Zootaxa 3886 (1): 001–061
www.mapress.com/zootaxa/

Monograph

ISSN 1175-5326 (print edition)
ZOOTAXA
ISSN 1175-5334 (online edition)

http://dx.doi.org/10.11646/zootaxa.3886.1.1
http://zoobank.org/urn:lsid:zoobank.org:pub:6ADD860C-D60C-448D-BC11-19EDB74013EE

ZOOTAXA

3886

Revision of *Pherusa* Oken, 1807(Polychaeta: Flabelligeridae)

SERGIO I. SALAZAR-VALLEJO
Grupo Estructura y Función del Bentos, Depto. Sistemática y Ecología Acuática, El Colegio de la Frontera Sur, Chetumal, Quintana Roo, MEXICO. E-mail: savs551216@hotmail.com, ssalazar@ecosur.mx

Magnolia Press
Auckland, New Zealand

Accepted by P. Hutchings: 28 Oct. 2014; published: 20 Nov. 2014

SERGIO I. SALAZAR-VALLEJO
Revision of *Pherusa* Oken, 1807(Polychaeta: Flabelligeridae)
(*Zootaxa* 3886)

61 pp.; 30 cm.

20 Nov. 2014

ISBN 978-1-77557-581-8 (paperback)

ISBN 978-1-77557-582-5 (Online edition)

FIRST PUBLISHED IN 2014 BY

Magnolia Press

P.O. Box 41-383

Auckland 1346

New Zealand

e-mail: zootaxa@mapress.com

http://www.mapress.com/zootaxa/

ISSN 1175-5326 (Print edition)

ISSN 1175-5334 (Online edition)

Table of contents

Abstract

Pherusa Oken, 1807 was the first genus of flabelligerids to be described and was regarded as having over 40 species. Following revision of all available material two morphological patterns are recognized: *Pherusa* is restricted to those species with eight branchial filaments of similar width, and anchylosed falcate neurohooks, shorter than body width. Species with the same number of branchial filaments but with neurochaetae mostly straight, distally foliose and often as long as body width are transferred to a new genus: *Lamispina* **n. gen.** *Pherusa* contains 14 species, including six newly described: *P. plumosa* (Müller, 1776), type-species, restricted, from Greenland, *P. affinis* (Leidy, 1855) from the NW Atlantic, *P. andersonorum* **n. sp.** from the NE Pacific (California), *P. aspera* (Stimpson, 1854) from the NW Atlantic, *P. hobsonae* **n. sp.** from the NE Pacific (Washington), *P. incrustata* Quatrefages, 1866, reinstated from the Mediterranean Sea, *P. mikacae* **n. sp.** from the Adriatic Sea, *P. moorei* **n. sp.** from the NW Pacific (Japan), *P. neopapillata* Hartman, 1961 from the NE Pacific (California), *P. nipponica* **n. sp.** from the NW Pacific (Japan), *P. obscura* Quatrefages, 1866 reinstated from the NE Atlantic (France), *P. papillata* (Johnson, 1901) from the NE Pacific (Washington), *P. rullieri* **n. sp.** from the Eastern tropical Atlantic (Benin), and *Pherusa sibogae* (Caullery, 1944) **n. comb**. from Western Timor, Indonesia. *Lamispina* **n. gen.** has 10 species with five newly described: *L. schmidtii* (Annenkova-Chlopina, 1924) **n. comb.,** type-species from the Japan Sea (incl. *P. negligens* (Berkeley & Berkeley, 1950)), *L. amoureuxi* **n. sp.** from the NE Atlantic (off SW Ireland), *L. carrerai* **n. sp.** from the NE Pacific (Mexico), *L. chilensis* **n. sp.** from the SE Pacific (Chile), *L. falcata* (Støp-Bowitz, 1948) **n. comb.** from the Norwegian Sea, *L. gymnopapillata* (Hartmann-Schröder, 1965) **n. comb.** from the SE Pacific (Chile), *L. horsti* (Haswell, 1892) **n. comb**. from Southern Australia, *L. keeli* **n. sp.** from the Gulf of Mexico (Florida), *L. kerguelarum* (Grube, 1877) **n. comb.** from the Southern Indian Ocean (Kerguelen Islands), and *L. milligani* **n. sp.** from the NW Atlantic (Florida). Keys to identify these two genera and all species in each genus are also included.

Key words: *Flabelligera, Flemingia, Pennaria, Stylarioides*

Introduction

Pherusa Oken, 1807 was the first flabelligerid genus to be described and contains over 40 species (Fauchald 1977:116–117), but has not been subjected to a revisionary study until now. Oken (1807:1168) proposed *Pherusa* for *Amphitrite plumosa* Müller, 1776; a few years later he defined both the genus and species (Oken 1815:377). The former publication was overlooked, and the second one prompted discussion and several replacement names were proposed because *Pherusa* Oken, 1815 was a junior homonym. Støp-Bowitz (1948a:13) solved the problem and *Pherusa* Oken, 1807 was reinstated as the senior homonym.

The type species for the genus is, by original designation, *Amphitrite plumosa* Müller, 1776. Müller (1776:216) stated: "cirro longo utrinque, flabellis caput setasque pediformis tegentibus" (this translates as: Long lateral cirri (branchiae), head with (chaetal) fan and foot-like projections with chaetae); he attributed the authorship for the species to Fabricius, probably because he had access to Müller's manuscript, which was published later. There was a Greenlandic word attached to the description: Merkolualik, and it was regarded as the type locality. However, according to Wesenberg-Lund (1950:84), "merkolualik" is the Greenlandic name for the species, not the type locality.

Fabricius (1780:288–289) provided a more complete description with the following relevant features (p. 288): "Haec sub involucro suo pupam mentitur … Corpus integrum pellucidum … Sub singulo flabello versus abdomen seta simplex robustior s. aculeus longior retro curvatus, aureo-nitidus … cuius labium superius tenuislimis brevibus numerosis purpureis obsitum … Flabella 2 maiora antrorsum tendentia caput obtegunt antice supraque connivencia, infra patentia. Involucrum cinereum sericeum, quasi exuviae, totum corpus cingit tam accurate… (p. 289) Interdum contingit feminudum vel plane nudum conspciere vivaciorem…. Extremeitatibus suis connuvens larvam simulat." These fragments translate as (p. 288): "It simulates a pupa in its involucrum … Body completely transparent … Ventrally, one simple robust acicula-like chaetae, curved, golden… over the lip abundant thin purple filaments… Two large fans cover the head, imperceptible from above but visible from below. Tunic gray, silky, dehiscent, cover the body … (p. 289) It can be seen without the cover being more active … Resembles a larva by retracting the appendages".

These characteristics imply that Fabricius studied at least two different forms. One that is currently regarded as *Flabelligera* Sars, 1829*,* and to which most of the above features can easily be linked (Salazar-Vallejo 2012a), and by referring to a form without mucous cover, he may have been including what we now regard as *Pherusa*, although the retracted appendices form might be similar to what we now regard as *Brada*. It must be concluded, however, that most features could be linked to *Flabelligera.*

wall. Parapodia lateral; medial neuropodia ventrolateral. Notopodia long conical lobes directed anteriorly in chaetigers 1–3, then low lateral lobes, without special papillae. Neuropodial lobes low, without special papillae. Noto- and neuropodia close to each other.

Medial notochaetae arranged in transverse tufts; all multiarticulated capillaries, articles short basally, medium-sized medially, long distally (Fig. 24D); about 10 per fascicle, as long as 1/3 body width. Neurochaetae multiarticulated capillaries in chaetigers 1–3; lamispines from chaetiger 4, yellowish, arranged in transverse series, or in inverted C- or J-patterns, 8 in chaetiger 4, 9 thereafter (posterior fragment with 7–8 lamispines per fascicle). Lamispines in medial chaetigers with margins entire (Fig. 24E), becoming hirsute or plumose by lateral fragmentation of individual fibers in more posterior chaetigers (Fig. 24F).

Posterior end unknown.

Etymology. This species is named after Michael R. Milligan for his contributions to the Taxonomic Guide to the Polychaetes from the Northern Gulf of Mexico, because he wrote the chapter on flabelligerids (Milligan 1984), and because he noticed that some of his specimens did not fit into *Pherusa* because of the long neurohooks, and very long notochaetae. Regretfully, his material was not found and its affinities to this species cannot be determined. The epithet is a noun in the genitive case.

Remarks. *Lamispina milligani* **n. sp.** can be grouped with *L. falcata* (Støp-Bowitz, 1948) n. comb. and *L. schmidtii* (Annenkova-Chlopina, 1924) n. comb. because their bodies have delicate, filiform papillae, which can be eroded leaving bare surfaces. However, *L. milligani* is unique within the group because it has very short notochaetae (1/3 as long as body width), and because its lamispines have tips with fibers exposed. The specimen is very old and this exposure of chaetal fibers might be regarded as a physical degradation but this roughness resembles what can be seen in some other deep-water flabelligerids, such as *Ilyphagus* (Salazar-Vallejo 2012d), and by analogy, this feature is regarded as species specific. The differences between *L. falcata* and *L. schmidtii* were indicated previously.

Type locality. Florida Strait.

Distribution: Apparently restricted to the Florida Strait, in soft bottoms at 620 m depth. If Milligan's juvenile specimens belonged to this species, then it would be present along the Northern Gulf of Mexico, in silty clay at 134 m depth.

Acknowledgments

This is one of my last revisions of flabelligerid genera. The revision of the whole family has taken much longer than expected, as this journey started in 2003. Throughout this time, good luck and warm hospitality were everywhere, and this series of studies will hopefuly be their best result. I wholeheartedly thank my colleagues for making this possible. In alphabetical order per name and institutions: Angelika Brandt and Gisela Wegener (ZMH), Ardis Johnson (MCZ), Birger Neuhaus (ZMB), Danny Eibye-Jacobsen (ZMUC), Dieter Fiege (SMF), Elin Sigvaldadottir and Karin Sindemark (SMNH), Evangelina Schwindt (CENPAT), Fredrik Pleijel (then in MNHN), Galina Buzhinskaja (ZIRAS), Greg Rouse, Joke Bleeker and Harry ten Hove (ZMA), Leslie Harris, Kathy Omura and Kirk Fitzhugh (LACM), Katie Ahlfeld, Linda Ward, Kristian Fauchald and Geoff Keel (USNM),Marie-Noelle Helleout and Tarik Meziane (MNHN), Norma Emilia González (ECOSUR), Tore Høisæter and Jon Anders Kongsrud (ZMUB). Len Hirsch & Kristian Fauchald, Leslie Harris & David Ocker, and Ana Parma & Lobo Orensanz kindly allowed me to share their homes. Last but not least, Teresa Darbyshire and Danny Eibye-Jacobsen have kindly given off their precious time helping me improve this contribution.

References

Amoureux, L. (1982) Annélides polychètes recueillies sur la pente continentale de la Bretagne a l'Irlande, Campagne 1973 de la "Thalassa" (suite et fin) avec la description de quatre nouvelles espèces pour la Science, 2. Inventaire taxonomique annoté de toutes les polychètes sédentaires. *Cahiers de Biologie Marine,* 23, 179–214.

Annenkova, N.P. (1937) Fauna Polychaeta severnoi schasti Iaponskogo Morya. *Issledovanya Morej SSSR*, 23, 139–216.

Annenkova-Chlopina, N. (1924) Neues über die Verbreitung einger Arten der Polychaeten. *Comptes Rendus de l'Academie des Sciences de Russie,* 1924, 125–128.

Appy, T.D., Linkletter, L.E. & Dadswell, M.J. (1980) Annelida: Polychaeta. *In: A Guide to the Marine Flora and Fauna of the Bay of Fundy. Canada, Fisheries and Marine Service, Technical Report,* 920, pp. i–vi + pp. 1–124.

Augener, H. (1914) Polychaeta 2. Sedentaria. *Die Fauna Südwest-Australiens,* 5 (1), 1–170.

Baird, A. (1834) Address read at the Second Anniversary Meeting of the Berwickshire Naturalists' Club, held at Dunse, September 18, 1833. *In: History of the Berwickshire Naturalists' Club, held at Dunse, September 18, 1833.* Edinburgh, pp. 12–18. Available: https://archive.org/details/historyofberwick01berw (Accessed 1 Nov. 2014)

Berkeley, E. & Berkeley, C. (1950) Notes on Polychaeta from the coast of Western Canada, 4. Polychaeta Sedentaria. *Annals and Magazine of Natural History*, Series 12*,* 3, 50–69.
http://dx.doi.org/10.1080/00222935008654042

Berkeley, E. & Berkeley, C. (1952) *Polychaeta Sedentaria. Canadian Pacific Fauna, 9. Annelida, 9b (2)*, Univ. Toronto Press, 139 pp.

Blake, J.A. (2000) Family Flabelligeridae Saint-Joseph, 1894. *In:* Blake, A., Hilbig, B. & Scott, P.V. (Eds.), *Taxonomic Atlas of the Benthic Fauna of the Santa Maria Basin and the Western Santa Barbara Channel. The Annelida 4, Polychaeta: Flabelligeridae to Sternaspidae. 7 Vols.* Santa Barbara Museum of Natural History, Santa Barbara, pp. 1–23.

Bleeker, J. & van der Spoel, S. (1992) Catalogue of the Polychaeta collected by the Siboga Expedition and type specimens of Polychaeta in the Zoological Museum of Amsterdam. *Bulletin Zoölogisch Museum, Universiteit van Amsterdam,* 13, 121–166.

Caullery, M. (1944) Polychetes sédentaires de l'Expédition du Siboga: Ariciidae, Spionidae, Chaetopteridae, Chlorhaemidae, Opheliidae, Oweniidae, Sabellaridae, Sternaspidae, Amphictenidae, Anpharetidae, Terebellidae. *Siboga-Expeditie, Leiden,* 24 (2 bis), 1–204.

Chamberlin, R.V. (1919) The Annelida Polychaeta of the *Albatross* Tropical Pacific Expedition, 1891–1905. *Memoirs of the Museum of Comparative Zoology, Harvard College*, 48, 1–514. Available from: http://www.biodiversitylibrary.org/bibliography/49195#/summary (Accessed 1 Nov. 2014)

Chapman, H.C. (1891) Memoir of Joseph Leidy, M.D., LL.D. *Proceedings of the Academy of Natural Sciences of Philadelphia*, 43, 342–388. Available from: https://archive.org/details/jstor-4061730 (Accessed 1 Nov. 2014)

Costa, O.G. (1841) Description des quelques annélides nouvelles du golfe de Naples. *Annales des Sciences Naturelles (Zoologie), Série 2,* 16, 267–280.

Cunningham, J.T. & Ramage, G.A. (1888) The Polychaeta Sedentaria of the Firth of Forth. *Transactions of the Royal Society of Edinburgh*, 33, 635–684.
http://dx.doi.org/10.1017/s0080456800017488

Cuvier, G. (1830) *Le Règne Animal distribué après son organisation, pour servir de base a l'Histoire naturelle des animaux et d'introduction a l'anatomie comparée*. Deterville, Paris, vol. 2.
http://dx.doi.org/10.5962/bhl.title.1964

Day, J.H. (1967) *A Monograph on the Polychaeta of Southern Africa. British Museum (Natural History) Publications*, 656, 38 + 878 pp.
http://dx.doi.org/10.5962/bhl.title.8596

Day, J.H. (1973) New Polychaeta from Beaufort, with a key to all species recorded from North Carolina. *National Oceanographic and Atmospheric Administration, Technical Report of the National Marine Fisheries Service, Circular*, 375, 1–153.
http://dx.doi.org/10.5962/bhl.title.62852

Day, J.H. & Hutchings, P.A. (1979) An annotated check-list of Australian and New Zealand Polychaeta, Archiannelida and Myzostomida. *Records of the Australian Museum,* 32, 80–161.
http://dx.doi.org/10.3853/j.0067-1975.32.1979.203

de Blainville, H. (1818) Mémoire sur la classe des Sétipodes, partie des Vers à sang rouge de M. Cuvier et des Annélides de M. de Lamark. *Bulletin des Sciences, Société Philomatique de Paris,* 1818, 78–85.

de Saint-Joseph, A. (1894) Les annélides polychètes des côtes de Dinard, troisième partie (Nephtydiens – Serpuliens). *Annales des Sciences Naturelles, Zoologie, 7ème série,* 17, 1–395.

delle Chiaje, S. (1831(1829)) *Memoria sulla Storia e Notomia degli Animali senza Vertebre del Regno di Napoli: Memoria III + IV.* Società Tipographica, Napoli, Volume 4:117–214.
http://dx.doi.org/10.5962/bhl.title.10021

delle Chiaje, S. (1841) *Animali senza Vertebre del Regno di Napoli. Descrizione e notomia degli animali invertebrati della Sicilia citeriore osservati vivi negli anni 1822–1830*: 1. Molluschi Cefalopedi e Pteropedi; 2. Molluschi Gasteropedi; 3. Molluschi Acefali, Bracciopedi, Cirropedi, Crostacei, Anellosi. Batelli e Comp., Napoli, 1:19+98, 2:1–146; 3:1–142, 6:Plates 1–180.
http://dx.doi.org/10.5962/bhl.title.10031

Ehlers, E. (1897) *Polychaeten*. Hamburger Magalhaensische Sammelreise. Friederichsen, Hamburg, 148 pp.

Eliason, A. (1962) Undersökningar över Öresund, 41. Weitere Untersuchungen über die Polychaetenfauna des Öresunds. *Lunds Universitets Årsskrift, new series*, 2, 58 (9), 1–97.

Fabricius, O. (1780) *Fauna Groenlandica, systematice sistens, Animalia Groenlandiae occidentalis hactenus indagata, quoad nomen specificum, triviale, vernaculumque; synonyma auctorum plurium, descriptionem, locum, victum, generationem, mores, usum, capturamque singuli; prout detegendi occasio fuit, maximaque partei secundum proprias observationes*.

Hafniae et Lipsiae (Copenhagen and Leipzig), 16 + 452 pp.
http://dx.doi.org/10.5962/bhl.title.13489
Fauchald, K. (1972) Benthic polychaetous annelids from deep waters off Western Mexico and adjacent areas in the Eastern Pacific Ocean. *Allan Hancock Monographs in Marine Biology*, 7, 1–575.
Fauchald, K. (1977) The polychaete worms: Definitions and keys to the orders, families and genera. *Natural History Museum of Los Angeles County, Science Series,* 28, 1–190.
Fauvel, P. (1907) Première note préliminaire sur les polychètes provenant des campagnes de l'Hirondelle et de la Princesse-Alice, ou déposées dans le Musée Océanographique de Monaco. *Bulletin de l´Institut Océanographique Monaco* (107), 1–34.
Fauvel, P. (1909) Deuxième note préliminaire sur les polychètes provenant des campagnes de l'Hirondelle et de la Princesse-Alice, ou déposées dans le Musée Océanographique de Monaco. *Bulletin de l´Institut Océanographique Monaco* (142), 1–76.
Fauvel, P. (1927) Polychètes sédentaires & addenda aux polychètes errantes. *Faune de France*, 16, 1–494.
Fauvel, P. (1934) Annélides polychètes de Rovigno d'Istria. *Thalassia, Instituto Italo-Germanico di Biologia Marina di Rovigno d'Istria,* 1 (7), 1–78.
Fauvel, P. (1940) Annélides polychètes de la haute Adriatique. *Thalassia, Instituto Italo-Germanico di Biologia Marina di Rovigno d'Istria,* 4 (1), 1–24.
Fauvel, P. (1952) Annélides polychètes recueillies aux Iles Kerguélen par le Docteur Arétas et polychètes du Muséum de la même provenance. *Bulletin du Museum d'Histoire Naturelle, Paris, 2ème série,* 24, 294–301.
Goldfuss, G.A. (1820) *Handbuch der Zoologie. Erste Abteilung*. Schrag, Nürnberg, 696 pp.
Gosner, K.L. (1978) *Atlantic Seashore: A Field Guide to Sponges, Jellyfish, Sea Urchins, and More. Peterson Field Guides.* Houghton Mifflin, New York, 241 pp.
Grube, A.E. (1850) Die Familien der Anneliden. *Archiv für Naturgeschichte, Berlin,* 16, 249–364.
Grube, A.E. (1877) Annelidenausbeute von S.M.S. Gazelle. *Monatsbericht der Königlich Preussischen Akademie der Wissenschafen zu Berlin,* 1877, 507–554.
Haase, P. (1915) Boreale und arktisch Chloraemiden. *Wissenschaftliche Meeresuntersuchungen der Kommission zur Wissenschaftlichen Untersuchung der Deutschen Meere, Neue Folge, Kiel,* 17, 169–228.
Hansen, A. (1880) Annelider fra den norske Nordhavsexpedition i 1878. *Nyt Magazin for Naturvidenskaberne,* 25, 224–234.
Hansen, A. (1882) *The Norwegian North-Atlantic Expedition 1876–1878, VII. Zoology, Annelida*. Christiania (Oslo), 54 pp. (bilingual publication, English and Norwegian).
Hartman, O. (1938) Annotated list of the types of polychaetous annelids in the Museum of Comparative Zoology. *Bulletin of the Museum of Comparative Zoology, Harvard College,* 85, 1–31.
Hartman, O. (1953) Non-pelagic Polychaeta of the Swedish Antarctic Expedition 1901–1903. Further Zoological Result on the Swedish Antarctic Expedition 1901–1903 N.H. Odhner (ed.), 83 pp.
Hartman, O. (1959) *Catalogue of the Polychaetous Annelids of the World, 2*. *Allan Hancock Foundation Occasional Papers,* 23, 355–628.
Hartman, O. (1961) Polychaetous annelids from California. *Allan Hancock Pacific Expeditions,* 25, 1–226.
Hartman, O. (1966) Polychaeta Myzostomidae and Sedentaria of Antarctica. *Antarctic Research Series,* 7, 1–158.
http://dx.doi.org/10.1002/9781118669136.refs
Hartman, O. (1967) Polychaetous annelids collected by the USNS Eltanin and Staten Islands Cruises, chiefly from Antarctic seas. *Allan Hancock Monographs in Marine Biology,* 2, 1–387.
Hartman, O. (1969) *Atlas of the Sedentariate Polychaetous Annelids from California*. Allan Hancock Foundation, University of Southern California, Los Angeles, 812 pp.
Hartmann-Schröder, G. (1965) Die Polychaeten des Sublitorals. Zur Kentnnis des Sublitorals der chilenischen Küste unter besonderer Berücksichtigung der Polychaeten und Ostracoden. (Mit Bemerkungen über den Einfluss sauerstoffarmer Strömungen auf die Besiedlung von marinen Sedimenten). *Mitteilungen aus dem Hamburgischen Zoologischen Museum und Institut,* 62(Ergänzungsband), 59–305.
Hartmann-Schröder, G. (1971) Annelida, Borstenwürmer, Polychaeta. *Die Tierwelt Deutschlands,* 58, 1–594.
Hartmann-Schröder, G. (1996) Annelida, Borstenwürmer, Polychaeta. *Die Tierwelt Deutschlands*, 58, 2nd ed., Fischer, Jena, 645 pp.
Haswell, W.A. (1892) Observations on the Chloraemidae, with special reference to certain Australian forms. *Proceedings of the Linnean Society of New South Wales, series 2*, 6, 329–356. Available from: http://www.biodiversitylibrary.org/itemdetails/30437 (Accessed 1 Nov. 2014)
Hobson, K.D. (1974) *Orbinella nuda*, new species (Orbiniidae) and nine new records of other sedentariate polychaetous annelids from Washington and British Columbia. *Canadian Journal of Zoology,* 52, 69–75.
http://dx.doi.org/10.1139/z74-011
Hobson, K.D. & Banse, K. (1981) Sedentariate and Archiannelid Polychaetes of British Columbia and Washington. *Canadian Bulletin of Fisheries and Aquatic Sciences,* 209, 8 + 144. Available from: http://www.dfo-mpo.gc.ca/library/816.pdf (Accessed 1 Nov. 2014)
ICZN (International Commission on Zoological Nomenclature). (1999) *International Code of Zoological Nomenclature*, 4th ed. International Trust for Zoological Nomenclature (The Natural History Museum), London, 306 pp (www.iczn.org/iczn/

index.jsp).
http://dx.doi.org/10.5962/bhl.title.50608
Imajima, M & Hartman, O. (1964) The polychaetous annelids of Japan, 2. *Allan Hancock Foundation Occasional Papers,* 26, 239–452.
Jirkov, I.A. & Filippova, A.V. (2001) Flabelligeridae Saint-Joseph, 1894; pp 348–363. *In Polikhety Severnogo Ledovitogo Okeana*. I.A. Jirkov. Yanus-K, Moskva, 632 pp.
Johnson, H.P. (1901) The Polychaeta of the Puget Sound region. *Proceedings of the Boston Society of Natural History,* 29, 381–437.
Johnston, G. (1840) Miscellanea Zoologica, British Annelides. *Annals and Magazine of Natural History, series 1*, 4, 368–375.
Johnston, G. (1846) An index to the British Annelides. *Annals and Magazine of Natural History, Supplement,* 16, 433–462.
Johnston, G. (1865) *A Catalogue of the British Non-parasitic Worms in the Collection of the British Museum*. Trustees of the British Museum, London, 365 pp.
http://dx.doi.org/10.5962/bhl.title.12291
Katzmann, W. (1972) Die Polychaeten Rovinjs (Istrien/Jugoslawien). *Zoologicher Anzeiger, Leipzig*, 188, 116–144.
Katzmann, W. (1973a) Contributo alla conoscenza dei policheti del Mare Adriatico (Medio Adriatico – Fondi mobili tra 10 e 230 metri di profondità. *Quaderni del Laboratorio di Tecnologia della Pesca, Ancona*, 1(5), 143–155.
Katzmann, W. (1973b) Polychaeten von Sedimentböden der mittleren Adria (50–525 m). *Zoologische Jahrbücher Abteilung für Systematik*, 100, 436–450.
Katzmann, W. (1983) Bemerkungen zur Systematik, Ökologie und Tiergeographie der mitteladriatischen Weichbodenpolychaeten. *Annalen der Naturhistorisches Museum, Wien*, 84B, 87–122.
Kinberg, J.G.H. (1867) Annulata Nova (Anthostomea, Chloraemea, Chaetopterea, Maldanea, Ammocharidea, Amphareteа, Terebellea, Heremellea, Serpulea, Teletusea). *Kongelige Vetenskaps-Akademiens Förhandlingar,* 23, 337–357.
Kirkegaard, J.B. (1959) The Polychaeta of West Africa, 1. Sedentary species. *Atlantide Reports,* 5, 7–117.
Knox, G.A. & Cameron, D.B. (1998) The marine fauna of the Ross Sea: Polychaeta. *National Institute of Water and Atmospheric Research, Biodiversity Memoir,* 108, 1–125.
Leidy, J. (1855) Contributions toward a knowledge of the marine invertebrate fauna, of the coasts of Rhode Island and New Jersey. *Journal of the Academy of Natural Sciences of Philadelphia*, 3, 135–158.
Levenstein, R.Y. (1966) Mnogotshchetinkov'e chervi (Polychaeta) zapadnoi tchasti Beringova Morya. *Akademiya Nauk SSSR, Trudy Instituta Okeanologii,* 81, 3–131.
McGinley, M. (ed.) (2008) West Greenland shelf marine ecosystem. *In* Encyclopedia of Earth. Eds. Cutler J. Cleveland (Washington, D.C.: Environmental Information Coalition, National Council for Science and the Environment). [available: 17 Feb. 2014]. http://www.eoearth.org/article/West_Greenland_Shelf_large_marine_ecosystem
McIntosh, W.C. (1885) Report on the Annelida Polychaeta collected by H.M.S. Challenger during the years 1873–76. *Challenger Reports,* 12, 1–554.
http://dx.doi.org/10.5962/bhl.title.10425
McIntosh, W.C. (1915) *A Monograph of the British Annelids, 3. Polychaeta: Opheliidae to Ammocharidae*. Ray Society, London, 368 pp. Available from: https://archive.org/details/monographBritis3McInA (Accessed 1 Nov. 2014)
Milligan, M.R. (1984) Family Flabelligeridae Saint Joseph, 1894; *In* Uebelacker, J.M. & Johnson, P.G. (eds.), *Taxonomic Guide to the Polychaetes of the Northern Gulf of Mexico.* Barry A. Vittor, Mobile. *7 Vols*. pp 47.1–47.20.
Monro, C.C.A. (1930) Polychaete worms. *Discovery Reports,* 2, 1–222.
Monro, C.C.A. (1936) Polychaete worms, 2. *Discovery Reports,* 12, 59–198.
Monro, C.C.A. (1939) Polychaeta. *Reports of the British Antarctic Research Expedition 1929–1931,* Series B, 4 (4), 87–156.
Moore, J.P. (1903) Polychaeta from the coastal slope of Japan and from Kamchatka and Bering Sea. *Proceedings of the Academy of Natural Sciences of Philadelphia*, 55, 401–490.
Moore, J.P. (1908) Some polychaetous annelids of the Northern Pacific coast of North America. *Proceedings of the Academy of Natural Sciences of Philadelphia,* 10, 321–364.
Moore, J.P. (1909a) Polychaetous annelids from Monterey Bay and San Diego, California. *Proceedings of the Academy of Natural Sciences of Philadelphia*, 61, 235–295.
Moore, J.P. (1909b) The polychaetous annelids dredged in 1908 by Mr. Owen Bryant off the coasts of Labrador and Newfoundland and Nova Scotia. *Proceedings of the United States National Museum,* 37, 133–146.
http://dx.doi.org/10.5479/si.00963801.1703.133
Moore, J.P. (1923) The polychaetous annelids dredged by the USS "Albatross" off the coast of southern California in 1904, 4. Spionidae to Sabellariidae. *Proceedings of the Academy of Natural Sciences of Philadelphia,* 75, 179–259.
http://dx.doi.org/10.5962/bhl.title.12425
Müller, O.F. (1776) *Zoologiae Danicae Prodromus, seu Animalium Daniae et Norvegiae indigenarum. Characteres, nomina et synonyma imprimis popularium*. Hallageriis, Havniae (Copenhagen), 274 pp.
http://dx.doi.org/10.5962/bhl.title.13268
Müller, O.F. (1789) *Zoologica Danica seu Animalium Daniae et Norwegiae rariorum ac minus notorum, Descriptiones et Historia*, 3, 1–71.
http://dx.doi.org/10.5962/bhl.title.63796
Oken, L. (1807) (Untitled). *Göttingische gelehrte Anzeigen* 1807(2), Stück 117 (23 Julius 1807), 1161–1168. Available from: http:/

/rep.adw-goe.de/handle/11858/00-001S-0000-0001-93F5-E
Oken, L. (1815) *Lehrbuch der Naturgeschichte, 3. Theil Zoologie, 1. Fleischlose Thiere, and Atlas*. August Schmid & Co., Jena, 841 pp.
Okuda, S. (1937) Annelida Polychaeta in Onagawa Bay and its vicinity, 1. Polychaeta Sedentaria. *Science Reports of the Tôhoku Imperial University, Fourth Series, Biology*, 12 (1), 45–69, pl. 2.
Osborn, H.F. (1913) Biographical memoir of Joseph Leidy 1823–1891. *National Academy of Sciences, Biographical Memoirs*, 7, 338–396. Available from: http://www.nasonline.org/publications/biographical-memoirs/memoir-pdfs/leidy-joseph.pdf (Accessed 1 Nov. 2014)
Pettibone, M.H. (1956) Marine polychaete worms from Labrador. *Proceedings of the United States National Museum*, 105, 531–584.
http://dx.doi.org/10.5479/si.00963801.105-3361.531
Pettibone, M.H. (1967) Type-specimens of polychaetes described by Edith and Cyril Berkeley (1923–64). *Proceedings of the United States National Museum,* 119 (3553), 1–23.
http://dx.doi.org/10.5479/si.00963801.119-3553.1
Pettibone, M.H. (1982) Annelida. *In*: Parker, S.P. (Ed.), *Synopsis and Classification of Living Organisms*. McGraw Hill, New York. pp 1–43.
Pollock, L.W. (1998) *A Practical Guide to the Marine Animals of Northeastern North America*. Rutgers University Press, New Brunswick, 371 pp.
Quatrefages, A. de (1849) Études sur les types inférieurs de l'embranchment des Annelés. Mémoire sur la Famille des Chlorèmiens, *Chloraemea,* Nob. *Annales des Sciences Naturelles,* Troisième Série (Zoologie), 12, 277–306, pls. 9–10.
http://dx.doi.org/10.5962/bhl.title.51505
Quatrefages, A. de (1866(1865)) *Histoire Naturelle des Annelés Marins et d'Eau Douce: Annélides et Géphyriens.* Tome Premier. Collection des Suites a Buffon formant avec les Oeuvres de cet auteur un Cours Complet d'Histoire Naturelle. Librairie Encyclopédique de Roret, Paris, 588 pp [Wright, E.P. (1866) Annelida. *Zoological Record*, Section 6 (Annelida, etc.), 578–600.]
Rathke, H. (1842) Beiträge zur vergleichenden Anatomie und Physiologie. *Reisebemerkungen aus Skandinavian, nebst einem Anhange über die rückschreitende Metamorphose der Thiere. Neusten Schriften der naturforschenden Gesellschaft in Danzig*, 3 (4), 84–92, pl. 6.
Rathke, H. (1843) Beiträge zur Fauna Norwegens. *Verhandlungen der Kaiserlichen Leopoldinisch-Carolinischen Akademie der Naturforscher*, 20, 1–264.
http://dx.doi.org/10.5962/bhl.title.94603
Rioja, E. (1944) Estudios anelidológicos, 10. Estudio de algunos poliquetos del Museo Argentino de Ciencias Naturales. *Anales del Instituto de Biología, México,* 15, 115–138.
Rioja-LoBianco, E. (1931) Estudio de los poliquetos de la península Ibérica. *Memorias de la Academia de Ciencias Físicas, Exactas y Naturales, Madrid,* 2, 1–471.
Rozbaczylo, N. (1985) Los anélidos poliquetos de Chile: Indice sinonímico y distribución geográfica de especies. *Facultad de Ciencias Biológicas, Pontificia Universidad Católica de Chile, Monografías Biológicas,* 3, 1–284.
Rozbaczylo, N., Moreno, R., Díaz-Díaz, O. & Martínez, S. (2006) Poliquetos bentónicos submareales de fondos blandos de la región de Aysen, Chile: Clado Terebellida (Annelida, Polychaeta). *Ciencia y Tecnología Marina, Chile*, 29, 71–90.
http://dx.doi.org/10.4067/s0717-71782005000100005
Rullier, F. (1965) Contribution a la faune des annélides polychètes du Dahomey et du Togo. *Cahiers de l'Office de la Recherche Scientifique et Technique d'Outre-Mer,* 3, 5–66.
Salazar-Vallejo, S.I. (2011a) Revision of *Piromis* Kinberg, 1867 and *Pycnoderma* Grube, 1877 (Polychaeta: Flabelligeridae). *Zootaxa,* 2819, 1–50.
Salazar-Vallejo, S.I. (2011b) Revision of *Stylarioides* delle Chiaje, 1831 (Annelida: Polychaeta). *Italian Journal of Zoology* 78(Supplement 1), 163–200.
http://dx.doi.org/10.1080/11250003.2011.606985
Salazar-Vallejo, S.I. (2012a) Revision of *Flabelligera* Sars, 1829 (Polychaeta: Flabelligeridae). *Zootaxa,* 3203, 1–64.
Salazar-Vallejo, S.I. (2012b) Revision of *Trophoniella* Hartman, 1959 (Polychaeta, Flabelligeridae). *Zoosystema,* 34, 453–519.
http://dx.doi.org/10.5252/z2012n3a1
Salazar-Vallejo, S.I. (2012c) Revison of *Semiodera* Chamberlin, 1919 (Polychaeta: Flabelligeridae). *Zootaxa,* 3562, 1–62.
Salazar-Vallejo, S.I. (2012d) Revision of *Ilyphagus* Chamberlin, 1919 (Polychaeta, Flabelligeridae). *ZooKeys,* 190, 1–19.
http://dx.doi.org/10.3897/zookeys.190.3059
Salazar-Vallejo, S.I. (2013) Revision of *Therochaeta* Chamberlin, 1919 (Polychaeta: Flabelligeridae). *Zoosystema,* 35, 227–263.
http://dx.doi.org/10.5252/z2013n2a7
Salazar-Vallejo, S.I. & Buzhinskaja, G. (2011) Revision of *Diplocirrus* Haase, 1915, including *Bradiella* Rullier, 1965, and *Diversibranchius* Buzhinskaja, 1993 (Polychaeta, Flabelligeridae). *ZooKeys,* 106, 1–45.
http://dx.doi.org/10.3897/zookeys.106.795
Sars, M. (1829) *Bidrag til Söedyrenes Naturhistorie; Förste Hæfte*. Dahl, Bergen, 60 pp.
Schlieper, C. (1927) *Stylarioides plumosus*, eine Monographische Darstellung. *Zeitschrift für Morphologie und Ökologie der*

Tiere, 7, 320–383.
http://dx.doi.org/10.1007/bf00407491
Steimle, F.W. & Terranova, R. (1991) *Trophodynamics of select demersal fishes in the New York Bight*. National Oceanic and Atmospheric Administration Memorandum NMFS-F/NEC-84, 1–11.
Stimpson, W. (1854) Synopsis of the marine Invertebrata of Grand Manan, or the region about the mouth of the Bay of Fundy, New Brunswick. *Smithsonian Contributions to Knowledge,* 6, 1–67.
http://dx.doi.org/10.5962/bhl.title.30062
Støp-Bowitz, C. (1948a) Les Flabelligériens Norvégiens. *Bergens Museums Årbok,* 1946 (2), 1–59.
Støp-Bowitz, C. (1948b) Sur les polychètes arctiques, des famillies des glicériens, des ophéliens, des scalibregmiens et des flabelligériens. *Tromsø Museums Årshefter,* 66 (2), 1–58.
Townsend, D.W., Thomas, A.C., Mayer, L.M., Thomas, M.A. & Quinlan, J.A. (2006) Oceanography of the Northwest Atlantic continental shelf (1, W); pp. 119–168 *In* Robinson, A.R. & Brink, K.H. (Eds.), *The Sea: The Global Coastal Ocean: Interdisciplinary Regional Studies and Synthesis.* Harvard University Press, Cambridge, volume 14.
Trott, T.J. (2004) Cobscook Bay inventory: A historical checklist of marine invertebrates spanning 162 years. *Northeastern Naturalist*, 11 (Special Issue 2), 201–324.
http://dx.doi.org/10.1656/1092-6194(2004)11[261:cbiahc]2.0.co;2
Trzeciak, T.M. & Vukusic, P. (2009) Photonic crystal fiber in the polychaete worm *Pherusa* sp. *Physical Review E,* 80, 061908, 6 pp.
http://dx.doi.org/10.1103/physreve.80.061908
Uschakov, P.V. (1955) *Polychaeta of the Far Eastern Seas of the USSR.* Israel Program for Scientific Translations, Jerusalem, (transl. 1965), 26 + 419 pp.
Verrill, A.E. (1873) Report upon the invertebrate animals of Vineyard Sound and the adjacent waters, with an account of the physical characters of the region. *Report of the United States Commissioner for Fisheries, Washington*, 1871–1872, 295–778. [reprinted in 1874, different pagination, Government Printing Office, Washington, 478 pp]
Verrill, A.E. (1874) Report upon the invertebrate animals of Vineyard Sound and the adjacent waters, with and account of the physical characters of the region. Report of the United States Commisioner for Fisheries, Washington, 1871–1872, 1–478.
Walton, A.C. (1927) A revision of the nematodes of the Leidy collections. *Proceedings of the Academy of Natural Sciencies of Philadelphia*, 79, 49–163.
Waters, J.M. & Roy, M.S. (2003) Marine biogeography of southern Australia: phylogeographical structure in a temperate sea-star. *Journal of Biogeography*, 30, 1787–1796.
http://dx.doi.org/10.1046/j.0305-0270.2003.00978.x
Wesenberg-Lund, E. (1950) The Polychaeta of West Greenland with special reference to the Fauna of Nordre Strømfjord, Kvane-, and Bredefjord. *Meddelelser om Grønland udgivne af Kommissionen for Videnskabelige Undersøgelser i Grønland,* 151 (2), 1–171.