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J. H. DAY

A REVIEW OF THE FAMILY AMPHARETIDAE (POLYCHAETA)

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A REVIEW OF THE FAMILY AMPHARETIDAE (POLYCHAETA)

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INTRODUCTION

The most complete account of the family Ampharetidae is that of Hessle (1917). He reviews earlier work including that of Malmgren (1865) and Fauvel (1897) on family and generic characters, Nilsson (1912) on the nervous system, Wiren (1885) on the alimentary canal, and Meyers (1887) on the nephridia. After giving further evidence from his own researches on the nephridia and structure of the stomach he goes on to discuss generic characters. While he follows the main lines laid down by Malmgren he finds that the genera were so narrowly defined by the latter worker that they seldom include more than one or two species, so that broader generic definitions are necessary. He criticizes Fauvel's work on the enumeration of the anterior segments and his genera as being based partly on internal anatomical characters. Surprisingly enough Hessle's own generic divisions may be criticized on the same lines. Although he stresses that the number of nephridia may vary from species to species in the same genus he has grouped the genera largely on the relative sizes and arrangement of these internal structures.

Since the publication of Hessle's work many new genera have been erected, particularly by Augener (1918), Chamberlin (1919), Benham (1921), Annenkova (1930), Caullery (1944) and Eliason (1955). In general these later workers focused attention on external features, particularly the development

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of the paleae and the number of thoracic setigers, and they do not describe the nature of the nephridia nor the morphology of the stomach. As a result it is difficult to correlate the genera they describe with those defined in Hessle's monograph. There is also another source of confusion. Nilsson and Hessle recognize only a single two-ringed buccal segment in front of the paleal or first branchiferous segment, so that the latter becomes segment II. This interpretation is followed by Annenkova (1930), Eliason (1955), and Uschakov (1957). On the other hand Malmgren (1865), Fauvel (1897 and 1927) and Caullery (1944) recognize two segments in front of the paleae, so that the latter which also bears the first pair of branchiae becomes segment III. At first sight it would seem of little taxonomic importance whether the first branchiferous segment is labelled segment II or III, but as many workers do not state which system of numbering they are using, statements such as 'setae present on segment III' or 'nephridia absent from segment V' or 'notosetae of segment XIII modified' lead to confusion.

To date about 150 species have been described, distributed through about 49 genera. Fifty-six species are ascribed to the three genera *Amphicteis*, *Amage*, and *Ampharete*, and the remaining 94 are distributed through the remaining 46 genera, many of which are monotypic. The need for revision is obvious.

In the account that follows the various diagnostic characters are discussed, the grouping of genera is considered, and tables and keys are provided for the whole family.

I wish to thank Dr. Olga Hartman for constructive criticism during the preparation of this paper, and both Mr. R. Sims of the British Museum and Mr. J. B. Kirkegaard of the Copenhagen Museum for allowing me to examine material housed in their respective institutions. The Trustees of the South Afritan Museum are grateful to the South African Council for Scientific and Industrial Research and the University of Cape Town for grantis in aid of publication.

DISCUSSION OF DIAGNOSTIC CHARACTERS

The head and buccal tentacles. The Ampharetidae are deposit feeders and the food particles are collected by mobile projections that arise from the roof of the buccal cavity. The most common type are buccal tentacles which are either smooth with a longitudinal groove on one side as in the Terebellidae or papillose; often these papillae are pinnately arranged, but not always, and buccal tentacles of this type are best described under the more general term 'papillose'. Apart from tentacles, folded or probosciform feeding membranes have been described in *Amythas membranifera* Benham and *Pabits deroderus* Chamberlin. An examination of *Isolda whydahensis* Augener showed a long ribbon-shaped structure protruding from the mouth with the distal end split into a number of short tentacles.

As stated, these feeding organs arise from the roof of the buccal cavity and in some cases the mouth cavity leads straight back into the pharynx; in other cases, however, an internal shelf or horizontal septum separates the tentacular cavity above from the pharynx below. According to Hessle this septum corresponds to the dorsal lip of the Terebellidae.

Above the mouth there is a hood-shaped lobe which Hessle refers to as the 'Tentakelmembran' and Fauvel as the prostomium. Since it bears the eyes and nuchal grooves and contains the cerebral ganglia the latter term will be used here. In some genera it also bears a pair of glandular ridges which diverge anteriorly and project from the antero-lateral margins as a pair of blunt processes.

When the buccal tentacles are retracted the prostomium may appear bluntly pointed with obvious lateral grooves, so that the whole prostomium (or tentacular membrane) has been described as trilobed. When the buccal tentacles are fully extended, however, the whole head is stretched, the anterior margin is straightened, and the lateral grooves disappear. This mobility of the head means that the exact shape of the prostomium is of little systematic value. The glandular ridges, however, are always recognizable and the eye-spots can usually be found.

The segmentation of the head region. As described earlier (Day 1961) the region behind the prostomium is telescoped and the segments are distorted. The branchiae are often grouped on a transverse branchial ridge which partially overhangs the segments immediately behind the prostomium. The ventral surface in *Melinna* and related genera is distorted by the formation of a pair of lateral folds which slope back from the mouth region towards the dorsum of segment VI where they unite to form a transverse dorsal crest. On the basis of dissection and examination of external features I have accepted the interpretation of Malmgren, Fauvel, and others that there are two achaetous segments preceding the branchiae in all genera. The first branchiferous segment, which bears the paleae in some genera, thus becomes segment III.

The branchiferous region (segments III-VI). In the more primitive genera, including Phyllocomus, Melinna, Isolda, Amphicteis and Ampharete, there are four pairs of gills. Dissection of the blood-vessels of Amphicteis gunneri, described by Day (1961), showed that the four gills are supplied by four blood-vessels corresponding to segments III, IV, V and VI. With the telescoping of the anterior segments, however, there is a tendency for the four pairs of gills to be grouped on the dorsal surface of segments III and IV. In Phyllocomus the first two pairs are on segment HII and the last two pairs are segmentally arranged. The same arrangement has been reported in Amage auriculata and Amphicteis posterobranchiata. In other genera the arrangement may be 2:2 or 3:1 where three pairs of gills are arranged in a transverse row across segment III with the fourth pair immediately behind.

In many genera the primitive number of four pairs of gills has been reduced to three and in *Auchenoplax* Ehlers and its synonym *Melinnoides* Benham only two pairs have been reported.

The gills may be separate from one another or united by a basal web.

Commonly this web unites only the first three pairs of gills, leaving the fourth posterior pair free. The gills may be smoothly cylindrical in shape or may develop lateral papillae or flanges or even a series of lateral lamellae. Commonly the branchial papillae are arranged in two lateral rows, and such branchiae have been termed bipinnate, but this is not always the case. In *Pterampharete luderitzi*, for example, numerous irregularly arranged papillae arise from the anterior surface of the branchial axis. In generic descriptions such gills are best described by the broader term papillose. Similarly the lateral lamellae of such forms as *Phyllamphicteis collaribranchis* Augener and *Phyllocomus (olim Schistocomus) hiltoni* (Chamberlin) may be arranged in one or more rows.

The telescoping of the branchiferous region often results in the fusion of segments and the loss of setae. In *Isolda* and *Melinna* of the sub-family *Melinninae* the neurosetae of the four segments III–VI are present though those of segment VI may be lacking in some species. Segment III never has notosetae, and segment IV has notosetae in the form of stout hooks behind the gills, but the notosetae of segments V and VI are either small or absent. In *Melinnopsis* McIntosh the hooks of segment IV are lacking, but notopodial capillaries are present on segments V and VI.

In the sub-family Ampharetinae neurosetae are never developed on segments III to VI. In a few cases all four segments may be distinct, but usually segments III and IV are fused and occasionally segments III, IV and V. The notosetae are variously developed. In primitive forms such as Amphicteis the notosetae of segment III are enlarged to form stout paleae and those of segments IV-VI are all present as normal capillaries. Often, however, the capillary notosetae of IV and V are small or absent. Similarly the notosetae of segment III may remain small and not form paleae, or may be entirely lacking. In Sabellides, for example, the notosetae of segment III are either absent or represented by small capillaries, segment IV is fused to segment III and lacks setae, and the first normal capillaries are on segment V. In Neosabellides elongatus there are no setae on segments III and IV, and in Paramage madurensis Caullery reports that the first bundle of notosetae appears on segment VI though earlier achaetous notopodia remain. In view of the many variations in the setation of the branchiferous segments III to VI and the difficulty of deciding whether small setae present on the fused third and fourth segments represent small paleae of segment III or small capillaries of segment IV, it would seem undesirable to base generic divisions on the presence or absence of paleae as has been done in the past.

Internal characters: diaphragm, nephridia, stomach. Apart from a few minor details no new researches are reported here under this heading. The information concerning the type-species of each genus has been extracted from Hessle (1917), supplemented by additional information from Annenkova (1930), and has been summarized in tables I and II. In several genera no information is available concerning the internal anatomy.

The coelomic cavity of the first few segments is separated from the rest of the thorax by a relatively stout septum or diaphragm. According to Hessle this always lies between segments IV and V, but according to the enumeration of segments adopted here it lies between segments V and VI. Following Hessle's terminology the nephridium in segment V (Hessle's segment IV) is termed the anterior nephridium, and all later ones are posterior nephridia.

Never more than five pairs of nephridia have been reported; in some cases there are only three and in exceptional cases only two. At first sight the number of nephridia would appear to provide a reasonable basis for classification, but as Hessle himself has pointed out, their distribution is not constant. In some cases four pairs may be present in segments V to VIII, in others the nephridium in VI is missing and the four pairs are in V, VII, VIII and IX; again V may be missing and the four pairs are in segments VI–IX. The same variability occurs in those species in which there are only three pairs of nephridia. They are located in segments V, VI and VII in Sosanopsis wireni, Parhypania brevispina and Hypania invalida, and in segments V, VII and VIII in Sabellides octocirrata. Even when the number is reduced to two pairs there are differences in arrangement. In Phyllocomus crocea and Schistocomus (=Phyllocomus) hiltoni the nephridia are in segments VII and VIII, and in Lysippides fragilis they are in segments V and VII.

Hessle further reports that the number of pairs of nephridia is not constant within the single genus *Ampharete* but may vary from two pairs situated in segments V and VII for *A. acutifrons* and *A. arctica* to four pairs situated in segments V, VII, VIII and IX for *A. lindstromi* and *A. kerguelensis*. The numbering of the segments given here is of course one higher than that given by Hessle.

In view of this variability of the nephridia and the labour involved it would seem undesirable to base generic divisions on these structures as has been done by Hessle. None the less the nephridial papillae of the anterior nephridia in segment V are occasionally visible. In *Sabellides* and *Pterampharete* the ducts are elongated dorsally and two nephridial papillae may be found on the branchial ridge between the two groups of gills. In *Anobothrus, Sosane* and *Asabellides* the ducts open on a single nephridial papilla in the same position. These characters, while not in themselves sufficient for generic distinction, provide useful confirmatory evidence.

The alimentary canal is normally a fairly straight tube divided into pharynx, oesophagus, stomach and intestine. At the anterior end of the stomach where it joins the oesophagus a pair of lateral pouches project forward in *Ampharete, Microsamytha* and *Anobothrus*, but not in *Melinna* nor fourteen other genera which have been investigated by Wiren (1885), Hessle (1917) or Annenkova (1930). There is also a curious invagination of the ventral wall of the stomach of some genera, which is referred to by Hessle as an 'innere Blindsack' and is here termed an internal diverticulum. It has been found in *Amage*, *Amphicteis, Amphisamytha and Hypania*, but not in fourteen other genera which have been examined. Since such characters demand dissection they are of doubtful value in practical classification. The posterior thorax. As stated earlier, the first branchiferous (or paleal) segment is reckoned here as segment III and the branchiferous region as extending over segments III to VI. The beginning of the posterior thorax on segment VII is marked by the first appearance of uncini in the neuropodia in all genera. It is the most important and most easily recognizable landmark on the body. Segments anterior to it may be distorted or fused and individual segments may lack notosetae or nephridia, but segment VII and the posterior thoracic segments are always well defined and fully developed. The maximum number is 14 and the minimum number is 11 in all genera except Mugga, where there are 9. It is suggested therefore that the numbers of such uncigerous thoracic segments provide better generic characters than the total number of thoracic setigers which have led to such confusion.

The notopodia of the posterior thorax are conical projections which in *Amphicteis* and several other genera bear a terminal papilla or 'notopodial cirrus'. The neuropodia are short projecting pinnules and in a few genera such as *Phyllocomus* they bear a superior papilla or cirrus above the row of uncini.

The notosetae are winged capillaries which are very uniform in shape with few exceptions. In *Anobothrus* the 8th uncigerous segment has its notopodium elevated and the tips of the notosetae are minutely spinulose. In *Mugga* the same phenomenon occurs on uncigerous segment 9, and in *Sosane* and *Sosanopsis* it occurs on uncigerous segment 12.

The uncini are flattened tooth plates of various shapes but are all roughly triangular to quadrangular, with one or more series of teeth above the base. In the *Meliminae* there is always a single series of teeth, but in the *Ampharetinae* the teeth of the thoracic uncini may be arranged in 1, 2 or as many as 5 vertical rows. Abdominal uncini often have more rows of teeth. The base of the uncinus may be long and well separated from the tooth rows, or it may be short and curve up towards the lowest tooth to form a bluntly rounded prow. Hessle and others have quoted such differences as generic distinctions, but to me they appear to be no more than specific characters, for the shapes vary very considerably. The number of tooth rows seems to be more important when there are only one or two vertical series, but when there are three or more they lose their value.

The abdomen. There is seldom any abrupt narrowing between thorax and abdomen, merely a change in the parapodia. This, however, is well marked. The notosetae disappear and the notopodia are either reduced or absent. In Melinna, Amphicteis, Amage, Phyllocomus and many other genera, rudimentary notopodia persist on abdominal segments, and this is regarded as the more primitive condition. In Ampharete, Sabellides and others, notopodia are entirely lacking. Where notopodial cirri are present on the thorax they tend to persist on the rudimentary notopodia of the abdomen, as may be seen in Amphicteis and Amage. Similarly, where neuropodial cirri are present on the thorax these also are continued on the abdomen. Actually the uncigerous pinnules very often have an obscure superior papilla and this tends to become better marked towards the end of the abdomen. This is particularly well shown by *Sabellides octocirrata* where the superior papillae become long cirriform projections.

The whole abdomen consists of a variable number of segments. In the *Melinninae* there is always a large number of segments, the extremes being a minimum of 20 in *Melinnexis antarctica* and a maximum of 90 in *Irana hetero-branchia*. In a few primitive genera of the *Ampharetinae* there are also large numbers of abdominal segments. Thus *Phyllocomus crocea* has 45 but in the great majority of genera the number is much less, 12–18 being the usual range. It is doubtful whether the exact number is constant for a species, and certainly it is not of generic importance.

The abdominal uncini are more or less similar to those of the thorax but usually there are more teeth arranged in more vertical rows or transverse arcs.

The *pygidium* is terminal and may be encircled by a number of low indistinct papillae or may bear a reduced number of longer anal cirri.

DIVISION INTO SUB-FAMILIES AND GENERA

Hessle (1917) does not divide the Ampharetidae into sub-families, although his remarks on p. 90 show that he is inclined to separate *Melinna* and *Isolda* from other genera in this way. Chamberlin (1919) proposed three sub-families, namely the *Melinninae* with dorsal hooks behind the gills but no paleae, the *Ampharetinae* with paleae but no hooks, and the *Samythinae* with neither paleae nor hooks.

Since the publication of Chamberlin's monograph many new genera have been described. The diagnostic characters of the various type-species are set out in tables I and II, and it will be immediately obvious that there are several genera related to *Melinna*. Not all of these possess dorsal hooks behind the gills, but they all possess fine acicular neurosetae in segments III, IV, V and often VI. I agree with Hessle in regarding this as an important and primitive feature which links the *Amphaetidae* to *Terebellides* and other genera of the *Trichobranchidae* and through them to the *Terebellidae*. I have therefore enlarged Chamberlin's diagnosis of the *Melinninae* to include all *Ampharetidae* with acicular neurosetae in segments III–VI whether they possess dorsal hooks or not. The amended characters of the sub-family are given later.

Chamberlin's sub-families *Ampharetinae* and *Samythinae* are distinguished by the presence or absence of paleae. The variability of these setae has been described earlier; as the accompanying tables show, the setation of the whole branchial region is not sufficiently reliable for the distinction between genera, let alone sub-families. Several other possible groupings of genera have been tried on the basis of the number of branchiae, the number of uncigerous thoracic segments and the number of tooth rows on the thoracic uncini. None of them were satisfactory in that they distinguished groups of genera with many characters in common. It was concluded that all the *Ampharetidae* apart from the *Melinninae* must be included within the sub-family *Ampharetinae* and that Chamberlin's sub-family *Samythinae* must be sunk.

IES OF SUB-FAMILY MELINNIN	dial capillaries. $H = notopodial hooks$
TYPE-SPEC	small notopod
CHARACTERS OF GENERA AND	a = neuropodial acicular setae. $c =$

TABLE I.

RACTERS OF GENERA AND TYPE-SPECIES OF SUB-FAMILY MELINNINAE	= neuropodial acicular setae. $c =$ small notopodial capillaries. H $=$ notopodial hooks.	(a) or (c) – letters in parenthesis indicate setae may be present or absent.

Remarks	rostomium probosciform with a tentaculiferous lobe	below it. lo anal cirri, merely circle of indistinct papillae.	whydahensis Aug. has a retractile tentaculiferous	lobe.	a synonym of <i>Isolda</i> .		very large tentacle. 1 pr. long anal cirri. ? syno-	nym of <i>Melinnopsis.</i> rostomium a stout rostrum ? a synonym of <i>Melin</i> -	nopsis.
віродолоп івпітораді	lo P	eble N	10 I	10	с. с.	c	I ć	eble P	2
Abdominal segments	. 65	o−50 fe	5-36	06 :	lany	5-30	0-30	0-50 fe	28
to stomach	e.	no 30	с. б	ć.	5 H	¢.	50	9 40	c.,
Dateral pouches	yes	no	c	c-•	e.,	e.	c.	ç.,	c.,
Dorsal crest on segment VI	yes	yes	yes	yes	yes	ou	eeble	yes	ou
Nephridia	c.,	4 prs. in VI–IX	c	œ.,	ç.,	c.	4 prs. in f V, VII,	VIII, IX ?	c.,
Branchiae	4 prs. (all smooth)	4 prs. (all smooth)	4 prs. (2 smooth,	2 papinose) 3 prs. (1 smooth,	2 papillose) 2 prs. (papillose)	4 prs. (all smooth)	4 prs. (all smooth)	4 prs. (all smooth)	3 prs. (all smooth)
Tooth rows of thoracic uncini	н	I	I	н	T	н	H	-	н
Uncigerous thoracic segments	12	14	13	12	c-•	916	14	12	01
n of ents VI V VI	с. н Н	$\begin{pmatrix} c & c \\ a & (a) \end{pmatrix}$	$\begin{pmatrix} c & c \\ a & (a) \end{pmatrix}$	a a	e.	с с с 5	c c a a	c c a a	с с а
segme III-	H a	и Н	н	н	Η ~-	а	а	а	а
	s a	a a	n a	1 a	C-+	a a	n a	1 a	a
Bucca tentacl	see remark	smoot	smoot	smoot	с.	smootl	smootl	smootl	smootl
Genus and type-species	Moyanus Chamberlin 1919 (type M. explorans Cham.	1919) Melinna Malmgren 1866 (type Sabellides cristata Sare 1866)	Isolda Müller 1858 (type I. pulchella Mül.	1858) Irana Wesenberg-Lund 1949 (type I. heterobranchiata	WL. 1949) <i>0eorpata</i> Kinberg 1867 (type 0. armata Kbg. (867)	Melinnopsis McIntosh 1885 (type M. atlantica McI.	Melinnexis Annenkova 1930 (type M. arctica Ann.	1930) Melimides Wesenberg-Lund (type M. rostrata WL.	1950) Meliunopsides Day gen. nov. (type Meliunopsis capensis Day 1955)

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A REVIEW OF THE FAMILY AMPHARETIDAE (POLYCHAETA)

The reliability of the various characters which may be used to distinguish genera has been discussed earlier. To be of practical value in a taxonomic key such characters must not only be constant within a group of species which are obviously similar in other ways, but they must also be easily seen when sorting a sample. It is suggested that among such characters are the number of gills, and the number of uncigerous thoracic segments, the presence of glandular ridges on the prostomium and the possession of notopodial cirri. These have therefore been used as the main basis for grouping genera with the addition of several other features in specialized cases. It is tempting to use the obvious ornamentation of the gills as well as their number, but after careful consideration this was omitted for it would have increased the number of monotypic genera without breaking up the three large genera Amphicteis, Amage and Ampharete. In any case the gills are often missing so that their ornamentation cannot be decided, and only the scars remain to determine their number.

As stated earlier, 49 genera are currently recognized as valid. In the accompanying key these have been reduced to 33 of which 6 are assigned to the *Melinninae* and 27 to the *Ampharetinae*. This means that 16 genera have been sunk, and reference to the tables will show that 11 of these were monotypic and the other 5 contained 2 species each. One new genus has been erected in the sub-family *Melinninae*.

It is hoped that this revision will make the recognition of genera much simpler, but inevitably it will be found that many species have been assigned to the wrong genus. This is certainly true of two species assigned to *Lysippe* by myself and one referred with hesitation to *Neosabellides*.

Key to sub-families

Ι.	Segments III–V (or III– Post-branchial hooks	VI) wi somet	th fine imes pr	acicula esent	r neur	osetae.	No pa	leae.	Melinninae
	Segments III-VI without	neuro	setae. I	∛o post	-branc	hial h	ooks. Pa	aleae	A 4 h
	sometimes present	• •	• •	• •	• •	• •	••	• •	Ampharetinae

SUB-FAMILY Melinninae Chamberlin 1919 (characters amended)

Buccal tentacles never pennate or papillose, usually smooth with a groove along one side. Paleae absent. One or two pairs of stout notopodial hooks may be present behind the gills. Small acicular neurosetae embedded in segments III, IV and often V and VI. Uncini are from segment VII and always have a single series of teeth. Numerous (20–90) abdominal segments.

Key to genera of Melinninae

I.	Stout notopodial hooks behind the gills	••	•••	2
	No notopodial nooks	••	••	5
2.	Notopodial hooks on two segments. Prostomium elongated	••	••	Moyanus (doubtful)
	Notopodial hooks on segment IV only. Prostomium short	••		3
3.	4 pairs of gills			4
0	3 pairs of gills, including both smooth and papillose forms			Irana
	2 pairs of papillose gills	••	•••	Oeorpata (doubtful)
4.	All gills smooth		• •	Melinna
	Some gills smooth, some papillose	• •	•••	Isolda
5.	4 pairs of smooth gills			Melinnopsis
	3 pairs of smooth gills	•••	• •	Melinnopsides

MOYANUS Chamberlin 1919

Prostomium elongated and probosciform. Buccal tentacles mounted on long tongue-shaped projection. Four pairs of smooth gills. A dorsal crest on segment VI. Segments III–VI with notopodial hooks on segments IV and V and fine acicular neurosetae on segments III, IV and V. Twelve uncigerous thoracic segments and about 65 abdominal ones. Thoracic uncini with a single series of teeth.

Type-species Moyanus explorans Chamberlin 1919.

MELINNA Malmgren 1866

Buccal tentacles smooth with a groove on one side. Four pairs of smooth gills. A dorsal crest across segment VI. Segments III–VI with notopodial hooks on segment IV and notopodial capillaries on segments V and VI. Fine acicular neurosetae on segments III–V and sometimes on VI as well. Fourteen uncigerous thoracic segments and 30–50 abdominal ones. Thoracic uncini with a single series of teeth.

Type-species Sabellides cristata Sars 1851.

ISOLDA Müller 1858

Buccal tentacles smooth with a groove on one side. Four pairs of gills of which 2 are smooth and 2 are papillose. A dorsal crest across segment VI. Segments III-VI with notopodial hooks on segment IV and notopodial capillaries on segments V and VI. Fine acicular neurosetae on segments III-V and sometimes on VI as well. Twelve to 13 uncigerous thoracic segments and 25-36 abdominal ones. Thoracic uncini with a single series of teeth.

Type-species Isolda pulchella Müller 1858.

IRANA Wesenberg-Lund 1949

Buccal tentacles smooth. Three pairs of gills of which 1 is smooth and 2 are papillose. A dorsal crest across segment VI. Segments III–IV with notopodial hooks on segment IV and fine acicular neurosetae on segments III–VI. Twelve uncigerous thoracic segments and about 90 abdominal ones. Thoracic uncini with a single series of teeth.

Type-species Irana heterobranchia Wesenberg-Lund 1949.

OEORPATA Kinberg 1867

An incompletely described genus with two pairs of pennate gills; notopodial hooks on segment IV; many abdominal segments; uncini with a single series of teeth. Type species Oeorpata armata Kinberg 1867.

MELINNOPSIS McIntosh 1885

Synonyms Melinnexis Annenkova 1930 and Melinnides Wesenberg-Lund 1950.

Buccal tentacles smooth with a groove along one side. Four pairs of smooth gills. Dorsal crest on segment VI present or absent. Segments III–VI without notopodial hooks on segment IV but with notopodial capillaries on segments V and VI. Fine acicular neurosetae on segments III–V and sometimes on VI as well. Ten to 14 uncigerous thoracic segments and 25–50 abdominal ones. Thoracic uncini with a single series of teeth.

Type-species Melinnopsis atlantica McIntosh 1885.

MELINNOPSIDES gen. nov.

Buccal tentacles smooth with a groove along one side. Three pairs of smooth gills. No dorsal crest on segment VI. Segments III–VI without notopodial hooks on segment IV but with notopodial capillaries on segments V and VI. Fine acicular neurosetae on segments III–V. Ten uncigerous thoracic segments and about 30 abdominal ones. Thoracic uncini with a single series of teeth.

Type-species Melinnopsis capensis Day 1955.

SUB-FAMILY Ampharetinae Chamberlin 1919 (characters amended)

(including Samythinae Chamberlin 1919)

Buccal tentacles either smooth with a groove along one side or papillose. Paleae present or absent. No notopodial hooks behind the gills. Neurosetae absent from segments III to VI. Neuropodial uncini start on segment VII and may have one or more series of teeth. Few (8) to many (60) abdominal segments.

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CHARACTERS OF GENERA AND TYPE-SPECIES OF SUB-FAMILY AMPHARETINAE

C or $c = \text{large or small notopodial capillaries. P or <math>p = \text{large or small paleae on segment III.}$ (c) or $(p) - \text{letters in parenthesis indicate setae may be present or absent.$

			3			4									
Genus and type-species	on prostomium	Buccal tentacles	Seta segn III IV	tion I_V]	of VI	Uncigerous th oracic segments	Tooth rows on thoracic uncini	Branchiae .	Nephridia	Notopodial cirri	Lateral pouches on stomach	Internal diverticulum to stomach	Abdominal segments	siboqoton IsnimobdA	Remarks
Amphicteis Grube 1851 (1ype Amphitrite gunneri Sars 1825)	yes	smooth	Ъ	O	σ	14	Г	4 prs. (all smooth)	5 prs. in V–IX	yes	¢	ç.,	15	yes	ı pair anal cirri.
Paramphicteis Caullery 1944 (type Sabellides augustifolia Gr. 1878)	yes	? papil- lose	-	0	C	14	I	4 prs. (all smooth)	ſ-•	yes	c	c	15	small	ı pair anal cirri.
Amage Malngren 1866 (type A. auriculata Malm. 1866)	yes	smooth	-	S	C	II	1-2	4 prs. (all smooth)	4 prs. in V–VIII	yes	ou	yes	ω	yes	2 pairs anal cirri.
Parhypania Annenkova 1928 (type Amphicteis brevi- spinus Gr. 1860)	yes	smooth	РС	C	C	14	I	4 prs. (all smooth)	3 prs. in V–VII	no	no	I OU	1620	feeble	
Hypania Ostromoouv 1897 (type Amphicteis invalida Gr. 1860)	yes	smooth	P (C	U	13	Ċ-+	4 prs. (all smooth)	3 prs. in V–VII	no	ou	yes 1	15-30	yes	
Grubianella McIntosh 1885 (type G. antarctica McI. 1885)	yes	smooth	1	C	C	II	01	4 prs. (all smooth)	Ċ.,	c	¢-•	℃ -•	25	yes	ı pair anal cirri.
Paiwa Chamberlin 1919 (type P. abyssi Cham.	ou	smooth	p C	Ö	U	14	2-3	4 prs. (all smooth)	œ.,	yes	c	c.,	20	small	? synonym of Phyllam phicteis.
Phyllamphicteis Augener 1918 (type P. collaribranchis Aug. 1018)	ou	smooth	P	0	C	14	I	4 prs. (2 smooth, 9 lamellate)	C.	yes	c.,	c.,	51	no	ı pair anal cirri.
Lysippides Thesele 1917 (type Amphicteis fragilis Wollebaek 1912)	no	smooth	<i>b c</i>	U	Ö	14	ŝ	4 prs. (2 smooth, 2 flanged)	2 prs. in V & VII	ou	ou	ou	œ	yes .	

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A REVIEW OF THE F	FAMILY AMPHARETIDAE	(POLYCHAETA)
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 (type L. labiata Malm. 1866) erolysippe P. bipennata Aug. (type P. bipennata Aug. 1918) (type A. acutifroms Gr. 1860) (type A. acutifroms Gr. 1860) (type A. acutifroms Gr. 1860) (type P. littoralis Berkeley & Berkeley 1943 (type P. littoralis B. & B. 1943) (type P. littoralis B. & B. 1919 (type S. hiltoni Chamberlin 1919) (type S. sulcata Malm. 1919) (type S. sulcata Malm. 1866) (type S. sulcata Malm. 1866) (type Maharete gracilis Malm. 1866) 	no no no no no no	smooth papillose papillose smooth smooth smooth	ч <i>«</i> д I I I Д Д	0 0 U I I U U 0 0			15 15 15 15 15 15 15 15 15 15 15 15 15 1	10 H H H 10 10 00 I	 (all smooth) 4 prs. (3 smooth) (all smooth) (all smooth) 4 prs. (all smooth) 4 prs. (flanged) 4 prs. (i smooth) 3 lamellate) 4 prs. (all smooth) (all smooth) (all smooth) 	2 prs. in V-VIII V&VIII V&VII VIII & VIII & VIII & VIII VIII	no no no	yes yes yes			yes yes yes yes	 ? synonym of Lysippe. ? synonym of Lysippe. ? synonym of Asabel lides. ? synonym of Asabel lides. a circle of ana papillae. ? synonym o Phyllocomus. r nephridial papill. between branchiae Notosetae of las thoracic segment modified. r nephridial papill. between branchiae segment 8 modified. ? synonym o Sosone.
(type A. japonica Hessle 1917)				\$	5	5			all smooth)	V-VIII			5	4-1	100	pides.
ypaniola Annenkova 1928 (type Amphiteis kowalew- skii Grimm 1877)	no	smooth	þ	C	C	C	14	c-•	4 prs. (all smooth)	3 prs. in V–VII	ou	ou	c-+	23	c	? synonym of Lysip pides.
<i>ssippe</i> Malmgren 1866 (type L. <i>labiata</i> Malm. 1866)	no	smooth	þ	S	Ü	c	13	61	4 prs. (all smooth)	4 prs. in V–VIII	ou	ou	ou	14	yes	ı pair anal cirri.
erolysippe Augener 1918 (type P. bipennata Aug. 1918)	no	smooth	þ	0	3	C	13	3	4 prs. (3 smooth, 1 papillose)	c.,	no	œ.	c.,	712-17	с.	? synonym of <i>Lysippe</i> .
mpharete Malmgren 1866 (type A. acutifrons Gr. 1860)	no	papillose	Ч	I	Ü	U	12	C1	4 prs. (all smooth)	2 prs. in V & VII	ou	yes	ou	12	no	ı pair anal cirri.
abellides Annenkova 1929 (type Sabellides sibirica Wiren 1883)	ou	papillose	I	1	Ü	U	CI	01	4 prs. (all smooth)	c.,	no	yes	c	21	yes	ı pair anal cirri.
eudosabellides Berkeley & Berkeley 1943 (type P. littoralis B. & B. 1943)	no	papillose	1	1	0	U	12	61	4 prs. (all smooth)	ç.,	no	C	c.,	18-20	ou	? synonym of Asabel lides.
pulocomus Grube 1878 (type P. crocca Gr. 1878)	ou	smooth	1	U	σ	U	12	I	4 prs. (flanged)	2 prs. in VII & VIII	yes	ou	ou	45	yes	A circle of ana papillae.
histocomus Chamberlin 1919 (type S. hiltoni Cham. 1919)	ou	smooth	1	C	Ü	U	12	г	4 prs. (1 smooth, 3 lamellate)	2 prs. in VII & VIII	no	c.,	<u>~</u> .	30-53	yes	2 pairs anal cirri ? synonym o Phyllocomus.
sane Malmgren 1866 (type <i>S. sulcata</i> Malm. 1866)	ou	smooth	Ч	0	υ.	U	12	I	4 prs. (all smooth)	4 prs. in V, VII, VIII, IX	no	no	no	13	small	I nephridial papill, between branchiae Notosetae of las thoracic segmen modified.
obothrus Levinsen 1883 (type Ampharete gracilis Malm. 1866)	no	smooth	<u>с</u> ,	0	σ	U	12	01	4 prs. (all smooth)	4 prs. in V, VII, VIII, IX	no	yes	ОП	13	yes	I nephridial papill, between branchiae Notosetae of un cigerous thoraei segment 8 modified ? synonym o Sosae.

Remarks	Notosetae of unciger- ous thoracic seg- ment 10 modified	Notopodia but no setae on segments IV and V.	2 nephridial papillae between branchiae.	 a nephridial papillae between branchiae. ² synonym of Sabel- lides. 	ı pair anal cirri.	ı pair anal cirri.				? synonym of <i>Micro-samytha</i> . Head not known.
siboqoton IsnimobdA	yes	ou	ou	ou	yes	yes	ou	c.,	c	c.,
stromgos IsnimobdA	Ξ	II	6. 17	11	57 57	13	14 +	c.,	515	² 13
Internal diverticulum to stomach	ou	c.,	no	<u>(</u>	c-•	no	c.,	c	c.,	c
Lateral pouches on stomach	no	Ç	no	C-+	c.,	uo	c.,	c. .	C. .	C-+
Notopodial cirri	ou	ou	ou	ou	¢	ou	c.,	c.	ou	C-+
sibinqəN	3 prs. in V, VI, VII	с.	3 prs. in V, VII, VIII	3 prs. in V, VII, VIII	c	3 prs. in V-VII	ć pu	C	C-1	C
Branchiae	4 prs. (all smooth)	4 prs. (all smooth)	4 prs. (all smooth)	4 prs. (all papillose)	3 prs. (smooth)	3 prs. (smooth)	3 prs. (smooth ar grooved)	3 prs.	3 prs. (all smooth)	3 prs. (all smooth)
Tooth rows on thoracic uncini	ŝ	-	I	61	3-5	3-33	01	c.,	c	c
Uncigerous thoracic segments	12	II	II	11	14	14	14	14	13	13
Setation of segments III-VI II IV V VI	– ° C C	C - -	(p) - C C	P - C C	- 6 C C	- C C	- 6 C C	Ρ ¢ C C	- C C C	- C C C
Bucca, tentacles	smooth	smooth	papillose	papillose	smooth	smooth	folded mem- brane	¢	smooth	ç.,
Glandular ridges on prostomium	no	no	ou	ou	yes	ou	no.	c.,	ou	c.,
Genus and type-species	Sosanopsis Hessle 1917 (type S. wireni Hessle	Paramage Caullery 1944 (type P. madurensis Caul. 1944)	Sabellides MEdwards 1838 (type ? Sabella octocirrata Sars 1835)	Pterampharete Augener 1918 (type P. luderitzi Aug. 1918)	Samythopsis McIntosh 1885 (type S. grubei McI. 1885)	Samytha Malmgren 1866 (type Sabellides sexcirrata Sars 1856)	4mythas Benham 1921 (type A. membranifera Ben 1921)	4ryandes Kinberg 1867 (type A. gracilis Kbg. 1867)	Microsamytha Augener 1928 (type M. rychiana Aug. 1928)	4 <i>lkmaria</i> Horst 1920 (type A. romijni Horst 1920)

TABLE II—continued.

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ANNALS OF THE SOUTH AFRICAN MUSEUM

A dorsal ridge between segments VI and	pair anal cirri.	entacular lobe pro- longed.	v circle of anal papillae.		Fauvel 1936 gives 4 pairs of gills for L. vanelli.	pair anal cirri.	very few stout ten- tacles. ? synonym of <i>Glybhanostomum</i> .	lotosetae of unciger- ous thoracic seg- ment 9 dorsal and setae modified.	first row of uncini long and ventrally placed.	irst row of uncini long. ? synonym of Auchenoplax.
V ż	iall r	es T	V é	0	* 0	ш С-*	P O	N N	н с.	Б.
~	sm	Ŷ	10	я	я П		ц		LD	
man	61	Ċ-•	29-33	31	12	52	12	å	12-1	12
c.,	ou	^ -+	<u>c.</u> ,	c.,	0	no	<u>.</u> .	c	c	c
yes	yes	c	c	e.	c. .	no	Ċ-+	<u>.</u> ,	c.	c. .
no	ou	c.,	ou	ou	few	ou	ou	ou	ou	c.,
3 prs. in V, VII, VIII,	4 prs. in V, VII, VIII, IX	c.,	c	o-•	Ċ-•	4 prs. in V–VIII	C •	c	œ.	ç.,
3 prs. (all smooth)	3 prs. (all smooth)	3 prs. (all smooth)	3 prs. (smooth and flanged)	3 prs. (all smooth)	3 prs.* (all smooth)	3 prs. (all smooth)	3 prs. (unknown)	3 prs. (? smooth)	2 prs. (smooth)	2 prs. (smooth)
¢.,	5	61	I	72 72	61	0	3-6	45	н	C1
12	12	12	12	12	12	11	11	6	12	12
C	C	U	C	U	C	C	U	C	Ö	C
0	0	° S	0	0	2	0	S S	о ч	0	0
Р (I	-	1	Ч		Ч	4	i i	
papillose	papillose	smooth	smooth	smooth	smooth	smooth	smooth	smooth	smooth	smooth
ou	ou	ou	ou	ou	ou	ou	no	ou	no	ou
Melimampharete Annenkova 1937	Veypo 1912 and 1931) Neosabellides Hessle 1917 (type Sabellides elongatus Ehl. 1913)	Pabits Chamberlin 1919 (type P. devoderus Cham. 1010)	Samythella Verrill 1873 (type S. elongata Ver. 1873)	Eusamytha McIntosh 1885 (type E. pacifica McI. 1885)	Eclysiphe Eliason 1955 (type Lysippe vanelli Fauvel 1926)	Glyphanostomum Levinsen 1883 (type Samytha pallescens Theel 1878)	Amythasides Eliason 1955 (type A. macroglossus Eli. 1955)	Mugga Eliason 1955 (type <i>M. wahrbergi</i> Eli. 1955)	Auchenoplax Ehlers 1887 (type A. crinita Ehl. 1887)	Melinnoides Benham 1921 (type M. nelsoni Ben. 1921)

A REVIEW OF THE FAMILY AMPHARETIDAE (POLYCHAETA)

Key to genera of Ampharetinae

Ι.	4 pairs of gills <th>2 13 Auchenoplax</th>	2 13 Auchenoplax
2.	Glandular ridges on prostomium. Buccal tentacles always smooth and	
	grooved along one side	3
	papillose	6
3.	Notopodial cirri present <td>4 5</td>	4 5
4.	14 uncigerous thoracic segments 11 uncigerous thoracic segments	Amphicteis Amage
5.	14 uncigerous thoracic segments 13 uncigerous thoracic segments 11 uncigerous thoracic segments	Parphypania Hypania Grubianella
6.	14 uncigerous thoracic segments 13 uncigerous thoracic segments 12 uncigerous thoracic segments 14 uncigerous thoracic segments 15 uncigerous thoracic segments 14 uncigerous thoracic segments	7 Lysippe 8
7.	Notopodial cirri present	Phyllamphicteis Lysippides
8.	Tentacles papillose. Abdominal notopodia seldom present Tentacles smooth and grooved. Abdominal notopodia always present	9 10
9.	No nephridial papilla on the branchial ridge	Ampharete Asabellides
10.	No specialized posterior notosetae or elevated notopodia. Over 30 abdominal segments	Phyllocomus 1 I
ΙΪ.	One nephridial papilla on the branchial ridge No nephridial papilla on the branchial ridge	Sosane Sosanopsis
12.	Tentacles smooth with a longitudinal groove. No nephridial papillae on the branchial ridge	Paramage Sabellides
13.	14 uncigerous thoracic segments 13 uncigerous thoracic segments 12 uncigerous thoracic segments 11 uncigerous thoracic segments 9 uncigerous thoracic segments 9 uncigerous thoracic segments <td>14 Microsamytha 16 Glyphanostomum Mugga</td>	14 Microsamytha 16 Glyphanostomum Mugga
14.	Glandular ridges on prostomium	Samythopsis
15.	Abdominal notopodia present. Tentacles numerous and smooth. Paleae usually absent	Samytha Amythas
16.	(With paleae, other characters unknown) Tentacles papillose	Aryandes 17
17.	Tentacles smooth	18
~ / •	III No dorsal ridge. No setae on segment III	Melinnampharete Neosabellides
18.	Tentacular lobe prolongedNo elongate tentacular lobe	Pabits Samythella

AMPHICTEIS Grube 1851

Synonyms Crossostoma Gosse 1855, ?Rytocephalus Quatrefages 1865, and Paramphicteis Caullery 1944.

Prostomium with a pair of glandular ridges. Buccal tentacles smooth with a groove along one side. Four pairs of gills. Segments III–VI without neurosetae. Segment III often with paleae; segments IV–VI with notopodial capillaries. Fourteen uncigerous thoracic segments. Notopodial cirri present. Thoracic uncini with a single vertical series of teeth. Thirteen to 19 abdominal segments sometimes with rudimentary notopodia as well as uncigerous pinnules.

Type-species Amphitrite gunneri Sars 1835.

AMAGE Malmgren 1866

Prostomium with glandular ridges. Buccal tentacles smooth with a groove along one side. Four pairs of gills. Segments III-VI without neurosetae. Segments IV-VI usually with notopodial capillaries. Eleven uncigerous thoracic segments. Notopodial cirri present. Thoracic uncini with 1 or 2 series of teeth. Eight to 15 abdominal segments usually with rudimentary notopodia as well as uncigerous pinnules.

Type-species Amage auriculata Malmgren 1866.

PARHYPANIA Annenkova 1928

Prostomium with glandular ridges. Buccal tentacles smooth. Four pairs of gills. Segments III–VI without neurosetae. Segment III often with paleae, segments IV–VI usually with notopodial capillaries. Fourteen uncigerous thoracic segments. Notopodial cirri absent. About 16–20 abdominal segments sometimes with rudimentary notopodia as well as uncigerous pinnules.

Type-species: Amphicteis brevispinus Grube 1860.

HYPANIA Ostrooumov 1897

Prostomium with glandular ridges. Buccal tentacles smooth. Four pairs of gills. Segments III–VI without neurosetae. Segment III often with paleae, segment IV may have notosetae, segments V and VI always with notopodial capillaries. Thirteen uncigerous thoracic segments. Notopodial cirri absent. About 15–30 abdominal segments sometimes with rudimentary notopodia as well as uncigerous pinnules.

Type-species: Amphicteis invalida Grube 1860.

GRUBIANELLA McIntosh 1885

Prostomium with glandular ridges. Buccal tentacles smooth. Four pairs of gills. Segments III-VI without neurosetae. Notopodial capillaries present on segments V and VI and sometimes on segment IV. Eleven uncigerous thoracic segments. Thoracic uncini usually with 2 series of teeth. Notopodial cirri doubtful. About 25 abdominal segments; the last few are reported to be swollen in the type but this is probably an abnormality.

Type-species: Grubianella antarctica McIntosh 1885.

LYSIPPIDES Hessle 1917

Synonyms Amphisamytha Hessle 1917 and Hypaniola Annenkova 1928.

Prostomium without glandular ridges. Buccal tentacles smooth with a groove along one side. Four pairs of gills. Segments III–VI without neurosetae. Notosetae present on segments V and VI and usually III and IV as well. Fourteen uncigerous thoracic segments. Notopodial cirri absent. Thoracic uncini with 1-3 series of teeth. Between 8 and 23 abdominal segments usually with rudimentary notopodia as well as uncigerous pinnules.

Type-species: Amphicteis fragilis Wolleback 1912.

PHYLLAMPHICTEIS Augener 1918

Synonym Paiwa Chamberlin 1919.

Prostomium without glandular ridges. Buccal tentacles smooth. Four pairs of gills. Segments III–VI without neurosetae. Notosetae present on segments V and VI and usually on III and IV as well. Fourteen uncigerous thoracic segments. Notopodial cirri present. Thoracic uncini with 1-3 series of teeth. Between 15 and 20 abdominal segments sometimes with rudimentary notopodia as well as uncigerous pinnules.

Type-species: Phyllamphicteis collaribranchis Augener 1918.

LYSIPPE Malmgren 1866

Synonym Pterolysippe Augener 1918.

Prostomium without glandular ridges. Buccal tentacles smooth. Four pairs of gills. Segments III-VI without neurosetae. Small notosetae often present on segments III and IV and notosetae always present on V and VI. Thirteen uncigerous thoracic segments. Thoracic uncini with 2-3 series of teeth. Notopodial cirri absent. About 12-15 abdominal segments sometimes with rudimentary notopodia as well as uncigerous pinnules.

Type-species: Lysippe labiata Malmgren 1866.

AMPHARETE Malmgren 1866

Synonym Branchiosabella Claparéde 1863.

Prostomium without glandular ridges. Buccal tentacles papillose. Four pairs of gills. No nephridial papilla on the branchial ridge. Segments III–VI without neurosetae. Notosetae of segment III usually enlarged to form paleae; notosetae of segment IV usually absent; notosetae of segments V and VI always present. Twelve uncigerous thoracic segments. Notopodial cirri absent. Thoracic uncini usually with 2 series of teeth. About 12–15 abdominal segments which have uncigerous pinnules but usually lack rudimentary notopodia.

Type-species: Amphicteis acutifrons Grube 1860.

ASABELLIDES Annenkova 1929

Synonym Pseudosabellides Berkely and Berkely 1943.

Prostomium without glandular ridges. Buccal tentacles papillose. Four pairs of gills. One nephridial papilla on the branchial ridge between the two groups of gills. Segments III–VI without neurosetae. Notopodial capillaries present on segments V and VI but usually absent from III and IV. Twelve uncigerous thoracic segments. Notopodial cirri absent. Thoracic uncini usually with 2 series of teeth. About 21 abdominal segments which have uncigerous pinnules but lack rudimentary notopodia.

Type-species: Sabellides sibirica Wiren 1883.

PHYLLOCOMUS Grube 1878

Synonym Schistocomus Chamberlin 1919.

Prostomium without glandular ridges. Buccal tentacles smooth with a groove along one side. Four pairs of gills. Segments III–VI without neurosetae. Notopodial capillaries present on segments IV, V and VI. Twelve uncigerous thoracic segments. No specialized notosetae. Notopodial cirri present or absent. Thoracic uncini with a single series of teeth. Numerous (over 30) abdominal segments.

Type-species: Phyllocomus crocea Grube 1878.

SOSANE Malmgren 1866

Synonym Anobothrus Levinsen 1883.

Prostomium without glandular ridges. Buccal tentacles smooth. Four pairs of gills. One nephridial papilla on the branchial ridge between the two groups of gills. Segments III–VI without neurosetae. Notosetae usually present on all four segments III to VI and often enlarged to form paleae on segment III. Twelve uncigerous thoracic segments with one or more of the posterior notopodia elevated and bearing specialized notosetae. Notopodial cirri absent. Thoracic uncini with 1–2 series of teeth. About 13 abdominal segments usually with rudimentary notopodia as well as uncigerous pinnules.

Type-species: Sosane sulcata Malmgren 1866.

SOSANOPSIS Hessle 1917

Prostomium without glandular ridges. Buccal tentacles smooth. Four pairs of gills. No nephridial papillae on the branchial ridge. Segments III–VI without neurosetae. Segments V and VI with notopodial capillaries and usually segment IV as well. Twelve uncigerous thoracic segments with the last notopodium elevated and bearing specialized notosetae. Notopodial cirri absent. Thoracic uncini with 2–3 series of teeth. About 11 abdominal segments usually with rudimentary notopodia as well as uncigerous pinnules.

Type-species: Sosanopsis wireni Hessle 1917.

PARAMAGE Caullery 1944

Prostomium without glandular ridges. Buccal tentacles smooth. Four pairs of gills. No nephridial papillae on the branchial ridge. Segments III–VI without neurosetae. Segment VI with notopodial capillaries but notosetae often absent from more anterior segments. Eleven uncigerous thoracic segments. No specialized posterior notosetae. Notopodial cirri absent. Thoracic uncini usually with a single series of teeth. About 11 abdominal segments with rudimentary notopodia as well as uncigerous pinnules.

Type-species: Paramage madurensis Caullery 1944.

SABELLIDES Milne-Edwards 1838

Synonyms Heterobranchus Wagner 1885 and Pterampharete Augener 1918.

Prostomium without glandular ridges. Buccal tentacles papillose. Four pairs of gills. A pair of nephridial papillae on the branchial ridge between the two groups of gills. Segments III–VI without neurosetae. Segments V and VI with notopodial capillaries, segment IV usually fused to segment III and without notosetae, but notosetae often present on segment III. Eleven uncigerous thoracic segments. No specialized posterior notosetae. Notopodial cirri absent. Thoracic uncini with 1 or 2 series of teeth. Between 11 and 18 abdominal segments with uncigerous pinnules but no rudimentary notopodia.

Type-species: ? Sabella octocirrata Sars 1835.

SAMYTHOPSIS McIntosh 1885

Prostomium with glandular ridges. Buccal tentacles smooth. Three pairs of gills. Segments III–VI without neurosetae. Segments IV–VI with notopodial capillaries. Fourteen uncigerous thoracic segments. Notopodial cirri doubtful. About 22 abdominal segments which may have rudimentary notopodia as well as uncigerous pinnules.

Type-species: Samythopsis grubei McIntosh 1885.

SAMYTHA Malmgren 1866

Prostomium without glandular ridges. Buccal tentacles numerous and smooth. Three pairs of gills. Segments III–VI without neurosetae. Segments IV–VI with notopodial capillaries. Fourteen uncigerous thoracic segments. No notopodial cirri. Thoracic uncini with 2–3 series of teeth. About 13 abdominal segments with rudimentary notopodia as well as uncigerous pinnules.

Type-species: Sabellides sexcirrata Sars 1856.

AMYTHAS Benham 1921

Prostomium without glandular ridges. Buccal tentacles replaced by a frilly membrane. Three pairs of gills. Segments III–VI without neurosetae. Segments IV–VI with notopodial capillaries. Fourteen uncigerous thoracic segments. No notopodial cirri. Thoracic uncini with 2 series of teeth. Fourteen or more abdominal segments without rudimentary notopodia above the uncigerous pinnules.

Type-species: Amythas membranifera Benham 1921.

ARYANDES Kinberg 1867

A questionable and incompletely described genus generally similar to Samytha but with paleae.

Type-species: Aryandes gracilis Kinberg 1867.

MICROSAMYTHA Augener 1928

Synonym ? Alkmaria Horst 1920.

Note: Both genera are incompletely described and may belong to the family Terebellidae. More is known of *Microsamytha* and this name is retained *pro tem*.

Prostomium without glandular ridges and 'of the *Ampharete* type'. Buccal tentacles smooth. Three pairs of gills. Segments III–VI without neurosetae. Segments IV, V and VI with notopodial capillaries. Thirteen uncigerous thoracic segments. Between 13 and 19 abdominal segments.

Type-species Microsamytha rychiana Augener 1928.

MELINNAMPHARETE Annenkova 1937

Prostomium without glandular ridges. Buccal tentacles papillose. Three pairs of gills. Segments III–VI without neurosetae. Notosetae usually present on all four segments (III–VI) and often enlarged to form paleae on segment III. A dorsal ridge between segments VI and VII. Twelve uncigerous thoracic segments. No notopodial cirri. ? number of abdominal segments.

Type-species: Melinnampharete eoa Annenkova 1937.

Neosabellides Hessle 1917

Prostomium without glandular ridges. Buccal tentacles papillose. Three pairs of gills. Segments III-VI without neurosetae. Notosetae present on segments V and VI but usually absent from III and IV. No dorsal ridge between segments VI and VII. Twelve uncigerous thoracic segments. No notopodial cirri. Thoracic uncini usually with 2 series of teeth. About 19 abdominal segments.

Type-species: Sabellides elongatus Ehlers 1913.

PABITS Chamberlin 1919

Prostomium without glandular ridges. Buccal tentacles smooth and borne on a long probosciform organ. Three pairs of gills. Segments III-VI without neurosetae. Notosetae present on segments V and VI and usually on IV as well. Twelve uncigerous thoracic segments. No notopodial cirri. Thoracic uncini with 2 series of teeth. Number of abdominal segments unknown.

Type-species: Pabits deroderus Chamberlin 1919.

SAMYTHELLA Verrill 1873

Synonyms Eusamytha McIntosh 1885 and ? Eclysippe Eliason 1955.

Prostomium without glandular ridges. Buccal tentacles smooth and not borne on an elongate tentacular lobe. Three pairs of gills. Segments III–VI without neurosetae. Notopodial capillaries present on segments IV–VI and sometimes on III as well. Twelve uncigerous thoracic segments. Notopodial cirri may be present on the last few thoracic setigers. Thoracic uncini with 1 or 2 series of teeth. Up to 36 abdominal segments.

Type-species: Samythella elongata Verrill 1873.

GLYPHANOSTOMUM Levinsen 1883

Synonym Amythasides Eliason 1955.

Prostomium without glandular ridges. Buccal tentacles smooth (? always). Three pairs of gills. Segments III–VI without neurosetae. Segments IV–VI with notopodial capillaries and segment III sometimes with paleae. Eleven uncigerous thoracic segments. Notopodial cirri absent. Thoracic uncini with 2 or more series of teeth. Twelve to 25 abdominal segments without rudimentary notopodia but with uncigerous pinnules.

Type-species Samytha pallescens Theel 1878.

MUGGA Eliason 1955

Prostomium without glandular ridges. Buccal tentacles smooth. Three pairs of gills. Segments III-VI without neurosetae but all of them may have notosetae. Nine uncigerous thoracic segments. Notopodium of the last thoracic segment dorsally situated and bearing modified notosetae. Thoracic uncini with more than 2 series of teeth. Number of abdominal segments unknown.

Type-species: Mugga wahrbergi Eliason 1955.

AUCHENOPLAX Ehlers 1887

Synonym Melinnoides Benham 1921.

Prostomium without glandular ridges. Buccal tentacles smooth with a groove along one side. Two pairs of gills. Segments III–VI without neurosetae. Segments V and VI with notopodial capillaries. Twelve uncigerous thoracic segments and about 12–15 abdominal ones. First row of thoracic uncini on segment VII very long. Thoracic uncini with 1–2 series of teeth. Notopodial cirri absent.

Type-species: Auchenoplax crinita Ehlers 1887.

SUMMARY

The characters of existing genera are discussed and it is shown that confusion has arisen because the anterior segments have been telescoped and there are two different systems of numbering them. It is proposed that the separation of genera be based primarily on the number of gills and the number of uncigerous thoracic segments. The main diagnostic characters of 49 typespecies have been tabulated and it is suggested that 16 genera which are mostly monotypic be sunk. Keys and definitions of the remaining 33 genera are provided.

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INSTRUCTIONS TO AUTHORS

MANUSCRIPTS

In duplicate (one set of illustrations), type-written, double spaced with good margins, including TABLE OF CONTENTS and SUMMARY. Position of text-figures and tables must be indicated.

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So proportioned that when reduced they will occupy not more than $4\frac{3}{4}$ in. \times 7 in. (7¹/₂ in. including the caption). A scale (metric) must appear with all photographs.

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SMITH, C. D. 1954. South African plonias. In Brown, X. Y. Marine faunas. and ed. 3: 63-95. London: Green.

SYNONYMY

Arranged according to chronology of names. Published scientific names by which a species has been previously designated (subsequent to 1758) are listed in chronological order, with abbreviated bibliographic references to descriptions or citations following in chronological order after each name. Full references must be given at the end of the paper. Articles and recommendations of the *International code of zoological nomenclature adopted by the XV International congress of zoology, London, July* 1958, are to be observed (particularly articles 22 and 51).

Examples: Plonia capensis Smith, 1954: 86, pl. 27, fig. 3. Green, 1955: 23, fig. 2.

When transferred to another genus:

Euplonia capensis (Smith) Brown, 1955: 259.

When misidentified as another species:

Plonia natalensis (non West), Jones, 1956: 18.

When another species has been called by the same name: [non] Plonia capensis: Jones, 1957: 27 (= natalensis West).

