R

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BRITISH SPECIES OF THE GENUS SYLLIS

The genus is used in the sense of San Martin (1984) to include those species of the subfamily Syllinae in which the pharynx is armed only with a single tooth, situated at or close to the anterior pharngeal margin and in which most chaetae are compound. It includes *Typosyllis* and *Langerhansia*. The genus *Ehlersia* is now referable to the subfamily Eusyllinae. In the subfamily Syllinae, the genera *Trypanosyllis* Claparede, 1868, *Haplosyllis* Langerhans, 1879 and *Eurysyllis* Ehlers, 1864 are known to occur in British waters in addition to *Syllis*.

The following species have been recognised in British waters, although in the majority of cases it has not yet been possible to assign names to them with any certainty. The state of the taxonomy of the genus remains very confused, with many species currently having very wide geographical distributions. The taxonomically useful characters are gradually becoming apparent, but very little information is available on size related variation in such characters as chaetal blade lengths and the length and numbers of articles in the dorsal cirri. Undoubtedly the understanding of the genus, as for many other syllids, is not helped by the often high diversity with low numbers of individuals of each species in collections. Generally speaking, most of the earlier descriptions are far too vague to be of much value, and, in particular, very little attention has been paid to the acicula. Many of the more frequently recorded species have been identified on unreliable characters, and consequently the literature is very confused.

Having begun my examination of members of the genus on the coast of northeast England, I started with a very limited number of species. However, after having the opportunity to look at an excellent collection of material from the Irish Sea, forming part of the National Museum of Wales survey, I have now seen specimens belonging to some 14 species of the genus. My initial approach has been to separate taxa and to give each a letter, even though some can be assigned to existing species with reasonable confidence. This reflects my confusion arising from the descriptions available in the literature, and should not be taken as an indication that I think there are a large number of new species in the British Fauna. Whether some or any turn out to be new to science will only become apparent after the tedious detective work that forms the backbone of taxonomy.

The species briefly described below (*Syllis* sp. A- *Syllis* sp. N) are predominantly of southern and western distribution. Species described from further north may also be expected to be represented in the British Fauna.

Syllis sp. A

Occasional specimens from southern England

Anterior body often with dorsal pigment, in the form of central patch on each segment, and one (sometimes two) stripes, incomplete around the midline. A distinct pigment spot is present at the base of each dorsal cirrus. The proventriculus begins at approximately setiger 8, pharynx/proventriculus about 1.0; Proventriculus length/width approximately 3.0. Moderately long dorsal cirri the longer ones with at least 20 articles, and probably up to 35 in large specimens; all falcigers short-bladed and distinctly bidentate. 2 acicula throughout the body, one of which is moderately stout and just emergent, whilst the other is thinner and has a bent tip.

In its pigment pattern and relatively short chaetal blades, this species is reminiscent of some of what McIntosh (1908) describes under the name of *Pionosyllis prolifera* Krohn, 1852 (which is a *Syllis* species according to his figures and description), although my specimens do not agree with what San Martin (1984) describes as *Syllis prolifera*.

Syllis sp. B (ASYM)

Numerous specimens from all around Britain

Anterior body often with dorsal pigment, in the form of a central patch on each segment and one (sometimes two) stripes anterior to each median spot, these stripes being incomplete around the mid-line. Sometimes two spots are seen at the base of the dorsal cirrus of anterior segments. The proventriculus begins in approximately setiger 12, and has 32 major muscle rows after dissection; pharynx/proventriculus about 1.25. Short cigar-shaped dorsal cirri; anterior falcigers bidentate, those of the mid-body unidentate or minutely bidentate with shortened blades. 2 acicula of equal thickness with characteristic shapes in post-proventricular parapodia.

This agrees well with many of the descriptions of *Syllis armillaris* Muller, 1771, although the reports of this species from a very wide geographic area suggest that more than one species may currently be included under this name. *Syllis alternosetosa* Langerhans, 1887 shows some of the characteristics of the chaetae of *Syllis armillaris*, but accordiug to the original description has longer dorsal cirri with 16-20 articles. The *Syllis armillaris* described by Ben-Eliahu (1977) from the Mediterranean clearly differs from that found in British waters and from the description given by San Martin (1984) in both the chaetae and the acicula.

Syllis sp. C (ASYM)

Numerous specimens from sublittoral samples from the Irish Sea

Characteristic dorsal pigment pattern, reminiscent of a pair of spectacles on each segment; pharynx in first 9 setigers, proventriculus length/width 3.5; pahrynx/proventriculus 1;distinctly bidentate falcigers along whole body length, showing intra-parapodial variation in blade length 20-40um; long dosal cirri with approximately 20 articles, taking up some Rose Bengal; several thin acicula anteriorly; stout pointed emergent aciculum in mid-body and posterior setigers.

This species agrees well with many of the descriptions of *Syllis variegata* Grube, 1860, although as in the case of S. armillaris, more than one species may be included under this name. The species found in British waters certainly agrees with the detailed description of *Syllis variegata* given by San Martin (1984) from the Balearic Islands.

Syllis sp. D (ASYM)

Numerous specimens from sublittoral samples from the Irish Sea

Lacking dorsal pigment; proventriculus in setigers 10-20, length/width 6; pharynx/proventriculus 0.8; anterior dorsal cirri thin with maximum of 18-19 articles, becoming more tapered and with up to only 13-14 articles in post-proventricular segments; anterior chaetae bidentate, 16-32 um; in post-proventricular segments appearing unidentate, rather stouter, blades 18-30 um; further back blades reduce to 16-26 um; anterior parapodia with multiple thin acicula; post-proventricular with 3 stouter acicula, reducing to two; eventually the thicker of the two, with a rounded tip, becomes emergent, and in the most posterior segments only this stout emergent aciculum is seen.

Very similar to *Syllis armillaris*, except for the absence of pigmentation and the presence of a single emergent aciculum in posterior segments, this may be the species which San Martin calls *Syllis hyalina* Grube, 1863, but further examination of its chaetae in particular is required.

Syllis sp. E (ASYM)

Numerous specimens from sublittoral samples from the Irish Sea

Thin bodied species with no dorsal pigmentation. Characteristic dorsal cirri, with inclusions in the articles taking up Rose Bengal very clearly; mid-body segments with 18-20 articles and up to 23 in the largest specimen seen; proventriculus in approximately setigers 9-15, with 27-28 major muscle rows; length/width approximately 4.0; pharynx/proventriculus approximately 1.0; chaetae include pseudospinigers and falcigers; anterior setigers with 1-3 pseudospinigers with blades of 50-60 um and several falcigers with blades of 10-14 um; post-proventricular segments with 1 or 2 pseudospinigers of blade length 82-92 um, and 3-5 falcigers with blades of 10-20 um; anterior segments with several thin acicula; post-proventricular segments with 2 equal acicula, thin, one with pointed tip and the other with obliquely cut off tip; in posterior segments, the latter acicula becomes slightly stouter, and tends to obscure the former.

NB. This species keys out as '*Syllis* sp. A' in my earlier pictorial key to syllids

Syllis sp. F (ASYM)

Occasional specimens taken in sublittoral samples from the Irish Sea

Long dorsal cirri, with up to 30 articles, not taking up any stain; dorsal cirri originating high up on the body wall and showing pattern of longer cirri originating higher up than the shorter ones; usually no dorsal pigment pattern, but anterior dorsum with dull, matt appearance; occasional specimens have diamond shaped pigment patch dorsally on some posterior segments, and stolons may have inter-segmental pigment ventrally; pharynx well chitinised, which is visible through the body wall in fixed material, with single dorsal tooth; short proventriculus in setigers 8-12, length/width 2.5; pharynx/proventriculus 1.0; short bidentate falcigers; in anterior setigers some variation in blade length 16/11; posterior to the proventriculus blades are shorter 10/6 and more markedly bidentate; unidentate simple dorsal seen from setiger 19 in a 52 setiger individual, with bidentate simple ventral from 35; 2 acicula in post-proventricular segments; distinct pre- and post-chaetal lobes dorsally on the parapodia.

Syllis sp. G

Several specimens from coarse sand/stones in shallow sublittoral off Northumberland, and other stations in the North Sea

Dorsal cirri moderately long, with more than 20 articles, and probably many more in large individuals, containing prominent inclusions; no dorsal pigment pattern; post-proventricular region tends to be somewhat flattened; falcigers bidentate with considerable intra-parapodial variation in blade length (ratio longest to shortest 10:4), and with prominent spines along cutting edge; thinnish emergent aciculum from setiger 1, accompanied by 1-2 others; in post-proventricular region, emergent aciculum stout, often with a worn tip, accompanied by a slightly less stout non-emergent pointed aciculum. Proventriculus relatively thin, in approximately setigers 8-16, with 37 main muscle bands and equal to pharynx in length.

NB. This is the '*Syllis* sp. B' of my earlier pictorial key to syllids.

Syllis sp. H (ASYM)

Numerous specimens taken in sublittoral samples from the Irish Sea; also from the Moray Firth

No pigment pattern; eyes poorly defined, often difficult to see; pharynx well chitinised with a prominent dorsal tooth; proventriculus in setigers 12-19 (11-20), length/width 4.3; parynx/proventriculus 1.2; dorsal cirri obviously thin, with a maximum of 13 articles; falcigers all short-bladed, minutely bidentate; blade lengths 14-16 um; anterior segments with 3-4 equal thin acicula with obliquely cut off tips; posteriorly single stout aciculum, with bluntly rounded tip bent at a slight angle.

The shape of the acicula is reminiscent of *Syllis gerlachi* Hartmann-Schroder, 1960, described from the Red Sea, although this species has distinctly bidentate falcigers.

NB. This species keys out to *'Syllis hyalina'* in my earlier pictorial key. This is probably not the correct name.

Syllis sp. I

Single specimen from Gouliot Caves, Sark, collected by R.N. Bamber

Small specimen with only about 45 setigers. Feint transverse stripes on anterior dorsum; short, wide pharynx with distinct dorsal tooth; proventriculus short, in setigers 6-10, length/width 2.0; some dorsal cirri missing, up to 21 articles in mid-body; chaetae short bladed unidentate falcigers, 10-20 um; simple dorsal chaeta from setiger 22, thin, curved and tapering; 2 acicula throughout, thin, one with distinctly bent tip.

The unidentate chaetae are suggestive of *Syllis vittata* Grube, 1840, but according to Fauvel (1923) this species has a long pharynx and long proventriculus, and up to 40 articles in the dorsal cirri.

Syllis sp. J (ASYM)

Several specimens from sublittoral samples from the Irish Sea

No pigment pattern; proventriculus in setigers 10-18, length/width 4.5, with 33 major muscle rows in dissected state; pharynx/proventriculus 0.8, pharynx well chitinised with a small dorsal tooth almost at the anterior margin; short cigar-shaped dorsal cirri with up to 17 articles; anterior setigers with bidentate falcigers with blades of 18-20 um accompanied by 3 pseudospinigers with knobbed tips with blades of approximately 40-60 um; post-proventricular segments with falciger blades of 14-24 um and pseudospinigers with blades of up to 120 um in large specimens; bidentate nature of falcigers is more apparent in more posterior segments; unidentate simple dorsal and bidentate simple ventral chaetae present in extreme posterior segments; post-proventricular segments with 3 or 4 acicula, equal in thickness and non-emergent.

This may be *Syllis cornuta* Rathke, 1843. Seems to be often found in empty gastropod shells.

***Syllis* sp. K**

Several specimens from Gouliot Caves, Sark, collected by R.N. Bamber

No obvious pigment pattern; proventriculus length/width 4, with 41 muscle rows; pharynx/proventriculus 1.1; dorsal cirri short with a maximum of 11 articles; ventral cirri tending to be swollen and globular, especially in anterior segments; anterior chaetae minutely bidentate, 12-30 um, with teeth along cutting edge ; in post-proventricular segments the number of chaetae reduces, the blades of some 'slip down' the shaft and show varying degrees of fusion; by setiger 25 fully developed simple chaetae are present, consisting of blade fused to shaft; usually 2 such simple chaeta per parapod; in posterior segments, bidentate falcigers reappear, firstly together with specialised simple chaetae, and then without them; anterior segments with 2 acicula, becoming slightly thicker in post-proventricular segments.

This species is *Syllis gracilis* Grube, 1840. These specimens agree with the description of the species given by San Martin (1982).

***Syllis* sp. L** (ASYM)

Only a single specimen from a sublittoral sample from the Irish Sea

Dorsal cirri not taking up stain, markedly unequal in length; no pigment pattern; bidentate falcigers showing variation in blade length; post-proventricular parapodia with 2 acicula.

***Syllis* sp. M** (ASYM)

Only a small number of specimens from sublittoral samples from the Irish Sea and one from the Shetland Islands

Thin dorsal cirri of medium length; no pigment pattern; chaetae short unidentate falcigers; post-proventricular parapodia with single stout emergent aciculum.

***Syllis* sp. N**

Anterior dorsum with transverse pigment stripes; pharynx and proventriculus short, proventriculus length/width approximately 1.4; dorsal cirri markedly unequal both in length and thickness; anterior chaetae bidentate falcigers, with some variation in blade length 20-30um; in post-proventricular region, blades become shorter and shafts stouter; 3 acicula in anterior segment, one much thinner than the other two; post-proventricular segments with 2 and eventually one aciculum, stout, with slightly bent tip.

This is almost certainly *Syllis krohnii* Ehlers, 1864.

OBSERVATIONS ON POSSIBLE USEFUL CHARATCERS

CHAETAE

Chaetae in the genus *Syllis* include both simple and compound forms. **Simple** chaetae are normally found in the most **posterior** segments, as single **dorsalmost** and **ventralmost** chaetae in the parapodium. These are either simple pointed chaetae, or sometimes have a secondary tooth developed. The presence or absence of these chaetae should be treated with caution, as the processes of stolonisation are likely to have a major influence. Simple chaetae also occur in mid-body segments of the species *Syllis amica* Quatrefages, 1865 and *Syllis gracilis* Grube, 1840. **Compound** chaetae include **short-bladed falcigers**, which may be clearly **unidentate,** distinctly **bidentate**, or what I term **minutely bidentate**, when the secondary tooth is present, but not very clearly larger than any spines there may be along the cutting edge of the blade. Also present in some species are **spiniger-like** chaetae, with long blades and usually a slightly knobbed tip. These may be called **pseudospinigers**, a term which seems rather appropriate. Some species have only short-bladed falcigers, others have falcigers showing a distinct gradation in blade length within a parapodium, and others again have short-bladed falcigers accompanied by the long-bladed pseudo-spinigers. The distinction between parapodia bearing chaetae with a range of lengths of chaetal blades and those where short bladed falcigers are accompanied by a small number of pseudospinigers is important, but not sufficient to justify the retention of the genus *Langerhansia*. In many species there is a gradual change in the chaetae along the body length. Often the chaetae of anterior segments are thinner and have longer blades than those in post-proventricular segments. In some cases the bidentate nature of the compound chaetae becomes clearer in posterior segments, and shafts of some compound chaetae may become thicker.

DORSAL CIRRI

The dorsal cirri of species of *Syllis* are always made up of distinct **articles**, giving a beaded sort of appearance. In all species there is a **pattern** of **longer** and **shorter** cirri down the body, these being composed of different numbers of articles. In some species, such as *Syllis krohnii* Ehlers, 1864, the difference between the cirri is very marked, in thickness as well as in length. In the separation of species, there is some significance to be placed on the number of articles in the dorsal cirri, but several confusing factors should be borne in mind. In addition to the pattern of longer and shorter cirri on an individual, there may well be some variation in number of articles linked to the position along the body. There is also an influence of **body size**, with smaller individuals of a species tending to have fewer articles in their dorsal cirri, though this is likely to be relevant only to species which normally have long dorsal cirri. The **shapes** of the dorsal cirri may also be of value, being characteristic for some species. However, one further note of caution - dorsal cirri may change their shape dramatically on fixation.

ACICULA

The shapes of the acicula of species of *Syllis* are very important in separating species. Generally speaking, the arrangement and shapes of the acicula in **post-proventricular** segments are **characteristic** for each species, although there is little information on the influence of body size. In most species, anterior segments have more acicula per parapodium than do post-proventricular segments, and often they are not of a characteristic form. Where this is not the case, then the acicula of anterior segments may be very important. **Post-proventricular** acicula are usually present as one or two per parapodium; they **may be very stout** in comparison to the chaetal shafts, and **may emerge** from the tissue of the parapodium (**stout emergent**); single or paired acicula may be of characteristic shapes, and unfortunately it is often difficult to put these shapes into words. (Care should be taken to examine several parapodia to ensure proper viewing of the acicula).

PIGMENTATION

In some species there are **pigment patterns** on the **dorsal** surface of **anterior** segments, consisting of dark lines or more complex patterns. In some species these are consistently present on all individuals, whilst in others the intensity of pigmentation may vary between individuals. Other species lack such pigmentation altogether, at least following fixation. Pigment patterns may be very useful in the primary recognition of species, but it should always be borne in mind that sharing a common pigment pattern does not in itself show individuals to be of the same species, and that retention of pigment patterns after fixation may vary within a species.

PHARYNX AND PROVENTRICULUS

In all species of the genus *Syllis* the **pharynx** bears a single **anterior dorsal tooth**, either at the pharyngeal margin or very close to it. The **pharynx** is partially **eversible**, when it can be seen to have a series (usually 10) soft **rounded papillae** surrounding its aperture. It leads into the muscular **proventriculus**, which may be followed by a second less mucular organ, the **ventriculus**, before the rest of the tubular gut. The degree of development of the ventriculus appears to vary between species. Observations are often made on the pharynx and proventriculus, although there is very little information on the influence of pharyngeal eversion or body size. Undoubtedly there are inter-specific differences in the **relative sizes** of the **pharynx** and **provenrtriculus,** and the ratio of pharyngeal length to proventricular length looks quite informative. Finally, reference is often made to the number of **muscle rows** in the **proventriculus**, something which may well be of value. However, the proventriculus is characteristically composed of a posterior region with clear, prominent muscle rows, and a short anterior portion where the muscle rows are much smaller and less clearly defined. These two regions are separated by an **internal chitinous structure**. It is only feasible to count the major muscle rows behing the chitinous ring, and ideally this should be done in lateral view following dissection. It is, therefore, not very useful as a routine procedure.

Species of the genus *Syllis* occurring in British waters according to the Species Directory of Howson (1987)

Syllis amica Quatrefages, 1865
Syllis armillaris Muller, 1771
Syllis brevipennis Grube, 1863
Syllis cornuta Rathke, 1843
Syllis cucullata McIntosh, 1908
Syllis gracilis Grube, 1840
Syllis hyalina Grube, 1863
Syllis krohnii Ehlers, 1864
Syllis nepiotoca (Caullery and Mesnil, 1916)
Syllis prolifera Krohn, 1852
Syllis variegata Grube, 1860
Syllis vittata Grube, 1840

This list comes straight out of Fauvel, 1923, and consequently refers exclusively to southern forms. Many of these are indeed likely members of the British fauna, but there are many outstanding taxonomic problems.

Notes:

Syllis amica Quatrefages, 1865 France

No pigment pattern; dorsal cirri with up to 22 articles; pharynx longer than proventriculus, with prominent anterior tooth; anterior chaetae minutely bidentate falcigers with teeth along the cutting edge, showing slight variation in blade length, 15-20 um; post-proventricular segments with falcigers accompanied by stout simple chaetae, closely resembling falciger which have lost their blades; posterior setigers lacking these simple chaetae but with the usual dorsalmost and ventralmost simple chaetae in the parapodia together with falcigers; two acicula anteriorly, thin with swollen tips; posteriorly a single acicula with a swollen and slightly bent tip.

The above description is taken from San Martin (1984) and agrees in most points with that of Fauvel (1923). I have not seen this species, which is however recorded from southern England.

Syllis brevipennis (Grube, 1863) Mediterranean

Short bodied; surface covered in small papillae; short cigar-shaped dorsal cirri with 8-10 articles and containing golden inclusions; chaetae short-bladed, bidentate; stout emergent pointed acicula. (description from Fauvel, who uses some of the original figures). Adriatic, Ireland?. May = *Xenosyllis kinbergi* McIntosh, 1908.

This species is retained in the genus *Pseudosyllis* in which it was originally described by San Martin (1984). Its general body shape is very reminiscent of *Trypanosyllis*, from which it is distinguished by the presence of only a single pharyngeal tooth, without the additional trepan. It also has similarities with the genus *Xenosyllis*.

Descriptions: Grube (1863); Fauvel (1923); San Martin (1984).

Syllis cornuta Rathke, 1843 Norway

No dorsal pigment; dorsal cirri with up to 20 articles (according to Fauvel); compound chaetae include both short-bladed falcigers and long-bladed spiningers or pseudospinigers. Lives in gastropod shells, with hermit crabs, sipunculans etc. (Southern 1913; Fauvel 1923)

This species is in a very confused state, and it is very likely that more than one species has been described under this name. Comparisons of the various descriptions in the literature demonstrates this. Both Wesenburg-Lund (1947) and Pettibone (1963) describe species which lack the long-bladed spinigerous chaetae under this name, whilst most other workers describe species which at least have the possession of such chaetae in common. San Martin (1992) and Ben Eliahu (1977) give some discussion of the inconsistencies in descriptions of specimens assigned to this species.

Descriptions:

Syllis cucullata McIntosh, 1908 Britain

This is almost certainly a species of *Odontosyllis*.

Syllis gracilis Grube, 1840 Mediterranean

Anterior dorsum with feint transverse pigment stripes; dorsal cirri with a maximum of 12 articles; chaetae of anterior parapodia with minutely bidentate blades of varying length; mid-body parapodia with with only 2-3 characteristic simple chaetae, furcate with additional small teeth in between the main prongs; posterior parapodia with compound chaetae accompanying and eventually replacing the simple furcate chaetae; 4 acicula anteriorly, gradually reducing to only one in posterior segments, with a swollen end and mucron on tip. Undergoes asexual reproduction by fragmentation (Mesnil & Caullery 1919). Appears to have a cosmopolitan distribution.

Descriptions: Grube (1840); Fauvel (1923); Imajima (1966); San Martin (1984).

Syllis hyalina Grube, 1863 Mediterranean

May have dorsal transverse pigment bands anteriorly; dorsal cirri short with a maximum of 12 articles; compound chaetae bidentate, with relatively short blades; unidentate (according to Fauvel and Southern) or bidentate (according to San Martin) simple dorsal and ventral chaetae in posterior parapodia; anterior parapodia with 5 acicula, gradually reducing to 1, stout with tip bent at an oblique angle.

This species is the subject of much confusion, having been thought of as a juvenile of more than one of the other species in the genus.

Descriptions: Grube (1863); Fauvel (1923); San Martin (1984).

Syllis krohnii Ehlers, 1864 Adriatic

Transverse pigment bands dorsally; dorsal cirri very unequal, the longer ones having more than 15 articles, the shorter ones only 8-10 and much thinner; longer dorsal cirri may be swollen at or just before their tips; compound chaetae bidentate in anterior segments, and thereafter with shorter blades, which are unidentate according to McIntosh (1908) and Fauvel (1923) or minutely bidentate according to San Martin (1984).

The original description shows the pharyngeal tooth to be situated behind the anterior pharyngeal margin, and the longer dorsal cirri to have more than 50 articles, the shorter ones more than 20.

Descriptions: Ehlers (1864); McIntosh (1908); Fauvel (1923); San Martin (1984).

Syllis nepiotoca (Caullery and Mesnil, 1916) France
Small body size, with up to 47 segments; dorsal cirri with no more than 10 articles; compound chaetae of two types, short-bladed falcigers and long-bladed spinigers; viviparous.
Descriptions: Caullery & Mesnil (1916); Fauvel (1923).

Syllis prolifera Krohn, 1852 Mediterranean
Anterior pigmentataion variable; dorsal cirri with a maximum of about 40 articles; compound chaetae all relatively short-bladed and bidentate; simple dorsal and ventral chaetae bidentate, the former present from the mid-body, in contrast to most other species; acicula characteristic, with swollen rounded tip; pharynx relatively short; tooth some distance from anterior margin of pharynx according to Fauvel (1923) (figure is from Claparede 1864 of *Syllis armandi*) and San Martin (1984).
Descriptions: Krohn (1852); Fauvel (1923); San Martin (1984).

Syllis variegata Grube, 1860 France
Anterior dorsum with characteristic pigment pattern of two linked circles on each segment; dorsal cirri with a maximum of 45 articles (according to Fauvel) or 18 articles (according to San Martin); compound chaetae all relatively short-bladed and bidentate; simple dorsal and ventral chaetae of posterior segments minutely bidentate; stout pointed emergent aciculum in post-proventricular segments.
This species demonstrates well the problems of the genus. On the one hand, some workers, including Fauvel, have wanted to synonymize it and *Syllis hyalina* with *Syllis prolifera,* whilst in Spanish waters at least 3 species have been grouped together under the name of *S. variegata* - *S. variegata* itself, *S. columbretensis* (Campoy, 1982) and *S. westheidi* San Martin, 1984. These three all have the same dorsal pigment pattern, but differ in their acicula, and, to a lesser degree, their chaetae. Cognetti (1960) added to the confusion, describing *Syllis atlantica* from Roscoff, as two subspecies, *Syllis atlantica atlantica* and *Syllis atlantica lineata,* and suggesting that in the Mediterranean *Syllis variegata* is itself represented by two subspecies - *Syllis variegata variegata* and *Syllis variegata profunda.* Subsequent workers have tended to ignore Cognetti's work, and little can be said of the status of these various species and subspecies except that they all appear to belong to the *Syllis variegata* group of species.

Syllis vittata Grube, 1840 Mediterranean
Three transverse bands dorsally on each segment; dorsal cirri with a maximum of 40 articles; compound chaetae short-bladed, unidentate (bidentate in juveniles); simple dorsal chaetae unidentate, simple ventral chaetae bidentate; posterior parapodia with large bluntly rounded aciculum (according to Southern 1913); proventriculus in segments 13-19.
Large number of specimens dredged in Clew Bay (Southern 1913). Suggests that *Syllis aurita* Marion and Bobretzky, 1908 and *Syllis buskii* McIntosh, 1908 may be synonyms of this species.
Descriptions: Grube (1840); Fauvel (1923).

Other species which may occur in British waters

Syllis abyssicola Ehlers, 1875

Described from the North Atlantic, this species has the long-bladed 'pseudospinigers'; 9-11 articles in dorsal cirri according to McIntosh (1908); no eyes

Syllis borealis Malmgren, 1867

Referred to *Syllis hyalina* by Hartman (1959). Compound chaetae with unidentate blades in original description (according to McIntosh, 1908)

Syllis brevicirrata McIntosh, 1908

Questionably Syllis gracilis according to Hartman (1959), though there is nothing in the original description to support this. Taken intertidally at Herm, with short dorsal cirri of about 9 articles and short-bladed bidentate chaetae.

Syllis brevicollis Ehlers, 1875

A deep water form , up to 50 articles in dorsal cirri and short-bladed unidentate chaetae, according to McIntosh (1908).

Syllis buskii McIntosh, 1908

Taken intertidally on Guernsey and at Herm. No indication of colour pattern; 24-28 articles in dorsal cirri; minutely bidentate short-bladed falcigers. Suggested as a synonym of *Syllis vittata* by Southern (1913).

Syllis cornuta collingsi McIntosh, 1908

Described from material collected by a surface tow-net off Sark, characterised by up to 20 articles in the dorsal cirri and chaetal blades of medium length, bidentate, with teeth along cutting edge; no prominent aciculum in posterior parapodia. Not obviously related to what McIntosh describes under the name of *S. cornuta*.

Syllis cunninghami McIntosh, 1908

Described from Guernsey, characterised by up to 17 articles in dorsal cirri and chaetae including 2 stout dorsal ones without blades and unidentate compound chaetae with short blades. Referred to *Syllis amica* by Hartman (1959), although McIntosh himself uses the name *Syllis hamata cunninghami* in one of the figure legends, indicating that he thought it to be close to *Haplosyllis spongicola*. Unfortunately he does not figure the simple chaetae. See also *Syllis simplex* below.

Syllis eximia Malm, 1874
Syllis nidrosiensis Bidenkap, 1870

Syllis fabricii Malmgren, 1867

Cited as a synonym of what she calls *Syllis cornuta* (ie. without spinigerous chaetae) by Wesenburg-Lund (1947).

Syllis fasciata Malmgren, 1867

Dorsal cirri with up to 40 articles; compound chaetae short-bladed. Dorsal cirri with up to 50 articles (Ushakov 1955), compound chaetae uni- or indistinctly bidentate, anterior dorsum with transverse stripes.

Syllis macrophthalma (Johnston, 1840)

Described as *Ioida macrophthalma*, this represents a stolon of the Ioida or pentacere type, found in species such as *Syllis armillaris*, *Syllis gracilis* and *Syllis hyalina*.

Syllis oerstedi (Malmgren, 1867)

Described as *Chaetosyllis oerstedi*, and presumably therefore based on a stolon. According to Wesenburg-Lund (1947), this is a synonym of what she calls *Syllis cornuta* (ie the form without spinigerous chaetae). Ushakov (1955) comments on the almost circumpolar distribution of this species, which he describes as having bidentate pseudospinigerous chaetae.

Syllis simplex Langerhans 1879

Characterised by the presence of one or two thick simple chaetae dorsally in the chaetal bundle of a certain number of segments. According to Southern (1913) *Syllis aesthetica* Saint-Joseph, 1886 and *Syllis cunninghami* McIntosh, 1908 are synonyms of this species. The original description of *Syllis aesthetica* states that these enlarged chaetae are unidentate falcigers, which readily lose their blades. Clearly there is a need for a re-assessment of these three species and their relationship to *Syllis amica*.

Syllis tigrina Rathke, 1843

According to Fauvel (1923) this may be a synonym of *Syllis hyalina*.

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