

Deep-sea fauna of European seas: An annotated species check-list of benthic invertebrates living deeper than 2000 m in the seas bordering Europe. Pycnogonida

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ABSTRACT: An annotated check-list is given of Pycnogonida species occurring deeper than 2000 m in the seas bordering Europe. The check-list is based on published data. The check-list includes 28 species. For each species synonymy, data on localities in European seas and general species distribution are provided. Station data are presented separately in the present thematic issue.

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KEY WORDS: deep-sea fauna, European seas, Pycnogonida.

Глубоководная фауна европейских морей: аннотированный список видов донных беспозвоночных, обитающих глубже 2000 м в морях, окружающих Европу. Русногониды

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РЕЗЮМЕ: Приводится аннотированный список видов Русногониды, обитающих глубже 2000 м в морях, окружающих Европу. Список основан на опубликованных данных. Список насчитывает 28 видов. Для каждого вида приведены синонимия, данные о нахождении в европейских морях и сведения о распространении. Данные о станциях приводятся в отдельном разделе настоящего тематического выпуска.

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КЛЮЧЕВЫЕ СЛОВА: глубоководная фауна, европейские моря, Русногониды.

Class Pycnogonida**Order Pantopoda****Family Nymphonidae****Genus *Nymphon* Fabricius, 1780**

COMPOSITION: 331 species (Schimkewitsch, 1930; Losina-Losinsky, 1935, 1961; Stock, 1954, 1978a, 1994; Child, 1982; Pushkin, 1993). Type species: *Phalangium littorale* O. Fabricius, 1780.

DISTRIBUTION: Cosmopolitan. Atlantic — 107, Pacific — 113, Indian Ocean — 51, Antarctic — 74, Arctic — 23 species. In the Atlantic and Pacific Oceans 12 common species are recorded, in Atlantic and Indian — 11 species, in Pacific and Indian Oceans — 7 species. From the Antarctic and Pacific are known 10 species, Antarctic and Atlantic — 36 species, Antarctic and Indian Ocean — 14 species. In Arctic and Atlantic — 16 species, in Arctic and Pacific — 2 species, in Arctic, Atlantic and Pacific 9 species.

CENTRE OF DIVERSITY: Low latitudes of Atlantic and Pacific.

***Nymphon inerme* Fage, 1956**

Nymphon inerme — Fage, 1956: 163–164, fig. 8–10.

LOCALITIES: NORATLANTE, St. 42, 63 (Stock, 1971).

DISTRIBUTION: Atlantic Ocean Grand Banks of Newfoundland, south of the Azores, South Africa and Argentine Basin, Pacific Ocean off New Zealand (Raikis, Turpaeva, 2006).

DEPTH RANGE: 3550–4410 m.

***Nymphon laterospinum* Stock, 1963**

Nymphon laterospinum — Stock, 1963: 322–323, fig. 1; Raikis, Turpaeva, 2006: 63.

LOCALITIES: “Chain”, St. 85 (II), 330c, 334 (Child, 1982); INCAL, St. OS 06, OS 07, WS 07, OS 08, WS 08, WS 09, WS 10, DS 14, DS 16 (Stock, 1984).

DISTRIBUTION: North and South Atlantic basins on both sides of the Mid-Atlantic Ridge, Indian Ocean off Durban (Raikis, Turpaeva, 2006).

DEPTH RANGE: 1894–4715 m.

***Nymphon procerum* Hoek, 1881**

Nymphon procerum — Hoek, 1881: 39, pl. 2: 9–12; Raikis, Turpaeva, 2006: 63.

LOCALITIES: “Chain”, St. 328 (Child, 1982).

DISTRIBUTION: North and South Atlantic and Pacific Oceans (Raikis, Turpaeva, 2006).

DEPTH RANGE: 2450–6156 m.

***Nymphon tenellum* (Sars, 1888)**

Chaetonymphon tenellum — Sars, 1888: 353; *Nymphon pallenoides* — Wilson, 1881: 254, pl. 3: 14; *Nymphon tenellum* — Hedgpeth, 1948: 185, fig 10c; Raikis, Turpaeva, 2006: 63.

LOCALITIES: “Vema”, St. 55 (Hedgpeth, 1948).

DISTRIBUTION: North Atlantic deep-water species (Raikis, Turpaeva, 2006).

DEPTH RANGE: 392–2452 m.

Genus *Heteronymphon* Gordon, 1932

COMPOSITION: 7 species (Gordon, 1932; Turpaeva, 1956; Stock, 1968; Child, 1982). Type species: *Heteronymphon kempi* Gordon, 1932.

DISTRIBUTION: Atlantic Ocean — 2, Pacific Ocean — 5, Antarctic — 1 species.

CENTRE OF DIVERSITY: Not clear.

***Heteronymphon ponsitor* Child, 1982**

Nymphon sp. — Stock, 1978a: 212–214, fig. 9e–j; *Heteronymphon ponsitor* — Child, 1982: 31–33, fig. 9; Raikis, Turpaeva, 2006: 63.

LOCALITIES: “Atlantis II”, St. 131; “Chain”, St. 76(HH); St. 103G (Child, 1982).

DISTRIBUTION: North American and European Basin (Raikis, Turpaeva, 2006).

DEPTH RANGE: 2022–2868 m.

Family Ammotheidea**Genus *Ascorhynchus* Sars, 1877**

Barana — Dohrn, 1881: 123; *Scaeorhynchus* — Wilson, 1881: 247.

COMPOSITION: 113 species (Schimkewitsch, 1929; Stock, 1975; Child, 1982). Type species: *Ascorhynchus abyssi* Sars, 1877.

DISTRIBUTION: Atlantic — 30, Pacific — 46, Indian Ocean — 17, Antarctic — 5, Arctic — 1 species. In Pacific and Indian Oceans are known 12 common species, in Atlantic and Pacific — 2, in Atlantic and Indian Ocean — 2, in Pacific, Atlantic and Indian Oceans 2 species.

CENTRE OF DIVERSITY: Low latitudes of the western Pacific.

***Ascorhynchus abyssi* Sars, 1877**

Ascorhynchus abyssi — Sars, 1877: 267; Raikis, Turpaeva, 2006: 63; *Ascorhynchus tridens* — Meinert, 1898: 52–53, pl. 5: 7–18; *Ascorhynchus castelli* — Loman, 1912: 8; *Ascorhynchus abyssi* var. *apicalis* — Bouvier, 1917: 37–38, pl. 4: 8.

LOCALITIES: NORWEGIAN NORTH-ATLANTIC EXPEDITION (NORSKE NORDHAVS Expedition), St. 205, 303, 353 (Sars, 1891); “Inggolf”, St. 112, 113 (Meinert, 1899); “G. Sedov”, St. 59, 100, 101 (Gorbunov, 1946); “F. Litke”, St. 35, 36; “Ob”, St. 22, 45 (Losina-Losinsky, 1964); INCAL, St. CP 01 (Stock, 1984); “Polarstern”, St. 32, 54 (Turpaeva, 1996).

DISTRIBUTION: This species is abundant in the more northern parts of the northeastern Atlantic and in Arctic (Raikis, Turpaeva, 2006).

DEPTH RANGE: 890–4447 m.

***Ascorhynchus turritus* Stock, 1978**

Ascorhynchus turritus — Stock, 1978a: 192–194, fig. 2; Raiskiy, Turpaeva, 2006: 64.

LOCALITIES: POLYGAS, DS 25, DS 26, DS 27; BIOGAS II, DS 31; BIOGAS III, DS 50 (Stock, 1978a), “Atlantis II”, St. 106, St. 119 (Child, 1982).

DISTRIBUTION: North American Basin and Bay of Biscay (Raiskiy, Turpaeva, 2006).

DEPTH RANGE: 1995–4411 m.

Genus *Cilunculus* Loman, 1908

COMPOSITION: 42 species (Stock, 1978a, 1991; Pushkin, 1993; Bamber, Turston, 1995). Type species: *Cilunculus frontosus* Loman, 1908.

DISTRIBUTION: Atlantic — 9, Pacific — 19, Indian Ocean — 4, Antarctic — 4 species.

CENTRE OF DIVERSITY: Low latitudes of the western Pacific.

***Cilunculus tubicinis* Child, 1982**

Cilunculus tubicinis — Child, 1982: 9–11, fig. 3; Raiskiy, Turpaeva, 2006: 64.

LOCALITIES: “Chain”, St. 321 (Child, 1982).

DISTRIBUTION: This species is known only from the type-locality, from southwest of Ireland (Raiskiy, Turpaeva, 2006).

DEPTH RANGE: 2868–2890 m.

Family Endeidae**Genus *Endeis* Philippi, 1843**

COMPOSITION: 27 species (Schimkewitsch, 1929; Stock, 1968). Type species: *Endeis gracilis* Philippi, 1843.

DISTRIBUTION: Atlantic — 12, Pacific — 9 species. Atlantic, Pacific and Indian Oceans — 5, Atlantic and Indian Oceans — 4, Pacific, Indian Oceans and Antarctic — 1, from Antarctic and Indian Ocean — 1 species.

CENTRE OF DIVERSITY: Low latitudes of Atlantic and Pacific.

***Endeis spinosa* (Montagu, 1808)**

Phallangium spinosum — Montagu, 1808: 100, pl. 5: 7; *Phoxichilus vulgaris* — Dohrn, 1881: 169–174, pls. 10, 11. *Phoxichilus spinosus* — Sars, 1891: 15–20, pl. 1: 3a–g; *Chilophoxus spinosus* — Bouvier, 1923: 45–46, figs. 42, 43; *Endeis spinosa* — Marcus, 1940: 73–75, fig. 9a–e; Raiskiy, Turpaeva, 2006: 64.

LOCALITIES: “Chain”, St. 83(MM) (Child, 1982).

DISTRIBUTION: A widely distributed species in the Atlantic and Mediterranean (Raiskiy, Turpaeva, 2006).

DEPTH RANGE: 0–5000 m.

Family Callipallenidae**Genus *Callipallene* Flinn, 1929**

COMPOSITION: 40 species (Stock, 1952, 1964; Hedgpeth, 1948; Child, 1982). Type species: *Pallene brevirostris* Johnston, 1837.

DISTRIBUTION: Atlantic — 15, Pacific — 17, Indian Ocean — 4 species. 5 common species are recorded from the Pacific and Indian Oceans; 2 from Atlantic Ocean and Antarctic; 2 from Atlantic, Pacific and Indian Oceans.

CENTRE OF DIVERSITY: Low latitudes of Atlantic and Pacific.

***Callipallene acus* (Meinert, 1898)**

Pallene acus — Meinert, 1898: 45–46, pl. 4: 8–13; *Pallene hasata* — Meinert, 1898: 46–47, pl. 4: 14–19; *Callipallene acus* — Hedgpeth, 1948: 204–205, fig. 18c–e; Raiskiy, Turpaeva, 2006: 64.

LOCALITIES: “Cirrus”, St. 4 (Stock, 1964); “Vema”, St. 55 (Child, 1982); “Akademik Mstislav Keldysh”, St. 390-3 (Turpaeva, 2006).

DISTRIBUTION: This species is recorded from the North Atlantic from the Davis Strait and Iceland south to the Azores (Raiskiy, Turpaeva, 2006).

DEPTH RANGE: 916–3800 m.

Genus *Pallenopsis* Wilson, 1881

COMPOSITION: 119 species (Stock, 1975, 1994; Pushkin, 1993; Bamber, Thurston, 1995; Child, 1995). Type species: *Pallenopsis forficifer* Wilson, 1881.

DISTRIBUTION: Atlantic — 29, Pacific — 42, Indian Ocean — 9 species. Atlantic and Pacific Oceans 7 species in common; Pacific, Atlantic and Indian Oceans — 5; Antarctic — 22, Antarctic and Pacific — 4, Antarctic and Atlantic — 4 species, Arctic — 1 species.

CENTRE OF DIVERSITY: Supposed to be in the Antarctic.

***Pallenopsis (Bathypallenopsis) calcanea* Stephensen, 1933**

Pallenopsis calcanea — Stephensen, 1933: 21–24, fig. 5; Raiskiy, Turpaeva, 2006: 64; *Pallenopsis (Bathypallenopsis) calcanea* — Stock, 1986: 437.

LOCALITIES: “Challenger”, St. ES 34 (Bamber, Thurston, 1995); “Akademik Mstislav Keldysh”, St. 390-3 (Turpaeva, 2006).

DISTRIBUTION: Evidently a bathypelagic species of the North and South Atlantic and northern part of the Pacific Oceans (Raiskiy, Turpaeva, 2006).

DEPTH RANGE: 353–8400 m.

***Pallenopsis (Bathypallenopsis) guineensis* Stock, 1975**

Pallenopsis (Bathypallenopsis) guineensis — Stock, 1975: 1049–1050, fig. 40; *Pallenopsis guineensis* — Raiskiy, Turpaeva, 2006: 64.

LOCALITIES: Challenger, St. 50910 (Bamber, Thurston, 1995).

DISTRIBUTION: Northeastern Atlantic (the holotype was collected in the Gulf of Guinea at 1949–1986 m) (Raiskiy, Turpaeva, 2006).

DEPTH RANGE: 1949–4263 m.

***Pallenopsis (Bathypallenopsis) oscitans*
(Hoek, 1881)**

Phoxichilidium oscitans — Hoek, 1881: 89–90, pl. 13: 1–5; *Pallenopsis (Bathypallenopsis) oscitans* — Stock, 1984: 746–747; 13: 1–5; *Pallenopsis (Bathypallenopsis) oscitans* — Raiskiy, Turpaeva, 2006: 64.

LOCALITIES: “Challenger”, St. 70 (Hoek, 1881); “Jean Charcot”, St.206 (Arnaud, 1974).

DISTRIBUTION: Northeast Atlantic, collected at the entrance to the English Channel and off the Azores (Raiskiy, Turpaeva, 2006).

DEPTH RANGE: 1970–3550 m.

***Pallenopsis (Bathypallenopsis) longirostris*
Wilson, 1881**

Pallenopsis longirostris — Wilson, 1881: 252–253, pl. 4: 19–22; pl. 5: 24, 25; Raiskiy, Turpaeva, 2006: 64; *Phoxichilidium oscitans* — Hoek, 1881: 89–90, pl. 13: 1–5; *Pallenopsis plumipes* — Meinert, 1899: 51–52, pl.4: 1–7; *Pallenopsis (Bathypallenopsis) longirostris* — Stock, 1986: 434.

LOCALITIES: “Jean Charcot”, St. 206, 227 (Arnaud, 1974); “Discovery”, St. 8514-1 (Bamber, Thurston, 1995).

DISTRIBUTION: Northeastern Atlantic, Cabot Strait and Western Atlantic (Raiskiy, Turpaeva, 2006).

DEPTH RANGE: 142–3550 m.

***Pallenopsis (Bathypallenopsis) tydemani*
Loman, 1908**

Pallenopsis tydemani — Loman, 1908: 65–66, pl. 10: 139–145; Raiskiy, Turpaeva, 2006: 64; *Pallenopsis (Bathypallenopsis) tydemani caraibica* — Stock, 1975: 1033–1036, figs. 31d, 32.

LOCALITIES: “Chain”, St. 76(HH); 323 (Child, 1982; Bamber, Thurston, 1995).

DISTRIBUTION: North Atlantic Ocean from off Florida and the Bahamas to the southwest of Ireland (Raiskiy, Turpaeva, 2006).

DEPTH RANGE: 558–3356 m.

***Pallenopsis (Bathypallenopsis) tritonis*
Hoek, 1883**

Pallenopsis tritonis — Hoek, 1883: 7–10, pl.1: 1–6; Raiskiy, Turpaeva, 2006: 64; *Pallenopsis holti* — Carpenter, 1905: 4, pl. 1: 1–6; *Pallenopsis (Bathypallenopsis) tritonis* — Child, 1982: 40.

LOCALITIES: INCAL, St. WS 01, WS 02 DS 06, DS 07, CP 10, (Stock, 1984); SEAMOUNT I, St. CP 102 (Stock, 1991); “Challenger” St. ES 34, ES

190, ES 264; “Discovery”, St.9756-14, 10112-1 (Bamber, Thurston, 1995).

DISTRIBUTION: North Atlantic Ocean from the Faroe Channel north of Scotland to the North American slope (Raiskiy, Turpaeva, 2006).

DEPTH RANGE: 410–7280 m.

***Pallenopsis (Bathypallenopsis) mollissima*
(Hoek, 1881)**

Phoxichilidium mollissimum — Hoek, 1881: 87–88, pl. 13: 6–9; *Pallenopsis (Bathypallenopsis) mollissima* — Stock, 1975: 1040–1042, fig. 35; 13: 6–9; *Pallenopsis (Bathypallenopsis) mollissima* — Raiskiy, Turpaeva, 2006: 64.

LOCALITIES: “Challenger”, St. SWT 13 (Bamber, 1985).

DISTRIBUTION: North Atlantic, Pacific and Indian Oceans (Raiskiy, Turpaeva, 2006).

DEPTH RANGE: 434–3500 m.

Family Phoxichilidiidae

Genus *Anoplodactylus* Wilson, 1878

Anaphia — Say, 1821: 59; *Anoplodactylus* — Wilson, 1878: 200.

COMPOSITION: 211 species (Schimkewitsch, 1929; Hedgpeth, 1948; Child, 1982, 1995; Bamber, Thurston, 1995). Type species: *Phoxichilidium petiolatum* Kröyer, 1844.

DISTRIBUTION: Atlantic — 66, Pacific — 83, Indian Ocean — 28, and Antarctic — 3 species. 3 species of this genus are known from the Arctic. 13 species are recorded from both the Atlantic and Pacific Oceans, 6 — from the Atlantic and Indian Oceans, 18 — from the Pacific and Indian Oceans, 8 — from the Pacific, Atlantic and Indian Oceans, 3 — from Antarctic and Atlantic, 4 — from Antarctic and Pacific.

CENTRE OF DIVERSITY: Low latitudes of Atlantic and Pacific.

***Anoplodactylus maritimus* Hodgson, 1914**

Anoplodactylus maritimus — Hodgson, 1914: 164; Raiskiy, Turpaeva, 2006: 64; *Anoplodactylus parvus* — Giltay, 1934: 1–3, figs. 1–5.

LOCALITIES: “Atlantis II”, St. 108 (Child, 1982).

DISTRIBUTION: The species is known from the Atlantic Ocean (Raiskiy, Turpaeva, 2006).

DEPTH RANGE: 0–4379 m.

***Anoplodactylus petiolatus* (Kröyer, 1844)**

Phoxichilidium petiolatum — Kröyer, 1844: 123; *Anoplodactylus petiolatus* — Sars, 1891: 25–29, pl. 2: 2a-1; Raiskiy, Turpaeva, 2006: 64; *Anaphia petiolata* — Lebour, 1916: 51–56, figs. 1–3.

LOCALITIES: “Atlantis II”, St. 125 (Child, 1982).

DISTRIBUTION: Norwegian Sea, East Atlantic south to Mediterranean and African coast; West

Atlantic from the Atlantic coast of the USA to off South Argentina. *A. petiolatus* is known also from the southeastern and northwestern parts of the Pacific Ocean (Raiskiy, Turpaeva, 2006).

DEPTH RANGE: 0–4825 m.

Family Austrodecidae

Genus *Pantopipetta* Stock, 1963

Pipetta — Loman, 1908; *Pantopipetta* — Stock, 1963.

COMPOSITION: 16 species (Hedgpeth, McCain, 1971; Child, 1994). Type species: *Pipetta weberi* Loman, 1908.

DISTRIBUTION: Atlantic — 3, Pacific — 2, Indian Ocean — 6. Antarctic — 13 species. In the Pacific and Indian Oceans — 2. In Antarctic and Atlantic waters — 1, in Antarctic, Pacific, Atlantic and Indian Oceans — 1 species in common.

CENTRE OF DIVERSITY: Supposed to be in the Antarctic.

Pantopipetta longituberculata (Turpaeva, 1955)

Pipetta longituberculata — Turpaeva, 1955: 324–327, fig. 2; Raiskiy, Turpaeva, 2006: 64; *Pantopipetta brevicauda* — Stock, 1963: 336–338, figs. 9, 10a.

LOCALITIES: “Atlantis II”, St. 119 (Child, 1982).

DISTRIBUTION: Northwest Pacific, North and South Atlantic, Southwest Indian Ocean (Raiskiy, Turpaeva, 2006).

DEPTH RANGE: 531–6710 m.

Family Colossendeidae

Genus *Colossendeis* Jarzynsky, 1870

COMPOSITION: 76 species (Schimkewitsch, 1929; Stock, 1954, 1978a, 1978b; Pushkin, 1993; Child, 1995).

Type species: *Colossendeis borealis* Jarzynsky, 1870.

DISTRIBUTION: Atlantic — 40, Pacific — 34, Indian Ocean — 20, Antarctic — 42, Arctic — 2 species. Atlantic and Pacific Oceans — 3 species in common, Atlantic and Indian Oceans — 2, Antarctic and Pacific — 6, Atlantic and Antarctic — 1 species; 3 species are recorded in Atlantic, Pacific and Indian Oceans; 1 species is known from Arctic, Atlantic, Pacific, Indian Oceans and the Antarctic.

CENTRE OF DIVERSITY: Antarctic.

Colossendeis angusta Sars, 1877

Colossendeis angusta — Wilson, 1881: 243–244, pl. 3: 8, 13; *Colossendeis gracilis* — Hoek, 1881: 69–70, pl. 9: 6–8, pl. 10: 6, 7.

LOCALITIES: “Challenger” St. SWT 12, AT 282, AT 284; “Discovery”, St. 7711/52, 8511/2, 50304, 50906, 50907 (Bamber, Thurston, 1955).

DISTRIBUTION: Panoceanic *C. angusta* is the commonest species in western Atlantic and in the

Norwegian, Greenland and Arctic Seas at depths 18–3660 m (Raiskiy, Turpaeva, 2006).

DEPTH RANGE: 18–5480 m.

Colossendeis arcuata Milne-Edwards, 1885

Colossendeis arcuatus — Milne-Edwards, in Filhol, 1885: 151, fig. 48; Raiskiy, Turpaeva, 2006: 64; *Colossendeis michaelsarsi* — Olsen, 1913: 4–5, pl. 1A: 4–5; *Colossendeis arcuata* — Bouvier, 1937: 26–30, figs. 2–8.

LOCALITIES: ABYPLANE, St. 68 (Stock, 1987); “Challenger”, St. AT 247 (Bamber, Thurston, 1995).

DISTRIBUTION: In the northern Atlantic this species is more common in regions close to Europe than close to the American continent. The northernmost record in the East Atlantic is in the English Channel, the southernmost off Northwest Africa. In the Pacific *C. arcuata* is known from off West Chile (Raiskiy, Turpaeva, 2006).

DEPTH RANGE: 730–2084 m.

Colossendeis bicincta Schimkewitsch, 1893

Colossendeis bicincta — Schimkewitsch, 1893: 27–29, pl. 1: 1–3; Raiskiy, Turpaeva, 2006: 64.

REMARKS: The holotype *C. bicincta* was collected at “Albatross” St. 3360 off the west coast of Panama in 3060 m. In the Atlantic this species was recorded in the Bay of Biscay and in the North-East Atlantic.

LOCALITIES: BIOGAS IV, St. 1 CP 03; BIOGAS VI, St. 2 CP 10 (Stock, 1978a, 1978b); “Challenger”, St. 52602/13, 52701/42 (Bamber, Thurston, 1995).

DISTRIBUTION: Atlantic, Bay of Biscay and the North-East Atlantic; Pacific, eastern tropical part (Raiskiy, Turpaeva, 2006).

DEPTH RANGE: 1900–4853 m.

Colossendeis clavata Meinert, 1898

Colossendeis clavata — Meinert, 1898: 54, pl. 5: 19–20; Raiskiy, Turpaeva, 2006: 64.

LOCALITIES: “Pourquoi-Pas”, St. 2990 (Bouvier, 1917); “Albatross”, St. 2034, 2196 (Hedgpeth, 1948); NORATLANTE, St. 6, 124 (Stock, 1971); POLYGAS, St. CV 09, CV 10, CV 12, DS 15, CV 20; BIOGAS II, St. CV 20; BIOGAS IV, St. CP 01; BIOGAS V, St. CP 07; BIOGAS VI, St. CP 09 (Stock, 1978a, 1978b); CANCAP, V St. 5004 (Stock, 1990); “Challenger”, St. 50518, 10113/1; St. AT 121, AT 153, AT 186, ES 200, AT 201, AT 233, AT 273, AT 288, AT 349, AT 355, AT 393, AT 394, OTSB/7, AT 400, AT 408, SWT 32 (Bamber, Thurston, 1995).

DISTRIBUTION: *C. clavata* is most common in the northeastern Atlantic (Raiskiy, Turpaeva, 2006).

DEPTH RANGE: 994–3100 m.

Colossendeis colossea Wilson, 1881

Colossendeis colossea — Wilson, 1881: 244–246, pl. 1: 1, pl. 3: 5–7; Raiskiy, Turpaeva, 2006: 64.

LOCALITIES: BIOGAS III, St. CV 23 (Stock, 1978a); CANCAP, St. 5016 (Stock, 1990); SEAMOUNT I, CP 102 (Stock, 1991); "Discovery", St. 8971, 9021 (Bamber, Thurston, 1993); "Challenger" and "Discovery" stations: 7711/52, 8511/2, 8512/4, 50518, 11908/51, 52701/17, AT 138 (Bamber, Thurston, 1995); "Akademik Mstislav Keldysh", St. 390-3 (Turpaeva, 2006).

DISTRIBUTION: World-wide species of deeper ocean basins (Raiskiy, Turpaeva, 2006).

DEPTH RANGE: 350–5203 m.

***Colossendeis cucurbita* Cole, 1909**

Colossendeis cucurbita — Cole, 1909: 188–191, pl. 2: 3–4, pl.3: 8–12; Raiskiy, Turpaeva, 2006: 64; *Colossendeis gigas-leptorhynchus* — Hoek, 1881: 65–66.

LOCALITIES: "Talisman", St.146, St.149 (Stock, 1978a); "Challenger" and "Discovery" stations: 9756/14, 10113/1, 10115/1, 53201/24, 53205/3 (Bamber, Thurston, 1995).

DISTRIBUTION: North Atlantic between the Azores and France, North Pacific and in the Subantarctic south of the Kerguelen (Raiskiy, Turpaeva, 2006).

DEPTH RANGE: 531–4845 m.

***Colossendeis macerrima* Wilson, 1881**

Colossendeis macerrima — Wilson, 1881: 246–247, pl. 1: 2, pl.4: 9–12, pl.5: 32; Turpaeva, 1971: 280; Raiskiy, Turpaeva, 2006: 64; *Colossendeis villegenti* — Milne-Edwards, 1881: 993; *Colossendeis leptorhynchus* var. *septentrionalis* — Caullery, 1896: 362–363; *Colossendeis pennata* — Pushkin, 1970: 1490–1492, fig. 2; *Colossendeis spei* — Pushkin, 1970: 1494–1496, fig. 4.

LOCALITIES: NORATLANTE, St. 124 (Stock, 1971); POLYGAS, St. DS 17, DS 26; BIOGAS III, St. CV 23, CV 24, CV 26, DS 35, DS 50; BIOGAS IV, St. CP 01, CP 02; BIOGAS V, St. CP 07; BIOGAS VI, St. CP 09, 2 (CP 12) (Stock, 1978a, 1978b); BIOGAS VII, St. CP 28; ABYPLANE, St. 38, 66, 68 (Stock, 1987); SEAMOUNT I, St. CP 102 (Stock, 1991); "Discovery", St.8971 (Bamber, Thurston, 1993), St. 8511/2, 8512/4; "Challenger" St. AT 233 (Bamber, Thurston, 1995).

DISTRIBUTION: The species is recorded from bathyal waters of all major ocean basins (Raiskiy, Turpaeva, 2006).

DEPTH RANGE: 62–4306 m.

***Colossendeis minor* Schimkewitsch, 1893**

Colossendeis macerrima minor — Schimkewitsch, 1893: 30–32, pl.1: 7–10, pl. 2: 14–15; *Colossendeis minor* — Stock, 1984: 702–704, figs. 1–6, tabl. 1; Turpaeva, 1991: 42; Raiskiy, Turpaeva, 2006: 64.

LOCALITIES: "Challenger" and "Discovery" stations: 50711, 51214/1, 51414/1, 52403/13, 11908/40, 11908/51, 53205/3 (Bamber, Thurston, 1995).

DISTRIBUTION: Northwestern part of Pacific Ocean, western part of Indian Ocean and north-eastern part of Atlantic Ocean (Raiskiy, Turpaeva, 2006).

DEPTH RANGE: 800–4850 m.

References

- Arnaud F. 1974. Pycnogonides recoltés aux Açores par les campagnes 1969 et Biacores 1971 // Bulletin of the Zoological Museum, University of Amsterdam. Vol.3. No.21. P.169–187.
- Bamber R.N. 1985. A second *Pallenopsis mollissima* (Hoek), with other deep water pycnogonids from the Glasgow Museum // Zoological Journal of the Linnean Society. Vol.83. P.301–306.
- Bamber R.N., Thurston M.H. 1993. Deep water pycnogonids of the Cape Verde Slope // Journal of the Marine Biology Association of the U.K. Vol.73. No.4. P.837–861.
- Bamber R.N., Thurston M.H. 1995. The deep-water pycnogonids (Arthropoda: Pycnogonida) of the north-eastern Atlantic Ocean // Zoological Journal of the Linnean Society. Vol.115. P.117–162.
- Bouvier E.L. 1917. Pycnogonides provenant des campagnes scientifiques de S.A.S. la Prince de Monaco (1885–1913) // Resultats des Campagnes Scientifiques accomplies sur son Yacht par Albert I-er Prince Souverain de Monaco. Vol.51. P.1–56.
- Bouvier E.L. 1923. Faune de France. 7. Pycnogonides. Paris. P.1–71.
- Bouvier E.L. 1937. Étude sur les Pycnogonides du "Travailleur" et du "Talisman" précédée d'observations systématiques sur les Articulées de ce groupe // Annales des Sciences naturelles. Série Botanique Zoologie. No.10. Vol.20. P.1–42.
- Carpenter G.H. 1905. The marine fauna of the coast of Ireland. Part VI. Pycnogonida // Scientific Investigation of the Fisheries Board. Ireland. Vol.4. P.171–178.
- Caullery M. 1896. Résultats scientifiques de la campagne du "Caudan" dans le Golfe de Gascogne, août–septembre 1895. Pycnogonides // Annales de l'Université de Lyon. Vol.26. P.361–364.
- Child C.A. 1982. Deep-Sea Pycnogonida from the North and South Atlantic Basins // Smithsonian Contributions to Zoology. No.349. P.1–54.
- Child C.A. 1994. Deep-sea Pycnogonida from the temperate west coast of the United States // Smithsonian Contributions to Zoology. No.556. P.1–23.
- Child C.A. 1995. Pycnogonida of the Western Pacific Islands, XI: Collection from the Aleutians and other Bering Sea Islands, Alaska // Smithsonian Contribution to Zoology. No.569. P.1–30.
- Cole L.J. 1909. Pycnogonida // Reports on the scientific results of the expedition to the eastern tropical Pacific, in charge of Alexander Agassiz, by the U.S. Fish Commission Steamer "Albatross", from October, 1904 to March, 1905, Lieut. Commander L.M. Garrett, U.S.N., commanding. Bulletin of the Museum of comparative Zoology. Harvard College (Cambridge, Massachusetts). Vol.52. No.11. P.185–192.

- Dohrn A. 1881. Die Pantopoden des Golfes von Neapel und der angrenzenden Meeres-Abschnitte // Fauna und Flora des Golfes von Neapel und der angrenzenden Meeres-Abschnitte herausgegeben von der zoologische Station zu Neapel. Monographie. III. Leipzig. S.1–252.
- Fage L. 1956. Les Pycnogonides du genre *Nymphon* // Galathea Reports. Vol.2. P.159–165.
- Filhol H. 1885. Pycnogonides // La vie au fond des mers. Les explorations sous-marines et les voyages du Travailleur et du Talisman. P.150–154.
- Giltay L. 1934. Note sur quelques Pycnogonides de Villefranche S/Mer (Alpes-Maritimes) // Bulletin du Musée royal d'Histoire naturelle de Belgique. Vol.10. No.35. P.1–5.
- Gorbunov G. 1946. [Bottom life on the New Siberian shoalwaters and the central part of the Arctic Ocean] // Reports of the Drifting Expedition of the Icebreaker Sedov, 1937–1940. Vol.3. P.30–138 [in Russian].
- Gordon I. 1932. Re-description of some type-specimens of pycnogonids of the genus *Nymphon* // Annals and Magazien of Natural History. No.10. Vol.9. P.97–120.
- Hedgpeth J.W. 1948. The Pycnogonida of the western North Atlantic and Caribbean // Proceedings of the United States National Museum. Vol.97. No.321. P.157–342.
- Hedgpeth J.W., McCain J.C. 1971. A review of the pycnogonid genus *Pantopipetta* (family Austrodecidae, emended) with the description of a new species // Biology of the Antarctic seas. Vol.4. P.217–229.
- Hodgson T.V. 1914. Preliminary report on the Pycnogonida of the German Southpolar Expedition 1901–1903 // Zoologischer Anzeiger. Bd.45. H.4. P.158–165.
- Hoek P.P.C. 1881. Report on the Pycnogonida dredged by HMS Challenger, during the years 1873–1876 // Reports on the Scientific Results of the Exploring Voyage of HMS Challenger, during the years 1873–1876. Zoology. London. Vol.3. No.10. P.1–167.
- Hoek P.P.C. 1883. The Pycnogonida dredged in the Faroe Channel during the cruise of HMS "Triton" in August 1882 // Transactions of the Royal Society of Edinburgh. Vol.32. No.1. P.1–10.
- Jarzynsky T. 1870. Praemissus catalogus Pycnogonidarum, inventorum in mari Glaciali ad oras Lapponia rossicae et in mari Albo, anno 1869 et 1870 // Trudy Imperatorskogo Sankt-Peterburgskogo Obshchestva Estestvoispytateley. Vol.1. P.319–320.
- Johnston G. 1837. Miscellanea Zoologica. 1. An attempt to ascertain the British Pycnogonidae // Magazine of Zoology and Botany. Vol.1. P.368–382.
- Krøyer H. 1844. Bidrag til Kundskab om Pyknogoniderne eller Sospindlerne // Naturhistorisk Tidsskrift. København. Bd.1. S.90–139.
- Lebour M.V. 1916. Notes on the life history of *Anaphia petiolata* (Krøyer) // Journal of the marine biological Association of Plymouth. Vol.11. P.51–56.
- Loman J.C.C. 1908. Die Pantopoden der Siboga-Expedition mit Berücksichtigung der Arten Australiens und des tropischen India // Uitkomsten of zool., botan., oceanogr., en geolog. gebied verzameld in Nederland-Oost-Indie 1899–1900 aan boord H.M. Siboga. Leiden. Monographie 40. S.1–90.
- Loman J.C.C. 1912. Note préliminaire sur les "Podosomata" (Pycnogonides) du Musée Océanographique de Monaco // Bulletin de l'Institut océanographique de Monaco. No.238. P.1–14.
- Losina-Losinsky L.K. 1935. [Pantopoda of the polar seas within U.S.S.R.] // Materialy k issledovaniyu Arktiki. Leningrad. Vol.4. P.1–140 [in Russian].
- Losina-Losinsky L.K. 1961. [Pantopoda of the far-eastern seas of the U.S.S.R.] // Issledovaniya dalnevostochnykh morei SSSR. Vol.7. P.47–117 [in Russian].
- Losina-Losinsky L.K. 1964. [Pantopoda from the collections of expeditions of F. Litke in 1955 and Ob in 1956] // Trudy Arcticheskovo i Antarkticheskovo Nauchno-Issledovatel'skovo Instituta. Leningrad. Vol.259. P.330–339 [in Russian].
- Marcus E. 1940. Os Pantopoda brasileiros e os demais sul-americanos // Boletim da Faculdade de Filosofia, Ciências e Letras da Universidade de Sao Paulo. Vol.19. P.3–179.
- Meinert F. 1898. Pycnogonida // Den Danske Ingolf-Expedition. København. Bd.3. No.1. S.1–68.
- Meinert F. 1899. Pycnogonida // The Danish Ingolf-Expedition. Copenhagen. Vol.3. No.1. P.1–71.
- Milne-Edwards A. 1881. Compte rendu sommaire d'une exploration zoologique, faite dans l'Atlantique, à bord du navire le "Travailleur" // Comptes Rendus hebdomadaires des Séances de l'Académie des Sciences. Paris. Vol.93. P.931–936.
- Montagu G. 1808. Description of several Marine Animals found on the South Coast of Devonshire // Transactions of the Linnean Society of London. Vol.9. P.81–113.
- Olsen O. 1913. Pycnogonida // Report of the Scientific Results of the "Michael Sars" North Atlantic Deep-Sea Expedition 1910. Bergen. Vol.3. Pt.1. Zoology. P.3–8.
- Pushkin A.F. 1970. [New species of the genus *Colossendeis* (Pantopoda)] // Zoologicheskyy Zhurnal. Vol.49. No.10. P.1488–1496 [in Russian, with English summary].
- Pushkin A.F. 1993. [The Pycnogonida fauna of the South Ocean] // Biological results of the Soviet Antarctic Expeditions. Explorations of the fauna of the sea. S. Peterburg – Portoroza (Sicilia). Samperi Messina. Vol.8. P.1–398 [in Russian, with English summary].
- Raiskiy A.K., Turpaeva E.P. 2006. Deep-Sea Pycnogonids from the North Atlantic and Their Distribution in the World Ocean // Okeanologiya. Vol.46. No.1. P.63–68.
- Sars G.O. 1877. Prodromus descriptionis crustaceorum et pycnogonidarum, quae in expeditione norvegica anno 1876 observavit // Archiv for Mathematik og Naturvidenskab. Kristiania. Vol.2. P.237–271.
- Sars G.O. 1888. Pycnogonidea borealia et arctica // Archiv for Mathematik og Naturvidenskab. Kristiania. P.339–356.
- Sars G.O. 1891. Pycnogonida // Norwegian North-Atlantic Expedition, 1876–1878. Vol.6. Zool. 20. P.1–163.
- Schimkewitsch W.M. 1893. Report on the dredging operations off the West Coast of Central America to the Galapagos, to the West Coast of Mexico, and in the Gulf of California, in charge of Alexander Agassiz, carried on by the U.S. Fish Commission Steamer Albatross, during 1891, Lieut. Commander Z.L. Tanner, U.S.N., commanding. Compte rendu sur les Pan-

- topodes recueillis pendant les Explorations de l'Albatross en 1891 // Bulletin of the Museum of Comparative Zoology. Harvard. Vol.25. No.2. P.27–43.
- Schimkewitsch W.M. 1929. [Pantopodes (Pantopoda)] // Faune de l'URSS et des pays limitrophes. Leningrad. Livr.1. P.1–224 [in Russian, with French summary].
- Schimkewitsch W.M. 1930. Pantopodes (Pantopoda) // Faune de l'URSS et des pays limitrophes. Leningrad. Livr.2. P.225–554 [in Russian, with French summary].
- Stephensen K. 1933. Pycnogonida. The Godthaab Expedition 1928 // Meddelelser om Grønland. København. Vol.79. No.6. P.1–46.
- Stock J.H. 1952. Revision of the European representatives of the genus *Callipallene* Flynn, 1929 // Beaufortia. Vol.13. P.1–14.
- Stock J.H. 1954. Pycnogonida from Indo-West-Pacific, Australian and New Zealand waters // Videnskabelige Meddelelser fra Dansk Naturhistorisk Forening i Kjøbenhavn. Vol.116. P.1–168.
- Stock J.H. 1963. South African deep-sea Pycnogonida with description of five new species // Annals of the South African Museum. Vol.46. No.12. P.321–340.
- Stock J.H. 1964. Deep-sea Pycnogonida collected by the 'Cirrus' in the northern Atlantic // Beaufortia. Vol.11. No.135. P.45–52.
- Stock J.H. 1968. Pycnogonida collected by the Galathea and Anton Bruun in the Indian and Pacific Oceans // Videnskabelige Meddelelser fra Dansk Naturhistorisk Forening i Kjøbenhavn. Vol.131. P.7–65.
- Stock J.H. 1971. Pycnogonides recoltés durant la campagne 'Noratlante' en Atlantique Nord // Bulletin Zoologische Museum. Universitet van Amsterdam. Vol.2. No.4. P.25–28.
- Stock J.H. 1975. Pycnogonida from the continental shelf, slope, and deep sea of the tropical Atlantic and East Pacific // Bulletin of Marine Science. Vol.24. No.4. P.957–1092.
- Stock J.H. 1978a. Abyssal Pycnogonida from the North-eastern Atlantic basin. Part I // Cahiers de Biologie Marine. Roscoff. Vol.19. P.189–219.
- Stock J.H. 1978b. Abyssal Pycnogonida from the North-eastern Atlantic basin. Part II // Cahiers de Biologie Marine. Roscoff. Vol.19. P.397–413.
- Stock J.H. 1984. Deep-water Pycnogonida of the Incal, Biogas, Geomanch and Safari cruises // Journal of the Marine Biological Association of the U.K. P.743–749.
- Stock J.H. 1986. Pycnogonida from the Caribbean and straits of Florida // Bulletin of Marine Science. Vol.38. No.3. P.399–441.
- Stock J.H. 1987. Faunistic transit between the Atlantic and the Mediterranean: the deep-water Pycnogonida // Cahiers de Biologie. Marine. Roscoff. Vol.28. P.505–519.
- Stock J.H. 1990. Macaronesian Pycnogonida. CANCAP-project. Contribution 178 // Zoologische Mededelingen. Vol.63. No.16. P.205–233.
- Stock J.H. 1991. Pycnogonides de la campagne Seamount I au large de la péninsule ibérique et dans le golfe ibéro-marocain // Bulletin du Musée national d'Histoire naturelle. Paris. Vol.(4)13. Sect.A(1–2). P.135–142.
- Stock J.H. 1994. Indo-West Pacific Pycnogonida collected by some major oceanographic expeditions // Beaufortia. Vol.44. No.3. P.17–77.
- Turpaeva E.P. 1955. [New species of sea-spiders (Pantopoda) from the Kurilo-Kamchatka Trench] // Trudy Instituta Okeanologii AN SSSR. Vol.12. P.322–327 [in Russian, with English summary].
- Turpaeva E.P. 1956. [Pycnogonida of the genus *Heteronymphon* from the north-eastern part of the Pacific Ocean] // Bulletin Moscovskogo Obshchestva Ispytatelei Prirody. Otdel. Biol. Vol.61. No.2. P. 67–72 [in Russian, with English summary].
- Turpaeva E.P. 1971. [Deep-water Pantopoda collected in the Kurile-Kamchatka Trench] // Trudy Instituta Okeanologii AN SSSR. Vol.92. P.274–291 [in Russian with English summary].
- Turpaeva E.P. 1991. [Pantopods (Pycnogonida) from the shelf of southern-eastern Africa and surrounding waters.] // Zoologicheskyy Zhurnal. Vol.70. P.33–43 [in Russian, with English summary].
- Turpaeva E.P. 1996. [Sea spiders (Pycnogonida) from the Kara and Laptev Seas] // Zoologicheskyy Zhurnal. Vol.75. No.11. P.1608–1619 [in Russian, with English summary].
- Turpaeva E.P. 2006. Pycnogonida of the Reykjanes Ridge // A.N. Mironov, A.V. Gebruk, A.J. Southward (eds.). Biogeography of the North Atlantic seamounts. Moscow: KMK Scientific Press Ltd. P.134–140.
- Wilson E.B. 1878. Synopsis of the Pycnogonida of New England // Transactions of the Connecticut Academy of Arts and Sciences. New Haven. Vol.5. P.1–24.
- Wilson E.B. 1881. Report on the Results of Dredging, under the supervision of Alexander Agassiz, along the East Coast of the United States, during Summer of 1880, by the U.S. Coast Survey Steamer "Blake", Commander J.R. Bartlett, U.S.N., Commanding XIII. Report on the Pycnogonida // Bulletin of the Museum of Comparative Zoology at Harvard College. Cambridge. Vol.8. No.12. P.239–256.

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