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## Research article

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# Global checklist of species of *Grania* (Clitellata: Enchytraeidae) with remarks on their geographic distribution

Alessandro PRANTONI<sup>1,\*</sup>, Paulo C. LANA<sup>2</sup> & Christer ERSEÚS<sup>3</sup>

<sup>1,2</sup> Center for Marine Studies, Federal University of Paraná, Av. Beira Mar, s/n,  
83255-976 Pontal do Paraná, Paraná, Brazil.

<sup>3</sup> Department of Biological and Environmental Sciences, University of Gothenburg,  
Box 463, SE-405 30 Göteborg, Sweden.

\* Corresponding author: [aprantoni@gmail.com](mailto:aprantoni@gmail.com)

<sup>2</sup> Email: [lane@ufpr.br](mailto:lane@ufpr.br)

<sup>3</sup> Email: [christer.erseus@bioenv.gu.se](mailto:christer.erseus@bioenv.gu.se)

<sup>1</sup> [urn:lsid:zoobank.org:author:3FE88982-3151-43AF-BC1C-5C8F863729B7](https://zoobank.org/author:3FE88982-3151-43AF-BC1C-5C8F863729B7)

<sup>2</sup> [urn:lsid:zoobank.org:author:B5A74B14-A681-4D2A-8248-67DE8FCE9F7B](https://zoobank.org/author:B5A74B14-A681-4D2A-8248-67DE8FCE9F7B)

<sup>3</sup> [urn:lsid:zoobank.org:author:D98F606A-B273-4F50-95F5-C35F17B12C85](https://zoobank.org/author:D98F606A-B273-4F50-95F5-C35F17B12C85)

**Abstract.** A checklist of all currently accepted species of *Grania* Southern, 1913 (Annelida, Clitellata, Enchytraeidae) is presented. The genus is widespread over the world and comprises 81 species described to date. Remarks on their geographical distribution, habitat, synonymies and museum catalogue numbers are provided.

**Keywords.** Species list, Annelida, marine clitellates, geographic distribution, interstitial fauna.

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## Introduction

*Grania* Southern, 1913 is a morphologically homogeneous and easily recognizable genus of marine Enchytraeidae Vejdovský, 1879 with a worldwide distribution. The worms are typically small, only a few mm long, with a filiform, nematode-like body and a characteristic pattern of few, stout chaetae (Fig. 1). Most species live interstitially in intertidal or subtidal sands, but a few taxa are known from the deep sea.

The genus was originally established for specimens of *Grania maricola* Southern, 1913, sampled from the west coast of Ireland. Later on, Pierantoni (1915) regarded *Grania maricola* and his own species, *Enchytraeus macrochaetus* Pierantoni, 1901, at the time referred to *Michaelsena* Ude, 1896 (Pierantoni 1903), as synonyms. Stephenson (1930) instead considered them as separate species within *Michaelsena*. Nielsen & Christensen (1959) pointed out, however, that Stephenson's concept of *Michaelsena* was artificial, and they transferred both species to the genus *Enchytraeus* Henle, 1837.

Two authors independently re-established the genus *Grania* in 1966. Kennedy (1966) re-described *G. maricola* and *G. macrochaeta* and described *G. americana* Kennedy, 1966 from off the coast of Florida, while Lasserre (1966) transferred *Michaelsena postclitellochaeta* Knöllner, 1935 to *Grania*. One year later, considering the similarities among *G. maricola*, *G. macrochaeta* and *G. americana*, Lasserre (1967) proposed to divide *G. macrochaeta* into four subspecies, *G. m. macrochaeta*, *G. m. americana*, *G. m. maricola* and *G. m. roscoffensis* Lasserre, 1967. This situation lasted for about a decade, after which many additional species of *Grania* were described from different parts of the world (Erséus & Lasserre 1976; Erséus 1977, 1980, 1990; Jamieson 1977; Coates & Erséus 1985; Coates 1990; Rota & Erséus 1996, 1997; Locke & Coates 1998, 1999; De Wit & Erséus 2007; Rota *et al.* 2007; De Wit *et al.* 2009; Prantoni *et al.* 2016), bringing a better understanding of species-specific characters and raising the subspecies proposed by Lasserre (1967) back to species status (Coates 1984; De Wit 2010). More recently, Prantoni *et al.* (2016) updated the phylogeny of the genus together with the descriptions and genetic data of nine new species, for the first time including species from Africa and the east coast of South America (Brazil) (see Discussion).

The genus is morphologically and genetically well separated from other enchytraeid genera (Erséus *et al.* 2010; De Wit *et al.* 2011; Prantoni *et al.* 2016).

To provide a global taxonomic overview of *Grania*, the present checklist summarizes historical and recently published data, including all valid species described to date. Moreover, the general geographical distribution patterns of the various species are briefly discussed.

## Material and methods

The checklist is arranged in chronological order and based on a bibliographic survey. All records of *Grania* from published papers and monographs were reviewed. When available, additional information on habitat, geographical distribution and museum catalogue numbers is included.



**Fig. 1.** Specimen of *Grania chilensis* Prantoni, De Wit & Erséus, 2016. Photograph by Pierre De Wit.

## Abbreviations

AMS	=	Australian Museum, Sydney, Australia
BAMZ	=	Bermuda Aquarium, Natural History Museum and Zoo
BJ	=	Barrie G.M. Jamieson collection, Queensland, Australia
BNMH	=	Natural History Museum, London, United Kingdom
MCZR	=	Museo Civico di Zoologia di Roma, Rome, Italy
MIMB	=	A.V. Zhirmunsky Institute of Marine Biology, Far Eastern Branch of the Russian Academy of Sciences, Vladivostok, Russia
MNHM	=	Muséum national d'Histoire naturelle, Paris, France
MZUT	=	Museo e Istituto de Zoologia del'Università de Torino, Turin, Italy
NMINH	=	National Museum of Ireland (Department of Natural History), Dublin, Ireland
NTM	=	Museum and Art Gallery of the Northern Territory, Darwin, Australia
QM	=	Queensland Museum, Brisbane, Australia
QVM	=	Queen Victoria Museum, Launceston, Tasmania, Australia
ROMIZ	=	Invertebrate Zoology, Royal Ontario Museum, Toronto, Canada
SAMC	=	Iziko South African Museum, Cape Town, South Africa
SMNH	=	Swedish Museum of Natural History, Stockholm, Sweden
USNM	=	National Museum of Natural History, Washington DC, USA
WAM	=	Western Australian Museum, Perth, Australia
ZMA	=	Zoological Museum of Amsterdam, the Netherlands
ZMUB	=	Zoological Museum of the University of Bergen, Norway
ZUEC	=	Museu de Zoologia da Universidade Estadual de Campinas, Campinas, Brazil

## Results

We report 81 currently accepted species of *Grania*, of which 49 are known from the Southern and 32 from the Northern Hemisphere. The only species found in both hemispheres (Atlantic Ocean) is the deep-sea *Grania atlantica* Coates & Erséus, 1985. Almost half of the known southern species (24) occur in Australia. On the other hand, 15 of the 32 species described from the Northern Hemisphere to date are European (Fig. 1).

### *List of all described species of Grania in the World*

Phylum Annelida Lamarck, 1809  
Class Clitellata Michaelsen, 1919  
Order Enchytraeida Vejdovský, 1879  
Family Enchytraeidae Vejdovský, 1879

Genus *Grania* Southern, 1913

#### 1. *Grania monochaeta* (Michaelsen, 1888)

*Enchytraeus monochaetus* Michaelsen, 1888: 66–68, figs 6a–c.

*Enchytraeus monochaetus* – Beddard 1895: 339. — Michaelsen 1900: 91.

*Marionina monochaeta* – Nielsen & Christensen 1959: 109.

*Grania monochaeta* – Lasserre 1967: 279–280. — Rota & Erséus 1997: 29–34, fig. 2, tab. 1 (lectotype designation).

*Hemigrania monochaeta* – Lasserre 1971: 454.

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non *Michaelsena monochaeta* – Michaelsen 1921: 3. — Stephenson 1932: 263, fig. 14 (see Rota & Erséus 1997).

non *Grania monochaeta* – Erséus & Lasserre 1977: 299–300, figs 1a–d.

**Type material**

**Lectotype**

UNITED KINGDOM: South Georgia (MZUT 123.1).

**Paralectotypes**

UNITED KINGDOM: South Georgia (MZUT Olig. Coll. 123.2–123.4).

**Other material**

UNITED KINGDOM: South Georgia (SMNH 362).

**Type locality**

UNITED KINGDOM: South Georgia, SW Atlantic Ocean.

**Habitat**

Intertidal, subtidal to 20 m, shelly detritus, among the roots of seaweeds and in the canal system of sponges.

**Distribution**

Only known from the type locality.

2. *Grania macrochaeta* (Pierantoni, 1901)

*Enchytraeus macrochaetus* Pierantoni, 1901: 201–202.

*Michaelsena macrochaeta* – Pierantoni 1903: 409–444, figs 1–28; 1915: 48–50. — Stephenson 1930: 776–777.

*Enchytraeus macrochaetus* – Nielsen & Christensen 1959: 89–91, tab. 9.

*Grania macrochaeta* – Kennedy 1966: 403–404 (redescription). — Lasserre 1966: 312–314 (redescription). — Erséus 1974: 90–93, tab. 1. — Rota 1995: tab. 2.

*Grania macrochaeta macrochaeta* – Lasserre 1967: 280. — Erséus & Lasserre 1976: 122, fig. 1, tab. 1.

**Type material**

Not designated.

**Other material**

ITALY: Bay of Naples (MNHM AH 61–63). This refers to three specimens collected in June, 1967 by J. Renaud-Mornant and examined by Erséus & Lasserre (1976).

**Type locality**

ITALY: Bay of Naples.

**Habitat**

Subtidal, 4–13 m, coarse sand.

**Distribution**

Only known from the type locality.

3. *Grania paucispina* (Eisen, 1904)

*Michaelsena paucispina* Eisen, 1904: 74, fig. 43.

*Michaelsena paucispina* – Michaelsen 1907: 130.

*Marionina paucispina* – Nielsen & Christensen 1959: 109. — Lasserre 1971: 454.

*Grania paucispina* – Erséus & Lasserre 1976: 127. — Coates & Erséus 1980: 1037–1038, fig. 1. — Coates & Ellis 1981: 2134.

**Type material**

*Typus perditus* — *specimen dissolutus*. According to Coates & Erséus (1980), the type material deposited in the California Academy of Science in San Francisco was destroyed during the earthquake and fire in 1906.

**Other material**

UNITED STATES: California (USNM 58906–58907).

CANADA: British Columbia (USNM 58907).

**Type locality**

UNITED STATES: Santa Barbara, California.

**Habitat**

In muddy sand, 2–6 m, with much organic material, brackish water.

**Distribution**

California, USA and British Columbia, Canada.

4. *Grania principissae* (Michaelsen, 1907)

*Michaelsena principissae* Michaelsen, 1907: 129–131, pl. 1, figs 1–2.

*Hemigrania principissae* – Lasserre 1971: 454.

*Grania principissae* – Erséus & Lasserre 1976: 128. — Coates 1990: 28–30, figs 2, 8.

**Type material**

*Typus amissus*.

**Other material**

AUSTRALIA: Western Australia, Princess Royal Harbour (WAM 69–89, ROMIZ 11277).

**Type locality**

AUSTRALIA: Princess Royal Harbour, Albany area, Western Australia.

**Habitat**

Intertidal, sand with organic debris accumulated in mussel bed.

**Distribution**

Only known from the type locality.

5. *Grania maricola* Southern, 1913

*Grania maricola* Southern, 1913: 14, figs 1–7.

*Michaelsena macrochaeta* – Pierantoni 1915 (part): 48–50.

*Michaelsena maricola* – Stephenson 1930: 776–777.

*Enchytraeus maricolus* – Nielsen & Christensen 1959: 89–91, tab. 9.

*Grania maricola* – Kennedy 1966: 400–402, fig. 2 (redescription). — Lasserre 1966: 312–314 (redescription). — Erséus 1974: 90–93; 1976: 35, tab. 3. — Erséus & Lasserre 1976: 124–125, figs 4–5, tab. 1. — Bonomi & Erséus 1984: 209, tab. 1. — Coates 1984: 40, fig. 7a, tab. 1. — Rodriguez 1986: 82–83, fig. 2. — Rota 1995: tab. 2. — Locke & Coates 1998: 1111–1112, tab. 1. — De Wit 2006: 25. — van Haaren 2016: 140–141, figs 20, 56.

*Grania macrochaeta maricola* – Lasserre 1967: 280.

**Type material**

**Holotype**

IRELAND: County Kerry (NMINH 1913.415).

**Paratypes**

IRELAND: County Kerry (NMINH 1909.151, NMINH 1914.313).

**Type locality**

IRELAND: County Kerry.

**Habitat**

Subtidal, 8–80 m, coarse shell sand and shell gravel.

**Distribution**

Ireland, Iberian Peninsula, Italy, the Netherlands, Norway and Sweden.

6. *Grania postclitellochaeta* (Knöllner, 1935)

*Michaelsena postclitellochaeta* Knöllner, 1935: 449–455, figs 19–25, tab. 1.

*Michaelsena postclitellochaeta* – Hagen 1954: 12–13.

*Marionina postclitellochaeta* – Nielsen & Christensen 1959: 109–110, tab. 11.

*Grania postclitellochaeta postclitellochaeta* – Lasserre 1966: 299–300, 312–314, tabs 1–2. — Erséus 1976: 35, tab. 3. — Erséus & Lasserre 1976: 124, tab. 1.

*Hemigrania postclitellochaeta* – Lasserre 1971: 454–456, fig. 3c.

*Grania postclitellochaeta* – Kossmagk-Stephan 1983: 598. — Rota & Erséus 2003: 232–234, figs 10c–d. — van Haaren 2016: 141–143, figs 21, 23, 25–26, 57.

**Type material**

Not designated.

**Other material**

FRANCE: Bassin d’Arcachon (SMNH 45646–45651, MCZR Oligochaeta 0116–0117); Gulf of Biscay (MNHM AH 66–68; see Erséus & Lasserre 1976).

NORTH SEA: SMNH 45652–45654, MCZR Oligochaeta 0118.

ICELAND: Hafnafjörðdur (SMNH 45655–45660, MCZR Oligochaeta 0119; see Rota & Erséus 2003).

NORWAY: Tromsø (SMNH 45661–45665, MCZR Oligochaeta 0120; see Rota & Erséus 2003); Bergen (SMNH 107746–107749; see De Wit & Erséus 2010).

SWEDEN: Koster Islands (SMNH 107730, 107736, 107738–107745, 108220; see De Wit & Erséus 2010).

**Type locality**

GERMANY: Kiel Bay.

**Habitat**

Intertidal, subtidal, 20–100 m in coarse shell sand, shell gravel, sometimes in brackish water (Baltic Sea), tolerating a wide range of salinity (11–35 ppt).

**Distribution**

Baltic Sea, Iceland (see Rota & Erséus 2003), North Sea (Germany, the Netherlands and Belgium), France, Norway and Sweden.

**Remarks**

According to van Haaren (2016), it is not possible to distinguish *Grania postclitellochaeta* from *G. occulta* De Wit & Erséus, 2010 and *G. ovitheca* Erséus, 1977 on morphological grounds only.

7. *Grania americana* Kennedy, 1966

*Grania americana* Kennedy, 1966: 404–405, fig. 3.

*Grania macrochaeta americana* — Lasserre 1967: 78–280.

*Grania americana* – Erséus 1974: 90–93, tab. 1. — Healy & Coates 1999: 111, 114, tab. 1. — Locke & Coates 1999: 598–623, figs 16–20 (redescription); 2000: 619–620, 625–626, figs 4a, 5. — Locke 2000: 83–93, figs 1–14.

*Grania americana* – Erséus & Lasserre 1976: p. 123 (*nomen dubium*, see Erséus & Lasserre 1976; Locke & Coates 1999).

**Type material**

**Holotype**

BAHAMAS: North Bimini (USNM 33005).

**Paratype**

BAHAMAS: North Bimini (USNM 33039).

**Other material**

BAHAMAS: Pearl Island (BMAZ 1999 180 009).

BERMUDA: Ferry Reach (USNM 185957).

UNITED STATES: Hutchinson Island (USNM 185958).

BELIZE: Carrie Bow Cay (USNM 185959–185960).

**Type locality**

BAHAMAS: North Bimini.

**Habitat**

Intertidal, subtidal to 10 m, fine to coarse sand.

**Distribution**

Belize, Bermuda, Bahamas, Florida.

8. *Grania roscoffensis* Lasserre, 1967

*Grania macrochaeta roscoffensis* Lasserre, 1967: 277–280.

*Grania roscoffensis* – Erséus 1974: 90–93, tab. 1. — Erséus & Lasserre 1976: 125, fig. 6, tab. 1 (amended). — Coates 1984: 49. — Rota & Erséus 2003: 218–221, figs 3a–c, 4.  
non *Grania roscoffensis* — Erséus 1977: 294, tab. 1 (see Rota & Erséus 2003).

**Type material**

**Holotype**

FRANCE: Roscoff, harbour (MNHM AH 64).

**Paratype**

The originally designated paratype AH 65 belongs to another species (see Rota & Erséus 2003).

**Other material**

FRANCE: Roscoff, harbour (SMNH 45614).

SPAIN: Canary Islands (SMNH 45615, ZMAV.OL 9345).

**Type locality**

FRANCE: Roscoff, harbour.

**Habitat**

Intertidal, coarse sand and gravel.

**Distribution**

France, Sweden and Canary Islands.

9. *Grania pusilla* Erséus, 1974

*Grania pusilla* Erséus, 1974: 87–94, figs 1–6, tab. 1.

*Grania pusilla* – Erséus 1976: 34, tab. 3. — De Wit *et al.* 2011: 513, figs 1–5, tab. 1.

*Grania macrochaeta pusilla* – Erséus & Lasserre 1976: 122, fig. 2. — Erséus 1977: 294, tab. 1. — Coates 1984: 49. — Kossmagk–Stephan 1985: 77–78.

non *Grania pusilla* – Locke & Coates 1998: 1107–1112, figs 6–12 (see Rota & Erséus 2003).

**Type material**

**Holotype**

NORWAY: Vågegrunnen (ZMUB 55050).

**Paratype**

NORWAY: Vågegrunnen (ZMUB 55051).



**Other material**

SWEDEN: Koster Islands (SMNH 107775–107788).

NORWAY: Bergen (SMNH 107789–107796).

**Type locality**

NORWAY: Vågegrunnen, Hjeltefjorden.

**Habitat**

Subtidal, 35–500 m, fine to coarse shelly sand.

**Distribution**

West coasts of Norway and Sweden, Morocco.

10. *Grania bermudensis* Erséus & Lasserre, 1976

*Grania macrochaeta bermudensis* Erséus & Lasserre, 1976: 122–124, fig. 3 tab. 1.

*Grania macrochaeta bermudensis* – Erséus & Lasserre 1976: 453. — Coates 1984: 49, fig. 8a.

*Grania bermudensis* – Locke & Coates 1999: 609–614, figs 6, 12–15, tab. 1; 2000: 619–621, 626, fig. 6c.

**Type material**

**Holotype**

BERMUDA: Castle Island (USNM 53202).

**Paratype**

BERMUDA: Castle Island (USNM 53203).

**Type locality**

BERMUDA: Castle Island.

**Habitat**

Subtidal, 8–15 m, medium to coarse coral sand and gravel.

**Distribution**

Only known from Bermuda.

11. *Grania longiducta* Erséus & Lasserre, 1976

*Grania postclitellochaeta longiducta* Erséus & Lasserre, 1976: 127, fig. 7, tab. 1.

*Hemigrania postclitellochaeta* – Lasserre 1971: 454–456, fig 3a–b, d .

*Grania postclitellochaeta longiducta* – Erséus 1977: 296–297. — Coates 1984: 49.

*Grania longiducta* – Coates & Erséus 1985: 113–114, fig. 8. — Diaz *et al.* 1987: tab. 1, 3. — Locke & Coates 2000: 619, 625.

**Type material**

**Holotype**

UNITED STATES: Massachusetts, Cape Cod Bay (USNM 43482).

**Paratype**

UNITED STATES: Massachusetts, Cape Cod Bay (USNM 53201).

**Type locality**

UNITED STATES: Cape Cod Bay, Massachusetts.

**Habitat**

Subtidal, 42–78 m, medium to coarse sand.

**Distribution**

Cape Cod Bay, Massachusetts, Georges Bank (SE of Massachusetts), off the coast of New Jersey, Delaware and Maryland, USA.

12. *Grania monospermatheca* Erséus & Lasserre, 1976

*Grania monospermatheca* Erséus & Lasserre, 1976: 127, fig. 9, tab. 1.

*Grania monospermatheca* – Coates 1984: 49, fig. 8b. — Coates & Erséus 1985: 114–115, fig. 9. — Diaz *et al.* 1987: tab. 1–3. — Locke & Coates 2000: 619, 626–628.

**Type material**

**Holotype**

UNITED STATES: Massachusetts, Cape Cod Bay (USNM 53204).

**Paratype**

UNITED STATES: Massachusetts, Cape Cod Bay (USNM 53205).

**Type locality**

UNITED STATES: Cape Cod Bay, Massachusetts.

**Habitat**

Subtidal, 3–48 m, fine to coarse well-sorted sands and sand mixed with shell or shell gravel.

**Distribution**

Along North American Atlantic coast, from Cape Cod Bay, Massachusetts to Biscayne Bay, Florida, USA.

13. *Grania variochaeta* Erséus & Lasserre, 1976

*Grania variochaeta* Erséus & Lasserre, 1976: 125–126, figs 10–11, tab. 1.

*Grania variochaeta* – Erséus 1976: 35, tab. 3; 1977: 297–298, tab. 1. — Coates 1984: 46, fig. 6. — Rota & Erséus 2003: 211, 234–235, fig. 11. — van Haaren 2016: 143–144, fig. 58.

**Type material**

**Holotype**

SWEDEN: Kosterfjorden (SMNH 3132).

**Paratypes**

SWEDEN: Kosterfjorden (SMNH 3133–3136).

**Type locality**

SWEDEN: Kosterfjorden, Bohuslän.

**Habitat**

Subtidal, 20–140 m, heterogeneous sand.

**Distribution**

West coast of Norway and Sweden, the Netherlands.

14. *Grania ovitheca* Erséus, 1977

*Grania ovitheca* Erséus, 1977: 125, figs 5–7.

*Grania ovitheca* – Bonomi & Erséus 1984: 209, tab. 1. — Rota 1995: tab. 2. — Rota & Erséus 2003: 230–233, figs 10a–b. — De Wit & Erséus 2010: 286–291.

**Type material**

**Holotype**

SWEDEN: Kosterfjorden (SMNH 3071).

**Paratypes**

SWEDEN: Kosterfjorden (SMNH 3072–3073).

**Other material**

SWEDEN: off Gullmar Fjord (SMNH 107753, 107755–107758, 107760–107768).

**Type locality**

SWEDEN: Kosterfjorden, Bohuslän.

**Habitat**

Subtidal, 15–30 m, shell sand with gravel and pebbles or coarse sand with stones, pebbles and shells.

**Distribution**

West coasts of Norway and Sweden, Italy.

15. *Grania trichaeta* Jamieson, 1977

*Grania macrochaeta trichaeta* Jamieson, 1977: 345–347, fig. 5, pl. 1g.

*Grania macrochaeta trichaeta* – Coates 1984: 46, fig. 5a.

*Grania trichaeta* – De Wit *et al.* 2009: 28–30, figs 8–9, 10a–e (redescription).

**Type material**

**Holotype**

AUSTRALIA: Queensland, Wistari Reef (QM 8863).

**Paratypes**

AUSTRALIA: Queensland, Wistari Reef (QM 8866, BNMH 1976.1.21–23, BJ 1975.7.76–78); Queensland, Heron Reef (BJ 1975.7.74–75, BJ 1975.7.84).

**Other material**

AUSTRALIA: Queensland, Lizard Island (AMS W.35554–W.35559, SMNH 105540–105559); Queensland, Heron Island (SMNH 105560–105584).

**Type locality**

AUSTRALIA: Wistari Reef, Great Barrier Reef, Queensland.

**Habitat**

Intertidal, subtidal to 7 m, fine to medium heterogeneous sand.

**Distribution**

Lizard Island, Heron Island and Wistari Reef, Great Barrier Reef, Queensland, Australia.

16. *Grania pacifica* Shurova, 1979

*Grania pacifica* Shurova, 1979: 84–86, fig. 6.

**Type material**

**Holotype**

RUSSIA: Iturup Island, Sea of Okhotsk (MIMB 16017).

**Type locality**

RUSSIA: Sea of Okhotsk, Iturup Island.

**Habitat**

Subtidal, 15–20 m, gravelly sediment.

**Distribution**

Only known from the type locality.

17. *Grania incerta* Coates & Erséus, 1980

*Grania incerta* Coates & Erséus, 1980: 1038–1040, fig. 2.

*Grania incerta* – Coates & Ellis 1981: 2134–2135. — Coates 1984: 46, fig. 4.

**Type material**

**Holotype**

UNITED STATES: California, Santa Barbara (USNM 58908).

**Paratypes**

UNITED STATES: California, Santa Barbara (USNM 58909).

CANADA: British Columbia, Rennison Island (USNM 58910).

**Type locality**

UNITED STATES: Santa Barbara, California.

**Habitat**

Subtidal, 3–17 m, well-sorted fine sand.

**Distribution**

California, USA and British Columbia, Canada.

18. *Grania parvitheca* Erséus, 1980

*Grania parvitheca* Erséus, 1980: 27–28, fig. 1.

**Type material**

**Holotype**

UNITED KINGDOM: Ascension Island (USNM 58738).

**Paratype**

UNITED KINGDOM: Ascension Island (USNM 58739).

**Type locality**

UNITED KINGDOM: Ascension Island, S Atlantic Ocean.

**Habitat**

Intertidal, among rocks and clumps of tubes of Sabellariidae.

**Distribution**

Only known from the type locality.

19. *Grania atlantica* Coates & Erséus, 1985

*Grania atlantica* Coates & Erséus, 1985: 112–113, fig. 7.

*Grania atlantica* – Diaz *et al.* 1987: 222–224, tabs 1, 3–4. — Locke & Coates 2000: 619, 626. — Rota & Erséus 1996: 182; 2003: 210–211, 235–237, fig. 10e. — Erséus & Rota 2003: 898, tab. 1.

**Type material**

**Holotype**

UNITED STATES: off Massachusetts (USNM 96503).

**Paratypes**

UNITED STATES: off Massachusetts (USNM 96504–96508).

**Type locality**

UNITED STATES: off Massachusetts.

**Habitat**

Continental slope, 744–1796 m, fine ooze to silty deep-sea sediments.

**Distribution**

Widely distributed in the Atlantic Ocean from 48°35.4' N to 09°05' S in the east and from 39°51.2' N to 70°40.8' S in the west.

20. *Grania levis* Coates & Erséus, 1985

*Grania levis* Coates & Erséus, 1985: 111–112, fig. 6.

*Grania levis* – Diaz *et al.* 1987: tabs 1, 4. — Locke & Coates 2000: 626.

?*Grania cf. levis* – Prantoni *et al.* 2016: 502.

**Type material**

**Holotype**

UNITED STATES: Georges Bank (USNM 96509).

**Paratypes**

UNITED STATES: Georges Bank (USNM 96510); off New Jersey (USNM 96511).

**Other material**

UNITED STATES: off North Carolina (USNM 1283176; immature specimen, see Prantoni *et al.* 2016).

**Type locality**

UNITED STATES: Georges Bank, SE of Massachusetts, NW Atlantic Ocean.

**Habitat**

Intertidal, subtidal to 79 m (probably to 492 m, see Prantoni *et al.* 2016), medium to coarse sand.

**Distribution**

Georges Bank SE of Massachusetts, on the continental shelf (and slope?) off New Jersey and North Carolina, USA.

21. *Grania reducta* Coates & Erséus, 1985

*Grania reducta* Coates & Erséus, 1985: 110–111, fig. 5.

*Grania reducta* – Diaz *et al.* 1987: tabs 3–4. — Locke & Coates 2000: 626, 628.

**Type material**

**Holotype**

UNITED STATES: off Maryland (USNM 96512).

**Paratype**

UNITED STATES: off Maryland (USNM 96513).

**Type locality**

UNITED STATES: off Maryland.

**Habitat**

Intertidal, subtidal to 65 m, medium to coarse sand.

**Distribution**

Continental shelf off New Jersey, Maryland and Delaware, USA.

22. *Grania ascophora* Coates, 1990

*Grania ascophora* Coates, 1990: 23–25, fig. 5.

**Type material**

**Holotype**

AUSTRALIA: Western Australia, Baker Bay (WAM 69.89).

**Paratype**

AUSTRALIA: Western Australia, Baker Bay (ROMIZ I2880).

**Type locality**

AUSTRALIA: Baker Bay, King George Sound, Western Australia.

**Habitat**

Subtidal, 4 m, fine sand with shells and seagrass.

**Distribution**

Barker Bay and Princess Royal Harbour, Albany area, Western Australia.

23. *Grania bykane* Coates, 1990

*Grania bykane* Coates, 1990: 21–23, figs 2, 4a–d.

*Grania bykane* – Rota *et al.* 2007: 1001–1004, figs 1a–g, 2a.

**Type material**

**Holotype**

AUSTRALIA: Western Australia, Princess Royal Harbour (WAM 55.8).

**Paratype**

AUSTRALIA: Western Australia, Princess Royal Harbour (WAM 56.89).

**Type locality**

AUSTRALIA: Princess Royal Harbour, Albany area, Western Australia.

**Habitat**

Intertidal, subtidal to at least 6 m, fine to coarse sand and in sediments under boulders and in seagrass beds.

**Distribution**

Southern coast of Western Australia (Albany and Esperance areas), Australia.

24. *Grania crassiducta* Coates, 1990

*Grania crassiducta* Coates, 1990: 20–21, figs 2, 3a–d.

*Grania crassiducta* – Coates & Stacey 1993: 404–406, fig. 9a–f. — Rota *et al.* 2007: 1004–1006, figs 2b, 3a–f.

**Type material**

**Holotype**

AUSTRALIA: Western Australia, Princess Royal Harbour (WAM 51.89).

**Paratypes**

AUSTRALIA: Western Australia, Princess Royal Harbour (WAM 53.89, ROMIZ I1279).

**Type locality**

AUSTRALIA: Princess Royal Harbour, Albany area, Western Australia.

**Habitat**

Intertidal, muddy coarse sand, gravel and mixed sand with pebbles and coral.

**Distribution**

Southern (Albany and Esperance areas) and western (Rottnest Island) coasts of Western Australia.

25. *Grania ersei* Coates, 1990

*Grania ersei* Coates, 1990: 17–20, figs 1a–d, 2.

*Grania ersei* – Coates & Stacey 1993: 406–408, figs 10a–f. — Rota *et al.* 2007: 1008–1011, figs 4d–g, 5a.

**Type material**

**Holotype**

AUSTRALIA: Western Australia, Princess Royal Harbour (WAM 61.89).

**Paratypes**

AUSTRALIA: Western Australia, Princess Royal Harbour (WAM 62.68–68.89, ROMIZ I1273–I1276).

**Type locality**

AUSTRALIA: Princess Royal Harbour, Albany area, Western Australia.

**Habitat**

Intertidal, subtidal to 26 m, sand among boulders and pebbles, and with algal debris.

**Distribution**

South (Albany, Esperance) and west (Rottnest Island) coasts of Western Australia.

26. *Grania hastula* Coates, 1990

*Grania hastula* Coates, 1990: 26–28, fig. 7.

**Type material**

**Holotype**

AUSTRALIA: Western Australia, Middleton Beach (USNM 120714).

**Type locality**

AUSTRALIA: Middleton Beach, Albany area, Western Australia.

**Habitat**

Intertidal, sand among rocks in algal wash.

**Distribution**

Only known from the type locality.

27. *Grania hyperoadenia* Coates, 1990

*Grania hyperoadenia* Coates, 1990: 25–26, fig. 6.

*Grania hyperoadenia* – De Wit *et al.* 2009: 30–31, fig. 9.

**Type material**

**Holotype**

AUSTRALIA: Western Australia, Baker Bay (WAM 54.85).



**Other material**

AUSTRALIA: Queensland, Lizard Island (AMS W.35560).

**Type locality**

AUSTRALIA: Baker Bay, King George Sound, Western Australia.

**Habitat**

Subtidal, 1.5–4 m in sand.

**Distribution**

Albany area, Western Australia and Lizard Island, Great Barrier Reef, Queensland, Australia.

28. *Grania hongkongensis* Erséus, 1990

*Grania hongkongensis* Erséus, 1990: 311–12, fig. 22.

**Type material**

**Holotype**

CHINA: Hong Kong (New Territories), Crooked Island (BMNH 1987.3.39).

**Paratypes**

CHINA: Hong Kong (New Territories), Crooked Island (BMNH 1987.3.40, SMNH 3717).

**Type locality**

CHINA: Mirs Bay, Crooked Island, Hong Kong (New Territories).

**Habitat**

Intertidal, subtidal to 15 m, shelly sand.

**Distribution**

Only known from the type locality.

29. *Grania inermis* Erséus, 1990

*Grania inermis* Erséus, 1990: 314–315, fig. 24.

**Type material**

**Holotype**

CHINA: Hong Kong (New Territories), Crooked Island (BMNH 1987.3.42).

**Paratypes**

CHINA: Hong Kong (New Territories), Crooked Island (BMNH 1987.3.43, SMNH 3719).

**Type locality**

CHINA: Mirs Bay, Crooked Island, Hong Kong (New Territories).

**Habitat**

Shelly sand, 7–14 m.

**Distribution**

Only known from the type locality.

30. *Grania stilifera* Erséus, 1990

*Grania stilifera* Erséus, 1990: 312–314, fig. 23.

**Type material**

**Holotype**

CHINA: Hong Kong (New Territories), Crooked Island (BMNH 1987.3.41).

**Paratype**

CHINA: Hong Kong (New Territories), Crooked Island (SMNH 3718).

**Type locality**

CHINA: Mirs Bay, Crooked Island, Hong Kong (New Territories).

**Habitat**

Subtidal, 5–8 m, shelly sand.

**Distribution**

Only known from the type locality.

31. *Grania alliata* Coates & Stacey, 1993

*Grania alliata* Coates & Stacey, 1993: 397–399, figs 3–4.

**Type material**

**Holotype**

AUSTRALIA: Western Australia, Rottnest Island (WAM 192-92).

**Type locality**

AUSTRALIA: Rottnest Island, Western Australia.

**Habitat**

Intertidal, gravelly sand.

**Distribution**

Only known from the type locality.

32. *Grania conjuncta* Coates & Stacey, 1993

*Grania conjuncta* Coates & Stacey, 1993: 402–404, figs 7–8.

**Type material**

**Holotype**

AUSTRALIA: Western Australia, Rottnest Island (WAM 193-92).

**Type locality**

AUSTRALIA: Rottnest Island, Western Australia.

**Habitat**

Subtidal, 2 m, medium to coarse sand.

**Distribution**

Only known from the type locality.

33. *Grania longistyla* Coates & Stacey, 1993

*Grania longistyla* Coates & Stacey, 1993: 394–397, figs 1–2.

**Type material**

**Holotype**

AUSTRALIA: Western Australia, Rottnest Island (WAM 194-92).

**Paratype**

AUSTRALIA: Western Australia, Rottnest Island (WAM 195-92).

**Type locality**

AUSTRALIA: Rottnest Island, Western Australia.

**Habitat**

Intertidal, gravelly sand.

**Distribution**

Only known from the type locality.

34. *Grania vacivasa* Coates & Stacey, 1993

*Grania vacivasa* Coates & Stacey, 1993: 400–402, figs 5–6.

*Grania vacivasa* – Rota *et al.* 2007: 1018–1020, figs 8c, 9a–e.

**Type material**

**Holotype**

AUSTRALIA: Western Australia, Rottnest Island (WAM 196-92).

**Paratype**

AUSTRALIA: Western Australia, Rottnest Island (WAM 197-92).

**Type locality**

AUSTRALIA: Rottnest Island, Western Australia.

**Habitat**

Subtidal, 1 m, in coarse sand.

**Distribution**

South (Esperance) and west (Rottnest Island) coasts of Western Australia.

35. *Grania acanthochaeta* Rota & Erséus, 1996

*Grania acanthochaeta* Rota & Erséus, 1996: 174–175, fig. 4, tab. 1.

**Type material**

**Holotype**

ANTARCTICA: Ross Island (USNM 172142).

**Paratype**

ANTARCTICA: Ross Island (USNM 172193).

**Other material**

ANTARCTICA: Ross Island (USNM 172194–172397).

**Type locality**

ANTARCTICA: Ross Island.

**Habitat**

Subtidal, 38 m, greyish brown gravelly mud with sponge spicules and valves of *Limatula*.

**Distribution**

Only known from the type locality.

36. *Grania algida* Rota & Erséus, 1996

*Grania algida* Rota & Erséus, 1996: 179–181, fig. 8, tab. 1.

**Type material**

**Holotype**

ANTARCTICA: Ross Island (USNM 172398).

**Paratype**

ANTARCTICA: Ross Island (MZR Oligochaeta 0065).

**Type locality**

ANTARCTICA: Ross Island.

**Habitat**

Subtidal, 14–40 m, volcanic gravel and cobble.

**Distribution**

Only known from the type locality.

37. *Grania angustinasus* Rota & Erséus, 1996

*Grania angustinasus* Rota & Erséus, 1996: 177–178, figs 3b, 6, tab. 1.

**Type material**

**Holotype**

ANTARCTICA: Ross Island (MCZR Oligochaeta 0059).

**Paratypes**

ANTARCTICA: Ross Island (MCZR 0060–0063, SMNH 4759–4761).

**Type locality**

ANTARCTICA: Ross Island.

**Habitat**

Subtidal, 35–126 m, fine sand.

**Distribution**

Only known from the type locality.

38. *Grania antarctica* Rota & Erséus, 1996

*Grania antarctica* Rota & Erséus, 1996: 178–179, figs 3c, 7, tab. 1.

**Type material**

**Holotype**

ANTARCTICA: Ross Island (USNM 172400).

**Paratype**

ANTARCTICA: Ross Island (USNM 172402, MCZR Oligochaeta 0059).

**Type locality**

ANTARCTICA: Ross Island.

**Habitat**

Subtidal, 14–31 m, volcanic gravel and cobble.

**Distribution**

Only known from the type locality.

39. *Grania carchinii* Rota & Erséus, 1996

*Grania carchinii* Rota & Erséus, 1996: 175–177, fig. 5, tab. 1.

**Type material**

**Holotype**

ANTARCTICA: Ross Island (MCZR Oligochaeta 0057).

**Paratype**

ANTARCTICA: Ross Island (MCZR Oligochaeta 0058).

**Type locality**

ANTARCTICA: Ross Island.

**Habitat**

Subtidal, 35 m, fine sand with mica shale, shell debris and some pebbles.

**Distribution**

Only known from the type locality.

40. *Grania hirsuticauda* Rota & Erséus, 1996

*Grania hirsuticauda* Rota & Erséus, 1996: 175–177, fig. 5, tab. 1.

**Type material**

**Holotype**

ANTARCTICA: Ross Island (USNM 172136).

**Paratypes**

ANTARCTICA: Ross Island (USNM 172137–172138).

**Type locality**

ANTARCTICA: Ross Island.

**Habitat**

Subtidal, 5–585 m, volcanic gravel, sandy mud, small rocks, ectoproct and sponge debris.

**Distribution**

Only known from the type locality.

41. *Grania darwinensis* (Coates & Stacey, 1997)

*Randidrilus darwinensis* Coates & Stacey, 1997: 70–72, fig. 1.

*Grania darwinensis* – Rota *et al.* 2003: 504–509, fig. 3.

**Type material**

**Holotype**

AUSTRALIA: Northern Territory, Darwin (NTM Wo 0084).

**Paratypes**

AUSTRALIA: Northern Territory, Darwin (NTM Wo 0085–0087, ROMIZ I2457–I2458).

**Type locality**

AUSTRALIA: Darwin, Northern Territory.

**Habitat**

Intertidal, subtidal to 16 m, medium to coarse sand, clay or silty sediments.

**Distribution**

Northern Territory and Western Australia.

42. *Grania eurystila* Coates & Stacey, 1997

*Grania eurystila* Coates & Stacey, 1997: 73–74, fig. 2.

**Type material**

**Holotype**

AUSTRALIA: Northern Territory, Darwin (NTM Wo 0081).

**Paratypes**

AUSTRALIA: Northern Territory, Darwin (NTM Wo 0082–0083, ROMIZ I2479).

**Type locality**

AUSTRALIA: Darwin, Northern Territory.

**Habitat**

Intertidal rockpool.

**Distribution**

Only known from two locations in the inner part of Darwin Harbour, Northern Territory, Australia.

43. *Grania integra* Coates & Stacey, 1997

*Grania integra* Coates & Stacey, 1997: 74–76, fig. 3.

*Grania integra* – Rota *et al.* 2003: 499–501, fig. 1.

**Type material**

**Holotype**

AUSTRALIA: Northern Territory, Darwin (NTM Wo 0079).

**Paratype**

AUSTRALIA: Northern Territory, Darwin (NTM Wo 0080).

**Type locality**

AUSTRALIA: Darwin, Northern Territory.

**Habitat**

Intertidal crevices with sand gravel, pebbles and heterogeneous sediments.

**Distribution**

Darwin Harbour, Northern Territory and Nickol Bay, Dampier area, Western Australia.

44. *Grania lasserrei* Rota & Erséus, 1997

*Grania lasserrei* Rota & Erséus, 1997: 34–37, fig. 3, tab.1.

*Enchytraeus monochaetus* – Michaelsen 1888: 66, figs 6A–C; part., pl. 2.

*Michaelsena monochaeta* – Michaelsen 1921: 3, part.

*Grania monochaeta* – Erséus & Lasserre 1977: 299–300, figs 1A–D.

**Type material**

**Holotype**

UNITED KINGDOM: South Georgia (SMNH 4803).

**Paratypes**

UNITED KINGDOM: South Georgia (SMNH 48044806, MZUT 1078, BMNH 1996:916).

**Type locality**

UNITED KINGDOM: South Georgia, SW Atlantic Ocean.

**Habitat**

Intertidal, subtidal to 20 m.

**Distribution**

Only known from the type locality.

45. *Grania stephensoniana* Rota & Erséus, 1997

*Grania stephensoniana* Rota & Erséus, 1997: 37–39, figs 4–5, tab. 1.

*Michaelsena monochaeta* – Stephenson 1932: 263, fig. 14.

**Type material**

**Holotype**

UNITED KINGDOM: South Georgia (BMNH 1931.6.23.78).

**Paratypes**

UNITED KINGDOM: South Georgia (BMNH 1933.2.23.946–1933.2.23.948).

**Type locality**

UNITED KINGDOM: South Georgia, SW Atlantic Ocean.

**Habitat**

60 m, rocky bottom.

**Distribution**

Only known from the type locality.

46. *Grania mira* Locke & Coates, 1998

*Grania mira* Locke & Coates, 1998: 1103–1107, figs 1–5.

*Grania* sp. – Healy 1996a: 53, 56–57, fig. 1, tabs 1–2; 1996b: 1287.

**Type material**

**Holotype**

IRELAND: Carnsore Point (NMI 4.1998).

**Paratypes**

IRELAND: Carnsore Point (NMI 5.1998–6.1998).

**Type locality**

IRELAND: Carnsore Point, County Wexford.

**Habitat**

Intertidal, sediments trapped in dense turf of *Corallina officinalis* on horizontal or gently sloping rock.

**Distribution**

Only known from the type locality.

47. *Grania hylae* Locke & Coates, 1999

*Grania hylae* Locke & Coates, 1999: 605–609, figs 6–7, 11, tab. 1.

*Grania hylae* – Locke & Coates 2000: 619–621, 626, fig. 4b.

**Type material**

**Holotype**

BERMUDA: Paget Island (USNM 185954).

**Paratypes**

UNITED STATES: Florida, Fowey Rocks (USNM 185955).

BERMUDA: Castle Island (USNM 185956, BAMZ 199 180 007).



**Type locality**

BERMUDA: Paget Island.

**Habitat**

Intertidal, subtidal to 17 m, medium to coarse sand with rocks.

**Distribution**

Rocky Hill Park, Castle Island and Paget Island, Bermuda, and Fowey Rocks, Miami, Florida, USA.

48. *Grania laxartus* Locke & Coates, 1999

*Grania laxartus* Locke & Coates, 1999: 602–605, figs 2–6, 11, tab. 1.

*Grania laxartus* – Locke & Coates 2000: 619–621, 626–627, figs 4c, 6a.

**Type material**

**Holotype**

BERMUDA: Ferry Point Bridge (USNM 185951).

**Paratypes**

BERMUDA: Ferry Reach (USNM 185952, BAMZ 199 180 006).

BELIZE: Carrie Bow Cay (USNM 185953).

**Type locality**

BERMUDA: Ferry Point Bridge.

**Habitat**

Intertidal pools with accumulation of sand and fine to medium-coarse calcareous sand.

**Distribution**

Ferry Point Bridge, Whalebone Bay, Pearl Island, Ferry Reach and Smith's Sound, Bermuda, and Carrie Bow Cay, Belize.

49. *Grania dolichura* Rota & Erséus, 2000

*Grania dolichura* Rota & Erséus, 2000: 249–252, fig. 3.

*Grania dolichura* – Rota *et al.* 2007: 1006–1008, figs 4a–c.

**Type material**

**Holotype**

AUSTRALIA: Tasmania, Little Musselroe (QVM 14: 3889).

**Paratypes**

AUSTRALIA: Tasmania, Little Musselroe (QVM 14:3890–14:3897, SMNH 5203–5206, MCZR Oligochaeta 0085–0088).

**Type locality**

AUSTRALIA: Little Musselroe, Tasmania.

**Habitat**

Intertidal, silt-clay sediments.

**Distribution**

Widespread around Tasmania, Australia.

50. *Grania tasmaniae* Rota & Erséus, 2000

*Grania tasmaniae* Rota & Erséus, 2000: 247–249, fig. 2.

**Type material**

**Holotype**

AUSTRALIA: Tasmania, Low Head (QVM 14: 3887).

**Paratype**

AUSTRALIA: Tasmania, Low Head (QVM 14: 3888).

**Type locality**

AUSTRALIA: Low Head, Tamar Estuary, Tasmania.

**Habitat**

Intertidal, silt-clay sediments.

**Distribution**

Only known from the type locality.

51. *Grania aquitana* Rota & Erséus, 2003

*Grania aquitana* Rota & Erséus, 2003: 226–229, fig. 7, tab. 1.

**Type material**

**Holotype**

FRANCE: Bassin d’Arcachon (SMNH 5729).

**Paratypes**

FRANCE: Bassin d’Arcachon (SMNH 5730–5733).

**Type locality**

FRANCE: Bassin d’Arcachon.

**Habitat**

Subtidal, 2–5 m, fine sand.

**Distribution**

Only known from the type locality.

52. *Grania canaria* Rota & Erséus, 2003

*Grania canaria* Rota & Erséus, 2003: 213–215, fig. 1, tab. 1.

**Type material**

**Holotype**

SPAIN: Tenerife (ZMA V.OL 9344).

**Paratypes**

SPAIN: Tenerife (SMNH 5710–5711).

**Type locality**

SPAIN: Tenerife, Canary Islands.

**Habitat**

Intertidal, sand and gravel.

**Distribution**

Only known from the type locality.

53. *Grania fortunata* Rota & Erséus, 2003

*Grania fortunata* Rota & Erséus, 2003: 215–218, fig. 2, tab. 1.

**Type material**

**Holotype**

SPAIN: Tenerife (SMNH 5712).

**Paratype**

SPAIN: Tenerife (SMNH 5713, MCZR Oligochaeta 0103–0104).

**Type locality**

SPAIN: Tenerife, Canary Islands.

**Habitat**

Subtidal, 12–17 m, fine and muddy sands associated with beds of the seagrass *Cymodocea nodosa*.

**Distribution**

Only known from the type locality.

54. *Grania mauretania* Rota & Erséus, 2003

*Grania mauretania* Rota & Erséus, 2003: 224–226, fig. 6, tab. 1.

**Type material**

**Holotype**

MOROCCO: off Casablanca (SMNH 5718).

**Paratypes**

MOROCCO: off Casablanca (SMNH 5719–5720, MCZR Oligochaeta 0107).

**Type locality**

MOROCCO: off Casablanca.

**Habitat**

Subtidal, 173 m, mud with shell debris.

**Distribution**

Only known from the type locality.

55. *Grania papillinusus* Rota & Erséus, 2003

*Grania papillinusus* Rota & Erséus, 2003: 239–240, fig. 13.

**Type material**

**Holotype**

FRANCE: Gulf of Gascogne (SMNH 5726).

**Paratypes**

FRANCE: Gulf of Gascogne (SMNH 5727–5728, MCZR Oligochaeta 0124–0126).

**Type locality**

FRANCE: Gulf of Gascogne, lower continental slope.

**Habitat**

Deep sea, 2630–2885 m, most likely very fine sediments.

**Distribution**

Gulf of Gascogne, off France and off the eastern USA (i.e., both sides of the North Atlantic) (see Erséus & Rota 2003).

56. *Grania torosa* Rota & Erséus, 2003

*Grania torosa* Rota & Erséus, 2003: 237–239, fig. 12.

**Type material**

**Holotype**

NE ATLANTIC OCEAN: Rockall Trough (SMNH 5721).

**Paratypes**

NE ATLANTIC OCEAN: Rockall Trough (SMNH 5722–5725, MCZR Oligochaeta 0123).

**Type locality**

NE ATLANTIC OCEAN: Rockall Trough, off Scotland.

**Habitat**

Continental slope, 1170–1800 m, fine sandy and hemi-pelagic ooze.

**Distribution**

Northern Rockall Trough, off the coast of Scotland, to near the entrance to the English Channel (NE Atlantic Ocean).

57. *Grania vikinga* Rota & Erséus, 2003

*Grania vikinga* Rota & Erséus, 2003: 222–224, fig. 5.

*Grania roscoffensis* (part) – *sensu* Erséus 1977: 294, tab. 1.

*Grania vikinga* – van Haaren 2016: 144–145, figs 22, 24, 27–28, 59.

**Type material**

**Holotype**

SWEDEN: Skagerrak (SMNH 5714).

**Paratypes**

SWEDEN: Skagerrak (SMNH 5716–5717, MCZR Oligochaeta 0105–0106).

**Type locality**

SWEDEN: Skagerrak, Bohuslän.

**Habitat**

Subtidal, 10–46 m, sand.

**Distribution**

West coast of Sweden, the Netherlands.

58. *Grania ocarina* Rota, Erséus & Wang, 2003

*Grania ocarina* Rota, Erséus & Wang, 2003: 502–504, fig. 2.

**Type material**

**Holotype**

AUSTRALIA: Western Australia, Withnell Bay (WAM V 4351).

**Paratype**

AUSTRALIA: Western Australia, Withnell Bay (WAM V 4352, SMNH 5868, MCZR Oligochaeta 0128).

**Type locality**

AUSTRALIA: Withnell Bay, Dampier Area, Western Australia.

**Habitat**

Barely subtidal, 0.5 m, medium to coarse sand.

**Distribution**

Only known from the type locality.

59. *Grania cinctura* De Wit & Erséus, 2007

*Grania cinctura* De Wit & Erséus, 2007: 33–36, fig. 3, tab. 1.

**Type material**

**Holotype**

FRANCE: New Caledonia, Lifou (SMNH 6559).

**Paratypes**

FRANCE: New Caledonia, Lifou (SMNH 6560–6564); New Caledonia, Touho (SMNH 6565–6568, 6572).

**Type locality**

FRANCE: Lifou, Loyalty Islands, New Caledonia.

**Habitat**

Intertidal, subtidal to 6 m, fine to coarse sand.

**Distribution**

Touho and Nouméa areas, and Loyalty Islands, New Caledonia.

60. *Grania curta* De Wit & Erséus, 2007

*Grania curta* De Wit & Erséus, 2007: 38–40, fig. 5, tab. 1.

**Type material**

**Holotype**

FRANCE: New Caledonia, Lifou (SMNH 6583).

**Paratypes**

FRANCE: New Caledonia, Lifou (SMNH 6584–6588).

**Type locality**

FRANCE: Lifou, Loyalty Islands, New Caledonia.

**Habitat**

Barely subtidal, 0.5 m, heterogeneous sand.

**Distribution**

Only known from the type locality.

61. *Grania fiscellata* De Wit & Erséus, 2007

*Grania fiscellata* De Wit & Erséus, 2007: 45–47, fig. 9, tab. 1.

**Type material**

**Holotype**

FRANCE: New Caledonia, Touho (SMNH 6610).

**Paratypes**

FRANCE: New Caledonia, Touho (SMNH 6611–6613); New Caledonia, Lifou (SMNH 6617).

**Type locality**

FRANCE: Touho, Loyalty Islands, New Caledonia.

**Habitat**

Intertidal, subtidal to 3 m, heterogeneous sand.

**Distribution**

Touho area and Lifou (Loyalty Islands), New Caledonia.

62. *Grania fustata* De Wit & Erséus, 2007

*Grania fustata* De Wit & Erséus, 2007: 40–42, fig. 6, tab. 1.

**Type material**

**Holotype**

FRANCE: New Caledonia, Touho (SMNH 6589).

**Paratypes**

FRANCE: New Caledonia, Touho (SMNH 6590–6598).

**Type locality**

FRANCE: Touho, Loyalty Islands, New Caledonia.

**Habitat**

Intertidal and barely subtidal, coarse sand and gravel.

**Distribution**

Only known from the type locality.

63. *Grania galbina* De Wit & Erséus, 2007

*Grania galbina* De Wit & Erséus, 2007: 36–38, fig. 4, tab. 1.

**Type material**

**Holotype**

FRANCE: New Caledonia, Lifou (SMNH 6573).

**Paratypes**

FRANCE: New Caledonia, Lifou (SMNH 6574–6582).

**Type locality**

FRANCE: Lifou, Loyalty Islands, New Caledonia.

**Habitat**

Intertidal, subtidal to 13 m, heterogeneous sand.

**Distribution**

Nouméa area and Lifou (Loyalty Islands), New Caledonia.

64. *Grania novacaledonia* De Wit & Erséus, 2007

*Grania novacaledonia* De Wit & Erséus, 2007: 31–33, fig. 2, tab. 1.

**Type material**

**Holotype**

FRANCE: New Caledonia, Touho (SMNH 6549).

**Paratypes**

FRANCE: New Caledonia, Touho (SMNH 6550–6558).

**Type locality**

FRANCE: Touho, Loyalty Islands, New Caledonia.

**Habitat**

Intertidal, subtidal to 21 m, heterogeneous sand.

**Distribution**

Touho and Nouméa areas, New Caledonia.

65. *Grania papillata* De Wit & Erséus, 2007

*Grania papillata* De Wit & Erséus, 2007: 42–45, figs 7–8, tab. 1.

**Type material**

**Holotype**

FRANCE: New Caledonia, Lifou (SMNH 6599).

**Paratypes**

FRANCE: New Caledonia, Lifou (SMNH 6600–6602); New Caledonia, Touho (SMNH 6603–6609).

**Type locality**

FRANCE: Lifou, Loyalty Islands, New Caledonia.

**Habitat**

Intertidal, subtidal to 22 m, heterogeneous sand.

**Distribution**

Touho area and Lifou (Loyalty Islands), New Caledonia.

66. *Grania quaerens* Rota, Wang & Erséus, 2007

*Grania quaerens* Rota, Wang & Erséus, 2007: 1011–1013, figs 5b–d, 6a–i.

**Type material**

**Holotype**

AUSTRALIA: Western Australia, New Island (WAM V 7315).

**Paratypes**

AUSTRALIA: Western Australia, New Island (WAM V 7316–7319, SMNH 6803–6808, MCZR Oligochaeta 0146–0149).

**Type locality**

AUSTRALIA: New Island, Western Australia.

**Habitat**

Intertidal, medium to coarse sand.

**Distribution**

South coast of Western Australia.



67. *Grania sperantia* Rota, Wang & Erséus, 2007

*Grania sperantia* Rota, Wang & Erséus, 2007: 1014–1017, figs 7a–h, 8a–b.

**Type material**

**Holotype**

AUSTRALIA: Western Australia, Lucky Bay (WAM V 7320).

**Paratypes**

AUSTRALIA: Western Australia, Lucky Bay (WAM V 7321–7326, SMNH 6809–6817, MCZR Oligochaeta 0150–0155).

**Type locality**

AUSTRALIA: Lucky Bay, Western Australia.

**Habitat**

Barely subtidal, 0.5–2 m, medium to coarse sand.

**Distribution**

South coast of Western Australia.

68. *Grania breviductus* De Wit, Rota & Erséus, 2009

*Grania breviductus* De Wit, Rota & Erséus, 2009: 19–21, figs 2, 10a.

**Type material**

**Holotype**

AUSTRALIA: Queensland, Heron Island (AMS W.35536).

**Paratypes**

AUSTRALIA: Queensland, Heron Island (AMS W.35537–.35542, SMNH 7761–7766).

**Type locality**

AUSTRALIA: Heron Island, Great Barrier Reef, Queensland, Australia.

**Habitat**

Intertidal, coarse sand.

**Distribution**

Only known from the type locality.

69. *Grania regina* De Wit, Rota & Erséus, 2009

*Grania regina* De Wit, Rota & Erséus, 2009: 21–23, figs 3–4, 10b.

**Type material**

**Holotype**

AUSTRALIA: Queensland, Heron Island (AMS W.35543).

**Type locality**

AUSTRALIA: Heron Island, Great Barrier Reef, Queensland, Australia.

**Habitat**

Subtidal, 15 m, fine sand.

**Distribution**

Only known from the type locality.

70. *Grania homochaeta* De Wit, Rota & Erséus, 2009

*Grania homochaeta* De Wit, Rota & Erséus, 2009: 23–25, figs 5, 10c.

**Type material**

**Holotype**

AUSTRALIA: Queensland, Heron Island (AMS W.35544).

**Paratype**

AUSTRALIA: Queensland, Heron Island (MNH 7767).

**Type locality**

AUSTRALIA: Heron Island, Great Barrier Reef, Queensland, Australia.

**Habitat**

Subtidal, 18 m, gravelly fine sand.

**Distribution**

Only known from the type locality.

71. *Grania colorata* De Wit, Rota & Erséus, 2009

*Grania colorata* De Wit, Rota & Erséus, 2009: 25–27, figs 6–7, 10d.

**Type material**

**Holotype**

AUSTRALIA: Queensland, Heron Island (AMS W.35545).

**Paratypes**

AUSTRALIA: Queensland, Heron Island (AMS W.35546–.35553, SMNH 7768–7772).

**Type locality**

AUSTRALIA: Heron Island, Great Barrier Reef, Queensland, Australia.

**Habitat**

Subtidal, 7 m, in heterogeneous sand.

**Distribution**

Only known from the type locality.

72. *Grania occulta* De Wit & Erséus, 2010

*Grania occulta* De Wit & Erséus, 2010: 287–289, fig. 3.

**Type material**

**Holotype**

SWEDEN: Gullmar Fjord (SMNH 7844).

**Type locality**

SWEDEN: Gullmar Fjord, Bohuslän.

**Habitat**

Subtidal, 10–25 m, shell sand with some mud.

**Distribution**

Only known from the type locality.

73. *Grania brasiliensis* Prantoni, De Wit & Erséus, 2016

*Grania brasiliensis* Prantoni, De Wit & Erséus, 2016: 489–491, fig. 1.

**Type material**

**Holotype**

BRAZIL: Paraná State, Paranaguá Bay (ZUEC CLI 04).

**Paratypes**

BRAZIL: Paraná State, Paranaguá Bay (ZUEC CLI 05); São Paulo State, São Paulo (ZUEC CLI 06–07).

**Type locality**

BRAZIL: Paranaguá Bay, Paraná State.

**Habitat**

Intertidal, subtidal to 7 m, medium to coarse sand with some mud and lots of mollusc and barnacle shells.

**Distribution**

Coasts of Paraná and São Paulo States, Brazil.

74. *Grania bekkouchei* Prantoni, De Wit & Erséus, 2016

*Grania bekkouchei* Prantoni, De Wit & Erséus, 2016: 491–492, figs 2, 4a–c.

**Type material**

**Holotype**

SOUTH AFRICA: Western Cape (SAMC A82466).

**Type locality**

SOUTH AFRICA: Western Cape.

**Habitat**

Intertidal, coarse sand in rock crevice.

**Distribution**

Only known from the type locality.

75. *Grania cryptica* Prantoni, De Wit & Erséus 2016

*Grania cryptica* Prantoni, De Wit & Erséus, 2016: 492–493, figs 3, 4d–f.

**Type material**

**Holotype**

SOUTH AFRICA: Western Cape (SAMC A82473).

**Type locality**

SOUTH AFRICA: Western Cape.

**Habitat**

Lower intertidal, rockpool.

**Distribution**

Only known from the type locality.

76. *Grania capensis* Prantoni, De Wit & Erséus, 2016

*Grania capensis* Prantoni, De Wit & Erséus, 2016: 493–495, fig. 5.

**Type material**

**Holotype**

SOUTH AFRICA: Western Cape (SAMC A82474).

**Paratype**

SOUTH AFRICA: Western Cape (SAMC A82475).

**Type locality**

SOUTH AFRICA: Western Cape.

**Habitat**

Lower intertidal, rockpool.

**Distribution**

Only known from the type locality.

77. *Grania simonae* Prantoni, De Wit & Erséus, 2016

*Grania simonae* Prantoni, De Wit & Erséus, 2016: 495–497, fig. 6.

**Type material**

**Holotype**

SOUTH AFRICA: Western Cape (SAMC A82476).

**Paratypes**

SOUTH AFRICA: Western Cape (SAMC 82477–82482).

**Type locality**

SOUTH AFRICA: Western Cape.

**Habitat**

Intertidal, crevice between rocks.

**Distribution**

Only known from the type locality.

78. *Grania hinojosai* Prantoni, De Wit & Erséus, 2016

*Grania hinojosai* Prantoni, De Wit & Erséus, 2016: 497–498, fig. 7.

*Grania* sp. Chile 1– De Wit *et al.* 2011: 513.

**Type material**

**Holotype**

CHILE: Coquimbo (ZUEC CLI 08).

**Paratypes**

CHILE: Coquimbo (ZUEC CLI 09–12).

**Type locality**

CHILE: Coquimbo, Elqui.

**Habitat**

Intertidal, sand among rocks.

**Distribution**

Puerto Aldea to Pampilla Point, Coquimbo, Elqui, Chile.

79. *Grania chilensis* Prantoni, De Wit & Erséus, 2016

*Grania chilensis* Prantoni, De Wit & Erséus, 2016: 498–500, fig. 8.

*Grania* sp. Chile 2 – De Wit *et al.* 2011: 513, 517.

**Type material**

**Holotype**

CHILE: Valdivia (ZUEC CLI 13).

**Paratypes**

CHILE: Valdivia (ZEUC CLI 14–19).

**Type locality**

CHILE: Valdivia.

**Habitat**

Intertidal, sand among rocks and heterogeneous sand with organic material.

**Distribution**

Along coast of Chile, from about 30.3° to 39.8° S.

80. *Grania unitheca* Prantoni, De Wit & Erséus, 2016

*Grania unitheca* Prantoni, De Wit & Erséus, 2016: 500–501, fig. 9.

**Type material**

**Holotype**

UNITED STATES: off North Carolina (USNM 1283175).

**Type locality**

UNITED STATES: off North Carolina.

**Habitat**

Subtidal, 17 m, sand.

**Distribution**

Only known from the type locality.

81. *Grania carolinensis* Prantoni, De Wit & Erséus, 2016

*Grania carolinensis* Prantoni, De Wit & Erséus, 2016: 501–502, fig. 10.

**Type material**

**Holotype**

UNITED STATES: off North Carolina (USNM 1283174).

**Type locality**

UNITED STATES: off North Carolina.

**Habitat**

Continental shelf slope, 492 m, sand.

**Distribution**

Only known from the type locality.

**Discussion**

Despite the many species of *Grania* described from the Australian continent and a few other southern regions of the globe (e.g., New Caledonia and Antarctica, see Fig. 2), taxa from the African and South American continents have been completely ignored until recently. This situation changed with the seven new species recently described from Brazil (1), Chile (2) and South Africa (4 spp.) (Prantoni *et al.* 2016).

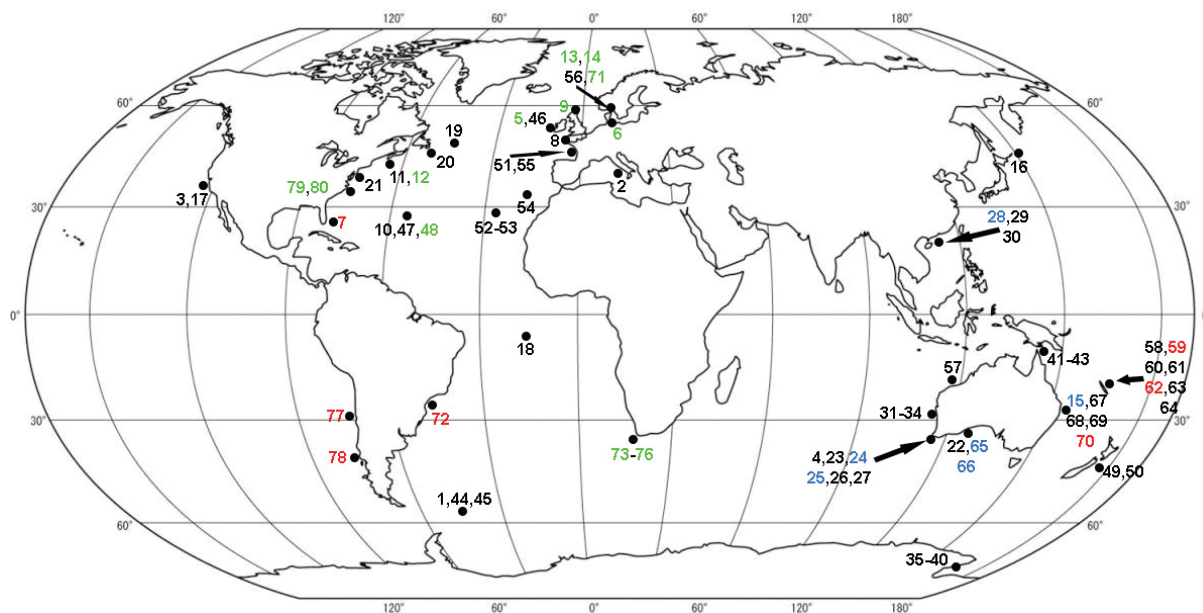
The geographical distribution of the various species of *Grania* is strongly concordant with the phylogeny of the genus, as estimated by analyses of molecular data (De Wit *et al.* 2011; Prantoni *et al.* 2016). Most of the individual species appear to be endemic to rather small geographical areas, which suggests a limited capability of dispersion. However, as a whole, the genus is divided into at least three distinct evolutionary lineages, each with a broad, but geographically coherent distribution in the world; this is based on a sample of 28 genetically analyzed species (Prantoni *et al.* 2016). The first lineage (green numbers on Fig. 2) comprises species from the Atlantic Ocean (including a sublineage of four species from South Africa). The second (blue numbers) are species from Australia and southern Asia (Hong

Kong), and the third are species from the South Pacific and Atlantic regions (red numbers). An interesting aspect is the phylogenetic placement of *G. americana* in the North Atlantic and *G. brasiliensis* in the South Atlantic. These two species belong to an otherwise Pacific group (the third lineage), and it is suggested that they share a common ancestor that migrated from the Pacific region before the closing of the Isthmus of Panama 3 Ma (De Wit *et al.* 2011; Prantoni *et al.* 2016). However, as most Neotropical coasts remain unexplored, additional species of *Grania* from both sides of South America are needed to corroborate (or refute) this hypothesis.

In conclusion, more intense sampling efforts in many parts of the world are crucial to enable further studies of the evolutionary and biogeographical history of *Grania*. The 81 species described to date is a high number for a marine genus of Enchytraeidae, and yet, this number certainly does not represent the actual diversity of the genus *Grania*. Overall, our systematic knowledge of marine clitellates (oligochaetes and leeches) is poor, with perhaps only about 10% of the species diversity known (Appeltans *et al.* 2012). The lack of specialists around the world is evidently one of the reasons for this (Prantoni *et al.* 2014), but it is also a threat to any rapid improvement of the situation. As a partial solution, the combined efforts of taxonomists and ecologists may come as a first and necessary step towards a better understanding of the group as well as of marine clitellate species diversity as a whole.

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**Fig. 2.** World map showing the description localities, and the three evolutionary lineages (color-marked) of *Grania* spp. genetically analyzed by Prantoni *et al.* (2016: clades A, B and C). Green numbers = Atlantic species (clade A); red numbers = South Pacific and Atlantic species (clade B); blue numbers = Australian and Asian species (clade C); black numbers = species presently without molecular data, i.e., not yet allocated to any particular lineage.

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