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## Revision of the genus *Eusyllis* Malmgren, 1867 (Annelida: Phyllodocta: Syllidae: Eusyllinae), with the description of a new species from the eastern Pacific Ocean

VIVIAN S. BRUSA<sup>1</sup>, M. TERESA AGUADO<sup>1</sup>, GUILLERMO SAN MARTÍN<sup>1</sup> & GREG ROUSE<sup>2</sup>

<sup>1</sup>Departamento de Biología (Zoología), Facultad de Ciencias, Universidad Autónoma de Madrid, calle Darwin, 2, Cantoblanco, E-28049, Madrid, Spain. E-mails: [vivian.brusa@gmail.com](mailto:vivian.brusa@gmail.com), [guillermo.sanmartin@uam.es](mailto:guillermo.sanmartin@uam.es), [maite.aguado@uam.es](mailto:maite.aguado@uam.es)

<sup>2</sup>Scripps Institution of Oceanography, UCSD La Jolla, CA 92093-0202, USA. E-mail: [grouse@ucsd.edu](mailto:grouse@ucsd.edu)

### Abstract

*Eusyllis* Malmgren, 1867 (Annelida, Syllidae) is revised, with 7 species considered as valid (*Eusyllis assimilis* Marenzeller, 1875; *Eusyllis blomstrandii* Malmgren, 1867; *Eusyllis kupfferi* Langerhans, 1879; *Eusyllis lamelligera* Marion & Bobretzky, 1875; *Eusyllis longicirrata* Imajima, 1966; *Eusyllis maxima* (Monro, 1930); and *Eusyllis nuchalata* Hartmann-Schröder, 1965) plus a newly described species (*Eusyllis grandmarie* n. sp.) the only species of the genus recorded from a whale carcass, lying at more than 600 m deep in the eastern Pacific Ocean off the California coast. The new species is characterized by elongated compound chaetae, with blades almost unidentate, and a thin, spine-like proximal tooth. It differs from *Eusyllis longicirrata* Imajima, 1966, from Japan, in having shorter dorsal cirri and blades of compound chaetae. Additionally, *Eusyllis nuchalata* Hartmann-Schröder, 1965 is re-described. A key to the species of the genus is included.

**Key words:** *Eusyllis*, Syllidae, taxonomy, revision, identification key, new species

### Introduction

*Eusyllis* (Syllidae: Eusyllinae) was erected by Malmgren (1867) for *Eusyllis blomstrandii* (type species) and *E. monilicornis*, both from Spitzbergen (Arctic Sea). Despite its brevity, Malmgren's diagnosis (*Proboscis exserta dente solo valido armata, pone marginem durum subtilissime crebre denticulatum ordinibus binis transversis sejunctis papillarum (c.10) mollium coronata. Setae compositae falcatae articulo terminali breve apice bidentato. Segmenta media et posteriora in aliis faciculos setarum capillarum longissimarum, praeter setas falcatas, gerentia, in aliis vero nullae setae capillares. Cirri duo anales. Cet. ut in genere Syllide*) was clear, with no major taxonomic problems arising later, contrary to other genera described in the same paper (e.g. *Pionosyllis*, see San Martín *et al.* 2009). Indeed, the incomplete denticled arc with numerous small teeth oriented frontally is a characteristic shared only with *Dioplosyllis* Gidholm, 1962 and *Miscellania* Martín, Alós & Sardá, 1990. However, there are notable morphological differences among these taxa so once the denticled arc was observed, there were no doubts in the assignment of the species attributed later to *Eusyllis*.

However, this denticled arc is not always easy to observe, resulting in some taxonomic errors. Some species lacking it were assigned to *Eusyllis* because they shared the other diagnostic features and the presence of the arc was assumed (e.g. *Eusyllis kerguelensis* McIntosh, 1885 transferred to *Pionosyllis* Malmgren, 1867 by San Martín *et al.* 2009, or *Syllis inflata* Marenzeller, 1879, transferred to *Eusyllis* Malmgren, 1867 by Imajima (1966), and later transferred to *Megasyllis* by San Martín *et al.* 2008). Alternatively, some species with a denticled arc that was not observed were erroneously assigned to other genera (e.g. *Pionosyllis maxima* Monro, 1930, transferred to *Eusyllis maxima* by Jiménez *et al.* 1995).

Recently, Aguado *et al.* 2012 reorganized the Eusyllinae and provided a new diagnosis based on a combined morphological and molecular phylogenetic analysis of Syllidae. In the present paper we revise *Eusyllis*, the type genus of Eusyllinae, re-describing the incompletely described species and describing one new species. Additionally, a key to identify all the species is included.