

Cumacea from the North Sea

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Distribution of Cumacea in the North Sea plankton has been studied. Six species of Cumacea are identified from Hardy's continuous plankton recorder and plankton indicator samples collected by the Oceanographic Laboratory, Edinburgh during 1952-1963. *Pseudocuma longicornis* is the most common and widely distributed. *P. gilsoni* is a new record for the North Sea. Though previous records show the presence of more species of Cumacea in the North Sea, the present studies reveal that at least one species - *P. longicornis* - is abundant in the South North Sea, with maximum during Aug.-Sept. in the coastal waters.

Cumacea of the North Sea are known mainly from the work of Sars¹. Many species known previously as endemic to North Sea are later recorded from the Mediterranean and the west coast of British Isles². Though Cumacea are essentially bottom living organisms, occasionally specimens have been collected in the plankton also, mostly during night.

The present paper is based on the Cumacea separated from the Hardy's^{3,4} continuous plankton recorder samples collected from the North Sea during 1958-1963 and deposited in the erstwhile Oceanographic Laboratory, Edinburgh (presently known as Institute for Marine Environmental Research, Plymouth, UK). Some of the previous collections obtained using the Hardy's⁵ plankton indicator are also included here.

Analysis of collections showed 2 zones of distribution - a southern and a northern one. The maximum number was noted in the southern North Sea especially near east coast of England, the maximum abundance being in Aug. 1962. A good number of specimens were also seen distributed along the Netherland coast.

Although 37 species were hitherto recorded from the North Sea⁶, the present collections provide only 6 species, viz. *Pseudocuma longicornis* (Bate), *P. similis* Sars, *P. gilsoni* Bacescu, *Diastylis cornuta* (Boeck), *Bodotria* sp. and *Diastylis* sp.

P. longicornis was the most common species in the North Sea with wide distribution. More than three-fourths of the total number were from the east coast of England. It was previously recorded² from Norway, Mediterranean, Vietnam and South African Coasts. During 1958 and 1959 the species occurred from Feb. to Aug. in the southern part of the North Sea in the plankton collected during the night, but a decreasing trend was noticed during 1960 and it was present only in Sept. and Oct. In 1961 the species was collected during all the months except in March, May and June

with maximum abundance in Oct. It is interesting to note that most of the specimens occurred in the plankton collected during night and only very few in the day collections. During Aug. 1962 it was collected in large numbers from the east coast of England. In 1963 day collections also yielded some specimens. Study of ecological conditions revealed that *P. longicornis* preferred a sandy deposit with a large percentage of detritus.

Only a few adult male and female specimens of *P. similis* were obtained during 1960, 1961 and 1962 and it was found along the north east and south east regions of North Sea. Most of the specimens were collected in Sept. The species was previously known⁷ from west coast of Norway, North Sea, Scotland, Ireland and northeast England.

One adult female and a few young males of *P. gilsoni*, a new record from the North Sea, were obtained during 1958, 1961, 1962 and 1963 during Aug. and Nov. *P. gilsoni* occurred in the day as well as in night collections and had a limited distribution along the southern part of the North Sea. Previously⁸ it was recorded from Port Erin bay.

Only one specimen of *D. cornuta* was obtained during Oct. 1962 from the north east coast of England in the night collection. *D. cornuta* was previously recorded⁷ from the coasts of Norway, France and British Isles.

An immature male (4 mm) of *Bodotria* sp. was obtained from Aberdeen (east coast of Scotland) in the night collection. The species identification was not possible and so its description is given here showing the salient characters. Basis of first peraeopod longer than the other segments combined together, inner margin very finely serrated throughout, with one long and one short plumose setae terminally. Bases of the other peraeopods shorter than the combined length of the remaining segments. Peduncle of uropod twice as long as the subequal uropods, without any spines or setae;

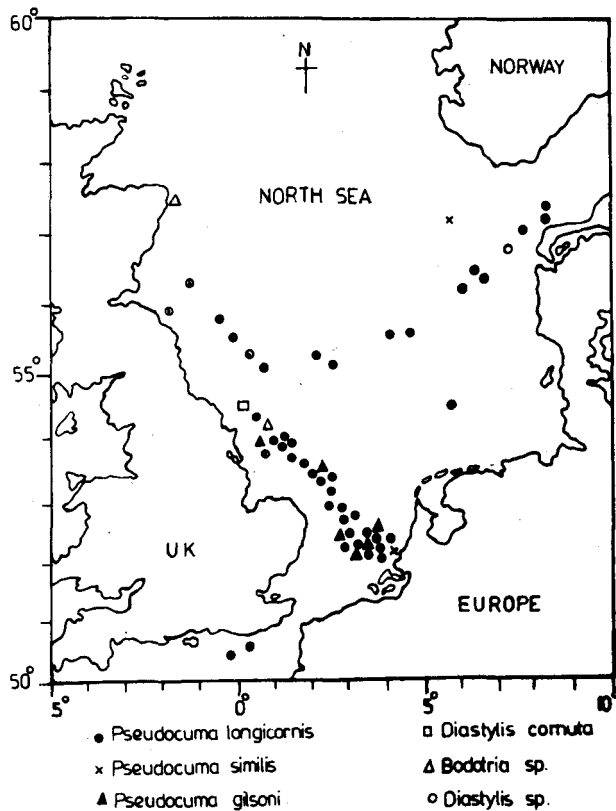


Fig. 1—Distribution of Cumacea in the North Sea

endopod with five marginal spines and exopod with seven or eight plumose setae on the inner margin.

Two more specimens of *Bodotria* sp. and one *Diastylis* sp. were also obtained, which were completely damaged and as such identification up to species level was not possible.

Analysis of Cumacea in the plankton recorder

samples showed that *P. longicornis* was widely distributed (Fig. 1) in the North Sea with maximum abundance in the southern region. It was also seen that the species often comes to surface at night when they were caught in the plankton net. Cumacea was present in large numbers near the shore during Aug. and Sept. and very scarce in May and June. Although earlier studies⁶ showed that the northern part of North Sea is richer in Cumacea, the present collections showed that there are more specimens of at least one species in the southern part. The most prominent species in the plankton recorder was *P. longicornis*, while plankton indicator samples mainly from the northern part of the North Sea showed the predominance of the species *P. similis*.

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