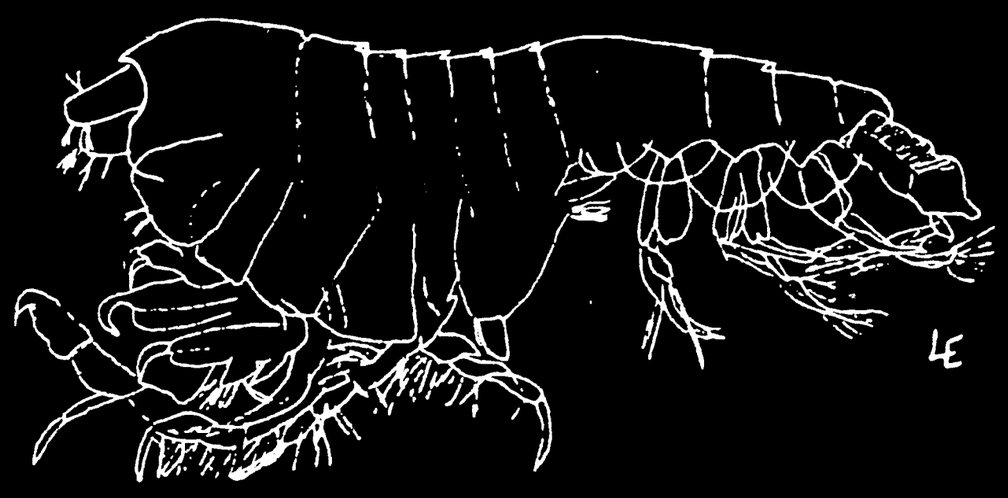
Southern California Association of Marine Invertebrate Taxonomists

3720 Stephen White Drive
San Pedro, California 90731

April, 1994 Vol. 12, No. 12

NEXT MEETING:	Biological Illustrations
GUEST SPEAKER:	Dr. Jodi Martin, Los Angeles Natural History Museum, Los Angeles, CA
DATE:	May 9, 1994
TIME:	9:30am-3:00pm
LOCATION:	Times Mirror Room, Los Angeles County Museum of Natural History, Los Angeles, CA



Bathymedon pumilus, drawing by Laura Essex

MAY 9

The meeting in May will be on Biological Illustrations. Please bring, if possible, microscopes with drawing tubes or camera lucidas. The workshop will be lead by Dr. Jodi Martin and will be held at the LNHM in the Times Mirror Room, Los Angeles, CA.

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SCAMIT Newsletter is not deemed to be a valid publication for formal taxonomic purposes.

MINUTES FROM MEETING ON APRIL 11

The X International Symposium on Marine Biology will be in Ensenada, Baja California, Mexico on June 13-17, 1994. The symposium will focus on topics related to: fisheries, marine ecology and resource management.

The Fifth International Polychaete Conference will be held at Qingdao, China in July 2-7, 1995.

The Western Society of Malocologist meeting will be in June 26-30, 1994 at the Santa Barbara Museum of Natural History (SBMNH).

The Western Society of Naturalist meeting will be held at Monterey, CA in December 27-30, 1994.

By now all SCAMIT members should have received a copy of the Master Species List, which was distributed with last month's newsletter. The last page of the index is missing and will be sent with this newsletter. Once again thanks for the hard work and a good job done by those who contributed to the compiling and editing of this list. Those who deserve the praise are: Diane O'Donohue, Don Cadien and all those who attended the meetings to assist with this project.

The Department of Ecology at Lacey Washington is currently looking for two taxonomists to help with the identification of their benthic grabs.

J. M. Orensanz has updated Banse and Hobson 1974, Benthic Polychaetes of British Columbia and Washington. If anyone would like a copy he can be contacted at:

School of Fisheries
University of Washington, WH-10
Seattle, Washington 98195
Phone: (206) 685-3609
Fax: (206) 685-3224

Included in this newsletter is the spring 1994 schedule of Research Seminars at the Natural History Museum of Los Angeles County.

Jim Blake has corresponded some updates on cirratulid taxonomy to Larry Lovell. John Dorsey's (Hyperion) *Tharyx* sp. C, *T.* cf C, *T.* sp. F and *T. serratisetus* Banse and Hobson, 1968 are thought to be *Tharyx marioni* (now *Aphelochaeta marioni*). Also, there is some confusion about *Tharyx secundus*. It was erroneously placed in *Aphelochaeta* by Blake (1992). It should be in the Genus *Monticellina* because of the serrated neurosetae in the posterior segments.

Congratulations to the new officers for 1994-95. They are:

President	Ron Velarde
Vice-President	Don Cadien
Secretary	Cheryl Brantley
Treasurer	Ann Dalkey

POLYNOIDAE WORKSHOP

Gene Ruff distributed a handout (included in newsletter) and gave a description of scale worms. There are currently about 17 subfamilies, most of which we don't need to worry about because they are from deep sea vents. Scale worms tend to be commensal and have coloration and scales

that help mimic their hosts. When examining elytra in scale worms do not look at the first pair, which are sometimes very different, try to examine those that are about a third of the way back, if you have them. The same applies for the neurosetae, in this case, those further back tend to be underdeveloped. Gene went over the table of scale worms species he included in his handout and made a few additions and comments. He did not include *Eunoe* sp. A (*Eunoe* cf *depressa* of SCAMIT) in his table because he was not aware of our common species and had no description. It has completely smooth elytra and might be Pettibone's *Malmgreniella baschi*. He will look at this in the future. He did not feel that there is a clear dividing line between subgenera *Harmothoe* and *Lagisca*; so he prefers to leave *Harmothoe extenuata* as it is rather than *Lagisca extenuata*. He also looked at a lot of *Lepidonotus squamatus* from So. California, Great Britain and other parts of Europe and found lots of variation. He could not find a clear defining line so he left them all as *L. squamatus*. Gene thinks "perhaps" *Lepidasthenia interrupta* does occur here and is a synonym of *L. berkeleyae*. It should be noted that in Hartmans Atlas figure no. 2 (showing the parapodia) of *L. interrupta* is really the parapodia from *Lepidonotus elongatus* Marenzellar, 1902.

The rest of the meeting was spent discussing the following animals:

1) *Hesperonoe*-like - specimen from Puget Sound has eyes and prostomium like *Gattyana*. Tony Philips and Larry Lovell thought it was not *Gattyana* because the notosetae were not distinctly slenderer than the neurosetae. Except in Pettibone's original description (1953) the length of the setae are not described this way. Gene determined the id. to be *Gattyana cirrosa*, because of the shape of the tubercles on the elytra.

2) *Malmgreniella liei* - looked at specimen of Tony's from Marina del Rey. It had definite wrench-shaped neurosetae, but unlike Pettibone's 1993 description this one had eyes and pigment on the elytra at the scar and in a C-shaped pattern.

3) *Malmgreniella baschi* - there may be a chance that what we have been formerly reporting as *Eunoe* cf *depressa* (*Eunoe* sp. A) might be this because of its neurosetae which look unidentate, but have a slight secondary tooth. Look for the transverse rows of spines on the notosetae, which almost encircle the setae instead of the longitudinal striations. This is a good indication of *Eunoe*. Cephalic peaks of the prostomium tend to curve back down toward the ventral side, which makes them look like they are not strongly pointed. SCAMIT's *Eunoe* cf *depressa* needs to be re-examined and compared to this.

4) *Malmgreniella nigralba* - cephalic peaks of prostomium are very squared off. The white reticulation pattern described in Hartman is not always distinct. The secondary tooth of the neurosetae is quite distinct in shape. Also, the supraacicular lobe of the neuropodium is very delineated. See illustration in Pettibone 1993 figure G page 61.

5) *Malmgreniella macginitiei* - very distinct prostomial peaks and the secondary tooth is short and blunt. The peaks actually stick out from the prostomium and do not lie down against the ceratophores.

6) *Malmgreniella scriptoria* - the cephalic peaks look like they are pointed but if you examine them from underneath you can see they actually lie right on top of the ceratophores. The secondary tooth is short and wide on the neurosetae and there does not seem to be any "neck" on the neurosetae. It is very thick all the way to the curved tip.

At the conclusion of the workshop Gene proposed that we look at the cephalic lobes and setal counts to determine if we can split these species of *Malmgreniella* more easily. Also, if the scale worm is very small and there are not 15 pairs of elytra they should either be left at the generic or sub-family level.

FUTURE MEETINGS

The meeting in June might be a literature review at Cabrillo Marine Aquarium, San Pedro, CA. The new Vice-President, Don Cadien, will decide on this next month.

The July 11 meeting will be a workshop on Sea Pens 3 and will be lead by Dr. Gary Williams of the California Academy of Sciences, San Francisco, CA. It will be held at MEC Analytical Systems Inc., Carlsbad, CA.

ACKNOWLEDGMENTS

I would like to take this time to acknowledge all of those people who have helped me in my two years as Secretary of SCAMIT. They are: Judes Brooks, Kelvin Barwick, Larry Lovell, Dean Pasko, Ron Velarde, Ann Dalkey, Cheryl Brantley and anyone else that I may have forgotten to mention. THANK YOU!!!

Diane O'Donohue

I would like to say "Thanks" to all those individuals who have contributed to making my five terms as Vice-President productive and enjoyable. The organization has made great strides in our mission of standardizing and promoting benthic invertebrate taxonomy in Southern California. I know that Don Cadien will receive the same support as I did as we continue in our quest of taxonomic understanding. THANK YOU!!!

Larry Lovell

SCAMIT OFFICERS:
If you need any other information concerning SCAMIT please feel free to contact any of the officers.

President	Ron Velarde	(619)692-4903
Vice-President	Don Cadien	(310)830-2400 ext. 403
Secretary	Cheryl Brantley	(310)830-2400 ext. 403
Treasurer	Ann Dalkey	(310)648-5611

RESEARCH SEMINARS

in History and Earth and Life Sciences

NATURAL HISTORY MUSEUM
of Los Angeles County

☞ **PLEASE POST/CIRCULATE** ☜

SPRING 1994 SCHEDULE

900 Exposition Boulevard
Los Angeles, California 90007

TIMES MIRROR CONFERENCE ROOM
Seminar 3:00 - Coffee / Refreshments 2:45

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7 April — John & Jane Griffith - *Griffith Wildlife Biology, Calumet, Michigan*
BROWN-HEADED COWBIRD TRAPPING: EFFECTS ON THE RECOVERY OF THE LEAST BELL'S VIREO AND OTHER SONG BIRDS AT CAMP PENDELTON

14 April — Chris Steiner - *Anthropology Section, LACMNH*
BACCHUS IN BENIN AND OTHER SUBLIMINAL MYTHOLOGIES: PROBLEMS OF REPRESENTATION IN THE HISTORY OF SCIENCE

21 April — Henry Hespenheide - *University of California, Los Angeles*
THE COMPLEXITY OF BIODIVERSITY: THOUGHTS (AND DATA) ON A BUZZ WORD

28 April — Blaise Eitner - *Southwest Fisheries Science Center, La Jolla*
BIOCHEMICAL GENETICS OF ELASMOBRANCHS, WITH EMPHASIS ON THE ALOPIIDAE (THRESHER SHARKS)

5 May — Fritz Hertel - *University of California, Los Angeles*
VULTURE ECOMORPHOLOGY

12 May — Paula Schiffman - *California State University, Northridge*
EXOTIC AND ENDANGERED SPECIES: STRANGE ECOLOGICAL INTERACTIONS IN A CALIFORNIA GRASSLAND

19 May — Lucy Jones - *U.S. Geological Survey, Pasadena*
CURRENT RESEARCH IN EARTHQUAKE PREDICTION

26 May — Jèsus Maldonado - *University of California, Los Angeles*
INTERSPECIFIC VARIATION IN CALIFORNIA SEALIONS

*27 May — Brent Mishler - *University of California, Berkeley*
PHYLOGENETIC ANALYSIS OF MORPHOLOGICAL AND MOLECULAR DATA: AN EXAMPLE FROM THE GREEN PLANTS

*This seminar will begin at 12 noon; also note that it takes place on a Friday.

-- ALL INTERESTED PERSONS ARE INVITED TO ATTEND --

-- Free admittance through staff entrance --

Seminar suggestions/questions should be directed to Kirk Fitzhugh, Invertebrates Section
213-744-3233; e-mail: fitzhugh@bcf.usc.edu

George C. Page Museum, Hancock Park, 5801 Wilshire Boulevard, Los Angeles, California 90036, (213) 857-6311

Family **Polynoidae** Malmgren, 1867

The family Polynoidae is the largest and most commonly encountered group of scaleworms, with currently well over 600 described species. Fortunately, only about two dozen of these occur in shelf waters off California. The group is characterized by dorsoventrally flattened bodies, simple setae in both notopodial and neuropodial fascicles, and scales alternating with the dorsal cirri down much of the length of the body. Although a few become quite large (up to 250 mm), the majority of the scaleworms are only a centimeter or two in length.

In most polynoid species the prostomium is bilobed, with a median furrow between the anterior lobes. The anterolateral corners are sometimes more of less developed in to distinct cephalic peaks, or they extend anteriorly to form the ceratophores of the lateral antennae. There are typically two pairs of eyes arranged in a trapezoid pattern, although the eyes in deep-water species may be absent. Most species have a median and a pair of lateral antennae which are smooth or covered to a lesser or greater extent with papillae. A pair of tapering palps are attached ventrally to the prostomium, and are normally thicker and longer than the antennae; these structures usually have numerous longitudinal rows of minute sensory papillae. The eversible pharynx is large and muscular, with two pairs of curved, dark, keratinous jaws surrounded by a circlet of marginal papillae.

The tentacular segment (segment 1) has two pairs of tentacular cirri supported on large, forward-projecting basal lobes. These tentaculophores have an internal supporting aciculum, and sometimes on the anterior face there are additional projecting setae that are usually similar to the notosetae. The ventral portion of the peristomium forms the upper lip of the mouth. This is often produced into a ridge which sometimes bears a distinct conical facial tubercle.

The buccal segment (segment 2) bears the first pair of elytra and the first parapodia. Dorsally it may be developed into a nuchal fold that partly covers the prostomium, and ventrally it forms the lateral and lower portions of the mouth. The ventral buccal cirri on this segment are usually well-developed and inserted at the bases of the parapodia.

The paired elytra are flattened, scale-like structures that occur in place of the dorsal cirri, and are attached via the elytrophores to segments 2,4,5,7,9...21, 23; posterior to this point there are a number of different attachment arrangements, and the scales may be lacking in the posterior-most segments. The elytra may overlap and completely conceal the dorsum, or they may be reduced in size. The surface of the scales may be smooth, or they be covered with papillae, microtubercles, (sclerotized structures that are nodular, pointed, or multi pronged, and that are clearly visible only under high modification) or macrotubercles (larger, soft structures that occur irregularly on the surface or near the posterior edges). The borders of the elytra may be smooth, or they may have sparse or dense fringes of clavate or filiform papillae.

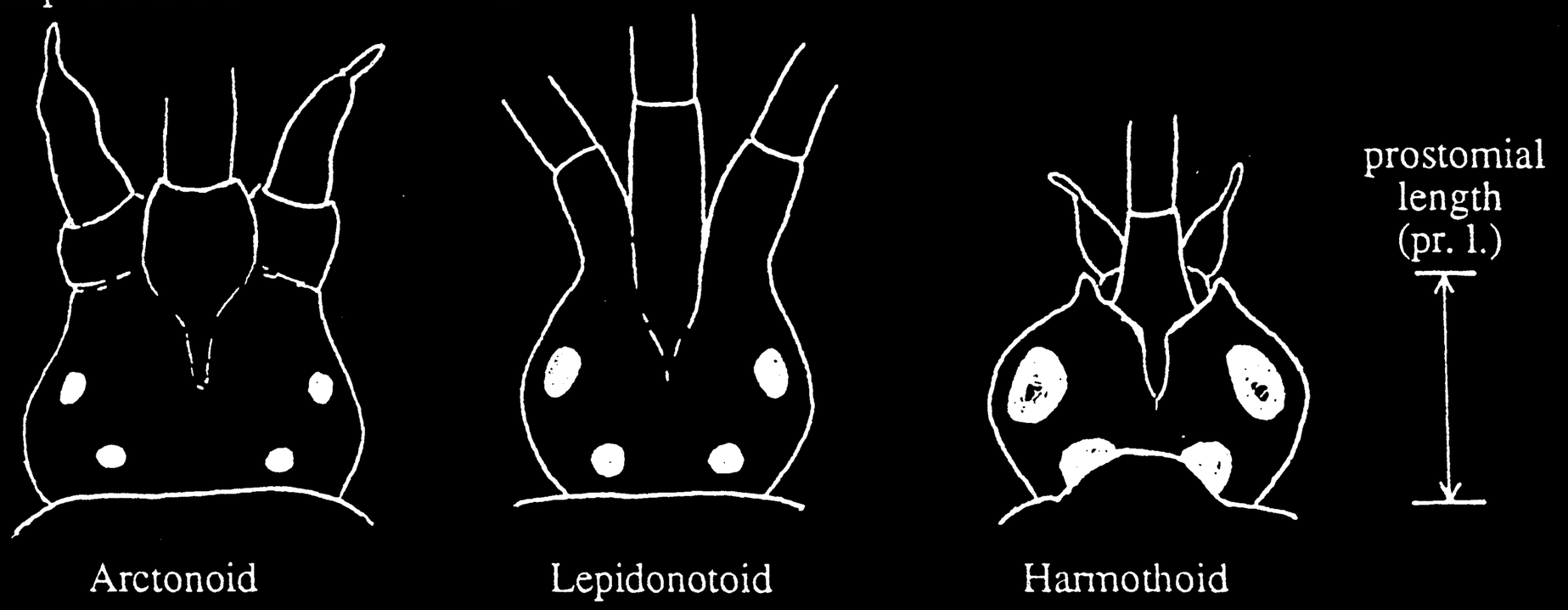
The elongated parapodia are biramous or, in some cases, subbiramous. The notopodia are usually located along the dorsal margin of the neuropodia; each has an interior supporting aciculum which may be distally emergent. The neuropodia are usually larger than the notopodia, and are distally cleft into a rounded post-setal lobe and a longer, narrower pre-setal lobe bearing the internal aciculum which may or may not emerge distally.

All polynoid setae are simple. Although lacking in a few species, the notosetae range from smooth and slender to stout with subdistal transverse spinous plates. The tips may be capillary, pointed, or blunt with or without a terminal cleft. The neurosetae have a long smooth shaft and a curved, subdistal inflated spinous region; the setal tips may be capillary, unidentate, or bidentate with a subequal or small secondary tooth. The shape of the superior neurosetae is often different from those lower in the fascicle, and both uni- and bidentate tips are sometimes found within the same setal bundle.

Dorsal cirri are inserted along the upper margin of the notopodia on segments not bearing elytra; in addition, these segments have a more or less developed dorsal tubercle corresponding in position to the elytrophore. Ventral cirri are normally inserted midway along the ventral edge of the neuropodia after segment 2. Small, cylindrical nephridial papillae occur ventrally at the base of

the neuropodia, usually from segment 6; these structures project posteriorly and upward between the parapodia. The pygidium surrounds a dorsally directed anus, and has a pair of terminal anal cirri that are similar in shape, but often are longer than the dorsal cirri.

The insertion of the lateral antennae is of primary importance in distinguishing some of the subfamilies of the polynoids. Three subfamilies are represented in the California material covered below. In the Arctonoinae the lateral antennae have large ceratophores that are inserted subterminally and are distinctly separated from the prostomium by a transverse groove. In the Lepidonotinae the lateral antennae are attached terminally to anterior prolongations of the prostomium, without distinct ceratophores. In the Harmothoinae the lateral antennae have small ceratophores that are attached ventrally beneath the anterior prostomial margins and/or to the large ceratophore of the median antenna.



Polynoids are found from the intertidal regions to the abyssal depths on a wide variety of sediment types, although a few are entirely pelagic. Most species are carnivorous or omnivorous, feeding on a large spectrum of smaller invertebrates, plant fragments, and detritus. These species normally creep along the bottom, hiding in crevices, under rocks, and in algal holdfasts. The dorsum and the elytra are often pigmented with a variety of patterns and colors to match the general background. In addition, the elytral surface is sometimes covered with detritus and epiphytes, making the specimens difficult to detect.

A number of polynoids are commensal with other organisms, predominately the echinoderms, molluscs, or other polychaetes. In many of these species, the elytra and notopodia are reduced in size, and the notosetae are fewer in number or absent altogether. Many of these commensals are pigmented to match the host organisms.

All polynoids are dioecious, with fertilization taking place externally. Many species brood their eggs under the elytra, but generally the early larval stages appear in the plankton. The nectochaetes settle to the bottom after a month or so, and continue to grow to adult size. In most free-living polynoids, the number of segments is determinant within a small range, and the worms do not grow beyond 30-40 mm in length. In a number of the commensal species, however, segments continue to be added throughout the life of the specimens, and much greater body lengths are attained.

The number and arrangement of the elytra are very important in distinguishing the polynoid genera. Even though the scales are often autonomous, their position can be assessed by counting the distinctive elytrophores along the body. Unfortunately, many species fragment during preservation, and the posterior portion of the body is not available for examination. Therefore, the following information on the California genera and species is based only upon features that can be observed in anterior fragments.

	Arctonoe fragilis	*Arctonoe pulchra*	*Arctonoe vittata*
Prostomium	Arctonoid Both pairs of eyes small Cephalic peaks absent	Arctonoid Anterior eyes moderate; posterior pair small Cephalic peaks absent	Arctonoid Both pairs of eyes small Cephalic peaks absent
Antennae **Tentacular cirri**	Median: 1.5 pr.l. Lateral: 1 pr.l. Styles smooth Basal lobes achaetous	Median: 1.5 pr.l. Lateral: 1 pr.l. Styles smooth Basal lobes achaetous	Median: 1.5 pr.l. Lateral: 1 pr.l. Styles smooth Basal lobes achaetous
Dorsal cirri	Length variable: some greatly exceeding the neurosetae; without papillae	Extending slightly beyond the neurosetae in the anterior setigers; without papillae	Greatly exceeding the neurosetae; without papillae
Dorsal pigmentation	Colorless or tending to match the coloration of the host	Colorless or mottled with brown	Ranging from colorless through reddish-brown to purple depending upon the host. Often with a band of dark pigment across setiger 7-8
Setal diameter **Setal counts**	Nototsetae < Neurosetae Few : Few (16-24) (7-16)	[Nototsetae] < Neurosetae Few : Few (0-15) (3-13)	[Nototsetae] < Neurosetae Few : Few (0-15) (10-20)
Notosetae	Short, slender, straight, with close-set transverse serrations; tapering to pointed or notched tips	Short, slender, slightly curved, with close-set transverse serrations; tapering to blunt, notched tips	Short, slender, slightly curved, with close-set transverse serrations; tapering to blunt, notched tips
Neurosetae	Longer, stout, with faint transverse serrations; tapering to sharp, strongly hooked unidentate tips	Longer, stout, with faint transverse serrations; tapering to sharp, strongly hooked unidentate tips	Longer, stout, with prominent rows of transverse serrations; tapering to blunt notched tips Slightly thicker, with transverse serrations; tapering to sharp, hooked, unidentate tips Slender, with obscure transverse serrations; tapering to straight, blunt, unidentate tips
Elytra	Large, soft, smooth, with a conspicuously convoluted (frilled) margin Surface usually mottled with areas of white, reddish-brown, yellow, or green to match the host Marginal fringing papillae absent	Large, soft, smooth, flat or slightly undulate Surface colorless or with dark pigment tending to match the host coloration, often concentrated in a spot over the elytral scar Marginal fringing papillae absent	Large, soft, smooth, flat Surface usually mottled with black and white and varying considerably depending upon the host coloration Marginal fringing papillae absent
Other features	Ventral cirri rudimentary after setiger 2 Neuropodia with blunt, rounded pre- and postsetal lobes separated by a deep dorsal cleft Commensal with asteroids	Ventral cirri short, subulate Neuropodia with blunt, rounded pre- and postsetal lobes separated by a deep dorsal cleft Commensal mainly with echinoderms	Ventral cirri short, subulate Neuropodia with blunt, rounded pre- and postsetal lobes separated by a deep dorsal cleft Notosetae decrease in number posteriorly and are only present in the first few segments in adults Commensal with asteroids and large molluscs

	Bylgides macrolepidus	*Eucranta anoculata*	*Gaudichaudius iphionelloides*
Prostomium	Harmothoid Anterior eyes very large and positioned near the anterior margin; posterior pair small Cephalic peaks small	Harmothoid Eyes absent Cephalic peaks prominent	Harmothoid Eyes large; anterior pair positioned on the anterolateral margin Cephalic peaks absent
Antennae **Tentacular cirri**	Median: 4 pr.l. Lateral: 1 pr.l. Styles with small scattered papillae Basal lobes with 2-4 stout setae	Median: 2 pr.l. Lateral: 0.5 pr.l. Styles with numerous small papillae Basal lobes with 0-3 stout setae	Median: 3 pr.l. Lateral: 2 pr.l. Styles with scattered papillae Basal lobes with several long setae
Dorsal cirri	Extending beyond the neurosetae; with scattered clavate papillae	Extending well beyond the neuro-setae; with scattered clavate papillae	Extending to the tips of the neurosetae; with scattered long papillae on the distal half
Dorsal pigmentation	Tan, with 2 transverse ciliated bands per segment	Pale to dusky, with iridescent cuticle	Colorless
Setal diameter **Setal counts**	Notosetae › Neurosetae Moderate : Numerous (15-25) (~50)	Notosetae › Neurosetae Few : Moderate (10-20) (20-30)	Notosetae ‹ Neurosetae Very numerous : Numerous (100+) (50-70)
Notosetae	Stout, curved, with transverse rows of spinules; tapering to short, blunt unidentate tips Longer, straight, with transverse rows of spinules; tapering to short, blunt tips	Stout, slightly curved, with inconspicouos transverse rows of spinules	Short, curved, with close-set rows of fine spinules; tapering to blunt tips Longer, straighter, more slender, tapering to fine tips
Neurosetae	Thin, with numerous transverse spinous rows; tips plumose, often with a terminal arista Thin, with numerous transverse spinous rows; tapering to slightly hooked, blunt unidentate tips Thin, with numerous transverse spinous rows; tips plumose, often with a terminal arista	Long, slender, with a long region of prominent spinules; tapering to thin, deeply incised tips. Long, thicker, with prominent spinules in transverse rows; tapering to elongated smooth, sharp, unidentate tips	Long, thick, with a long sub-distal region of spinules in trans-verse rows; tapering to slightly hooked bare unidentate tips Shorter, with a short region of spinules in transverse rows; tapering to bare hooked unidentate tips
Elytra	Thin, appearing smooth but covered with tiny conical microtubercles Marbled with pale brown pigment Marginal fringing papillae sparse	Sort, membranous, with inconspicuous microtubercles anterior to the attachment scar Colorless or with streaks of greenish-yellow pigment Marginal fringing papillae very short	Thick, mostly covered with polygonal cells, each with a central flattened or occasionally conical tubercle Amber to dark brown Marginal fringing papillae short
Other features	Nuchal fold absent, but posterior eyes sometimes covered by the anterior margin of the buccal segment	Prostomium very white	Mostly a boreal species; only one known occurrence in California

	Eunoe depressa	*Eunoe oerstedi*	*Eunoe senta*
rostomium	Harmothoid Anterior eyes large; posterior pair moderate Cephalic peaks prominent	Harmothoid Anterior eyes large; posterior pair moderate Cephalic peaks weakly developed, blunt	Harmothoid Anterior eyes large; posterior pair moderate Cephalic peaks weakly developed, rounded
Antennae **Tentacular cirri**	Median: 3 pr.l. Lateral: 0.5 pr.l. Styles with scattered short papillae Basal lobes with 1-3 stout curved setae	Median: 4 pr.l. Lateral: 2 pr.l. Styles with numerous long papillae and olive brown pigment Basal lobes with 1-3 stout, strongly curved setae	Median: 3 pr.l. Lateral: 1.5 pr.l. Styles with numerous long papillae and brown pigment Basal lobes with bundle of 4-5 stout setae
Dorsal cirri	Not exceeding the neurosetae; with scattered minute papillae	Extending slightly beyond the neurosetae, with numerous long papillae	Extending well beyond the neurosetae; with numerous long filiform and short clavate papillae
Dorsal pigmentation	Pale	Light brown along middorsal line	Colorless to pale yellow
Setal diameter **Setal counts**	Notosetae ≥ Neurosetae Moderate : Moderate (30-50) (30-50)	Notosetae ≈ Neurosetae Moderate : Moderate ( ) ( )	Notosetae ≈ Neurosetae Numerous : Moderate (50-60) (~20)
Notosetae	Short, stout, with close-set transverse rows of spinules; tapering to short, smooth, pointed tips Longer, nearly straight, with widely spaced transverse rows of spinules encircling shaft; tapering to smooth, pointed tips	Short, stout, with close-set transverse rows of spinules; tapering to blunt, rough tips Longer, nearly straight, with widely spaced transverse rows of spinules encircling shaft; tapering to blunt, rough tips	Short, stout, with close-set transverse rows of spinules; tapering to short, smooth, pointed tips Longer, nearly straight, with widely spaced transverse rows of spinules encircling shaft; tapering to smooth, pointed tips
Neurosetae	Slightly thinner and much longer than lower notosetae, with transverse rows of coarse spinules subdistally; tapering to slightly hooked, smooth unidentate tips	Similar to lower notosetae in length and thickness, with transverse rows of coarse spinules subdistally; tapering to slightly hooked, smooth unidentate tips	Similar to lower notosetae in length and thickness, with transverse rows of coarse spinules subdistally; tapering to slightly hooked, smooth unidentate tips
Elytra	Thick, leathery, covered with numerous tiny conical microtubercles and a few larger, rounded tubercles Cream colored Marginal fringing papillae essentially lacking	Thick, leathery, studded with clavate macrotubercles, each with a stellate apex Mottled brown and gray Marginal fringing papillae essentially lacking	Thick, soft, covered with dendritic macrotubercles with acutely pointed branches Colorless or with irregular patches of pigment Marginal fringing papillae essentially lacking
Other features	Body dorsoventrally flattened; buccal segment with a small nuchal fold covering the posterior margin of the prostomium Apparently commensal with hermit crabs and other dacopod crustaceans	Body dorsally arched; buccal segment with a small nuchal fold covering the posterior margin of the prostomium	Body dorsally arched; buccal segment with a small nuchal fold covering the posterior margin of the prostomium Emergent parapodial acicula very long

	Halosydna brevisetosa	*Halosydna johnsoni*	*Halosydna latior*
Prostomium	Lepidonotoid Anterior eyes moderate; posterior pair slightly smaller Cephalic peaks absent	Lepidonotoid Anterior eyes moderate; posterior pair slightly smaller Cephalic peaks absent	Lepidonotoid Anterior eyes moderate; posterior pair slightly smaller Cephalic peaks absent
Antennae **Tentacular cirri**	Median: 2 pr.l. Lateral: 1 pr.l. Styles smooth; subterminally pigmented Basal lobes with 1-3 short, slender setae	Median: 1.5 pr.l. Lateral: 1 pr.l. Styles smooth; subterminally pigmented Basal lobes with 1-3 short, slender setae	Median: Lateral: Styles smooth; subterminally pigmented Basal lobes with 1-3 short, slender setae
Dorsal cirri	Extending well beyond the neuro-setae and curving up between elytra; without papillae	Extending well beyond the neuosetae and curving up between the elytra; without papillae	Reaching only to tips of neurosetae; without papillae
Dorsal pigmentation	Highly variable, with dark transverse bands and light to dark base color	Variable, with dark transverse bands and light to dark base color	Transverse brown bands on colorless base
Setal diameter **Setal counts**	Notosetae << Neurosetae Few : Few (0-25) : (10-20)	Notosetae << Neurosetae Few : Few (0-25) : (10-20)	Notosetae << Neurosetae Few : Moderate (10-20) : (15-25)
Notosetae	Slender, short, colorless, with a few transverse serrations; tapering to blunt tips Slender, slightly longer, with numerous transverse serrations; tapering to long, fine tips	Slender, short, colorless, with a few transverse serrations; tapering to blunt tips Slender, slightly longer, with numerous transverse serrations; tapering to long, fine tips	Slender, short, colorless, with a few transverse serrations; tapering to blunt tips Slender, much longer, with numerous transverse serrations; tapering to long, fine tips
Neurosetae	Stout, amber, with a few trans-verse rows of coarse spinules; tapering to pointed or blunt curved unidentate tips	Stout, amber, with a few trans-verse rows of coarse spinules; tapering to bidentate curved tips	Stout, dark amber, with a few transverse rows of coarse spinules; tapering to pointed curved unidentate tips
Elytra	Covered with small conical tubercles and occasional larger rounded tubercles Highly variable mottled pigmentation Marginal fringing papillae sparse, often absent.	Covered with small conical tubercles Highly variable mottled pigmentation or uniformly dark Marginal fringing papillae numerous, moderately long.	Covered with small conical tubercles and occasional larger rounded tubercles Highly variable solid or mottled pigmentation Marginal fringing papillae numerous, moderately long.
Other features	In commensal forms, 1-2 superior notosetae thickened and darker in color.		Body very broad and dorso-ventrally flattened. Nephridial papillae three times longer than wide.

	Harmothoe extenuata	*Harmothoe fragilis*	*Harmothoe hirsuta*
Prostomium	Harmothoid Anterior eyes large; posterior pair slightly smaller Cephalic peaks prominent	Harmothoid Anterior eyes large; posterior pair slightly smaller Cephalic peaks prominent	Harmothoid Anterior eyes large; posterior pair slightly smaller Cephalic peaks prominent
Antennae **Tentacular cirri**	Median: 2 pr.l. Lateral: 1 pr.l. Styles with scattered short clavate papillae Basal lobes with 1-2 stout setae	Median: 2 pr.l. Lateral: 0.5 pr.l. Styles with scattered short clavate papillae Basal lobes with 1-3 stout setae	Median: 2 pr.l. Lateral: 1 pr.l. Styles with numerous long filiform papillae Basal lobes with 1-3 stout setae
Dorsal cirri	Extending slightly beyond the tips of the neurosetae; with numerous short papillae	Extending slightly beyond the tips of the neurosetae; with scattered short papillae	Extending well beyond the tips of the neurosetae; with numerous long filiform papillae
Dorsal pigmentation	Pale or with patches of brown pigment, especially around the cirrophores and elytrophores	Pale to dark brown with 2 thin transverse white stripes per setiger	Pale to dusky with patches of brown pigment around the cirrophores and elytrophores
Setal diameter **Setal counts**	Notosetae ≈ Neurosetae Moderate : Moderate (20-30) : (20-30)	Notosetae ≥ Neurosetae Moderate : Moderate (20-30) : (20-30)	Notosetae ≥ Neurosetae Moderate : Moderate (20-30) : (35-50)
Notosetae	Stout, curved, with numerous transverse rows of spinules; tapering to blunt points Longer, slightly thinner and less curved, with transverse rows of spinules; tapering to pointed tips	Stout, curved, with numerous transverse rows of spinules; tapering to blunt, sculptured points Longer, slightly thinner and less curved, with transverse rows of spinules; tapering to pointed tips	Stout, curved, with numerous transverse rows of spinules; tapering to blunt points Longer, slightly thinner and less curved, with transverse rows of spinules; tapering to pointed tips
Neurosetae	Slender, with long subdistal spinous region; tapering to smooth, bare unidentate tips Thicker, with short subdistally inflated spinous region; tapering to smooth, hooked tips with a small secondary tooth Shorter; tapering to smooth, bare, unidentate points	Slender, with long subdistal spinous region; tapering to finely bidentate tips Thicker, with short subdistally inflated spinous region; tapering to smooth, hooked tips with a slender secondary tooth Shorter; tapering to smooth, bare, unidnetate points	Slender, with long subdistal spinous region; tapering to smooth, bare, unidentate tips Thicker, with short subdistally inflated spinous region; tapering to long, bare, slightly hooked tips with a remote incision forming a small secondary tooth Shorter; tapering to smooth, bare, unidentate points
Elytra	Surface with numerous conical or bifid microtubercles and a few globular to elongated macrotubercles that are constricted at the attachment point Colorless, tan, or mottled with brown pigment; macrotubercles usually dark brown Marginal fringing papillae short	Surface with numerous conical or multibranched microtubercles, scattered filiform papillar, and a few large blister-like macrotubercles near the posterior border Pale, with darker tan on the large macrotubercles Marginal fringing papillae thick, long	Surface in part divided into polygonal cells, each with a multipronged macrotubercle in the center Pale or with patches of brown pigment Marginal fringing papillae thick, long
Other features			

	Harmothoe imbricata	*Harmothoe multisetosa*	
Prostomium	Harmothoid Eyes large; anterior pair displaced forward beneath cephalic peaks Cephalic peaks prominent	Harmothoid Anterior eyes large; posterior pair slightly smaller Cephalic peaks prominent	
Antennae **Tentacular cirri**	Median: 3 pr.l. Lateral: 1 pr.l. Styles with scattered short clavate papillae Basal lobes with 1-3 stout setae	Median: 3 pr.l. Lateral: 1 pr.l. Styles with numerous filiform papillae Basal lobes with 1-3 stout setae	
Dorsal cirri	Extending slightly beyond the tips of the neurosetae; with scattered short papillae	Extending well beyond the tips of the neurosetae; with scattered filiform papillae	
Dorsal pigmentation	Mottled, with darker areas around the cirrophores and elytrophores	Dark brown, with 2 thin transverse white stripes per setiger	
Setal diameter **Setal counts**	Notosetae ≥ Neurosetae Moderate : Moderate (20-30) : (30-40)	Notosetae ≈ Neurosetae Moderate : Moderate (20-40) : (20-40)	
Notosetae	Stout, curved, with transverse rows of spinules; tapering to blunt points Longer, slightly thinner and less curved, with transverse rows of spinules; tapering to pointed tips	Stout, curved, with transverse rows of spinules; tapering to blunt points Longer, slightly thinner and less curved, with transverse rows of spinules; tapering to pointed tips	
Neurosetae	Slender, with long subdistal spinous regiön; tapering to smooth, bare, unidentate tips Thicker, with short subdistally inflated spinous region; tapering to smooth, hooked tips with a small secondary tooth Shorter, more slender; tapering to smooth, bare, unidentate points	Slender, with long subdistal spinous region; tapering to smooth, bare, unidentate tips Thicker, with short subdistally inflated spinous region; tapering to smooth, hooked tips with a small secondary tooth Shorter, more slender; tapering to smooth, bare, unidentate points	
Elytra	Thick, with numerous blunt microtubercles, scattered papillae, and globular macrotubercles (larger specimens only) Great variability in both pigment pattern and color, with solid or mottled designs occurring in white, light tan, red, green, brown, gray, and black Marginal fringing papillae short, sparse	Thin, with blunt or bifid microtubercles, thornlike curved spines, and occasional large, blister-like macrotubercles Uniformly tan to gray, or mottled with brown pigment Marginal fringing papillae short	
Other features			

	Hesperonoe adventor	*Hesperonoe complanata*	*Hesperonoe laevis*
Prostomium	Harmothoid Eyes moderate; posterior pair slightly smaller Cephalic peaks small	Harmothoid Eyes fairly small Cephalic peaks prominent	Harmothoid Eyes moderate; posterior pair slightly smaller Cephalic peaks prominent
Antennae **Tentacular cirri**	Median: 2 pr.l. Lateral: 1 pr.l. Styles with minute scattered papillae Basal lobes without setae, but with a digitiform acicular lobe	Median: 2 pr.l. Lateral: 0.5 pr.l. Styles with minute scattered papillae Basal lobes without setae, but with a digitiform acicular lobe	Median: 2 pr.l. Lateral: 1 pr.l. Styles with minute scattered papillae Basal lobes without setae, but with a digitiform acicular lobe
Dorsal cirri	Extending far beyond neurosetae; with scattered minute clavate papillae	Extending far beyond neurosetae; with scattered minute clavate papillae	Extending far beyond neurosetae; with scattered minute clavate papillae
Dorsal pigmentation	Broad gray-green transverse bands	Pale, with small amounts of brown pigment at bases of the parapodia	Pale
Setal diameter **Setal counts**	Notosetae ≥ Neurosetae Numerous : Numerous (70- 80) : (70- 80)	Notosetae ≥ Neurosetae Moderate : Moderate (15-25) : (20-30)	Notosetae ≥ Neurosetae Moderate : Moderate (15-25) : (20-30)
Notosetae	Stout, with scarcely discernable transverse striations; tapering to blunt tips Thinner, longer, tapering to fine capillary tips	Stout, with scarcely discernable transverse striations; tapering to blunt tips Thinner, longer, tapering to fine capillary tips	Stout, with scarcely discernable transverse striations; tapering to blunt tips Thinner, longer, tapering to fine capillary tips
Neurosetae	Slender, with long, coarsely serrated region tapering to very fine unidentate tips Thicker, with short subdistal swollen region having numerous transverse rows of coarse spinules; tapering to fine smooth unidentate tips	Slender, with long, coarsely serrated region tapering to very fine unidentate tips Thicker, with short subdistal swollen region having numerous transverse rows of coarse spinules; tapering to fine smooth unidentate tips	Slender, with long, coarsely serrated region tapering to very fine unidentate tips Thicker, with short subdistal swollen region having few or no transverse rows of coarse spinules; tapering to fine smooth unidentate tips
Elytra	Thin, with a few scattered microtubercles Crescent of gray pigment on posterior half Marginal fringing papillae sparse	Thin, translucent, with samll conical microtubercles scattered across the surface Pale and without pigment Marginal fringing papillae sparse	Thin, smooth excepth for a few inconspicuous microtubercles anterior to the attachment scar Crescent of gray pigment on posterior half Marginal fringing papillae sparse
Other features	Grayish-green in life Commensal with the echiuroid *Urechis caupo*	Bright yellowish-orange in life Commensal with the ghost shrimp	Notopodial lobe nearly as large as the neuropodial lobe in the first setiger; thereafter much smaller Commensal with the echiuroid *Listriolobus pelodes*

	Hololepida magna	*Lepidonopsis humilis*	*Thormora johnstoni*
Prostomium	Arctonoid Both pairs very large, with distinct lenses Cephalic peaks absent	Lepidonotoid Anterior eyes moderate; posterior pair small Cephalic peaks absent	Lepidonotoid Anterior eyes large; posterior pair moderate Cephalic peaks absent
Antennae **Tentacular cirri**	Median: 4.5 pr.l Lateral: 3.5 pr.l Styles without papillae Basal lobes without setae	Median: 1.5 pr.l. Lateral: 1 pr.l. Styles without papillae Basal lobes with 1-2 delicate setae	Median: 3 pr.l. Lateral: 1 pr.l. Styles without papillae Basal lobes with 1-2 long setae
Dorsal cirri	Extending to the tips of the neurosetae; without papillae	Extending slightly beyond the neurosetae; without papillae	Not extending beyond the neurosetae; without papillae
Dorsal pigmentation	Reddish-brown	Colorless	Chestnut brown
Setal diameter **Setal counts**	Notosetae ‹ Neurosetae Few : Moderate (10-15) (40-50)	Notosetae ‹ Neurosetae Moderate : Moderate ( ) (~ 24)	Notosetae ‹ Neurosetae Numerous : Moderate ( ) (~ 20)
Notosetae	Long, straight, with barely discernable marginal serrations; tapering to capillary tips	Stout, slender, with numerous tranverse rows of fine spinules; tapering to blunt tips Longer, slender, with numerous transverse rows of fine spinules; tapering to capillary tips	Long, slender, smooth, hastate; tapering to pointed tips Shorter, thicker, curved, with close-set transverse rows of spinules; tapering to bare tips
Neurosetae	Slender, long, with marginal serrations; tapering to fine unidentate tips Shorter, coarser, with spinules in transverse rows; tapering to hooked, bifid tips	Stout, with coarse spinules in a few subdistal rows; tapering to slightly hooked tips with a small secondary tooth	Stout, with coarse spinules in a few subdistal rows; tapering to bare, slightly hooked unidentate tips
Elytra	Large, soft, gelatinous, with inconspicuous microtubercles scattered across the surface Tinged with reddish brown Marginal fringing papillae absent	Large, firmly attached, with scattered smooth to roughened rounded microtubercles of various sizes Tan, with mottled brown pigment patches Marginal fringing papillae long	Large, covered with numerous rounded microtubercles and scattered larger, acutely conical tubercles Mottled with brown and black pigment Marginal fringing papillae absent
Other features	Buccal segment with a broad nuchal fold extending over the posterior margin of the prostomium Notosetae absent in the first few setigers Elytra with a small notch on the anterior margin	Buccal segment with two sub-triangular nuchal folds extending over the posterior margin of the prostomium Distal margins of notopodia and neuropodia with fringes of filiform papillae	

	Lepidonotus leius	*Lepidonotus setosior*	*Lepidonotus squamatus*
Prostomium	Lepidonotoid Both pairs of eyes large Cephalic peaks absent	Lepidonotoid Anterior pair of eyes displaced onto lateral margins of the prostomium Cephalic peaks absent	Lepidonotoid Anterior eyes moderate; posterior pair smaller Cephalic peaks absent
Antennae **Tentacular cirri**	Median: Lateral: Basal lobes with 2 prominent setae	Median: 1 pr.l Lateral: 0.75 pr.l	Median: 2 pr.l. Lateral: 1.5 pr.l. Styles without papillae Basal lobes with 2-3 spinose setae
Dorsal cirri			Extending well beyond the neurosetae; without papillae
Dorsal pigmentation			Colorless
Setal diameter **Setal counts**	Notosetae ‹ Neurosetae Moderate : ( ) ( )	Notosetae ‹ Neurosetae Numerous : ( ) ( )	Notosetae ‹ Neurosetae Moderate : Moderate (20-30) (15-25)
Notosetae	Thin, with numerous spinous rows; tapering to very fine tips	Long, thin, with numerous spinous rows; tapering to sharp tips	Short, curved, with numerous transverse rows of spinules; tapering to bare, blunt tips tips Longer, slightly thinner, with numerous spinous rows; tapering to very fine tips
Neurosetae	Stout, with coarse subdistal spinules arranged in a few transverse rows; tapering to long, smooth, slightly hooked unidentate tips		Stout, with coarse subdistal spinules arranged in a few transverse rows; tapering to long, smooth, slightly hooked unidentate tips
Elytra	Thin, dehiscent, smooth or with a few scattered microtubercles Light brown Marginal fringing papillae absent	Surface with numerous low rounded tubercles, and scattered high, smooth, conical tubercles Mottled with gray and black Marginal fringing papillae absent	Large, firmly attached, surface studded with numerous crowded round to pointed tubercles of various sizes; larger tubecles with sculpted surface Color variable, from reddish yellow through brown to black Marginal fringing papillae thick. long
Other features	Tips of notosetae reaching to about the middle of the neurosetae; setae light amber in color.	Notosetae very long, with the tips reaching nearly to the ends of the neurosetae; setae dark amber in color.	Tips of notosetae barely surpassing the ends of the neuropodia; setae light amber in color.

	Lepidasthenia berkeleyae	*Lepidasthenia gigas*	*Lepidasthenia longicirrata*
Prostomium	Lepidonotoid Anterior eyes large; posterior pair moderate	Lepidonotoid Anterior eyes moderate; posterior pair small	Lepidonotoid Anterior eyes large; posterior pair moderate
Antennae **Tentacular cirri**	Median: 3 pr.l. Lateral: 1.5 pr.l. Styles without papillae Basal lobes achaetous, but with a digitiform acicular lobe	Median: Lateral: Styles without papillae Basal lobes achaetous, but with a digitiform acicular lobe	Median: 4.5 pr.l Lateral: 2.5 pr.l Styles without papillae Basal lobes achaetous, but with a digitiform acicular lobe
Dorsal cirri	Extending slightly beyond the neurosetae; without papillae	Not exceeding the neurosetae; without papillae	Extending slightly beyond the neurosetae; without papillae
Dorsal pigmentation	Colorless or with wide transverse bands of brown pigment	Light yellow to dark reddish	Wide bands of light brown pigment
Setal diameter **Setal counts**	Lacking : Moderate (0) (15-25)	Lacking : Few (0) (10-15)	Lacking : Moderate (0) (20-30)
Notosetae	Notosetae absent	Notosetae absent	Notosetae absent
Neurosetae	Long, slender, with long region of transverse rows of spinules; tapering to fine knobbed tips Shorter, slightly stouter, with short subdistal region of transverse spinous rows extending nearly to end; tapering to blunt bifid tips	Long, thick, dark, with short region of fine transverse spinous rows; tapering to bare, blunt unidentate or bifid tips More slender, lighter colored, with short region of coarse transverse spinous rows; tapering to bare bifid tips	Long, slender, with long region of transverse rows of spinules; tapering to fine knobbed tips Shorter, slightly stouter, with short subdistal region of transverse spinous rows; tapering to bare bifid tips Short, slender, with short spinous region; tapering to minutely bifid or unidentate tips
Elytra	Thin, translucent, smooth, leaving middorsum uncovered Dark pigment concentrated around the elytraphore and extending toward the middorsum Marginal fringing papillae essentially lacking	Thin, translucent, smooth, leaving middorsum uncovered Mottled with gray pigment Marginal fringing papillae essentially lacking	Thin, translucent, smooth, nearly covering the dorsum Dark pigment concentrated around the elytraphore and extending toward the middorsum Marginal fringing papillae essentially lacking
Other features	Notopodia short. Neuropodia. with rounded pre- and postsetal lobes separated by a deep dorsal cleft Secondary tooth on the median and inferior neurosetae is sometimes screened by the subterminal spinules Reported in association with large maldanid tubes	Notopodia short. Neuropodia with rounded pre- and postsetal lobes separated by a deep dorsal cleft Reported in association with large terebellid tubes	Notopodia elongate. Neuropodia with rounded pre- and postsetal lobes separated by a deep dorsal cleft Proximal ventral margins of the neuropodia with a fringe of short globular papillae Free-living

	Malmgreniella baschi	*Malmgreniella macginitiei*	*Malmgreniella nigralba*
Prostomium	Harmothoid Anterior eyes moderate, located ventrolaterally; posterior pair smaller Anterior lobes produced into indistinct cephalic peaks	Harmothoid Anterior eyes moderate, located dorsolaterally; posterior pair smaller Anterior lobes produced into distinct, acute cephalic peaks	Harmothoid Anterior eyes moderate, located ventrolaterally; posterior pair smaller Anterior lobes truncate; cephalic peaks absent
Antennae **Tentacular cirri**	Median: 2 pr.l. Lateral: 0.5 pr.l. Styles with occasional minute clavate papillae Basal lobes with 0-2 stout, curved setae	Median: 1.5 pr.l. Lateral: 0.5 pr.l Styles with occasional minute clavate papillae Basal lobes with 1-2 stout, curved setae	Median: 1.5 pr.l. Lateral: 0.5 pr.l Styles with occasional minute clavate papillae Basal lobes with 0-2 stout, curved setae
Dorsal cirri	Extending to tips of neurosetae; with scattered clavate papillae	Extending to tips of neurosetae; with scattered clavate papillae	Extending to tips of neurosetae; with scattered clavate papillae
Dorsal pigmentation	Without pigment in anterior setigers	Colorless to dusky with dark transverse bands	Dusky with dark transverse bands in median and posterior setigers
Setal diameter **Setal counts**	Notosetae ≈ Neurosetae Moderate : Moderate (35-50) (25-35)	Notosetae ≥ Neurosetae Moderate : Moderate (30-40) (30-40)	Notosetae ≈ Neurosetae Moderate : Moderate (15-25) (30-45)
Notosetae	Curved, with longitudinal striations and 2 longitudinal rows of minute spinules; tapering to pointed tips	Curved, with longitudinal striations and 2 longitudinal rows of minute spinules; tapering to pointed tips	Curved, with longitudinal striations and 2 longitudinal rows of minute spinules; tapering to pointed tips
Neurosetae	Long, with moderate distal region of prominent spinules; tapering to pointed, unidentate tips Long, with short inflated spinous region; tapring to bare hooked tips with only occasional indistinct indications of a secondary tooth	Long, slightly more slender, with moderate distal region of prominent spinules; tapering to pointed or minutely bifid tips Long, with short inflated spinous region; tapering to hooked bifid tips with a short secondary tooth Shorter; tapering to slightly hooked, unidentate tips	Long, with moderate distal region of prominent spinules; tapering to round, blunt unidentate or minutely bifid tips Long, with short inflated spinous region; tapering to hooked bifid tips with a distinct secondary tooth Shorter; tapering to slightly hooked, unidentate or bifid tips
Elytra	Thin, smooth except for a patch of rounded microtubercles anterior to the attachment scar Mottled dark pigment over the attachment scar and in a C-shaped band Border with scattered micro-papillae	Thin, smooth except for a patch of rounded microtubercles anterior to the attachment scar Mottled dark pigment over the attachment scar and in a C-shaped band Border with scattered micro-papillae	Thin, smooth except for a patch of rounded microtubercles anterior to the attachment scar Black pigment over attachment scar and in a complete or nearly complete ring Border with scattered micro-papillae
Other features	Reported from the shallow shelf, 8-30 meters, as a commensal with ophiuroids	Elytra often with both dark surface pigment and internal granules of reddish-brown pigment. Surface pigment often distributed in compartments Reported from the shallow shelf, 0-60 meters, as a commensal with ophiuroids and an inhabitant of polychaete and shrimp burrows	Elytral surface with distinct reticular areas Neuropodial supraacicular lobe distinctly demarcated from neuropodium Reported from the shallow shelf, 0-40 meters, as a commensal with holothouroids

	Malmgreniella sanpedroensis	*Malmgreniella scriptoria*	
Prostomium	Harmothoid Anterior eyes moderate, located ventrolaterally; posterior pair smaller Anterior lobes truncate; cephalic peaks absent	Harmothoid Anterior eyes small, located dorsolaterally; posterior pair small Anterior lobes truncate; cephalic peaks absent	
Antennae **Tentacular cirri**	Median: 1 pr.l. Lateral: 0.5 pr.l. Styles with occasional minute clavate papillae Basal lobes with 2-10 stout, curved setae	Median: 1.5 pr.l. Lateral: 0.5 pr.l Styles with occasional minute clavate papillae Basal lobes with 0-2 stout, curved setae	
Dorsal cirri	Extending to tips of neurosetae; with scattered clavate papillae	Extending well beyond tips of neurosetae; with scattered clavate papillae	
Dorsal pigmentation	Colorless	Colorless to dusky	
Setal diameter **Setal counts**	Notosetae > Neurosetae Moderate : Moderate (25-40) (25-40)	Notosetae ≥ Neurosetae Few : Moderate (10-25) (15-30)	
Notosetae	Curved, with longitudinal striations and 2 longitudinal rows of minute spinules; tapering to pointed tips	Curved, with longitudinal striations and 2 longitudinal rows of minute spinules; tapering to pointed tips	
Neurosetae	Long, with moderate distal region of prominent spinules; tapering to sharply pointed unidentate tips Long, with short inflated spinous region; tapering to hooked bifid tips with a distinct secondary tooth Shorter; tapering to slightly hooked, unidentate tips	Long, with moderate distal region of prominent spinules; tapering to unidentate or bifid tips Long, with short inflated spinous region; tapering to hooked bifid tips with a short, prominent secondary tooth Shorter; tapering to slightly hooked, unidentate or bifid tips	
Elytra	Thin, smooth except for a patch of rounded microtubercles anterior to the attachment scar Dark brown pigment over the attachment scar and in a C-shaped band Border with scattered micro-papillae	Thin, smooth except for a patch of rounded microtubercles anterior to the attachment scar Dark brown pigment over the attachment scar and in a C-shaped band Border with scattered micro-papillae	
Other features	Reported from upper slope depths, at 400 meters	Reported from the middle and outer shelf, 40+ meters, as a commensal with the heart urchin *Brisaster latifrons*	

	Subadyte mexicana	*Tenonia priops*	
Prostomium	Harmothoid Eyes large, reddish Cephalic peaks prominent	Harmothoid Both pairs very large; anterior pair on anteroventral margin Cephalic peaks weakly developed	
Antennae **Tentacular cirri**	Median: 3 pr.l. Lateral: 1 pr.l. Styles with scattered long papillae Basal lobes occasionally with 1-2 curved setae	Median: 2 pr.l. Lateral: 0.5 pr.l. Styles without papillae Basal lobes without setae	
Dorsal cirri	Extending beyond the tips of the neurosetae, with scattered papillae	Extending well beyond the tips of the neurosetae, without papillae	
Dorsal pigmentation	Dusky, tending to concentrate in 2 longitudinal bands above the cirrophores and elytrophores	Distinctive wide and narrow transverse bars of dark pigment; pigment bars often interrupted	
Setal diameter **Setal counts**	Notosetae > Neurosetae Few : Numerous (10-25) (40-60)	Notosetae ≤ Neurosetae Moderate : Numerous (30-40) (40-60)	
Notosetae	Thick, curved, distally with spinose transverse bracts becoming progressively smaller toward the blunt, notched tips	Slender, curved, with fine serrations; tapering to capillary tips Slander, longer, straight, with fine serrations; tapering to capillary tips	
Neurosetae	Long, coarsely serrated above a large basal cusp; tapering to notched tips Longer, with indistinct serrations above a large basal cusp; tapering to pointed unidentate tips Shorter, more slender, with small distinct serrations above a large basal cusp; tapering to pointed unidentate tips	Slender, long, straight, with fine serrations; tapering to capillary tips Slightly thicker, with coarse transverse serrations; tapering to bare bifid tips	
Elytra	Thin, translucent, with scattered papillae on the surface Pigment absent Marginal fringing papillae short, sparse	Thin, translucent, nearly smooth except for occasional inconspicuous microtubercles Brown pigment around the attachment scar Marginal fringing papillae absent	
Other features	Buccal segment with small nuchal fold covering the posterior margin of the prostomium Eye pigments are subject to fading, and are inconspicuous at times	Buccal segment with small nuchal fold covering the posterior margin of the prostomium Elytra do not cover the middorsum in the anterior setigers	