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A new species of *Onuphis* (Polychaeta: Onuphidae) from Southern Portugal, with comments on the validity of *O. pancerii* Claparède, 1868

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Abstract

Onuphis farensis **sp. nov.** (Annelida, Polychaeta) is described, based on a population inhabiting intertidal sandbanks in the mesotidal coastal lagoon of Ria Formosa (Southern Portugal). It can be distinguished from all other known species within the genus by having bi– and tridentate pseudocompound hooks on the first 4 chaetigers, single filament branchiae from chaetiger 5, and subacicular hooks from chaetiger 9. The species was previously collected in the Bay of Cádiz and Isla Cristina (SW Spain), in a similar habitat to Ria Formosa, but referred to *O. geophiliformis* Moore, 1903. The taxonomic status of other *Onuphis* species recorded in the European waters is also discussed. On the whole, *O. pancerii* Claparède, 1868, described from the Gulf of Naples, has been treated as a junior synonym of *O. eremita* Audouin & Milne-Edwards, 1833, but taking the more restrictive definition of this species accepted today, should be considered as a valid Mediterranean species. Finally, *O. opalina* (Verrill, 1873) and *O. rullieriana* (Amoureux, 1977) may be synonymous, as both species are similar morphologically, occur at similar depths, and have partially overlapping geographical distributions. The different diagnostic characters utilised for the new species are analysed, with the number of chaetigers with postchaetal lobes determined to be a poor taxonomic character for the genus *Onuphis*, proving to be size-related. A synoptic table with all worldwide species of the genus *Onuphis* is provided, together with a dichotomic key for the species hitherto recorded in the European and nearby waters.

Key words: Gulf of Cádiz, taxonomy, marine invertebrates, key, synoptic table

Introduction

The genus *Onuphis* Audouin & Milne-Edwards, 1833 (Annelida, Polychaeta, Onuphidae) includes 40 taxa considered valid at present (38 species and 2 subspecies). The first described species was *Onuphis eremita* Audouin & Milne-Edwards, 1833, but however approximately 50% of the known taxa were only described after the worlwide revision of the genus by Fauchald (1982b), based on type and topotype material. Revision of old taxa, descriptions of new ones, together with the employment of further and sharper taxonomic characters for definition of species, have made the determination of the taxonomic status of populations and specimens easier. Moreover, many species of *Onuphis* show restricted distributions that could result from relatively recent speciation in shallow water habitats. For this reason it is expected that new taxa could be discovered with the survey of hitherto poorly explored shallow water regions or environments (Paxton 1986, Maekawa & Hayashi 1999).

During two management studies a population of *Onuphis* was discovered inhabiting intertidal sand within the mesotidal coastal lagoon of Ria Formosa (Ria Formosa Natural Park), at Ramalhete, near Faro Airport (Municipality of Faro, Southern Portugal) (fig. 1). This population belongs to a new species in the genus. The species had been previously recorded from Southwestern Spain, by Ibáñez (1972, 1973a, 1973b), in environments similar to Ria Formosa, namely the sandbank of Cabezuela (Bay of Cádiz, Cádiz), and at Isla Cristina (Huelva)

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Bibliography

Aguirrezabalaga, F., Ceberio, A. & Paxton, H. (2002) Onuphidae (Polychaeta) from the Capbreton Canyon (Bay of Biscay, NE Atlantic) with the description of *Paradiopatra capbretonensis* sp. nov. *Steenstrupia*, 27 (1), 19–28.

Amoureux, L. (1977) Annélides polychètes errantes recueillies sur les pentes du talus continental à l'entrée de la Manche, avec la description de deux espèces nouvelles. Campagne 1973 de la "*Thalassa*". *Cahiers de Biologie Marine*, 18 (4), 391–411.

Audouin, J.V. & Milne Edwards, H. (1833) Classification des Annélides, et description des celles qui habitent les côtes de la France (Suite). *Annales des Sciences Naturelles, Paris*, 28, 187–247.

Augener, H. (1924) Papers from Dr. Th. Mortensen's Pacific Expedition 1914–16. XVIII. Polychaeta II. Polychaeta von Neuseeland. I. Errantia. *Videnskabelige Meddelelser fra Dansk naturhistorisk Forening i København*, 75, 241–441.

Averincev, V.G. (1972) [Benthic polychaetes Errantia from the Antarctic and Subantarctic collected by the Soviet Antarctic Expedition]. *Issledovaniya Fauny Morei, Zoologicheskii Institut Akademii Nauk USSR*, 11 (19), 88–292. [in Russian]

Berkeley, E. & Berkeley, C. (1941) On a collection of Polychaeta from Southern California. *Bulletin of the Southern California Academy of Sciences*, 40 (1), 16–60.

Campoy, A. (1982) Fauna de España. Fauna de anélidos poliquetos de la Península Ibérica. *Publicaciones de Biología de la Universidad de Navarra, Serie Zoológica*, 7 (1&2), 1–781.

Castelli, A. (1982) *Onuphis falesia*, a new species of Onuphidae (Polychaeta, Eunicidae). *Bollettino di Zoologia*, 59, 45–49. http://dx.doi.org/10.1080/11250008209439371

Claparède, E. (1868) Les annélides chétopodes du Golfe de Naples. *Mémoires de la Société de Physique et d'Histoire Naturelle de Genève*, 19 (2), 313–584. http://dx.doi.org/10.5962/bhl.title.2142

Claparède, E. (1869) Les annélides chétopodes du Golfe de Naples. Ordre II^{me}. Annélides Sédentaires (Aud. et Edw.). *Mémoires de la Société de Physique et d'Histoire Naturelle de Genève*, 20 (1), 1–225. http://dx.doi.org/10.5962/bhl.title.2142

Claparède, E. (1870) Les annélides chétopodes du Golfe de Naples. Supplément. *Mémoires de la Société de Physique et d'Histoire Naturelle de Genève*, 20 (2), 365–542. http://dx.doi.org/10.5962/bhl.title.2142

Day, J.H. (1960) The polychaet Fauna of South Africa. Part 5. Errant species dredged off Cape coasts. *Annals of the South African Museum*, 45 (3), 261–373.

Day, J.H. (1967) A monograph on the Polychaeta of Southern Africa. Part I. Errantia. Part II. Sedentaria. *Trustees of the British Museum (Natural History), London*, 656, vii + xvii (2) + 1–878. http://dx.doi.org/10.5962/bhl.title.8596

Dexter, D. (1992) Soft bottom invertebrates of the Portuguese benthos. *Boletim do Instituto Nacional de Investigação das Pescas, Lisboa*, 17, 61–88.

Fauchald, K. (1968) Onuphidae (Polychaeta) from Western Mexico. *Allan Hancock Monographs in Marine Biology*, 3, 1–82.

Fauchald, K. (1972) Benthic polychaetous annelids from deep water off western Mexico and adjacent areas in the eastern Pacific Ocean. *Allan Hancock Monographs in Marine Biology*, 7, 1–575.

Fauchald, K. (1982a) Some species of *Onuphis* (Polychaeta: Onuphidae) from the Atlantic Ocean. *Proceedings of the Biological Society of Washington*, 95 (2), 238–250.

Fauchald, K. (1982b) Revision of *Onuphis*, *Nothria*, and *Paradiopatra* (Polychaeta: Onuphidae) based upon type material. *Smithsonian Contributions to Zoology*, 356, 1–109. http://dx.doi.org/10.5479/si.00810282.356

Fauvel, P. (1923) Polychètes Errantes. *Faune de France*, 5, 1–488.

Gil, J. (2011) *The European Fauna of Annelida Polychaeta.* PhD Thesis, Departamento de Biologia Animal, Faculdade de Ciências, Universidade de Lisboa, xlii + 1554 pp.

Hartman, O. (1951) The littoral marine annelids of the Gulf of Mexico. *Publications of the Institute of Marine Science, University of Texas*, 2 (1), 7–124.

Hilbig, B. (1995) Family Onuphidae Kinberg, 1865. *In*: Blake, J.A., Hilbig, B. & Scott, P.H. (Eds.), *Taxonomic Atlas of the Benthic Fauna of the Santa Maria Basin and the Western Santa Barbara Channel. Vol. 5. The Annelida Part 2. Polychaeta: Phyllodocida (Syllidae and Scale-Bearing Families), Amphinomida, and Eunicida*. Santa Barbara Museum of Natural History, Santa Barbara, pp. 229–262.

Hobson, K.D. (1971) Some polychaetes of the Superfamily Eunicea from the North Pacific and North Atlantic Oceans. *Proceedings of the Biological Society of Washington*, 83 (47), 527–544.

Ibáñez, M. (1972) Notas sobre algunas especies de Anélidos Poliquetos nuevas para las costas de España, con especial referencia a *Nereis (Neanthes) oxypoda* Marenzeller y *Onuphis (Nothria) geophiliformis* Moore. *Boletín de la Real Sociedad Española de Historia Natural (Sección Biológica)*, 70, 23–31.

Ibáñez, M. (1973a) Catálogo de los anélidos poliquetos citados en las costas españolas. *Cuadernos de Ciencias Biológicas, Universidad de Granada*, 2, 121–140.

Ibáñez, M. (1973b) Contribución al estudio ecológico de los anélidos poliquetos de la Península Ibérica. Tesis doctoral. *Publicaciones de la Facultad de Ciencias, Madrid, Serie A, Sección de Biológicas*, 197, 1–127.

Imajima, M. (1960) Description of a new polychaete, *Nothria shirikishinaiensis* n. sp. of the family Eunicidae. *Publications of*

the Seto Marine Biological Laboratory, 8 (1), 55–58.
Imajima, M. (1986) Eight species of Onuphidae (Polychaeta) in and offshore of Otsuchi Bay, Northeastern Japan. *Bulletin of the National Science Museum,* Series A (Zoology), 12 (3), 93–116.
Johnson, H.P. (1901) The Polychaeta of the Puget Sound Region. *Proceedings of the Boston Society of Natural History*, 29 (18), 381–437.
Kinberg, J.G.H. (1865) Annulata Nova. *Öfversigt af Kongliga Vetenskaps-Akademiens Förhandlingar, Stockholm*, 21 (10), 559–574.
Maekawa, N. & Hayashi, I. (1989) Onuphid polychaetes from Wakasa Bay, Sea of Japan. *Memoirs of the College of Agriculture, Kyoto University*, 134, 61–93.
Maekawa, N. & Hayashi, I. (1999) Taxonomic study on the genus *Onuphis* (Polychaeta, Onuphidae) from Japan and adjacent seas, with descriptions of six new species. *Bulletin of the National Science Museum,* Series A (Zoology), 25 (3), 163–214.
Marenzeller, E. (1879) Südjapanische Anneliden. I. Amphinomea, Aphroditea, Lycoridea, Phyllodocea, Hesionea, Syllidea, Eunicea, Glycerea, Sternaspidea, Chaetopterea, Cirratulea, Amphictenea. *Denkschriften der Kaiserlichen Akademie der Wissenschaften, Mathematisch-Naturwissenschaftliche Classe, Wien*, 41 (2), 109–154.
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. (1911) The polychaetous annelids dredged by the U.S.S. "Albatross" off the coast of Southern California in 1904. III. Euphrosynidae to Goniadidae. *Proceedings of the Academy of Natural Sciences of Philadelphia*, 63, 234–318.
http://dx.doi.org/10.5962/bhl.title.12425
Mucha, A.P. & Costa M.H. (1999) Macrozoobenthic community structure in two Portuguese estuaries: relationship with organic enrichment and nutrient gradients. *Acta Oecologica*, 20 (4), 363–376.
http://dx.doi.org/10.1016/s1146-609x(99)00130-7
Orensanz, J.M. (1990) The eunicemorph polychaete annelids from Antarctic and Subantarctic Seas. With addendda to the Eunicemorpha of Argentina, Chile, New Zealand, Australia, and the Southern Indian Ocean. Biology of the Antarctic Seas. XXI. *Antarctic Research Series*, 52, 1–183.
http://dx.doi.org/10.1029/ar052p0001
Paxton, H. (1986) Generic revision and relationships of the family Onuphidae (Annelida: Polychaeta). *Records of the Australian Museum*, 38, 1–74.
http://dx.doi.org/10.3853/j.0067-1975.38.1986.175
Pettibone, M.H. (1963) Marine polychaete worms of the New England region. 1. Aphroditidae through Trochochaetidae. *Bulletin of the United States National Museum*, 227 (1), 1–356.
http://dx.doi.org/10.5479/si.03629236.227.1
Rioja, E. (1918) Datos para el conocimiento de la fauna de anélidos poliquetos del Cantábrico (2a Parte). *Trabajos del Museo Nacional de Ciencias Naturales, Madrid, Serie Zoológica*, 37, 1–99.
Shen S. (1987) A new species of *Onuphis* (Polychaeta: Onuphidae). *In*: South China Sea Institute of Oceanology, Academia Sinica (Ed.), *Symposium on Research Reports on the Zanomu Ansha of Nansha Islands of China*. Science Press, Beijing, pp. 221–225. [in Chinese/English abstract]
Shisko, J.F. (1981) Five new polychaetes of the families Eunicidae and Onuphidae, collected in 1975 and 1976 during the Southern California Baseline Project. *Proceedings of the Biological Society of Washington*, 94 (4), 968–983.
Tan, L.T. & Chou, L.M. (1998) Description of a new polychaete, *Onuphis punggolensis* (Onuphidae), from Singapore. *Bulletin of Marine Science*, 63 (1), 127–132.
Treadwell, A.L. (1931) Contributions to the biology of the Philippine Archipelago and adjacent regions: four new species of polychaetous annelids collected by the United States Fisheries Steamer *Albatross* during the Philippine Expedition of 1907–1910. *Bulletin of the United States National Museum*, Bulletin 100, 6 (part 5), 313–321.
Uschakov, P.V. (1955) [Polychaeta of the Far Eastern Seas of the U.S.S.R.]. *Fauna SSSR, Akademiya Nauk SSSR, Zoologicheskii Institut*, 56, 1–443. [in Russian]
Uschakov, P.V. (1965) *Polychaeta of the Far Eastern Seas of the U.S.S.R.*. Israel Program for Scientific Translations, Jerusalem, 419 pp.
Uschakov, P.V. & Wu, B.-L. (1962) [The polychaetes from the Yellow Sea, VI: additions to Errantia]. *Studia Marina Sinica*, 2 (2), 110–134. [in Chinese and Russian]
Verrill, A.E. (1873) Results of recent dredging expeditions on the coast of New England. *American Journal of Science and Arts, Series 3*, 5, 98–106.
http://dx.doi.org/10.2475/ajs.s3-5.26.98