

Neanthes multidentata, a new species of Nereididae (Annelida, Polychaeta) from Sicily

*Neanthes multidentata, une nouvelle espèce de Nereididae
(Annélides, Polychètes) de Sicile*

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ABSTRACT

Fassari G., E. Mòllica, 1997 - *Neanthes multidentata, a new species of Nereididae (Annelida, Polychaeta) from Sicily*. Mar. Life, 7 (1-2) : 3 - 6.

A new species of Nereididae (Annelida, Polychaeta) is described from Salina Island (Sicily, Italy). *Neanthes multidentata* n. sp. differs from the other congeneric species in the number and the disposition of paragnaths and chaetes' structure.

RÉSUMÉ

Fassari G., E. Mòllica, 1997 - [Neanthes multidentata, une nouvelle espèce de Nereididae (Annélides, Polychètes) de Sicile]. Mar. Life, 7 (1-2) : 3 - 6.

Une nouvelle espèce de Nereididae (Annélides, Polychètes) est signalée à l'île Salina (Sicile, Italie). *Neanthes multidentata* n. sp. est différente des autres espèces du même genre, tant par la forme et la répartition des paragnathes, que par la structure des serpes.

INTRODUCTION

The *Neanthes* genus, instituted by Kinberg in 1866, includes more than 50 species. *Neanthes* was first considered as a *Nereis* subgenus and was afterwards raised to a genus. Until 1936 to *Neanthes* were referred all the species with paragnaths in all areas. Actually, to this genus belong the species that, apart from number of areas with paragnaths, present on the notopodia only homogomph spinigers chaetes. Many *Neanthes* species are only known through incomplete original descriptions. Nomenclatural changes have been numerous (Hartman, 1959), and some species are not held valid now. In the absence of a world-wide revision, it is often impossible, in spite of many works on the Nereididae family (Wu et al., 1985; Hartman, 1954; Hutchings, Turvey, 1982) to estimate the validity of

some species. The main genus characteristics are: four pairs of tentacular cirri; biramous parapodia; notopodia without homogomph falcigers, but only with homogomph spinigers; neurochaete homogomph and heterogomph spinigers and heterogomph falcigers.

For a correct species identification, it is important to see the shape and the distribution of paragnaths; however, to avoid dissection, a new identification method, based on parapodial observation, has been suggested by Pettibone (1971). In 1972, Faulchard considered this method as valid and proposed a grouping of *Neanthes* species based on chaetes and parapodial structures, but in 1977 he confirmed the importance of paragnath observation for species identification, because the interpretation of ligules and chaetes shape depends on the experience of the observer and it is very difficult to quantify.

MATERIAL EXAMINED

This study is based on five specimens collected, in May 1991, on the eastern coast of Salina Island (Sicily, Italy) near Faraglione rock, in a *Cystoseiretum sauvageauanae* phytocoenosis, at 15 meters depth (Cormaci et al., 1992).

Neanthes multidentata n. sp.

Description

The holotype (figure 1) is a complete specimen. Light brown in alcohol, 88 mm long and 6 mm wide with parapodia, for 147 segments. Prostomium relatively big, with two pairs of eyes and two large palps longer than antennae.

Eversible proboscis with very evident pointed conical dark paragnaths on maxillary and oral rings (figure 1a,b): group I = 4 cones in a rhombus cluster; II = 15-18 cones in two transversal rows, their size is decrescent in centripetal direction; III = about 50 cones in four rows; IV = 16-18 unequal cones in a diagonal group; V = 3 big cones, VI = 2 large cones on each side; VII-VIII = a distal row of single cones and a proximal irregular row of unequal paragnaths, jaws are dark with 7-8 teeth.

The first two pairs of parapodia are uniramous, the following biramous and similar throughout (figure 1f). Notopodia with two conical ligules, the ventral one with a black acicula. Neuropodia with a dorsal rounded ligule, with one black acicula, and a ventral conical ligule. Dorsal cirrus shorter than notopodial ligule in the first half of the body, ventral cirrus very short and placed at the notopodial lobe base. The middle and posterior parapodia resemble the anterior ones, but the posterior are smaller than the anterior and middle ones. Anterior parapodia, in neuropodia and notopodia, have homogomph spinigers with a long and smooth terminal piece (figure 1c). The notopodium has only the homogomph spinigers, while the dorsal lobe of neuropodium presents many spinous homogomph spinigers (figure 1d) and few denticulated heterogomph falcigers (figure 1e); in the ventral lobe there are the same chaetes, but in reverse proportion.

Posteriorly, the ventral neuropodial lobe lacks homogomph spinigers. Pygidium with two long thin anal cirri. Paratypes correspond to holotype in size and disposition of paragnaths and in chaetes shape.

Holotype and paratypes are deposited in the Department of Animal Biology of the University of Catania (Italy).

DISCUSSION

The specific name *Neanthes multidentata* refers to the peculiar disposition of paragnaths, big dark cones in all the areas; their disposition is typical and makes this species different from all the others congeneric ones. We compared our specimens with the *Neanthes* species close to the Sicilian one in geographic distribution or morphology. Often, in fact, the Mediterranean fauna is enriched by allochthon species migrated through the Suez Canal or Gibraltar. About 50 species of *Neanthes* were compared with *N. multidentata*, but all of these differ from the new species.

Only four species of *Neanthes* from the Italian Seas were reported in a recent checklist (Castelli et al., 1995): *N. caudata* (Delle Chiaje, 1828); *N. fucata* (Savigny, 1818); *N. kerguelensis* (Mc Intosh, 1885) and *N. succinea* (Frey, Leuckart, 1847), but none of these looks like the new species: *N. caudata* has groups V, VI and VII-VIII fused in a complete belt of little paragnaths; *N. kerguelensis* and *N. fucata* lack group V; *N. succinea* has the superior notopodial lobe enormously expanded.

N. multidentata n. sp. belongs to species group II B 2a proposed by Fauchald (1972). In members of this group notopodial lobes are longer than other parapodial lobes, parapodia lack papillae and falcigers are present.

N. multidentata n. sp. differs from all the other species of the IIB 2a group: *N. fucata* (Savigny, 1818), *N. abyssorum* (Hartman, 1967) and *N. sandiegensis* (Fauchald, 1977) lack paragnaths in area I and V (*N. abyssorum* also lacks paragnaths in area II, IV, VII-VIII); *N. ijimai* (Izuka, 1912), *N. brandti* (Malmgren, 1866), *N. oxypoda* (Marenzeller, 1879) and *N. succinea* (Frey, Leuckart, 1847) have superior notopodial lobe enormously expanded posteriorly. *N. articulata* (Knox, 1960) has the cirrophores of the tentacular cirri articulated.

In *N. sakkalinensis* (Okuda, 1935) and in *N. willeyi* (Day, 1934) area V is bare. *N. verrillii* (Grube, 1878) presents, like the Sicilian specimens, paragnaths in each area, but these are different in size, number and disposition.

Key to the Italian species of *Neanthes*, including the new species:

1. – group V, VI, VII-VIII fused
in a complete belt of little subequal paragnaths *N. caudata* 2
- group V and VI free
2. – posterior neuropodial lobe bigger than anterior one *N. succinea*
– posterior neuropodial lobe resembles the anterior one 3
3. – group V = 0; group VI = 1 big cone *N. kerguelensis*
– group V = 0; group VI = an irregular arrangement *N. fucata*
– group V = 3 big cones; group VI = 2 big cones *N. multidentata* n. sp.

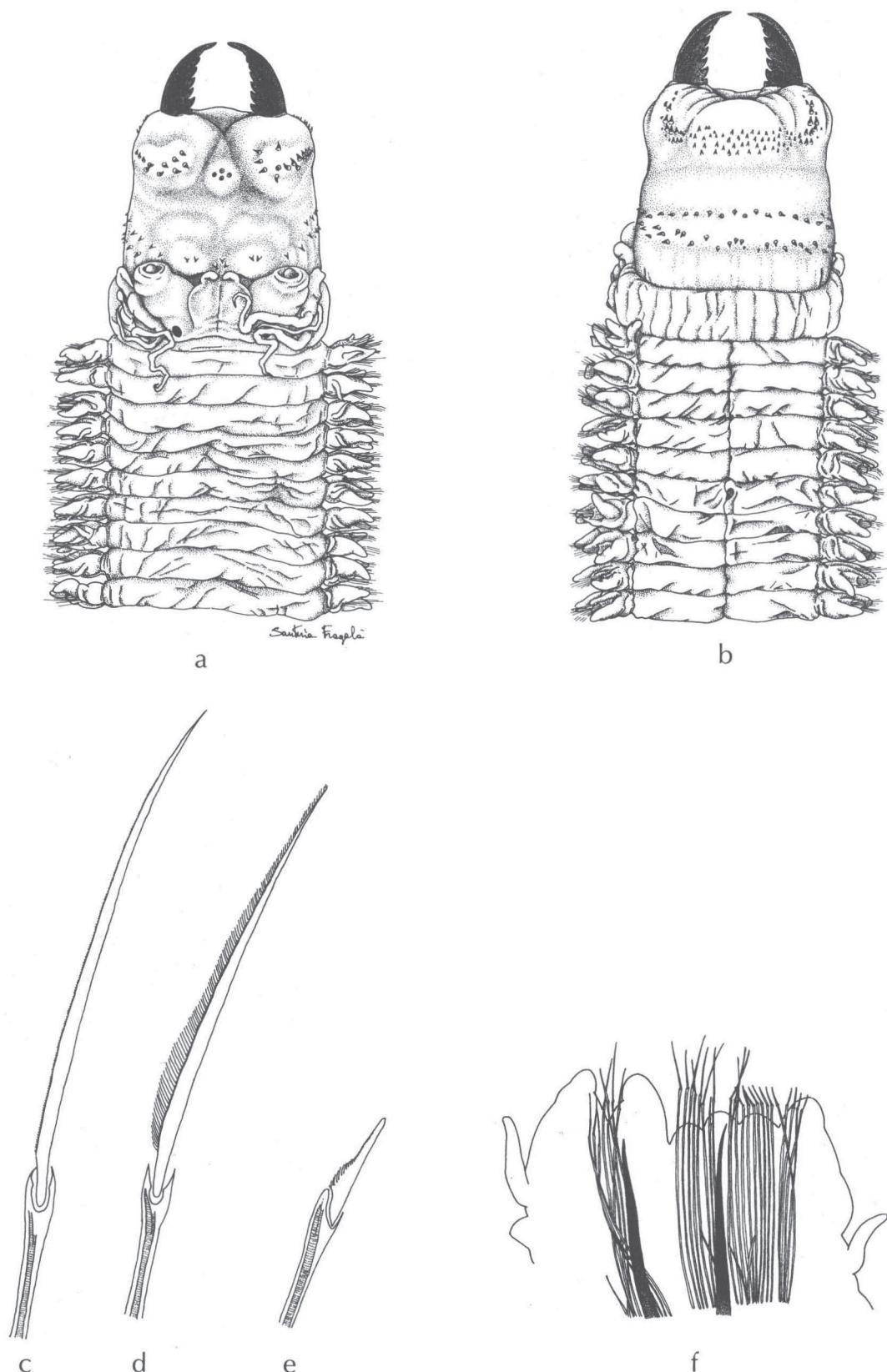


Figure 1- *Neanthes multidentata* n. sp.: a = anterior end, dorsal view; b = anterior end, ventral view; c = smooth homogomph spiniger; d = spinous homogomph spiniger; e = heterogomph falciger; f = 6th parapodium. / *Neanthes multidentata* n. sp. : a = région antérieure, vue dorsale ; b = région antérieure, vue ventrale ; c = serpe homogomphe lisse ; d = serpe homogomphe épineuse ; e = serpe hétérogomphe falcigère ; f = parapode antérieur.

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