REVISION OF THE PILARGIDAE (ANNELIDA: POLYCHAETA), INCLUDING DESCRIPTIONS OF NEW SPECIES, AND REDESCRIPTION OF THE PELAGIC *PODARMUS PLOA* CHAMBERLIN (POLYNOIDAE)

By Marian H. Pettibone

Associate Curator, Division of Worms

In studying some polychaete material from the Chesapeake Bay, collected by Dr. Marvin Wass of the Virginia Institute of Marine Science, 5 species of pilargids were found, including 3 new species and a species that appeared to be one of the questionable species of Webster, 1879, from Virginia. This prompted a review of the family. The Pilargidae was monographed by Hartman in 1947, including descriptions of 5 species, references to 21 species in all, and keys to the species of *Pilargis, Ancistrosyllis*, and *Loandalia*. Seven additional species and 3 genera were listed by Hartman in 1959 and 10 species and 1 genus have been added since 1959, bringing to 38 the number of species included up to the present time in this family. *Ancistrosyllis longicirrata* Berkeley and Berkeley, 1961, was placed by the authors in the Pilargidae but an examination of the holotype, sent on loan through the kindness of Cyril Berkeley, shows that it should be referred to *Podarmus* Chamberlin in the Polynoidae; it is redescribed in this paper.
In addition to the literature, this study is based on collections in the U.S. National Museum and additional material borrowed from the following sources: Allan Hancock Foundation (AHF), through Dr. Olga Hartman, including type material of 5 species; American Museum of Natural History (AMNH), through Dr. Meredith Jones, including type material of 2 species; Mr. Cyril Berkeley, Marine Biological Station, Nanaimo, Canada, including type material of 2 species; Dr. Roland Wigley, Bureau of Commercial Fisheries, Woods Hole, Mass.; Mr. Pierre Brunel, Marine Biological Station, Gaspé, Canada. I wish to express my deep appreciation to those mentioned for their cooperation and loan of material. I am particularly grateful to Dr. Marvin Wass for the opportunity of studying the pilargid material from Virginia, which led into a much more extended study than had been anticipated.

This study was aided in part by a grant from the National Science Foundation (NSF GS-1269).

The genera that have been referred to the Pilargidae have had a checkered history, as shown by table 1, which gives for each genus its original placement in the Polychaeta and its subsequent disposition by various polychaete workers. Not all polychaete authorities have recognized the Pilargidae, referring the species instead to Hesionidae (Ehlers, Chamberlin, Horst, Fauvel, Mesnil, Augener, Southern, Monro, and Treadwell). Omitting the larval Harpochaeta and the questionable Hermundura, 4 of the 12 remaining genera that have been proposed were indicated to have doubtful family connections and were placed in "genera incertae sedis"; 2 were placed in new families (Otopsidae and Kynephoridae), 3 were considered to be aberrant Syllidae, 1 was placed in the Hesionidae, and 2 in the Pilargidae. This further emphasizes the heterogeneous and enigmatic characters of the family.

The pilargid genera that have been generally recognized are Pilargis, Ancistrosyllis, and Loandalia. As new species have been described, they have for the most part been added to one of these three genera and the groupings of species within the genera have become quite heterogeneous. In this revision, I have attempted to define and limit the genera more clearly, and I have made use of three additional genera which have been either ignored or considered to be questionable: (1) Sigambra Müller, 1858, has been considered to be indeterminate, but the figures and description of S. grubii seem to be sufficiently detailed to be used. (2) Cabira Webster, 1879, a questionable genus based on the confusing description of C. incerta, is reinstated, based on recent material collected in Chesapeake Bay. (3) Synelmis Chamberlin, 1919, with a single species, S. simplex, has been previously overlooked.
<table>
<thead>
<tr>
<th>Genus and type-species by monotypy</th>
<th>Original placement in Polychaeta</th>
<th>Subsequent disposition</th>
</tr>
</thead>
</table>
| Sigambra Müller, 1858  
S. grubii  
Brazil | Amytidea Grube?  
(= Syllidae) | Pilargidae, indeterminable, perhaps same as Ancistrosyllis—Hartman, 1947 (footnote), 1959.  
Retained, see page 179. |
| Hermundura Müller, 1858  
H. tricuspis  
Brazil | Ariciacea (includes Orbiniiidae, Spionidae, Magelonidae) | Pilargidae, questionable—Hartman, 1959.  
Questionable genus and species; same as Loandalia? see page 195. |
| Ancistrosyllis  
McIntosh, 1879  
A. groenlandica  
Greenland | aberrant Syllidae  
(provisionally) | Syllidae, aberrant—Langerhans, 1881.  
Hesionidae— Ehlers, 1908; Chamberlin, 1919; Horst, 1921; Fauvel, 1919, 1920, 1923, 1953; Southern, 1921; Monro, 1933a; Treadwell, 1941.  
| Phronia Webster, 1879  
P. tardigrada  
Indeterminable to species, see page 161. |
| Cabira Webster, 1879  
C. incerta  
Revised, see page 177. |
| Harpochaeta Korschelt, 1893  
H. cingulata  
Mediterranean, in plankton | larval Polychaeta  
<table>
<thead>
<tr>
<th>Genus and type-species by monotypy</th>
<th>Original placement in Polychaeta</th>
<th>Subsequent disposition</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>P. verrucosa</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>France</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Otopsis</strong> Ditlevsen, 1917</td>
<td>Otopsidae, new family</td>
<td>Pilargidae—Hartman, 1947 (footnote), 1959; Uschakov, 1955; see page 164.</td>
</tr>
<tr>
<td><em>O. longipes</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>South of Iceland</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Synelmis</strong> Chamberlin, 1919</td>
<td>Syllidae</td>
<td>Pilargidae, = Ancistrotyllis, perhaps A. rigidif Fauvel—Hartman, 1959. Retained, see page 190.</td>
</tr>
<tr>
<td><em>S. simplex</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>South Pacific</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>K. inermis</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>South Pacific</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>T. annandalei</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gulf of Siam</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>L. aberrans</em></td>
<td>id?)</td>
<td></td>
</tr>
<tr>
<td>South West Africa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>rich, 1950</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>G. klatti</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Europe</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Ancistargsis</strong> Jones, 1961</td>
<td>Pilargidae</td>
<td>Pilargidae, = Ancistrotyllis, see page 164.</td>
</tr>
<tr>
<td><em>A. papillosus</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gulf of Mexico</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Based on this revision, many pilargid species are recombined and some species put into synonymy. Seven genera of Pilargidae are herein retained: Ancistrosyllis (9 species), Sigambra (9 species), Pilargis (4 species), Cabira (4 species), Loandalia (2 species), Synelmis (2 species), Otopsis (2 species). I have not included Telehsapia Fauvel, with the questionable T. annandalei, or Hermundura Müller, with the questionable H. tricuspis, except to place them both questionably under Loandalia Monro. Phronia Webster, preoccupied, is referred to Pilargis. Kynephorus Ehlers and Glyphohesione Friedrich are referred to Synelmis. Ancistargis Jones is referred to Ancistrosyllis. Harpochaeta Korschelt is based on the larval form H. cingulata. For each genus, a synonymy, diagnosis, list of species, and key to the species are given. Where material was available for study, descriptions and figures of some of the species are included.

Descriptions are given for the following species (the 5 species of pilargids from Chesapeake Bay are noted by asterisks):

**Pilargidae**

Ancistrosyllis breviceps Hartman  
Ancistrosyllis groenlandica McIntosh  
Ancistrosyllis hamata (Hartman), new combination  
*Ancistrosyllis hartnanae*, new species  
*Ancistrosyllis jonesi*, new species  
Ancistrosyllis papillosa (Jones), new combination  
*Cabira incerta* Webster, revised  
Loandalia fauveli Berkeley and Berkeley  

Pilargis berkeleyae Monro  
Sigambra bassi (Hartman), new combination  
Sigambra grubii Müller  
*Sigambra tentaculata* (Treadwell), new combination  
*Sigambra wassi*, new species  
Synelmis albini (Langerhans), new combination

**Polynoidae**

Podarmus ploa Chamberlin

**Family Pilargidae Saint-Joseph, 1899**

Body vermiform, cylindrical, somewhat depressed, or flattened, ribbon-like. Integument smooth or papillated. Prostomium, tentacular segment, and first setigerous segment more or less fused. Prostomium usually small, inconspicuous, usually with antennae (3 to 0); median antenna, when present, on posterior part of prostomium; with pair of biarticulate palps consisting of large palpophores more or less set off from prostomium and small palpostyles (filiform, button-like or absent); eyes usually absent. Tentacular segment achaetous, apodous, with usually 2 pairs of tentacular cirri (rarely one pair or none). Dorsal cirri of first setigerous segment often longer than following.
Parapodia subbiramous. Notopodia reduced to embedded notoacicularia in cirrophores of dorsal cirri, with or without additional capillary setae or stout emergent acicular setae which may be straight or hooked. Neuropodia cylindro-conical, with embedded neuroacicularia and simple neurosetae (no compound setae, as in Hesionidae). Dorsal and ventral cirri usually present. Pygidium usually with pair of anal cirri. Proboscis unarmed, bulbous or long cylindrical, usually with circlot of papillae around opening. Intestine usually with intestinal caeca (at least in forms with well-developed parapodia). Burrowing forms.

Key to the Genera of Pilargidae

1. With internal notoacicularia only or with additional fine capillary notosetae
2. With stout emergent dorsal setae in addition to internal notoacicularia
3. Without antennae, tentacular cirri, dorsal or ventral cirri (small cirri may be present at terminal parts of neuropodial lobes but not in usual position). Notopodia with projecting stout notoacicularia and few slender notosetae.
   Body subcylindrical
   Loandalia Monro, p. 195
   With antennae, tentacular cirri, dorsal and ventral cirri. Notopodia with internal notoacicularia only. Body flattened, ribbon-like
3. Two small lateral antennae, without median antenna. Palps biarticulate, with small palpostyles. Ventral cirri short, conical. Integument minutely papillated
   Pilargis Saint-Joseph, p. 160
   Three small antennae, median and lateral. Palps indistinct, without palpostyles. Ventral cirri lamelliform. Integument smooth, not papillated
   Otopsis Ditlevsen, p. 164
   Integument smooth, not papillated
   Synelmis Chamberlin, p. 190
   Stout emergent dorsal setae hooked
5. Body subcylindrical, with parapodia poorly developed. Dorsal and ventral cirri small or lacking
   Cabra Webster, p. 177
   Body elongate, depressed, with parapodia deeply cut. Dorsal and ventral cirri distinct
   Ancistroyllis Mcintosh, p. 164
   Body subcylindrical, with setae
6. Prostomium small, inconspicuous, with antennae shorter than palps. Tentacular cirri short. Dorsal cirri of first setiger similar to or slightly longer than following. Dorsal cirri short. Neurosetae longer to shorter, with tips slightly bent, smooth, and spinous. Integument papillated
   Ancistroyllis Mcintosh, p. 164
   Sigambra Müller, p. 179

Genus Pilargis Saint-Joseph, 1899

Phronia Webster, 1879. [Type-species: P. tardigrada Webster, 1879, by monotypy. Gender: feminine. Preoccupied by Winnerz, 1863, in Diptera.]
Diagnosis: Body long, flattened, ribbon-like, with parapodia deeply cut. Prostomium reduced, biarticulate palps with large ovoid palpo-
phores and small papillar palpostyles, paired short lateral antennae, without median antenna. Tentacular segment with 2 pairs of tentacular cirri. Parapodia subbiramous. Notopodia with inflated cirrophores with internal notoacicula, without notosetae; conical dorsal cirri more or less set off from dorsal cirrophores. Neuropodia conical lobes with stout neuroacicula; neurosetae simple, variable in length; ventral cirri short, conical. Pygidium with or without short anal cirri. Proboscis unarmed, globular. Integument minutely papillated.

The following species have been referred to *Pilargis*:


**Key to the Species of Pilargis**

1. Neurosetae uniformly simple, capillary
   - Some neurosetae with slightly hooked tips
     - Upper pair of tentacular cirri much longer than lower pair
       - *P. tardigrada* (Webster)
     - *P. pacifica* (Zachs)
   - *P. verrucosa* Saint-Joseph
   - Shorter neurosetae with spinous blades
     - *P. berkeleyae* Monro

**Pilargis berkeleyae** Monro

**Figures 1, 2**


*Pilargis maculata* Hartman, 1947, p. 494, pl. 60, figs. 1–5; 1963, p. 16.

Material examined: Elkhorn Slough, Monterey Bay, Calif., loan from Cyril Berkeley. Paratype of *P. maculata* Hartman, Moss Beach, Calif., AHF 1716, loan from Olga Hartman (long specimen without anterior end).
Figure 1.—*Pilargis berkeleyae* Monro (a–e from complete specimen from Monterey Bay; f, from smaller incomplete specimen from same locality): a, dorsal view anterior end, with proboscis extended; b, parapodium from setiger 18; c, same, from setiger 75; d, same, from middle of body (about setiger 200), pigmented glandular area in dorsal cirrophore shown; e, same, from posterior part of body (about setiger 400); f, same, from middle of body, with some large yolky eggs visible.
Description: Length to 300 mm., width to 4 mm., segments to 500. Body flattened, ribbon-like, tapered anteriorly and posteriorly. Integument with low papillae on body and appendages, more numerous dorsally. Prostomium small, inconspicuous, with ovate palpophores indistinct from prostomium and minute palpostyles, with paired short lateral antennae. Tentacular segment fused with prostomium, with two pairs of short tentacular cirri, dorsal pair slightly longer than ventral pair. Dorsal cirri of first setigerous segment longer than following. Inflated dorsal cirrophores of notopodia variable in shape, as indicated in figures drawn from different parts of body and individuals in different states of contraction; notoacicula colorless, without notosetae; dorsal cirri conical to ovate. Neuropodia conical, with stout neuroacicula and bundle of simple neurosetae; neurosetae variable in length; shorter neurosetae serrate, with tips slightly hooked, sometimes faintly bifid; longest neurosetae tapering to fine slightly hooked tips, smooth or very faintly serrated; ventral cirri on all setigerous segments. Pygidium rounded, with 0, 2 or 3 anal cirri. Proboscis thin-walled translucent sac. Reddish to dark-brown glandular areas in notopodial cirrophores and ventral bases of neuropodia.
Distribution: Washington to southern California. Intertidal to 225 fms.

**Genus Otopsis Ditlevsen, 1917**

*Otopsis* Ditlevsen, 1917. [Type-species: *O. longipes* Ditlevsen, 1917, by monotypy. Gender: masculine.]


A single species and subspecies have been described:


*Otopsis longipes pacificus* Uschakov, 1950, p. 171, as *O. longipes* var. *pacificca*. Okhotsk Sea, 709-757 fms.

**Genus Ancistrosyllis McIntosh, 1879**

*Ancistrosyllis* McIntosh, 1879. [Type-species: *A. groenlandica* McIntosh, 1879, by monotypy. Gender: feminine.]


Diagnosis: Body elongate, depressed, with lateral parapodia deeply cut. Prostomium small, inconspicuous; 2 biarticulate palps with large palpophores and small palpostyles; antennae short, usually 3 in number, consisting of lateral antennae (rarely absent) and posterior median antenna (may be absent). Tentacular segment more or less fused with prostomium, achaetous, with 2 pairs of short tentacular cirri (rarely only 1 pair?). Dorsal and ventral cirri short. Parapodia subbiramous. Notopodia inflated, with notoacicula curved distally, with stout emergent hooked setae beginning on setigers 3–13. Neuropodia with conical to truncate setigerous lobes, with neuroacicula and simple neurosetae. Neurosetae variable in length, smooth, finely to coarsely spinous, usually ending in slightly hooked tips (tips may be indistinctly bidentate). Pygidium with paired short anal cirri. Proboscis unarmed, cylindrical, globular, with or without papillae. With intestinal caeca. Integument with scattered papillae.

Remarks: The chief distinction between *Ancistargis* and *Ancistrosyllis* is the absence of a median antenna in the former and its presence in the latter. The median antenna, when present, is small to minute and often difficult to detect. Located as it is on the posterior part of the prostomium, it may be hidden when the prostomium is retracted partially within the tentacular segment. Of the species listed below,
four lack a median antenna: *A. falcata*, *A. matsunagaensis*, *A. hamata*, and *A. papillosa*. One species, *A. quellina*, lacks lateral antennae.

The following species have been referred to *Ancistrosyllis*:

* A. *groenlandica* McIntosh, 1879, p. 502. Davis Strait, Greenland. See page 166.
* A. *constricta* Southern, 1921, p. 573. India. Referred to *Sigambra*, see page 181.
* A. *gracilis* Hessle, 1925, p. 34. Off Japan. Referred to *Synelmis albini*, see page 191.
* A. *pilargiformis* Uschakov and Wu, 1962, p. 75. Yellow Sea. Referred to *Cabira*, see page 177.

The following species are herein referred to *Ancistrosyllis*:

* A. *falcata* (Day, 1957, p. 70), as *Pilargis falcata*. South Africa.
* A. *matsunagaensis* (Kitamori, 1960, p. 1088), as *Pilargis matsunagaensis*. Seto-Inland Sea, Japan.
* A. *papillosa* (Jones, 1961, p. 3), as *Ancistargis papillosus*. Florida. See page 170.

* A. *hartmanae*, new species. Chesapeake Bay. See page 172.
* A. *jonesi*, new species. Chesapeake Bay. See page 173.

**Key to the Species of Ancistrosyllis**

   Ventral cirri beginning on setiger 3-4 ..................... 5
   Notopodial hooked setae beginning on setiger 7–13.
   Without median antenna. Notopodial hooked setae beginning on setiger 3.

   A. groenlandica, p. 166

   A. matsunagaensis.

   With paired deep-set minute eyes. Dorsal cirri small, ovoid. Ventral cirri small, near tips of parapodial lobes.
   Notopodial hooked setae beginning on setiger 13 (not emergent at first).

   A. breviceps, p. 168


   A. quellina

   Notopodial hooked setae beginning on setiger 6. Without eyes.

   Short median antenna, which may be partially hidden by tentacular segment.
   Lateral antennae shorter than palps. Anterior part of digestive tract looped.

   A. papillosa, p. 170

   A. hartmanae, p. 172

8. Without median antenna. Notopodial acicular lobe low, thick, not elongated, with short conical dorsal cirri.
   Small median antenna (easily overlooked). Notopodial acicular lobe enlarged, conical, extending nearly to tip of neuropodial lobe, with small dorsal cirri indistinctly separated from notopodial lobe.

   A. jonesi, p. 173

Ancistrosyllis groenlandica McIntosh

Figure 3


Description: Length to 40 mm., width to 1 mm., segments to 70. Body flattened dorsoventrally, widest in middle region, tapering anteriorly and posteriorly, with parapodia deeply cut. Prostomium with large palpophores and small button-like palpostyles (easily overlooked); 3 small subequal antennae shorter than palps; without eyes. Tentacular segment indistinct from prostomium, with 2 pairs of short subequal tentacular cirri, similar to antennae; irregular lateral pigmented areas may be present (fig. 3a; these are probably the large lateral eyes mentioned and figured by McIntosh). Dorsal cirri of
first setiger about twice as long as following. Dorsal cirri fusiform, short, extending slightly beyond neuropodial lobes. Notopodia with somewhat inflated notoacicular lobes and emergent hooked setae

beginning on setiger 4 to 6. Neuropodial lobe conical, with neuroaciculum and neurosetae variable in length; shorter ones wider, tapering to slightly hooked tips, faintly spinous; longer ones more slender, smooth or very finely spinous, with fine slightly hooked tips.
Pygidium rounded, with paired short anal cirri similar to dorsal cirri. Proboscis short, cylindrical, with few scattered papillae. With conspicuous rust-colored glandular areas in anterior part of notopodial lobe (beginning on setiger 4) and ventrally near bases of parapodia (fig. 3d). Integument with numerous scattered short papillae.

Distribution: West Greenland, British Isles, Gulf of St. Lawrence to off-shore New Jersey, off northeastern South America. In 25 to 1611 fms.

**Ancistrotyllis breviceps** Hartman

**Figure 4**

*Ancistrotyllis breviceps* Hartman, 1963, p. 13, fig. 1, a–d.

Material examined: Holotype of *Ancistrotyllis breviceps*, Santa Monica Canyon, 386 fms., Sta. 7517, loan from Olga Hartman (AHF).

Description: Body depressed, parapodia longer than body width. Prostomium small, with large palphophores and small palpostyles (visible ventrally); antennae very short, not extending beyond palps. Tentacular segment with 2 pairs of subequal tentacular cirri, longer than antennae. Dorsal cirri of first setiger slightly longer than following. Notopodia low, with slender notoacicula and prominent emergent hooked setae beginning about setiger 13 (possibly irregular, not emergent at first); dorsal cirri short, subulate. Neuropodia long, subconical, with neuroacicula and simple neurosetae. Neurosetae variable in length, with tips slightly hooked (according to Hartman, all neurosetae taper to fine tips). Ventral cirri short, subulate, begin on first setiger. Proboscis? Pygidium? Integument minutely papillated, especially dorsally.


**Ancistrotyllis hamata** (Hartman)

**Figure 5**

*Pilargis hamatus* [sic] Hartman, 1960, p. 88, pl. 7, figs. 4–6; 1963, p. 16.

Material examined: Paratype (anterior fragment of 60 segments) from off Long Beach breakwater light, southern California, 12 fms., sandy mud, Sta. 2311, loan from Olga Hartman (AHF).

Description: Length to 30 mm., width to 2 mm., segments to 100. Body flattened dorsoventrally, widest in middle region, tapering anteriorly and posteriorly, with parapodia deeply cut. Prostomium with large palphophores and small palpostyles, with low conical lateral antennae, much shorter than palps. Tentacular segment indistinct from prostomium, with 2 pairs of short subequal tentacular cirri. Dorsal cirri of first setiger slightly longer than following. Notopodia
with low inflated notoacicular lobes, with very small conical dorsal cirri, much shorter than neuropodial lobes, with prominent stout emergent hooks beginning on setiger 6 (4-7, according to Hartman). Neuropodial lobes short, truncate, with retractile conical neuroacicular lobes, with bundle of about 7 simple neurosetae. Neurosetae variable in length, faintly serrated, with tips slightly hooked, tips may be faintly bifid (according to Hartman, neurosetae of 2 kinds, slender, capillary and stouter, with bifid tips). Ventral cirri small, conical, beginning on setiger 3. Pygidium? Proboscis? With intestinal caeca. Integument with rather thick cuticle, with scattered minute papillae.

Distribution: Southern California. In 12 to 721 fms.
Ancistrosyllis hamata (from paratype from Sta. 2311): a, dorsal view anterior end; b, cross section in region of setiger 60; c, parapodium from same; d, neurosetae.

Ancistrosyllis papillosa (Jones)

Material examined: Holotype and 2 paratypes from Alligator Harbor, Fla., loan from Meredith L. Jones (AMNH). One small specimen, Port Aransas, Tex., 5 fms., mud, M. L. Jones (AMNH).

Description: Length to 10 mm., width to 0.5 mm., segments to 54. Body flattened dorsoventrally, widest in middle region, tapering anteriorly and posteriorly, with segmental dorsal transverse ridges, parapodia deeply cut. Prostomium with large palpophores and small filiform palpostyles, with short digitiform lateral antennae extending slightly beyond palps, with paired small eyespots ventrally. Tentacular segment indistinct from prostomium, with 2 pairs of tentacular cirri, longer than palps. Dorsal cirri of first setiger similar to following. Dorsal cirri fusiform, short, extending slightly beyond neuro-
podial lobes. Notopodia with somewhat inflated notoacicular lobes and emergent hooked setae beginning on setiger 3. Neuropodia conical, with neurosetae of 3 kinds: long, slender, capillary; shorter, faintly serrated, with slightly hooked tips; shortest, spinous, with hooked tips. Ventral cirri short, fusiform, shorter than dorsal cirri, beginning on setiger 3. Pygidium rounded, with pair short anal
cirri, similar to dorsal cirri. Proboscis cylindrical, with muscular core and thin transparent covering, with short papillae around opening. With intestinal caeca. Integument with numerous papillae on dorsal surface and cirri, with fewer papillae ventrally; papillae especially long on dorsal cirri and notopodial lobes.

Distribution: Gulf of Mexico (Florida, Texas). Intertidal to 5 fms.

_Ancistrosyllis hartmanae_ new species

_Figures 7, 8_

The species is based on a single specimen from Chesapeake Bay off Rappahanock River, 37°32' N., 76°07' W. in 7 fms. in mud, July 21, 1961, M. Wass, collector, holotype USNM 30989. The species is named for Olga Hartman, eminent worker on the polychaetes.

Description: Length 25 mm., width 0.5 mm., segments 110. Body long, threadlike, flattened dorsoventrally, tapering anteriorly and posteriorly, parapodia deeply cut, appearing moniliform. Prostomium small, bilobed, partially retractable within tentacular segment, with paired biarticulate palps indistinctly set off from rest of prostomium, with palpophores large, papillated and small palpostyles visible ventrally, with pair of lateral antennae shorter than palps, with small unpaired median antenna posteriorly on prostomium, partially hidden by tentacular segment, with 2 deep-set eyes hidden by tentacular segment. Tentacular segment indistinctly separated from prostomium, achaetous, with 2 pairs of short subequal tentacular cirri, lateral and ventrolateral; ventrally forms lower lip of mouth. Dorsal cirri of first setiger similar to following. Parapodia subbiramous. Notopodial lobe low, inflated, with internal notoaciculum curving distally, with short digitiform dorsal cirrus shorter than neuropodial lobe; with stout emergent hooked acicular setae beginning on setiger 3. Neuropodium short, rounded, with retractile conical neuroacicular lobe, with bundle of about 5 neurosetae. Neurosetae simple, variable in length, longest ones smooth, tapering to fine tips, shorter ones finely spinous, all ending in slightly bent tips. Ventral cirri short, subequal to dorsal cirri, beginning on setiger 3. Pygidium rounded, with paired short subulate anal cirri. Proboscis not extended. Anterior part of digestive tract (in setigers 3–6) looped; with segmental intestinal caeca, 2 pairs per segment. Integument with scattered minute papillae, on body and appendages.

_A. hartmanae_ may be separated from the other species of _Ancistrosyllis_ as indicated in the key on page 165.

Distribution: Chesapeake Bay. In 7 fms.
Figure 7.—Ancistroyllis hartmanae, new species: a, general outline of animal; b, dorsal view anterior end, with looped part of digestive tract in setigers 3–6 shown; c, ventral view anterior end.

Ancistroyllis jonesi, new species

Figures 9, 10

The species is based on 3 incomplete specimens collected by Marvin Wass in Chesapeake Bay off Rappahanock River in 7 fathoms in mud, July 21, 1961, holotype USNM 30983, 37°36' N., 76°06' W., and 2 paratypes USNM 30984, 37°32' N., 76°07' W. The species is named
for Meredith Jones, expressing in a small way my appreciation for his help and cooperation in our field of common interest.

Description: Length of incomplete holotype 16 mm., width 1.5 mm., segments 44. Body long, flattened dorsoventrally, tapered gradually anteriorly, with parapodia deeply cut. Prostomium with large subtriangular palpophores and minute palpostyles. Lateral

antennae short, subulate, shorter than palpophores. Posterior median antenna minute, easily overlooked. Without definite eyes but with brownish scattered pigment on posteriolateral parts of prostomium and tentacular segment. Tentacular segment indistinct from prostomium, achaetous, with 2 pairs of short, subulate, subequal tentacular cirri; ventrally forms lower lip of mouth. Dorsal cirri of first setiger slightly longer than following.

Figure 8.—Ancistroyclis hartmanae, new species: a, dorsal view posterior end; b, dorsal view setiger 15, with intestinal caeca shown; c, same, from setiger 36; d, general outline of cross section through middle of body (about setiger 50); e, parapodium from same; f, neurosetae.
Parapodia subbiramous. Notopodia enlarged, inflated, conical, extending nearly to tips of neuropodial lobes, with notoacicula curving distally and enclosing extensions of intestinal caeca; dorsal cirri small, indistinctly separated from enlarged notopodial lobes; with stout emergent hooked notosetae beginning on setiger 6. Neuropodia

Figure 9.—Ancistroyllis jonesi, new species (from holotype): a, general outline of incomplete holotype of 44 segments, outline of intestinal caeca shown in few segments; b, dorsal view parapodium, outline of intestinal caeca shown; c, dorsal view anterior end; d, ventral view anterior end.
conical, with tips truncate, with neuroaciculum and bundle of about 8 simple neurosetae; neurosetae variable in length, longest smooth, tapering to fine tips, shorter very finely spinous, shortest more coarsely spinous, all with slightly hooked tips which may be indistinctly bifid. Ventral cirri digitiform, extending beyond neuropodial lobes.

Figure 10.—Ancistrolyllis jonesi, new species (from paratype): a, dorsolateral view anterior end; b, dorsal view setigers 25-27; c, cross section body in region of setiger 30; d, parapodium of same, outline of intestinal caeca shown; e, neurosetae.
beginning on setiger 3. Pygidium? Proboscis not extended. Intestine with intestinal caeca, two pairs per segment, shorter anterior pair and longer posterior pair extending into notopodia. Integument with scattered minute papillae.

*A. jonesi* may be distinguished from the other species of *Ancistrosyllis* as indicated in the key on page 165. It is closest to *A. hamata*, differing by the development of the enlarged conical notopodial lobes and the small median antenna.

**Distribution:** Chesapeake Bay. In 7 fms.

**Genus Cabira Webster, 1879, revised**

*Cabira* Webster, 1879. [Type-species: *C. incerta* Webster, 1879, by monotypy. Gender: feminine.]

**Remarks:** *Cabira* was placed by Webster among "genera incertae sedis." The brief description of *C. incerta* is confused, particularly in regard to the parapodial rami. Fauvel (1920) referred the species to *Ancistrosyllis* among the Hesionidae, suggesting that perhaps the median antenna was lost. Hartman (1947) placed it in the Pilargidae and suggested that the name *Cabira* perhaps best be dropped, since the original account is much too faulty and incomplete.

The type of *Cabira incerta* has not been found in the U.S. National Museum, where most of Webster’s polychaete material was deposited. As far as can be determined, it no longer exists. Among the pilargids collected in Chesapeake Bay off Rappahannock River, dredged in 7 fms. in mud by Marvin Wass, are five specimens which can be identified with *Cabira incerta*. I am herewith revising the genus and species, based on this new material.

**Diagnosis:** Body subcylindrical, with parapodia poorly developed. Prostomium small, with paired biarticulate palps consisting of large palpophores and very small palpstyles; with paired small lateral antennae (lacking in *C. capensis*); without median antenna. Tentacular segment indistinct from prostomium, achaetous, with 2 pairs of very small tentacular cirri. Parapodia poorly developed, subbimacous; notopodia represented by notoacicula and small dorsal cirri, with emergent stout hooked notosetae beginning on setigerous segments 6–8; neuropodia small, with neuroacicula and few similar neurosetae; neurosetae simple, delicate, capillary (additional short setae in *C. brevicirris*); ventral cirri small, below or at tips of neuropodia. Pygidium bilobed, without anal cirri. Proboscis cylindrical, sometimes ringed, with longitudinal basal rows of spines (in type-species) or with soft papillae (*C. brevicirris*).

According to this revision, *Cabira* includes the following:

*C. incerta* Webster, 1879, p. 267. Chesapeake Bay, Virginia.
*C. pilargiformis* (Uschakov and Wu, 1962, p. 75), as *Ancistrosyllis pilargiformis*. Yellow Sea.
C. brevicirris (Rangarajan, 1964, p. 122), as Ancistargis brevicirris. South India.

Key to the Species of Cabira

   With pair small lateral antennae. Ventral cirri small, below neuropodial lobes.
   Integument smooth or with only few scattered papillae .................................. 2
2. Neurosetae of 2 kinds, slender capillary and short, with slightly recurved tips.
   Hooked notosetae begin on setigers 6–8. Proboscis with numerous, conical, soft papillae .................................................. C. brevicirris
   Neurosetae all similar, slender, capillary .................................................. 3
3. Hooked notosetae begin on setiger 7. Proboscis with longitudinal rows of spines basally .................................................. C. incerta
   Hooked notosetae begin on setiger 6. Proboscis? .................................................. C. pilargiformis

Cabira incerta Webster, 1879, revised

Figures 11, 12


Material examined: Chesapeake Bay off Rappahanock River, 37°32'N., 76°07'W., 3 fms., mud, July 21, 1961, Marvin Wass, collector, 5 specimens.

Description: Length to 18 mm., width to 1.5 mm., segments to 54.
Body long, subcylindrical, flattened ventrally, arched dorsally, narrowest anteriorly, with indistinct segmental bulges (more prominent posteriorly). Prostomium and tentacular segment fused, with paired biarticulate palps consisting of large palphophores and small ventral palpovestibules, with numerous papillae concentrated on anterior tips (=membranous expansions or thin plates covered with papillae of Webster); with pair very short lateral antennae arising from swollen bases or ceratophores indistinctly set off from prostomium. Tentacular segment achaetous, with 2 pairs of very short tentacular cirri.

Parapodia small, indistinct, subbiramous. Notopodium (=ventral ramus of Webster) represented by very small notopodial lobe or dorsal cirrus with internal notoaciculum, with stout emergent hooked notoseta (=strong hooked ventral seta of Webster) beginning on setiger 7 (setiger 6, according to Webster); sometimes with additional hooked seta in process of formation internally, indicating probable replacement of hooked setae (figs. 12a, b). Neuropodium (=dorsal ramus of Webster) short, conical, with neuroaciculum, tip of which sometimes projects slightly and few (2–4) similar neurosetae (=dorsal setae of Webster); neurosetae simple, slender, delicate, tapering to capillary tips; ventral cirri (=dorsal cirri of Webster) short, digitiform, below neuropodial lobe, beginning on setiger 3. Pygidium short,
bilobed, without anal cirri. Proboscis cylindrical, 3-ringed, with large papillae around opening of distal ring and few scattered micropapillae, with thickened cuticle in basal ring forming longitudinal ridges of jagged spines. Integument mostly smooth, with few scattered papillae. Sometimes pigmented areas dorsal to tentacular cirri and ventral to neuropodia on first 2 setigers (fig. 11c).

Distribution: Chesapeake Bay, Va. In 7 fms.

**Genus Sigambra Müller, 1858**

*Sigambra* Müller, 1858. [Type-species: *S. grubii* Müller, 1858, by monotypy. Gender: feminine.]
The genus *Sigambra* either has been overlooked or has been considered to be indeterminable (Hartman, 1947, p. 483; 1959, p. 195). The original figures and brief description of *S. grubii* from Santa Catharina Island off Brazil seem to be sufficiently good to allow the genus to be retained. I have included on page 182 the figures and description of Müller for *S. grubii*.

**Figure 12.** *Cabira incerta*: a, parapodium from setiger 8; b, same, from setiger 18; c, dorsal view anterior end; d, ventral view anterior end; e, parapodium from setiger 40.

Diagnosis: Body long, flattened, with parapodia deeply cut. Prostomium with 2 biarticulate palps, 3 antennae longer than palps. Tentacular segment achaetous, more or less fused to prostomium and first setigerous segment, with 2 pairs tentacular cirri. First setigerous segment with longer paired dorsal cirri. Parapodia subbiramous. Notopodia with notoacicula and stout emergent hooked setae. Dorsal cirri long, slender, or flattened leaflike, extending beyond neuropodia.
Neuropodia conical, with neuroacicula and simple neurosetae; neurosetae capillary, smooth and spinous. Ventral cirri shorter, subulate. Pygidium with paired long anal cirri. Proboscis unarmed, cylindrical, with distal circlet of large conical papillae or indistinctly papillate. With intestinal caeca. Integument smooth (not papillated), may be areolated or wrinkled.

The following species are herein referred to *Sigambia*:

*S. grubii* Müller, 1858, p. 214. Santa Catharina Island, Brazil. See page 182.
*S. robusta* (Ehlers, 1908, p. 59), as *Ancistrostylis robusta*. South Atlantic Ocean.
*S. constricta* (Southern, 1921, p. 573), as *Ancistrostylis constricta*. Chilka Lake, India.
*S. ocellata* (Hartmann-Schröder, 1959, p. 109), as *Ancistrostylis ocellata*. Central America.
*S. hanaokai* (Kitamori, 1960, p. 1086), as *Ancistrostylis hanaokai*. Seto-Inland Sea, Japan.
*S. wassi*, new species. Chesapeake Bay. See page 186.

**Key to the Species of Sigambia**

1. Dorsal cirri only slightly longer than ventral cirri. Dorsal hooked setae beginning on setiger 7. Ventral cirri on setiger 2? Very small, young?

   **S. ocellata**

   Dorsal cirri longer than ventral cirri .......................... 2

2. Stout hooked notosetae beginning anterior to setiger 20. Ventral cirri lacking on setiger 2 .......................... 3

   Stout hooked notosetae beginning posterior to setiger 20 ....... 6

3. Hooked setae beginning on setiger 4 .......................... 4

   Hooked setae beginning on about setiger 14 (11-15) ........ S. bassi, p. 186

4. Median antenna longer than lateral antennae .......................... 5

   Antennae subequal ........................................ 5

5. Longer neurosetae finely spinous basally, with capillary tips; shorter neurosetae wide, coarsely spinous, tapering to very short bare tips

   **S. hanaokai**

   Longer neurosetae smooth, capillary; shorter neurosetae coarsely spinous, with capillary tips .......................... S. parva


   **S. constricta**

   Body not constricted at setiger 4. With ventral cirri on all setigers .... 7

7. Dorsal cirri fusiform, tapered. Notopodial hooked setae beginning about setiger 70 ........................................ S. robusta

   Dorsal cirri wide, flattened, leaflike. Notopodial hooked setae beginning about setiger 23-30 .................. S. wassi, p. 186

Note: *S. grubii* is omitted from key, since the original description failed to mention on which setiger the hooked setae begin. See page 182.
Sigambra grubii Müller

Figure 13

Sigambra grubii Müller, 1858, p. 214, pl. 6, figs. 7-9.

The figures and description have been taken from Müller (freely translated from the German).

Description: Body with numerous short segments. Prostomium indistinct from longer tentacular segment and first setigerous segment, with bilobed frontal part and 2 minute frontal papillae (=biarticulate palps), with 3 occipital antennae, without eyes. Tentacular segment achaetous, with 2 pairs of tentacular cirri. First setigerous segment with upper pair of dorsal cirri very long, about 4 times longer than ventral cirri. Parapodia subbiramous. Notopodium with notoaciculum and single emergent notoseta (setiger on which hooked setae begin not indicated; at least posterior to setiger 3, as indicated by fig. 13a); dorsal cirri long, slender, subulate, extending beyond neurosetae. Neuropodium with neuroaciculum and bundle of simple neurosetae. Ventral cirri short, filiform, lacking on setiger 2 (at least not shown in fig. 13a). Pygidium with pair of long anal cirri. Proboscis cylindrical, with row of papillae. Intestine with lateral projections in bases of parapodia. Blood yellowish.

Distribution: South Atlantic, Santa Catharina Island off Brazil.

Sigambra tentaculata (Treadwell)

Figures 14, 15


Description: Length to 15 mm., width to 2 mm., segments to 91. Body somewhat inflated and widest anteriorly, tapered gradually posteriorly, flattened dorsoventrally, with parapodia deeply cut, as long as body width. Integument smooth, without papillae. Prostomium variable in shape, posterior margin sometimes appearing indented posteriorly and extending on tentacular segment as indicated by Treadwell for the holotype (fig. 14a), possibly due to rather shrunken condition of specimen; biarticulate palps with large palpophores indistinctly separated from prostomium, with small button-like to filiform palpostyles; median antenna on posterior part of prostomium, extending far beyond palps; lateral antennae slightly more anterior than median antenna and extending slightly beyond palps; without definite eyes but sometimes with deep irregular pigmented areas lateral
to antennae and crescent-shaped areas posterior to lateral antennae (fig. 15a). Tentacular segment longer than following segment, with 2 pairs of tentacular cirri similar to lateral antennae. Dorsal cirri of first setiger longer than following ones, similar to and longer than median antenna.

Figure 13.—*Sigambra grubii* (figures taken from Müller, 1858): a, dorsal view anterior end; b, parapodium; c, notopodial hooked seta.

Parapodia subbiramous; notopodia low, conical, with notoaciculum curving distally; stout, hooked, emergent notoseta beginning on setiger 4. Dorsal cirri wide basally, tapering distally, extending beyond setal lobes. Neuropodia conical, with neuroaciculum and numerous simple neurosetae. Neurosetae variable in length, longer ones smooth, capillary, shorter ones spinous with fine tips. Ventral cirri slender, subulate, shorter than setal lobes, lacking on setiger 2. Pygidium with 2 long anal cirri. Proboscis with 14 papillae around opening, with additional basal papillae irregularly distributed.

Small specimens apparently of this species from Port Aransas, Tex. (14 to 23 setigerous segments, fig. 15c) agree generally with the larger
Figure 14.—*Sigambra tentaculata* (a-d, from holotype from Long Island, N.Y.; e, f, from specimens from York River): a, dorsal view anterior end, proboscis partially extended (specimen rather shrunken, the prostomial area extending on tentacular segment may not be natural); b, same, ventral view; c, parapodium; d, neurosetae; e, curved notoaciculum and stout hooked notoseta; f, ventral view posterior end.
Figure 15.—Sigambra tentaculata (a-d, from specimens from York River; e, from specimen from Port Aransas, Tex.): a, dorsal view anterior end; b, same, from another specimen; c, ventral view anterior end, with proboscis extended; d, parapodium from middle region; e, small specimen of 14 setigerous segments, with proboscis extended.
specimens, including notopodial hooked setae beginning on setiger 4, ventral cirri lacking on setiger 2; segmental intestinal caeca especially prominent.

Distribution: Off New England, Chesapeake Bay, Gulf of Mexico (Texas), northeastern South America, southern California. Intertidal to 2800 fms.

_Sigambra bassi_ (Hartman)

**Figure 16**

_Sigambra bassi_ Hartman, 1945, p. 15; 1947, p. 501, pl. 61, figs. 1–7; 1951, p. 36, pl. 11, figs. 1–6.


Description: Length to 40 mm., width to 2 mm., segments to 146. Body widest anteriorly, tapered posteriorly, flattened dorsoventrally, with parapodia deeply cut, longer than body width. Color (in life): greenish yellow. Integument smooth, without papillae. Prostomium with biarticulate palps with large palpophores indistinctly separated from prostomium and small button-like palpstyles; median antenna on posterior part of prostomium extending far beyond palps; lateral antennae slightly more anterior to median antenna, extending little beyond palps. Tentacular segment longer than following ones, with 2 pairs of tentacular cirri similar to lateral antennae. Dorsal cirri of first setigerous segment long, similar to median antenna. Parapodia subbiramous; notopodia low conical, with notoaciculum curving distally, with stout notopodial hooked notoseta beginning about setiger 14 (11–15); occasionally additional single emergent notoseta, straight or slightly curved (called an aciculum by Hartman); dorsal cirri long, subulate, extending far beyond setal lobes. Neuropodia conical, with neuroaciculum and numerous neurosetae; neurosetae variable in length, all ending in capillary tips, longer ones slender, smooth or faintly serrated, shorter ones serrated; ventral cirri extending slightly beyond setal lobes, lacking on setiger 2. Pygidium with paired long anal cirri. Proboscis cylindrical, with circket of 14 conical papillae distally.

Distribution: North Carolina, Florida, central and southern California. Intertidal to 18 fms.

_Sigambra wassi, new species_

**Figures 17, 18**

The species is based on two specimens from Chesapeake Bay, off Rappahanock River, collected by Marvin Wass, holotype (incomplete posteriorly) USNM 30988, 37°37.3' N., 75°59' W., sand, 6 fms., June 1962; paratype (broken and in 3 pieces) USNM 30987, 37°37' N.,
76°11' W., mud, 7 fms., July 1961. The species is named for Marvin Wass who collected the specimens.

Description: Length of incomplete holotype 45 mm., width 5 mm., segments 107; length of paratype (in 3 pieces) 70 mm., width 4 mm., segments 192. Body large, somewhat flattened, convex dorsally, flattened ventrally with midventral depression, tapered gradually...
posteriorly, with parapodia long (about as long as body width), thick, flattened anteroposteriorly. Integument smooth (not papillated), wrinkled and areolated, especially in anterior and middle regions of body. Prostomium with biarticulate palps consisting of large palp-
ophores indistinctly set off from rest of prostomium and small palpostyles; medium antenna on posterior part of prostomium, extending to tips of palps; lateral antennae more anterior and slightly shorter than median antenna. Tentacular segment achaetous, longer than following, with 2 pairs of subequal tentacular cirri, similar to median antenna. Dorsal cirri of first setigerous segment longer than following.

Parapodia subiramous, as long as body width, thick, with large intestinal dark caeca and with eggs in base (in holotype). Notopodial lobe low, indistinct, with notoacicula curving distally, with emergent acicular seta visible externally about setiger 25 (23/25 in holotype, 30/31 in paratype); in addition, with extra single curved pointed

Figure 18.—*Sigambra wassi*, new species (a, from holotype; b-e, from paratype): a, parapodium from setiger 50, with intestinal caeca and eggs indicated; b, lateral view anterior end; c, dorsal view posterior end; d, parapodium from posterior region; e, notosetae from same.
notoseta in posterior segments (figs. 18d,e). Dorsal cirri large, flattened, leaflike, wide basally, tapering distally, extending beyond neuropodial lobes. Neuropodium conical with neuroaciculum and numerous silky neurosetae. Neurosetae simple, shorter and coarsely spinous to longer and faintly spinous, all tapering to capillary tips. Ventral cirri beginning on setiger 1, present on all setigers, subulate, slightly shorter than dorsal cirri. Pygidium with 2 long anal cirri. Proboscis cylindrical, with indefinite papillae around opening and with irregular papillated area basally.

Remarks: *S. wassi* superficially resembles the figures given for *Otopsis longipes* Ditlevsen, both being large, flattened, with integument wrinkled and folded, with dorsal and ventral cirri large, lamelliform and with numerous capillary setae. They differ in the following characters:

<table>
<thead>
<tr>
<th>Otopsis longipes Ditlevsen</th>
<th>Sigambra wassi, new species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Segment I: Tentacular segment achaetous, with 2 pairs of subequal tentacular cirri</td>
<td>First setigerous segment with long dorsal cirri and shorter ventral cirri</td>
</tr>
<tr>
<td>Segment II: Second tentacular segment achaetous with 1 pair of tentacular cirri</td>
<td>Second setigerous segment</td>
</tr>
<tr>
<td>Segment III: First setigerous segment with dorsal and ventral cirri</td>
<td>With single notoaciculum and emergent hooked notosetae beginning on setiger 23-31</td>
</tr>
<tr>
<td>Notopodia: With 2 notoacicula, without notosetae</td>
<td></td>
</tr>
</tbody>
</table>

*S. wassi* differs from the other species of *Sigambra* as indicated in the key on page 181.

Distribution: Chesapeake Bay, Va. In 6–7 fms.

**Genus Synelmis Chamberlin, 1919**

*Synelmis* Chamberlin, 1919. [Type-species: *S. simplex* Chamberlin, 1919, by original designation and monotypy; = *S. albini* (Langerhans, 1881). Gender: neuter.]


Diagnosis: Body long, subcylindrical, stiff, wiry, with lateral parapodia sharply marked off from body. Prostomium small, with paired biarticulate palps, 3 antennae. Tentacular segment achaetous, with 2 pairs of tentacular cirri. Parapodia subbiramous. Notopodia with notoacicula and stout, emergent, straight or slightly curved,
acicular setae (not hooked); dorsal cirri short, subulate. Neuropodia cylindrical, with neuroacicula and simple neurosetae; neurosetae capillary, limbate; ventral cirri short, subulate. Pygidium with paired short anal cirri. Proboscis unarmed, cylindrical. Without intestinal caeca. Integument smooth, with thick, highly iridescent cuticle, not papillated or areolated.

A single species has previously been referred to Synelmis, S. simplex Chamberlin, 1919, p. 177. Tuamotu Islands, South Pacific. Herein referred to S. albini (Langerhans), see below.

A single species has previously been referred to Kynephorus, K. inermis Ehlers, 1920, p. 27. Amboina, Indonesia. Herein referred to S. albini (Langerhans), see below.

A single species has been described previously under Glyphohesione, G. klatti Friedrich, 1950, p. 169. Off Helgoland, North Sea. See Eliason, 1962, p. 29, as Ancistroyllis klatti. Herein referred to Synelmis, perhaps young of S. albini?

Other species were described under Ancistroyllis and are being referred to Synelmis albini. See below and page 165.

Key to the Species of Synelmis

1. Dorsal cirri of first setiger similar to following. Dorsal and ventral cirri subequal.
   S. albini
   Dorsal cirri of first setiger about 2 times longer than following. Dorsal cirri longer than ventral cirri, extending beyond parapodial lobes.
   S. klatti

Synelmis albini (Langerhans)

Figures 19-21

Ancistroyllis albini Langerhans, 1881, p. 107, fig. 16, a–e.—Hartman, 1965, p. 70.
Synelmis simplex Chamberlin, 1919, p. 177, pl. 28, figs. 1–5.
Ancistroyllis rigida Fauvel, 1919, p. 337, fig. 1, a–c; 1932, p. 64; 1953, p. 7.—
Kynephorus inermis Ehlers, 1920, p. 27, pl. 3, figs. 1–9.
Ancistroyllis gracilis Hessle, 1925, p. 34, fig. 12.
Ancistroyllis gorgonensis Mono, 1933a, p. 26, fig. 12, a–d.

Remarks: Ancistroyllis albini, described by Langerhans in 1881 from the Canary Islands, was evidently overlooked by Chamberlin, 1919 (Synelmis simplex), Fauvel, 1919 (Ancistroyllis rigida), and Ehlers, 1920 (Kynephorus inermis). Augener, 1927, synonymized K. inermis with A. rigida. He also suggested that both inermis and rigida might well be referred to A. albini and that the apparent differences could be due to preservation, since A. albini was described and figured from a living specimen and not contracted due to preservation, as in the specimens described by the other authors. Hessle, 1925 (A. gracilis) and Mono, 1933a (A. gorgonensis) indicated that their respective species were close to A. rigida and A. albini. Hartman,
1947, referred *A. gorgonensis* to *A. rigida*. The tubercles on the cirri of *A. gracilis*, mentioned and figured by Hessle, appear to be internal structures and not external papillae as in some other pilargids. The presence or absence of shorter neuropodial forked setae is not a good character, since the forked setae appear to be formed by fracture and splitting of the longer neurosetae; thus they are variable in occurrence and appearance.

![Figure 19](image-url)

**Figure 19.—** *Synelmis albini* (from specimen from Antigua): *a*, dorsolateral view anterior end, with proboscis partially extended; *b*, lateral view segments 49-50; *c*, outline of cross section in region of setiger 50; *d*, parapodium from same, the thick cuticle shown.


Description: Length to 60 mm., width to 1.5 mm., segments to 170. Body elongate, subcylindrical, tapered posteriorly, segmental grooves indistinct anterodorsally, with parapodia distinctly set off from body, having general aspect of a goniadid (may have distinct midventral and dorsolateral grooves when preserved, as in some opheliids, fig. 19c). Prostomium with pair of biarticulate palps sometimes turned ven-
trally; palpophores large, oval; palpostyles small, oval, sometimes retracted within palpophores; with additional ventrolateral papilla on palpostyles; with 3 short antennae, lateral pair and posterior median;

Figure 20.—*Synelmis albini* (a-b, from specimen from Saipan; c-g, from specimen from Dry Tortugas, Fla.): a, dorsal view anterior end; b, ventral view same, the palpostyles retracted within palpophores; c, parapodium from setiger 50; d, outline of cross section near posterior end; e, parapodium from same, the thick cuticle shown; f, neuroseta; g, forked neuroseta.

with pair of posterior eyes, each 2–4 contiguous spots. Tentacular segment prominent, overhanging prostomium and forming ventral lip, achaetous, with 2 pairs of subequal tentacular cirri. Dorsal cirri of
first setiger similar to following. Parapodia subbiramous, with dorsal and ventral cirri subequal, subulate to oval with acuminate tips. Notopodia with 1–2 notoacicula and stout, emergent, straight or slightly bent, acicular notosetae, beginning on setiger 5–20 (difficult to detect, not emergent at first). Neuropodia short, cylindrical, with 3 neuroacicula and bundle of neurosetae. Neurosetae limbate, tapering to capillary tips, limbate part sometimes appearing frayed or finely spinous (they break easily and the shorter broken setae may appear to

be forked, fig. 20g). Pygidium rounded, with pair of anal cirri similar to dorsal and ventral cirri. Proboscis long, cylindrical, muscular, without papillae. Without intestinal caeca. Extra well-developed, dorsolateral and ventrolateral longitudinal muscles and diagonal muscles (figs. 19c; 20d). Integument with thick, smooth, iridescent cuticle extending on bases of dorsal and ventral cirri, without papillae. Color (preserved): yellowish to reddish, dark brown, iridescent, with reddish glandular areas at bases of parapodia.
Small specimens from Old Tampa Bay, Fla. (86 segments, 22 mm. long, 0.3 mm. wide, figs. 21b-d) showed the dorsal cirri longer, digitiform; neuropodia with 3 acicula, 2 of which project beyond setal lobe, with slender capillary neurosetae.

Distribution: Widespread in tropical and subtropical waters. North Pacific (off Japan, southern to Lower California, Panama), Central and South Pacific (Marshall Islands, Tuamotu Islands, Gambier Islands), Red Sea, Indian Ocean, North Atlantic (Canary Islands, West Indies) Gulf of Mexico (Florida, Dry Tortugas). Intertidal to 1388 fms.

**Genus Harpochaeta Korschelt, 1893**


Remarks: *Harpochaeta* has been referred by some authors to *Ancistrosyllis*. However until the adult of the only known species, *H. cingulata*, has been identified, it is difficult to know to what genus *Harpochaeta* should be referred. Of the known genera, it might be referred to *Sigambra* Müller, 1858, *Ancistrosyllis* McIntosh, 1879, or *Cabira* Webster, 1879.

**Genus Loandalia Monro, 1963**


*Hermundura* Müller, 1858. [Type-species: *H. tricospis* Müller, 1858, p. 216, by monotypy. Gender: feminine. Brazil.]


Diagnosis: Body long, slender, subcylindrical, tapering posteriorly; anterior region (first 5–10 setigers) inflated to form a "thorax," with conical parapodia projecting from body (not deeply cut). Prostomium very reduced, inconspicuous, with reduced biarticulate palps, without antennae. Tentacular segment achaetous, without tentacular cirri. Parapodia subbiramous. Notopodia low or absent, with projecting stout notoacicula, with few additional slender
notosetae. Without dorsal cirri. Neuropodia conical, with small, terminal neuropodial cirri, or "ventral cirri" (not in usual position for ventral cirri), with neuroacicula and neurosetae. Neurosetae simple, genicate, or curved, with expanded blades and numerous transverse rows of teeth. Pygidial lobe rounded or concave platelike, with 3 small cirri, a lateral pair and midventral one. Proboscis unarmed, long, muscular, subclavate, with circlet of papillae around opening. Without intestinal caeca. Integument smooth or areolated (not papillated).

The following species have been referred previously to Loandalia Monro:

L. americana Hartman, 1947, p. 506. Gulf of Mexico, Southern California. Referred to L. fauveli, see below.
L. gracilis Hartmann-Schröder, 1959, p. 112. El Salvador, Central America. Referred to L. fauveli, see below.
L. indica Thomas, 1963, p. 29. Arabian Sea. Questionable species (the part described as an anterior end appears to be a broken fragment).

Key to the Species of Loandalia

1. With ventral filiform branchiae beginning about setiger 54.
   L. aberrans Monro

   Without ventral filiform branchiae . . . L. fauveli Berkeley and Berkeley

Loandalia fauveli Berkeley and Berkeley

Figures 22, 23

Loandalia fauveli Berkeley and Berkeley, 1941, p. 30, figs. 4–6.—Hartman, 1960, p. 89.
Loandalia americana Hartman, 1947, p. 506, pl. 63, figs. 1–7; 1951, p. 39, pl. 12, figs. 1–3.
Loandalia gracilis Hartmann-Schröder, 1959, p. 112, figs. 51–57 (young?).

Material examined: Holotype of L. fauveli from southern California, loan from Cyril Berkeley. Two paratypes of L. americana from Biloxi, Miss., loan from Olga Hartman (AHF). Gulf County, Cape San Blas, Fla.; Suwannee, Dixie County, Fla.; Keaton Beach, Taylor County, Fla.; near Lynn Haven, Bay County, Fla., subtidal grass flats, loan from Meredith Jones (AMNH). Pensacola, Fla., 1885. Boat dredge in Mississippi Sound, 9 miles off Bayou, February 1898. Davis Bay, Miss., 1949, brackish water.

Description: Length to 125 mm., width to 3.3 mm., segments to 300. Body subcylindrical with inflated anterior region of 5 or so setigers (this region may be areolated, especially in larger specimens). Prosto-
mium small, inconspicuous, subtriangular, with palpophores indistinct from rest of prostomium, with small knoblike palpostyles which may be partially telescoped within palpophores. Small notopodia begin-

Figure 22.—Loandalia fauveli (a–f, from holotype of L. fauveli; g, from paratype of L. americana, large specimen; h, i, from small specimen of L. fauveli from Bay County, Fla.): a, dorsolateral view anterior end; b, ventrolateral view anterior end; c, parapodium from middle region; d, same, from posterior end; e, notopodium, enlarged; f, neurosetae; g, dorsal view anterior end, with proboscis extended; h, parapodium; i, neuroseta.

ning on setiger 2 (may be inconspicuous and easily overlooked in anterior areolated region of larger specimens; overlooked by Berkeley for L. fauveli); notopodia consisting of slightly projecting lobe with stout crystal-clear notoaciculum; tips of notoacıcieula projecting from
about setiger 8 (larger specimens) to 40 (smaller specimens) on; with additional slender notosetae, 2–3 in number (anterior 7 or so setigers) or 1–0. Neuropodia cylindro-conical with small "ventral cirri" on ventral side of distal ends, with moderate number of neurosetae (to about 15). Neurosetae simple, geniculate or curved, tapering to fine

Figure 23.—Loandalia faureli (from paratype of L. americana, small specimen): a, dorsal view anterior end with prostomium partially retracted within tentacular segment; b, two segments from posterior third, dorsal view; c, ventral view posterior end; d, lateral view posterior end.
tips, with numerous transverse spinous rows. Pygidium a rounded anal plate, concave ventrally, with pair of lateral cirri and midventral one. Proboscis long, subcylindrical, elevate, with cirplet of 8 large papillae. Without intestinal caeca.

Distribution: Southern California, Central America, Gulf of Mexico (Florida, Mississippi, Louisiana). In low water to 625 fms.

Family Polynoidae

The pelagic polynoid upon which this part of the study was based is the holotype of *Aneistrotyllis longicirrata*, taken from the plankton off Peru and reported by Berkeley and Berkeley in 1961, with the suggestion that it might be a juvenile of a bottom-living form. They erroneously put it with the pilargids rather than with the polynoids. Mr. Cyril Berkeley very kindly sent me the holotype and has allowed me to study it and make additions and corrections to the original description. It can be referred to *Podarmus ploa* Chamberlin, a pelagic form described from off Easter Island in the South Pacific. The holotype of the latter species is in the U.S. National Museum but it is in very poor condition, being dark, brittle, and covered with crystals, making it difficult to study many of the structures; according to the original description by Chamberlin, it had been fixed in Fleming's fluid, causing a blackening of the tissues. Coloration and the poor condition of the specimen could account for Chamberlin's failure to mention some features. The ehytra are missing on the specimens from both collections. Both are probably juveniles and not fully developed (30 segments, 14 pairs elytraphores for *P. ploa*; 35 segments, 16 pairs ehytraphores for *A. longicirrata*). *Podarmus atlanticus* Monro is herein referred to *P. ploa* since the setal differences indicated by Monro appear to be within the range of variation for the species; the specimen was perhaps fully developed (45 segments, 18 pairs elytraphores).

Genus *Podarmus* Chamberlin, 1919, emended

*Podarmus* Chamberlin, 1919. [Type-species: *P. ploa* Chamberlin, 1919, by original designation and monotypy. Gender: masculine.]

Diagnosis: Colorless and transparent, pelagic. Body short, tapering posteriorly, composed of relatively few segments (30–45). Prostomium bilobed, rounded, without cephalic peaks; 3 long antennae with ceraphores distinct, median antenna inserted in anterior notch, lateral antennae inserted slightly ventrally (subterminally, not lepidonotoid or halosydnoid), with paired palps. Tentacular segment achaetous, with 2 pairs of long tentacular cirri. With pair of long ventral cirri or buccal cirri on segment 2 (first setigerous). Parapodia
subbiramous. Notopodia small, with notoacicula only. Neuropodia elongated, with presetal and postsetal lips. Neurosetae of 2 kinds: 1) long, slender, with coarse serrations basally, with capillary tips; 2) shorter, with few serrations and slightly hooked tips. Elytral pairs 14–18 (often missing); elytrophores on segments 2, 4, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 26, 29 (14 pairs, as in holotype *P. ploa*), 32, 35 (16 pairs, as in holotype *A. longicirrata*), 38?, 41? (18 pairs, as in *P. atlanticus*; exact arrangement not stated). Dorsal cirri on nonelytra-bearing segments long, tapered. Ventral cirri short, tapered. Pair of long anal cirri. Pharynx of usual polynoid type, with jaws and circlet of 18 papillae. With clavate glandular processes at bases of ventral cirri and at ventral bases of parapodia; with row of glandular prominences on ventroposterior borders of neuropodia and large glandular structures in upper part of neuropodia.

*Podarmus ploa* Chamberlin

**Figures 24–26**

*Podarmus ploa* Chamberlin, 1919, p. 46, pl. 6, fig. 6, pl. 7, figs. 1, 2.

*Podarmus atlanticus* Monro, 1930, p. 42, fig. 7.—Stop-Bowitz, 1948, p. 13, fig. 9.


Material examined: Holotype of *Podarmus ploa* from off Easter Island, South Pacific, from plankton (USNM 19458). Holotype of *Ancistroyllis longicirrata* Berkeley and Berkeley from off Peru, South Pacific, from plankton (loan from Cyril Berkeley, now deposited in USNM 30990).

Description: Length to 13 mm., width including setae to 4 mm., segments to 45. Body widest toward anterior region, tapered anteriorly and posteriorly, convex dorsally, flattened ventrally, with parapodia very long, length exceeding width of body. Transparent. Prostomium bilobed, rounded anteriorly, without cephalic peaks. Median antenna with ceratophore in anterior notch, with style long, slender, tapering, smooth; lateral antennae with ceratophores at nearly same level as median antenna but inserted slightly ventrally, with styles similar to but shorter than median antenna; with pair of thick, contractile, tapering palps (thus variable in length), with pair of glandular clavate processes below palps; with 2 pairs of light-colored eyes, anterior pair lateral in position, posterior pair postero-dorsal. Tentacular segment achaetous, lateral to prostomium, with 2 pairs of tentacular cirri on distinct ceratophores, lower pair similar to medium antenna, upper pair longer. First setigerous segment (segment 2 or buccal segment) with first pair of elytrophores and mid-dorsal semicircular flap extending on posterior part of prostomium; ventrally it forms posterior lip of mouth, with extra long ventral cirri.
Figure 24.—*Podarmus ploa* (from holotype of *Ancistroxylis longicirrata*): *a*, dorsal view prostomium and first 3 segments, elytra, dorsal cirri, and right palp missing; *b*, same, ventral view; *c*, dorsal view posterior end (segments 30–35), first dorsal cirri, elytra on segments 32 and 35, and anal cirri missing.
(buccal cirri) similar to lateral antennae and with oval glandular organs on ventral sides of cirrophores.

Elytra usually missing; according to Stop-Bowitz, rather large, translucent, with small warty papillae; elytrophores cylindrical, up to 18 pairs when fully formed, arranged as indicated in generic diagnosis. Dorsal cirri with cylindrical cirrophores; styles long, tapering, smooth, extending to tips of setae. Ventral cirri in middle of neuropodial lobes, tapering, smooth, shorter than setal lobes. Parapodia sub-biramous; notopodia short, conical, on anterodorsal side of neuropodia, with notoacicula only, without notosetae. Neuropodial lobe elongated, flattened anteroposteriorly, split terminally into longer presetal and shorter postsetal lips, with elongated inflated glandular areas distal to notopodial lobe, with stout neuroaciculum extending into postsetal lip, with fan-shaped bundle of neurosetae. Neurosetae of 2 kinds: lower ones shorter, stouter, with a few heavy widely spaced spinous rows (3–4), with tips slightly hooked, sometimes

Figure 25.—Podarmus ploa: a, middle parapodium of cirrigerous segment, anterior view, style of dorsal cirrus missing (tips of neurosetae not shown; acicula and glandular areas indicated); b, same, posterior view.
slightly bidentate; middle and upper setae more slender, enlarged basal parts with few heavier spinous rows and low ridges, with terminal whiplike tips.

Parapodial glandular structures present, containing large cells and giving off material having appearance of long cilia when preserved (fig. 25a): (1), large stalked papillae posterior to bases of ventral cirri, beginning on setiger 4–5 and continuing posteriorly (= cylindrical processes, Chamberlin; = clavate processes or enlarged genito-nephridial papillae, Monro; = stalked ciliated papillae, Berkeley); (2) smaller oval papillae on ventral basal parts of parapodia on

Figure 26.—Podarmus ploa: a, middle parapodium of cirrigerous segment, ventral view (tips of neurosetae not shown); b, same, dorsal view, style of dorsal cirrus missing (acicula indicated); c, upper neuroseta; d, lower neurosetae.
all setigers, below palps, and lateral to anal cirri; (3) row of circular areas (about 6) on posteroverentral sides of parapodia between bases of ventral cirri and bases of parapodia (= row of ciliated prominences, Berkeley); (4) elongated areas in dorsal part of neuropodia distal to notopodia (= possibly ovarium, Stöp-Bowitz).

Pygidium rounded, with pair of long anal cirri and pair of rounded glandular lobes lateral to cirri. Pharynx well developed, muscular, cylindrical, with jaws and circle of 18 terminal papillae (Stöp-Bowitz).

Distribution: South Pacific (off Easter Island, off Peru), South Atlantic (Gulf of Guinea off West Africa), North Atlantic (Sargasso Sea). In plankton, surface to 222 fms.

**Literature Cited**

**Augener, Hermann**

**Berkeley, Edith, and Berkeley, Cyril**
1948. Annelida, Polychaeta errantia. No. 9b (1) in Canadian Pacific Fauna, Fisheries Research Board of Canada, 100 pp., 160 figs.

**Chamberlin, Ralph V.**

**Charrier, Henri**

**Day, J. P.**

**DiTlevsen, Hjalmar**
1917. Annelids, I. Pt. 4 of vol. 4 in The Danish Ingolf expedition, 71 pp., 24 figs., 6 pls.

**Ehlers, Ernst**
Eliason, Anders

Fauvel, Pierre

Friedrich, Hermann

Hartman, Olga

Hartmann-Schröder, Gesa

Hessle, Christian

Horst, R.

Jones, Meredith L.
Kitamori, Ryunosuke

Korschelt, Eugen

Langerhans, Paul

McIntosh, William C.

Mesnil, Felix, and Fauvel, Pierre

Monro, C. C. A.

Müller, Fritz

Pettibone, Marian H.

Rangarajan, K.

Saint-Joseph, Baron Antoine de

Southern, Rowland
Stop-Bowitz, C.

Thomas, P. J.

Treadwell, Aaron L.

Uschakov, P. V.

Uschakov, P. V., and Wu, B. L.

Webster, Harrison Edwin

Wesenberg-Lund, Elise

Zachs, I.