropodia with a prechaetal lobe longer than the postchaetal lobe.....*L. curta*
– Neuropodia with prechaetal and postchaetal lobes with similar form.....7

7(6) Segment two projected on the prostomium as a small lobe..... *L. picta*
– Segment two not projected on the prostomium 8

8(7) Facial tubercle thick; neurochaetae with secondary tooth thick, surface with spines not extending to the secondary tooth ..... *Lepidasthenia virens*[7]
– Facial tubercle incipient; neurochaetae with a secondary tooth thin.....*L. ornata*

LEPIDONOTINAE

1 Notochaetae of two kinds, spinous and smoot lanceolate-shaped..... *Thormora* 2
– Notochaeta only spinous.....4

2(1) Elytral surface with conical tubercles, not spinous, without basal areoles 3
– Elytral surface with cylindrical tubercles, spinous, distally rounded, with wide basal areoles ....*T. versicolor* n. comb.

3(2) Lanceolate notochaetae as abundant and thick as spinous kind; elytral tubercles long, abundant on all elytra ..... *T. setosior* n comb.
– Lanceolate notochaetae less abundant, much thinner than spinous ones; elytral tubercles long, scarce, only on anterior elytra.....*T. johnstoni*

4(1) Branchial processes between parapodia..... *Chaetacantus*
elytral surface with abundant filiform papillae; microtubercles ovoid; macrotubercles peduncled, spread; not in a patch.....*C. pilosus*
– Without branchial processes 5

5(4) 18 pairs of elytra, pairs 14-15 and 16-17 together; 38 segments; with upper notochaetae short, curved, and long notochaetae tapered in a long capilar tip ..... *Halosydna* 6
– 12 pairs of elytra; 26 segments; notochaetae spinous capillars.....*Lepidonotus* 18

6(5) Neurochaetae unidentate 7
– Neurochaetae bidentate.....9

7(6) First two pairs of elytra with short subconical blunt tubercles, smaller than those of middle and posterior elytra; middle elytra with some tubercles disk-shaped .....*H. latior*
– First two pairs of elytra with conical tubercles, some longer than those of middle and posterior elytra; middle and posterior elytra with tubercles of other shapes.....8

8(7) All elytra with fringe of long and abundant papillae; two first pairs of elytra with prominent tubercles smooth ..... *H. tuberculifer*
– Elytral margin on anterior elytra with fringe of short and scarce papillae; two first pairs of elytra with thin tubercles, surface rough ..... *H. brevisetosa*

9(6) Elytral margin with a fringe of papillae 10
– Elytral margin without a fringe of papillae 14

10(9) Elytral fringe of abundant papillae, present in all elytra 11
– Elytral fringe of scarce papillae, present in some elytra 12

11(10) Elytral surface with sclerotized tubercles and soft vesicular tubercles..... ..... *Halosydna* sp. *A*. Hartman, 1939
– Elytral surface only with sclerotized tubercles ....*H. leius* (Chamberlin, 1919b) n. comb.

12(10) Elytral tubercles sclerotized 13
– Elytral tubercles not sclerotized, soft, as vesicles *Halosydna* sp. 1[8]

13(12) Elytral margin with a fringe restricted in anterior elytra; middle elytra only with microtubercles .....*H. johnsoni*
– Elytral margin with a fringe restricted up to middle elytra; middle elytra with microtubercles and macrotubercles..... *H. parva*

14(9) Elytral surface without sclerotized tubercles, tubercles smooth as vesicles ..... *Halosydna* sp. 2[8]
– Elytral surface with sclerotized tubercles, with or without tubercles smooth as vesicles 15

15(14) Middle and posterior elytra with microtubercles forming a patch on the anterior part .... *H. hartmanae*
– Middle and posterior elytra with abundant microtubercles on its posterior part.....16

16(15) Anterior elyitra with tubercles thick, ovoid, hemispherical wrinkled; middle and posterior elytra without thick tubercles..... *H. glabra*
– Anterior elytra without prominent tubercles; middle and posterior elytra with some thick tubercles 17

17(16) Anterior elytra with two kinds of tubercles. .....*H. nesiotes*
– Anterior elytra with one kind of tubercle..... ..... *H. fuscomarmorata*

18(5) Elytral margin without fringe.....19
– Elytral margin with fringe.....20

19(18) Elytral surfaces with subconical non-spinous microtubercles, macrotubercles absent .... *L. clava*[9]
– Elytral surfaces with hemispherical spinous microtubercles, macrotubercles with long spines ..... *L. nesophilus*[10]

20(18) Neurochaetae unidentate 21
– Neurochaetae bidentates 22

21(20) Palps without papillae; elytra with microtubercles and macrotubercles, without micropapillae; macrotubercles conical, long on anterior and posterior elytra..... *L. spiculus*
– Palps with papillae; elytral surface only with microtubercles, abundant micropapillae, without macrotubercles .....*Lepidonotus* sp.1[11]

22(20) Elytral surface with tubercles hemipherical and spinous.....*Lepidonotus* sp. *2*[12]
– Elytral surface with tubercles conical or subconical.....23

23(22) Neuropodia with distal papillae; elytra with thin, conical microtubercles.....*Lepidonotus* sp. *3*[13]
– Neuropodia without distal papillae; elytra with thick microtubercles.....24

24(23) Notochaetae capillary spinous; elytra with rounded microtubercles, suface rough . *L. hupferi*[14]
– Notochaetae thick flattened shape, serrated; elytra with truncated microtubercles, surface with rows of spines.....*Lepidonotus* sp. 4[12]

LEPIDONOTOPODINAE

1 Prostomial lobes cylindrical..... ..... *Lepidonotopodium williamsae*
– Prostomial lobes subtriangular.....2

2(1) Elytra without macrotubercles .... *Lepidonotopodium riftense*
– Elytra with macrotubercles 3

3(2) Macrotubercles short, scarce, scattered on posterior part of the elytra ..... *Lepidonotopodium fimbriatum*
– Macrotubercles long, abundant along posterior border of the elytra..... *L. atalantae*

MACELLICEPHALINAE

1 Prostomial lobes slightly separated; notopodia as long or longer than neuopodia .....*Bathykurila* elytral surface with conical and rounded tubercles along the border; tentaculophores with a prominent acicular lobe .....*B. guaymensis*

– Prostomial lobes deeply separated; notopodia shorter or as long as the neuropodia*Levensteiniella* elytra only with micropapillae on margin; tentaculophores without prominent acicular lobe..... .....*L. kincaidi*

POLYNOINAE

1 Notochaetae with thick spines; neurochaetae with thick spines and basal a semilunar cusp... *Subadyte* facial tubercle thick; elytra with filiform paillae on the surface and margin .....*S. mexicana*[15]
– Notochaetae otherwise; neurochaetae without a semilunar cusp 2

2(1) Neurochaetae with capillary tips .... *Bylgides*[16] anterior eyes much longer than posterior eyes and near anterior border of the prostomium ....*B. macrolepidus*[16]
– Neurochaetae with blunt tip or bidentate 3

3(2) Body tapers from middle part, more than 8 posterior segments without elytra 4
– Body not tapering from middle part; up to 8 posterior segments without elytra.....9

4(3) Notochaetae short, much thicker than neurochaeta, fascicle expanded; prostomial peaks conspicuous..... *Lagisca*[17] 5
– Notochaetae as thick as neurochaeta, fascicle not expanded; prostomial peaks incipient .*Hemilepidia* elytra with scarce microtubercles..... ..... *H. erythrotaenia*[18]

5(4) Prostomial lobes frontally elongated, deeply separated; secondary tooth of most neurochaetae almost perpendicular..... *L. mexicana* n. comb.
– Prostomial lobes frontally not long and slightly separated; secondary tooth of all neurochatae not separated and straight.....6

6(5) Neurochaetal surface with scratches, main tooth pointed, slightly curved.....*L. tenebricosa* n. comb.
– Neurochaetal surface with rows of long spines, main tooth thick, blunt, almost straight 7
7(6) Elytra with globular macrotubercles soft, not sclerotized 8
– Elytra without macrotubercles not sclerotized..... ..... *Lagisca* sp. 1

8(7) Elytra without fringe; surface with conical pointed microtubercles and prominent tubercles not sclerotized ..... *L. multisetosa*[19]
– Elytra with fringe; surface with blunt microtubercles, tubercles not sclerotized, small near posterior margin .....*L. extenuata*[20]

9(3) Notochaetae of two kinds, thick serrated and thin .....*Hesperonoe*[21] elytra with scarce microtubercles, margin with small papillae..... *H. laevis*
– Notochaetae of a single kind.....10

10(9) Elytral surface with blunt scarce microtubercles, without macrotubercles.....11
– Elytral surface with abundant microtubercles, with or without macrotubercles.....13

11(10) Three first pairs of elytra with a big sclerotized region; chaetae with small spines*Gorgoniapolynoe* neurochaetae with bifid tips as a mall notch; without prostomial peaks .....*G. guadalupensis*
– Elytra without sclerotized region; chaetae with long spines.....*Malmgreniella* 12

12(11) Notochaetae much thicker than neurochaetae, blunt tips; neurochaetae with streaks; prostomial lobes subconical.....*M. crassicirrata* n. comb[22]
– Notochaetae as thick as neurochaetae; short pointed; neurochaetae with long spines; prostomial lobes rounded .....*Malmgreniella* sp. 1

13(10) Neurochaetae bidentate; prostomium with frontal peaks..... *Harmothoe* 14
– Neurochaeta unidentate, prostomium without prostomial peaks..... *Eunoe* prostomium spherical, prominent .....*E. eura*

14(13) Anterior eyes ventral to prostomium, near prostomial peaks ..... *H. imbricata*[23]
– Anterior eyes dorsal, in middle part of the prostomium 15

15(14) Elytral surface without spinous microtubercles; without macrotubercles or if present sclerotized.....16
– Elytral surface with spinous microtubercles; macrotubercles sclerotized 19

16(15) Without macrotubercles; microtubercles blunt on anterior part of the elytra; eyes reddish..... ..... *H. sylliformia*
– Macrotubercles as vesicles; microtubercles conical on all surface; eyes dark brown 17

17(16) Elytral surface with abundant filiform papillae; macrotubercles ovoid without an apical filament.....18
– Elytral surface without filiform papillae; macrotubercles ovoid with apical filament .....

.....*H. exanthema*[24]

18(17) Macrotubercles ovoid, prominent, extending up to the posterior elytral margin; prostomial lobes rounded ..... *H. fragilis*
– Macrotubercles ovoid, thin, extending beyond the posterior border; prostomial lobes subconical .....
.....*H. triannulata*

19(15) Macrotubercles ovoid with small peak on top; on middle and posterior elytra macrotubercles long, inclined, forming a marginal row..... *H. hirsuta*
– Macrotubercles cylindrical with long, bifurcated peak on top; on middle and posterior elytra the macrotubercles are scattered on posterolateral surface .
..... *Harmothoe* sp.1[25]

NOTES

1) Polynoids from hydrothermal rift-area off Western Mexico (20°50'N, 109°06'W), 2457-2633 m depth.

2) Polynoids from abyssal depths.

3) *Admetella longipedata* McIntosh, 1885 was described off southwestern Africa, in 1375 m. The records from the Mexican Pacific are doubtful.

4) *Iphione risensis* Pettibone, 1985 was described from the hydrothermal rift-area on the East Pacific Rise (20°50'N, 109°06'W).

5) *Iphione muricata* (Savigny 1822) has been widely recorded in tropical and subtropical regions of the Indo-Pacific. The materials require comparison and the specific identity must be determined. The type locality is Mauritius, Ile de France.

6) Although distinct, the species has been confused with *Lepidasthenia digueti* Gravier, 1905 and is undescribed.

7) This species was identified by Hartman (1939) as *Lepidametria virens* (Blanchard, 1849). The records of Hartman (1939) were examined and all belong to *Lepidasthenia.* Although the species was recorded as being from Western Mexico, the records do not include any materials from Mexico. The identity of *Lepidasthenia virens* (Blanchard, 1849), described from Chile, is confused and the type material seems to be lost. The chacteristics pointed out in the key are based on part of the specimens identified by Hartman (1939), specifically from Galapagos and Panama, which do not correspond to any known species.

8) The specimens were identified as *Halosydna* sp. A. Hartman, 1939, but their characteristics differ, as is pointed out in the key.

9) *Lepidonotus clava* (Montagu, 1808) was described from England. The specimens recorded from the MP were not available for examination. If the species were present, the characteristics should be as indicated in the key.

10) *L. nesophilus* has been confused with other species, among them *L. versicolor*; although undescribed, the species can be recognized as indicated in the key.

11) The species has been confused with *L. nesophilus* Chamberlin, 1919 and with *Lepidonotus hupferi* Augener, 1918, described from the western African coast. The specimens recorded in the region were compared with the type material and are distinct.

12) The specimens were recorded as *L. nesophilus* in the Gulf of California, but they differ, as pointed out in the key.

13) The species has been confused with *L. humilis* (Augener, 1922b) from the Grand Caribbean Region, but is distinct and is characterized as in the key.

14) *Lepidonotus hupferi* Augener, 1918 was described from the western African coast; the records by Hartman (1939) from Mexico and Canada do not correspond to the species. If the species were in the region, its features should be as indicated in the key.

15) *Subadyte mexicana* Fauchald, 1972 was described with incomplete specimens and without elytra. The characteristics of the elytra present in this key are based on the characteristics described by Pettibone (1993b) and Ruff (1995).

16) According to Pettibone (1993c) and Ruff (1995), *Antinoella* Augener, 1928 was synonymised with *Bylgides* Chamberlin, 1919, and its name replaced by *Bylgia* of *Bylgia elegans.* The species of this genera are found in the Arctic. Only *Bylgides macrolepidus* was described from Alaska and recorded off the California coast (35°14'N, 121°07'W) and in Monterrey Bay (Pettibone, 1993c).

17) Barnich & Fiege (2000), in their work on Mediterranean Polynoinae, commented on the validity of *Lagisca*. They do not consider the presence of several posterior segments without elytra and the thickness of the notochaetae to be of generic importance. However, I found that the characteristics are constant and distinguish the species from *Harmothoe*, as pointed out in the key.

18) *Hemilepidia erythrotaenia* was described from the Cape of Good Hope, Africa. The MP record

is doubtful and the presence of this species in the Eastern Pacific must be demonstrated.

19) *Lagisca multisetosa* Moore, 1902 was described from Icy Cape, Alaska. The species was recorded by Treadwell (1923) from Baja California, based on one specimen without elytra. Ruff (1995) recorded the species from Santa Maria Basin, but the illustrations do not correspond to Moore's (1902) description. The presence of this species in the Eastern Pacific must be demonstrated. If it is in the region, its characteristics should be as pointed out in the key.

20) The type locality of *Lagisca extenuata* n. comb. (Grube, 1840) is in the Mediterranean Sea. Additional material was examined from there. It was recorded by Hartman (1968) from California. If there is a similar form in the MP, it should have the characteristics presented herein.

21) *Hesperone* Chamberlin, 1919 is a confused genera; it seems to be very similar to *Harmothoe*.

22) *Malmgreniella crassicirrata* (Johnson, 1897) n. comb. is similar to *M. variegata* (Treadwell, 1917) from the Grand Caribbean Region, but they are distinct.

23) *Harmothoe imbricata* (Linnaeus, 1767) was described from the Artic Sea and recorded by Johnson (1897) and Hartman (1968) from the California Coast. Barnich & Fiege (2000) characterized the species with materials from the Mediterranean Sea and they showed elytra with a fringe of papillae, a surface with conical microtubercles and micropapillae, and some drop-shaped macrotubercles.

24) *H. exanthema* (Grube, 1856) was described from Chile and recorded by Hartman (1939) from the MP. The specimens examined have macrotubercles like those those illustrated by Bergström (1916) for specimens from the Falkland Islands. In spite of the similarity, the specimens should be compared and the supposed wide distribution demonstrated.

25) *Harmothoe* sp. 1 was identified as *Harmothoe hirsuta* but its features do not correspond to the description, illustrations, or features of the type material. Its features are sufficient to maintain the species separate.

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