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Desmostylis gerdesi, a new species (Isopoda: Malacostraca) from Kapp Norvegia, Weddell Sea, Antarctica

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Abstract.—*Desmostylis gerdesi,* a new species, was sampled in the Southern Ocean, Weddell Sea, off Kapp Norvegia at a depth 238 m from board of the R/V *Polarstern* in February of 1996. The new species differs from the only other species of *Desmostylis, D. obscurus* Brandt, 1992b, by its pleotelson, whose lateral margins do not bear sensory setae, which are present in *D. obscurus,* much longer uropods, a longer uropodal sympodite and a stronger setation on pereopods. Moreover, the mandibular incisors have no teeth in *D. obscurus,* while these bear two to three teeth in *D. gerdesi,* and mandibular molar of *D. gerdesi* also bears more setae than that of *D. obscurus.*

The family Macrostylidae was established by Hansen in 1916 for a group of deep-sea specialized Asellota. Today the Macrostylidae include only 2 species of *Desmostylis* (Table 1), while many species of *Macrostylis* were described (e.g., Mezhov 1992, 1993, 1999, 2000; Menzies 1962).

During the expedition ANT XIII-3 from board of the R/V *Polarstern* in February of 1996 two specimens belonging to the genus *Desmostylis* were sorted from samples of a depth of 238 m. These belong to a new species of *Desmostylis,* of which an illustrated description is presented in this paper.

While the genus *Macrostylis* is distributed world wide, especially in the deep sea (Table 1), the new species of *Desmostylis* might demonstrate polar emergence, it has only been found on the Antarctic continental shelf until now. Of the genus *Macrostylis* only *Macrostylis longiremis* (Meinert, 1890), *M. spinifera* Sars, 1864, and M. polaris Malyutina & Kussakin, 1996, were sampled in shallow water on the continental shelf, but in European Northern Seas or in the Arctic Ocean, all other species of *Macrostylis* occur in the deep sea (Table 1).

Methods

During the expedition ANT XIII-3 with R/V *Polarstern,* samples were taken by means of a multiple-box corer by Dr. D. Gerdes. The material was sorted on deck or later with a Wild M5 dissecting microscope from samples, fixed in formalin (4%) and later transferred into ethanol (70%). The taxonomic drawings were prepared using a Leica MZ12 stereomicroscope equipped with a camera lucida, after dissection, appendages were illustrated using a Zeiss compound microscope, which was also equipped with a camera lucida. Measurements and terminology were made according to Brandt (1988, 1992a), Wilson & Hessler (1980), Wilson (1989).

Specimens are deposited in the Zoological Museum of Hamburg.

Abbreviations used in text and figures: A1, antennula; A2, antenna; lMd, left mandible; MBC, multiple-box corer; Mx1, maxillula; Mx2, maxilla; Mxp, maxilliped; P1–7, pereopod—7; Plp 1–5, pleopod 1–5; rMd, right mandible; Tel, Telson; Urp, uropod; ZMH, Zoological Museum of Hamburg.

Table 1.—Species list and distribution of the Macrostylidae Hansen, 1916 illustrating that *Desmostylis* has only been reported in the Antarctic until now, whereas *Macrostylis* is distributed world wide.

Taxon	Locality	Depth (m)
Desmostylis Brandt, 1992b		
obscurus Brandt, 1992b	Antarctic, Maud Rise	4335
gerdesi sp. nov.	Antarctic, Weddell Sea	238
Macrostylis G. O. Sars, 1864		
abyssicola Hansen, 1916	Davis Strait	698–3921
affinis Birstein, 1963	NW Pacific	4690–5554
amplinexa Mezhov, 1989b	Indian Ocean	2385–4221
angulata Mezhov, 1999	NE Atlantic	5420–6051
belyaevi Mezhov, 1989a	N Pacific	8540–8780
bifurcatus Menzies, 1962	SE Atlantic	4588–4960
bipunctatus Menzies, 1962	SW Atlantic	3954–5024
birsteini Mezhov, 1993	South Pacific	>2000
capito Mezhov, 1989b	Indian Ocean	2218–4737
caribbicus Menzies, 1962	Caribbean, Colombia	2875–2941
carinifera carinifera Mezhov, 1988	Indian Ocean	3074–4458
carinifera dilatata Mezhov, 1988	Indican Ocean	2540
compactus Birstein, 1963	Bougainville Trench	6920–7954
curticornis Birstein, 1963	NW Pacific	5680–6670
elongata Hansen, 1916	Iceland	1591
emarginata Mezhov, 2000	N Atlantic	5420
foveata Mezhov, 2000	Puerto Rico Trench	5060–6650
galatheae Wolff, 1956	Philippine Trench	8440–10000
gestuosa Mezhov, 1993	West Pacific	>2000
hadalis Wolff, 1956	Banda Trench	7270
hirsuticaudis Menzies, 1962	SE Atlantic	2997
latifrons Beddard, 1886	N Pacific	3749
longifera Menzies & George, 1972	Peru-Chile Trench	4823–6134
longipes Hansen, 1916	Iceland	1412
longiremis (Meinert, 1890)	Skagerrak	149–228
longissima Mezhov, 1981	N Central Pacific	6043–6051
longiuscula Mezhov, 1981	N Central Pacific	4400
longula Birstein, 1970	N Pacific	5005–5880
magnifica Wolff, 1962	David Strait	3521
mariana Mezhov, 1993	West Pacific	>2000
minutus Menzies, 1962	Puerto Rico Trench	5163–5494
polaris Malyutina & Kussakin, 1996	Arctic Ocean	325–400
porrecta Mezhov, 1988	Indian Ocean	6433
rectangulata Mezhov, 1989b	Indian Ocean	5220
reticulata Birstein, 1963	NW Pacific	5502
sarsi Brandt, 1992b	Antarctic	4335
setifer Menzies, 1962	Puerto-Rico Trench	5477–5494
setulosa Mezhov, 1992	Antarctic	757–2705
spiniceps Barnard, 1920	South Africa	1280
spinifera G. O. Sars, 1864	Norwegian Sea	4–1761
squalida Mezhov, 2000	Romanche Trench	6380–6430
strigosa Mezhov, 1999	NE Atlantic	5420
subinermis Hansen, 1916	Norwegian Sea	830–3474
truncatex Menzies, 1962	NW Atlantic	3950–3963
tumulosa Mezhov, 1989	Izu-Bonin Trench	7406
urceolata Mezhov, 1989b	Indian Ocean	2596
vemae Menzies, 1962	Puerto-Rico Trench	5410–5684
vigorata Mezhov, 1999	NE Atlantic	2655–2667

Table 1.—Continued.

Taxon	Locality	Depth (m)
vinogradovae Mezhov, 1992	Antarctic, Weddell Sea	1660–4335
viriosa Mezhov, 1999	NE Atlantic	4050
vitjazi Birstein, 1963	Bougainville Trench	6920–7954
wolffi Mezhov, 1988	Indian Ocean	2385–3717
zenkevitchi Birstein, 1963	NW Pacific	5461–5495

Systematics

Suborder Asellota Latreille, 1803
Family Macrostylidae Hansen, 1916
Genus *Desmostylis* Brandt, 1992b
Desmostylis gerdesi new species
(Figs. 1–4)

Holotype.—female, 1.8 mm length, ZMH 39915; MBC, station 037-(subcorer 1), 28.2.1996, 238 m depth, 71°31.90′S, 13°31.20′W.

Paratype.—females, 1.6 mm length, ZMH 39916; MBC, station 037-(subcorer 7), 28.2.1996, 238 m depth, 71°31.90′S, 13°31.20′W.

Type locality.—Antarctica, Southern Ocean, Weddell Sea, off Kapp Norvegia, 238 m.

Distribution (Fig. 5).—Weddell Sea *D. gerdesi* (circle) was recorded in the Weddell Sea and *D. obscurus* (quadrangle) was sampled off the Maud Rise, East Antarctic.

Description

Female (holotype).—Body (Fig. 1): 4.8 times as long as wide, and almost 6.5 times as long as body depth; body dorsum and margins smooth, without setae. Head twice as long as wide, about as wide as first pereonite, without eyes, dorsal spines or any sculpture. Pleotelson 0.7 width of body width and 0.3 length of body length, only slightly shorter than pereonites 5–7 together. Pereonites 3 and 5 longest, about subequal in lengths, pereonites 1 and 2 shortest.

A1 (Fig. 1): 0.2 body length, of nine articles of very similar width. Articles 1–3 without setation, articles 4 and 5 with one medial simple seta, article 4 with an additional short simple lateral seta. Last article smallest, knob-like, with one setulated seta and one long aesthetasc.

A2 (Fig. 1): 0.3 body length, with five peduncular and six flagellar articles. Peduncular articles 1–3 short, not illustrated (damaged during dissection), Articles 4 and 5 about subequal in length, last peduncular article with three feather-like and one simple seta. Flagellar articles all narrower and shorter, flagellar article 1 longest, with 1 long simple seta, following flagellar articles decreasing in length, third flagellar article with one simple seta, last but one article with a simple seta, last article smallest and shortest, with three long simple setae of varying lengths.

LMd (Fig. 1): Incisor with three teeth, lacinia mobilis shorter than incisor (0.6), bearing three longer and two small teeth, spine row of seven setae, 5 simple, the last two ones distally serrated, pars molaris stout, tapering distally, with small, quadrangular triturative, grinding surface and eight simple setae of various lengths. Mandibular palp absent.

RMd (Fig. 1): Similar to left, but without lacinia mobilis, incisor with three teeth, spine row of seven simple setae and one distally bifid seta (first in the row), molar equipped with seven simple setae.

Hy (Fig. 2): Consisting of two voluminous lobes and two medial shorter and smaller lobes, proximally fused, with distal and distomedial simple short setae.

Mx1 (Fig. 2): Inner endite width 0.6 outer endite width. Outer endite with 11 strong spine-like simple setae distally and few long marginal setae, inner endite with distal tuft of simple short setae.

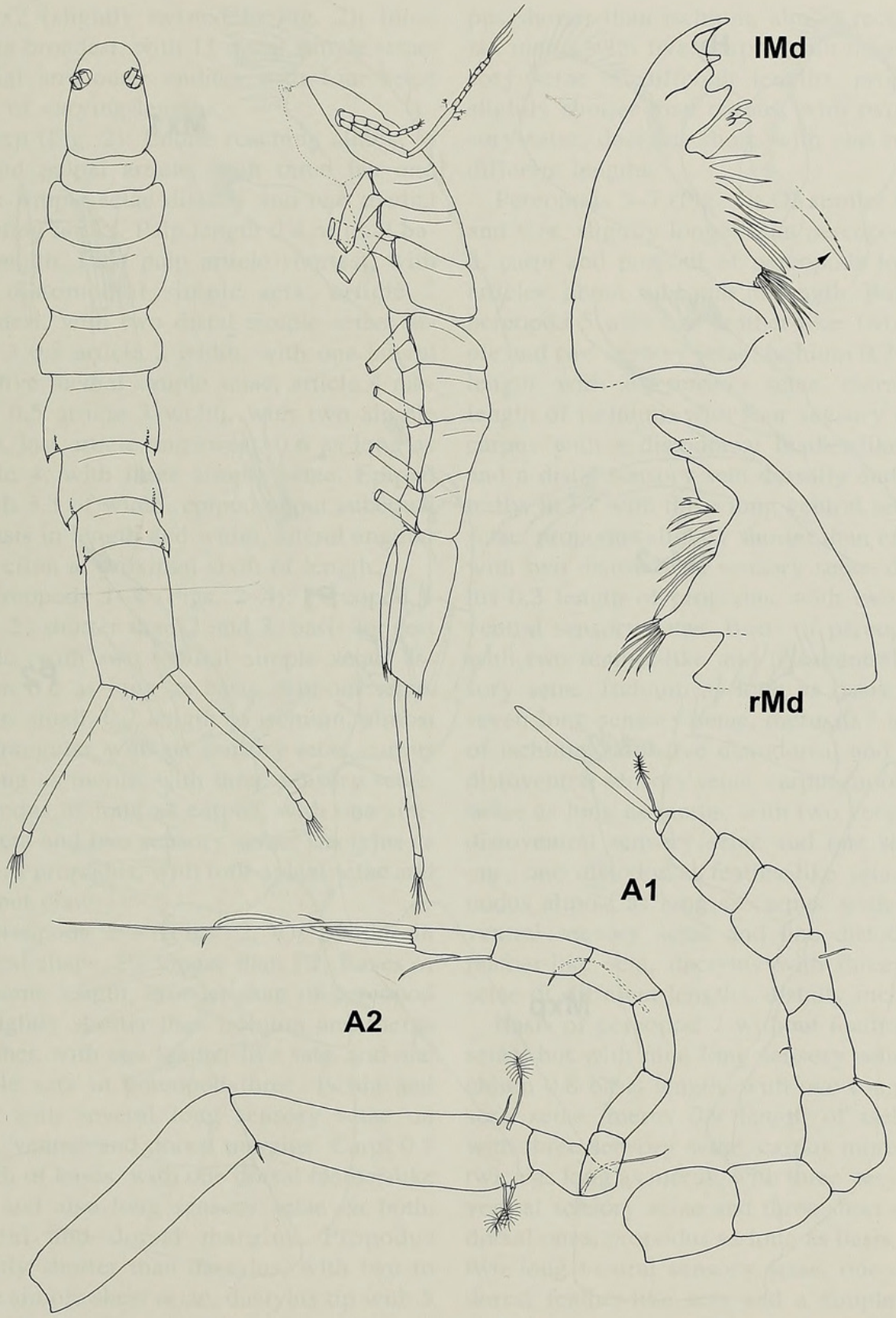

Fig. 1. *Desmostylis gerdesi* sp. nov, holotype female of 1.8 mm length in dorsal and lateral view, antennula, antenna, left and right mandible.

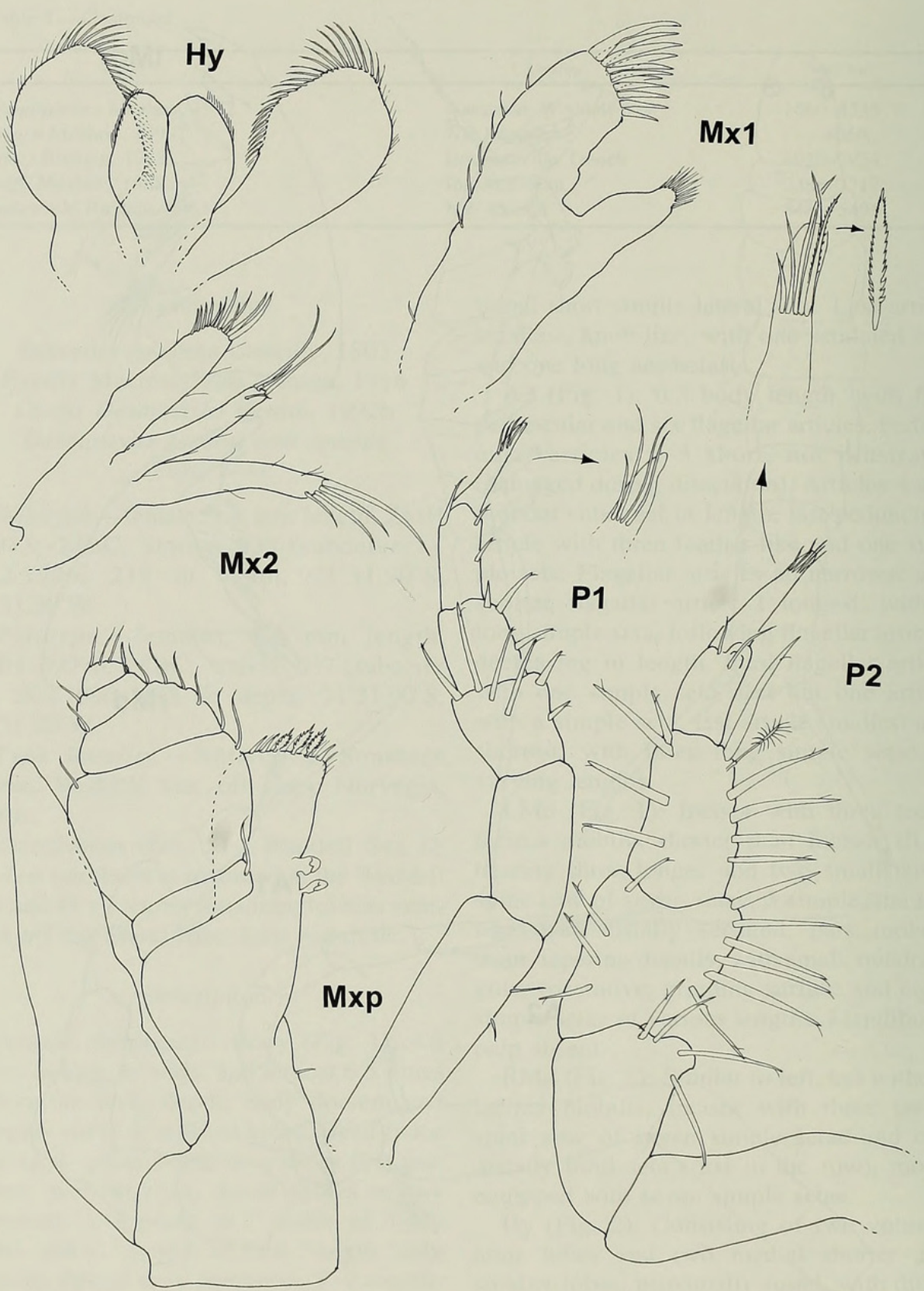

Fig. 2. *Desmostylis gerdesi* sp. nov, holotype female, left and right mandible, hypopharynx, maxillula, maxilla, maxilliped, pereopods 1, 2.

Mx2 (slightly twisted in Fig. 2): Inner endite broadest, with 11 distal simple setae, medial and outer endites with four setae each of varying lengths.

Mxp (Fig. 2): Endite reaching almost to second palpal article, with three fan and three simple setae distally and two medial coupling hooks. Palp length 0.4 of total basis length. First palp article shortest, with one distomedial simple seta; article 2 broadest, with two distal simple setae; article 3 0.8 article 2 width, with one lateral and five medial simple setae, article 4 narrow, 0.5 article 3 width, with two simple setae, last article narrowest, 0.6 as long as article 4, with three simple setae. Epipod length 3.3 of width, epipod about subequal to basis in length and width, lateral angular projection at proximal sixth of length.

Pereopods 1–4 (Figs. 2–4): Pereopod 1 (Fig. 2) shorter than 2 and 3, basis longest article, with two ventral simple setae. Ischium 0.6 as long as basis, without setae. Merus small, 0.7 length of ischium, almost quadrangular, with six sensory setae, carpus as long as merus, with three sensory setae. Propodus as long as carpus, with one simple seta and two sensory setae. Dactylus as long as propodus, with four apical setae and without claw.

Pereopods 2–3 (Figs. 2, 4): Similar in general shape, P3 longer than P2. Bases of the same length, broader than of pereopod 1, slightly shorter than ischium and merus together, with one feather-like seta, and one simple seta in pereopod three. Ischia and meri with several long sensory setae on both, ventral and dorsal margins. Carpi 0.7 length of bases, with one dorsal feather-like seta and also long sensory setae on both, ventral and dorsal margins. Propodus slightly shorter than dactylus, with two to three simple short setae, dactylus tip with 5 apical setae of varying shape, one setulated in P2, in P3 dactylus with 4 simple setae.

Pereopod 4 (Fig. 3): Smallest and shortest, with long and slender basis bearing two simple setae, ischium 0.6 basis length, with a single long sensory seta, merus and carpus shorter than ischium, almost rectangular, merus with five, carpus with three sensory setae of different lengths, propodus slightly shorter than carpus, with two sensory setae, dactylus short, with two seta of different lengths.

Pereopods 5–7 (Fig. 3): Of similar shape and size, slightly longer than pereopods 1–3, carpi and propodi of pereopods longest articles, about subequal in length. Basis of pereopod 5 with one feather-like, two simple and two sensoty setae, ischium 0.7 basis length, with six sensory setae, merus 0.9 length of ischium, with four sensory setae, carpus with a distodorsal feather-like seta and a distal sensory seta dorsally and ventrally, in P7 with three long ventral sensory setae, propodus slightly shorter than carpus, with two distoventral sensory setae, dactylus 0.3 length of propodus, with two long ventral sensory setae. Basis of pereopod 6 with two feather-like and five ventral sensory setae, ischium as long as basis, with seven long sensory setae, merus 0.7 length of ischium, with five distodorsal and three distoventral sensory setae, carpus more than twice as long as merus, with two very long distoventral sensory setae and one shorter one, one distodorsal feather-like seta, propodus almost as long as carpus, with three ventral sensory setae and one distodorsal feather-like seta, dactylus with three long setae of different lengths, distally incised.

Basis of pereopod 7 without feather-like setae, but with nine long sensory setae, ischium 0.8 basis length, with two long sensory setae, merus 0.9 length of ischium, with three sensory setae, carpus more than twice as long as merus, with three very long ventral sensory setae and three short distodorsal ones, propodus as long as basis, with two long ventral sensory setae, one distodorsal feather-like seta and a simple one, dactylus with three long setae of different lengths, distally incised.

Pleopod 2 (Fig. 4): Elongated, oval, waisted at proximal part, broadest medially, with many simple dorsal and lateral setae in proximal half, distally acuminating, tip

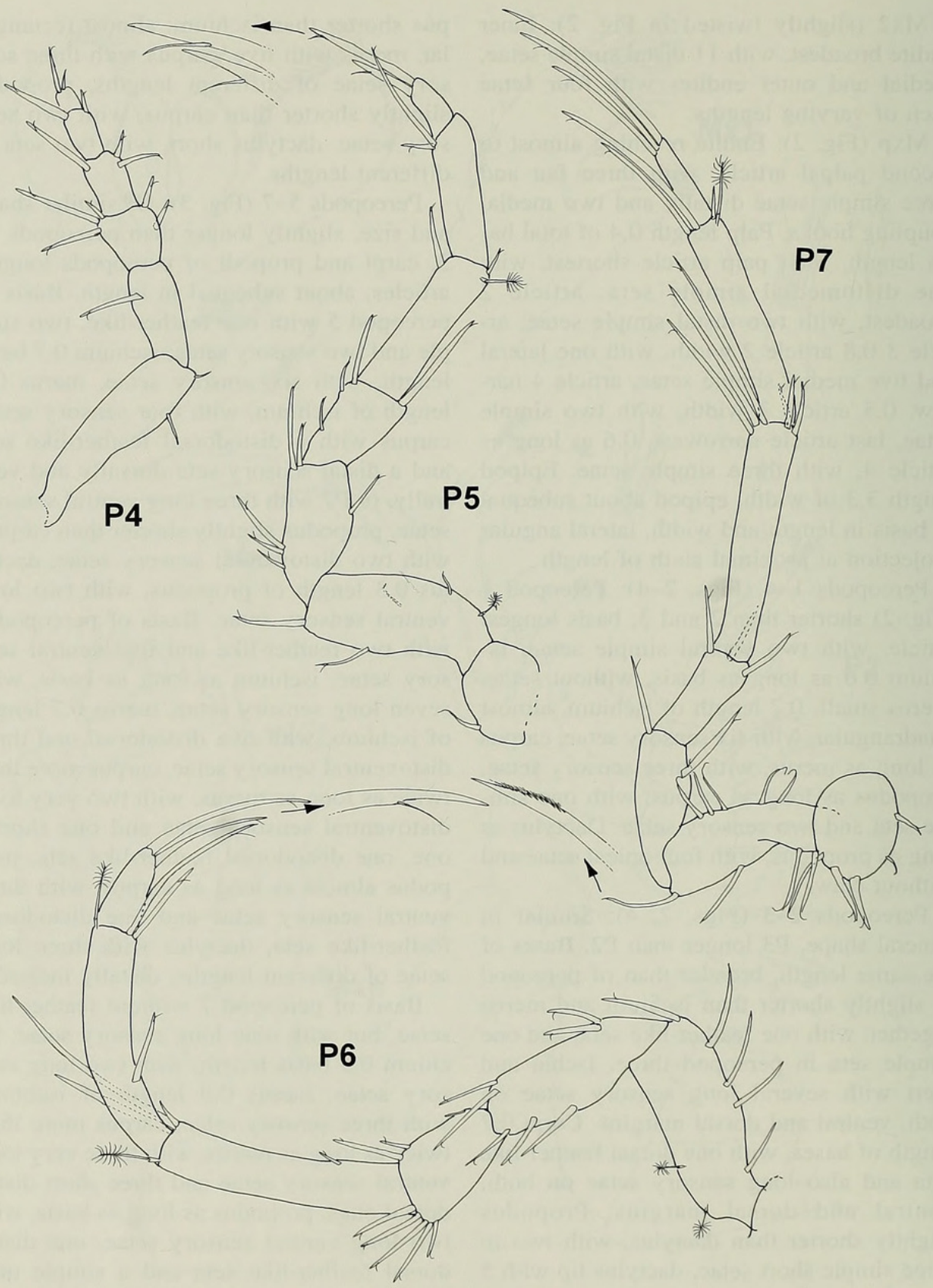

Fig. 3. *Desmostylis gerdesi* sp. nov, holotype female, pereopods 4–7.

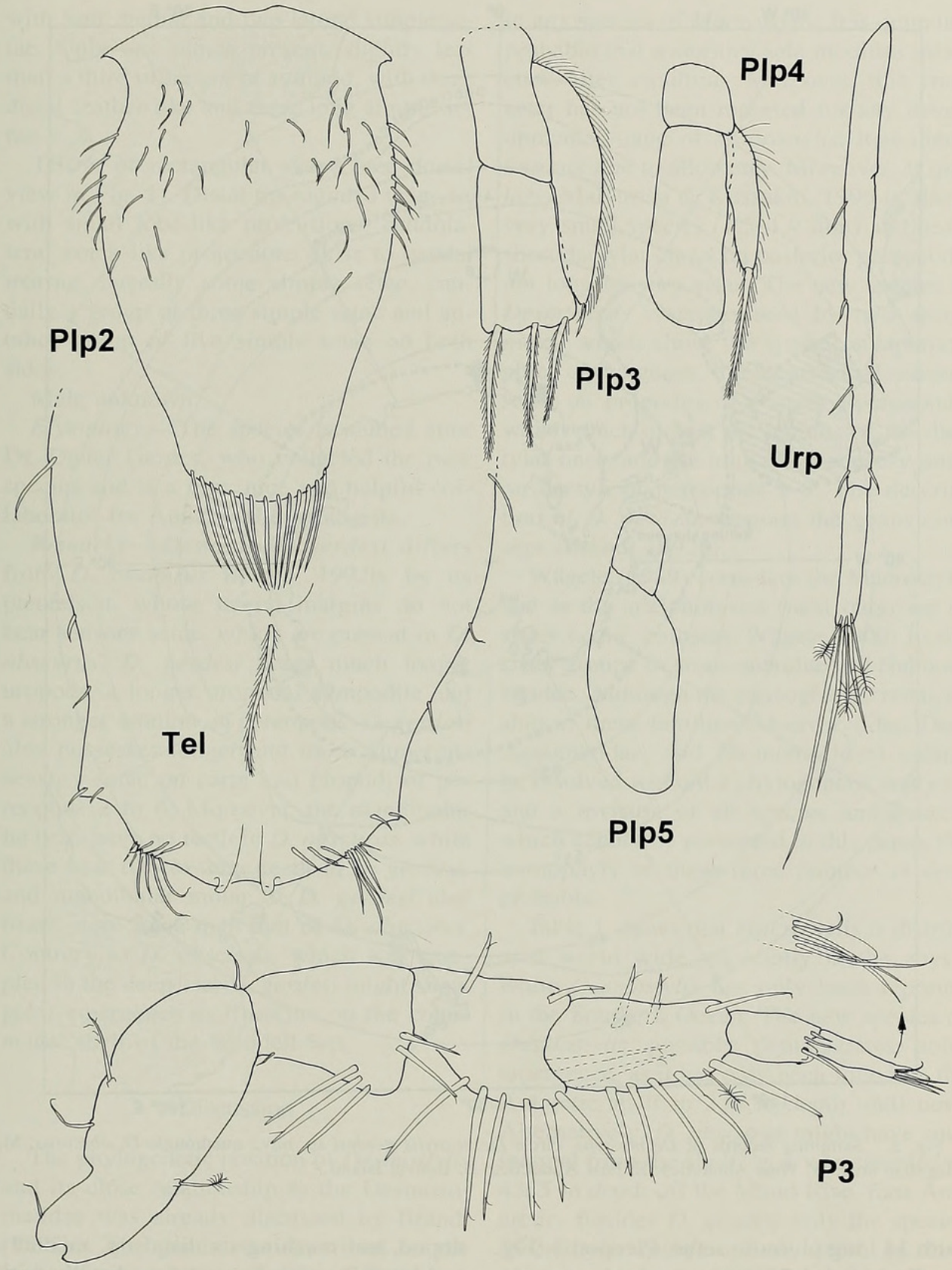

Fig. 4. *Desmostylis gerdesi* sp. nov, holotype female, pereopod 3, pleopods 2–5, telson, uropod.

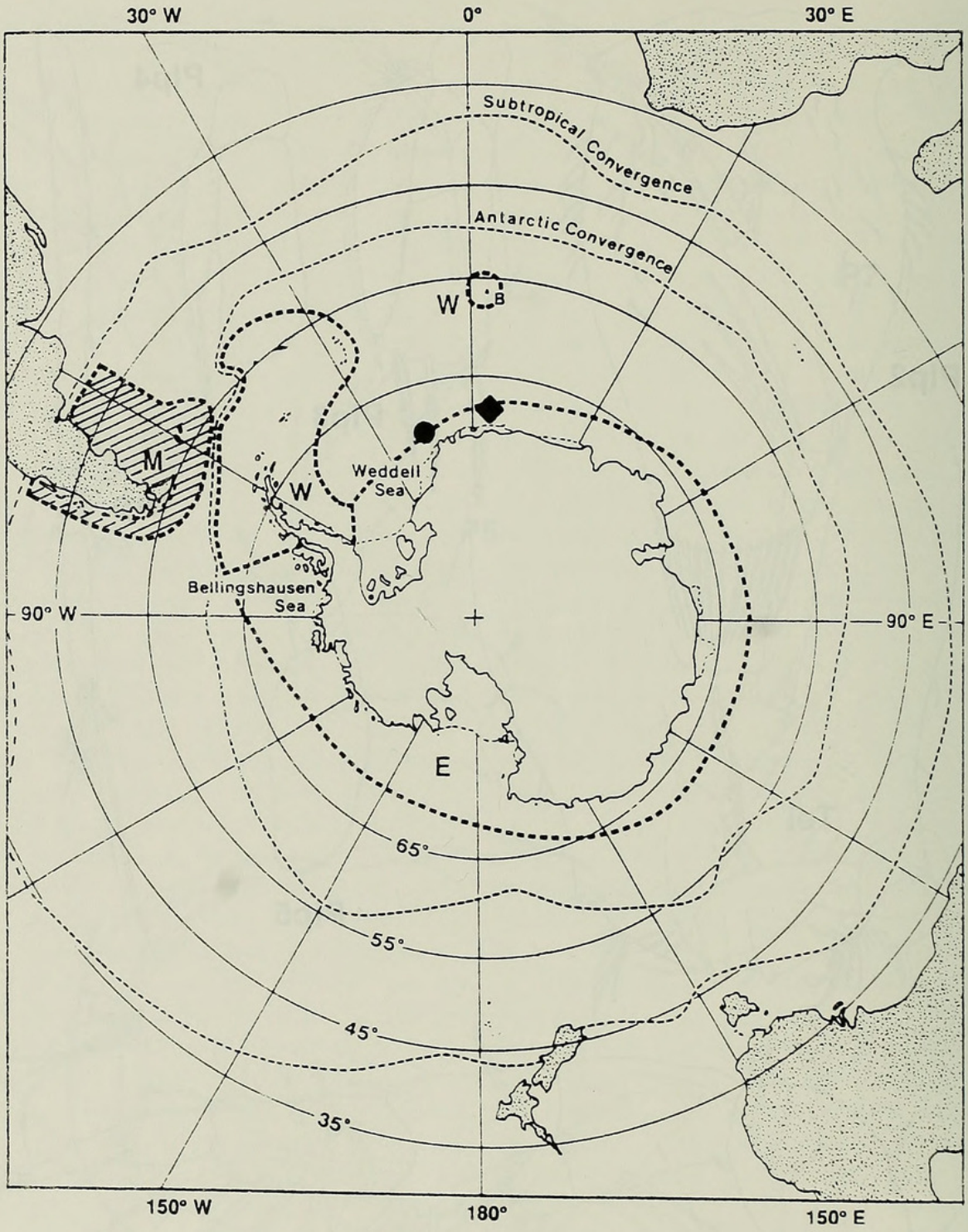

Fig. 5. Sampling records of *Desmostylis*, circle *Desmostylis gerdesi* sp. nov.; quadrangle *D. obscurus*; M, Magellan area; W, West Antarctica; E, East Antarctica; B, Bouvet Island.

with 14 long plumose setae. Pleopod 3 (Fig. 4): Endopod 1.75 times as long as wide, with three distal plumose setae, exopod 1.7 times as long as endopod length and one-fourth of endopod width, laterally with simple setules. Pleopod 4 (Fig. 4): Endopod twice as long as wide, exopod 0.6 to endopod, not reaching its distal tip, medially and laterally with fine setules, distally with long plumose seta, endopod bare. Pleopod 5 (Fig. 4): Only one small oval lobe, twice as long as broad.

Uropod (Fig. 4): About 1.1 as long as pleotelson, sympod long and styliform,

with four medial and two lateral simple setae. Only one ramus present, slightly less than a third of length of sympod, with three distal feather-like and three long simple setae.

Telson of rectangular shape (see dorsal view in Fig. 1). Distal tip rounded (Fig. 4), with small lobe-like protrusions, caudolateral notch-like projections close to caudal maring, laterally some simple setae, caudally a group of three simple setae and another group of five simple setae on both sides.

Male unknown.

Etymology.—The species is named after Dr. Dieter Gerdes, who collected the new species and is a very nice and helpful collaborator for Antarctic benthologists.

Remarks.—*Desmostylis gerdesi* differs from *D. obscurus* Brandt, 1992b, by its pleotelson, whose lateral margins do not bear sensory setae, which are present in *D. obscurus. D. gerdesi* bears much longer uropods, a longer uropodal sympodite and a stronger setation on pereopods. *D. gerdesi* also possesses longer and more numerous sensory setae on carpi and propodi of pereopods 2 to 6. Moreover, the mandibular incisors have no teeth in *D. obscurus,* while these bear two to three teeth in *D. gerdesi,* and mandibular molar of *D. gerdesi* also bears more setae than that of *D. obscurus.* Contrary to *D. obscurus,* which was sampled in the deep sea, *D. gerdesi* might show polar emergence as it occurs on the continental shelf of the Weddell Sea.

Discussion

The phylogenetic position of *Desmostylis* and its close relationship to the Desmosomatidae was already discussed by Brandt (1992b). The genus was described on the basis of an immature female of *D. obscurus.* However, *Desmostylis* can easily be differentiated by *Macrostylis* by the absence of short dactylar claws and the presence of long dactylar sensory setae on the posterior pereopods, which are not present in any species of *Macrostylis.* It is quite improbable that a sensory seta modifies into a claw after moulting. Moreover, this character has not been reported for any developmental stage of *Macrostylis,* it is therefore not due to allometry. Moreover, *M. polaris* Malyutina & Kussakin, 1996 is also a very small species (1.5–1.9 mm) and bears short dactylar claws on posterior pereopods, not long sensory setae. The new species of *Desmostylis* is represented by two specimens, which show the typical autapomorphies of the genus, the long ventral sensory setae on propodus of posterior pereopods, which reach almost the lengths of the dactylar ones, and the long distal sensory setae on dactyli of pereopods 5–7. The description of *D. gerdesi* supports the genus concept (Brandt 1992b).

Wägele (1989) considers the Macrostylidae as the adelphotaxon (next outgroup or sister taxon; compare Wägele 2000) to the sister groups Desmosomatidae and Nannoniscidae. Although the phylogenetic relationship of these families (Macrostylidae, Desmosomatidae, and Nannoniscidae) cannot be resolved without a phylogenetic analyses and a revision of all species and genera, which cannot be presented in this paper, the monophyly of these three families is very probable.

Table 1 shows that *Macrostylis* is distributed world wide, especially in the abyss, while *Desmostylis* has only been reported in the Southern Ocean. The new species of *Desmostylis* possibly demonstrates polar emergence, as it has only been found on the Antarctic shelf in 238 m depth until now. Alternatively, *D. obscurus* might have submerged from the shelf, as it was sampled in 4335 m depth off the Maud Rise, East Antarctic. Besides *D. gerdesi* only the species *Macrostylis spinifera* Sars, 1864, *M. longiremis* (Meinert, 1890), and *M. polaris* Malyutina & Kussakin, 1996 have been sampled in shallow water on the continental shelf, however, the latter were sampled in the European Northern Seas or Arctic Ocean. The two Antarctic species of *Des-*

mostylis bear much shorter antennulae and antennae and lack the typical long sensory setae on carpi and propodi of pereopods 5–7, while the dactyli of these species are equipped with the typical long distal sensory setae, described in the diagnosis of *Desmostylis* (Brandt 1992).

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Literature Cited

Barnard, K. H. 1920. Constributions to the Crustacean fauna of South Africa No. 6. Further additions to the list of marine Isopoda.—Annals of the South African Museum 17:319–428.

Beddard, F. E. 1886. Report on the Isopoda collected by H.M.S. Challenger during the years 1873–1876.—Challenger Reports of Zoology 17 (48): 1–175.

Birstein, Y. A. 1963. Tiefsee Isopoden des nordwestlichen Pazifik.—Akademie der Wissenschaften der UdSSR, Moskau, 72–74.

———. 1970. Additions to the fauna of isopods (Crustacea, Isopoda) of the Kurile-Kamchatka Trench. Part 1. In Fauna of the Kurile-Kamchatka Trench and its environment.—Trudy Instituta Okeanologii 86:292–340.

Brandt, A. 1988. Morphology and ultrastructure of the sensory spine, a presumed mechanoreceptor of the isopod *Sphaeroma hookeri* (Crustacea, Isopoda) and remarks on similar spines in other peracarids.—Journal of Morphology 198:219–229.

———. 1991. Zur Besiedlungsgeschichte des antarktischen Schelfes am Beispiel der Isopoda (Crustacea, Malacostraca).—Berichte zur Polarforschung 98:1–240.

———. 1992a. Origin of Antarctic Isopoda (Crustacea, Malacostraca).—Marine Biology 113:415–423.

———. 1992b. New Asellota from the Antarctic deep sea (Crustacea, Isopoda, Asellota), with description of two new genera.—Zoologica Scripta 21: 57–78.

Hansen, H. J. 1916. Crustacea Malacostraca 3.5.—The Danish Ingolf Expedition 3:1–162.

Latreille, P. A. 1803. Histoire naturelle, générale et particulière des crustacés et des insectes. Ouvrage faisant suite aux oeuvres de Leclerc de Buffon, et partie du cours complet d'histoire naturelle rédigé par C.S. Sonnini. F. Dufart, Paris, volume 5, 406 pp.

Malyutina, M., & O. G. Kussakin. 1996. Addition to the Polar Sea bathyal and abyssal Isopoda (Crustacea). Part 1. Anthuridea, Valvifera, Asellota (Ischnomesidae, Macrostylidae, Nannoniscidae).—Zoosystema Rossica 4:49–62.

Meinert, F. 1890. Crustacea Malacostraca.—Videnskabs-Selskabet Udbytte af Kanonbaaden "Hauch's" Togter 1883–86, Kjøbenhavn: 147–232.

Menzies, R. J. 1962. The isopods of abyssal depths in the Atlantic ocean, pp. 79–206 *in* Abyssal Crustacea (eds, J. L. Barnard, R. J. Menzies & M. C. Bacescu):, Columbia University Press, New York, 127 pp.

———, & R. Y. George. 1972. Isopod Crustacea of the Peru-Chile Trench.—Anton Bruun Report 9: 1–124.

Mezhov, B. V. 1981. The isopod crustaceans. *In* Benthos of the submarine Marcus-Necker Mountains and adjacent Pacific regions.—Institute of Oceanology of the Academy of Sciences of the USSR, Moscow: 62–82.

———. 1988. The first findings of Macrostylidae (Isopoda, Asellota) in the Indian Ocean.—Zoogical Zhurnal 67:983–994.

———. 1989a. Additions to the fauna of macrostylids in the Indian Ocean.—Zoological Zhurnal 68: 60–69.

———. 1989b. Two new species of *Macrostylis* (Isopoda, Macrostylidae) from trenches of the Pacific Ocean.—Zoological Zhurnal 68:33–40.

———. 1992. Two new species of the genus *Macrostylis* G. O. Sars, 1864 (Crustacea, Isopoda, Asellota, Macrostylidae).—Arthropoda Selecta 1:83–87.

———. 1993. Three new species of *Macrostylis* G. O. Sars, 1864 (Crustacea, Isopoda, Asellota, Macrostylidae) from the Pacific Ocean.—Arthropoda Selecta 2:3–9.

———. 1999. Four new speices of the genus *Macrostylis* (Crustacea, Isopoda, Macrostylidae).—Zoological Zhurnal 78:1417–1423.

———. 2000. Addition to the fauna of isopod crustacean genus *Macrostylis* G. O. Sars, 1864 (Crustacea: Isopoda: Macrostylidae) of the Atlantic and Arctic oceans, with description of three new Atlantic species.—Arthropoda Selecta 9:69–83.

Sars, G. O. 1864. On en anomal Gruppe af Isopoder.—Forhandlinger i Videnskabs-Selskabet i Christiania 1863:1–16.

Vanhöffen, E. 1914. Die Isopoden der Deutschen Südpolar-Expedition 1901–1903.—Deutsche Südpolar Expedition 20, Zoologie 7:449–598.

Wägele, J. W. 1989. Evolution und phylogenetisches System der Isopoda. Stand der Forschung und

neue Erkenntnisse. Zoologica, Stuttgart 140:1–262.

Wägele, J. W. 2000. Grundlagen der Phylogenetischen Systematik. Verlag Dr. Friedrich Pfeil, München, 315 pp.

Wilson, G. D. F., & R. R. Hessler. 1980. Taxonomic characters in the morphology of the genus *Eurycope* (Crustacea, Isopoda) with a redescription of *E. cornuta* Sars, 1864.—Cahiers de Biologie 21:241–263.

———. 1989. A systematic revision of the deep-sea subfamily Lipomerinae of the isopod crustacean family Munnopsidae.—Bulletin of the Scripps Institution of Oceanography 27:1–138.

Wolff, T. 1956. Isopoda from depths exceeding 6000 meters.—Galathea Report 2:85–157.

———. 1962. The systematics and biology of bathyal and abyssal Isopoda Asellota.—Galathea Report 6:1–320.