



# Research article

urn:lsid:zoobank.org:pub:EEAC9A7F-94FB-4667-B3A8-400923082F36

## A new genus and species of Polynoidae (Annelida: Polychaeta) from the Canary Islands, and update on taxa present in the Northeast Atlantic

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**Abstract.** A new polynoid, *Webbnesia maculata* gen. et sp. nov., was discovered during benthic surveys conducted around the Canary Islands. Its generic characters (absence of cephalic peaks, ventrally inserted lateral antennae, reduced notopodium and chaetae all stout) place it close to *Antinoe* Kinberg, 1856, *Hermadion* Kinberg, 1856 and *Malmgrenia* McIntosh, 1874, but the combination is unique and justifies the erection of a new genus. The new genus and species are described, figured and discussed in detail. An updated list of taxa and an identification key to all genera of Polynoinae Kinberg, 1856 sensu lato currently reported from the extended Northeast Atlantic are given.

**Keywords.** Taxonomy, subfamilies, identification key, biodiversity.

Núñez J., Barnich R. & Monterroso Ó. 2022. A new genus and species of Polynoidae (Annelida: Polychaeta) from the Canary Islands, and update on taxa present in the Northeast Atlantic. *European Journal of Taxonomy* 846: 55–74. <https://doi.org/10.5852/ejt.2022.846.1965>

## Introduction

During benthic surveys conducted around the Canary Islands, several specimens of an unknown scale worm were discovered. A closer investigation revealed that they belong to an undescribed genus and species of Polynoidae Kinberg, 1856.

Polynoid scale worms present in the extended Northeast Atlantic (incl. the Mediterranean Sea) have been covered in a number of comprehensive works, such as Hartmann-Schröder (1996), Chambers & Muir (1997), Barnich & Fiege (2003), Gil (2011) and Núñez *et al.* (2015).

Due to the large number of species and genera (about 900 species and 167 genera, cf. Bonifácio & Menot 2019), the family is subdivided into several subfamilies, which have been controversially discussed in the past (Wehe 2006; Norlinder *et al.* 2012; among others). To date, members of the following subfamilies are reported from the extended Northeast Atlantic: Polynoinae Kinberg, 1856; Lepidonotinae Willey, 1902; Macellicephalinae Hartmann-Schröder, 1971; Lepidastheniinae Pettibone, 1989; Arctonoinae Hanley, 1989. As summarised by Wehe (2006) the distinguishing characters established by Hanley (1989) for Arctonoinae do not allow for an unambiguous subfamily classification and several genera which were initially assigned to this subfamily have been subsequently moved to Polynoinae (for example *Adyte* Saint-Joseph, 1899, *Subadyte* Pettibone, 1969 and *Malmgrenia* McIntosh, 1874, see Barnich & Fiege 2001, 2003). Arctonoinae is currently under revision by one of us (RB) in collaboration with Robin Wilson (Museum Victoria, Melbourne, Australia). This revision is still at an early stage and it is not clear yet, if Arctonoinae can be maintained and if so, which genera will be assigned to this subfamily. In the current study, we therefore follow Barnich & Fiege (2003) and, for the time being, we include genera previously assigned to Arctonoinae in Polynoinae *sensu lato*.

The main distinguishing characters of the different subfamilies are:

Macellicephalinae with median antenna absent or present and lateral antennae absent (subfamily recently revised by Bonifácio & Menot 2019).

Lepidastheniinae with median antenna present and lateral antennae inserted terminally; neuropodia deeply incised (i.e., acicular lobe of similar length than postchaetal lobe, both lobes prominent).

Lepidonotinae with median antenna present and lateral antennae inserted terminally; neuropodia not deeply incised (i.e., acicular lobe elongate and postchaetal lobe usually shorter, less prominent).

Polynoinae *sensu lato* with median antenna present and lateral antennae inserted ventrally or terminoventrally.

Due to the presence of a median antenna and lateral antennae being inserted ventrally, the new genus and species from the Canary Islands can be assigned to the subfamily Polynoinae. Currently, 24 genera and 77 species of Polynoinae *sensu lato* (incl. the new genus and species) are recognised in the area. Table 1 gives an updated list of taxa together with details on distribution, depth and references.

Below, we present a detailed morphological description and justification for the new polynoid genus and species. We discuss and compare the diagnostic characters of the new genus (see also Tables 2 and 3) and we provide an updated identification key to all genera of Polynoinae *sensu lato* found in the area. The material, being preserved in formaldehyde, is unfortunately not suitable for molecular analysis.

## Material and methods

The type specimens were collected during routine monitoring in the sublittoral off the east and south coast of Gran Canaria in 2019 and 2020, and off the south coast of Tenerife in 2013 (Fig. 1). One of the objectives of these surveys is the characterisation of soft bottoms as part of the environmental monitoring and management of mariculture facilities in the open sea (the environmental companies TRAGSA and CIMA S.L.).

**Table 1** (continued on next two pages). Updated list of species of Polynoinae sensu lato present in the extended NE Atlantic (\*). Based on Barnich & Fiege (2003, 2009, 2010), Barnich (2011) (\*), Barnich *et al.* (2017), Chambers & Muir (1997), Charles *et al.* (2014), Fiege & Barnich (2009), Hartmann-Schröder (1996), Jourde *et al.* (2015), Núñez *et al.* (2015), Pettibone (1963), Ravara & Cunha (2016), Taboada *et al.* (2019) and this study.

| Species                                                | Distribution                                              | Depth (m)           |
|--------------------------------------------------------|-----------------------------------------------------------|---------------------|
| <i>Acholoe squamosa</i> (Delle Chiaje, 1827) (**)      | Channel to W Africa and Mediterranean                     | 5 to 160            |
| <i>Acanthiclepis asperrima</i> (M. Sars, 1861)         | Norway to Azores and Mediterranean; with corals           | 15 to 1360          |
| <i>Acanthiclepis zibrowii</i> Barnich & Fiege, 2010    | Bay of Biscay; with corals                                | 1250                |
| <i>Adyte hyalina</i> (G.O. Sars, 1873)                 | NE Atlantic, North Sea to Mediterranean                   | 10 to 290           |
| <i>Australaugeneria iberica</i> Ravara & Cunha, 2016   | Gulf of Cadiz                                             | 2200                |
| <i>Austrolaenilla mollis</i> (M. Sars, 1872)           | Arctic, NW & NE Atlantic                                  | 40 to 860           |
| <i>Bathynoe nodulosa</i> Ditlevsen, 1917               | S Iceland                                                 | 2000                |
| <i>Bylgides acutisetis</i> Loshamn, 1981               | Norway                                                    | 350 to 500          |
| <i>Bylgides annenkovae</i> Pettibone, 1993             | Arctic, NE Atlantic                                       | 1 to 55             |
| <i>Bylgides elegans</i> (Théel, 1879)                  | Arctic, NW & NE Atlantic                                  | 9 to 380            |
| <i>Bylgides groenlandicus</i> (Malmgren, 1867)         | Arctic, NW & NE Atlantic, Norway to Skagerrak             | 9 to 1270           |
| <i>Bylgides sarsi</i> (Malmgren, 1866)                 | North Sea to Baltic Sea                                   | 1 to 180            |
| <i>Bylgides promamme</i> (Malmgren, 1867)              | Arctic, NW & NE Atlantic                                  | 9 to 245            |
| <i>Enipo elisabethae</i> McIntosh, 1900                | N & W of British Isles to Celtic Sea                      | sublittoral         |
| <i>Enipo kinbergi</i> Malmgren, 1866                   | Irish Sea, North Sea, Skagerrak to Baltic                 | sublittoral to 100  |
| <i>Enipo torelli</i> (Malmgren, 1866)                  | Arctic, N Pacific, N Atlantic                             | sublittoral to 1625 |
| <i>Eucranta villosa</i> Malmgren, 1866                 | Arctic, NW & NE Atlantic                                  | 15 to 1100          |
| <i>Eunoe bathydomus</i> (Ditlevsen, 1917)              | Arctic, N Atlantic, Mid-Atlantic Ridge                    | 2000 to 3500        |
| <i>Eunoe laetmogonensis</i> Kirkegaard & Billett, 1980 | SW Ireland, Porcupine Seabight; with holothurian          | 800 to 1400         |
| <i>Eunoe nodosa</i> (M. Sars, 1861)                    | Arctic, N Pacific, N Atlantic, North Sea to Mediterranean | sublittoral to 1250 |
| <i>Eunoe oerstedii</i> (Malmgren, 1866)                | Arctic, N Pacific, N Atlantic                             | sublittoral to 940  |
| <i>Gattyana amondseni</i> (Malmgren, 1867)             | Arctic, NE Pacific, NW & NE Atlantic                      | sublittoral to 700  |
| <i>Gattyana cirrhosa</i> (Pallas, 1766)                | Arctic, NE Pacific, NW & NE Atlantic to Mediterranean     | 1 to 1150           |
| <i>Gorgoniapolynoe caeciliae</i> (Fauvel, 1913)        | NW & NE Atlantic; with gorgonarians                       | 500 to 1500         |
| <i>Harmothoe abyssicola</i> Bidekap, 1894              | Arctic, Norway to Skagerrak                               | 360 to 550          |
| <i>Harmothoe aequispina</i> (Langerhans, 1884)         | Madeira to W Africa, Mediterranean                        | 10 to 120           |
| <i>Harmothoe anoculata</i> Hartmann-Schröder, 1975     | Off Portugal                                              | 5260                |
| <i>Harmothoe antilopes</i> McIntosh, 1876              | Around British Isles, North Sea to Mediterranean          | 4 to 540            |

**Table 1** (continued). Updated list of species of Polynoinae sensu lato present in the extended NE Atlantic.

| Species                                          | Distribution                                                                                | Depth (m)                 |
|--------------------------------------------------|---------------------------------------------------------------------------------------------|---------------------------|
| <i>Harmothoe areolata</i> (Grube, 1860)          | Channel to Cape Verde, Mediterranean                                                        | 1 to 100                  |
| <i>Harmothoe aspera</i> (Hansen, 1879)           | Arctic, N Pacific, N Atlantic, North Sea, Mediterranean                                     | 200 to 1000               |
| <i>Harmothoe bellani</i> Barnich & Fiege, 2000   | Bristol Channel (pers. obs. RB), Mediterranean                                              | 1 to 10                   |
| <i>Harmothoe benthaliana</i> McIntosh, 1885      | NW & NE Atlantic, Bay of Biscay to Canaries                                                 | 1300 to 2275              |
| <i>Harmothoe clavigera</i> (M. Sars, 1863)       | North Sea to Mediterranean                                                                  | 1 to 200                  |
| <i>Harmothoe evei</i> Kirkegaard, 1980           | Off Brittany                                                                                | 4250                      |
| <i>Harmothoe extenuata</i> (Grube, 1840)         | North Sea, Skagerrak to Mediterranean                                                       | 1 to 100                  |
| <i>Harmothoe fernandi</i> Barnich & Fiege, 2009  | Arctic (pers. obs. RB), N Norway                                                            | 25 to 410                 |
| <i>Harmothoe fragilis</i> Moore, 1910            | Arctic, N Pacific, N Atlantic to Skagerrak and Kattegatt to Mediterranean                   | 20 to 300                 |
| <i>Harmothoe fraserthomsoni</i> McIntosh, 1897   | Faroe Channel to Canaries, Mediterranean                                                    | 50 to 930                 |
| <i>Harmothoe gilchristi</i> Day, 1960            | Canaries to South Africa, Mediterranean, SW Atlantic, often with corals                     | sublittoral to 845        |
| <i>Harmothoe glabra</i> (Malmgren, 1866)         | Arctic, NE Atlantic, North Sea to Channel                                                   | intertidal to 1400        |
| <i>Harmothoe globifera</i> (G.O. Sars, 1873)     | Arctic, NE Atlantic                                                                         | 250 to 3400               |
| <i>Harmothoe imbricata</i> (Linnaeus, 1767)      | Arctic, N Pacific, NW & NE Atlantic, North Sea to Baltic and to Mediterranean               | intertidal to 300         |
| <i>Harmothoe impar</i> (Johnston, 1839)          | North Sea to W Baltic and Mediterranean                                                     | intertidal to sublittoral |
| <i>Harmothoe ingolfiana</i> Ditlevsen, 1917      | N Atlantic, S of Iceland to New England; with wood-boring bivalves                          | 1830 to 3500              |
| <i>Harmothoe longisetis</i> (Grube, 1863)        | Norway (RB pers. obs.), Bay of Biscay, Mediterranean; on hard substrates, often with corals | 70 to 200                 |
| <i>Harmothoe mariannae</i> Barnich & Fiege, 2009 | N Norway, North Sea to Mediterranean                                                        | 30 to 280                 |
| <i>Harmothoe ocularum</i> (Storm, 1879)          | Norway; with corals                                                                         | 50 to 500                 |
| <i>Harmothoe pokoui</i> Intès & Le Loeuff, 1975  | W Africa, Mediterranean                                                                     | 50 to 85                  |
| <i>Harmothoe rarispina</i> (M. Sars, 1861)       | Arctic, NW & NE Atlantic                                                                    | 5 to 1770                 |
| <i>Harmothoe serrata</i> Day, 1963               | S Africa, Mediterranean                                                                     | intertidal to 140         |
| <i>Harmothoe spinifera</i> (Ehlers, 1864)        | North Sea to W Africa and Mediterranean                                                     | intertidal to 35          |
| <i>Harmothoe vesiculosa</i> Ditlevsen, 1917      | SW Ireland to Bay of Biscay, Mediterranean; with corals                                     | 540 to 1180               |
| <i>Harmothoe viridis</i> Loshamn, 1981           | Norway to Skagerrak                                                                         | 30 to 120                 |
| <i>Leucia nivea</i> (M. Sars, 1863)              | Norway to Madeira; with corals                                                              | 8 to 300                  |

**Table 1** (continued). Updated list of species of Polynoinae sensu lato present in the extended NE Atlantic.

| Species                                                                  | Distribution                                                        | Depth (m)          |
|--------------------------------------------------------------------------|---------------------------------------------------------------------|--------------------|
| <i>Leucia violacea</i> (Storm, 1879)                                     | Norway to Bay of Biscay; with corals                                | 30 to 1260         |
| <i>Malmgrenia andreapolis</i> McIntosh, 1874                             | Around Ireland and British Isles to Mediterranean                   | sublittoral to 100 |
| <i>Malmgrenia arenicolae</i> (Saint-Joseph, 1888)                        | Around Ireland and British Isles                                    | littoral to 220    |
| <i>Malmgrenia bicki</i> Barnich, Dietrich, Hager & Fiege, 2017           | North Sea                                                           | sublittoral        |
| <i>Malmgrenia castanea</i> McIntosh, 1876                                | Around Ireland and British Isles to Mediterranean; with echinoderms | sublittoral to 200 |
| <i>Malmgrenia darbouxi</i> (Pettibone, 1993)                             | Mediterranean                                                       | 20 to 70           |
| <i>Malmgrenia lilianae</i> (Pettibone, 1993)                             | Mediterranean and SW Atlantic (Brazil)                              | 1 to 70            |
| <i>Malmgrenia ljunghmani</i> (Malmgren, 1867)                            | Norway to W Africa and Mediterranean                                | 10 to 90           |
| <i>Malmgrenia louiseae</i> Jourde, Sampaio, Barnich <i>et al.</i> , 2015 | Bay of Biscay to Mediterranean                                      | 35 to 110          |
| <i>Malmgrenia lunulata</i> (Delle Chiaje, 1830)                          | Bay of Biscay to Mediterranean                                      | intertidal to 90   |
| <i>Malmgrenia marphysae</i> (McIntosh, 1876)                             | Around Ireland and British Isles to Iberian Peninsula               | sublittoral        |
| <i>Malmgrenia mcintoshii</i> (Tebble & Chambers, 1982)                   | Shetlands, Irish Sea, Celtic Sea to Brittany                        | 10 to 110          |
| <i>Malmgrenia polypapillata</i> (Barnich & Fiege, 2001)                  | W Africa and Mediterranean                                          | 10 to 85           |
| <i>Malmgrenia thomsonae</i> Barnich, Dietrich, Hager & Fiege, 2017       | Irish Sea & Celtic Sea                                              | sublittoral        |
| <i>Melaenis loveni</i> Malmgren, 1866                                    | Arctic, N Pacific & N Atlantic                                      | 3 to 200           |
| <i>Neolagisca jeffreysi</i> (McIntosh, 1876)                             | W of Ireland to Mediterranean; with corals                          | 260 to 1250        |
| <i>Neopolynoe chondrocladiae</i> (Fauvel, 1943) (***)                    | Iberian Peninsula to NW Africa; with sponges                        | 735 to 2590        |
| <i>Neopolynoe paradoxa</i> (Storm, 1888)                                 | Norway, Iceland; with corals                                        | 70 to 960          |
| <i>Pettibonesia furcosetosa</i> (Loshamn, 1981)                          | Irish Sea, North Sea to Mediterranean                               | 1 to 370           |
| <i>Polynoe scolopendrina</i> Savigny, 1822                               | NE Atlantic, North Sea to Mediterranean                             | 0 to 120           |
| <i>Robertianella synophthalma</i> McIntosh, 1885                         | NW Africa, Mediterranean; with sponges                              | 660 to 2910        |
| <i>Subadyte pellucida</i> (Ehlers, 1864)                                 | British Isles to Mediterranean; often with echinoderms              | 0 to 100           |
| <i>Webbnesia maculata</i> gen. et spec. nov.                             | Canary Islands                                                      | 20 to 60           |

(\*) The key in Barnich (2011) includes *Arcteobia anticostiensis* (McIntosh, 1874) and *Gattyana nutti* Pettibone, 1955 which, so far, are confirmed only from the NW Atlantic, and not further considered here.

(\*\*) In several of our previous publications (e.g., Barnich & Fiege 2003, Barnich 2011 and Núñez *et al.* 2015), we listed this species as *Acholoe astericola* (Delle Chiaje, 1841) following the revision by Pettibone (1996). However, as highlighted in WoRMS by Read & Fauchald (2022a), this name is an unnecessary replacement for *Acholoe squamosa* (Delle Chiaje, 1827).

(\*\*\*) Bock *et al.* (2010) listed *Polynoe antillicola chondrocladiae* Fauvel, 1943 as a synonym of *Neopolynoe acanellae*; recent research by Taboada *et al.* (2019) provided evidence that the two species are distinct, with *N. chondrocladiae* present in the NE and *N. acanellae* in the NW Atlantic.

The samples were collected at subtidal depths ranging from 22 to 60 m, using a Van Veen grab and trawl-type dredges. The sediment obtained was sieved over a mesh size of 0.5 mm. After extraction of the specimens, these were fixed in 10% formaldehyde-sea water and later preserved in a 70% ethanol solution.

Preserved specimens were examined using Leica MS5 and Olympus SZX12 stereo microscopes and Leica DMLB (equipped with differential interference contrast), Nikon Eclipse 80i and Olympus BX41 compound light microscopes. Semi-permanent glycerine slides were used for morphological examination of parapodia, elytrae and chaetae.

Drawings were made using a camera lucida and complimented by digital photography. Digital images were captured with an OLYMPUS DP70 camera mounted on Leica DMLB and Olympus BX41 microscopes. The photographs were processed with the DP Controller and Combine ZM software.

The type specimens are deposited at the Museum of Natural Sciences of Tenerife (TFMC, holotype and paratypes) and at the Senckenberg Natural History Museum Frankfurt (SMF, paratype).



**Fig. 1.** Map of the Canary Islands with type localities. Gran Canaria: **1.** East coast, off Tufía (holotype, TFMCBM-AN/246). **2–3.** South coast, off Castillo del Romeral (paratypes, TFMCBM-AN/247 and AN/248). Tenerife: **4.** South coast, off Granadilla (paratype, SMF 32262).

**Table 2.** Diagnostic generic characters of *Webbnesia* gen. nov., *Hermadion* Kinberg, 1856, *Antinoe* Kinberg, 1856 and *Malmgrenia* McIntosh, 1874.

| Character / Genus                  | <i>Webbnesia</i> gen. nov.                                          | <i>Hermadion</i>                                                                | <i>Antinoe</i>                                                        | <i>Malmgrenia</i>                                                                            |
|------------------------------------|---------------------------------------------------------------------|---------------------------------------------------------------------------------|-----------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| <b>Prostomium</b>                  |                                                                     |                                                                                 |                                                                       |                                                                                              |
| Cephalic peaks                     | Absent                                                              | Absent                                                                          | Absent                                                                | Absent                                                                                       |
| Lateral antennae                   | Ventral                                                             | Ventral                                                                         | Terminoventral                                                        | Terminoventral                                                                               |
| <b>Parapodia</b>                   |                                                                     |                                                                                 |                                                                       |                                                                                              |
| Notopodium                         | Reduced                                                             | Prominent                                                                       | Reduced                                                               | Reduced                                                                                      |
| Neuropodium                        | Elongate                                                            | Elongate                                                                        | Elongate                                                              | Elongate                                                                                     |
| Neuropodial supra-acicular process | Present, reduced                                                    | Absent                                                                          | Present (not reduced)                                                 | Present (not reduced) or absent                                                              |
| <b>Chaetae</b>                     |                                                                     |                                                                                 |                                                                       |                                                                                              |
| Notochaetae                        | Very few (2–3), stout with faint rows of spines and entire tip      | Few, stout with distinct rows of spines and entire tip                          | Numerous, stout with faint rows of spines and entire tip              | Few, stout or fine, with distinct rows of spines and entire or bidentate tip                 |
| Neurochaetae                       | Numerous, stout with distinct rows of spines and falcate entire tip | Numerous, stout with distinct rows of spines and straight or falcate entire tip | Numerous, stout with distinct rows of spines and straight, entire tip | Numerous, stout with distinct rows of spines and straight or falcate entire or bidentate tip |

## Results

### Taxonomy

Phylum Annelida Lamarck, 1809  
 Class Polychaeta Grube, 1850  
 Family Polynoidae Kinberg, 1856  
 Subfamily Polynoinae Kinberg, 1856

Genus *Webbnesia* gen. nov.

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Tables 2–3

### Type species

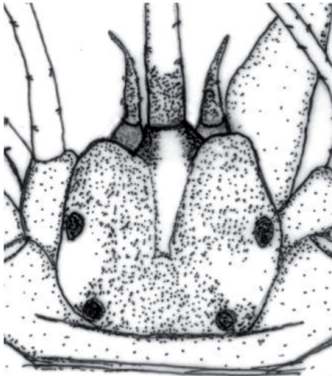
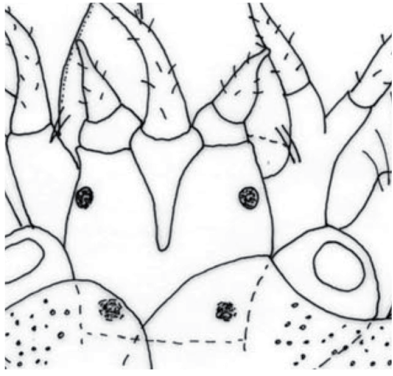
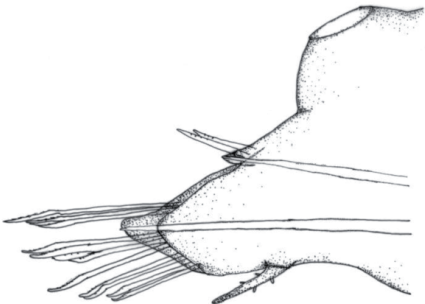
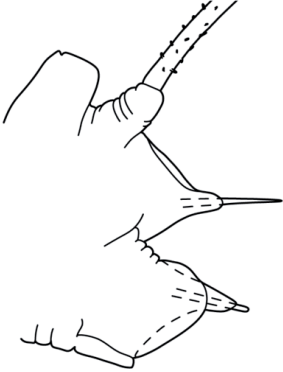
*Webbnesia maculata* gen. et sp. nov. designated herein.

### Diagnosis

**BODY.** Flattened dorsoventrally, short, with fewer than 40 segments, more or less covered by elytra dorsally.

**ELYTRA.** 15 pairs on segments 2, 4, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 26, 29 and 32.

**Table 3.** Comparison of important generic characters. (\*) Prostomium of *Malmgrenia bicki* Barnich, Dietrich, Hager & Fiege, 2017 (modified from Barnich *et al.* 2017); parapodium of *Hermadion magalhaensi* Kinberg, 1856 (modified from Bock *et al.* 2010).

| Lateral antennae |  | ventral                                                                             | terminoventral                                                                       |
|------------------|--|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|                  |  |    |    |
|                  |  | <i>Webbnesia</i>                                                                    | <i>Malmgrenia</i> (*)                                                                |
| Notopodium       |  | reduced                                                                             | prominent                                                                            |
|                  |  |  |  |
|                  |  | <i>Webbnesia</i>                                                                    | <i>Hermadion</i> (*)                                                                 |

**PROSTOMIUM.** Bilobed, without cephalic peaks, with three antennae. Median antenna inserted in anterior notch, lateral antennae inserted ventrally. Two pairs of eyes.

**PARAPODIA.** Biramous, notopodium reduced and neuropodium elongate. Notopodium with aciculum penetrating distally. Neuropodium with elongate prechaetal lobe and shorter postchaetal lobe; prechaetal acicular lobe with minute (i.e., reduced) supra-acicular process, aciculum penetrating subdistally.

**CHAETAE.** Notochaetae and neurochaetae stout, with rows of spines and entire tip.

### Etymology

The genus name is a combination of the name Webb and the Greek word ‘*nes*’ (= ‘island’); gender feminine. ‘Webbnesia’ refers to a new ecoregion defined by Freitas *et al.* (2019) and co-authored by one of us (JN) which includes the Canary, Savage and Madeira Islands.

## Remarks

Among the genera currently attributed to Polynoinae sensu lato, only *Hermadion* Kinberg, 1856, *Antinoe* Kinberg, 1856 and *Malmgrenia* McIntosh, 1874 (see Pettibone 1993; Bock *et al.* 2010 and Barnich *et al.* 2017) share the following diagnostic characters with *Webbnesia* gen. nov.: 15 pairs of elytra, fewer than 50 segments (i.e., short-bodied), cephalic peaks absent, noto- and neurochaetae all of same type, stout, without semi-lunar pockets.

*Webbnesia* and *Hermadion* have ventrally inserted lateral antennae, but the shape of their parapodia is different. The notopodium of *Hermadion* is prominent, nearly as long as the neuropodium, while the new genus is characterised by a minute, reduced notopodium (see Tables 2–3).

In *Malmgrenia* and *Antinoe* the parapodia are similar to those of *Webbnesia*, but the main difference is the insertion of the lateral antennae, which is ventral in *Webbnesia* and terminoventral in the two other genera.

Among the polynoid genera sharing the diagnostic characters listed above, the combination of ventrally inserted antennae and a reduced notopodium is unique and justifies the erection of a new genus (see Table 2).

*Webbnesia maculata* gen. et sp. nov.

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Figs 2–6, Tables 2–3

## Diagnosis

**PROSTOMIUM.** Without cephalic peaks. Lateral antennae inserted ventrally. Two pairs of eyes, anterior pair dorsolateral, posterior pair dorsal.

**ELYTRA.** With smooth margins, surface with scattered, conical microtubercles and pigmented patches.

**ANTENNAE AND CIRRI.** Tapering, papillate.

**PARAPODIA.** With reduced notopodium and prominent neuropodium; neuropodium with minute (i.e., reduced) supra-acicular process, aciculum penetrating subdistally.

**CHAETAE.** Notochaetae stout with faint rows of spines and entire tip. Neurochaetae stout with distinct rows of spines and falcate, entire tip.

## Etymology

The species epithet refers to the characteristic pigmented patches on the elytra, described by the Latin word ‘*maculatus*’ in its female form.

## Material examined

### Holotype

CANARY ISLANDS • ovigerous ♀ (complete, with 33 segments); NE Atlantic, east coast of Gran Canaria, off Tufía; 27°57.91' N, 15°22.63' W; 27 m depth; Feb. 2019; fine sands; TFMCBM-AN/246.

### Paratypes

CANARY ISLANDS • 1 spec. (anterior fragment of 11 segments); NE Atlantic, south coast of Gran Canaria, off Castillo del Romeral; 27°47.79' N, 15°24.40' W; 39 m depth; Oct. 2020; coarse sands; TFMCBM-AN/247 • 1 spec. (posterior fragment of 12 segments); NE Atlantic, south coast of Gran

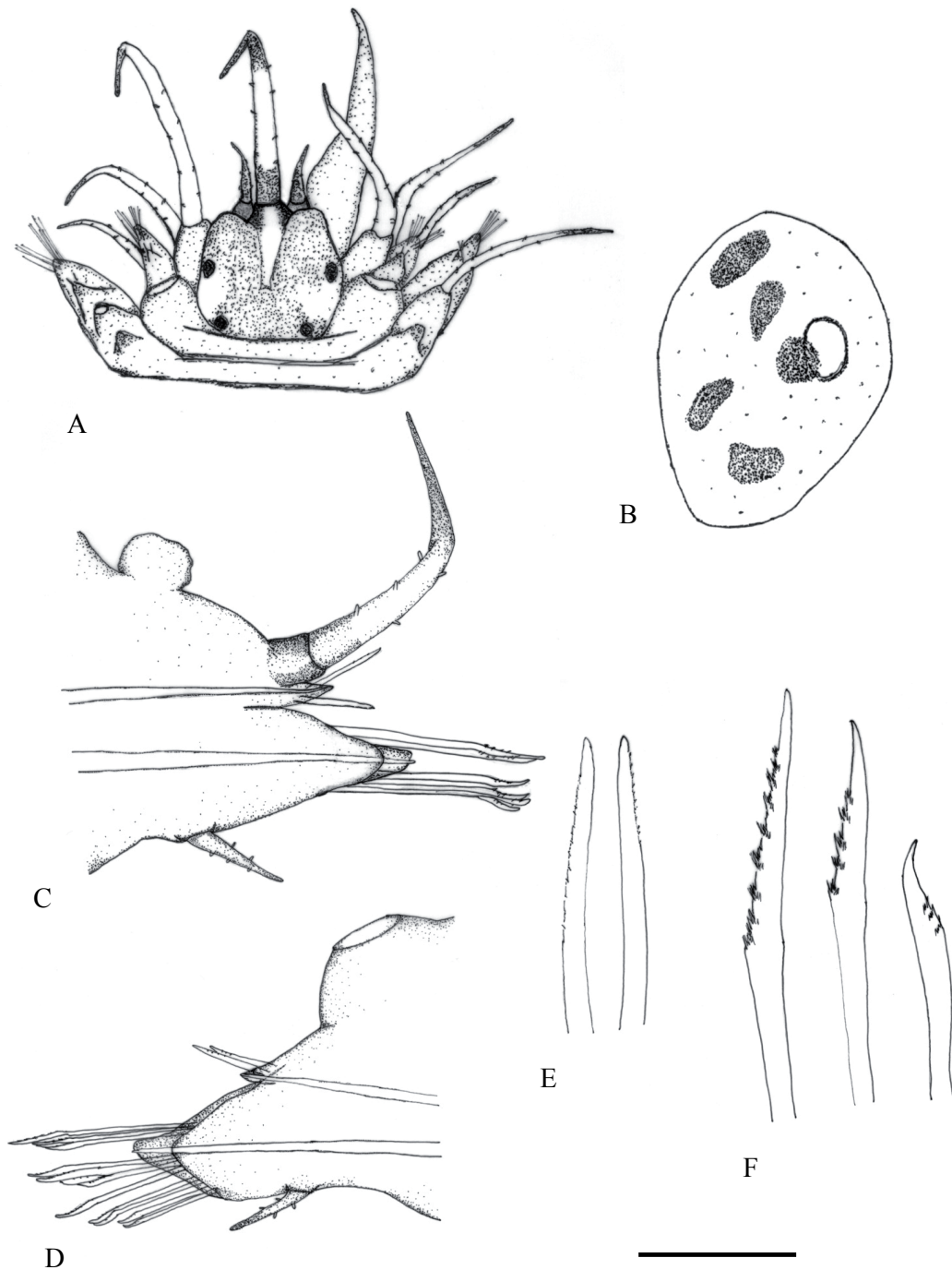


**Fig. 2.** *Webbnesia maculata* gen. et sp. nov., holotype (TFMCBM-AN/246). **A.** Anterior end, elytra removed and left dorsal cirrus of segment 3 missing. **B.** Right elytron of segment 21. **C.** Right cirriferous parapodium of segment 20, posterior view. **D.** Left elytragerous parapodium of segment 21, posterior view. **E.** Notochaetae. **F.** Upper, middle and lower neurochaetae. Scale bar: A= 1.3 mm; B = 1.9 mm; C–D = 0.4 mm; E–F = 40  $\mu$ m.

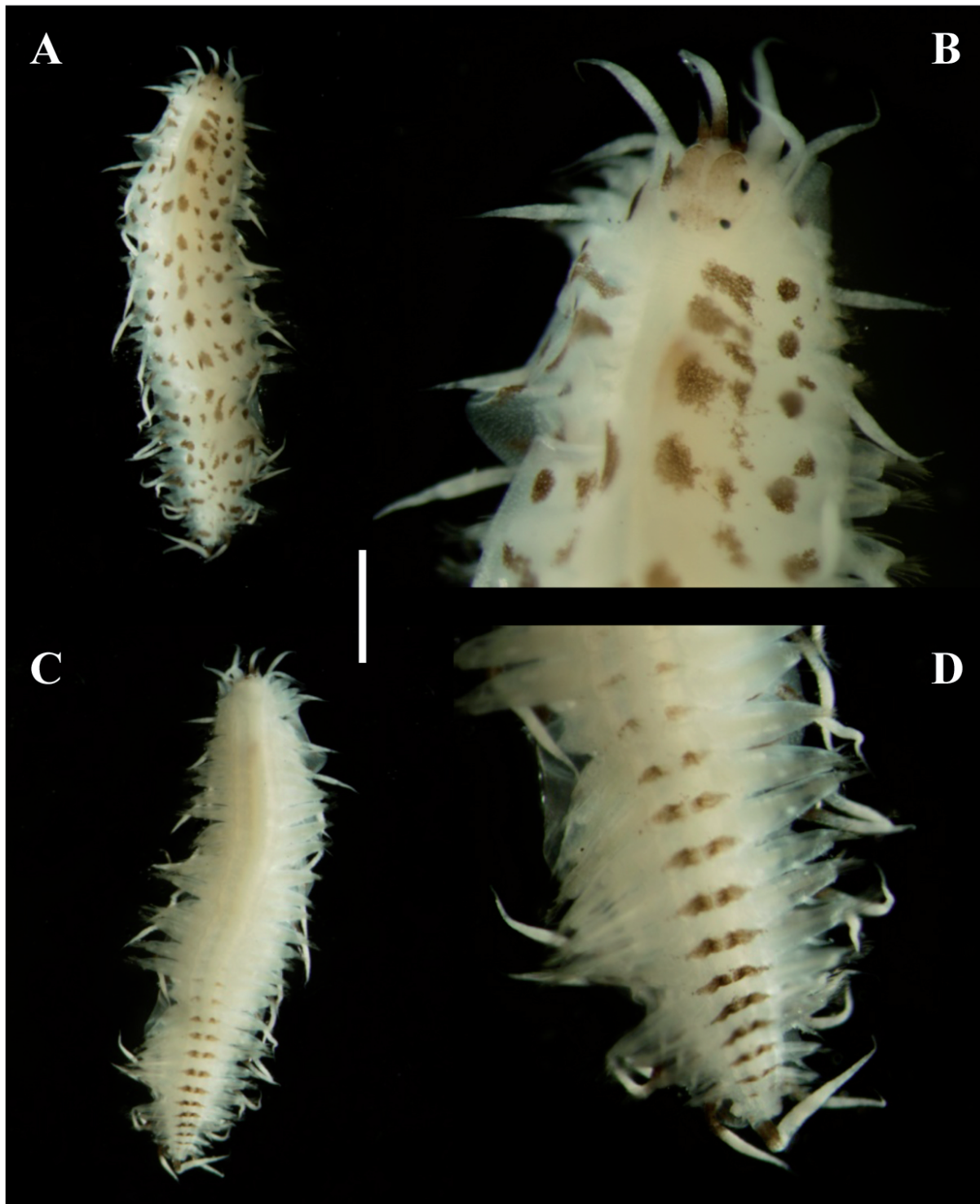


**Fig. 3.** *Webbnesia maculata* gen. et sp. nov., holotype (TFMCCBM-AN/246). **A.** Complete specimen, dorsal view. **B.** Anterior end, dorsal view. **C.** Complete specimen, ventral view. **D.** Posterior end, ventral view. Scale bar: A, C = 2 mm; B = 0.6 mm; D = 0.8 mm.

Canaria, off Castillo del Romeral; 27°47.73' N, 15°23.49' W; 60 m depth; Oct. 2020; coarse sands; TFMCBM-AN/248 • 1 spec. (anterior fragment of 16 segments); NE Atlantic, south coast of Tenerife, off Granadilla; 28°3.56' N, 16°30.20' W; 22 m depth; 18 Sep. 2013; coarse sands; SMF 32262.

### Description of holotype

MEASUREMENTS. Holotype, complete specimen of 8 mm length and 2 mm width in anterior body region.

BODY. Flattened dorsoventrally, short, with 33 segments, dorsum covered by elytra (Fig. 3A); ovigerous female (Fig. 4C–D).

PROSTOMIUM. Cephalic peaks absent, lobes anteriorly rounded. Median antenna with ceratophore in anterior notch, style tapering, papillate; lateral antennae with ceratophores inserted ventrally, styles tapering, papillate. Anterior pair of eyes dorsolateral in front of widest part of prostomium, posterior pair dorsal near posterior margin (Figs 2A, 3B).

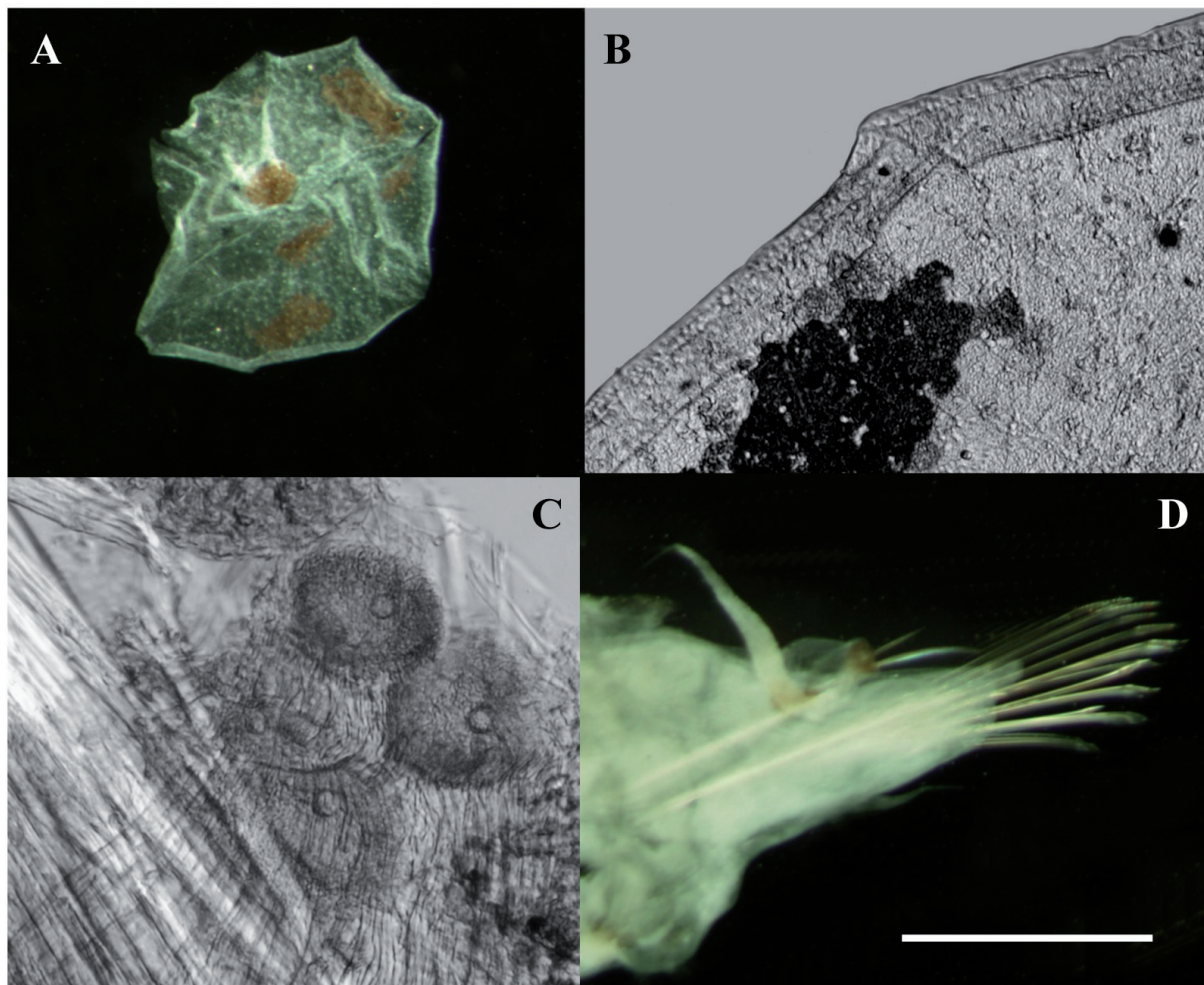


**Fig. 4.** *Webbnesia maculata* gen. et sp. nov., holotype (TFMCBM-AN/246). **A.** Left elytron of segment 21. **B.** Elytral margin with part of pigmented patch. **C.** Eggs within parapodium. **D.** Right cirriferous parapodium of segment 20, with eggs in basal part. Scale bar: A = 1.6 mm; B–C = 200  $\mu$ m; D = 0.5 mm.

**TENTACULOPHORES.** Inserted laterally to prostomium, with a pair of dorsal and ventral tentacular cirri; styles tapering, papillate (Figs 2A, 3B).

**ELYTRA.** Fifteen pairs on segments 2, 4, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 26, 29 and 32. Elytral margins smooth; surface with scattered, conical microtubercles and five pigmented patches (Figs 2B, 3A–B, 4A–B).

**CIRRI.** Dorsal cirri from segment 3 on segments without elytra; cirrophore inserted dorsally on notopodium; style tapering, papillate (Figs 2A, C, 3A–D, 4D). Ventral cirri from segment 2 on all segments; first pair distinctly larger than following; style tapering, papillate (Figs 2C, 3D). Pair of pygidial cirri similar to dorsal cirri.

**DORSAL TUBERCLES.** Conical, one pair present on all cirriferous segments, situated on dorsum in line with elytraphores of adjacent segments (Fig. 2A, C).

**PARAPODIA.** Notopodium reduced, with notoaciculum penetrating distally (may be withdrawn). Neuropodium more prominent, with elongate, conical prechaetal lobe and shorter, rounded postchaetal lobe; prechaetal lobe acicular with minute (i.e., reduced) supra-acicular process and neuroaciculum penetrating subdistally (Figs 2C–D, 4D, 5).

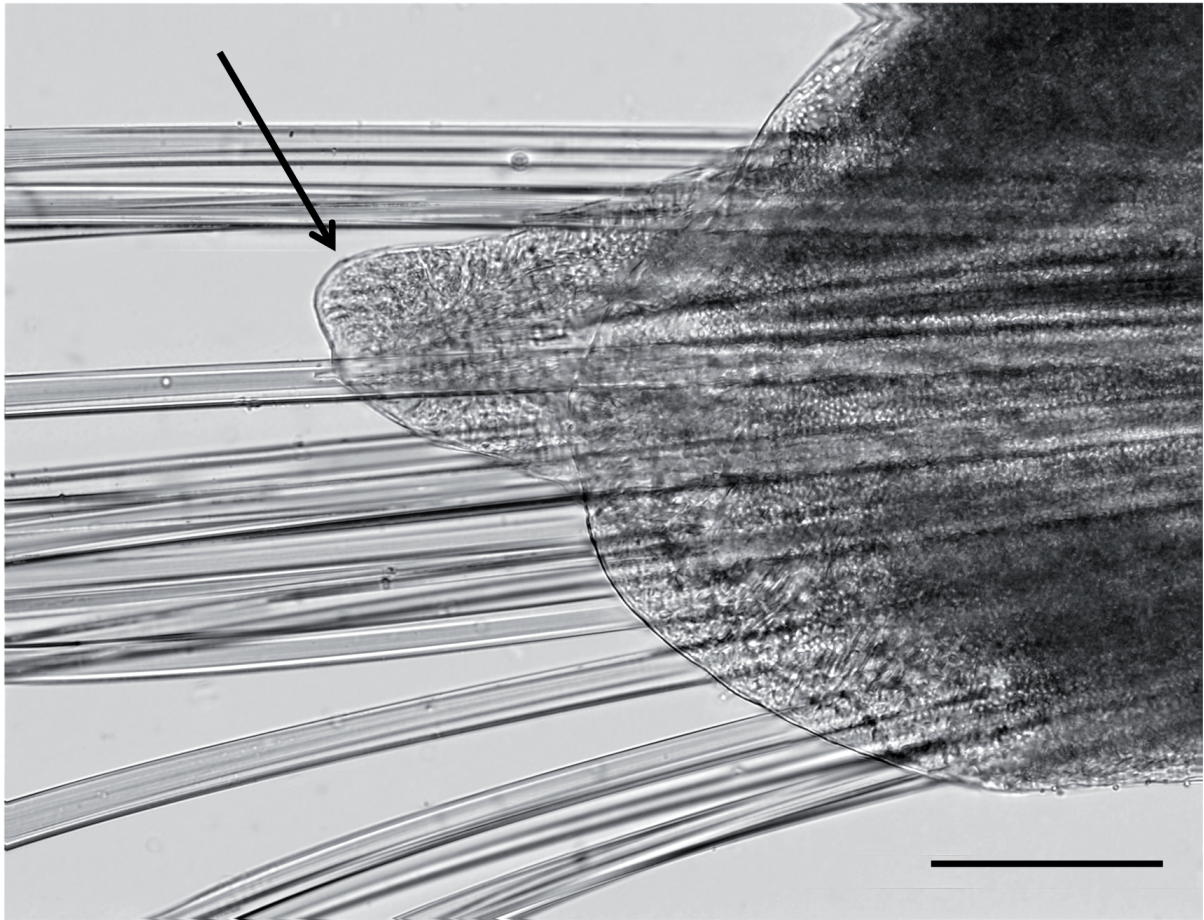


**Fig. 5.** *Webbnesia maculata* gen. et sp. nov., holotype (TFMCBM-AN/246). Distal part of neuropodium (posterior view), showing shorter rounded postchaetal lobe and elongate prechaetal acicular lobe with minute supra-acicular process (arrow). Scale bar = 70  $\mu$ m.

**CHAETAE.** Notochaetae few (2–3), stout, with faint rows of spines and blunt, entire tip (Figs 2C–E, 6A). Neurochaetae more numerous (up to 18), stout, with falcate, entire (i.e., unidentate) tip; upper neurochaetae distally rather straight and spinose region elongate with pronounced rows of spines; middle and lower neurochaetae distally more curved and spinose region shorter with less marked rows of spines (Figs 2C–D, F, 4D, 6B–D).

**Pigmentation (animals preserved)** (Figs 2A–B, 3A–D, 4A)

Body dorsally mostly white with brown patches; ventrally with 13 intersegmental, incomplete transverse bands in posterior body region. Prostomial lobes with diffuse pigmentation; basal part of median antenna and all of lateral antennae darkly pigmented. Tentacular cirri unpigmented. Dorsal and ventral cirri pigmented basally throughout body, also pygidial cirri similarly pigmented. Elytra usually with

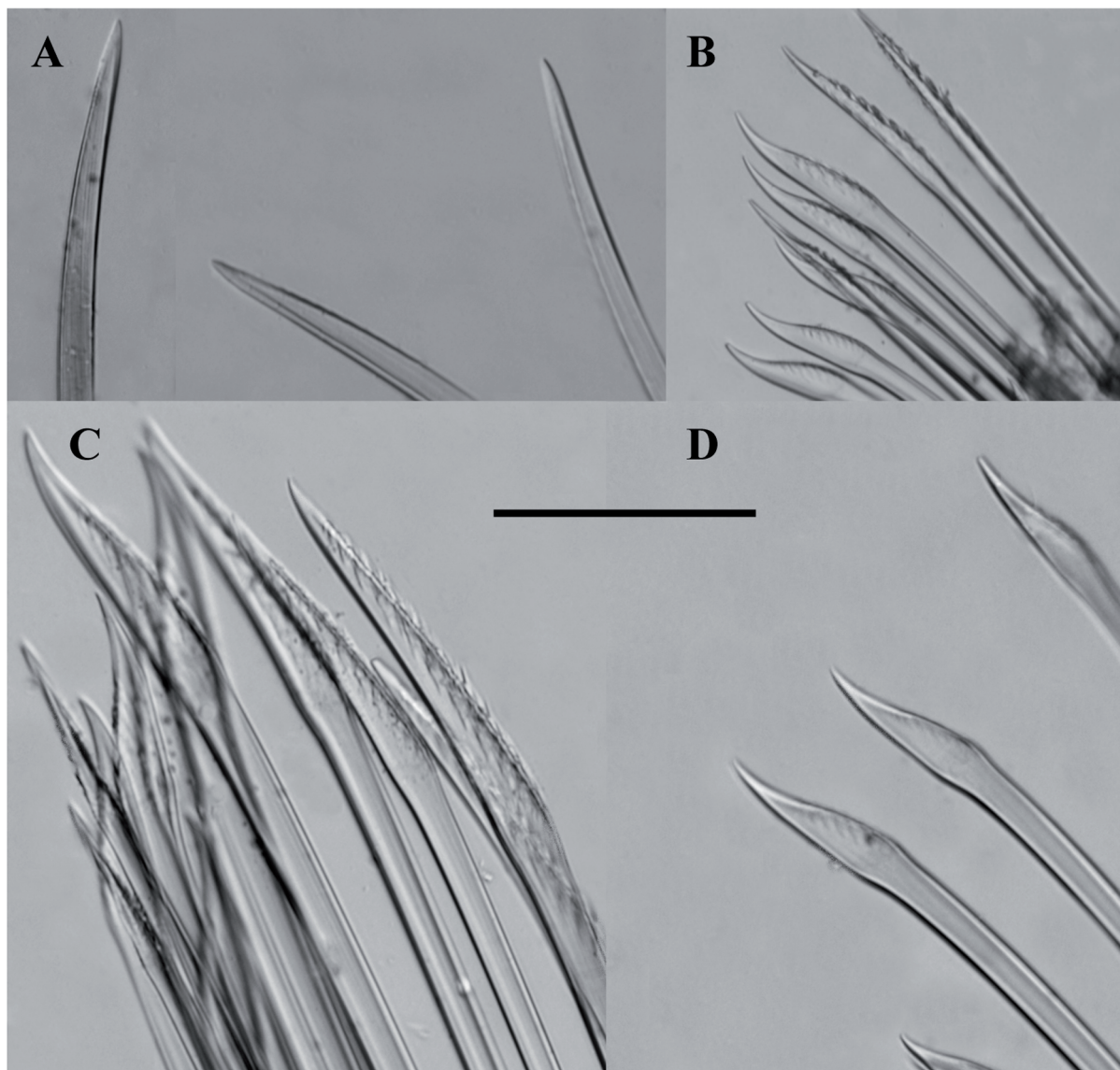


**Fig. 6.** *Webbnesia maculata* gen. et sp. nov., holotype (TFMCBM-AN/246). **A.** Notochaetae. **B.** Upper, middle and lower neurochaetae. **C.** Distal part of upper and middle neurochaetae. **D.** Distal part of lower neurochaetae. Scale bar: A, C–D = 40  $\mu$ m; B = 20  $\mu$ m.

five pigmented patches: one circular above place of attachment to elyrophore, the others irregularly-shaped, two on the inner lateral part and two on the posterior part.

### Distribution and habitat

NE Atlantic, Canary Islands: E and S of Gran Canaria and S of Tenerife; in 22 to 60 m depth.

The substrate at the Tufia station is characterised by areas of fine sand and poorly consolidated maerl. The faunal composition is dominated by the polychaetes *Paradoneis armata* Glémarec, 1966 and *Aponuphis ornata* (Fauvel, 1928) and the crustaceans *Apseudopsis rogi* Esquete, 2016 and *Urothoe marina* (Spence Bate, 1857).

At the Castillo del Romeral stations the substrate is characterised by gravel and coarse organogenic sand. The dominant polychaetes are *Pisione guanche* San Martín, López & Núñez, 1999 and *Syllis gerundensis* (Alós & Campoy, 1981); the most abundant species are the bivalve *Gouldia minima* (Montagu, 1803) and the amphipod *Photis longicaudata* (Spence Bate & Westwood, 1862).

At the Granadilla station the substrate is characterised by maerl and coarse sand. The faunal composition is dominated by the amphipod *Animoceradocus semiserratus* (Spence Bate, 1862) and the polychaetes *Chone filicaudata* Southern, 1914 and *Aponuphis bilineata* (Baird, 1870).

### Updated key to genera of Polynoinae sensu lato present in the Northeast Atlantic incl. the Mediterranean Sea

Based on Barnich & Fiege (2003, 2009, 2010), Barnich (2011), Barnich *et al.* (2017), Chambers & Muir (1997), Charles *et al.* (2014), Fiege & Barnich (2009), Hartmann-Schröder (1996), Jourde *et al.* (2015), Núñez *et al.* (2015), Pettibone (1963), Ravara & Cunha (2016), Taboada *et al.* (2019) and this study.

In order to allow for identification of anterior fragments, the current key avoids, where possible, the use of numbers of elytra and segments as main distinguishing character.

1. Dorsal tubercles T-shaped. (Cephalic peaks absent. Lateral antennae terminoventral. More than 15 pairs of elytra. More than 50 segments) ..... **Acholoe** Claparède, 1870
  - Dorsal tubercles nodular ..... 2
2. First three pairs of elytra modified, with translucent central area. (Cephalic peaks absent or present. Lateral antennae ventral. 15 pairs of elytra. Fewer than 50 segments) ..... **Gorgoniapolynoe** Pettibone, 1991
  - First three pairs of elytra not modified ..... 3
3. Dorsum with one or more median nodules per segment, starting from segment 2. (Cephalic peaks absent. Lateral antennae ventral. 18 pairs of elytra. Fewer than 50 segments) ..... **Bathynoe** Ditlevsen, 1917
  - Dorsum without median nodules in anterior segments (may start later) ..... 4
4. Prostomium with cephalic peaks (can be small or masked when prostomium in bad condition) .... 5
  - Prostomium without cephalic peaks ..... 18
5. Notochaetae with two kinds of tips. Lateral antennae ventral or terminoventral ..... 6
  - Notochaetae all with similar, stout tip. Lateral antennae ventral ..... 9

6. Some notochaetae with slender furcate tip, most others with stout, entire tip. Cephalic peaks small. Lateral antennae terminoventral (15 pairs of elytra. Fewer than 50 segments) ..... *Pettibonesia* Nemésio, 2006  
 – Notochaetae different. Cephalic peaks obvious. Lateral antennae ventral ..... 7
7. Long notochaetae with stout, blunt tip, short notochaetae abruptly tapering to sharp, pointed tip (15 pairs of elytra. Fewer than 50 segments) ..... *Neolagisca* Barnich & Fiege, 2000  
 – Most notochaetae with elongate, capillary tip ..... 8
8. Neurochaetae all with short, unidentate tip. Notochaetae numerous. Elytra large, covering dorsum. Dorsum without median nodules (15 pairs of elytra. Fewer than 50 segments) ..... *Gattyana* McIntosh, 1897  
 – Neurochaetae with two types of tip: short, bi- or unidentate or elongate, capillary. Notochaetae few. Elytra small, leaving mid-dorsum uncovered. Dorsum with or without small median nodule starting in mid-body (15 pairs of elytra. More than 50 segments) ..... *Enipo* Malmgren, 1866
9. Dorsum with large median nodule starting in mid-body. Cephalic peaks small. (15 pairs of elytra. More than 50 segments) ..... *Polynoe* Lamarck, 1818  
 – Dorsum without median nodules. Cephalic peaks obvious ..... 10
10. Neurochaetae distally bill-shaped. Neuropodia elongate, without supra-acicular process (15 pairs of elytra. Fewer than 50 segments) ..... *Robertianella* McIntosh, 1885  
 – Neurochaetae otherwise. Neuropodia with supra-acicular process ..... 11
11. Some neurochaetae with hairy, penicillate tip. (15–16 pairs of elytra. Fewer than 50 segments) ..... *Austrolaenilla* Bergström, 1916  
 – Neurochaetae otherwise ..... 12
12. Some neurochaetae slender with furcate tip. (15 pairs of elytra. Fewer than 50 segments) ..... *Eucranta* Malmgren, 1866  
 – Neurochaetae otherwise ..... 13
13. All neurochaetae with unidentate tip ..... 14  
 – Neurochaetae with bi- and unidentate tip ..... 15
14. Neurochaetae all with stout tip (15 pairs of elytra. Fewer than 50 segments) ..... *Eunoe* Malmgren, 1866  
 – At least some neurochaetae with elongate, capillary tip (15 pairs of elytra. Fewer than 50 segments) ..... *Bylgides* Chamberlin, 1919
15. Notopodium prominent. More than 50 segments, long tail uncovered by elytra. 15 pairs of elytra .. *Neopolynoe* Loshamn, 1981  
 – Notopodium reduced. Fewer than 50 segments, dorsum covered by elytra or at most short tail uncovered ..... 16
16. Elytra 18 pairs (elytral characters distinctive) ..... *Acanthiclepis* McIntosh, 1900  
 – Elytra 16 or 15 pairs ..... 17
17. Elytra 16 pairs (elytral characters distinctive) ..... *Leucia* Malmgren, 1867  
 – Elytra 15 pairs (elytral characters distinctive) ..... *Harmothoe* Kinberg, 1856

18. Neurochaetae with semilunar pockets. Lateral antennae ventral ..... 19
- Neurochaetae without semilunar pockets. Lateral antennae ventral or terminoventral ..... 20
19. Neuropodial acicular lobe rounded, neuroaciculum not penetrating epidermis. Notochaetae with few, scattered rows of spines (15 pairs of elytra. More than 50 segments) ..... *Adyte* Saint-Joseph, 1899
- Neuropodial acicular lobe pointed, neuroaciculum penetrating epidermis. Notochaetae with numerous rows of spines (15–16 pairs of elytra. Fewer than 50 segments) ..... *Subadyte* Pettibone, 1969
20. Anteriormost neuropodia with stout hooks. Lateral antennae ventral or terminoventral (15 pairs of elytra. Fewer than 50 segments) ..... *Australaugeneria* Pettibone, 1969
- Anteriormost neuropodia without hooks (15 pairs of elytra. Fewer than 50 segments) ..... 21
21. Lateral antennae terminoventral. Neurochaetae all stout. (Notopodium reduced) ..... *Malmgrenia* McIntosh, 1874
- Lateral antennae ventral. Neurochaetae with stout or capillary tip ..... 22
22. Notopodium reduced. Neurochaetae all with stout, entire tip. Notochaetae very few (2-3), stout with faint rows of spines ..... *Webbnesia* gen. nov.
- Notopodium prominent. Most neurochaetae with slender, capillary tip, some with stout, furcate tip. Notochaetae few, very stout, acicular, smooth ..... *Melaenis* Malmgren, 1866

## Discussion

*Webbnesia* gen. nov. differs from all other polynoids by its unique combination of characters. With its short body (fewer than 50 segments), absence of cephalic peaks and all chaetae being stout, it is similar to *Hermadion* Kinberg, 1856, *Antinoe* Kinberg, 1856 and *Malmgrenia* McIntosh, 1874. However, as discussed above, it can be differentiated from *Hermadion* by its reduced notopodium, and from *Malmgrenia* and *Antinoe* by its ventrally inserted lateral antennae.

So far, no species attributed to *Hermadion* or *Antinoe* are reported from the Northeast Atlantic. The genus *Hermadion* is currently represented by one valid species, i.e., *Hermadion magalhaensi* Kinberg, 1856, which occurs only in Sub-antarctic waters (Bock *et al.* 2010). According to Read & Fauchald (2022b), six species of *Antinoe* are considered valid. The genus was only partly revised by Pettibone (1993) and included the type species *A. microps* Kinberg, 1856 (from the Southwest Atlantic) and *A. uschakovi* (Ibarzábal, 1988) from the Caribbean Sea. The generic attribution of the remaining four species still needs revising: *Antinoe epitoca* (Monro, 1930) is reported from the Southeast Atlantic and from the Southwest Pacific (see Monro 1930, Glasby *et al.* 2009), *A. kermadecensis* (McIntosh, 1885) and *A. purpureus* Knox, 1960 from the Southwest Pacific, and finally *A. lactea* Day, 1953 from South Africa (see McIntosh 1885; Knox 1960; Day 1953).

In the Northeast Atlantic *Webbnesia maculata* gen. et sp. nov. could be superficially confused with some species of *Malmgrenia* (see Barnich *et al.* 2017). However, the lateral antennae of the new species are inserted ventrally and not terminoventrally as defined for the genus *Malmgrenia*. Additionally, there is currently no other polynoid species known to have a neuropodium with a reduced supra-acicular process and neurochaetae being all stout with a simple, unidentate tip. All of this justifies the erection of a new genus and species for these remarkable animals found in the waters around the Canary Islands.

With the key to genera (see above) and the list of valid species (see Table 1), we present here a first update of genera and species for the entire Northeast Atlantic (incl. the Mediterranean Sea).

## Acknowledgments

Our thanks go to the technicians of the Centro de Investigaciones Medioambientales del Atlántico S.L. (CIMA) for the collection and sorting of the samples, especially Myriam Rodríguez and Eva Ramos, coordinators of the campaigns, as well as Óscar Pérez for his help in preparing the maps. We are also grateful to Isabel T. Brito Izquierdo of TRAGSA, who provided details on one of the sampling localities. We thank Dieter Fiege, Senckenberg Forschungsinstitut und Naturmuseum, Frankfurt, and Julio Parapar, Departamento de Biología, Universidade da Coruña, for reviewing the manuscript and providing valuable comments.

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*Manuscript received: 11 May 2022*

*Manuscript accepted: 6 September 2022*

*Published on: 1 November 2022*

*Topic editor: Tony Robillard*

*Desk editor: Pepe Fernández*

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Jahr/Year: 2022

Band/Volume: [0846](#)

Autor(en)/Author(s): Nunez Jorge, Barnich Ruth, Monterroso Oscar

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