

**A REVIEW OF THE COMESOMATIDAE
(FREE-LIVING MARINE NEMATODES)**

by

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SUMMARY

The Comesomatidae are among the most abundant nematodes in soft bottom sediments, and meiofaunal studies have shown that in a given locality 1-3 species may represent more than 40 % of the total nematode population (Table 1).

Based on studies of a large material from the Øresund (Denmark) and museum material with light microscopy, the gross and fine morphology of the family is reviewed and the systematic position of its members revised. A diagnosis, discussion and keys to each of the groups treated are given. For classification the following three main characters are used : the buccal cavity, the structure of the copulatory apparatus and the arrangement of the cephalic sense organs. A copulatory apparatus provided with apophyses and a female reproductive system with outstretched ovaries are considered as significant characters of the Comesomatidae within the Chromadorida. The presence of marginal tubes within the oesophagus, and a non-sclerotized and enlarged symmetrical tail tip are further distinguishing characters.

The structure of the *Sabatieria* type (Sabatieriinae) is considered basic ; from this condition the *Cervonema* type is derived with reduced characters, while representatives of Dorylaimopsinae and Comesomatinae show highly specialized conditions.

The genera are rearranged in three subfamilies as follows :

Sabatieriinae : *Cervonema*, *Laimella*, *Pierrickia*, *Sabatieria* (syn. *Actarjania*), *Scholpaniella*.

Dorylaimopsinae : *Dorylaimopsis* (syn. *Mesonchium*), *Hopperia*, *Metasabatieria*, *Paramesonchium*, *Vasostoma*.

Comesomatinae : *Comesoma*, *Metacomesoma*, *Paracomesoma*.

Acantholaiminae has been removed from the Comesomatidae because they show a closer relationship to the Neotonchinae (Cyatholaimidae).

TABLE 1

Mean dominance values of *Comesomatidae* in marine sediments

Study data	Mean Dominance of <i>Comesomatidae</i> : Total nematode fauna	Abundant <i>Comesomatidae</i> species
Øresund		
Present study		
Hornbæk		
silty sand, <i>Haploops</i> community, 28 m		
Station I (few <i>Haploops</i>)	42 %	<i>Dorylaimopsis punctata</i> , <i>Sabatieria ornata</i> , <i>S. aff. pulchra</i> ,
Station II (many <i>Haploops</i>)	42 %	<i>D. punctata</i> , <i>S. ornata</i>
North Sea		
MC INTYRE (1961)		} <i>Comesomatidae</i> and } <i>Oncholaimidae</i> more } than 50 % dominance ; } <i>D. punctata</i> , } <i>S. celtica</i> (1)
Fladen Grund		
silt, 146 m	?	
Loch Nevis		
silty clay, 90-100 m	?	
WARWICK & BUCHANAN (1970)		
Northumberland		
St. A fine sand, 35 m	27 %	<i>S. ornata</i> , <i>D. punctata</i>
St. B fine sand, 54 m	24 %	<i>S. ornata</i>
St. C silty sand, 80 m	38 %	<i>D. punctata</i> , <i>S. celtica</i> (1), <i>S. ornata</i>
WARWICK & BUCHANAN (1971)		
Northumberland		
St. C silty sand, 80 m	18-37 %	<i>D. punctata</i> , <i>S. celtica</i> (1) <i>S. ornata</i>
WARD (1973)		
Liverpool Bay		
Habitat 1-6, silty sand	14 % (2-70 %)	<i>Sabatieria</i> sp.
LORENZEN (1974)		
German Bight		
Titan disposal, fine sand, 23-27 m	17 %	<i>S. celtica</i>
St. A of Rador, silt, 20-25 m	58 %	<i>S. pulchra</i>
St. B of Rador, silty sand, 35 m	36 %	<i>S. pulchra</i>
JUARIO (1975)		
German Bight		
St. Alt P 12, silty sand, 35 m	18 %	<i>S. pulchra</i>

(1) As *Sabatieria cupida*.

Study data	Mean Dominance of Comesomatidae : Total nematode fauna	Abundant Comesomatidae species
Mediterranean		
BOUCHER (1973) Banyuls-sur-Mer silt, 35 m	54 %	} <i>S. proabyssalis</i> , <i>D. mediterranea</i> , <i>S. granulosa</i>
VITIELLO (1974) Marseilles St. 41-50, silt, 2-6 m St. 51-60, silt, 49-80 m	10 % 64 %	} <i>S. proabyssalis</i> , <i>S. pulchra</i> (2), <i>S. granulosa</i> <i>D. mediterranea</i>
VITIELLO (1976) Marseilles St. 61-70, silt, 55-82 m St. 71-80, silt, 310-650 m	35 % 39 %	} <i>S. stekhoveni</i>
Black Sea		
GROZA-ROJANCOVSKY (1973) mud, 19 samples	?	<i>S. abyssalis</i> , dominant in all samples
Eastern North Atlantic		
WIESER (1960) Buzzards Bay St. P, fine sand, 18-30 m	16 %	<i>D. metatypicus</i>
TIETJEN (1971) Cape Lookout, silty sand, 600 m Cape Fear, silty sand, 800 m North Carolina, 750 m	17 % 14 % 41 %	} <i>S. americana</i> <i>Comesoma</i> sp. <i>S. americana</i>
TIETJEN (1977) Long Island Sound St. 2, 7, 8, 13, 82, mud, 6-31 m St. 10, 86, 100, muddy sand, 5-28 m St. 25, 103, 105, 126, fine sand 5-21 m St. 14, 23, 67, 90, 128, 130, medium coarse sand	42 % 23 % 20 % 10 %	} <i>S. pulchra</i> <i>S. pulchra</i> <i>D. metatypicus</i> , <i>S. pulchra</i> <i>S. hilarula</i> , <i>D. metatypicus</i>
GERLACH (1977) Bermuda medium calcareous sand, intertidal flat natural sand treated sand	24 % 48-72 %	} <i>S. migrans</i> , <i>C. bermudense</i>

(2) As *Sabatieria vulgare*.