

CIRRATULIDAE

The cirratulids are one of several families which are troublesome to identify. This is primarily because the original descriptions were often very poor and little good revisionary work has been done. Another complication is the need, in most identifications, for entire specimens; the form of the setae being of major importance. In many cases the characteristic setae are only to be found in the posterior body region, thus anterior fragments may be indeterminable.

There is no reason why cirratulids should be so hard to identify. Nevertheless, it will be necessary to redescribe most of the taxa, taking note of other underused features (e.g. shape of head, body and tail, form of pygidium, size-related variation) before major progress can be made.

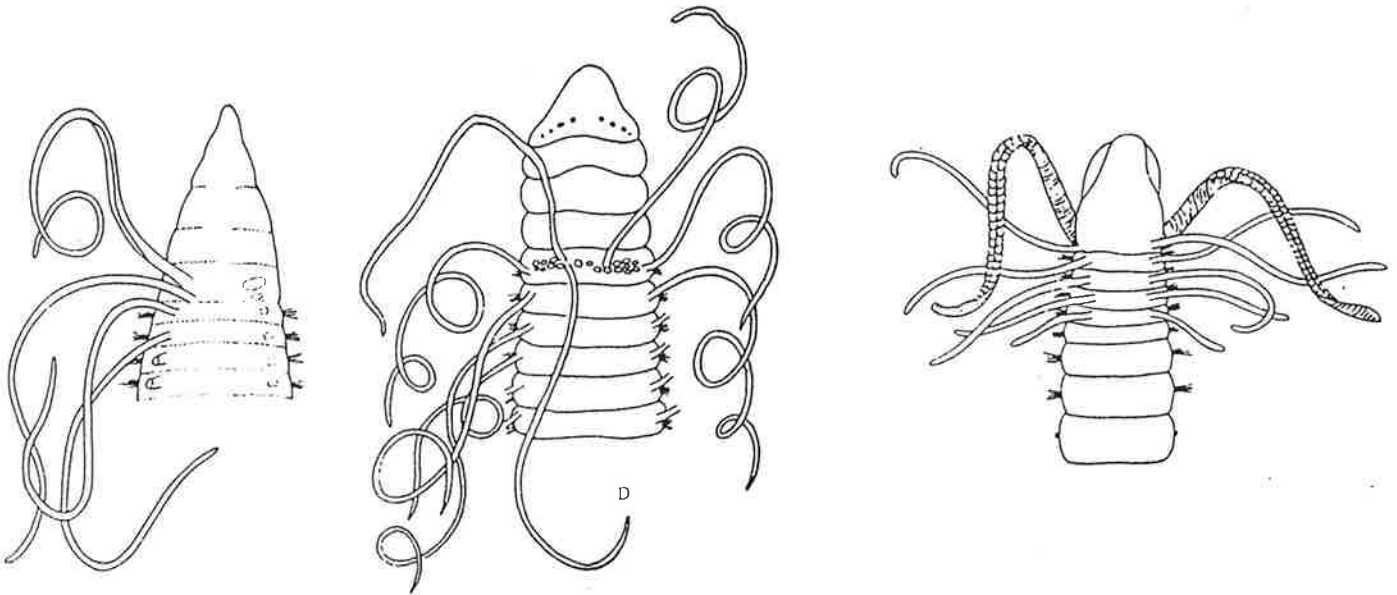
A partial revision of the genera by Blake (1991) has upturned the nomenclature of a number of species found in our waters. These changes are detailed below.

IMPORTANT TAXONOMIC CHARACTERS

Prostomium — The shape of the prostomium is a useful feature. It can vary from sharply pointed (e.g. *Caulleriella*, *Chaetozone*) to bluntly rounded (e.g. *Cirratulus*, *Cirriformia*, *Dodecaceria*). Eyes may be present (either 1 pair or multiloculate) or absent. A pair of nuchal slits are present and it is thought that in some species the pair of eyes are actually pigmented nuchal organs.

Peristomium/anterior segments — The buccal segment is variously fused with a number (2 or 3?) of asetous anterior segments. The region is often faintly annulated and commonly (see below) bears the grooved tentacular palps and sometimes the first branchiae near its border with the first setiger. The position and relative arrangement of the tentacular palps and first branchiae are important taxonomic features.

The combined shape of the prostomium/anterior asetous region is of potential use in identification. Within *Chaetozone*, for example, we have seen a number of species (from various locations in Europe and further afield) that can clearly be distinguished by this part of the body. It is worthwhile for any worker to examine this region closely. By reference to entire specimens from the same samples, it is often possible to assign anterior fragments to known species. These identifications can be strengthened if they can be 'matched' with appropriate tail fragments— so always pick out the tails in the sorting process!



Chaetozone
/ Caulleriella

Cirratulus

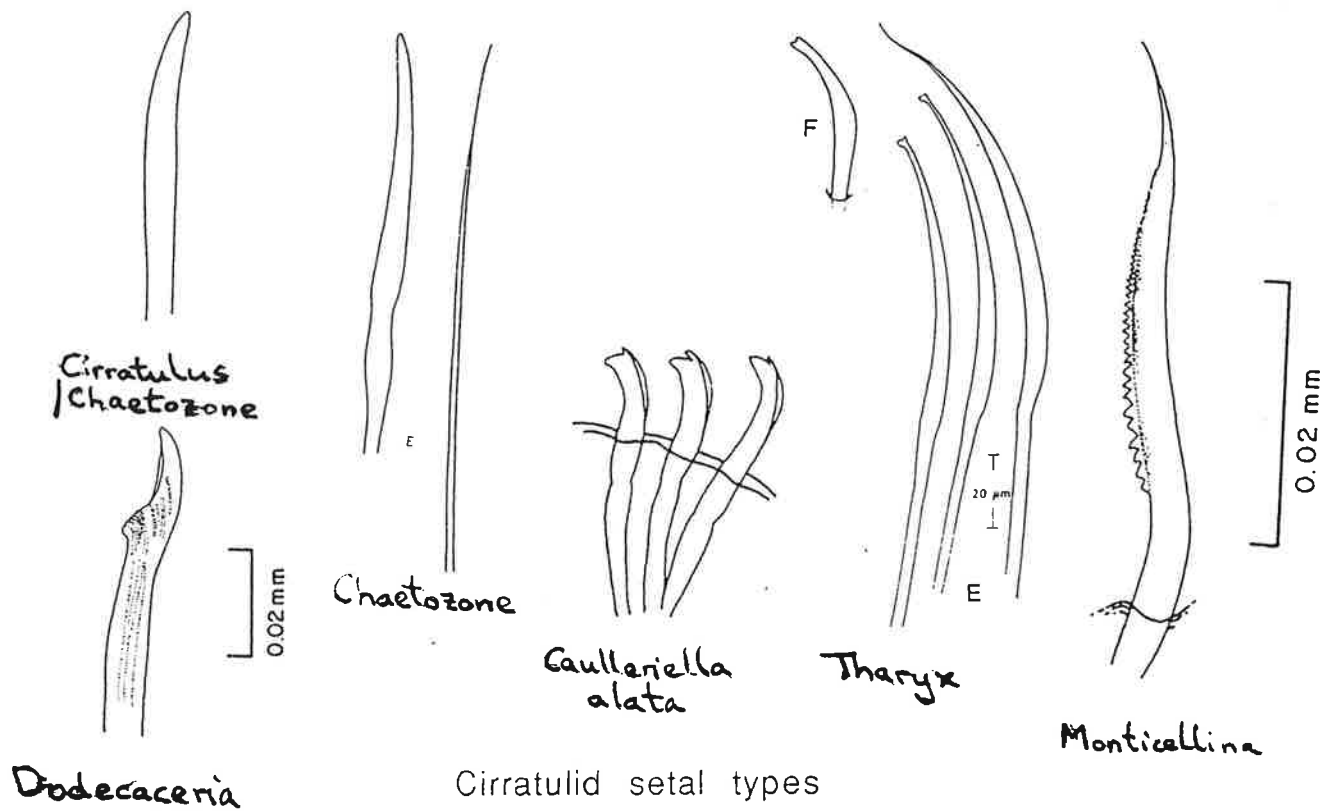
Dodecaceria

Tentacular palps - These are the grooved tentacular structures that are used in feeding. In most genera there is only a single pair and they generally arise on the anterior asetous region; in some cases they can project from one of the anterior setigers though their origin is peristomial. These are deciduous features and their presence is often indicated by a pair of scars or short basal stumps. In *Cirratulus* and *Cirriformia* there are usually many tentacular palps (one European species of *Cirratulus* has only one pair). In *Cirratulus* they arise at the anterior margin of setiger 1, while in *Cirriformia* they arise from between one of the anterior setigers. The number of tentacular palps varies between species and with specimen size.

Branchiae - The branchiae in cirratulids take the form of long filaments. Their number is extremely variable but they commonly arise above each notopodium in the anterior body region, often becoming more sporadic posteriorly. As previously mentioned, the position of the first branchiae can be a key feature. Equally important can be the position of later branchial filaments relative to the setae. For example, in *Monticellina dorsobranchialis* the filaments progressively move toward the mid-dorsum over the anterior setigers and thereafter occur more or less in a single line.

The number of branchial filaments can be important in distinguishing species of *Dodecaceria*.

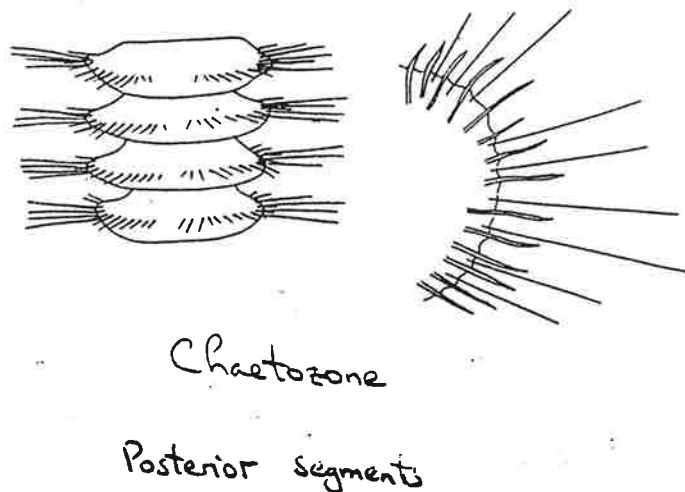
Parapodia - The parapodia in cirratulids are generally reduced with the setae emerging directly from the body wall.



Setae - The setae are of major importance in the family, being characteristic for different genera. Thus, for example, *Tharyx* has distinctive knob-tipped setae in the posterior region, *Monticellina* has serrated capillary setae, *Dodecaceria* has spoon-like hooks and *Aphelochaeta* has only simple capillaries.

In cirratulids with acicular spines or hooks the setiger of introduction (in neuropodium in particular) is an important, but sadly understudied, character. Little work has been done on size related variation.

Pygidium - The structure of the pygidial region has received little attention as a taxonomic feature. Some cirratulids have a small rounded ventral pygidial lobe, a few can even have two anal cirri. Reports on these are so infrequent that, at present, the pygidium is of little use. It could prove a useful supplementary character however.



Chaetozone

Posterior segments

TENTATIVE KEY TO CIRRATULIDS FROM UK WATERS

Due to the changes in nomenclature and the uncertainty as to which species are actually present we have restricted this key to those we have seen from the shore or shallow water. A fair number of undescribed species occur in the deeper waters near the shelf edge and beyond. Also note that we have doubts about the generic placements of some species*.

1. Prostomium pointed.....2
- Prostomium broadly rounded.....11
2. Hooks or acicular spines present.....3
- Setae all capillary (some may be serrated).....8
3. Acicular spines present in both rami, generally forming 'rings' around posterior setigers.....*Chaetozone*4
- Acicular spines (if present) restricted to neuropodium; bidentate hooks may be present in both rami but do not form 'rings'.....5
4. Eyes present; anterior dorsum arched, hump-like; posterior region evenly tapered*Chaetozone* n. sp. (WOODHAM & CHAMBERS)
- Eyes absent; anterior dorsum smoothly rounded; intersegmental areas in posterior region markedly constricted, concertina-like.....*C. setosa*
MALMGREN, 1867
5. Acicular spines in neuropodia only.....'*Caulleriella*' *zetlandica**
(McINTOSH, 1911)
- Bidentate hooks in both rami6
6. Hooks with distinctive knob-like tips (having superficial appearance of being broken capillaries); notopodial hooks long, neuropodial hooks short.....*Tharyx killariensis* (SOUTHERN, 1914)
NEUROPODIAL HOOKS FROM SETIGER 10
- Hooks clearly bidentate, all short.....7
7. Neuropodial hooks from setiger 1; hooks with narrow flange or wing on convex side.....*Caulleriella alata* SOUTHERN, 1914.
- Neuropodial hooks from setiger 3; hooks lacking wing
.....*Caulleriella bioculata* (KEFERSTEIN, 1862)
8. Setae all smooth capillaries.....*Aphelochaeta*.....9
- Setae include serrated capillaries; posterior region swollen, 'globe-like'.....*Monticellina dorsobranchialis* (KIRKEGAARD, 1959)
9. Eyes lacking.....10
- Single pair of small eyes present posterior region only slightly swollen.....*A. multibranchiis* (GRUBE, 1863)
10. Posterior region swollen, 'globe-like'.....*A. marioni*
(SAINT-JOSEPH, 1894)
- Posterior region tapered.....'*A.*' *vivipera** (CHRISTIE, 1984)
11. One pair of tentacular palps, up to 8 pairs of branchial filaments restricted to anteriormost region; spoon-like hooks present.....
-*Dodecaceria*12
- Usually many more than one pair of tentacular palps, branchial filaments numerous, not restricted to few anterior setigers; spoon-like hooks absent.....13

12. Nuchal organs large, sinuous; hooks smooth at base of spoon.....
*D. concharum*. ÖRSTED, 1843
 -- Nuchal organs oval; hooks with tooth at base of spoon.....
*D. fimbriata* VERRILL, 1879
13. Tentacular palps arise about setigers 6-7.....*Cirriformia tentaculata*
 (MONTAGU, 1808)
 -- Tentacular palps arise at head/setiger 1 boundary.....14
14. One pair of tentacular palps; acicular spines long, slender (offshore
 species).....*Cirratulus* sp.
 -- Many pairs of tentacular palps; acicular spines short, robust (shore
 species).....*Cirratulus cirratus* (MÜLLER, 1776)

Aphelochaeta BLAKE, 1991

Blake (1991) re-examined the syntypes of *Tharyx acutus* Webster & Benedict, 1887, the type species of *Tharyx*, and discovered knob-tipped hooks. This altered the generic diagnosis and left species previously in *Tharyx* without a generic name. *Aphelochaeta* was proposed for all species agreeing with the former understanding of *Tharyx*.

Caulleriella CHAMBERLIN, 1919

Currently a very heterogeneous genus. *Caulleriella* is clearly a bit of a dustbin for species that do not fit easily into some other genera. *C. caputesocis* is not included here since its identity is unclear. We have not seen any species agreeing with the published descriptions.

Chaetozone MALMGREN, 1867

Chaetozone is a common genus in our waters but the species are underestimated. This is partly due to our current lack of understanding of *C. setosa* Malmgren. This species needs to be redescribed. Woodham & Chambers have submitted a manuscript describing a new species at the recent 4th International Polychaete Conference in France.

Cirratulus LAMARCK, 1801

There are at least two species in UK waters— *C. cirratus* (Müller, 1776) and another species that is possibly *C. caudatus* Levinsen, 1893.

Cirriformia HARTMAN, 1936

May be more than one species present, e.g. *C. norvegica* (Quatrefages, 1866)? This needs re-examination.

Dodecaceria ÖRSTED, 1843

Currently being investigated by Peter Gibson. The key to species above reflects his current opinion.

Monticellina LAUBIER, 1961

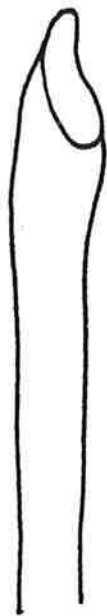
Originally described for *M. heterochaeta* from the Mediterranean. Blake (1991) has shown this to be a junior synonym of *Cirratulus dorsobranchialis* Kirkegaard, 1959 described from off West Africa.

Tharyx WEBSTER & BENEDICT, 1887

Redefined by Blake (1991) to include only those bipalpal species having knob-tipped hooks.

SELECTED REFERENCES

- BLAKE, J. A. 1991. Revision of some genera and species of Cirratulidae (Polychaeta) from the western North Atlantic. In *Proceedings of the 2nd International Polychaete Conference, Copenhagen 1986* (Ed. M. E. Petersen & J. B. Kirkegaard) *Ophelia*, 5: 17-30.
- CHRISTIE, G. 1984. A new species of *Tharyx* (Polychaeta: Cirratulidae) from five estuaries in north-east England.- *Sarsia*, 69: 69-73.
- GIBSON, P. H. 1978. Systematics of *Dodecaceria* (Annelida: Polychaeta) and its relation to the reproduction of the species.- *Zool. J. Linn. Soc.*, 63: 275-287.



Dodecaceria concharum



Dodecaceria fimbriata