

A new species of polychaete (Polychaeta: Nereididae: Namanereidinae) from the Socotra Archipelago, Yemen

Dieter Fiege and Kay Van Damme

Abstract: A new species of namanereid polychaete, *Namanereis gesae* n. sp., is described from the island of Abd al-Kuri in the Socotra Archipelago. It occurs in oligohaline pools at 700 m above sea level. *Namanereis gesae* resembles *N. hummelincki*, *N. cavernicola* and *N. araps* but can easily be distinguished by the number of teeth in the jaws. This is the second species of *Namanereis* recorded from the Arabian region.

نوع جديد من عديدة الأشواك (Polychaeta: Nereididae: Namanereidinae) من أرخبيل سوكطرة، اليمن

ديتر فيجي وكاي فان دمة

خلاصة: تم وصف النوع الجديد *Namanereis gesae* من عديدة الأشواك من جزيرة عبد الكوري من أرخبيل سوكطرة. يوجد هذا النوع في البرك قليلة الملوحة على ارتفاع ٧٠٠ متر فوق سطح البحر. يشبه النوع الجديد الأنواع *N. hummelincki* و *N. cavernicola* و *N. araps*، إلا أنه من السهل تمييزه بعدد أسنان الفكوك. ويعد هذا النوع التسجيل الثاني من الجنس *Namanereis* في منطقة شبه الجزيرة العربية.

INTRODUCTION

The Namanereidinae (Nereididae) include three genera (*Lycastoides* Johnson, 1903; *Namanereis* Chamberlin, 1919; and *Namalycastis* Hartman, 1959) with 37 species (including three species groups). A number of species are reported from habitats with reduced salinity, freshwater or even semi-terrestrial environments (GLASBY 1999), e.g. *Namanereis catarractarum* (Feuerborn, 1931) from water-filled tree holes in Papua New Guinea and moist leaf axils of *Pandanus* trees in Fiji (GLASBY et al. 1990), and *Namanereis cavernicola* (Solís-Weiss & Espinasa, 1991) from a freshwater pool in a Mexican cave 1650 m above sea level and 176 km from the Pacific (SOLÍS-WEISS & ESPINASA 1991). To date the only record of this nereidid subfamily from the Arabian region is *Namanereis araps* Glasby, 1997 from groundwater in the Sultanate of Oman (GLASBY 1997).

The terrestrial and marine fauna of the Socotra Archipelago was surveyed in 1999 and 2000 during the GEF-funded project “Conservation and Sustainable Use of Biodiversity of Socotra Archipelago”, overseen by the United Nations Office for Project Services (UNOPS YEM/96/G32) in conjunction with the Environmental Protection Council (EPC) of Yemen (KRUPP & HARIRI

1999, APEL & HARIRI 2000). On the highest point of the island of Abd al-Kuri, two permanent waterholes, Mseyren and Jolat, were sampled and a new species of *Namanereis* was found which brings the total number of taxa in this genus to 17 (including two species groups).

Abbreviations:

BMNH	The Natural History Museum, London, UK
KBIN	Koninklijk Belgisch Instituut voor Natuurwetenschappen, Brussels, Belgium
KVD	Collection Kay Van Damme, Ghent, Belgium
MNHN	Muséum National d'Histoire Naturelle, Paris, France
NHCY	Natural History Collection Yemen
SMF	Senckenberg Research Institute and Natural History Museum, Frankfurt a.M., Germany

Family Nereididae Johnston, 1865

Subfamily Namanereidinae Hartman, 1959

Genus *Namanereis* Chamberlin, 1919

Namanereis Chamberlin, 1919. — Mem. Mus. Comp. Zool. 48: 196. For synonymy see GLASBY (1999).

Type species: *Lycastis quadraticeps* Blanchard in Gay, 1849.

Diagnosis: see GLASBY (1999): Body small, few chaetigerous segments, usually less than 150. Prostomial cleft generally absent; antennae generally cirriform (rarely subspherical or absent). Tentacular cirri, three pairs (rarely four pairs); cirrophores usually indistinct. Area V of pharynx as narrow medial groove or pad (rarely). Dorsal cirri short and similar in length throughout; cirrophores absent. Notochaetae usually absent. Neurochaetae present, though type and arrangement variable. Supra-neuroacicular chaetae: sesquigomph spinigers (rarely heterogomph spinigers or absent) in postacicular fascicle; heterogomph falcigers in preacicular fascicle. Sub-neuroacicular chaetae: usually absent in postacicular fascicle, rarely heterogomph spinigers; heterogomph falcigers (or heterogomph falcigers, pseudospinigers and spinigers in a graded series) in preacicular fascicle. Falcigers with blade attached to chaetal shaft by ligament and hinge or fused to chaetal shaft (rarely). Chaetal shafts distally smooth or with a series of small serrations (rarely). Pygidium tripartite (usually), with two large lateral lobes and a smaller pointed dorsal one. Monoecious or dioecious. Oocytes large, ovoid (rarely spherical).

Namanereis gesae n. sp.

Figs 1-3

Holotype: complete specimen, Yemen, Socotra Archipelago, Abd al-Kuri Island, waterhole Mseyren, 12°09.928'N 52°15.541'E, 700 m, substratum: weathered limestone, 19.II.1999, Kay Van Damme, SMF 10366. — **Paratypes:** Yemen, Socotra Archipelago: 9 complete specimens, same data as holotype, KBIN IG 29451 (3 spms), SMF 10367-10369 (3 spms), SMF 10370 (1 spm. on SEM stub No. 603), BMNH 2001.6905 (1 spm.), MNHN Poly 68 (1 spm.). — **Non-type specimens:** Yemen, Socotra Archipelago: 6 spms, sampled from waterholes Jolat and Mseyren, are currently held in the collection of one of the authors (KVD) and will be deposited in NHCY.

Type locality: Waterhole Mseyren, Abd al-Kuri Island, Socotra Archipelago (Yemen), Indian Ocean.

Diagnosis: Prostomium not cleft anteriorly, dorsally with shallow hollow in posterior part. Antennae short, cirriform. Eyes absent. Three pairs of tentacular cirri. Jaws with single terminal tooth, 1-2 subterminal and 5-6 ensheathed proximal teeth. Notochaetae absent. Neurochaetae in type D arrangement as defined by GLASBY (1999). Supra-neuroacicular falcigers of chaetiger 10 with blades about 4 times longer than width of shaft head, finely serrated.

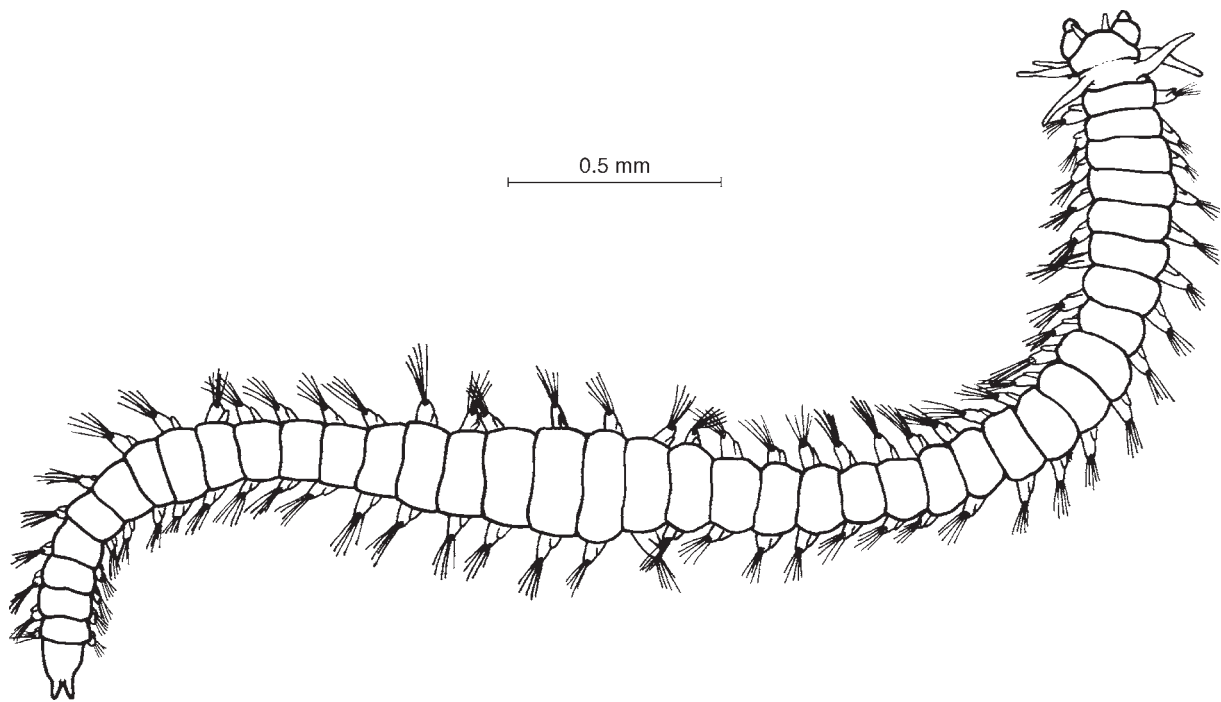


Fig. 1: *Namanereis gesae* n. sp. Habitus in dorsal view.

Description (based on holotype): Body elongate, slightly tapering posteriorly. Dorsal side convex, ventral side flattened. Measurements (data for paratypes, $n = 9$, in parentheses): Length 17 mm (7.5-18.0 mm) for 66 (39-62) chaetigers, width in midbody excluding parapodia 0.7 mm (0.6-0.8 mm). Colour of live specimens bright reddish to orange-pink; in alcohol pale-white, opaque, no epidermal pigment visible. No sexual products observed (Fig. 1).

Prostomium subtriangular, wider than long with widest part near posterior end; anterior end entire, cleft absent but dorsal hollow present in posterior half. One pair of antennae inserted at anterior end. Antennae cirriform, short, not extending beyond tip of palps. Eyes absent (Figs 2 a, 3 a).

Peristomium with three pairs of tentacular cirri. Anterodorsal and posterodorsal cirri of about the same length, anteroventral ones slightly shorter, bent downwards and barely visible from above (lower right one broken in holotype). Posterodorsal cirri extending to chaetiger 2 (Figs 1, 3 a). Pharynx retracted in all specimens. Jaws honey-coloured with single terminal tooth, 1-2 sub-terminal and 5-6 ensheathed proximal teeth (Fig. 2 b).

Parapodia with conical acicular neuropodial ligule. Dorsal cirri cirriform, short and similar in length throughout, not or only very slightly (in anterior parapodia of some paratypes) extending beyond parapodium. Ventral cirri cirriform, only about half as long as dorsal cirri (Fig. 2 c).

Notochaetae absent. Neurochaetae in type D arrangement, i.e. supra-neuroacicular chaetae include one sesquigomph spiniger in postacicular fascicles and one heterogomph falciger in preacicular fascicles. Sub-neuroacicular fascicle spread along pre- and postacicular positions. Uppermost one or two chaetae heterogomph pseudospinigers of same size; lower chaetae heterogomph falcigers with blades of about the same size (Figs 2 d-g, 3 c-d).

Supra-neuroacicular sesquigomph spiniger in chaetiger 10 with boss about 1.5 times length of collar (Figs 2 d, 3 d). Supra-neuroacicular falciger of chaetiger 10 with blades about 4 times longer than width of shaft head, finely serrated (Figs 2 e, 3 d). Sub-neuroacicular pseudospiniger of chaetiger 10 with finely serrated blade about 10 times longer than width of shaft (Figs 2 f, 3 d).

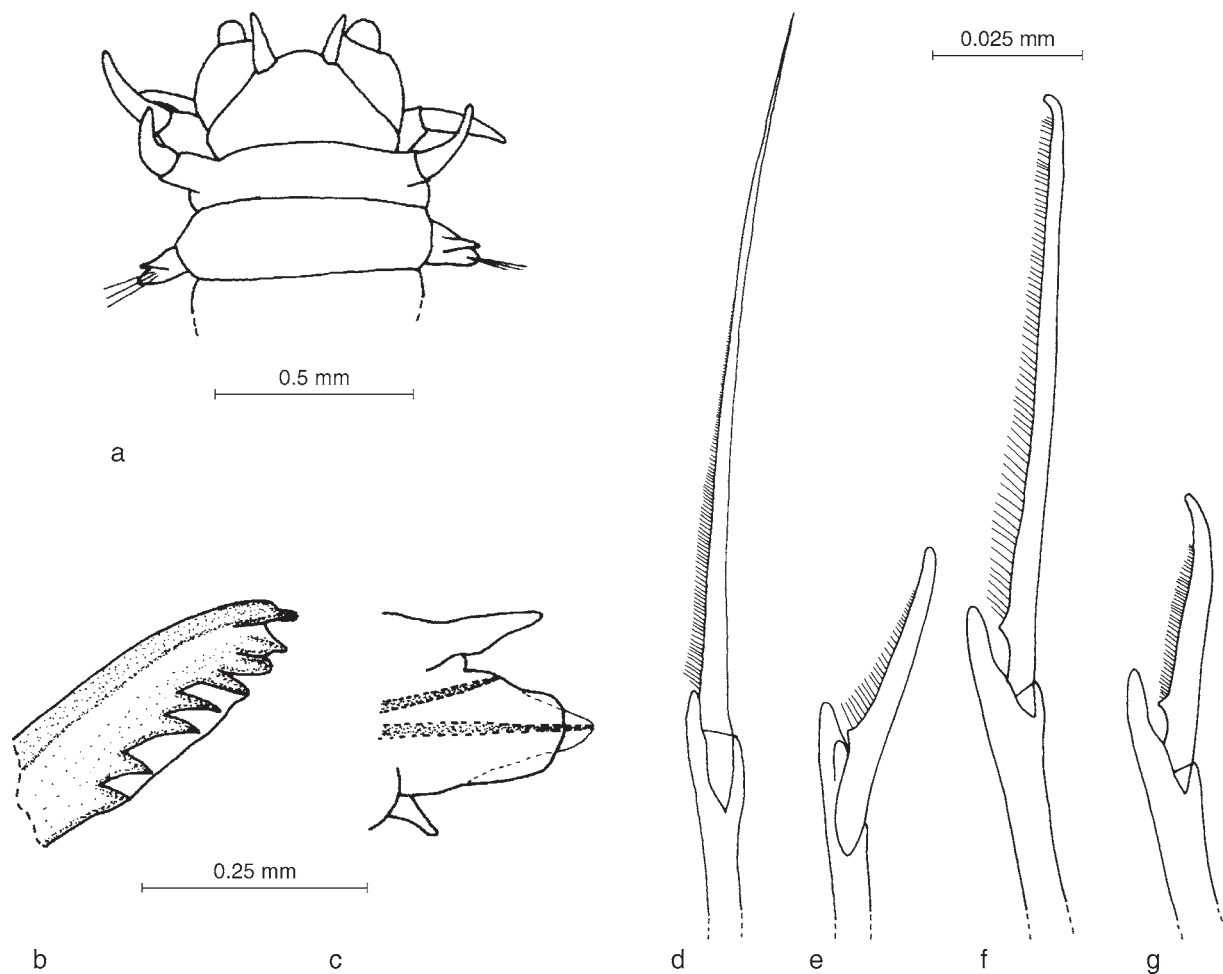


Fig. 2: *Namanereis gesae* n. sp., holotype, SMF 10366. a: Anterior end in dorsal view. b: Jaws in dorsal view. c: Right parapodium of chaetiger 10 in posterior view. d: Supra-neuroacicular sesquigomph spiniger of chaetiger 10, distal part. e: Supra-neuroacicular falciger of chaetiger 10, distal part. f: Sub-neuroacicular heterogomph pseudospiniger of chaetiger 10, distal part. g: Sub-neuroacicular heterogomph falciger of chaetiger 10, distal part.

Sub-neuroacicular falcigers of chaetiger 10 with finely serrated blades about 4.0-4.5 times longer than width of shaft (Figs 2 g, 3 d). Acicula dark honey-coloured.

Pygidium tripartite, with two larger lateral lobes and a smaller dorsal one (Fig. 3 b).

Remarks: *Namanereis gesae* n. sp. resembles *N. hummelincki* (Augener, 1933) from the Caribbean, *N. cavernicola* (Solís-Weiss & Espinasa, 1991) from Mexico, and *N. araps* Glasby, 1997 from Oman in having cirriform antennae, three pairs of tentacular cirri, no eyes, no notochaetae, and neurochaetae in type D arrangement (GLASBY 1999), i.e. including heterogomph pseudospinigers in sub-neuroacicular fascicles of parapodia. However, *N. gesae* clearly differs from these species in having jaws with 1-2 subterminal and 5-6 proximal ensheathed teeth, while jaws of *N. hummelincki*, *N. cavernicola*, and *N. araps* have only bifid terminal teeth and neither subterminal nor ensheathed proximal teeth. In contrast to *N. hummelincki* and *N. gesae*, the prostomium of *N. cavernicola* and *N. araps* is usually cleft anteriorly. Antennae in *N. gesae* and *N. hummelincki* are relatively short, i.e. reaching or only barely extending beyond tip of palpostyles, while they are clearly longer in *N. cavernicola* and *N. araps*. Tentacular cirri are short in *N. gesae* and *N. hummelincki* with posterodorsal cirri reaching backwards to chaetiger 2 only, while in *N. araps* they

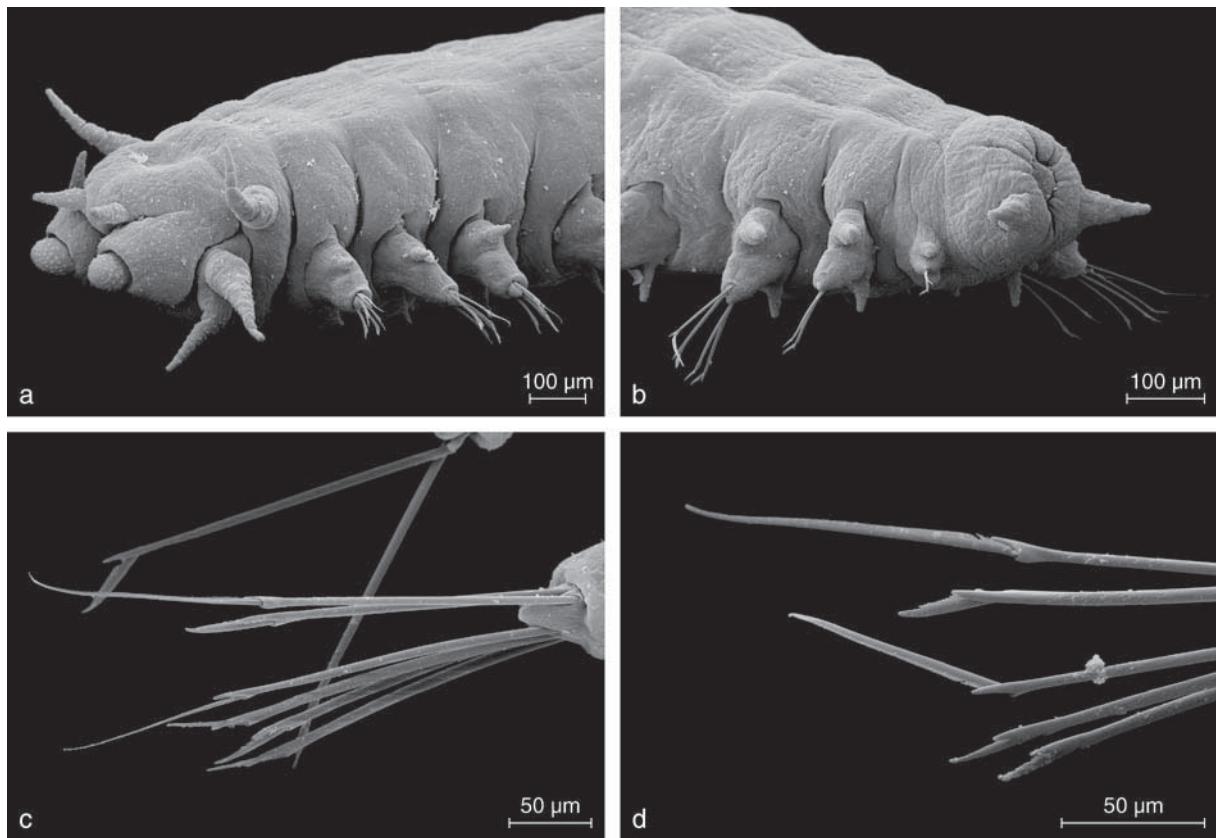


Fig. 3: *Namanereis gesae* n. sp., paratype, SMF 10370. a: Anterior end, left side in lateral view. b: Posterior end, left side in lateral view, dorsal side up. c: Chaetal fascicle, chaetiger 16 in posterior view. d: Chaetae, chaetiger 7, in posterior view; from top to bottom: supra-neuroacicular sesquigomph spiniger, supra-neuroacicular falciger, sub-neuroacicular pseudospiniger, two sub-neuroacicular falcigers.

reach to chaetiger 5 and in *N. cavernicola* to chaetiger 6 (3-9). Dorsal cirri are short in *N. gesae* and *N. cavernicola*, not or only slightly extending beyond parapodia, while they are distinctly extending beyond parapodia in *N. hummelincki* and *N. araps* (GLASBY 1997, 1999).

Habitat: The specimens were collected during fieldwork on Socotra Archipelago in February 1999. The two waterholes Mseyren and Jolat are situated on the highest point of Abd al-Kuri at 700 m above sea level and are only a few metres apart. They are permanent waterholes, with water of the same pH (8) and conductivity (3000 $\mu\text{S}/\text{cm}$), thus representing an oligohaline environment. Mseyren is a small pool situated under an overhanging rock. The specimens of *Namanereis gesae* were found in the upper few centimetres, in water-saturated sediment between ferns and mosses under a water drip adjacent to the waterhole. Jolat is a similar waterhole, but situated in a limestone cave. It can only be reached by a very narrow corridor which prevents daylight reaching inside the cave. Specimens of *N. gesae* were found in the sediment at about 1 m water depth. The absence of any other waterholes or even small drips in the mountains of Abd al-Kuri was confirmed by the local inhabitants. Mseyren and Jolat are only rarely visited by local people since they are difficult to reach and because there are other water sources near sea level.

Etymology: This species is dedicated to Dr. Gesa Hartmann-Schröder, formerly Zoological Institute and Museum of the University of Hamburg, who studied the taxonomy, systematics, and biogeography of polychaetes for more than 40 years. With her numerous publications she con-

tributed significantly to our current knowledge of this group. Dieter Fiege is especially thankful to her for generously passing on her library and card catalogues to him.

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Authors' addresses:

Dr. Dieter Fiege, Forschungsinstitut Senckenberg, Senckenberganlage 25, D-60325 Frankfurt a.M., Germany; e-mail: dfiege@sng.uni-frankfurt.de

Kay Van Damme, University of Ghent, Department of Biology, Laboratory of Animal Ecology, K.L. Ledeganckstraat 35, B-9000 Ghent, Belgium; e-mail: Kay.VanDamme@rug.ac.be